

SONY

**BUSINESS AND PROFESSIONAL PRODUCTS GROUP
FULL LINE CATALOG**



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BVP-375

3-Chip CCD Studio/OB Camera System

- The top-end CCD studio/OB camera to cover virtually all shooting applications
- Highest quality 1000H FIT Hyper HAD (Hole Accumulated Diode) CCD pickup (520K picture elements): High horizontal luminance resolution of 800 TV lines; Excellent signal-to-noise ratio of 62 dB; Incredibly high sensitivity of f8.0 at 2000 lux; Incredibly low smear level of -140 dB (nominal value); Minimum lag and high resistance to image burn-in; Impervious to vibration and shock; Minimum effects from electric/magnetic field; Free from registration adjustment
- Super-enhanced operational features (Remote Linear Matrix, Flesh Tone Detail, Black Gamma, White Chip, View-finder Power ON/OFF)
- Super-Enhanced Vertical Definition (EVS) provides 450 TV lines of vertical resolution
- Flexibly built-up studio/OB camera system with the CCU-370 Camera Control Unit, MSU-350/370 Master Setup Unit, VCS-350/370 Video Selector, RCP-3700 series Remote Control Panel, and other high performance peripheral equipment
- The red and green horizontal/vertical enhancer and soft detail control are provided for natural color reproduction
- Electronic shutter provides clear images of high speed moving objects; Shutter speeds: $\frac{1}{100}$, $\frac{1}{125}$, $\frac{1}{250}$, $\frac{1}{500}$, $\frac{1}{1000}$, $\frac{1}{2000}$ sec.
- Advanced triax system transmission
- Two independent intercom channels and two microphone inputs;
- Auto setup function (black/white balance, gamma, etc)
- Four filling facilities, reference file, setup file, scene file, and lens file, are provided
- Optional teleprompter unit is available
- Optional standalone unit is available
- Both BVF-7700 7-inch color viewfinder and BVF-77 7-inch B/W viewfinder can be used
- Easy maintenance
- Advanced mechanical design and excellent serviceability

Supplied Accessories:

- Extension Boards
- Number Plates
- 10-pin Plug for Tracker Connector
- 6-pin Connector for Return Control
- 4-pin Connector for Script
- Tally Lamps
- Front Cover
- Fuses
- Metal Fitting for Attachment
- Operation and Maintenance Manual

Optional Accessories:

- BKP-3613 Script Holder with Lamp (one page) for BVP-360A/370/375/270 series
- BKP-3614 Script Holder with Lamp (two pages) for BVP-360A/370/375/270 series
- BKP-3700M Teleprompter Unit for BVP-370/375/270 series
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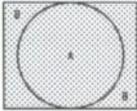
Studio Cameras

Specifications (BVP-375, cont.) RCP-3710/3711/3720/3721/3730/3731 Remote Control Panel

Connectors: CCU connector: 16-pin
Preview connector: 6-pin
Power Supply: DC-30V
Power Consumption: RCP-3710/3711: 3W
RCP-3720/3721: 3W
RCP-3730/3731: 3W
Maximum Cable Length: 200m
Weight (approx.): RCP-3710: 3 lb. 12 oz. (1.7 kg.)
RCP-3711: 3 lb. 5 oz. (1.5 kg.)
RCP-3720: 4 lb. 14 oz. (2.2 kg.)
RCP-3721: 4 lb. 7 oz. (2.0 kg.)
RCP-3730: 5 lb. 8 oz. (2.5 kg.)
RCP-3731: 5 lb. 3 oz. (2.3 kg.)

Dimensions (WHD)
(approx.): RCP3710: 68 x 221 x 127mm
(2³/₄" x 8³/₄" x 5")
RCP3711: 68 x 221 x 84mm
(2³/₄" x 8³/₄" x 3³/₈")
RCP3720: 102 x 310 x 127mm
(4¹/₈" x 12¹/₈" x 5")
RCP3721: 102 x 310 x 84mm
(4¹/₈" x 12¹/₈" x 3³/₈")
RCP3730: 102 x 332 x 127mm
(4¹/₈" x 13¹/₈" x 5")
RCP3731: 102 x 332 x 84mm
(4¹/₈" x 13¹/₈" x 3³/₈")

BVF-7700/77 7-Inch Viewfinder

	BVF-7700 (color)	BVF-77 (monochrome)
CRT	7" 70° deflection aperture grille pitch 0.21mm (center) 0.30mm (corner)	7" 90° deflection
Screen Size	116 x 87mm	120 x 90mm
Tilting Angle	+60° / -40°	+60° / -40°
Brightness	> 154 cd/m ² (45fL)	> 500 cd/m ² (146fL)
Resolution	> 350 lines (center) > 300 lines (corner)	800 lines (center) 600 lines (corner)
Geometric Distortion	A zone: within 1.0% B zone: within 2.0%	Within 1.0%
Convergence	A zone: < 0.2mm B zone: < 0.3mm 	—
Linearity	Within 1.5% in Zone A	Within 3%
Stable of Raster Size	Within 2%	Within 2%
Controls	Contrast/Brightness/Peaking Peaking SW/Degauss SW Power SW	Contrast/Brightness/Peaking Peaking SW/Power SW Scan size SW
Aperture Correction	0 dB-20 dB	0 dB-15 dB
Color Temperature	6500K + 8MPCD	—
Power Requirements	DC-10.5V-17.0V DC-12.0V (typical)	DC-10.5V-17.0V DC-12.0V (typical)
Power Consumption	40W	23W
Weight:	13 lb. 11 oz. (6.2 kg.) (approx.)	11 lb. (5.0 kg.) (approx.)
Dimensions (WHD)	265 x 188 x 359mm (10 ¹ / ₂ " x 7 ¹ / ₂ " x 14 ¹ / ₄ ") (approx.)	265 x 178 x 321mm (10 ¹ / ₂ " x 7 ¹ / ₈ " x 12 ³ / ₄ ") (approx.)

BVP-370A

3-Chip CCD Studio 10B Color Camera System

The BVP-370A is Sony's standard FIT CCD Studio/OB camera designed to cover virtually all shooting applications from full scale studio use to advanced field production applications even in the most difficult shooting environment. The FIT Hyper HAD™ sensor is employed.

Superb Picture Performance

The BVP-370A CCD boasts all the proven advantages of Sony's solid state sensors ■ No problems of lag and image burn-in ■ Impervious to vibration and shock ■ Inherent immunity to strong electric or magnetic fields ■ Free from registration adjustment; what is more, the BVP-370A offers the extra superb picture performance of the Hyper HAD sensor.

■ High Sensitivity—Use of the newly developed Hyper HAD sensors significantly improves the sensitivity of the BVP-370A. The Hyper HAD sensor combines Sony's well proven HAD sensor™ with an OCL (On-Chip-Lens) layer placed on its surface. The structure of the HAD sensor enables a wide aperture ratio while the OCL layer effectively converges incoming light onto each photo sensor. As a result, the BVP-370A achieves the incredibly high sensitivity of f8.0 at 2000 lx ■ Negligible Vertical Smear—The structure of the innovative Hyper HAD sensor also contributes to the reduction of vertical smear. The BVP-370A CCD imager combines the FIT charge transfer technique with the Hyper HAD sensor. As a result, the vertical smear level is reduced to the point where it is virtually invisible. An incredibly low smear level of -104 dB is achieved ■ Excellent Signal-to-Noise Ratio—By employing advanced electronic circuitry, the BVP-370A achieves the excellent signal-to-noise ratio of 62 dB. Dark current is also considerably reduced due to the HAD sensor structure used in the Hyper HAD sensors. This gives a corresponding reduction in fixed pattern noise, maintaining low noise characteristics in any situation ■ High Resolution—A total of 380,000 effective picture elements assures a remarkable horizontal luminance resolution of 700 TV lines.

■ Superior Color Reproduction ■ Enhanced Vertical Definition System (EVS)—In this system the charges of a field (odd or even) are read out every $\frac{1}{30}$ second in the same manner as in the frame integration mode, but with the electronic shutter activated at a speed of $\frac{1}{60}$ second at an appropriate time. This allows the BVP-370A to offer a vertical resolution of 450 TV lines with motion blur reduced to that of field rate integration.



Studio Cameras

(BVP-370A, cont.)

Convenient System Operation

Along with the outstanding picture quality achieved by the Hyper HAD sensors and their associated, highly advanced electronic circuitry, the BVP-370A is designed with a wide range of functions and facilities for efficient operation in both studios and in the field ■ **Electronic Shutter**—The BVP-370A features a variable speed electronic shutter built in the CCD imager. Shutter speeds— $\frac{1}{100}$, $\frac{1}{125}$, $\frac{1}{250}$, $\frac{1}{500}$, $\frac{1}{1000}$, $\frac{1}{2000}$ (seconds).

■ **Clear Scan™ and Extended Clear Scan**—the Clear Scan and Extended Clear Scan (ECS) systems enable a precise shutter speed to be selected so that it can be matched with the computer display scanning frequency, eliminating the horizontal bands or flicker that usually occurs. **Clear Scan**—60.7 to 7592 Hz (258 steps); **Extended Clear Scan**—30.4 to 58.3 Hz (248 steps) ■ **Advanced Triax System**—Sony's unique triax system employed by the BVP-370A system has been designed to match CCD camera performance. Utilizing wide band component (Y, R-Y, B-Y) video transmission, the highest quality images can be maintained for cable lengths up to 3000m. ■ **Flexible Intercom System**—The BVP-370A system is provided with two independent intercom channels, each of which can be connected to Production or Engineer line by switches on the camera head.

■ **Improved Mic System**—Two XLR connectors of the BVP-370A associated with Audio Ch-1 and Ch-2 provide phantom power to external microphones. Gain level of each channel can be remotely controlled via the 9-pin remote connector on the rear panel of the CCU-370/DCU-371 ■ **Automatic Setup Function**—The automatic setup of color balance (black/white balance, gamma, etc.) is provided and may be initiated from either the master setup unit or remote control panel via digital control ■ **Filing System**—The BVP-370A is provided with the following four filing facilities to support camera system operation. **Reference file**: stores the standard setup data in the auto setup mode; **Setup file**: 8 types of setup data can be stored; **Scene file**: 64 types of color paint adjustment data can be stored; **Lens file**: 16 types of correction data to compensate for various lenses can be stored ■ **Teleprompter Facility**—By using the optional BKP-3700 teleprompter unit, facilities for mounting a teleprompter are provided with an extra video circuit to feed the prompter monitor via the CCU. ■ **Utility Power Outlet**—(100VA) ■ **Standalone Operation**—By using the optional BKP-370 standalone unit, the BVP-370A can be used alone with a VTR ■ **Enhanced Controls**—**Skin Tone Detail**: allows the detail level for human skin tones to be suppressed to a low constant value, regardless of the detail level adjustments in other areas of the picture. The color range in which the detail level is suppressed is adjustable for PHASE, WIDTH and SATURATION. **Black gamma control** is also provided on the BVP-370A for improved accuracy of color reproduction and picture

matching between cameras. This function allows the slope of the linear part of the R, G and B transfer characteristic to be adjusted over a range of approximately 3.5 to 4.5 without affecting the gamma curve above the cross point. **Master white clip** from the MSU Master Setup Unit. As a further convenience, a **viewfinder box cursor memory** is incorporated allowing subjects to be framed easily and accurately. Three combinations of box H position, V position, height and width can be memorized and assigned to the three cursor buttons on the camera switch panel.

■ **High Performance 7-inch Viewfinders**—BVF-7700 and BVF-77 ■ **Easy Maintenance**

Specifications

Pickup Device System:	3-chip $\frac{1}{2}$ " Frame Interline Transfer CCD
Picture Elements:	768(H) x 494(V)
Optical System:	f1.4 Prism System
Filter Wheels:	Color Filters—A: Cross B: 3200K C: 4300K D: 6300K ND Filters—1: CLEAR 2: $\frac{1}{4}$ 3: $\frac{1}{8}$ 4: $\frac{1}{16}$
Sensitivity:	f8.0 at 2000 lx (3200K, 89.9% reflectance)
Minimum Illumination:	7.5 lx (f1.4 lens, +18 dB gain) (approx.)
S/N Ratio:	62 dB (typical)
Horizontal Resolution:	700 TV lines (luminance at center)
Registration:	0.05% (all zones without lens)
Geometric Distortion:	Below measurable level (without lens)
Output Signals:	Triax (Kings type) AC Utility out: Max. 100 VA Monitor Out (BNC): 1.0Vp-p, 75 Ω for Return/VF video Script (4-pin): DC 12V, 5W with ON/OFF switch *1 Prompter out (BND): 1.0Vp-p, 75 Ω *2 Encoded video out (BNC): 1.0Vp-p, 75 Ω *2 VTR (26 pin): CCZ-type
Input Signals:	Mic in (2-CH, XLR 3-pin): -60 dBs, balanced *2 Reference in (BNC): VBS/BS, 1.0Vp-p, 75 Ω (0.286Vp-p, sync) *2 Remote (12-pin): Simple remote control unit (RM-3601) connector *2 AC in: AC 120V \pm 10%, 50/60 Hz
Others:	Tracker (10-pin): For Intercom/PGM/Tally Intercom/PGM (2-ch independent): XLR 5-pin, ENG/PRD selectable Lens connector: 36-pin
Operating Temperature:	-20°C to +45°C (-4°F to +113°F)
Storage Temperature:	-20°C to +50°C (-4°F to +122°F)
Weight:	Camera head unit: 44 lb. 1 oz. (20 kg.) (approx.) (without viewfinder)
Dimensions (WHD):	294 x 291 x 431mm (11 $\frac{5}{8}$ " x 11 $\frac{1}{2}$ " x 17") (approx.)

*1 Optional BKP-3700 teleprompter unit is required.

*2 Available for only optional standalone camera operation using BKP-370.

BVP-370

3-Chip CCD Studio/OB Camera System

- The top-end CCD studio/OB camera to cover virtually all shooting applications
- Highest quality 768 FIT CCD pickup device camera with the Hyper "HAD" (Hole Accumulated Diode) sensor: High horizontal luminance resolution of 700 TV lines; Excellent signal-to-noise ratio of 62 dB; Incredibly high sensitivity of f8.0 at 2000 lux; Incredibly low smear level of -140 dB (nominal value); Minimum lag and high resistance to image burn-in; Impervious to vibration and shock; Minimum effects from electric magnetic field; Free from registration adjustment
- Flexibly built-up studio/OB camera system with the CCU-370 Camera Control Unit, MSU-350/370 Master Setup Unit, VCS-350/370 Video Selector RCP-3700 series Remote Control Panel, and other high performance peripheral equipment
- The red and green horizontal/vertical enhancer and soft detail control are provided for natural color reproduction
- Electronic shutter provides clear images of high speed moving objects: <Shutter Speed> BVP-370: 1/100, 1/125, 1/250, 1/500, 1/1000, 1/2000 sec.
- Advanced triax system transmission
- Two independent intercom channels and two microphone inputs
- Auto setup function (black/white balance, gamma, etc.)
- Four filing facilities, reference file, setup file, scene file, and lens file, are provided
- Optional teleprompter unit is available
- Optional standalone unit is available
- Both BVF-7000AQ/7000AQM 7-inch color viewfinder and BVF-70A/70ACE 7-inch B/W viewfinder can be used
- Easy maintenance
- Advanced mechanical design and excellent serviceability

Supplied Accessories:

- Extension Boards
- Number Plates
- 10-pin Plug for tracker connector
- 6-pin Connector for return control
- 4-pin Connector for script
- Tally Lamps
- Front Cover
- Fuses
- Metal Fitting for attachment
- Operation and Maintenance Manual

Optional Accessories:

- BKP-3613 Script Holder with Lamp (one page) for BVP-360A/370/375/270 series
- BKP-3614 Script Holder with Lamp (two pages) for BVP-360A/370/375/270 series
- VF-502 7" Viewfinder Sports Hood for BVP-350A/360A/370/270 series
- BKP-3700 Teleprompter Unit for BVP-370/375/270 series
- BKP-370 Standalone Unit for BVP-370/375 series
- BKP-3701 Contrast Control Unit BVP-370/375/270 series
- BKP-3702 Sub Encode Board for BVP-370/375/270 series



Studio Cameras

Specifications (BVP-370, cont.)

Pickup Device System: 3-chip $\frac{2}{3}$ " frame interline transfer CCD
Picture Elements (HV): 768 x 494
Optical System: F1.4 prism system
Filter Wheels: Color Filters: A: CROSS; B: 3200K; C: 4300K;
D: 6300K
ND Filters: 1: CLEAR; 2: $\frac{1}{4}$; 3: $\frac{1}{8}$; 4: $\frac{1}{16}$
Sensitivity: f8.0 at 2000 lux (3200K, 89.9% reflectance)
Minimum Illumination: (approx.) 7.5 lux (f1.4 lens, + 18 dB gain)
S/N Ratio: 62 dB
Horizontal Resolution: 700 TV lines (luminance at center)
Registration: 0.05% (all zones without lens)
Geometric Distortion: Below measurable level (without lens)
Output Signals: CCU: Triax (NTSC: Kings type,
PAL: Fischer type)
AC Utility Out: Max. 100 VA
Monitor Out (BNC): 1.0Vp-p,
75 Ω for return/VF video
Script (4-pin): DC-12V, 5W with ON/OFF switch
Prompter Out*1 (BNC): 1.0Vp-p, 75 Ω
Encoded Video Out*2 (BNC): 1.0Vp-p, 75 Ω
VTR*2 (26-pin): CCZ type

*1 Optional teleprompter unit is required

*2 Available only for optional stand alone camera operation

Input Signals: Mic in (XLR 3-pin): -60 dBs, balanced
Reference in*2 (BNC): VBS/BS: 1.0Vp-p, 75 Ω
SYNC: 286 mVp-p
Remote*2 (12-pin): Simple remote control unit
(RM-3601) connector
AC in*2: AC-120V \pm 10%, 50/60 Hz
Others: Tracker (10-pin): For Intercom/PGM/Tally
Intercom/PGM: 2-ch independent, XLR 5-pin,
ENG/PROD selectable
Lens Connector: 36-pin
Operating Temperature: -20°C to +45°C (-4°F to +113°F)
Storage Temperature: -20°C to +50°C (-4°F to +122°F)
Weight: 44 lb. 1 oz. (20 kg.) (approx.) Camera head unit
without viewfinder

BVP-270/BVPS-270

3-Chip CCD Studio Camera

■ Cost effective studio camera package ■ BVPS-270 consists of standard BVP-270 with: CCU-370 Camera Control Unit; RCP-3720 Remote Control Panel; CCA-230 Remote Control Cable; BVF-77 Black & White Viewfinder
 ■ Ideal for general studio use ■ Higher quality 768 IT CCD pickup device camera with the Hyper "HAD" (Hole Accumulated Diode) sensor High horizontal luminance resolution of 700 TV lines: Excellent signal-to-noise ratio of 62 dB; Very low smear level of -105 dB (nominal value); High sensitivity of f8.0 at 2000 lux; Minimum lag and high resistance to image burn-in; Impervious to vibration and shock; Minimum effects from electric/magnetic field; Free from registration adjustment ■ Flexibly built-up studio/OB camera system with the CCU-370 Camera Control Unit, MSU-350/370 Master Setup Unit, VCS-350/370 Video Selector, RCP-3700 series Remote Control Panel, and other high performance peripheral equipment ■ The soft detail control is provided for natural color reproduction ■ Electronic shutter provides clear images of high speed moving objects <Shutter speed> BVP-270: 1/100, 1/125, 1/250, 1/500, 1/1000, 1/2000 sec. ■ Advanced triax system transmission ■ Auto setup function (black/white balance, gamma, etc.) ■ Four filing facilities, reference file, setup file, scene file, and lens file, are provided ■ Optional teleprompter unit is available ■ A high resolution 7-inch B/W viewfinder BVF-70A/70ACE is available ■ Easy maintenance ■ Advanced mechanical design and excellent serviceability



Supplied Accessories:

Extension Boards
 Number Plates
 10-pin Plug for Tracker Connector
 6-pin Connector for return Control
 4-pin Connector for Script
 Tally Lamps
 Fuses
 Metal Fitting for attachment
 Operation and Maintenance Manual

Specifications

Pickup Device System: 3-chip 2/3" Interline Transfer CCD

Picture Elements: 768(H) x 493(V)

Optical System: f1.4 prism system

Filter Wheels

Color Filters: A: CROSS, B: 3200K, C: 4300K, D: 6300K

ND Filters: 1: CLEAR, 2: 1/4, 3: 1/6, 4: 1/16

Sensitivity: f8.0 at 2000 lux (3200K, 89.9% reflectance)

Minimum Illumination: 7.5 lux (f1.4 lens, + 18 dB gain) (approx.)

S/N Ratio: 62 dB

Horizontal Resolution: 700 TV lines (luminance at center)

Registration: 0.05% (all zones without lens)

Geometric Distortion: Below measurable level (without lens)

Output Signals: CCU: Triax (NTSC: Kings type, PAL: Fischer type)

AC Utility Out: Max. 100 VA

Monitor Out (BNC): 1.0Vp-p, 75Ω for return/VF video

Script (4-pin): DC-12V, 5W with ON/OFF switch

Prompter Out (BNC): 1.0Vp-p, 75Ω

Others: Tracker (10-pin): For Intercom/PGM/Tally

Intercom/PGM: ENG/PROD selectable,

XLR 5-pin

Lens Connector: 36-pin

Operating Temperature: -20°C to 45°C (-4°F to 113°F)

Storage Temperature: -20°C to 50°C (-4° to 122°F)

Weight: 44 lb. 1 oz. (20 kg.) (approx.) Camera head unit (without viewfinder)



BVP-9000

3-CCD Video Camera

■ **FIT Hyper HAD™ CCD Sensors**—The BVP-9000 uses three $\frac{2}{3}$ -inch FIT Hyper HAD sensor CCDs, each with 410,000 total picture elements. CCD sensors have many well known advantages, for example a consistent performance during their long life and their freedom from stick, lag and burn-in effects make a particularly significant contribution to the smooth and natural image quality of the Super Motion System. The highly developed structures of these BVP-9000 CCDs enables them to be clocked out at the required 43 MHz, three times normal, giving a dramatic improvement in slow motion picture quality. And the OCL (On-Chip-Lens) layer of these Hyper HAD sensors, concentrating light onto individual pixels, provides excellent picture quality even in low light conditions. ■ **Refined Ergonomics**—The portable camera head, which weighs only about 8 kg. (17 lb. 10 oz.) is well balanced with low center of gravity and is extremely comfortable to operate. Its low profile guarantees good peripheral vision for the operator when used on the shoulder and its stability makes it just as suitable for tripod mounting or hand-held in positions such as low-angle shooting. ■ **Wideband Video Signal Processing**—Processing of the wideband video signals within the camera uses techniques that have been developed as part of the long term research by Sony into its advanced High Definition technology. In addition to the linear processing, the non-linear processing such as gamma control is also performed on these wideband camera signals.

Supplied Accessories:

VCT-14 Tripod Adaptor
Extension Board
Carrying Case
Operation and Maintenance Manual

Specifications

Pick-up Device: 3-chip $\frac{2}{3}$ " Frame Interline Transfer CCD
Picture Elements: 768(H) x 494(V)
Optical System: f1.4 prism system
Filter Wheels: Color filters
A: CROSS B: 3200K C: 4300K D: 6300K
ND filters:
1: CLEAR 2: $\frac{1}{4}$ 3: $\frac{1}{8}$ 4: $\frac{1}{16}$
Sensitivity: f4.0 at 2000 lx (3200K, 89.9% reflectance)
Registration: 0.05% (all zones without lens)
Geometric Distortion: Below measurable level (without lens)
Connectors: Triax: Kings type
Intercom/PGM: XLR 5-pin, ENG/PRO
selectable
Lens connector: 12-pin
VF connector: 12-pin
CA-9000 connector: 29-pin
RET CON.
connector: 6-pin
Operating Temperature: -20°C to 45°C (-4°F to 113°F)
Storage Temperature: -20°C to 50°C (-4°F to 122°F)
Weight: Camera head unit (without lens)
13 lb. 11 oz. (6.2 kg.) (approx.)
Dimensions (WHD): 130 x 245 x 360mm
($5\frac{1}{8}$ " x $9\frac{3}{4}$ " x $14\frac{1}{4}$ ")

LBU-2000

Laser Beam Link Unit

■ The compact and lightweight design of the LBU-2000 gives a wide range of applications in the field. ■ The automatic beam angle adjustment function of the LBU-2000 minimizes the initial set up period. ■ The LBU-2000 comes equipped with a new beam servo mechanism in which real time correction of the beam angle is automatically and accurately achieved within the range of $\pm 5^\circ$. This plays an important role if the unit is subjected to external vibration or is accidentally moved. ■ Up to 4 channels of video (such as one Y/R-Y/B-Y component signal plus one VBS signal, 4 VBS signals), 8 channels of audio, and one bi-directional intercom signal can be transmitted with the LBU-2000 system. Transmission direction between units is individually selectable for each video channel which is accompanied by two audio channels. ■ Video transmission bandwidth is a remarkable 8MHz which provides an excellent transmission quality equivalent to that of optical cables. Furthermore, a long transmission distance of up to 2km is achieved with the high beam transmission efficiency of the LBU-2000. ■ Since the Laser Beam Link System does not use radio frequencies, users need not be concerned with communication regulations. ■ The Laser Beam Link System is virtually immune from interception, resulting in high security. Furthermore, interference between the laser beams is much less in comparison to microwave transmission, allowing multiple LBU-2000 systems to transmit in parallel. ■ Due to the system's low power consumption, the continuous operating time of the LBU-2000 is approximately 90 minutes with one BP-90A battery pack. The LBU-2000 can also be powered with an AC-550 AC adaptor.

System Connections

1. Stand-alone Operation: The LBU-2000 comes equipped with a modulator and demodulator for multiplex transmission, allowing stand-alone operation with an AC-550 AC adaptor or BP-90A battery. Two channels of both video and audio are available with this configuration.
2. LBC-2000 Operation System: By using the LBC-2000 Control Unit with the LBU-2000, 4 channels of video and 8 channels of audio become available. The LBC-2000 allows signal inputs/outputs, remote control of the LBU-2000, power supply to the LBU-2000, and beam monitor output. Remote operation distance between the LBU-2000 and LBC-2000 is a maximum 300m with the CCW-C cable.
3. CCU Operation System: The LBU-2000 enables Sony portable cameras docked with the CA-50/50A Camera Adaptors to interface with the CCU-350 Camera Control Unit using the laser beam link. The CCU-350 can also supply power to the LBU-2000.

Note: Power to camera head cannot be supplied from the CCU.



Camera Transmission System

(LBU-2000, cont.)

Optional Accessories:

LBC-2000 Laser Beam Link Control Unit
LC-LB1 Carrying Case for LBU-2000
CCW-C Cables
41-pin Control Cables
CCW-C25: 82.5 ft. (25m)
CCW-C50: 165 ft. (50m)
CCW-C100: 330 ft. (100m)

Specifications

General

Power Requirements: DC 10.5V to 17V
Power Consumption: Max. 40W
Operating Temperature: -20 to 45°C (-4 to 113°F)
Dimensions (WHD): 232 x 253 x 684mm (approx.)
(9 1/4" x 10" x 27") (approx.)
Weight: 29 lb. 12 oz. (13.5 kg) (approx.)

Laser Diode

Material: GaAlAs
Wavelength: 820 nm
Laser Power: 10mW

Transmission

Transmission Distance
LBU-2000 ↔ LBU-2000: 2 km Max.
LBU-2000 ↔ LBC-2000: 300m Max.
Transmission Channels
Video: 4 CH (VBS, Component, RGB)
Audio: 8 CH
Intercom: 1 CH (Bi-Directional)
Video
Bandwidth: 8 MHz
Signal to Noise Ratio: 56 dB
DG, DP: 2%, 2"
Audio
Bandwidth: 15 kHz
Signal to Noise Ratio: 60 dB

Specifications (continued)

Beam Servo

Beam Correction Angle: ±5°
Beam Monitoring: 1/8-inch CCD, LCD

Inputs/Outputs

DC IN: XLR 4-pin
Monitor OUT: BNC-type 1.0Vp-p, 75Ω
LCD Monitor OUT: 6-pin, DC 5.5V,
Video/Audio Signals
Video IN/OUT: BNC-type x 2, 1.0Vp-p, 75Ω
Audio IN/OUT: XLR 3-pin x 2, 0dB, 600Ω
Intercom IN/OUT: XLR 7-pin, 0dB, 600Ω
Headset IN/OUT: XLR 5-pin
Camera/LBC/CCU IN/OUT: CCW 41-pin, Video/Audio/Intercom
Signals, DC
Laser Beam ON/OFF Control: BNC-type (75Ω - ON, OPEN - OFF)

LBC-2000 Laser Beam Link Control Unit

General

Power Requirements: AC 120 ± 10%
Power Consumption: Max. 135W (with LBU-2000)
Operating temperature: -10 to 40°C (14 to 104°F)
Dimensions (WHD): 217 x 125 x 357.5mm (approx.)
(8 5/8" x 5" x 14 1/8") (approx.)
Weight: 14 lb. 12 oz. (6.4 kg.)

Inputs/Outputs

AC IN: AC 120V ± 10%
Monitor OUT: BNC-type, 1.0Vp-p, 75Ω
Video CH1-CH4 IN/OUT: BNC-type x 4, 1.0Vp-p, 75Ω
Audio CH1-CH4 L, R IN/OUT: XLR 3-pin x 8, 0dB, 600Ω
Intercom IN/OUT: XLR 7-pin, 0dB, 600Ω
Headset IN/OUT: XLR 5-pin
Input/Output: CCW 41-pin, Video/Audio/Intercom
Signals
Remote: D-sub 9-pin (for RS-232C interface)

BVF-77

7-inch B/W Viewfinder

■ Specially designed for use with the BVP-360A/370/375/270—for direct camera installation ■ Fixed center of gravity ■ High resolution, 800 TV lines at center ■ Various camera indications provided in viewfinder ■ Wide range of mechanical positioning ■ Dimensions and camera interface compatible with BVF-7000AQ/7000AQM 7-inch color viewfinder

Specifications

Screen Size: 120(W) x 90(H)mm (4 $\frac{3}{4}$ " x 3 $\frac{5}{8}$ "
 Tilt Angle: $\pm 40^\circ$
 CRT: 7", 70° deflection
 Resolution: 800 TV lines at center
 600 TV lines at corners
 Geometry Distortion: Within 1.0%
 EHT Voltage: 16 KV typical
 Power Requirement: DC-10.7V-17.0V
 Input Video: 1.0Vp-p (+4/-6) dB sync negative
 75 Ω terminated
 DC Restoration: Back porch type
 Back porch level within 1% of peak luminance from
 10%-90% APL
 Weight: 17 lb. 10 oz. (8 kg.)
 Dimensions (WHD): 308 x 220 x 390mm
 (2 $\frac{1}{4}$ " x 8 $\frac{3}{4}$ " x 15 $\frac{3}{8}$ "

BVF-7000AQ

7-inch Color Viewfinder

- Specially designed for use with BVP-360A/370/375— for direct camera installation
- Fixed center of gravity
- Various camera indications provided in viewfinder
- Wide range of mechanical positioning
- Dimensions and camera interface compatible with BVF-70A 7-inch monochrome viewfinder
- High resolution from Super Fine Pitch Trinitron (0.2mm center, 0.25mm side)
- Underscan display
- RGB inputs from camera give high quality color monitoring
- Composite video input for return video display

Specifications

Screen Size: 120(W) x 90(H)mm (4 $\frac{5}{8}$ " x 3 $\frac{5}{8}$ ")

Tilt Angle: $\pm 40^\circ$

CRT: 7" (6V), 70° deflection

Aperture grill pitch 0.20mm (center)

0.25mm (side)

Color System: NTSC/PAL/SECAM (system is selected automatically)

Power Requirement: DC-10.7V-17.0V

Power Consumption: 50W (max.)

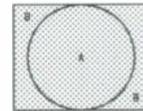
Tally Indication: Lamp and LED (red, green)

Control Functions: Contrast, Brightness, Peaking, Peaking Switch, Degauss Switch

Resolution: 350 TV lines (center) } RGB/Composite
300 TV lines (corners) }

Linearity: Within 1% of the picture height in ZONE A

Convergence: Within 0.2mm in ZONE A
Within 0.3mm in ZONE B



Stability of Raster Size: Within 1% at 0 fL-30 fL

Color Temperature: 6500K + 8MPCD

Brightness: > 45 fL

Weight: 20 lb. (9 kg.)

Dimensions (WHD): 308 x 220 x 390mm
(12 $\frac{1}{4}$ " x 8 $\frac{3}{4}$ " x 15 $\frac{3}{8}$ ")

CCU-370

Camera Control Unit for BVP-375/370/ BVPS-270

- Y/R-Y/B-Y transmission via a triax cable
- An operating range of up to 3000m (2400m for return video)
- R/G/B and Y/R-Y/B-Y output
- SMPTE/EIA color bars output (CCU-370)
- Mic level control and intercom switching control can be executed via the 9-pin remote control connectors on the rear panel
- Controlled by the MSU-350/370 Master Setup Unit or the RCP-3700 series Remote Control Panels
- Compact design and 19-inch rack mountable (3 units height)

Supplied Accessories:

- Extension Boards
- 19-pin Connector for PGM/Intercom/Tally
- AC Power Cable
- 4-pin Connector for WF Mode Selection
- Tally Number Plate
- Plug Holder
- Operation and Maintenance Manual

Specifications

Input Signals

- Camera In: Triax (Kings type)
- Return Video 1, 2 In (BNC, loopthrough): VBS, 1.0Vp-p, 75Ω
- Genlock/Reference In (BNC, loopthrough): VBS/BS, 1.0Vp-p, 75Ω, (286mVp-p, sync)
- Prompter In*1 (BNC, loopthrough): 1.0Vp-p, 75Ω

Output Signals

- Encode Video Out (BNC): VBS, 1.0Vp-p, 75Ω x 3
VBS/BS, 1.0Vp-p, 75Ω
- R/G/B Video Out (BNC): 0.714Vp-p, 75Ω
- Y/R-Y/B-Y Out (BNC): Y: 1.0Vp-p, 75Ω
R-Y/B-Y: 700mVp-p, 75Ω
- Picture Monitor Out (BNC): 1.0mVp-p, 75Ω
- Monitor Out (BNC): 0.714Vp-p, 75Ω
- Waveform Monitor Out (BNC): 714mVp-p, 75Ω
- Sync Out (BNC): 0.3Vp-p, negative, 75Ω
- Waveform Mode Out: 4-pin
- Mic Out (XLR 3-pin): 0 dBs/ -20 dBs balanced, 2 channels

Input/Output Connectors

- MSU: 16-pin loopthrough
- RCP: 16-pin
- REMOTE: D-sub 9-pin x 2 (for AUDIO remote control)

Communications

- Intercom (RTS) (rear panel): XLR 3-pin loopthrough
- Intercom (4 wire): 19-pin*4
- Tally/PGM (rear panel): 19-pin
- Intercom/PGM (front panel): XLR 5-pin
- Power Requirements: AC-120V ± 10%, 50/60 Hz
- Power Consumption: 350 VA with full system operation
- Operating Temperature: 0°C to 45°C (32°F to 113°F)
- Maximum Cable Length: 3000m with φ14.5mm triax cable*3 (Fujikura)
- Weight: 37 lb. 8 oz. (17 kg.) (approx.)
- Dimensions (WHD): 424 x 133 x 380mm (16³/₄" x 5¹/₄" x 15") (approx.)

*1 Optional prompter board is required.

*2 Video amplitude 100/0/75/0 color bar

*3 2400m for return video

*4 Available as an option



DCU-371

Digital Camera Control Unit

■ **Component Serial Digital Inputs/Outputs**—The DCU-371 provides component serial digital inputs and outputs. The three component serial digital outputs can be directly connected to the Sony DVS/DVS-V series of digital switchers or DVR/DVW series digital VTRs, while the two component serial digital inputs (RET 1/RET 2) accept digital return video from the serial outputs of the digital switcher or picture sources. Interfacing with this equipment is via conventional coaxial cables with a maximum transmission distance of 200m. The use of component serial digital transmission eliminates the need to adjust output level and equalization

■ **Analog Inputs/Outputs**—In addition to its component serial digital inputs/outputs, the DCU-371 provides Y (G)/R-Y (R)/B-Y (B) and VBS signals in their analog forms

■ **Compatibility with Current Triax System**—The DCU-371 uses the triax system that has been proven through widespread use with the CCU-370. This allows the DCU-371 to interface with and provide control of BVP-375/370A/270 series Studio/OB cameras as well as BVP Portable and CA-57/57A combinations

■ **Compact Design**—Despite the complex circuitry required for digital video processing, the DCU-371 is designed to be very compact—19 inches in width and only three rack units high. This allows the DCU-371 to be installed in space limited areas such as OB vans as well as in studios

Optional Accessories:

MSU-350 Master Setup Unit

VCS-350 Video Selector

Remote Control Panels:

RCP-3710/3711 Type I

RCP-3720/3721 Type II

RCP-3730/3731 Type III

Specifications

Input Signals

Camera in:	Triax (Kings type)
Return video 1, 2 in	
Digital (BNC):	Component Serial Digital (270 Mb/s) x 2
Analog (BNC Loop-through):	VBS, 1.0Vp-p, 75Ω x 2
Reference in (analog) (BNC Loop-through):	VBS/BS, 1.0Vp-p, 75Ω
Prompter in (analog)*1 (BNC Loop-through):	VBS, 1.0Vp-p, 75Ω (with optional BKP-3700)

Output Signals

Digital out (BNC):	Component Serial Digital (270 Mb/s) x 3
Encoded Video out (analog, BNC):	VBS, 1.0Vp-p, 75Ω x 2
R/G/B Video out*2 (analog, BNC):	0.7Vp-p, 75Ω
Y/R-Y/B-Y Video out*2 (analog, BNC):	Y; 1.0Vp-p, 75Ω R-Y/B-Y; 0.7Vp-p, 75Ω
Picture Monitor out (analog, BNC):	1.0Vp-p, 75Ω
Waveform Monitor out (analog, BNC):	0.714Vp-p, 75Ω
Monitor out (analog, BNC):	0.714Vp-p, 75Ω
Waveform Mode out:	4-pin
Mic out (analog) (XLR 3-pin):	0 dBs/ -20 dBs balanced, 2 channels

Input/Output Controls

MSU:	16-pin loop-through
RCP:	16-pin
REMOTE:	D-sub 9-pin x 2 (for MIC GAIN and INTERCOM remote control)

Communications

Intercom (RTS):	XLR 3-pin loop-through
Tally/PGM:	19-pin
Intercom/PGM (Front Panel):	XLR 5-pin

General

Power Requirements:	AC 120V ± 10%, 50 Hz/60 Hz
Power Consumption:	Max 400 VA (approx.)
Operating Temperature:	0°C to 45°C (32°F to 113°F)
Maximum Cable Length:	3000m*3 with Ø14.5mm triax cable
Weight:	45 lb. 3 oz. (20.5kg.) (approx.)
Dimensions (WHD):	424 x 132 x 450mm (16 3/4" x 5 1/8" x 17 3/4")

*1 Optional BKP-3700 teleprompter unit is required.

*2 Output signal is selected between either analog RGB or Y/R-Y/B-Y.

*3 2400m for return video

MSU-370

Master Setup Unit

- Designed for very sophisticated camera operation in large-scale studios or production systems
- Can setup a maximum of 8 camera/CCU units with one VCS-370
- The addition of up to four VCS-350's allows the MSU-370 to control up to 36 cameras
- A large LCD display is provided for displaying various camera data at the same time
- Can control the CCU-370/370P, CCU-355/355P and CCU-350/350P

Supplied Accessories:

19-pin Connector (tally/Intercom)
 Operation and Maintenance Manual

Specifications

Input/Output Connectors: VCS: 50-pin
 AUX: D-sub 37-pin
 INCOM/PGM: 19-pin (rear panel)
 RTS/CLEARCOM-TW12: LINE IN: XLR 3-pin,
 LINE OUT: XLR 3-pin
 INCOM/PGM: Double jack (front panel)
 TALLY OUT: D-sub 25-pin

Power Requirements: AC-90V-264V, 50/60 Hz

Operating Temperature: 0°C to 45°C (32°F to 113°F)

Weight: 26 lb. 7 oz. (12 kg.) (approx.)

Dimensions (WHD): 424 x 133 x 400mm
 (16³/₄" x 5¹/₄" x 15³/₄") (approx.)

MSU-350

Master Setup Unit

- Designed to cover operation of camera system for typical compact studios and OB vans
- Can setup a maximum of 8 camera/CCU units with one VCS-350
- By connecting one more VCS-350, a total of 15 camera/CCU units can be setup
- Small size, lightweight, and low consumption
- The CCU-370/370P, CCU-355/355P, and CCU-350/350P can be controlled

Supplied Accessories:

AC Power Cord (3) (1 x three types)
 ID Card Sheet
 ID Card
 Plug Holder
 Operation and Maintenance Manual

Specifications

Power Requirements: AC-90V-264V, 50/60 Hz

Power Consumption: 12W

Connectors: CCU/VCS: 16-pin loopthrough

Operating Temperature: 0°C to 45°C (32°F to 113°F) (approx.)

Dimensions (WHD): 400 x 66 x 177mm
 (15³/₄" x 2⁵/₈" x 7") (approx.)

Weight: 8 lb. 13 oz. (4 kg.) (approx.)

RCP-3710/3711/RCP-3720/3721/ RCP-3730/3731

Remote Control Panel

Remote Control Panel Type-I

■ RCP-3710 (Joy Stick Type)/3711 (Dial Control Type):
Ideal for use in combination with MSU system; Includes most frequently used control functions during camera operation

Remote Control Panel Type-II

■ RCP-3720 (Joy Stick Type)/3721 (Dial Control Type):
Standard Remote Control Panel; Scene file capability

Remote Control Panel Type-III

■ RCP-3730 (Joy Stick Type)/3731 (Dial Control Type):
The top of the range unit with full control function; Maintenance controls with reference file capability; Can be used as a substitute for the MSU

Supplied Accessories:

16-pin Connector
6-pin Connector
Number Plate
Rack Bracket (RCP-3720/3721 and RCP-3730/3731)
Operation and Maintenance Manual

Specifications

	RCP-3710/3711	RCP-3720/3721	RCP-3730/3731
Connector CCU	16-pin		
Preview	6-pin		
Dimensions (Approx.) (WHD)	RCP-3710 68 x 221 x 127mm (2 ³ / ₄ " x 8 ³ / ₄ " x 5") RCP-3711 68 x 221 x 84mm (2 ³ / ₄ " x 8 ³ / ₄ " x 3 ³ / ₈ ")	RCP-3720 102 x 310 x 127mm (4 ¹ / ₈ " x 12 ¹ / ₄ " x 5") RCP-3721 102 x 310 x 84mm (4 ¹ / ₈ " x 12 ¹ / ₄ " x 3 ³ / ₈ ")	RCP-3730 102 x 332 x 127mm (4 ¹ / ₈ " x 13 ¹ / ₈ " x 5") RCP-3731 102 x 332 x 84mm (4 ¹ / ₈ " x 13 ¹ / ₈ " x 3 ³ / ₈ ")
Weight (Approx.)	RCP-3710 3 lb. 12 oz. (1.7 kg.) RCP-3711 3 lb. 5 oz. (1.5 kg.)	RCP-3720 4 lb. 14 oz. (2.2 kg.) RCP-3721 4 lb. 7 oz. (2.0 kg.)	RCP-3730 5 lb. 8 oz. (2.5 kg.) RCP-3731 5 lb. 3 oz. (2.3 kg.)

RMM-301

Rack Mount Adaptor

■ The CCU-350/355 can be mounted in a standard 19-inch rack ■ The CCU-350/355 is half a 19-inch rack size wide

Specifications

Dimensions (WHD): 482 x 132 x 330mm
(19¹/₈" x 5¹/₄" x 13")
Weight: 10 lb. 6 oz. (4.7 kg.)

VCS-370

Video Selector

- Routes video output of multiple cameras for picture and waveform monitoring Up to 8 pix and WF signal can be input
- Designed exclusively for the MSU-370

Supplied Accessories:

AC Power Cord (3) (1 x three types)
 MSU Connecting Cable (D-sub 50-pin, 10m)
 4-pin Connector for WF Mode Selector
 Operation and Maintenance Manual

Specifications

Input Signals: Pix (BNC x 8): 1.0Vp-p, VBS/VS, 75Ω
 WF (BNC x 8): 1.0/0.7Vp-p, VBS/V, 75Ω
 MSU: 50-pin connector

Output Signals: Pix (BNC): 1.0Vp-p, VBS/VS, 75Ω
 WF (BNC): 1.0/0.7Vp-p, VBS/V, 75Ω
 SYNC OUT (BNC): 3.5Vp-p, 75Ω
 WF MODE: 4-pin
 DISPLAY OUT: 1.0Vp-p, VS, 75Ω
 RS-232C: RS-232C 25-pin serial interface
 RS-422: RS-422 9-pin serial interface

Input/Output Connector: CCU IN/OUT: 16-pin loopthrough

Power Requirements: AC-90V-264V, 50/60 Hz

Power Consumption: 30VA (with MSU-370)

Operating Temperature: 0°C to 45°C (32°F to 113°F)

Weight: 28 lb. 11 oz. (13 kg.) (approx.)

Dimensions (WHD): 424 x 133 x 400mm
 (16³/₄" x 5¹/₄" x 15³/₄" (approx.)



BVP-90

3-Chip CCD Camera

- Highest quality 1000H FIT Hyper HAD (Hole Accumulated Diode) CCD pickup (520K picture elements): High horizontal luminance resolution of 800 TV lines; Excellent signal-to-noise ratio of 62 dB; Incredibly low smear level of -140 dB (nominal value); High sensitivity of f8.0 at 2000 lux; Minimum lag and high resistance to image burn-in; Impervious to vibration and shock; Minimum effects from electric/magnetic field; Free from registration adjustment
- Enhanced operational features: Two, four position filter wheels; Programmable gain; Extended Clear Scan™; Auto level set-up; Super Enhanced Vertical Definition (EVS); High resolution 10-bit control system
- Electronic shutter provides clear images of high speed moving objects; Shutter speeds: 1/100, 1/125, 1/250, 1/500, 1/1000, 1/2000 sec.
- Compact and lightweight (only 6 lb. 13 oz. (3.1 kg.) with VF)
- Remotely controlled by various CCUs via CA-50 series Camera Adaptors
- Dynamic Contrast Control ensures wide dynamic range
- Automatic iris control
- Automatic white/black balance
- Two-line image enhancement
- Linear matrix
- Viewfinder indications for warning/confirmation
- A high resolution 1.5-inch viewfinder and anti-vibration microphone
- Camcorder, stand alone or CCU operation
- Studio companion camera for BVP-375 studio camera

Supplied Accessories:

- VCT-14 Tripod Adaptor
- Extension Board
- 50-pin Connector Cap
- Rain Cover
- Mic Connector Cover
- Operation Manual
- Maintenance Manual
- VTR Attachment

Specifications

Camera

Pick-up Device:	3-chip 1/3" Frame-Interline-Transfer CCD
Picture Elements:	Total: 1038(H) x 504(V) Effective: 980(H) x 494(V)
Optical Filters:	Color filters ND filters A: CROSS 1: CLEAR B: 3200K 2: 1/4 ND C: 4300K 3: 1/8 ND D: 6300K 4: 1/64 ND
Lens Mount:	Special bayonet mount
Video Output:	1.0Vp-p, 75Ω, sync negative Two outputs (TEST OUT, VTR connector)
Connectors:	VTR: 50-pin TEST OUT: BNC type LENS: 12-pin REMOTE: 6-pin
Sensitivity:	> f8.0 at 2000 lux (3200K, 89.9% reflectance)
Minimum Illumination:	1.9 lux (f1.4 lens, +30 dB gain) (approx.)
Video Signal-to-Noise Ratio:	62 dB (typical)
Horizontal Resolution:	800 TV lines
Vertical Resolution:	350 TV lines 450 TV lines (with Super EVS Mode ON)

Gain Selection:	-3 dB, 0 dB, 3 dB, 6 dB, 9 dB, 12 dB, 18 dB, 24 dB, 30 dB
Shutter Speed Selection:	1/100, 1/125, 1/250, 1/500, 1/1000, 1/2000 (SEC.)
Clear Scan Selection:	60.1 Hz - 125.3 Hz (137 steps)
Extended Clear Scan Selection:	49.0 Hz - 58.1 Hz (51 steps)
Registration:	0.05% (all zone, without lens)
Geometric Distortion:	Below measurable level
Power Requirements:	DC-12V (10.5V-17V)
Power Consumption:	13W
Operating Temperature:	-20°C to 45°C (-4°F to 113°F)
Storage Temperature:	-20°C to 60°C (-4°F to 140°F)
Weight:	6 lb. 13 oz. (3.1 kg.) (approx.)

Viewfinder

Picture Tube:	1.5" monochrome
Warm-Up Time:	1 sec.
Controls:	BRIGHT control, CONTRAST control, AUDIO LEVEL CH-1 control, PEAKING control, ZEBRA ON/MOMENT/OFF switch TALLY HIGH/LOW/OFF switch
Horizontal Resolution:	600 TV lines
Microphone:	Sharp-directional

BVW-400A

Betacam SP One Piece Camcorder

- High performance single piece (inseparable) type camcorder
- Incorporates advanced 768 FIT Hyper HAD™ CCD technology in the camera section and Betacam SP recording technology in the VTR section to cover from ENG to the most complex and quality conscious EFP applications
- Extremely high sensitivity of f8.0 at 2000 lux and very low smear level of -140 dB (nominal value)
- Ultra compact mechanical deck allows the smallest body in Betacam SP line-up
- Approx. 15 lb. 7 oz. (7.0 kg.) including the battery, cassette, and latest 13 x 9 lens with extender
- Low power consumption of 22W
- Up to 70 minutes of operation with a single NP-1B battery
- More than 30 minutes of recording time using the S-cassette
- 26-pin VTR interface capability with the optional BKW-402 VTR Connector Unit (Parallel component recording with the external VTR is possible)
- Interface capability with the BVW-50 via the optional CCRZ-5 cable for emergency recording needs
- Electronic shutter provided BVW-400: 1/100, 1/125, 1/250, 1/500, 1/1000, 1/2000, sec.
- Full color genlock capability
- Newly designed high resolution viewfinder with quick start CRT: Detachable viewfinder eyepiece; Center marker, safety zone (80% or 90%) and VTR save mode indications provided; Viewfinder rotation function with the optional BKW-401 Viewfinder Rotation Bracket
- Various automatic functions in camera section
- Two AFM audio channels in addition to two longitudinal channels with the Dolby C-Type NR (Noise Reduction) system
- Audio confidence playback (longitudinal)
- Viewfinder playback (luminance or CTDM selectable)
- Color playback in the field with the optional VA-500 Playback Adaptor
- Full range of machine control provided (Fast forward/Rewind/Play/Stop/Eject)
- Recording review function
- Built-in LTC/VITC/User Bit generator and LTC reader with external time code lock capability
- Frame accurate back space editing
- 8-digit LCD display
- Bar graph meter for audio level and battery status
- Built-in loudspeaker
- Phantom power supply (48V, CH-1/2)
- External DC output for Sony Wireless microphone receiver
- Super EVS operation mode for increased vertical resolution and perceived detail
- New Electronic Shutter Modes: Extended clear scan 51 steps (1/49 to 1/58.7 sec.)
- Clear scan 137 steps (1/60.1 to 1/125.3 sec.)
- New high resolution viewfinder with improved displays
- Automatic key light
- Accepts Anton Bauer "Intelligent" Battery

Supplied Accessories:

VCT-14 Tripod Adaptor
 Extension Board
 Rain Cover
 Shoulder Belt
 Operation and Maintenance Manual



Broadcast Portable Cameras

Specifications (BVW-400A, cont.)

General

Weight:	11 lb. (5.0 kg.) (approx.)
Power Requirements:	DC-12V (+5.0/-1.5)V
Power Consumption:	22W (with viewfinder)
Operating Temperature:	0°C to 40°C (32°F to 104°F)
Storage Temperature:	-20°C to 60°C (-4°F to 140°F)
Humidity:	< 85% (relative humidity)

VTR

Tape Speed:	11.86 cm/sec.
Recording/Playback Time:	> 30 min. with BCT-30M
Fast Forward Time:	< 9 min. with BCT-30M
Rewind Time:	< 5 min. with BCT-30M
Continuous Operating Time:	70 min. (approx.) with NP-1B

Camera

Pick-Up Device:	3-Chip $\frac{2}{3}$ " frame interline transfer (CCD)
Picture Element (HV):	768 x 494
Optical System:	f1.4 prism system
Built-In Filters:	1: 3200K, 2: 5600K + $\frac{1}{4}$ ND, 3: 5600K, 4: 5600K + $\frac{1}{16}$ ND
Shutter Speed:	$\frac{1}{100}$, $\frac{1}{125}$, $\frac{1}{250}$, $\frac{1}{500}$, $\frac{1}{1000}$, $\frac{1}{2000}$ sec.
Lens Mount:	Special bayonet mount
Video Output:	1.0Vp-p, 75 Ω , sync negative, two outputs
Sensitivity:	f8.0 at 2000 lux, 89.9% reflectance
Minimum Illumination:	7.5 lux (approx.) (f1.4 lens, +18 dB gain)
Video S/N Ratio:	62 dB (typical)
Horizontal Resolution:	700 TV lines
Registration:	0.05% (all zones, without lens)
Geometric Distortion:	Below measurable level (without lens)
Warm-Up Time:	2 sec.
Viewfinder:	1.5" monochrome, 550 TV line resolution
Microphone:	Sharp-directional (detachable)

Video/Audio Specifications

	Metal Partical Tape	Oxide Tape
Video		
Bandwidth	Luminance:	30 Hz-4.5 MHz (+0.5/-3.0) dB
	Color Difference (50% modulation):	30 Hz-1.5 MHz (+0.5/-3.0) dB
		30 Hz-4.1 MHz (+0.5/-6.0) dB
S/N Ratio	Luminance (Component IN/OUT):	> 51 dB
	Chrominance:	AM: > 53 dB PM: > 53 dB
Distortion:	Differential Gain:	< 2%
	Differential Phase:	< 2°
	K-factor (2T pulse):	< 2%
	Y/C Delay:	< 20 ns
Audio		
Longitudinal	Frequency Response:	50 Hz-15 kHz (+1.5/-3.0) dB
	S/N ratio (at 3% distortion level):	> 72 dB (Dolby NR off)
AFM	Distortion T.H.D. (at 1 kHz reference level):	< 1.5%
	Crosstalk (at 1 kHz):	< -55 dB
	Depth of Erasure (at 1 kHz):	> 65 dB
	Wow and Flutter:	< 0.15% rms
	Frequency Response:	20 Hz-20 kHz (+0.5/-2.0) dB
Dynamic Range:		> 80 dB
	Distortion (T.H.D., at 1 kHz reference level):	< 0.5%
	Crosstalk (at 1 kHz):	< -65 dB

* The specifications given above were measured by playing back tapes recorded by the BVW-300A/400/BVV-5 on standard Betacam SP VTRs.

BVW-300A

Betacam SP One Piece Camcorder

- High performance single piece (inseparable) type camcorder
- Incorporates advanced IT Hyper HAD™ CCD technology in the camera section and Betacam SP recording technology in the VTR section to cover from ENG to the most complex and quality conscious EFP applications
- Extremely high sensitivity of f8.0 at 2000 lux and very low smear level of -105 dB (nominal value)
- Ultra compact mechanical deck allows the smallest body in Betacam SP line-up
- Approx. 15 lb. 7 oz. (7.0 kg.) including the battery, cassette, and latest 13 x 9 lens with extender
- Low power consumption of 21W
- Up to 75 minutes of operation with a single NP-1B battery
- More than 30 minutes of recording time using the S-cassette
- 26-pin VTR interface capability with the optional BKW-402 VTR Connector Unit (Parallel component recording with the external VTR is possible)
- Interface capability with the BVW-50 via the optional CCRZ-5 cable for emergency recording needs
- Electronic shutter provided BVW-300A: 1/100, 1/125, 1/250, 1/500, 1/1000, 1/2000 sec.
- Full color genlock capability
- Newly designed high resolution viewfinder with quick start CRT: Detachable viewfinder eyepiece; Center marker, safety zone (80% or 90%) and VTR save mode indications provided; Viewfinder rotation function with the optional BKW-401 Viewfinder Rotation Bracket
- Various automatic functions in camera section
- Two AFM audio channels in addition to two longitudinal channels with the Dolby C-Type NR (Noise Reduction) system
- Audio confidence playback (longitudinal)
- Viewfinder playback (luminance or CTDM selectable)
- Color playback in the field with the optional VA-500 Playback Adaptor
- Full range of machine control provided (Fast forward/Rewind/Play/Stop/Eject)
- Recording review function
- Built-in LTC/VITC/User Bit generator and LTC reader with external time code lock capability
- Frame accurate back space editing
- 8-digit LCD display
- Bar graph meter for audio level and battery status
- Built-in loudspeaker
- Phantom power supply (+48V, Ch-1/2)
- External DC output for Sony wireless microphone receiver

Supplied Accessories:

- VCT-14 Tripod Adaptor
- Extension Board
- Rain Cover
- Shoulder Belt
- Operation and Maintenance Manual



Broadcast Portable Cameras

Specifications (BVW-300A, cont.)

General

Weight:	11 lb. (5.0 kg.) (approx.)
Power Requirements:	DC-12V (+5.0/-1.5)V
Power Consumption:	21W (with viewfinder)
Operating Temperature:	0°C to 40°C (32°F to 104°F)
Storage Temperature:	-20°C to 60°C (-4°F to 140°F)
Humidity:	< 85% (relative humidity)

VTR

Tape Speed:	11.86 cm/sec.
Recording/Playback Time:	> 30 min. BCT-30M
Fast Forward Time:	< 9 min. with BCT-30M
Rewind Time:	< 5 min. with BCT-30M
Continuous Operating Time:	75 min. (approx.) with NP-1B

Camera

Pick-Up Device:	3-chip $\frac{1}{2}$ " interline transfer CCD
Picture Element (HV):	768 x 493
Optical System:	f1.4 prism system
Built-In Filters:	1: 3200K, 2: 5600K, + $\frac{1}{4}$ ND, 3: 5600K, 4: 5600K + $\frac{1}{16}$ ND
Shutter Speed:	$\frac{1}{100}$, $\frac{1}{125}$, $\frac{1}{250}$, $\frac{1}{500}$, $\frac{1}{1000}$, $\frac{1}{2000}$ sec.
Lens Mount:	Special bayonet mount
Video Output:	1.0Vp-p, 75 Ω , sync negative, two outputs
Sensitivity:	f8.0 at 2000 lux, 89.9% reflectance
Minimum Illumination:	7.5 lux (approx.) (f1.4 lens, +18 dB gain)
Video S/N Ratio:	62 dB (typical)
Horizontal Resolution:	700 TV lines
Registration:	0.05% (all zones, without lens)
Geometric Distortion:	Below measurable level (without lens)
Warm-Up Time:	2 sec.
Viewfinder:	1.5" monochrome, 550 TV line resolution
Microphone:	Sharp-directional (detachable)

Video/Audio Specifications

	Metal Partical Tape	Oxide Tape
Video		
Bandwidth		
Luminance:	30 Hz-4.5 MHz (+0.5/-3.0) dB	30 Hz-4.1 MHz (+0.5/-6.0) dB
Color Difference (50% modulation):	30 Hz-1.5 MHz (+0.5/-3.0) dB	30 Hz-1.5 MHz (+0.5/-3.0) dB
S/N Ratio		
Luminance (Component IN/OUT):	> 51 dB	> 48 dB
Chrominance:	AM: > 53 dB PM: > 53 dB	> 50 dB > 50 dB
Distortion:		
Differential Gain:	< 2%	< 3%
Differential Phase:	< 2°	< 3°
K-factor (2T pulse):	< 2%	< 3%
Y/C Delay:	< 20 ns	< 20 ns
Audio		
Longitudinal		
Frequency Response:	50 Hz-15 kHz (+1.5/-3.0) dB	50 Hz-15 kHz \pm 3.0 dB
S/N ratio (at 3% distortion level):	> 72 dB	> 50 dB (Dolby NR off)
Distortion T.H.D. (at 1 kHz reference level):	< 1.5%	< 2%
Crosstalk (at 1 kHz):	< -55 dB	< -55 dB
Depth of Erasure (at 1 kHz):	> 65 dB	> 65 dB
Wow and Flutter:	< 0.15% rms	< 0.15% rms
AFM		
Frequency Response:	20 Hz-20 kHz (+0.5/-2.0) dB	—
Dynamic Range:	> 80 dB	—
Distortion (T.H.D., at 1 kHz reference level):	< 0.5%	—
Crosstalk (at 1 kHz):	< -65 dB	—

* The specifications given above were measured by playing back tapes recorded by the BVW-300A/400/BVV-5 on standard Betacam SP VTRs.

BVP-70IS**3-Chip CCD Camera**

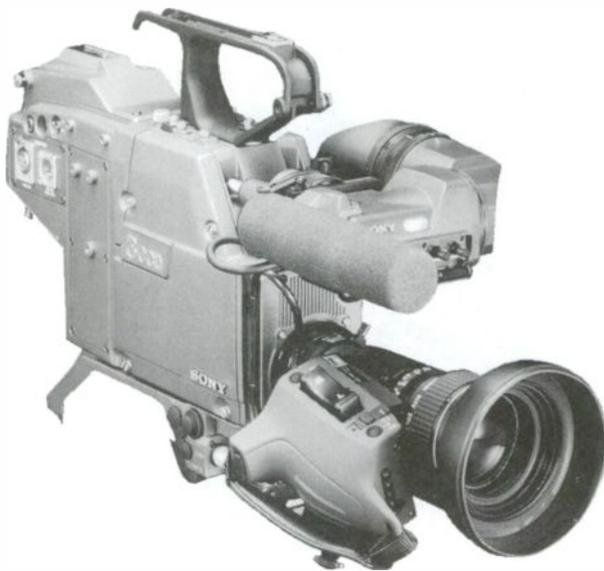
■ Highest quality 768 FIT CCD pickup device camera with the Hyper "HAD" (Hole Accumulated Diode) sensor: High horizontal luminance resolution of 700 TV lines; Excellent signal-to-noise ratio of 62 dB; Incredibly low smear level of -140 dB (nominal value); High sensitivity of f8.0 at 2000 lux; Minimum lag and high resistance to image burn-in; Impervious to vibration and shock; Minimum effects from electric/magnetic field; Free from registration adjustment ■ Electronic shutter provides clear images of high speed moving objects <Shutter speed> BVP-70IS: $\frac{1}{100}$, $\frac{1}{125}$, $\frac{1}{250}$, $\frac{1}{500}$, $\frac{1}{1000}$, $\frac{1}{2000}$ sec. ■ Compact and lightweight (only 7 lb. 7 oz. (3.4 kg.) with VF) ■ Remotely controlled by various CCUs via CA-50 series Camera Adaptors ■ Dynamic Contrast Control ensures wide dynamic range ■ Automatic iris control ■ Automatic white/black balance ■ Two-line image enhancement ■ Linear matrix ■ Viewfinder indications for warning/confirmation ■ A high resolution 1.5" viewfinder and anti-vibration microphone

**Supplied Accessories:**

VCT-14 Tripod Adaptor
 Extension Board
 Extractor
 50-pin Connector Cap
 Rain Cover
 Cap for Handle Hole
 Carrying Handle
 Operation and Maintenance Manual

Specifications

Pickup Device: 3-chip $\frac{3}{4}$ " Frame Interline Transfer CCD
 Picture Element: 768(H) x 494(V)
 Optical System: f1.4 prism system
 Lens Mount: Special bayonet mount
 Filter Wheels: 1: 3200K, 2: 5600K + $\frac{1}{4}$ ND, 3: 5600K, 4: 5600K + $\frac{1}{16}$ ND
 Viewfinder: 1.5" monochrome, 550 TV line resolution
 Sensitivity: f8.0 at 2000 lux (3200K, 89.9% reflectance)
 Minimum Illumination: 7.5 lux (f1.4 lens, +18 dB gain) (approx.)
 Video S/N Ratio: 62 dB (typical)
 Horizontal Resolution: 700 TV lines (luminance at center)
 Registration: 0.5% (all zones, without lens)
 Geometric Distortion: Below measurable level (without lens)
 Power Requirements: DC-12V (10.5V-17V)
 Power Consumption: 14W
 Warm-Up Time: 2 sec.
 Operating Temperature: -20°C to 45°C (-4°F to 113°F)
 Storage Temperature: -20°C to 60°C (-4°F to 144°F)
 Weight: 7 lb. 7 oz. (3.4 kg.) (approx.) with viewfinder
 Auto W/B Balance: Yes
 2-Line Image Enhancement: Yes
 Color Framing Out from Multi Connector: Yes



BVP-7A

3-Chip CCD Camera

■ Higher quality 768 IT CCD pickup device camera with the Hyper "HAD" (Hole Accumulated Diode) sensor: High horizontal luminance resolution of 700 TV lines; Excellent signal-to-noise ratio of 62 dB; Smear level reduced to a remarkably low -105 dB (nominal value), making the smear phenomenon almost invisible; High sensitivity of f8.0 at 2000 lux; Minimum lag and high resistance to image burn-in; Impervious to vibration and shock; Minimum effects from electric/magnetic field; Free from registration adjustment ■ Electronic shutter provides clear images of high speed moving objects <Shutter speed> BVP-7A: 1/100, 1/125, 1/250, 1/500, 1/1000, 1/2000 sec. ■ Compact and lightweight (only 7 lb. 7 oz. (3.4 kg.) with VF) ■ Remotely controlled by various CCUs via CA-50 series Camera Adaptor ■ Dynamic Contrast Control ensures wide dynamic range ■ Automatic iris control ■ Automatic white/black balance ■ Two-line image enhancement ■ Linear matrix ■ Viewfinder indications for warning/confirmation ■ A high resolution 1.5" viewfinder and anti-vibration microphone

Supplied Accessories:

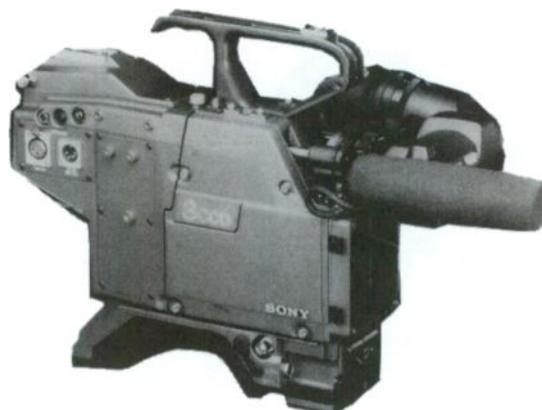
VCT-14 Tripod Adaptor
Extension Board
Extractor
50-pin Connector Cap
Rain Cover
Cap for Handle Hole
Carrying Handle
Operation and Maintenance Manual

Specifications

Pickup Device: 3-chip $\frac{2}{3}$ " Interline transfer CCD
Picture Element: 768(H) x 493(V)
Optical System: f1.4 prism system
Lens Mount: Special bayonet mount
Filter Wheels: 1: 3200K, 2: 5600K + $\frac{1}{4}$ ND, 3: 5600K, 4: 5600K + $\frac{1}{8}$ ND
Viewfinder: 1.5" monochrome, 550 TV lines resolution
Sensitivity: f8.0 at 2000 lux (3200K, 89.9% reflectance)
Minimum Subject Illumination: 7.5 lux (f1.4 lens, +18 dB gain) (approx.)
S/N Ratio: 62 dB
Horizontal Resolution: 700 TV lines (at center)
Registration: 0.05% (all zones without lens)
Geometric Distortion: Below measurable level (without lens)
Power Requirements: DC-12V (10.5V-17V)
Power Consumption: 13W
Warm-Up Time: 2 sec.
Operating Temperature: -20°C to 45°C (-4°F to 113°F)
Storage Temperature: -20°C to 50°C (-4°F to 122°F)
Weight: 7 lb. 8 oz. (3.4 kg.) (approx.) with viewfinder
Auto W/B Balance: Yes
2-Line Image Enhancement: Yes
Color Framing Out from Multi Connector: Yes
Video Level Indicator: Yes

BVP-T70**3-Chip CCD Camera**

■ A high resolution 1.5" viewfinder and anti-vibration microphone ■ Convenient intercom system between optical head, camera body and CCU ■ Detachable compact optical head (WHD): 100 x 85 x 90mm (4" x 3³/₈" x 3⁵/₈") can be remotely operated at locations up to 20m away from camera body ■ By using the supplied Connector Conversion Unit, Cable Compensation Unit, and optional CCZ-A cable, remote operation at up to 100m can be accomplished ■ Higher quality 768 FIT CCD pickup device camera with the Hyper "HAD" (Hole Accumulated Diode) sensor: High horizontal luminance resolution of 700 TV lines; Excellent signal-to-noise ratio of 62 dB; Incredibly low smear level of -140 dB (nominal value); High sensitivity of f8.0 at 2000 lux; Minimum lag and high resistance to image burn-in; Impervious to vibration and shock; Minimum effects from electric/magnetic field; Free from registration adjustment ■ Electronic shutter provides clear images of high speed moving objects <Shutter speed> BVP-T70: 1/100, 1/125, 1/250, 1/500, 1/1000, 1/2000 sec. ■ Various system connections possible with portable VTRs and CCUs using Camera Adaptors ■ Directly dockable to the BVV-5 Betacam SP Recorder Unit ■ Automatic iris control ■ Two-line image enhancement ■ Automatic white/black balance ■ Linear matrix ■ Compatibility between three different optical heads ■ Viewfinder indications for warning/confirmation

**Supplied Accessories:**

Extension Cable (20m)
CCZ-A5 Cable (5m)
Connector Conversion Unit
Cable Compensation Unit
VCT-14 Tripod Adaptor
Extension Board
Extractor
Incom Adaptor
50-pin Connector Cap
Rain Cover
Cap for Handle Hole
Operation and Maintenance Manual

Specifications

Pickup Device:	3-chip 2/3" Frame Interline transfer CCD	Power Requirements:	DC-12V (10.5V-17V)
Picture Element:	768(H) x 494(V)	Power Consumption:	15W
Optical System:	f1.4 prism system	(one-piece body operation)	
Lens Mount:	Special bayonet mount	Warm-Up Time:	10.0 sec.
Filter Wheels:	1: 3200K, 2: 5600K + 1/4 ND, 3: 5600K, 4: 5600K + 1/8 ND	Operating Temperature:	-20°C to 45°C (-4°F to 113°F)
Viewfinder:	1.5" monochrome, 550 TV lines resolution	Storage Temperature:	-20°C to 50°C (-4°F to 122°F)
Sensitivity:	f8.0 at 2000 lux (3200K, 89.9% reflectance)	Weight:	1 lb. 10 oz. (750 g.) (approx.) Optical head (with pick up device) Total: 8 lb. 10 oz. (3.9 kg.) with viewfinder
Minimum Illumination:	7.5 lux (f1.4 lens, +18 dB gain) (approx.)	Auto W/B Balance:	Yes
Video S/N Ratio		2-Line Image Enhancement:	Yes
(one-piece body operation):	62 dB	Color Framing Out from	
Horizontal Resolution:	700 TV lines	Multi Connector:	Yes
Registration:	0.05% (all zones without lens)	Video Level Indicator:	Yes
Geometric Distortion:	Below measurable level (without lens)		



BVP-7000HS

High Sensitivity 3-Chip CCD Camera

- Combines image intensifiers with 768 IT CCD imagers: Super high sensitivity at f8.0 at 200 lux; Minimum lag and blooming; Impervious to vibration and shock; Minimum effects from electric/magnetic field; Free from registration adjustment
- Electronic shutter provides clear images of high speed moving objects <Shutter speed> BVP-7000HS: 1/100, 1/125, 1/250, 1/500, 1/1000, 1/2000 sec.
- Various system connections possible with portable VTRs and CCUs using Camera Adaptors
- Directly dockable to the BVV-5 Betacam SP Recorder Unit
- Dynamic Contrast Control ensures wide dynamic range
- Automatic iris control
- Automatic white/black balance
- Two-line image enhancement
- Linear matrix
- Viewfinder indications for warning/confirmation
- A high resolution 1.5" viewfinder and anti-vibration microphone

Supplied Accessories:

- VCT-13 Tripod Adaptor
- Extension Board
- 50-pin Connector Cap
- Operation and Maintenance Manual

Specifications

- Pickup Device: 3-chip $\frac{2}{3}$ " Interline transfer CCD and Image Intensifier
- Picture Element: 768(H) x 493(V)
- Optical System: f1.4 prism system
- Lens Mount: Special bayonet mount
- Filter Wheels: 1: 3200K, 2: 5600K + $\frac{1}{16}$ ND, 3: 5600K, 4: 5600K + 1/128 ND
- Viewfinder: 1.5" monochrome, 550 TV lines resolution
- Sensitivity: f8.0 at 200 lux 89.9% reflectance
- Minimum Illumination: 1.5 lux (f1.4 lens, +18 dB gain)
- Video S/N Ratio: 59 dB (typical)
- Horizontal Resolution: 370 TV lines
- Registration: Zone I: 0.1% Zone II 0.3%, Zone III: 0.5%
- Geometric Distortion: Below measurable level (without lens)
- Power Requirements: DC-12V (10.5V-17V)
- Power Consumption: 14W
- Warm-Up Time: 2 sec.
- Operating Temperature: -20°C to 45°C (-4°F to 113°F)
- Storage Temperature: -20°C to 50°C (-4°F to 122°F)
- Weight: 9 lb. 8 oz. (4.3 kg.) (approx.) with viewfinder
- Auto W/B Balance: Yes
- 2-Line Image Enhancement: Yes
- Color Framing Out from Multi Connector: Yes
- Video Level Indicator: Yes

AN-27

UHF Shoulder Antenna

BKW-401

Viewfinder Rotation Bracket for
BVW-300A/400A Series

BKW-402

VTR Connector Unit (26-pin) for
BVW-300A/400A

BTA-37

UHF Diversity Tuner Attachment Kit

■ Leatherette case with accessories to allow a WRR-37 receiver to be mounted on Betacam series Camcorders including BVW-507A/570IS/200/300A/400A

BVF-3

3-Inch B/W Viewfinder

■ Sharp and wide pictures without the need of eye-piece optics ■ High resolution of 650 TV lines ■ For versatile shooting style ■ Phase corrected peaking circuit ■ Portability and low power consumption ■ Automatic EIA/CCIR system selection ■ For the BVP series portable camera and BVW-300A/400/400A

Supplied Accessories:

Hood
VF Slide Guide for the BVP-7A/70IS/7000HS
12-pin to 12-pin Cable for the BVP-350A
12-pin to 20-pin Cable for the BVP-7A/70IS/7000HS and BVW-300A/400/400A
Operation and Maintenance Manual

Specifications

Screen Size: 56(W) x 47(H)mm (2 $\frac{1}{4}$ " x 1 $\frac{7}{8}$ ") underscan
Power Requirements: DC-10.5V-17.0V
Power Consumption: 3W
Resolution: > 650 TV lines at center
> 500 TV lines at corners
Picture Distortion: < 2%
Operating Temperature: -20°C to 50°C (-4°F to 122°F)
Weight: 2 lb. 3 oz. (1 kg.)
Dimensions (WHD): 87 x 94.6 x 226.4mm (3 $\frac{1}{2}$ " x 3 $\frac{3}{4}$ " x 9")

Broadcast Portable Camera Accessories

BVF-55

5-Inch B/W Viewfinder

- 650 TV lines of resolution at center
- High brightness—600 NIT
- Adjustable center position marker with ON/OFF switch
- Panning and tilting facility
- Easy installation and handling
- For BVP series portable cameras

Supplied Accessories:

Connecting Cables (12-pin–20-pin)
Slide Shoe
V Wedge Shoe Attachment
Screws
Monitor Hood for Studio Use

Specifications

Screen Size: 73(H) x 97(W)mm underscan (2⁷/₈" x 3⁷/₈")
Power Requirements: DC-12V
Power Consumption: 10W
Resolution: 650 TV lines at center
550 TV lines at corners
Picture Distortion: < 3%
Operating Temperature: -10°C to 50°C (14°F to 122°F)
Weight: 4 lb. 3 oz. (1.9 kg.)
Dimensions (WHD): 191 x 188 x 291mm
(7⁵/₈" x 7¹/₂" x 11¹/₂")



BVP-T70H

Camera Head Unit

- Designed for use with the BVP-T70 portable camera
- Includes Optical Head, Connector Conversion Unit and Viewfinder

Supplied Accessories:

Installation Manual

Specifications

Weight: 3 lb. 12 oz. (1.7 kg.) (without VF)
Dimensions (WHD): 128 x 208 x 216mm
(5¹/₈" x 8¹/₄" x 8⁵/₈")

CA-3A

Camera Adaptor for Portable Camera

- Provides a 26-pin connector to interface with portable VTRs via the CCZ or CCZQ cable

Specifications

Connectors:
MIC IN: XLR 3-pin, 600Ω, balanced
DC IN: XLR 4-pin, 10.5V–17V
GENLOCK IN: BNC, 1Vp-p, 75Ω
EARPHONE: Mini jack, 8Ω
CAMERA: 50-pin
VTR: 26-pin
VF: 12-pin
REMOTE: 10-pin
Power Consumption: 0.8W (with BVP-7A/70IS/T7A/T70/7000HS series camera)
Weight: 1 lb. 3 oz. (550 g.) (approx.)



CA-57A

Triax CCU Adaptor

- Furnished with a triax cable interface for use with the CCU-370 Camera Control Unit and DCU-371 Digital Camera Control Unit
- High picture quality is provided through component (Y/R-Y/B-Y) transmission in the triax cable
- Ideal for studio use—All function switches are located at the rear in order to lower the viewfinder position and for comfortable tripod use in studios
- Switchable intercom system (Producer or Engineer line can be selected)
- Connecting Cable (CA-57A to CCU-370/DCU-371)

Cable Name	Thickness	Maximum Length
Fujikura 4.8/1.0 EFTXF	Ø8.5mm	1500m (1200m)*
Fujikura 9.6/2.22 EFTXF	Ø14.5mm	3000m (2400m)*
Belden 9232	Ø13.2mm	2250m (1800m)*
Belden 9267	Ø9.1mm	1300m (1050m)*

*For return video

Supplied Accessories:

- Shoulder Strap
- Cable Clamp
- M3/M4 Screws for Cable Clamp (2 x 2)
- Extension Board
- Operation and Maintenance Manual

Specifications

- Power Consumption: 13W
- Weight: 7 lb. 1 oz. (3.2 kg.) (approx.)
- Operating Temperature: -20°C to +45° (-4°F to +113°F)
- Storage Temperature: -20°C to +50°C (-4°F to +122°F)
- Dimensions (WHD): 120 x 244 x 242mm
(4¾" x 9½" x 9½") (approx.)

CA-55A

Triax CCU Adaptor

- Furnished with a triax cable interface for use with the CCU-355 Camera Control Unit
- High picture quality is provided through component (Y/R-Y/B-Y) transmission in the triax cable
- Connecting Cable (CA-55A to CCU-355)

Cable Name	Thickness	Maximum Length
Fujikura 4.8/1.0 EFTXF	Ø8.5mm	900m
Fujikura 9.6/2.22 EFTXF	Ø14.5mm	1800m
Belden 9232	Ø13.2mm	1350m
Belden 9267	Ø9.1mm	800mm

Supplied Accessories:

- Shoulder Strap
- Cable Clamp
- M3/M4 Screws for Cable Clamp (2 x 2)
- Extension Board
- Operation and Maintenance Manual

Specifications

- Power Consumption: 7.5W
- Weight: 6 lb. 10 oz. (3.0 kg.)
- Operating Temperature: -20°C to +45°C (-4°F to +113°F)
- Storage Temperature: -20°C to +50°C (-4°F to +122°F)
- Dimensions (WHD): 103 x 220.5 x 228mm
(4¼" x 8¾" x 9") (approx.)

Broadcast Portable Camera Accessories

CA-50A

Multicore CCU Adaptor

- Furnished with the 41-pin multicore connector to interface with the CCU-350 Camera Control Unit
- Connecting Cable (CA-50A to CCU-350)

CCW Type Cable

Cable Name	CCW-25	CCW-50	CCW-100
Length	25m	50m	100m
Thickness	Ø13.5mm		

CCW-B Type Cable

Cable Name	CCW-B25	CCW-B50	CCW-B100
Length	25m	50m	100m
Thickness	Ø12.0mm		

The length of these cables can be extended up to 300m if required.
 Note: The CA-50A cannot be connected to the CCU-300.

Supplied Accessories:

- Shoulder Strap
- Extension Board
- Operation and Maintenance Manual

Specifications

- Power Consumption: 2W
- Weight: 3 lb. 5 oz. (1.5 kg.)
- Operating Temperature: -20°C to +45°C (-4°F to +113°F)
- Storage Temperature: -20°C to +50°C (-4°F to +122°F)
- Dimensions (WHD): 98 x 206 x 158.2mm (3⁷/₈" x 8¹/₈" x 6¹/₄") (approx.)

Operational Facilities for CA-50A, CA-55A, CA-57A

	CA-50A	CA-55A	CA-57A
IN/OUT Connectors			
MIC IN	XLR 3-pin (600Ω, balanced)		
DC IN (10.5 ~ 17V)	XLR 4-pin (for the optional AC-550)		
DC OUT (10.5 ~ 17V)	4-pin (supplies DC power to the optional WRR-28 wireless receiver)		
DC OUT (120V)	Not Available	5-pin	Not Available
GENLOCK IN	BNC (1.0Vp-p, 75Ω)		
RETURN OUT	BNC (1.0Vp-p, 75Ω)		
RETURN CONTROL	Not Available	6-pin	6-pin
DATA	Not Available	Not Available	12-pin
EXTERNAL IN/OUT	Not Available	Not Available	20-pin
EARPHONE	Mini Jack (8Ω)	Mini Jack (8Ω)	Mini Jack (8Ω)
CCU	41-pin (CCW or CCW-B type)	KINGS type	KINGS type
VTR	26-pin (CCZ type, for Sony portable VTR's)		
INCOM/PGM	Headset XLR 5-pin	Headset XLR 5-pin	Headset XLR 5-pin
CAMERA	50-pin	50-pin	50-pin
Function Controls and Buttons			
RET 1 (Return Video 1) Button	Not Available	Not Available	Yes
RET 2 (Return Video 2) Button	Yes	Yes	Yes
CALL Button	Yes	Yes	Yes
INCOM (Intercom) LEVEL Control	Yes	Yes	Yes
PGM (Program Audio) LEVEL Control	Yes	Yes	Yes
INCOM Switch (PROD or ENG Line Selectable)	Not Available	Not Available	Yes
TALK Switch (ON or REMOTE Selectable)	Yes	Yes	Yes
Power Switch	Yes	Yes	Yes
MIC Switch (Internal or External MIC Selectable)	Yes	Yes	Yes
BREAKER Button	Yes	Yes (Internal)	Yes (Internal)
Others			
Built-In Shoe for Mounting the BVF-55 5-inch Viewfinder	Yes	Yes	Yes

CCU-350

Camera Control Unit

- Provides multicore transmission
- Directly interfaces with the MSU-350/370
- Directly interfaces with the RCP-3700 series to allow a flexible choice of operational control
- Interfacing capability with BVP-7A/70IS series cameras with the CA-50 Camera Adaptor
- Remote operation up to 300 meters
- Compact and lightweight
- Low power consumption
- Half a 19-inch rack size wide
- 19-inch rack mountable with the optional RMM-301 Rack Mount Unit
- Built-in genlock
- Full communication facility including talkback and program audio feeds to the camera, plus camera reverse talkback to the CCU



Supplied Accessories:

- AC Power Cord
- Extension Board
- Tally Number Label
- 4-pin Connector for Waveform Monitor
- Operation and Maintenance Manual

Optional Accessories:

- BKP-3550 Auto Upgrade Board for CCU-350/355 series

Specifications

Input Signals

- Camera In: 41-pin Multicore connector
- Return Video 1, 2 In (BNC, loopthrough): VBS, 1.0Vp-p, 75Ω
- Genlock In (BNC, loopthrough): VBS/BS, 1.0Vp-p, 75Ω

Output Signals

- Encode Video Out 1 (BNC): VBS, 1.0Vp-p, 75Ω
- Encode Video Out 2 (BNC): VBS/BS, 1.0Vp-p, 75Ω
- R/G/B Video Out (BNC): 714mVp-p, 75Ω
- Y/R-Y/B-Y Out (BNC): Y: 1.0Vp-p, 75Ω
- R-Y/B-Y: 700mVp-p, 75Ω
- Picture Monitor Out (BNC): 1.0Vp-p, 75Ω
- Waveform Monitor Out (BNC): 714mVp-p, 75Ω
- Sync Out (BNC): 2Vp-p, negative, 75Ω
- Waveform Mode Out: 4-pin
- Mic Out (XLR 3-pin): 0 dBs/ -20 dBs balanced

Input/Output Connectors

- MSU/CCP: 16-pin loopthrough
- RCP: 16-pin

Communications

- Red Tally/Incom: XLR 7-pin (rear panel)
- Green Tally/Incom: XLR 7-pin (rear panel)
- Incom/PGM: XLR 5-pin (front panel)
- Cable Compensation: 0 (25m) to 300m, in 50m steps
- Power Requirements: AC-90V-264V, 50/60 Hz
- Power Consumption: 25W
- Operating Temperature: -10°C to 45°C (14°F to 113°F)
- Maximum Cable Length: 300m
- Weight: 14 lb. 5 oz. (6.5 kg.) (approx.)
- Dimensions (WHD): 200 x 120 x 335mm (7⁷/₈" x 4³/₄" x 13¹/₄" (approx.) (Not including projecting parts and controls)

*1Video amplitude 100/0/75/0 color bar.



CCU-355

Camera Control Unit

- Y/R-Y/B-Y transmission via a triaxial cable
- Directly interfaces with the MSU-350/370
- Directly interfaces with the RCP-3700 series to allow a flexible choice of operational control
- Interfacing capability with the BVP-7A/70IS series cameras with the CA-55 Camera Adaptor
- Remote operation up to 1800 meters with \varnothing 14.5mm cable
- Compact and lightweight
- Low power consumption
- Half a 19-inch rack size wide; 19-inch rack mountable with the optional RMM-301 Rack Mount Unit
- Built-in genlock
- Full communication facility including talkback and program audio feeds to the camera, plus camera reverse talkback to the CCU

Supplied Accessories:

- Power Cable
- Tally Number Label
- 4-pin Connector for Waveform Monitor
- Operation and Maintenance Manual

Optional Accessories:

- BKP-3550 Auto Upgrade Board for CCU-350/355 series

Specifications

Input Signals

Camera In:	Triax (Kings type)
Return Video 1, 2 In (BNC, loopthrough):	VBS, 1.0Vp-p, 75 Ω
Genlock In (BNC, loopthrough):	VBS/BS, 1.0Vp-p, 75 Ω

Output Signals

Encode Video Out 1 (BNC):	VBS, 1.0Vp-p, 75 Ω
Encode Video Out 2 (BNC):	VBS/BS, 1.0Vp-p, 75 Ω
R/G/B Video Out (BNC):	714mVp-p, 75 Ω
Y/R-Y/B-Y Out (BNC):	Y: 1.0Vp-p, 75 Ω R-Y/B-Y: 0.7Vp-p, 75 Ω
Picture Monitor Out (BNC):	1.0Vp-p, 75 Ω
Waveform Monitor Out (BNC):	714mVp-p, 75 Ω
Sync Out (BNC):	2Vp-p, negative, 75 Ω
Waveform Mode Out:	4-pin
Mic Out (XLR 3-pin):	0 dBs/ -20 dBs balanced

Input/Output Connectors

MSU/CCP:	16-pin loopthrough
RCP:	16-pin
DATA:	16-pin

Communications

Red Tally/Incom:	XLR 7-pin (rear panel)
Green Tally/Incom:	XLR 7-pin (rear panel)
Incom/PGM:	XLR 5-pin (front panel)
Power Consumption:	25W
Operating Temperature:	-10°C to 45°C (14°F to 113°F)
Maximum Cable Length:	900m with \varnothing 8.5mm triax cable 1800m with \varnothing 14.5mm triax cable 1350m with \varnothing 13.2 triax cable
Weight:	18 lb. 12 oz. (8.5 kg.) (approx.)
Dimensions (WHD):	200 x 164 x 335mm (7 $\frac{7}{8}$ " x 6 $\frac{1}{2}$ " x 13 $\frac{1}{4}$ " (approx.) (Not including projecting parts and controls)

LC-201

Carrying Case for BVW-300A/400A Series

- This model is not available in some areas

LC-555

Carrying Case for BVW-507A/570IS Series

- This model is not available in some areas

RM-P3

Remote Control Unit

- Designed to control field portable cameras such as the BVP-7A/70IS/T7A/T70/7000HS series

Supplied Accessories:

- 6-pin Cable (10m)
- Operation and Maintenance Manual

Specifications

- Weight: 13 oz. (370 g.)
- Dimensions (WHD): 82 x 158 x 54mm
(3¹/₄" x 6¹/₄" x 2¹/₈")
- Power Consumption: 0.15W



WRR-28

UHF Portable Tuner

- Operation in 902 MHz to 952 MHz (WRR-28H) or 470 MHz to 860 MHz (WRR-28M/28L(AE)/28L) band
- Easy mounting on Betacam using supplied attachment kit
- Switchable linear/compander mode (compatible with conventional transmitters and wireless microphones in linear mode)

Specifications

- Dimensions (WHD): 64 x 121 x 23mm
(2⁵/₈" x 4⁷/₈" x 2⁹/₃₂")
- Weight: 9 lb. 9 oz. (280 g.)



WRR-37

UHF Diversity Tuner

- Dual tuner for diversity reception on 400 or 900 MHz band
- Whip and shoulder antennas supplied

Specifications

- Dimensions (WHD): 35 x 172 x 203mm
(1⁷/₁₆" x 6⁷/₈" x 8"
- Weight: 3 lb. (1.35 kg.) w/batteries





DXC-M7/1 Series

3-Chip CCD Color Video Camera

- Three Interline-Transfer CCD chips for the image sensor
- High density CCD chips accurately mounted on the prism by Sony's original spatial offset technology offer true 700 TV lines of horizontal resolution
- Hole Accumulated Diode Sensors provide an excellent S/N ratio of 60 dB
- Wide ratio of photo sensing area offers a high Matrix circuit
- Variable speed electronic shutter greatly improves the dynamic resolution when shooting moving subjects
- DCC (Dynamic Contrast Control) circuit can reproduce 600% dynamic range
- Automatic white balancing and A/B white balance memories for each optical filter positions
- Auto iris reference level can be controlled by five steps (+ 1f stop/+0.5f stop/Preset/−0.5f stop/−1f stop)
- Each the master gamma and the R/B gamma can be controlled independently on the camera head
- Detail level of the 2-line image enhancer can be delicately controlled for both the horizontal and the vertical lines
- Pedestal level can be controlled on the camera head
- Convenient gain-up switch (0/+9/+18 dB)
- Interfaces with the Betacam and the U-matic portable VTRs via Sony Z-type 26-pin connector
- The DXF-M7 multi-position viewfinder provides the most comfortable viewing position (DXC-M7K/M7 only)
- Built-in SMPTE color bars generator and RS-170A sync generator
- Zebra video level indication
- Phantom power supply for an external microphone
- Magnesium diecast body and shielding on the body to avoid radio frequency interference
- Extended system versatility with optional CCU-M7 camera control unit, RM-M7G remote control unit and CA-M7 studio adaptor

Composition	DXC-M7K	DXC-M7	DXC-M7H
Color Video Camera Head	○	○	○
Zoom Lens VCL-915BYA	○	Option	Option
1.5" Viewfinder DXF-M7	○	○	Option
Microphone Holder CAC-1	○	○	Option
Tripod Adaptor VCT-14	○	○	Option
Camera Connecting Cable CCZQ-A2	○	○	Option
Carrying Case LC-M7G	○	○	Option

○ = Supplied

DXC-537A**3-Chip CCD Color Video Camera**

■ **Picture Performance Features**— $\frac{2}{3}$ -inch IT Hyper HAD Sensor; High resolution—750 TV lines of horizontal luminance resolution; High sensitivity—f8.0 at 2000 lx; Excellent S/N ratio; (62 dB), Low smear level; Reduced aliasing; Stepping diagonal edge reduction; Extremely low lag; Variable speed electronic shutter: OFF, $\frac{1}{100}$, $\frac{1}{250}$, $\frac{1}{500}$, $\frac{1}{1000}$, $\frac{1}{2000}$ (second); Clear Scan™ (CLS) ■ **Advanced Functions**—Dynamic Contrast Control (DCC) (allows dynamic range up to 600%); Enhanced Vertical Definition System (EVS) (450 TV lines Vertical Resolution); Auto Tracing White Balance (ATW); Programmable gain (-3 dB, 0 dB, 3 dB, 6 dB, 9 dB, 12 dB, 18 dB, 24 dB, and 30 dB Turbo gain); Three Mode Matrix (Standard, High Saturation, Fluorescent light); Three Mode Auto Iris (Standard, Backlight, Spotlight); Built-in 1 kHz audio reference; Built-in clock ■ **Convenient Features**—Compact and lightweight; Die-cast magnesium camera body; DXF-501 High Resolution Viewfinder (Supplied with the DXC-537AK/537AL); ECM-670 External microphone and audio system; New VCL-916BYA 16X zoom lens; Safety Zone and Center Marker Generator; Low power consumption (105 min. operating time with NP-1B battery); SMPTE type color bars; RM-M7G Connector ■ **Other Features**—Built-in character generator; Zebra video level indication; White shading compensation; Flare compensation; Automatic warning system displayed on viewfinder; Genlock capability; 2-line image enhancer; External DC input (with optional CA-537); Audio monitor jack (with optional CA-537); Intercom jack (with optional CA-537); Connection with S-VHS Recorder Units via the CA-512 or CA-513 camera adaptors

Supplied Accessories:

VCL-916BYA (DXC-537AK) Zoom Lens
 DXF-501 (DXC-537AK/537AL) Viewfinder
 ECM-670 (DXC-537AK/537AL) Microphone
 CAC-12 (DXC-537AK/537AL) Microphone Holder
 EC-0.3C2 (DXC-537AK/537AL) Microphone Cable
 LC-421 (DXC-537AK/537AL) Carrying Case
 VCT-14 (DXC-537AK/537AL) Tripod Adaptor
 Lens Cap
 Flange Back Chart
 Operation Manual



Production Cameras

Specifications (DXC-537A, cont.)

DXC-537A Video Camera Head

Image Device:	Interline-Transfer CCD, 3-chip	Shutter Speed Selection:	OFF, $\frac{1}{100}$, $\frac{1}{250}$, $\frac{1}{500}$, $\frac{1}{1000}$, $\frac{1}{2000}$ sec.
Optics:	f1.4 medium index prism system	Clear Scan Selection:	60.4 to 200.3 Hz (183 steps)
Picture Elements:	Total: 818 x 513 (H/V) Effective: 768 x 493 (H/V)	Video Output:	
Sensing Area:	8.8 x 6.6mm (equivalent to a $\frac{2}{3}$ " picture tube)	Camera Head BNC Connector:	VBS: 1.0Vp-p, sync negative
Built-in Filters:	1: 3,200K 2: 5,600K + $\frac{1}{4}$ ND 3: 5,600K 4: 5,600K + $\frac{1}{16}$ ND	26-pin Connector of CA-537 Docked to DXC-537A:	VBS: 1.0Vp-p, sync negative Y: 1.0Vp-p, sync negative R-Y/B-Y: 0.7Vp-p R/G/B: 1.4Vp-p Y/C: [Y] 1.0Vp-p, sync negative [C] 0.286Vp-p (burst level)
Lens Mount:	Bayonet mount	Signal-to-Noise Ratio:	62 dB (typical)
Signal System:	EIA standards, NTSC color system	Registration:	0.05% (all zone, without lens)
Scanning System:	2:1 interlaced, 525 lines, 60 fields/s	Geometric Distortion:	Below measurable level
Horizontal Frequency:	15.734 kHz	Inputs/Outputs:	INTERFACE: DIN 50-pin VIDEO OUT: BNC type LENS: 12-pin VF: DIN 8-pin REMOTE: 10-pin
Vertical Frequency:	59.94 Hz	Power Requirements:	DC 12V
Sync System:	Internal or External with the VBS or BS signal	Power Consumption:	10.5W (without VF/CA-537)
Horizontal Resolution:	750 TV lines	Operating Temperature:	-10°C to 45°C (14°F to 113°F)
Vertical Resolution:	400 TV lines (without EVS) 450 TV lines (with EVS)	Storage Temperature:	-20°C to 60°C (-4°F to 140°F)
Minimum Illumination:	7.5 lx with f1.4, +18 dB 13 lx with f1.8, +18 dB 3.3 lx with f1.8, +30 dB (TURBO GAIN)	Weight:	5 lb 1 oz. (for camera head only) (2.3 kg.) (approx.) 7 lb. 15 oz. (with the CA-537) (3.6 kg.) (approx.)
Sensitivity:	f8.0 at 2000 lx (3200K, 89.9% reflectance)) (typical)		
Gain Selection:	-3 dB, 0 dB, +3 dB, +6 dB, +9 dB, +12 dB, +18 dB, +24 dB, +30 dB (TURBO GAIN)		

DXC-537 Series

3-Chip CCD Color Video Camera

- Excellent picture quality provided by use of three Sony $\frac{2}{3}$ -inch IT Hyper HAD™ (Hole Accumulated Diode) sensors
- 700 TV lines of horizontal luminance resolution thanks to the high density CCD chips (380,000 picture elements/chip) and Sony's original spatial offset technology
- The HAD sensor™ structure in combination with advanced electronic circuitry allows an excellent S/N ratio of 62 dB
- The Hyper HAD sensor's wide photo sensing sites and OCL (On-Chip-Lens) layer result in an extremely high sensitivity of f8.0
- Smear almost negligible due to the HAD sensor structure and OCL layer of the Hyper HAD sensor
- Variable speed electronic shutter improves dynamic resolution when shooting moving objects
- Innovative Clear Scan™ function for shooting computer displays without horizontal bands appearing across display screen
- 2-line image enhancer for crisp images
- Modular design allows choice of combo, stand-alone or multi-camera use
- Can be coupled directly with the PVV-1 for high quality component acquisition or with the EVV-9000 for handy operation
- Can be combined with the BVV-5 via the CA-511 Camera Adaptor
- 26-pin connector on camera adaptor provides signal output in Y/R-Y/B-Y, VBS, Y/C and RGB forms for connection with various equipment
- The DXF-501 quick start viewfinder needs no preheat time and adopts a new diopter mechanism for easier diopter adjustment
- Compact size, lightweight and low power consumption
- Convenient built-in microphone
- Safety Zone and Center Marker indications in viewfinder
- Built-in character generator can generate letters and numbers for titles and dates
- 5 step auto iris override (+1f stop/+0.5f stop/Preset/-0.5f stop/-1.0f stop)
- Convenient gain-up function (0/+9/+18 dB)
- Zebra video level indication
- Two memory white balance system
- RM-M7G remote connector on camera head for remote control in any configuration
- Extended system versatility with optional CA-325A/325B camera adaptors, RM-M7G remote control unit, and CCU-M7



Model	DXC-537L	DXC-537H
Composition		
Color Video Camera Head	Supplied	Supplied
Zoom Lens VCL-916BY	Option	Option
Viewfinder DXF-501	Supplied	Option
Tripod Adaptor VCT-14	Supplied	Option
Carrying Case LC-421	Supplied	Option
Camera Cable CCZQ-A2	Supplied	Option



DXC-327A

3-Chip CCD Color Video Camera

- The most suitable camera for operation with the PVV-1 and EVV-9000
- Superior color reproduction due to the innovative 1/2-inch Hyper HAD Interline-Transfer CCD chips
- 700 TV lines of horizontal luminance resolution thanks to an integration of over 380,000 picture elements within each chip
- Hole Accumulated Diode sensors provide an excellent S/N ratio of 62 dB
- Wide ratio of photo sensing area offers high sensitivity
- Variable speed electronic shutter improves dynamic resolution when shooting moving subjects
- Modular design allows choice of combo, stand-alone or multi-camera use
- The DXF-501 quick start viewfinder needs no preheat time and adopts a new diopter mechanism for easier diopter adjustment
- Compact size, lightweight, and low power consumption
- Convenient built-in microphone
- Safety Zone and Center Marker Generator
- The built-in character generator can generate letters and numbers for titles and dates
- 5 step auto iris override (+ 1f stop/ + 0.5f stop/ Preset/ - 0.5f stop/ - 1.0f stop)
- Convenient gain-up function (0/ +9/ +18 dB)
- Zebra video level indication
- Two memory white balance system
- Component video output to connect Betacam VTRs
- Built-in SMPTE type color bar generator
- 2-line image enhancer
- ABL (Automatic Black Level) function
- RM-M7G remote connector on camera head for remote control in any configuration
- Extended system versatility with optional CA-235A/325B camera adaptors, RM-M7G remote control unit, and CCU-M3 camera control unit

Composition	DXC-327AL	DXC-327AH
Color Video Camera Head	Supplied	Supplied
VCL-712BX Zoom Lens	Option	Option
DXF-501 Viewfinder	Supplied	Option
VCT-12/13 Tripod Adaptor	Supplied	Option
LC-420 Carrying Case	Supplied	Option
CCQ-2BRS Camera Cable	Supplied	Option

Specifications

DXC-327A Video Camera Head

Image Device: Interline-Transfer CCD, 3-Chip
 Optics: f1.4 medium index prism system
 Effective Picture Elements: 768(H) x 494(V)
 Sensing Area: 6.4mm x 4.8mm
 (equivalent to a 1/2" picture tube)
 Built-in Filters:
 1: 3,200K
 2: 5,600 K + 1/16 ND
 3: 5,600K
 Lens Mount: Bayonet Mount
 Signal System: EIA standards, NTSC color system
 Scanning System: 2: 1 interlaced, 525 lines, 60 fields/s
 Horizontal Frequency: 15.734 kHz
 Vertical Frequency: 59.94 Hz
 Sync System: Internal or External with the VBS or BS signal
 Horizontal Resolution: 700 TV lines
 Minimum Illumination: 7.5 lux with f1.4, +18 dB
 Sensitivity: f8.0 at 2000 lux (3200K, 89.9% reflectance) (typical)
 Gain Selection: 0 dB, +9 dB, +18 dB
 Shutter Speed Selection: OFF, 1/100, 1/250, 1/500, 1/1000, 1/2000 SEC.

Video Output

Camera Head
 BNC Connector: VBS: 1.0Vp-p, sync negative
 26-Pin Connector of CA-537
 Docked to DXC-327A
 VBS: 1.0Vp-p, sync negative
 Y: 1.0Vp-p, sync negative
 R-Y/B-Y: 0.7Vp-p
 R/G/B: 1.4Vp-p
 Y/C: [Y] 1.0Vp-p, sync negative
 [C] 0.286 Vp-p (burst level)
 Signal-to-Noise Ratio: 62 dB (typical)
 Registration: 0.05% (all zone, without lens)
 Geometric Distortion: Below measurable level
 Inputs/Outputs: INTERFACE: DIN 50-pin
 VIDEO OUT: BNC type
 LENS: Hot-shoe type or 6-pin
 VF: DIN 8-pin
 REMOTE: 10-pin
 Power Requirements: DC-12V
 Power Consumption: 8.0W without VF/CA-537
 Operating Temperature: -5°C to 45°C (23°F to 113°F)
 Storage Temperature: -20°C to 60°C (-4°F to 140°F)
 Weight: 4 lb. 6 oz. (2.0 kg.) for camera head only (approx.)
 7 lb. 4 oz. (3.3 kg.) with the CA-537 (approx.)

CA-537 Camera Adaptor

Power Requirements: DC-12V
 Power Consumption: 1.7W
 Inputs/Outputs: INTERFACE: DIN 50-pin
 VTR/CCU/CMA: Sony Z-type, 26-pin
 MIC IN: XLR-type, 3-pin
 DC IN: XLR-type, 4-pin
 GENLOCK: BNC-type
 EARPHONE: mini jack
 INTERCOM: mini intercom jack
 Weight: 2 lb. 14 oz. (1.3 kg.)

CA-511 Camera Adaptor

Power Requirements: DC-12V (10.5V-17V)
 Inputs/Outputs: INTERFACE: DIN 50-pin
 Betacam output: D-sub 50-pin
 Weight: 1 lb. 2 oz. (0.5 kg.)

CA-325A Camera Adaptor

Power Requirements: AC-100V/120V, 50/60 Hz
 Power Consumption: 48W
 Inputs/Outputs: INTERFACE: DIN 50-pin
 VBS OUT: BNC-type
 R/B/G OUT: BNC-type (x3)
 SYNC OUT: BNC-type
 Y/C OUT: Y/C connector (4-pin)
 AUDIO OUT: Phono jack
 GENLOCK IN: BNC-type
 REMOTE: 10-pin
 Weight: 2 lb. 14 oz. (1.3 kg.)

CA-325B Camera Adaptor

Power Requirements: DC-12V
 Inputs/Outputs: INTERFACE: DIN 50-pin
 VBS OUT: BNC-type
 R/B/G OUT: BNC-type (x3)
 SYNC OUT: BNC-type
 Y/C OUT: Y/C connector (4-pin)
 AUDIO OUT: Phono jack
 GENLOCK IN: BNC-type
 REMOTE: 10-pin
 Weight: 1 lb. 2 oz. (0.5 kg.)

DXF-501 Viewfinder

Picture Tube: 1.5" monochrome
 Indicators: REC/TALLY indicator
 BATT indicator
 SHUTTER indicator
 GAIN UP Indicator
 Resolution: 550 TV lines
 Power Requirements: DC-12V
 Power Consumption: 2.3W
 Weight: 1 lb. 2 oz. (500 g.)
 Dimensions (WHD): 182 x 68 x 205mm
 (7 1/8" x 2 3/4" x 8 1/8") (approx.)

VCL-712BX Zoom Lens

Focal Length: 7.5mm-90mm
 Zoom Ratio: 12 x
 Zoom Control: Manual/Motorized
 Maximum Aperture Ratio: 1: 1.4
 Iris Control: Manual/Auto, selectable 1.4-16 and C (Close)
 Range of Object Field
 (at the distance of 1.1 meter): W (Wide angle): 660 x 880mm
 (26" x 34 3/4")
 T (Telephoto): 55 x 73mm (2 1/4" x 3")
 Minimum Object Distance: 1.1m
 Filter Thread: φ72mm P = 0.75
 Mount: Bayonet mount
 Weight: 2 lb. 10 oz. (1.2 kg.) with lens hood (approx.)
 Dimensions: 110(φ) x 189(L)mm (4 3/8" x 7 1/2") with lens head (approx.)

LC-420 Carrying Case

Weight: 17 lb. (7.7 kg.) (approx.)
 Dimensions (WHD): 790 x 440 x 340mm
 (31 1/8" x 17 3/8" x 13 1/2") (approx.)



DXC-325 Series

3-Chip CCD Color Video Camera

- Superior color reproduction due to the innovative 1/2-inch Interline-Transfer CCD
- 530 TV lines of horizontal luminance resolution thanks to an integration of over 250,000 picture elements
- Hole Accumulated Diode Sensors provide an excellent S/N ratio of 58 dB
- Wide ratio of photo sensing area offers high sensitivity
- Variable Speed Electronic Shutter improves dynamic resolution
- Separable design of camera head and camera adaptor via 50-pin interface
- The DXF-325 quick start viewfinder needs no preheat time
- Compact size, lightweight, and low power consumption VCL-810BX cableless 10 x zoom lens
- Convenient built-in microphone
- The built-in character generator can generate letters and numbers for titles and dates
- 5 step auto iris override (+1F stop/+0.5F stop/Preset/-0.5F stop/-1F stop)
- Convenient gain-up function (0/+9/+18 dB)
- Zebra video level indication
- ABL (Automatic Black Level) function
- Extended system versatility with optional CA-325A/325B Camera Adaptor, TGR-325 Title Generator and CCU-M3 Camera Control Unit

	Model	DXC-325L	DXC-325H
Composition			
Color Video Camera Head		Supplied	Supplied
VCL-810BX Zoom Lens		Option	Option
DXF-325 Viewfinder		Supplied	Option
LC-325 Carrying Case		Supplied	Option
CCQ-2BRS Camera Cable		Supplied	Option
VCT-12/13 Tripod Adaptor		Supplied	Option
CA-325 Camera Adaptor		Supplied	Option

Specifications for Color Video Cameras

MODEL		DXC-M7/1	DXC-537
SPECIFICATIONS			
Image Device		$\frac{2}{3}$ " Interline-Transfer CCD (x 3), 768(H) x 493(V) picture elements	$\frac{2}{3}$ " Interline-Transfer CCD (x 3), 768(H) x 493(V) picture elements
Electronic Viewfinder		1.5" monochrome (except DXC-M7H)	1.5" monochrome (except DXC-537H)
Lens		f1.8, 9.5mm to 143mm zoom lens with auto iris/macro mechanism (DXC-M7K)	f1.8, 9.5mm to 152mm zoom lens with auto iris/macro mechanism (DXC-537K)
Lens Mount		Bayonet-mount	Bayonet-mount
Signal System		EIA standards, NTSC color system	EIA standards, NTSC color system
Horizontal Resolution		700 TV lines	700 TV lines
Minimum Illumination		26 lux with f1.8, + 18 dB	13 lux with f1.8, + 18 dB
Sensitivity		f5.6 at 200 lux	f8.0 at 2000 lux
Sync System		Internal or external selectable	Internal or external selectable
S/N Ratio		60 dB	62 dB
Power Requirements		DC-10.5V-17V	DC-12V
Power Consumption		16W (for camera head only)	9.5W (without VF/CA-537)
Operating Temperature		-10°C to 45°C (14°F to 113°F)	-10°C to 45°C (14°F to 113°F)
Weight		7 lb. 15 oz. (3.6 kg.) for camera head only 12 lb. 13 oz. (5.8 kg.) with VF and lens	4 lb. 14 oz. (2.2 kg.) for camera head only 7 lb. 11 oz. (3.5 kg.) with the CA-537
INPUTS/OUTPUTS	VTR/CCU/CMA	Sony Z-type, 26-pin	Sony Z-type, 26-pin
	VIDEO OUT	BNC-type	BNC-type
	GENLOCK	BNC-type	BNC-type
	MIC IN	XLR-type, 3-pin	XLR-type, 3-pin
	LENS	12-pin	12-pin
	REMOTE	10-pin	10-pin
	VF	DIN 8-pin	DIN 8-pin
	DC IN	XLR-type, 4-pin	XLR-type, 4-pin
	EARPHONE	mini jack	mini jack
	INERCOM	mini intercom jack	mini intercom jack
TITLE	—	—	

Production Cameras

Specifications for Color Video Cameras

MODEL		DXC-327A	DXC-325
SPECIFICATIONS			
Image Device		1/2" Interline-Transfer CCD (x 3), 768(H) x 492(V) picture elements	1/2" Interline-Transfer CCD (x 3), 510(H) x 492(V) picture elements
Electronic Viewfinder		1.5" monochrome (except DXC-327H)	1.5" monochrome (except DXC-325H)
Lens		f1.4, 7.5–90mm zoom lens with auto iris/macro mechanism (DXC-327K)	f1.4 8–80mm zoom lens with auto iris/macro mechanism DXC-325K)
Lens Mount		1/2" Bayonet-mount	1/2" Bayonet-mount
Signal System		EIA standards, NTSC color system	EIA standards, NTSC color system
Horizontal Resolution		700 TV lines	530 TV lines
Minimum Illumination		16 lux with f1.4, + 18 dB	20 lux with f1.4, + 18 dB
Sensitivity		f5.6 at 2000 lux	f5.0 at 2000 lux
Sync System		Internal or external selectable	Internal or external selectable
S/N Ratio		60 dB	58 dB
Power Requirements		DC-12V	DC-12V
Power Consumption		8.5W (with CA-327)	8W (with CA-325)
Operating Temperature		–5°C to 45°C (23°F to 113°F)	–5°C to 45°C (23°F to 113°F)
Weight		7 lb. 1 oz. (3.2 kg.) with CA-327 10 lb. 13 oz. (4.9 kg.) with CA-327, VF and lens	6 lb. 10 oz. (3.0 kg.) with CA-325 9 lb. 11 oz. (4.4 kg.) with CA-325, VF and lens
INPUTS/OUTPUTS	VTR/CCU/CMA	Sony Z-type, 14-pin	Sony Q-type, 14-pin
	VIDEO OUT	BNC-type	BNC-type
	GENLOCK	BNC-type	BNC-type
	MIC IN	XLR-type, 3-pin	XLR-type, 3-pin
	LENS	Hot-shoe type or 6-pin (for 3/8" lens)	Hot-shoe type or 6-pin (for 3/8" lens)
	REMOTE	10-pin	—
	VF	DIN 8-pin	DIN 8-pin
	DC IN	XLR-type, 4-pin	XLR-type, 4-pin
	EARPHONE	mini jack	mini jack
	INERCOM	mini intercom jack	mini intercom jack
	TITLE	—	8-pin

LENSES FOR DXC-537/M7, EVW-537 SERIES, DXC-537/PVV-1 CAMCORDER (Bayonet mount type, 12-pin connector)



	A8.5 x 5.5BERM-28C	A14 x 8.5BEVM-28	A16 x 9.5BERM-28B	A18 x 8.5BERM-28D
Image Format	3/8-inch	3/8-inch	3/8-inch	3/8-inch
Mount	Sony bayonet	Sony bayonet	Sony bayonet	Sony bayonet
Focal Length	8.5–47mm	8.5–119mm	9.5–152mm	8.5–153mm
Zoom Ratio	8.5X	14X	16X	18X
Zoom Control	Manual and motorized	Manual and motorized	Manual and motorized	Manual and motorized
Iris Control	Auto and manual	Auto and manual	Auto and manual	Auto and manual
Maximum Aperture Ratio	1.7	1.7	1.7	1.7
Minimum Object Distance	0.3m	0.65m	0.95m	0.9m
Zoom Extender	1.7X	2.0X	2.0X	2.0X
Macro	O	O	O	O
Filter Size	95mmØ	77mmØ	77mmØ	95mmØ
Weight	3 lb. 12 oz. (1.75 kg.)	2 lb. 13 oz. (1.28 kg.)	3 lb. 2 oz. (1.43 kg.)	3 lb. 6 oz. (1.50 kg.)
Dimensions (L):	216.5mm (8 5/8")	189mm (7 1/2")	178.5mm (7 1/8")	200.5mm (8")
Notes	By Fujinon	By Fujinon	By Fujinon	By Fujinon

LENSES FOR DXC-327/325, EVW-327/325 SERIES (1/2-inch Bayonet mount type, Hot-shoe connector)



	VCL-712BX	PH12 x 7.5B KRS7	S16 x 7BRM-18B
Image Format	1/2-inch	1/2-inch	1/2-inch
Mount	Sony 1/2-inch bayonet	Sony 1/2-inch bayonet	Sony 1/2-inch bayonet
Focal Length	7.5-90mm	7.5-90mm	7-112mm
Zoom Ratio	12X	12X	16X
Zoom Control	Manual and motorized	Manual and motorized	Manual and motorized
Iris Control	Auto and manual	Auto and manual	Auto and manual
Maximum Aperture Ratio	1.4	1.4	1.4
Minimum Object Distance	1.1m	1.1m	0.95m
Zoom Extender	—	—	—
Filter Size	72mmØ	82mmØ	77mmØ
Weight	2 lb. 10 oz. (1.2 kg.)	2 lb. 10 oz. (1.2 kg.)	3 lb. 1 oz. (1.4 kg.)
Dimensions (L):	154mm (6 1/8")	153mm (6 1/8")	158mm (6 1/4")
Lens Connector	Hot-shoe type	Hot-shoe type	Hot-shoe type
Notes	By Fujinon	By Canon	By Fujinon

EVW-300

Video Hi8 3 CCD Camcorder

- Ultra-lightweight and compact size for one hand operation
- Video Hi8 format for improved picture quality: over 400 TV lines
- 3 high density 1/2-inch IT (Interline Transfer) Hyper HAD™ (Hole Accumulated Diode) sensors
- Excellent sensitivity of f8.0 at 2000 lux.
- Camera genlock capability for multiple camera operation
- Automatic Adjustment Functions: Auto Tracing White Balance (ATW); Automatic Gain Control (AGC); Automatic Exposure (AE); Intelligent Auto Iris
- Video Hi8 and Standard 8mm format recording/playback capability
- Video Hi8 tape for Hi8 recording and high picture quality
- 380,000 picture element CCD chip and checker filter for high luminance resolution: 700 TV lines (camera portion)
- True color fidelity even under limited lighting and strong resistance to image burn-in
- S video IN/OUT (4-pin DIN) connectors to reduce cross color and dot interference
- Built-in 8mm time code capability
- Variable speed electronic shutter: speeds of 1/60, 1/100, 1/250, 1/500, 1/1000, 1/2000 second selectable
- Narration microphone to record commentary
- Built-in 5-inch viewfinder: indication of DATE, TIME, or TIME COUNTER and battery, moisture, lighting information
- Selectable gain-up
- Safety zone and center marker generator
- Clear Scan™ function



Production Cameras

Specifications (EVW-300, cont.)

GENERAL

Weight:	12 lb. 5 oz. (5.6 kg.) fully equipped VF/lens/battery/videocassette
Power Requirements:	DC-12V
Power Consumption:	17.0W with VF (14.8W without VF)
Operating Temperature:	0° to 40°C (32°F to 104°F)
Storage Temperature:	-20°C to 60°C (-4°F to 140°F)
Videocassette:	SONY E6-HMEX, P6-HMPX series
Continuous Operating Time:	> 90 min. with single NP-1B
Tape Speed:	14.3 mm/sec.
Max. REC and PB Time:	120 min. (E-120)

CAMERA HEAD

Image Device:	Three 1/2" IT Hyper HAD sensor
Optics:	f1.4 medium index prism system
Picture Elements:	768(H) x 492(V)
Sensing Area:	6.4mm x 4.8mm
Built-in Filter:	1: 3200K 2: 5600K + 1/16 ND 3: 5600K
Lens Mount:	1/2" Bayonet
Signal System:	EIA standards (monochrome) NTSC (color)
Scanning System:	2:1 interlaced, 525 lines
Horizontal Frequency:	15.734 kHz
Vertical Frequency:	59.94 Hz
Horizontal Resolution:	> 700 TV lines
Minimum Illumination:	7.5 lux with f1.4, + 18 dB
Sensitivity:	f8.0 at 2000 lux
Gain Selection:	OFF (0 dB) MID (1 dB-17 dB in 1 dB step) HIGH (2 dB-18 dB in 1 dB step) (MID < HIGH) 0 dB-18 dB variable (AGC)
Shutter Speed Selection:	OFF (1/60), 1/100, 1/250, 1/500, 1/1000, 1/2000 SEC.
Clear Scan Range:	60 Hz-200 Hz
S/N Ratio:	60 dB
Registration:	0.05% (all zone, without lens)
Geometric Distortion:	Below measurable level

VTR PORTION

Video	
Recording System:	Rotary 2-head helical scan system
Chrominance:	SC low range conversion recording
Luminance:	FM recording
Output:	NTSC composite (Camera/VTR): 1.0Vp-p, 75Ω, sync negative Y/C (S VIDEO: 4-pin DIN): Y: 1.0Vp-p, 75Ω, sync negative C: 0.286Vp-p, at burst level, 75Ω, sync negative
Horizontal Resolution:	Hi8 mode: 400 TV lines
S/N Ratio:	Hi8 mode: > 45 dB

Audio

Recording System:	Rotary 2-head helical scan system PCM: stereo, AFM: stereo
Input:	XLR (3-pin): (0 dBs = 0.775 Vrms) Mic: -60 dB, 3 kΩ, balanced Line: +4 dB, 10 kΩ, unbalanced
Output:	Phono: 10 dB, 1 kΩ, unbalanced (0 dBs = 0.775 Vrms) Headphones: -26 dB to -46 dB (at 8Ω), unbalanced
Frequency Response:	PCM: 20 Hz-15 Hz (PCM)
Dynamic Range:	PCM: > 80 dB (PCM)

VIEWFINDER: DXF-501

Picture Tube:	1.5" monochrome
Indicators:	REC/TALLY/BATT/SHUTTER/GAIN UP by LED RF/SERVO/HUMID/SLACK/TAPE END/ BATT/TC by superimposition
Resolution:	550 TV lines
Power Requirements:	DC-12V
Power Consumption:	2.2W
Weight:	1 lb. 2 oz. (500 g.)
Dimensions (WHD):	182 x 64 x 189mm (7 1/4" x 2 5/8" x 7 1/2") (approx.)

CONNECTOR

Camera Video OUT:	BNC x 1
Camera Gen Lock IN:	BNC x 1
VTR Video OUT:	BNC x 1 S-VIDEO (4-pin DIN) x 1 Phono x 1
Audio IN:	XLR x 2 (3-pin)
Audio OUT:	Phono x 2
Headphones OUT:	Stereo mini jack x 1
Remote:	Mini jack x 1

ZOOM LENS: VCL-713BX (supplied with EVW-300K)

Focal Length:	7.5mm-97.5mm
Zoom Ratio:	x 13
Zoom Control:	Manual/Motorized
Maximum Aperture Ratio:	1:1.4
Iris Control/Auto Selectable:	f1.4-f16 and C (close)
Range of Object Field: (at the distance of 1.0 meter)	W (wide angle): 785mm x 589mm (31" x 23 1/4") T (telephoto): 61.7mm x 46mm (2 1/2" x 1 7/8")
Minimum Object Distance:	1.0m
Filter Thread:	φ = 72mm, P = 0.75
Mount:	1/2" bayonet
Weight:	2 lb. 1 oz. (950 g.) (approx.)
Dimensions:	113 x 177mm (4 1/2" x 7") (x L)

Design and specifications subject to change without notice

EVO-150TR

Video Hi8 Camcorder

■ **Video Hi8 Format**—the 7.0 MHz FM carrier and 2.0 MHz wide frequency deviation used in this format, a high resolution of more than 400 TV lines and a high signal-to-noise ratio is achieved by the VTR section ■ **1/3-inch Precision CCD**—The 410,000 pixels (effective 380,000 pixels) of the 1/3-inch precision CCD chip and color filter provides high luminance resolution and excellent color fidelity ■ **10-Bit Digital Signal Processing**—which provides accurate luminance/chrominance separation. Thus a clear picture with minimum noise and signal loss can be obtained ■ **Video Hi8 and Standard 8mm Recording/Playback Capability**—For video Hi8 recording, the professional Hi8 tape must be used. The Hi8 Auto ON/OFF switch is available for the selection of Hi8 or standard 8mm recording mode ■ **S VIDEO Connector**—4-pin DIN connector which provides separate Y (luminance)/C(chrominance) signals to reduce cross color and dot interference. Either input or output can be selected ■ **AFM Hi-Fi Stereo Audio**—Now high quality sound can accompany high quality pictures for more real-life depth and presence ■ **Stereo Zoom Mic**—By switching the Mic mode to ZOOM MIC, directivity of the built-in microphone is changed from omni to unidirectional according to the zooming operation of the lens. When shooting at Wide, the omni-directional microphone picks up sound from all directions. As the zoom moves to the Tele position, the directivity of the microphone is gradually changed to unidirectional, which picks up sound from a forward direction ■ **10 Times Zoom with Variable Speed control**—The EVO-150TR incorporates a 10:1 zoom lens with a 6.2mm to 62mm zooming range, plus a macro function. For more effective picture composition, fast or slow zooming speed is provided. The harder the Zoom button is pressed, the zooming speed becomes faster. In addition, the Mach Auto focus zoom lens provides quick auto-focusing in zooming operation ■ **Mach Start**—starts picture and sound recording in 0.2 seconds from the STANDBY mode ■ **Built-in RC (Re-writable Consumer) Time Code Generator**—incorporated to record absolute tape addresses, which is indispensable for accurate editing. (The EVO-150TR can only write and not read the RC time code) ■ **Data Code Function**—enables the EVO-150TR to automatically record the recording data and time data on the time code track of the recorded tape. By pressing the DATE/TIME button on the EVO-10TR or the DATA button on the remote control, the code can be displayed on the monitor and the viewfinder during playback or editing. Since the data is not recorded on the video track, the original picture is unaffected by the data code being displayed ■ **Automatic Adjustment Control**—The AUTO LOCK mode is provided to automatically adjust focus, white balance, and exposure with a fixed shutter speed



Production Cameras

(EVO-150TR, cont.)

of 1/60 seconds. Manual operation can also be performed by overriding this mode ■ Variable Shutter Speed—When the shutter mode is set to ON, shutter speeds of 1/60, 1/100, 1/250, 1/1000, 1/2000, 1/4000, and 1/10,000 second can be manually selected ■ Edit Search and REC Review Function—The Edit Search function allows for confirmation of previous recordings, to easily locate the starting point of the next recording. Playback pictures can be seen in the viewfinder in either forward or reverse by pressing the EDIT SEARCH button during both REC PAUSE and PLAYBACK PAUSE modes. In addition, the last recorded picture can be reviewed in STANDBY mode using REC REVIEW function. ■ LANC (Local Application Control Bus system) connector ■ World Data/Time ■ Black/Mosaic Fader ■ Title Insert Capability: Scroll, Invert, See-through mode ■ Extremely Compact and Lightweight—The main body weighs only 1 lb 15 oz (890 g) and 2 lb 12 oz (1,250 g) when fully equipped. ■ SteadyShot™ Function—for optical image stabilization. By switching the STEADY SHOT switch on, the Active Prism system is activated and detects both yawing and pitching camera-shake. It then automatically compensates for the light tracing angles of the lenses to accurately focus the picture. This “optical gyro” compensates for camera motion without degrading the image or changing picture size ■ Color Viewfinder—0.7-inch TFT active Matrix system color LCD (Liquid Crystal Device) panel with 103,000 pixels (effective) to provide color picture monitoring. Data, time, time code, tape counter, warning for battery, tape end, condensation, and other operational information can be displayed on the viewfinder. The same information can be displayed on the LCD window. The information can also be displayed on an external monitor via the VIDEO OUT connector ■ Active Prism System—The Active Prism system consists of two glass lenses and accordion rings which contains a liquid. These two lenses are designed to control the high refraction angle by moving between the gap of accordion rings. When the STEADYSHOT switch is set to ON, each sensor, one for yawing and one for pitching, detects the camera shaking angle. Then the microprocessor calculates the compensation rate. According to the compensation rate, the actuators control the angles of each lens to provide the appropriate light refraction angle to ensure a steady picture.

Supplied Accessories:

- Wireless remote commander
- AV connecting cable (RCA pin)
- S VIDEO connecting cable (Mini DIN 4-pin)
- RFU-90UC RFU adaptor
- NP-77H Battery pack (2)
- AC-S10 AC Adaptor
- Shoulder Strap
- VCL-0752H Wide conversion lens

Optional Accessories:

- NP-77H/77HD Battery Pack
- NP-55H Battery Pack
- DCP-77 DC Pack
- DC-S10 DC Adaptor/Charger
- P6-30/60/120HMPX Video Hi8 Videocassette
- P6-1 $\frac{1}{6}$ 0/90/120MP 8mm Videocassette

Specifications

General

Weight:	Net: 1 lb. 15 oz. (890 g) (approx.); with accessories Total: 2 lb. 12 oz. (1250 g) (approx.); with NP-77H battery pack, lithium battery, Hi8 cassette, lens cap, jack cover and shoulder strap
Dimensions (WHD):	109 x 104 x 197mm (4 $\frac{3}{8}$ " x 4 $\frac{1}{8}$ " x 7 $\frac{7}{8}$ ")
Power Requirements:	6.0V (Battery pack) 7.5V (AC power adaptor)
Power Consumption:	9.0W (camera recording) including the viewfinder
Operating Temperature:	0°C to 40°C
Storage Temperature:	-20°C to 60°C
Video Cassette:	8mm or Hi8 Cassette Tape (ex. P6-HMPX, P6-MP)
Tape Speed	
SP Mode:	1.43cm/sec (Rec mode)
LP Mode:	0.72cm/sec (Rec mode)
Recording Time	
SP Mode:	2 hours (P6-120)
Playback Time	
SP Mode:	2 Hours (P6-120)
LP Mode:	4 hours (P6-120)
FF/REW Time:	8 min. (P6-120) (approx.)

Camera

Image Device:	One 1/3" CCD, 410,000 pixels (Effective: 380,000 pixels)
Viewfinder:	0.7" LCD color viewfinder (103,000 pixels)
Lens:	10 times zoom (f = 6.2mm-62mm, f1.6-f2.9) Filter diameter: 52mm (2 $\frac{1}{4}$ ")
Auto Focus System:	TTL autofocus system inner focus wide macro system
Color Temperature:	Auto, HOLD, Preset (Indoor: 3200k, Outdoor: 5800k)
Minimum Illumination:	3 lux (at f1.6)
Illumination Range:	3 lux to 100,000 lux
Recommended Illumination:	> 100 lux
Shutter Speed Selection:	1/60, 1/100, 1/250, 1/1000, 1/2000, 1/4000, 1/10,000

Video

Video Signal:	EIA standard (monochrome)/NTSC (color)
Video Recording System:	Four rotary heads helical scanning FM system
Recording Mode:	Hi8, standard 8mm
Playback Mode:	SP/LP Auto detect
Horizontal Resolution	
Hi8 Mode:	> 400TV lines
Standard Mode:	240TV lines
S VIDEO IN/OUT*:	Y (luminance): 1Vp-p, 75Ω unbalanced, sync negative C (chrominance): 0.286Vp-p, unbalanced
VIDEO IN/OUT*:	1Vp-p, 75Ω, unbalanced, sync negative
RFU DC OUT:	DC 5V
REMOTE:	LANC
S/N Ratio:	44 dB
Time Code:	RC time code (Write only)

Audio

AFM Audio:	Hi-Fi Stereo
Audio IN/OUT*:	Input: -7.5 dBs (0 dBs = 0.775 Vrms) Input impedance > 47 kΩ Output level: -7.5 dBs (Load impedance 47 kΩ) Output impedance: < 2.2 kΩ (0 dBs = 0.775 Vrms)
MIC:	-66 dBs low impedance with DC 2.5V-3V, output impedance 6.8 kΩ

*Selectable with the video/audio INPUT/OUTPUT selector

Connectors

S VIDEO Input/Output:	Mini DIN 4-pin connector x 1
VIDEO Input/Output:	Phono jack x 1
AUDIO Input/Output:	Phone jack x 2 (stereo L and R)
RFU DC OUT:	Special mini-jack
Headphone:	Stereo mini-jack (Ø3.5)
Remote:	Stereo mini-jack (Ø2.5)
MIC:	Stereo mini-jack (Ø3.5)

BVR-3

Remote Controller

- Designed for use with the BVW-50 in EFP applications
- Fast Forward, Rewind, Play, Stop, Record, Pause, Search, and Key inhibit can be remotely controlled via its special RCC-B5G/B10G/B30G cable (option), which combines a Sony 9-pin remote control cable with a 4-pin DC power cable
- Can be easily mounted on a tripod or microphone stand
- Remote control of other RS-422 equipped Sony VTR's are possible via the RCC-5G/10G/30G cable when external DC power is supplied to the BVR-3 through the DC IN connector.

Supplied Accessories:

Thread Adaptor (for 1/8" screw)
Operation and Maintenance Manual

Specifications

Power Requirements: DC-8.5V-17V, 30 mA
Operating Temperature: -20°C to 60°C (-4°F to 140°F)
Storage Temperature: -20°C to 80°C (-4°F to 176°F)
Weight: 7.8 oz. (220 g.) (approx.)
Dimensions (WHD): 80 x 37 x 118mm
(3 1/4" x 1 1/2" x 4 3/4")

CA-325

Camera Adaptor for DXC-325 Series

- For interfacing DXC-325 with portable VTRs, CCU-M3, and CMA-8A
- Can be used with DXC-327
- Supplied with DXC-325K/325L

Specifications

Power Requirements: DC-12V

Inputs/Outputs

INTERFACE: DIN 50-pin
VTR/CCU/CMA: Sony Q-type, 14-pin
MIC IN: XLR-type, 3-pin
DC IN: XLR-type, 4-pin
GENLOCK IN: BNC-type
EARPHONE: Mini jack
INTERCOM: Mini intercom jack
Weight: 2 lb. 3 oz. (1.0 kg.)



CA-325A

Camera Adaptor for DXC-325 Series

- Multiple outputs of R/G/B, composite sync, VBS, Y/C and AUDIO signals
- Built-in AC power unit
- Can be used with DXC-327/537

Specifications

Power Requirements: AC-100V/120V, 50/60 Hz
Power Consumption: 48W
Inputs/Outputs: INTERFACE: DIN 50-pin
VBS OUT: BNC-type
R/G/B OUT: BNC-type (x 3)
COMPOSITE SYNC OUT: BNC-type
Y/C OUT: Y/C connector (4-pin)
AUDIO OUT: Phono jack
GENLOCK IN: BNC-type
REMOTE: 10-pin
Weight: 2 lb. 14 oz. (1.3 kg.)





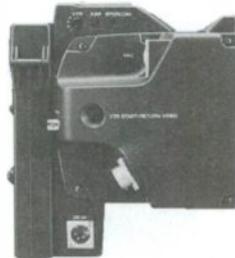
CA-325B

Camera Adaptor for DXC-325 Series

- Multiple outputs of R/G/B, composite sync, VBS, Y/C and AUDIO signals
- DC operation type
- Can also be used with DXC-327/537

Specifications

Power Requirements: DC-12V
Inputs/Outputs: INTERFACE: DIN 50-pin
VBS OUT: BNC-type
R/G/B OUT: BNC-type (x 3)
COMPOSITE SYNC OUT: BNC-type
Y/C OUT: Y/C connector (4-pin)
AUDIO OUT: Phono jack
GENLOCK IN: BNC-type
REMOTE: 10-pin
DC IN: XLR-type, 4-pin
Weight: 1 lb. 2 oz. (500 g.)



CA-327

Camera Adaptor for DXC-327 Series

- For interfacing DXC-327 with portable VTRs, CCU-M3 and CMA-8A
- Equips an S-connector and audio out connector
- Can be used with DXC-325

Specifications

Power Requirements: DC-12V
Inputs/Outputs: INTERFACE: DIN 50-pin
VTR/CCU/CMA: Sony Q-type, 14-pin
MIC IN: XLR-type, 3-pin
DC IN: XLR-type, 4-pin
GENLOCK IN: BNC-type
EARPHONE: mini jack
INTERCOM: mini intercom jack
Weight: 21 lb. 10 oz. (1.2 kg.)



CA-511

Camera Adaptor for DXC-537

- Allows a BVV-5 to be coupled with DXC-537

Note: The CA-511 does not allow connection with the CA-50/55/57 camera adaptors.

Specifications

Power Requirements: DC-12V
Power Consumption: 0.1W
Inputs/Outputs: INTERFACE: DIN 50-pin
Betacam output: D-sub 50-pin
Weight: 1 lb. 2 oz. (0.5 kg.)

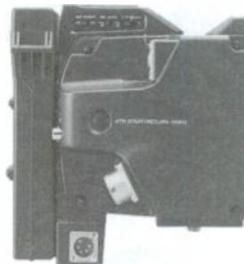
CA-537

Camera Adaptor for DXC-537 Series

- For interfacing DXC-537 with portable VTRs, CCU-M7 and CMA-8A
- Supplies mic power from MIC IN connector

Specifications

Power Requirements: DC-12V
 Power Consumption: 1.7W
 Inputs/Outputs: INTERFACE: DIN 50-pin
 VTR/CCU/CMA: SONY Z-type, 26-pin
 MIC IN: XLR-type, 3-pin
 DC IN: XLR-type, 4-pin
 GENLOCK IN: BNC-type
 EARPHONE: mini jack
 INTERCOM: mini intercom jack
 Weight: 2 lb. 14 oz. (1.3 kg.)



CAC-1

Microphone Holder for DXC-M7/537/325/327

- For attaching the ECM-672 or the C-74 condenser microphone to the DXC-M7/537/325/327 Series

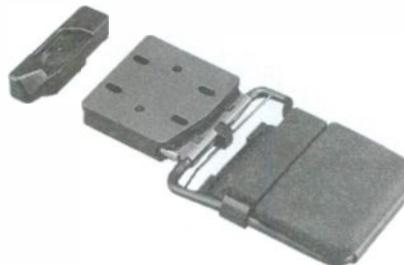
CAC-4

Chest Pad for DXC-M7/325/327/537 Series

- Suitable for more stable camera operation
- Attachable to the VCT-12/13/14 tripod adaptors directly

Specifications

Weight: Approx. 7 oz. (185 g.)



CAC-11A

Camera Microphone Holder for DXC-M7/537/3000A/3000/3000IR/325/327 Series

- For attaching the ECM-672 or the C-74 condenser microphone to the DXC-M7/537/3000A/3000/3000IR/325/327

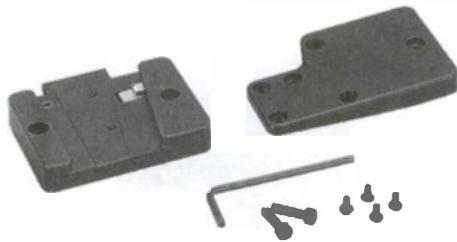
CAC-12

Camera Microphone Holder

- Adjustable microphone direction
- For attaching the ECM-672 or the C-74 condenser microphone to the DXC-M7/537/325/327 series



Production Camera Accessories



CAC-21

Battery Shoe

- For attaching the DC-8 Camera Battery Adaptor to the DXC-M7 series



CAC-50

VF Attachment Metal

- For attaching the DXF-50 monochrome electronic viewfinder to the CA-M7 studio adaptor or the camera head

CA-M3

Camera Adaptor

- Camera cable extension adaptor for 3-tube/3-chip CCD color camera DXC-M3A/M3/3000A/3000/3000IR series
- Cable extension between camera and CCU (200m or 300m selectable)
- Improved power supply capability by automatic power sensing circuit with CMA-9

*CA-M3 consists of CHU Adaptor and CCU Adaptor, to which the power is supplied by CMA-9

Supplied Accessories:

CCQ-0.3AM Cable: between camera head and CHU adaptor
 CCQ-0.6AM Cable (2 pcs): between CCU adaptor and CCU
 between CCU adaptor and CMA-9
 (AC adaptor)

BNC Cord 0.13m: between camera head and CHU adaptor for Genlock
 DIN (4-pin) DC Cord: between CCU adaptor and CCU
 Battery Shoe for DXC-M3
 Tally Number Plate for CCU Adaptor

Specifications

CCU Adaptor

Dimensions (WHD): 213 x 105 x 306.5mm (approx.)
 (8½" x 4¼" x 12½")
 Weight: 8 lb. 8 oz. (3.8 kg.) (approx.)
 Power Consumption: 1W

Input/Outputs

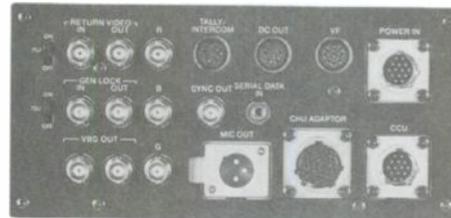
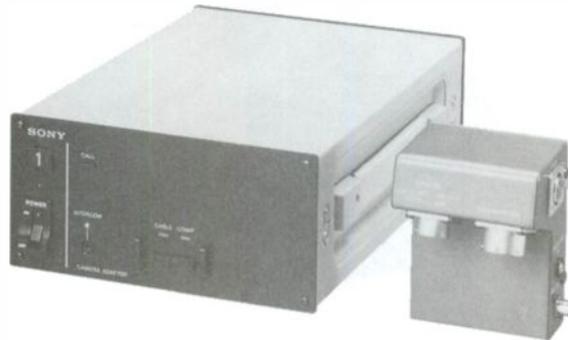
BNC: RETURN VIDEO IN/OUT, GENLOCK IN/OUT
 VBS out x 2 R, G, B OUT, SYNC OUT
 (4Vp-p, 75Ω)
 DIN (4-pin female): TALLY/INTERCOM, DC OUT
 DIN (8-pin female): Output for VF
 CCQ (14-pin male): CCU-M3, CMA-9 (DC IN)
 CCZ (26-pin female): CHU ADAPTOR
 XLR (3-pin male): MIC OUT
 Mini Jack: INTERCOM, SERIAL DATA IN

CHU Adaptor

Dimensions (WHD): 90 X 117 X 81mm (approx.)
 (3⅝" x 4⅝" x 3¼")
 Weight: 15 oz. (430 g.) (approx.)
 Power Consumption: 9W

Inputs/Outputs

BNC: GENLOCK OUTPUT or CHU
 CCQ (14-pin female): Camera head
 CCZ (26-pin male): CCU ADAPTOR
 XLR (3-pin female): MIC IN
 Mini Jack: Serial data out



CA-M7

Studio Adaptor for DXC-M7 Series

- For more stable operation of DXC-M7 series in studio
- Built-in zone and cursor generator
- DXF-50/40A mountable on the top
- RM-M7G mountable on the rear panel

Supplied Accessories:

Camera Number Sheet
 CCA-7-0.5 Connecting cable

Specifications

Power Requirements: DC-10.7V-17V
 from a camera head
 Power Consumption: 5W
 Weight: 8 lb. 13 oz. (40 kg.)
 Dimensions (WHD): Approx. 160 x 273 x 430mm
 (6⅝" x 10¾" x 17")
 Inputs/Outputs: CAMERA: 8-pin
 VIEWFINDER; 8-pin





CCU-M3

Camera Control Unit for DXC-M3A/3000A/ 3000IR/325/327 Series

- Capability of remote control ■ DC operation capability
- Automatic cable compensation ■ RGB outputs ■ Also connectable to DXC-M7/1 and DXC-537

Supplied Accessories:

CCDQ-06 Connecting Cable (4-pin to 14-pin for connecting the CMA-8A camera adaptor)

Optional Accessories:

(CCU-M3 ↔ DXC-M3A/M3/3000/3000A/3000IR/325/327 series)
 CCQ-10AM Cable (10m)
 CCQ-25AM Cable (25m)
 CCQ-50AM Cable (50m)
 CCQ-100AM Cable (100m)
 (CCU-M3 ↔ DXC-M7/537 series)
 CCZQ-A2AM Cable (2m)

Specifications

Power Requirements: DC-12V with the BP-60 (optional)
 AC operation with the CMA-8A (optional)
 Power Consumption: 6W

Inputs/Outputs

VIDEO OUT (BNC Type): 1.0Vp-p, VBS, 75Ω (x 1)
 1.0/0.714Vp-p, VBS/VB selectable, 75Ω (x 1)
 (V: 0.714V B: 0.286V, S: 0.286V)
 R/G/B (BNC Type): 0.714Vp-p, 75Ω (1 each)
 SYNC OUT: 4Vp-p, 75Ω negative
 GENLOCK IN/OUT
 (BNC Type): VBS or black burst (1Vp-p or 0.286Vp-p),
 loop-through
 RETURN VIDEO IN/OUT
 (BNC Type): VBS, 1Vp-p, loop-through
 CAMERA: 14-pin, Q-type
 DC IN: 10V-17V (DIN 4-pin)
 TALLY/INTERCOM: DIN 4-pin
 VF: DIN 8-pin
 Intercom: Mini intercom jack
 Control: Iris (auto/manual)
 White balance (auto/manual/preset)
 Black balance (auto/manual)
 Gain select
 R/B pedestal
 R/B gain
 Master pedestal
 SC phase
 H phase
 Auto centering
 COLOR BAR/CAMERA
 Tally/Intercom
 Power
 Operating Temperature: -10°C to 45°C (14°F to 113°F)
 Dimensions (WHD): 210 x 105 x 290mm
 (8³/₁₆" x 4¹/₁₆" x 11¹/₂")
 Weight: 6 lb. 13 oz. (3.92 kg.)

CCU-M7

Camera Control Unit for DXC-M7 Series

■ Full remote control of DXC-M7 series color video camera with maximum cable length of 300m
 ■ Remote control of DXC-537 series color video camera with maximum cable length of 300m
 ■ Scene File memory for up to four shooting conditions
 ■ VBS, R/G/B, Y/R-Y/B-Y, Y/C outputs
 ■ XLR connector for MIC output
 ■ Built-in AC power supply
 ■ 19-inch rack mountable and 2-units high

Supplied Accessories:

AC Power Cord
 Rack Mount Metals

Optional Accessories:

(CCU-M7-DXC-M7/537 series)

CCZ-A2 (2m)
 CCZ-A5 (5m)
 CCZ-A10 (10m)
 CCZ-A25 (25m)
 CCZ-A50 (50m)
 CCZ-A100 (100m)

Specifications

Power Requirements: AC-85V-138V, 50/60 Hz

Power Consumption: 62W

Inputs/Outputs:
 VBS OUT (x 2);
 BNC-type, 1.0Vp-p, sync negative, 75Ω
 R/G/G OUT;
 BNC-type, 0.714Vp-p, 75Ω
 Y/R-Y/B-Y OUT;
 BNC-type,
 Y: 1.0Vp-p, sync negative, 75Ω
 R-Y/B-Y: 0.7Vp-p (75% color bars)
 Y/C OUT;
 Y/C connector (4-pin), 1.0Vp-p, 75Ω
 SYNC OUT;
 BNC-type, 4.0Vp-p, 75Ω, negative
 GENLOCK IN;
 BNC-type, VBS (1.0Vp-p) or
 BB (0.286Vp-p), loop through
 RET VIDEO IN;
 BNC-type, VBS, 1.0Vp-p, loop-through
 CAMERA;
 Sony Z-type, 26-pin
 TALLY/INTERCOM;
 DIN 4-pin or screw terminals
 MIC OUT;
 XLR-type, 3-pin, -20 kΩ



Control: Gain select
 Output mode select
 Status display ON/OFF
 Shutter speed select
 Iris (auto/manual)
 White balance (auto/manual/preset)
 R/B gain
 Black balance (auto/manual/preset)
 Master pedestal
 R/B pedestal
 Gamma (manual/preset)
 Master gamma
 R/B gamma
 Knee point (auto/manual/preset)
 Detail level
 Sub-carrier phase
 Horizontal phase
 Scene File operation
 Tally/Intercom
 Operating Temperature: -10° to 45°C (14°F to 113°F)
 Dimensions (WHD): 424 x 103 x 387mm (approx.)
 (16¾" x 4¼" x 15¼")
 Weight: 18 lb. 12 oz. (8.5 kg.)

DC-520

Battery Adaptor for PVV-1, DXC-325/327/537 EVW-325/327/537 Series

■ Can be attached to the supplied battery case of the BVV-5 Betacam SP recorder or BVW-300A/400A Betacam SP Camcorder ■ Allows the BVV-5/BVW-300A/400A to be operated with two NP-1B batteries ■ Supplies DC-12V to the BVV-5/BVW-300A/400A

Supplied Accessories:
Screws (M3 x 6)

Specifications

Dimensions (WHD): 100 x 185 x 44mm
(4" x 7³/₄" x 1³/₄")
Weight: 8 oz. (230 g.)



DXF-325

High Resolution 1.5-inch Electronic Viewfinder for DXC-325 Series (Monochrome)

■ Supplied with the DXC-325K/325L, EVW-325K/325L
■ Quick start CRT ■ Can be used with DXC-327

Specifications

Picture Tube: 1.5" monochrome
Horizontal Resolution: 400 lines (center)
Power Requirements: DC-12V, supplied from a camera
Power Consumption: 2.3W
Weight: 1 lb. 2 oz. (500 g.) (approx.)
Dimensions (WHD): 182 x 64 x 189mm (approx.)
(7¹/₄" x 2⁵/₈" x 7¹/₂") (approx.)

DXF-40A

4-inch Electronic Viewfinder for DXC-M7/537/ M3A/3000A/3000IR/325/327 Series (Monochrome)

■ Tally, intercom facilities ■ Can be mounted into the RMM-1800 rack mounting metal ■ Also connectable to DXC-1800/1820/1821H/6000/M3/3000 series

Supplied Accessories:
Stand
Screws (4)
Hood
Connecting cord (mini-mini)

Specifications

Picture Tube: 4" monochrome, 50° deflection
Video Signal: EIA standard
Scanning System: 2: 1 interlace
525 lines
Horizontal Resolution: 400 lines (center)
Connectors: DIN 8-pin connector
Phone and mini for intercom, 1 kΩ
Power Requirements: Supplied from a camera
Power Consumption: 11W
Operating Temperature: 0°C to 40°C (32°F to 104°C)
Dimensions (WHD): 105 x 107 x 252mm (approx.)
(4¹/₄" x 4¹/₄" x 10")
including projecting parts and controls
Weight: 3 lb. 11 oz. (1.7 kg.) (approx.)
with stand and hood





DXF-50

High Resolution 5-inch Electronic Viewfinder for DXC-M7/537/M3A/3000A/3000IR/325/327 Series (Monochrome)

- Tally facility ■ "+" mark appears on the screen with CENTER MARK switch
- Also connectable to DXC-1800/1820/1821H/6000/M3/3000 Series

Supplied Accessories:

Stand
Screws (4)

Specifications

Picture Tube: 5" monochrome, 70° deflection
Video Signal: EIA standard
Scanning System: 2:1 interlace
525 lines
Horizontal Resolution: 600 lines (center)
Connectors: DIN 8-pin connector
Power Requirements: Supplied from a camera
Power Consumption: 10W
Operating Temperatures: -10°C to 50°C (14°F to 122°C)
Dimensions (WHD): 144.5 x 167 x 290mm (approx.)
(5³/₄" x 6⁵/₈" x 11¹/₂")
including projecting parts and controls
Weight: 6 lb. 14 oz. (3.1 kg.) (approx.)
with stand and hood



DXF-501

High Resolution 1.5-inch Electronic Viewfinder for DXC-327/537 Series (Monochrome)

- Supplied with the DXC-327K/327L/537K/537L, EVW-537K/327K
- Quick start CRT
- Sophisticated diopter design
- Can be used with DXC-325

Specifications

Picture Tube: 1.5" 50° deflection
Horizontal Resolution: 400 lines (center)
Power Requirements: DC-12V, supplied from a camera
Power Consumption: 2.3W
Weight: 1 lb. 2 oz. (500 g.) (approx.)
Dimensions (WHD): 182 x 68 x 205mm (approx.)
(7¹/₄" x 2³/₄" x 8¹/₈")



DXF-M7

High Resolution 1.5-inch Electronic Viewfinder for DXC-M7 Series (monochrome)

- Supplied with the DXC-M7K/M7

Specifications

Picture Tube: 1.5" monochrome
Horizontal Resolution: 400 lines (center)
Power Requirements: DC-12V, supplied from a camera
Power Consumption: 2.3W
Weight: Approx. 1 lb. 5 oz. (600 g.)
Dimensions (WHD): Approx. 201 x 68 x 184mm
(8" x 2³/₄" x 7¹/₄")

LC-304SFT

Soft Carrying Case for DXC-M7/537/327/325, EVW-537/327/325 and DXC-537/PVV-1 Camcorders

- Suitable for transportation of DXC-M7 or DXC-537/327/325 with a camera adaptor connected
- Can also hold EVW-537/327/325 or DXC-537/PVV-1 camcorders
- Lightweight for easy transportation

Specifications

Dimensions (WHD): 720 x 360 x 286mm (approx.)
(28³/₈" x 14¹/₄" x 11³/₈")
Weight: 4 lb. 14 oz. (2.2 kg.)



LC-325

Carrying Case for DXC-325 Series

- Suitable for transportation and storage of DXC-325
- Supplied with the DXC-325K/325L

Specifications

Dimensions (WHD): 608 x 386 x 260mm
(24" x 15¹/₄" x 10¹/₄") (approx.)
Weight: 9 lb. 8 oz. (4.3 kg.)

LC-420

Carrying Case for DXC-327/EVW-327/325 Hi8 Camcorder Series

- Suitable for transportation and storage of DXC-327/325
- Can hold the DXC-325/327 in camcorder configuration with the EVV-9000
- Supplied with the DXC-327K/327L, EVW-325K/325L/327K

Specifications

Dimensions (WHD): 790 x 440 x 340mm (approx.)
(31¹/₈" x 17³/₈" x 13¹/₂")
Weight: (17 lb. (7.7 kg.)



LC-421

Carrying Case for DXC-537, EVW-537 and DXC-537/PVV-1 Camcorder

- Suitable for transportation and storage of DXC-537
- Can hold the DXC-537 with the EVV-9000 or PVV-1 attached
- Supplied with the DXC-537K/537L, EVW-537K

Specifications

Dimensions (WHD): 790 x 440 x 340mm (approx.)
(31¹/₈" x 17³/₈" x 13¹/₂")
Weight: 17 lb. (7.7 kg.)



LC-2003

Carrying Case for CCU/Monitor/WEX/CRK

■ For CCU-MC/1800/1820/6000 series, WEX-2000 series, CRK-2000 series, DXF-40A/PVM-4000/PVM-411 series or CMA-7/8A series installation

Optional Accessories:

Rack Mount Metal
RMM-1800
RMM-301

Specifications

Dimensions (WHD): 502 x 500 x 156mm
(19⁷/₈" x 19³/₄" x 6¹/₄")
Weight: 15 lb. 8 oz. (7 kg.)



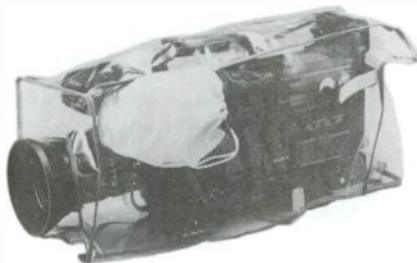
LC-M7G

Carrying Case for DXC-M7 Series

■ Suitable for transportation or storage ■ Supplied with the DXC-M7K/M7 series

Specifications

Dimensions (WHD): 608 x 386 x 260mm (approx.)
(27¹/₈" 17³/₈" 12¹/₄")
Weight: 12 lb. 13 oz. (5.8 kg.)



LCR-1

Camera Rain Cover for DXC-M7/537/327/325, EVW-537/327/325, and DXC-537/PVV-1 Camcorders

■ Can be used for DXC-M7/537/327/325, EVW-537/327/325, and DXC-537/PVV-1 camcorders, ■ Transparent material used to operate camera and VTR switches with the LCR-1

Specifications

Weight: 9 oz. (260 g.)



LO-32BMT

2/3" Lens Mount Adaptor for DXC-325/327, EVW-327/325 Series

■ For mounting a 2/3" bayonet-mount-type lens on the DXC-325/327, EVW-327/325 series

MVA-40

Microscope Adapter for DXC-325/327

- For mounting the DXC-325/327 series onto various types of microscopes
- Automatic/manual light control

Specifications

Dimensions: 74(dia.) x 108mm(L) (max. width of 116mm)
 (3" x 4³/₈" (max. width of 4⁵/₈")
 Weight: 1 lb. 5 oz. (600 g.)



MVA-41

Microscope Adaptor for DXC-325/327

- For mounting for DXC-325/327 series onto various types of microscopes

Specifications

Dimensions: 58(dia.) x 108mm(L)
 (2³/₈" x 4³/₈")
 Weight: 9 oz. (250 g.)



RM-930

Remote Control Unit

- The RM-930 can remotely control all functions of the DXC-930 including the zoom, focus and iris functions. Maximum cable length is as follows;

Supplied Accessories:
 CCMC-12P05 Cable
 Operation Manual

CCMC-12P Cable (DXC-930 ↔ RM-930)	CCDC Cable (RM-930 ↔ CMA-D1)
5m	10m, 25m
10m, 25m	10m

Specifications

Connectors: CAMERA (12-pin), MONITOR OUT (BNC), DC IN (12-pin)
 Operating Temperature: -5°C to 45°C (3°F to 113°F)
 Power Requirements: DC-12V
 Weight: 14 oz. (400 g.) (approx.)
 Dimensions (WHD): 212 x 52.5 x 132mm
 (8³/₈" x 2¹/₈" x 5¹/₄")
 (including projecting parts and controls)





RM-M7G

Remote Control Unit for DXC-M7 Series

■ Compact and lightweight hand-held control unit for DXC-M7 series ■ For field production or video operational panel for CCU-M7 ■ Connectable to DXC-537/327 camera head ■ Also connectable to DXC-325 with CA-325A/325B (certain controls do not function)

Specifications

Power Requirements: DC-9V-17V
from a camera or a CCU

Power Consumption: 0.4W

Weight: 1 lb. 2 oz. (500 g.)

Dimensions (WHD): Approx 86 x 47 x 170mm
(3½" x 1⅞" x 6¾")

Input/Outputs: CAMERA: 10-pin
MONITOR OUT: BNC-type
AUXILIARY IN: 10-pin

Control: Gain select
Output mode select
VTR start/stop
Iris (auto/manual)
Auto iris override
White and black balance
(auto/manual/preset)
White balance memory
R/B gain
Gamma (manual/preset)
Master pedestal (manual/preset)
R/B pedestal
Knee point (auto/manual/preset)
Shutter speed select
Detail
Lock (ON/Part/OFF)



RMM-1800

Rack-Mounting Metal

■ This mounting adaptor is used for installing the CCU-M3, CCU-1820/1800, DXD-40A, PVM-4000 and CMA-7/8A into a 19" EIA standard rack which provides a clean and organized arrangement for studio system

Supplied Accessories:
Blank Panel

Specifications

Dimensions (WHD): 482 x 136.2 x 223mm
(19" x 5⅜" x 8⅞")

Weight: 6 lb. 13 oz. (3.1 kg.)

TGR-325

Title Generator for DXC-325 Series

- 9 title page memory ■ Clock, lap, and pointer indication
- Mountable on the viewfinder of DXC-325 series

Supplied Accessories:

Attachment Plate
Bolts (2)

Optional Accessories:

RC-75 Extension Cable

Specifications

Connector: 8-pin connector
 Power Requirements: DC-5V, supplied from a camera
 Power Consumption: 350 mW
 Operating Temperature: -5°C to 45°C (23°F to 113°F)
 Weight: 11 oz. (300 g.) (approx.)
 Dimensions (WHD): 137 x 18.5 x 82mm
 (5½" x ¾" x 3¼")
 excl. connection cable

VA-5

Component/Composite VTR Adaptor

- Enables BVV-5 to be connected via cables to a single source ■ Component or composite signals can be connected via 26-pin connector ■ Additional composite signal input via BNC connector ■ Two audio level meters provided ■ Recorder control provided on top panel
- Tape remaining indicator

Supplied Accessories:

Shoulder Belt
Operation and Maintenance Manual

Specifications

Power Requirements: DC-12V (+5/-1)V
 Power Consumption: Max. 8W (Composite I/P)
 Power Consumption: Max. 2.5W (Component I/P)
 Weight: 2 lb. 2 oz. (1.2 kg.) (approx.)
 Dimensions (WHD): 90 x 222 x 148mm
 (3⅝" 8¾" x 5¾")

VA-500

Playback Adaptor

- Provides full color replay from BVV-5, BVW-300A/400
- Single 20-pin multicable connection to recorder (2m cable supplied with VA-500) ■ Composite Video Output
- VHF output gives color replay on TV receivers ■ One channel audio (either single or mixed channel) replay
- External TBC interface capability provides broadcast quality replay

Supplied Accessories:

Connecting Cable (2m, 20-pin)
Shoulder Strap
Operation and Maintenance Manual

Specifications

Power Requirements: DC-12V (+5/-1.5)V
 Power Consumption: 15W
 Weight: 4 lb. 7 oz. (2.0 kg.) (approx.)
 Dimensions (WHD): 212 x 88 x 222mm
 (8⅜" x 3½" x 8¾")





VCS-350

Video Selector

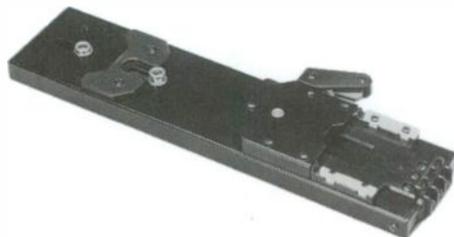
■ Routes video output of multiple cameras for picture and waveform monitoring ■ Up to 8 pix and WF signal can be input

Supplied Accessories:

AC Power Cord (3) (1 x three types)
4-pin Connector for WF Mode Selector
Plug Holder
Operation and Maintenance Manual

Specifications

Input Signals: Pix (BNC x 8): 1.0Vp-p, VBS/VS, 75Ω
WF (BNC x 8): 1.0Vp-p, VBS/V, 75Ω
Output Signals: Pix (BNC): 1.0Vp-p, VBS/VS, 75Ω
WF (BNC): 1.0Vp-p, VBS/V, 75Ω
Sync out (BNC): 0.3Vp-p, 75Ω
WF mode out: 4-pin
Input/Output Connector: CCU/MSU: 16-pin loophrough
Power Requirements: AC-90V-264V, 50/60 Hz
Power Consumption: 12W
Operating Temperature: 0°C to 45°C (32°F to 113°F)
Dimensions (WHD): 424 x 44 x 350mm
(16³/₄" x 1³/₄" x 13⁷/₈" (approx.))
Weight: 8 lb. 13 oz. (4 kg.) (approx.)



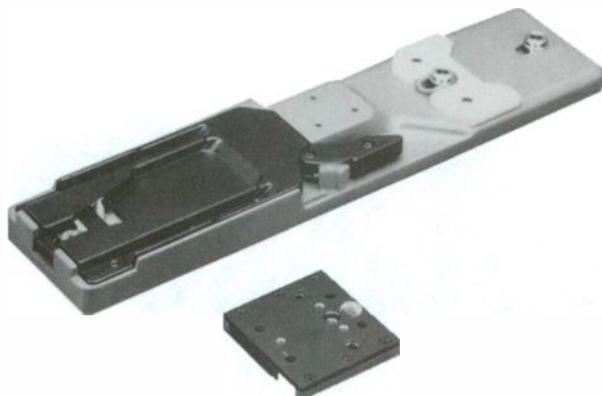
VCT-12

Tripod Adaptor for DXC-325/327, EVW-327/325 Series

■ Supplied with the DXC-325K/325L/327L, EVW-325L series ■ For attaching the DXC-1820/325/327, EVW-327/325 series to a tripod without detaching the shoulder pad

Specifications

Dimensions (WHD): Approx. 340 x 32 x 105mm
(13¹/₂" x 1⁵/₁₆" x 4¹/₄")
Weight: Approx. 1 lb. 11 oz. (770 g.)



VCT-13

Tripod Adaptor for DXC-3000A/325/327A, EVW Series

■ Adjustable camera position with screws ■ Supplied with exclusive camera shoe

Specifications

Dimensions (WHD): 342 x 27 x 80mm
(13¹/₂" x 1¹/₁₆" x 3¹/₄" (approx.))
Weight: 2 lb. (900 g.) (approx.)

VCT-14

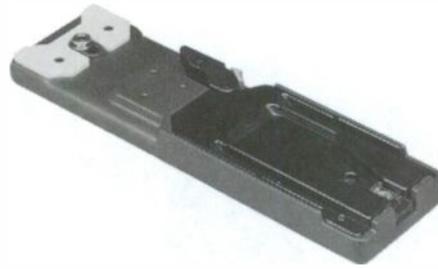
Tripod Adaptor for DXC-M7/537/EVW-537 Series

- Supplied with the DXC-M7K/M7/537/537L series ■ To attach the DXC-M7K/M7/537/537L series to a tripod
- Adjustable camera position with screws

Specifications

Dimensions (WHD): 282 x 27 x 80mm (approx.)
(11¹/₈" x 1¹/₈" x 3¹/₄")

Weight: 2 lb. (900 g.)





DXC-930

Three Chip CCD Color Video Camera

■ Designed for multi-purpose applications such as computer imaging, scientific research, video conference and industrial inspection ■ Three high resolution 1/2-inch IT Hyper HAD™ (Hole Accumulated Diode) sensors ■ High sensitivity of f5.6 at 2000 lux with an excellent signal-to-noise ratio of 58 dB ■ High horizontal resolution of 720 TV lines ■ Various camera control functions can be easily and quickly set via the MENU/DISPLAY/FUNCTION/DATA buttons on rear panel ■ Variable speed electronic shutter with 8-step speed selection: 1/100 (flickerless mode), 1/125, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10,000 seconds ■ Clear Scan™ function ■ Multiple signal outputs: RGB, Y/C and composite video ■ Genlock capability and built-in color bar generator ■ 1/2" dual "Hot Shoe" bayonet mount ■ RM-930 can remotely control all functions of the DXC-930 including zoom, focus and iris functions

Supplied Accessories:

Lens Mount Cap
Operation Instructions

Specifications

Image Device: 1/2" Interline Transfer CCD (x 3)
Picture Elements: 768(H) x 494(V)
Sensing Area: 6.4mm x 4.8mm
Signal System: NTSC standard
Scanning System: 2: 1 interlaced, 525 lines
Horizontal Frequency: 15.734 kHz
Vertical Frequency: 59.9 Hz
Sync System: Internal or External with VBS, BS
Horizontal Resolution: 720 TV lines
Lens Mount: Sony 1/2" Bayonet
Sensitivity: f5.6 at 2000 lux
Minimum Illumination: 15 lux (f1.4, +18 dB)
Gain Control: AGC/0 dB-18 dB (1 dB step) switchable
Electronic Shutter: OFF (1/60s)/STEP/MANU selectable
Step: 1/100 (Flickerless mode), 1/125, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10,000 (sec.)
Manual: 255 to 1 frames (for field mode), 256 to 2 frames (for frame mode), OFF, 260/525 to 1/525 H
Phase Control: H/SC phase control
CCD IRIS Control: ON/OFF switchable
White Balance: AUTO/MANUAL (R/B Gain) selectable
Signal-to-Noise Ratio: 58 dB (γ = OFF, DTL = OFF)
Gamma Control: ON/OFF switchable
VIDEO OUT: VBS: 1.0Vp-p, 75 Ω , sync negative
RGB: 0.7Vp-p, 75 Ω
Y/C: Y: 1.0Vp-p, 75 Ω
C: 0.286Vp-p, 75 Ω
Operating Temperature: -5°C to 45°C (23°F to 113°F)
Storage Temperature: -20° to 60°C (-4°F to 140°F)
Power Requirements: DC-12V (Supplied from CMA-D1 or CCU-M3/M7)
Power Consumption: 7.8W (approx.)
Weight: 1 lb. 8 oz. (670 g.) (approx.)
Connectors: LENS (6-pin), RGB/SYNC (D-sub 9-pin), GELOCK IN (BNC), DC IN/REMOTE (12-pin), VIDEO OUT (BNC), CCU (20-pin)

DXC-755

3-Chip CCD Color Video Camera

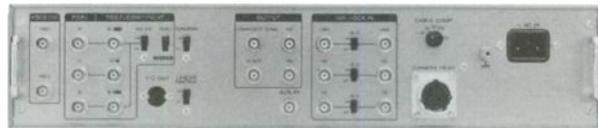
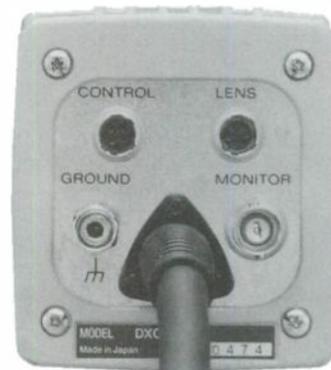
- Two-piece design composed of a camera head and camera control unit
- Compact and lightweight camera head (600 g. without cable) for easy installation
- Various camera adjustment from a camera control unit
- High resolution Hyper HAD IT sensor offers superior picture quality
- High sensitivity of f8.0 at 2000 lux, high horizontal resolution of 750 TV lines and high signal-to-noise ratio of 60 dB
- Linear matrix circuit, gamma selection, detail level adjustment and selectable knee position for precise picture controls
- Seven step variable speed electronic shutter (from $1/125$ to $1/10,000$)
- Multiple outputs of composite, R/G/B, Y/R-Y/B-Y and Y/C signals
- Built-in full color bar generator
- Auto white/black balance
- Convenient gain-up switch (0/ +9/ +18 dB)
- Genlock capability with VBS or HD/VD
- Monitor output from camera head
- Up to 100mm cable extension capability between camera head and camera control unit via CCZ-A cable
- Adoption of bayonet lens mount
- TGR-750 supplied title generator produces characters to be superimposed on a picture

Supplied Accessories:

TGR-750 Title generator
 ND filter
 Rack Mount Kit
 Screws (4)
 AC Power Cord
 Operating Instruction Manual

Optional Accessories:

MVA-20 Microscope Adaptor with auto iris
 MVA-33 Microscope Adaptor
 MVAC-33/N Coupler for NIKON X/Y series microscopes
 MVAC-33/O Coupler for OLYMPUS BH-2/AH series microscopes
 MVA-365 Microscope Adaptor (one way)
 MVA-385 Microscope Adaptor (two way)
 RM-385 Remote Controller of the MVA-385
 MVA-302/MVA-302M/MVA-302F Endoscope Adaptor
 RC-75 Extension Cable for TGR-750 (3m)
 CCZ-A2/A5/A10/A25/A50/A100 Camera Cable
 CCZZ-1E CCZ-A Cable Extension Connector
 VCL-25BY 25mm Fixed Focal Lens (f1.4)





DXC-107

Single Chip CCD Color Video Camera

■ High resolution 1/2-inch IT HAD sensor CCD offers high quality picture ■ High sensitivity in minimum illumination of only 9 lux with f1.2 lens ■ Excellent signal-to-noise ratio of 48 dB ■ High horizontal resolution of 470 TV lines ■ Four alternative white balance control: Automatic control modes; AWB (Auto White Balance)/ATW (Auto Tracing White), Preset modes; INDOOR (3200K)/OUTDOOR (5600K) ■ CCD IRIS control is incorporated for eliminating the need for using an automatic iris lens ■ Variable speed electronic shutter is provided ■ Built-in four digit ID number generator is provided ■ C-mount adoption ■ External genlock capability of VS ■ Together with the CMA-D7 or YS-W230 AC adaptor, video and sync signals, and DC power can be transmitted up to 300 meters away through a single 5C-2V coaxial cable ■ Remarkably compact and lightweight

Supplied Accessories:

Lens Connector
Lens Mount Cap
Operating Instruction Manual

Optional Accessories:

CMA-D7 AC Adaptor
CCMC-12P02/05/10/25 Cable (12-pin multi-core)
VCL-06XK Manual Iris Lens (6mm, f1.2)

Specifications

Image Device: 1/2" Interline Transfer CCD
768 x 494 picture elements
Signal System: EIA standards, NTSC color system
Sync System: Internal or external with VS
Horizontal Resolution: 470 TV lines
Lens Mount: C-mount
Sensitivity: f4.0 at 2,000 lux (AGC off)
Minimum Illumination: 9 lux with f1.2 (AGC on)
Gain Selection: AUTO (ON/OFF selectable)
Electronic Shutter: OFF, 1/100, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10,000 (sec.)
S/N Ratio: 48 dB
Operating Temperature: 0°C to 40°C (32°F to 104°F)
Power Requirements: DC 28/12V, supplied from CMA-D7
Power Consumption: 6.3W using coaxial cable (DC-28V)
3.3W using CCMC-12P multi-core cable (DC-12V)
Maximum Cable Length: 300m using 5C-2V coaxial cable
100m using 3C-2V coaxial cable
25m using CCMC-12P25 multi-core cable
White Balance: AUTO: ATW or AWB white balance only
PRESET: 3200K or 5600K
Dimensions (WHD): 52 x 50 x 130mm
(2 1/8" x 2" x 5 1/8")
Weight: Approx. 12.7 oz. (360 g.) without lens
Connectors: DC IN/VIDEO OUT (BNC)
DC IN (12-pin)
LENS (4-pin)

LENSES FOR DXC-107 (1/2-inch C mount type)



	PH6 x 8REA-IA-II***	PH10 x 8REA-IA-II***	VCL-806XR****	VCL-810XR****
Mount	C	C	C	C
Focal Length	8–48mm	8–80mm	8–48mm	8–80mm
Zoom Ratio	6X	10X	6X	10X
Zoom Control	Remote	Remote	Remote	Remote
Iris Control	Auto	Auto	Remote	Remote
Maximum Aperture Ratio	1.0	1.2	1.0	1.2
Filter Size	52mmØ	62mmØ	52mmØ	62mmØ
Supplied Accessories	Remote control box CC-8T-II, MD cable (10m)	Remote control box CC-8T-II, MD cable (10m)	—	—
Weight	Lens: 1 lb. 2 oz. (500 g.) CC-8T-II: 2 lb. 14 oz. (1.3 kg.)	Lens: 1 lb. 9 oz. (700 g.) CC-8T-II: 2 lb. 14 oz. (1.3 kg.)	Lens: 1 lb. 2 oz. (500 g.)	Lens: 1 lb. 9 oz. (700 g.)
Dimensions (WHD):	Lens: 60 x 70 x 96.6mm (2 ³ / ₈ " x 2 ⁷ / ₈ " x 3 ⁷ / ₈ ")	Lens: 70 x 80 x 126.6mm (2 ⁷ / ₈ " x 3 ¹ / ₄ " x 5")	Lens: 60 x 70 x 96.6mm (2 ³ / ₈ " x 2 ⁷ / ₈ " x 3 ⁷ / ₈ ")	Lens: 70 x 80 x 126.6mm (2 ⁷ / ₈ " x 3 ¹ / ₄ " x 5")
Power Requirements	AC-100/117/220/240V, 50/60 Hz (CC-8T-II)	AC-100/117/220/240V, 50/60 Hz (CC-8T-II)	AC-100/117/220/240V, 50/60 Hz	AC-100/117/220/240V, 50/60 Hz
Notes	By Canon	By Canon	By Canon	By Canon

***Auto-iris control by the E-E amp, which are installed in the lenses, makes the PH6 x 8REA-IA-II and PH10 x 8REA-IA-II particularly suitable for multi-camera operation by a single remote control box.

****Zoom and Iris can be controlled by the CC-8T-II (by Canon).

LENSES W/O REMOTE CONTROL BOX

J6 x 11R-II-A	Lenses with "-A" added are not equipped with CC-7T-II or CC-8T-II remote control boxes and have been made available for use with the PTH-10S system.
J6 x 11REA-II-A	
J6 x 11REA-IA-II-A	
J10 x 10R-II-A	
J10 x 10REA-II-A	
J10 x 10REA-IA-II-A	
PH6 x 8REA-IA-II-A	
PH10 x 8REA-IA-II-A	



DXC-151

Single Chip CCD Color Video Camera

- RGB camera for image processing
- High resolution $\frac{2}{3}$ -inch IT HAD CCD, together with 380,000 effective pixels
- 460 TV lines (VBS or Y/C output) or 440 TV lines (RGB output) of horizontal resolution and superior color reproduction
- Excellent signal-to-noise ratio of 48 dB
- RGB output via a 9-pin D-sub connector
- Y/C or VBS output can also be selected from the 9-pin D-sub connector
- Composite signal output via a BNC connector
- Four alternative white balance control: Automatic control modes AWB (Auto White Balance)/ATW (Auto Tracing White), Preset modes INDOOR (3200K)/OUTDOOR (5600K)
- Variable speed electronic shutter is provided
- C-mount adoption
- Remarkably compact and light-weight

Supplied Accessories:

- Lens Connector
- Lens Mount Cap
- CCDC-50 DC Cable
- Operating Instruction Manual

Optional Accessories:

- CMA-D1 AC Adaptor
- Coaxial Cable (BNC)
- CCDC-10/25/50A/100A DC Cable
- CCXC-9DD RGB Cable (9-pin D-sub \leftrightarrow 9-pin D-sub) (5m)
- CCXC-9DB RGB Cable (9-pin D-sub \leftrightarrow 5BNC's) (5m)
- CCMC-9DS RGB Cable (9-pin D-sub \leftrightarrow 4BNC's, DIN 4-pin) (5m)

Specifications

- Image Device: $\frac{2}{3}$ " Interline-Transfer CCD (x 1)
- Picture Elements: 768 x 493
- Signal System: EIA standards, NTSC color system
- Scanning System: 525 lines, 2.1 interlace
- Horizontal Frequency: 15.734 kHz
- Vertical Frequency: 59.94 Hz
- Sensing Area: 8.8mm x 6.6mm
- Sync System: Internal or external with VBS, BS
- Horizontal Resolution: 460 TV lines (VBS or Y/C output)
440 TV lines (RGB output)
- Lens Mount: C-mount
- Sensitivity: f4.0 at 2,000 lux (0 dB)
- Minimum Illumination: 25 lux with f1.4 (+12 dB)
- Gain Selection: 0, +6, +12 dB, AGC selectable
- Electronic Shutter: OFF, $\frac{1}{100}$, $\frac{1}{125}$, $\frac{1}{250}$, $\frac{1}{500}$, $\frac{1}{1000}$, $\frac{1}{2000}$, $\frac{1}{4000}$,
 $\frac{1}{10,000}$ (SEC.)
- S/N Ratio: 48 dB
- Operating Temperature: 0°C to 40°C (32°F to 104°F)
- Power Requirements: DC 12V, supplied from CMA-D1
- Power Consumption: 7W
- Maximum Cable Length: 100m using CCDC-100A cable
- White Balance: AUTO: ATW or AWB
PRESET: 3200K or 5600K
- Color Bar Generator: NO
- Camera Control: NO
- Dimensions (WHD): $2\frac{5}{8}$ " x $2\frac{1}{16}$ " x $6\frac{3}{4}$ "
- Weight: Approx. 1 lb. 2 oz. (520 g.) with lens
- Connectors: VIDEO OUT (BNC)
GENLOCK IN (BNC)
DC IN (12-pin)
LENS (4-pin)
RGB, VBS or Y/C out (9-pin D-sub)

Specifications for Color Video Cameras

MODEL SPECIFICATIONS	DXC-755	DXC-151	DXC-107
Image Device	2/3" Interline-Transfer CCD (x 3), 768(H) x 493(V) picture elements	2/3" Interline-Transfer CCD (x 1), 768(H) x 493(V) picture elements	1/2" Interline-Transfer CCD (x 1), 768(H) x 494(V) picture elements
Signal System	EIA standards, NTSC color system	EIA standards, NTSC color system	EIA standards, NTSC color system
Sync System	Internal or external with VBS or HD/VD	Internal or external with VBS, BS	Internal or external with VS
Horizontal Resolution	750 TV lines	460 TV lines (VBS or Y/C output) 440 TV line (RGB output)	470 TV lines
Lens Mount	Bayonet	C mount	C mount
Sensitivity	f8.0 at 2,000 lux	f4.0 at 2,000 lux (0 dB)	f4.0 at 2,000 lux (AGC off)
Minimum Illumination	10 lux with f1.4, +18 dB	25 lux with f1.4 (+12 dB)	9 lux with f1.2 (AGC on)
Gain Selection	0, +9, +18 dB selectable	0, +6, +12 dB, AGC selectable	AUTO(ON/OFF selectable)
Electronic Shutter	OFF, 1/100, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10,000 (SEC.)	OFF, 1/100, 1/125, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10,000 (SEC.)	OFF, 1/100, 1/250, 1/1000, 1/2000, 1/4000, 1/10,000 (SEC.)
S/N Ratio	60 dB	48 dB	48 dB
Operating Temperature	-5°C to 45°C (23°F to 113°F)	0°C to 40°C (32°F to 104°F)	0°C to 40°C (32°F to 104°F)
Power Requirements	AC-100V-120V, 50/60 Hz	DC-12V, supplied from CMA-D1	DC-12V from CMA-D7 DC-28V from CMA-D7/YS-W230
Power Consumption	35W (incl. Camera head, CCU, TGR-750)	7W	6.3W using coaxial cable (DC-28V) 3.3W using CCMC-12P multi-core cable (DC-12V)
Maximum Cable Length	100m (330 ft.)	100m using CCDC-100A cable	300m using coaxial 5C-2V coaxial cable 100m using 3C-2V coaxial cable 25m using CCMC-12P25 multi-core cable
White Balance/ Black Balance	AUTO and MANUAL: R, B, (GAIN, PEDESTAL)	White balance only AUTO: ATW or AWB PRESET: 3200K or 5600K	White balance only AUTO: ATW or AWB PRESET: 3200K or 5600K
Color Bar Generator	Full field	NO	NO
Genlock Capacity	YES: H phase and SC phase control	YES: H phase and SC phase control	YES: H phase
Camera Control	Detail level, Liner matrix ON/OFF, Gamma ON/OFF, Iris, Master pedestal, Knee position	NO	Cable compensation with CMA-D7/YS-W230
Weight	Camera head (without lens) 1 lb. 5 oz. (600 g.) (without 5m cable) 2 lb. 4 oz. (920 g.) (with 5m cable) Camera control unit: 14 lb. 5 oz. (6.5 kg.)	1 lb. 2 oz. (520 g.) (approx.) with lens	12.7 oz. (360 g.) (approx.) without lens
Connectors	Camera head: LENS IN (6-pin) MONITOR OUT (BNC) CONTROL (4-pin) GROUND Camera control unit: CAMERA HEAD (26-pin) VBS OUT (BNC x 3) RGB 1 OUT (BNC) RGB 2/COMPONENT (Y/R-Y/B-Y) OUT (BNC) SYNC, HD, VD, CLOCK OUT (BNC) Y/C OUT (4-pin) GENLOCK IN (VBS, HD, VD: BNC) CONTROL IN (4-pin) AUX IN (BNC) TITLE (8-pin)	VIDEO OUT (BNC) GENLOCK IN (BNC) DC IN (12-pin) LENS (4-pin) RGB, VBS or Y/C out (9-pin D-sub)	DC IN/VIDEO OUT (BNC) DC IN (12-pin) LENS (4-pin)

Image Capture Cameras

LENSES FOR DXC-151/AVC-D5/D7 (2/3-inch C mount type)



J6 x 11REA-II
J6 x 11R-II



J10 x 10R-II
J10 x 10REA-II



CC-7T-II (Supplied to J6 x 11REA-II,
J10 x 10REA-II)
Dimensions (WHD): 170 x 45 x 130mm
(6³/₄" x 1⁹/₁₆" x 5¹/₈")



CC-8T-II (Supplied to J6 x 11R-II,
J10 x 10R-II, J6 x 11REA-IA-II,
J10 x 10REA-IA-II, PH6 x 8REA-IA-II,
PH10 x 8REA-IA-II)
Dimensions (WHD): 170 x 45 x 130mm
(6³/₄" x 1⁹/₁₆" x 5¹/₈")

	J6 x 11R-II	J6 x 11REA-II*	J10 x 10R-II	J10 x 10REA-II*
Mount	C	C	C	C
Focal Length	11.5–69mm	11.5–69mm	10–100mm	10–100mm
Zoom Ratio	6X	6X	10X	10X
Zoom Control	Remote	Remote	Remote	Remote
Iris Control	Remote	Remote	Remote	Remote
Maximum Aperture Ratio	1.4	1.4 (1.4–approx. f360)	1.4	1.4
Filter Size	52mmØ	52mmØ	62mmØ	62mmØ
Supplied Accessories	Remote control box CC-8T-II, MD cable (10m)	Remote control box CC-7T-II, MD cable (10m)	Remote control box CC-8T-II, MD cable (10m)	Remote control box CC-7T-II, MD cable (10m)
Weight	Lens: 1 lb. 2 oz. (500 g.) CC-8T-II: 2 lb. 14 oz. (1.3 kg.)	Lens: 1 lb. 2 oz. (500 g.) CC-7T-II: 2 lb. 14 oz. (1.3 kg.)	Lens: 1 lb. 9 oz. (700 g.) CC-8T-II: 2 lb. 14 oz. (1.3 kg.)	Lens: 1 lb. 9 oz. (700 g.) CC-7T-II: 2 lb. 14 oz. (1.3 kg.)
Dimensions (WHD):	Lens: 60 x 70 x 102.5mm (2 ³ / ₈ " x 2 ⁷ / ₈ " x 4 ¹ / ₈ ")	Lens: 60 x 70 x 102.5mm (2 ³ / ₈ " x 2 ⁷ / ₈ " x 4 ¹ / ₈ ")	Lens: 80 x 70 x 122.3mm (3 ¹ / ₈ " x 2 ⁷ / ₈ " x 6 ¹ / ₂ ")	Lens: 80 x 70 x 122.3mm (3 ¹ / ₈ " x 2 ⁷ / ₈ " x 6 ¹ / ₂ ")
Power Requirements	AC-100/117/220/240V 50/60 Hz (CC-8T-II)	AC-100/117/220/240V 50/60 Hz (CC-7T-II)	AC-100/117/220/240V 50/60 Hz (CC-8T-II)	AC-100/117/220/240V 50/60 Hz (CC-7T-II)
Notes	By Canon	By Canon	By Canon	By Canon

*For the J6 x 11REA-II and J10 x 10REA-II lenses, the E-E amp is installed in the CC-7T-II remote control box, whereas, the E-E amp for the J6 x 11REA-IA-II and J10 x 10REA-IA-II is installed in the lenses.

LENSES W/O REMOTE CONTROL BOX

J6 x 11R-II-A	Lenses with "-A" added are not equipped with CC-7T-II or CC-8T-II remote control boxes and have been made available for use with the PTH-10S system.
J6 x 11REA-II-A	
J6 x 11REA-IA-II-A	
J10 x 10R-II-A	
J10 x 10REA-II-A	
J10 x 10REA-IA-II-A	
PH6 x 8REA-IA-II-A	
PH10 x 8REA-IA-II-A	

LENSES FOR DXC-151, AVC-D5/D7 (2/3-inch C mount type)



	J6 x 11REA-IA-II**	J10 x 10REA-IA-II**
Mount	C	C
Focal Length	11.5–69mm	10–100mm
Zoom Ratio	6X	10X
Zoom Control	Remote	Remote
Iris Control	Auto	Auto
Maximum Aperture Ratio	1.4	1.4
Filter Size	52mmØ	62mmØ
Supplied Accessories	Remote control box CC-8T-II, MD cable (10m)	Remote control box CC-8T-II, MD cable (10m)
Weight	Lens: 1 lb. 2 oz. (500 g.) CC-8T-II: 2 lb. 14 oz. (1.3 kg.)	Lens: 1 lb. 9 oz. (700 g.) CC-8T-II: 2 lb. 14 oz. (1.3 kg.)
Dimensions (WHD):	Lens: 60 x 70 x 102.5mm (2 ³ / ₈ " x 2 ⁷ / ₈ " x 4 ¹ / ₈ ")	Lens: 80 x 70 x 122.3mm (3 ¹ / ₄ " x 2 ⁷ / ₈ " x 6 ¹ / ₂ ")
Power Requirements	AC-100/117/220/240V, 50/60 Hz (CC-8T-II)	AC-100/117/220/240V, 50/60 Hz (CC-8T-II)
Notes	By Canon	By Canon

**Auto-iris control by the E-E amps, which are installed in the lenses, makes the J6 x 11REA-IA-II and J10 x 10REA-IA-II particularly suitable for multi-camera operation by a single remote control box.

LENSES W/O REMOTE CONTROL BOX

J6 x 11R-II-A	Lenses with "-A" added are not equipped with CC-7T-II or CC-8T-II remote control boxes and have been made available for use with the PTH-10S system.
J6 x 11REA-II-A	
J6 x 11REA-IA-II-A	
J10 x 10R-II-A	
J10 x 10REA-II-A	
J10 x 10REA-IA-II-A	
PH6 x 8REA-IA-II-A	
PH10 x 8REA-IA-II-A	

VID-P10

Video Presentation Stand

■ Documents, pictures, books, and three dimensional objects can be shown on TV monitors and projection screens ■ Built-in microphone amplifier with an audio output ■ Can be folded and carried like a briefcase ■ Built-in one chip CCD color video camera with six times zoom lens

Supplied Accessories:

Soft Cover
Lamp (2)
AC Cable
Operation Manual
Operating Seal

Specifications

Pick-Up Device: Interline Transfer CCD (Single Chip)
Picture Element: 510(H) x 492(V)
Horizontal Resolution: 320 TV lines
Video Output: 75 Ω , 1Vp-p unbalanced
BNC connector (x 1)
PHONO jack (x 1)
Audio Input: 68 Ω , -5 dB unbalanced
PHONE jack (x 1)
Audio Output: 68 Ω , -5 dB unbalanced
PHONO jack (x 1)
Lighting: 25W lamp (x 2)
Projectable object size to fill screen
ZOOM MAX.: 58 x 43mm (2 $\frac{3}{8}$ " x 1 $\frac{3}{4}$ ")
ZOOM MIN.: 340 x 250mm (13 $\frac{1}{2}$ " x 9 $\frac{7}{8}$ ")
Power Consumption: 60W
Power Requirements: AC-120V, 60 Hz
Weight: 20 lb. 5 oz. (9.2 kg.) (approx.)



AVC-D7

Single Chip CCD Monochrome Video Camera

- High resolution $\frac{2}{3}$ " IT HAD sensor offers high quality picture
- High horizontal resolution of 570 TV lines with high signal-to-noise ratio of 50 dB
- High sensitivity in a minimum illumination of 3 lux with f1.4 lens
- Variable speed electronic shutter is provided
- C-mount lens adaptor
- External genlock capability of VBS, VS, Sync or HD/VD
- Built-in f1.4 camera ID generator is provided
- Together with the CMA-D7 or YS-W230 AC adaptor, video and sync signals, and DC power can be transmitted up to 500 meters away through a single 7C-2V coaxial cable or 300 meters away through a single 5C-2V coaxial cable respectively
- All aluminum diecast body

Supplied Accessories:

Lens Mount Cap
Operating Instruction Manual

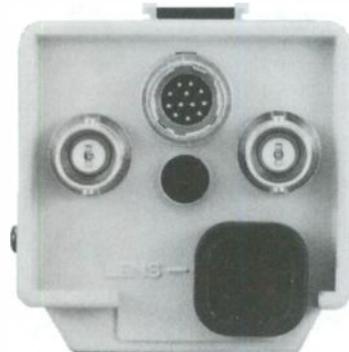
Optional Accessories:

CMA-D7 AC Adaptor
YS-W230 Camera Adaptor
Coaxial Cable (BNC)
12-pin Multi-core Cable
CCMC-12P02/05/10/25
VCL-16Y Auto Iris Lens (16mm, f1.4)
VCL-08Y Auto Iris Lens (8mm, f1.4)
VCL-1106YM Manual Zoom Lens
(11.5mm to 69mm, f1.4)

Specifications

Pick-up Device: $\frac{2}{3}$ " Interline Transfer CCD
Picture Elements (HV): 768 x 493
Sensing Area: 8.8 x 6.6mm (equivalent to $\frac{2}{3}$ " camera tube)
Scanning System: 525 lines, 60 field/s, 2:1 interlace
Sync System: Internal or external with the VBS, VS, Sync, or HD/VD
Horizontal Frequency: 15.734 kHz
Vertical Frequency: 59.94 Hz
Horizontal Resolution: 570 TV lines
Lens Mount: C-mount
Sensitivity: 400 lux with f4 (gamma ON, 0 dB)
Minimum Illumination: 3 lux with f1.4 (AGC ON)
Automatic Gain Control: ON/OFF selectable
Gamma Correction: ON/OFF selectable
Electronic Shutter: OFF, $\frac{1}{60}$, $\frac{1}{125}$, $\frac{1}{250}$, $\frac{1}{500}$, $\frac{1}{1000}$, $\frac{1}{2000}$, $\frac{1}{4000}$, $\frac{1}{10,000}$ (SEC.)
Video Output: 1.0Vp-p, sync negative, 75 Ω , unbalanced
S/N Ratio: 50 dB
Operating Temperature: 0°C to 40°C (32°F to 104°F)
Power Requirements: DC-12V from CMA-D7
DC-28V from CMA-D7/YS-W230
Power Consumption: 6.5W using coaxial cable, 3.3W using CCMC-12P multi-core cable
Maximum Cable Length: 500m (using 7C-2V coaxial cable)*
GENLOCK Capability: H phase control
Dimensions (WHD): 50 x 55 x 126mm
2" x 2 $\frac{1}{4}$ " x 5"
Weight: 11.6 oz. (330 g.) (approx.) without lens
Connectors: BNC: DC IN/VIDEO OUT, GENLOCK IN
12-pin: DC IN
4-pin: LENS (for iris control)

*When using the YS-W230, the maximum cable length is 300mm with the 5C-2V coaxial cable.



Lens Accessories



LO-23

Flexible Cable Unit

- Servo zooming and manual focusing

Specifications

Cable Length: 1m (3.3 ft.)
Weight: 2 lb. 10 oz. (1.2 kg.)



LO-26

Flexible Cable Unit

- Servo zooming and manual focusing

Specifications

Cable Length: 1m (3.3 ft.)
Weight: 2 lb. 7 oz. (1.1 kg.)



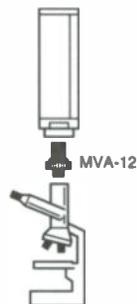
LO-27

Flexible Cable Unit

- Servo zooming and manual focusing

Specifications

Cable Length: 1m (3.3 ft.)
Weight: 2 lb. 7 oz. (1.1 kg.)



MVA-12

Video Camera Microscope Adaptor

- For 1" or 2/3" color or monochrome video camera with C-mount

Specifications

Video Camera Mount: C-mount
Application Microscope: Biological or metallurgical microscope with straight tube
Dimensions: 48(dia.) x 98(L)mm
(1 15/16" x 3 7/8")
Weight: 4.2 oz. (120 g.)



MVA-20

Microscope Adaptor with Auto Iris

- For 2/3" video camera with bayonet mount

Specifications

Video Camera Mount: Bayonet
Applicable Microscope: Biological or metallurgical microscope
Dimensions: 74(dia.) x 116(W) x 104mm(L)
(3" x 4 5/8" x 4 1/8")
Weight: 1 lb. 5 oz. (600 g.)

MVA-33

Microscope Adaptor

- For $\frac{2}{3}$ " video camera with bayonet mount

Specifications

Video Camera Mount: Bayonet
 Applicable Microscope: Biological or metallurgical microscope
 Dimensions: 55(dia.) x 100mm(L)
 (2 $\frac{1}{4}$ " x 4")
 Weight: 9 oz. (250 g.)



MVA-102

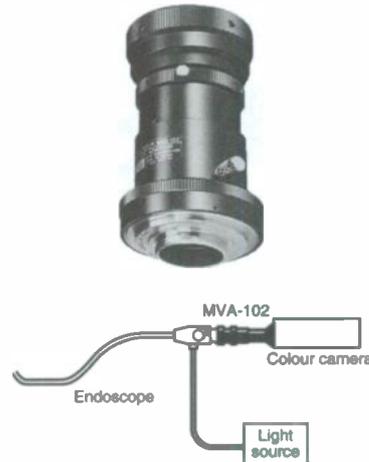
Endoscope Adaptor

- For $\frac{2}{3}$ " video cameras with C-mount
- Attaches cameras with endoscopes or rigid endoscopes
- MVA-102 for OLYMPUS and MVA-102M for MACHIDA ENDOSCOPE

Note: Optional "mount head OES" is necessary to connect the Olympus OES series endoscope with the MVA-102

Specifications

Video Camera Mount: C-mount
 Endoscope Mount: Olympus SC-mount (MVA-102)
 Machida mount (MVA-102M)
 Focal Length: 25mm-50mm (2X zoom)
 Effective Picture: 11mm (dia.) max.
 Incident Bundle of Rays: 8mm (dia.) max.
 Diopter Adjustment: 0 to -1.5D
 Dimensions: 51 (dia.) x 95mm(L)
 (2 $\frac{1}{8}$ " x 3 $\frac{3}{4}$ ")
 Weight: 9 oz. (250 g.)



MVA-302

Endoscope Adaptor

- For $\frac{2}{3}$ -inch video cameras with bayonet mount
- Attaches cameras with endoscopes or rigid endoscopes
- MVA-302 for OLYMPUS, MVA-302M or MACHIDA ENDOSCOPE and MVA-302F for FUJINON OPTICAL

Specifications

Video Camera Mount: Bayonet mount
 Endoscope Mount: Olympus SC-mount (MVA-302)
 Machida mount (MVA-302M)
 Fujinon mount (MVA-302F)
 Focal Length: 22 x 52mm (2.4X zoom)
 Effective Picture: 11mm (dia.) max.
 Incident Bundle of Rays: 10mm (dia.) max.
 Dimensions (WHD): 51 (dia.) x 78mm (MVA-302)
 (2 $\frac{1}{8}$ " x 3")
 Weight: 7 oz. (200 g.) (MVA-302)

Note: Optional "mount head OES" is necessary to connect the Olympus OES series endoscope with the MVA-302





MVA-365

Operation Microscope Adaptor (One Way)

- For $\frac{2}{3}$ " video camera with bayonet mount
- For Carl Zeiss OPMI series

Specifications

Video Camera Mount:	Bayonet
Applicable Microscope:	Operation microscope
Dimensions (WHD):	80 x 154 x 86mm ($3\frac{1}{4}$ " x $6\frac{1}{8}$ " x $3\frac{1}{2}$ ")
Weight:	1 lb. 7 oz. (650 g.)



MVA-385

Operation Microscope Adaptor (Two Way)

- For $\frac{2}{3}$ " video camera with bayonet mount
- For Carl Zeiss OPMI series
- Zoom and focus functions can be remotely controlled by the optional RM-385 Remote Controller

Specifications

Video Camera Mount:	Bayonet
Applicable Microscope:	Operation microscope
Dimensions (WHD):	90 x 95 x 245mm ($3\frac{5}{8}$ " x $3\frac{3}{4}$ " x $9\frac{3}{4}$ ")
Weight:	3 lb. 5 oz. (1.5 kg.)



MVAC-33 Series

Coupler

- MVAC-33/N: For NIKON X/Y series microscope
- MVAC-33/O: For OLYMPUS BH-2/AH series microscope
- Used with the MVA-12/20/33

Specifications

Dimensions:	MVAC-33/N: 49(dia.) x 44mm(L) ($1\frac{15}{16}$ " x $1\frac{3}{4}$ ")
	MVAC-33/O: 55(dia.) x 48mm(L) ($2\frac{1}{4}$ " x $1\frac{15}{16}$ ")
Weight:	MVAC-33/N: 1.8 oz. (50 g.)
	MVAC-33/O: 3.6 oz. (100 g.)



RM-385

Remote Controller for the MVA-385

- Controls the zoom and focus function of the MVA-385 Microscope adaptor

Specifications

Dimensions (WHD):	170 x 45 x 130mm ($3\frac{3}{4}$ " x $1\frac{13}{16}$ " x $5\frac{1}{8}$ ")
Weight:	2 lb. (900 g.)

AC-500/500CE

AC Adaptor

- Supplies DC power to Sony BVP-series equipment
- Genlock functions by means of a VBS signal

Supplied Accessories:

AC Power Cord
DC Cord 2m with XLR-plugs

Specifications

Power Requirements: AC-100V/120V/220V/240V selectable,
50/60Hz
Power Consumption: 120W max.
Input/Output Terminals: CAMERA connector (14-pin)
VIDEO OUT connector (BNC type) 1Vp-p, 75Ω
MIC OUT connector (equivalent to XLR-3-31)
Reference output: -60 dBm
600Ω, balanced
DC OUT connector (equivalent to XLR-4-31)
12.3V, 7A
EXT VBS Input connector (BNC type)
VBS (1Vp-p) or BS, 75Ω
Weight: 9 lb. 8 oz. (4.3 kg.)
Dimensions (WHD): 217 x 91 x 327mm
(8⁵/₈" x 3⁵/₈" x 12⁷/₈")

BC-1WB

Battery Charger for NP-1B

- The BC-1WB is a battery charger for the NP-1B battery pack
- Up to four NP-1B batteries can be charged sequentially

Specifications

Power Requirements: AC-100V-120V ± 10%, 50/60Hz
Power Consumption: 60W
Charging Time: 90 min. (Max. 120 min.) (approx.)
Rechargeable Battery: NP-1B
Weight: 2 lb. 4 oz. (1.3 kg.)
Dimensions (WHD): 107.5 x 81 x 315mm
(4¹/₄" x 3¹/₄" x 12³/₈")

BC-410/410CE

Battery Charger for BP-90A/NP-1B

- Battery charger for BP-90A and NP-1B
- Up to four BP-90As and four NP-1Bs can be charged
- Battery refreshing function
- Trickle charge to avoid self-discharge

Supplied Accessories:

AC Power Cord
Operation and Maintenance Manual

Specifications

Power Requirements: AC-100V/120V/220V/240V selectable,
50/60 Hz
Power Consumption: 75W
Charging Time: BP-90A: 160 min. (Max. 240 min.)
NP-1B: 90 min. (Max. 120 min.)
Weight: 8 lb. 13 oz. (4 kg.)
Dimensions (WHD): 212 x 85 x 325mm
(4¹/₂" x 3³/₈" x 12⁷/₈")

BP-90A

Rechargeable Battery Pack

Specifications

Type of Battery: NiCd rechargeable
Voltage: DC-12V
Current Capacity: 5Ahr
Dimensions (WHD): 123 x 171 x 37mm
(4⁷/₈" x 6³/₄" x 1¹/₂")
Weight: 31 lb. 8 oz. (1.6 kg.)

CCZ-2/10

Connecting Cable (2m/10m) (26-pin-26-pin) for BVW-400

CCRZ-5

Connecting Cable (20-pin-26-pin) for BVW-300A/400 Series

CCT-K50/100/150/300

Triax Cable for CCU-355/370

Specifications

Cable Length: CCT-K50/50: 50m (164')
CCT-K100/100: 100m (328')
CCT-K150/150: 150m (492')
CCT-K300/300: 300m (984')

BVP-370/270—CCU-370
BVP-70IS/7A/7000HS with CA-57—CCU-370
BVP-70IS/T7A/T70/T7A/7000HS with CA-55—CCU-355



CMA-D1

AC Adaptor for DXC-151/AVC-D5

- Supplies power to two AVC-D5 simultaneously
- Supplies power to one DXC-151
- Maximum cable length: 100m (with CCDC-100A cable)

Supplied Accessories:

AC Power Cord

Specifications

Connectors: DC OUT x 2
DC OUT: 12V, 1A (2 outputs)
Power Requirements: AC-120V, 50/60 Hz
Power Consumption: 25W
Dimensions (WHD): 187 x 76 x 158mm
(6⁵/₈" x 3" x 6¹/₄")
Weight: 14 lb. 13 oz. (2.2 kg.)

CMA-D7

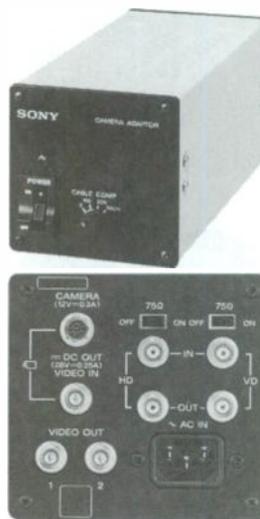
AC Adaptor for AVC-D7/DXC-107

- Power supply and video/sync signal transmission by connecting to AVC-D7/DXC-107 with a single coaxial cable
- Extends the cable length up to 300 meters by using 5C-2V coaxial cable

Supplied Accessories:
AC Power Cord

Specifications

- Connectors: CAMERA: 12-pin
DC OUT/VIDEO IN: BNC
HD IN/OUT:
BNC, loop-through, 75Ω ON/OFF
VD (GENLOCK) IN/OUT:
BNC, loop-through, 75Ω ON/OFF AC IN
- DC OUT: 28V, Max. 0.25A (BNC)/12V, Max. 0.3A (12-pin)
- Power Requirement: AC-120V, 50/60 Hz
- Power Consumption: 30W
- Dimensions (WHD): 105 x 104.5 x 254.7mm
(4¹/₄" x 4¹/₄" x 10¹/₈")
- Weight: 5 lb. 15 oz. (2.7 kg.)



DC-210

Battery Case for BP-90A

- Battery case for one BP-90A battery pack
- Supplies DC-12V to Sony video equipment

Supplied Accessories:
Power Cord (1.2m)
Belt

Specifications

- Dimensions (WHD): 145 x 180 x 85mm
(5³/₄" x 7¹/₈" x 3³/₈")
- Weight: 1 lb. 2 oz. (500 g.)

DC-300

Battery Case for BP-90A

- BP-90 battery case (one BP-90A) for BVP-350A series camera and CA-3A/CA-50/CA-55/CA-57 equipped cameras

Specifications

- Dimensions (WHD): 163 x 185 x 47mm
(6¹/₂" x 7³/₈" x 1⁷/₈")
- Weight: 1 lb. 3 oz. (540 g.)



DC-310

Battery Case for Two NP-1Bs

■ Battery case for BVP series 3-tube cameras and CA-3A/CA-50/CA-55/CA-57 equipped cameras ■ Up to two NP-1B batteries can be held

Supplied Accessories:

Holder (1)
Screws (1 set)

Specifications

Dimensions (WHD): 86 x 203 x 77mm
(3 1/2" x 8" x 3 1/8")
Weight: 1 lb. 6 oz. (630 g.)

DC-500

Battery Case for BP-90A

■ Battery case for one BP-90A battery ■ Specially designed for the BVV-5/BVW-300A/400 ■ Supplies DC-12V

Supplied Accessories:

Screw (M3 x 5)

Specifications

Dimensions (WHD): 147 x 207 x 62mm
(5 7/8" x 8 1/4" x 2 1/2")
Weight: 14 oz. (400 g.)

NP-1B

Rechargeable Battery Pack

Specifications

Type of Battery: NiCd rechargeable
Voltage: DC-12V
Current Capacity: 2.3 Ahr
Dimensions (WHD): 72 x 25 x 185mm
(2 7/8" x 1" x 7 3/8")
Weight: 1 lb. 5 oz. (600 g.)

R460S/R380S

Cable Reel for Video and Audio Cables

Reel Capacity

Cable	CCQ-cable	CCX-cable	CCW-cable	L-4E8S (Audio Cable)
R460S	150m (492')	110m (361')	100m (328')	500m (1640')
R380S	80m (262')	60m (197')	50m (164')	300m (984')

Specifications

Dimensions (WHD): R460S: 480 x 580 x 340mm
(19" x 22 7/8" x 13 1/2")
R380S: 420 x 500 x 290mm
(16 5/8" x 19 3/4" x 11 1/2")
Weight: R460S: 21 lb. 13 oz. (9.9 kg.)
R380S: 17 lb. 10 oz. (8 kg.)

RCC-5G/10G/30G

9-pin Remote Control Cable (5m/10m/30m)

RCC-B5G/B10G/B30G

BVR-3 Connecting Cable (5m/10m/30m)

VK-110A/115A/120A

Connecting Cable (4-pin/4-pin)

- 4-pin (male) ↔ 4-pin (male)
- SSC-520AM ↔ SSM-621AM

Specifications

Cable Length: VK-110A: 10m (33')
VK-115A: 15m (49.2')
VK-120A: 20m (65.6')

VK-310A/318A/320A

Connecting Cable (4-pin/4-pin)

- 4-pin (male) ↔ 4-pin (male)
- SSC-520AM ↔ SSM-621AM (water-resistant)

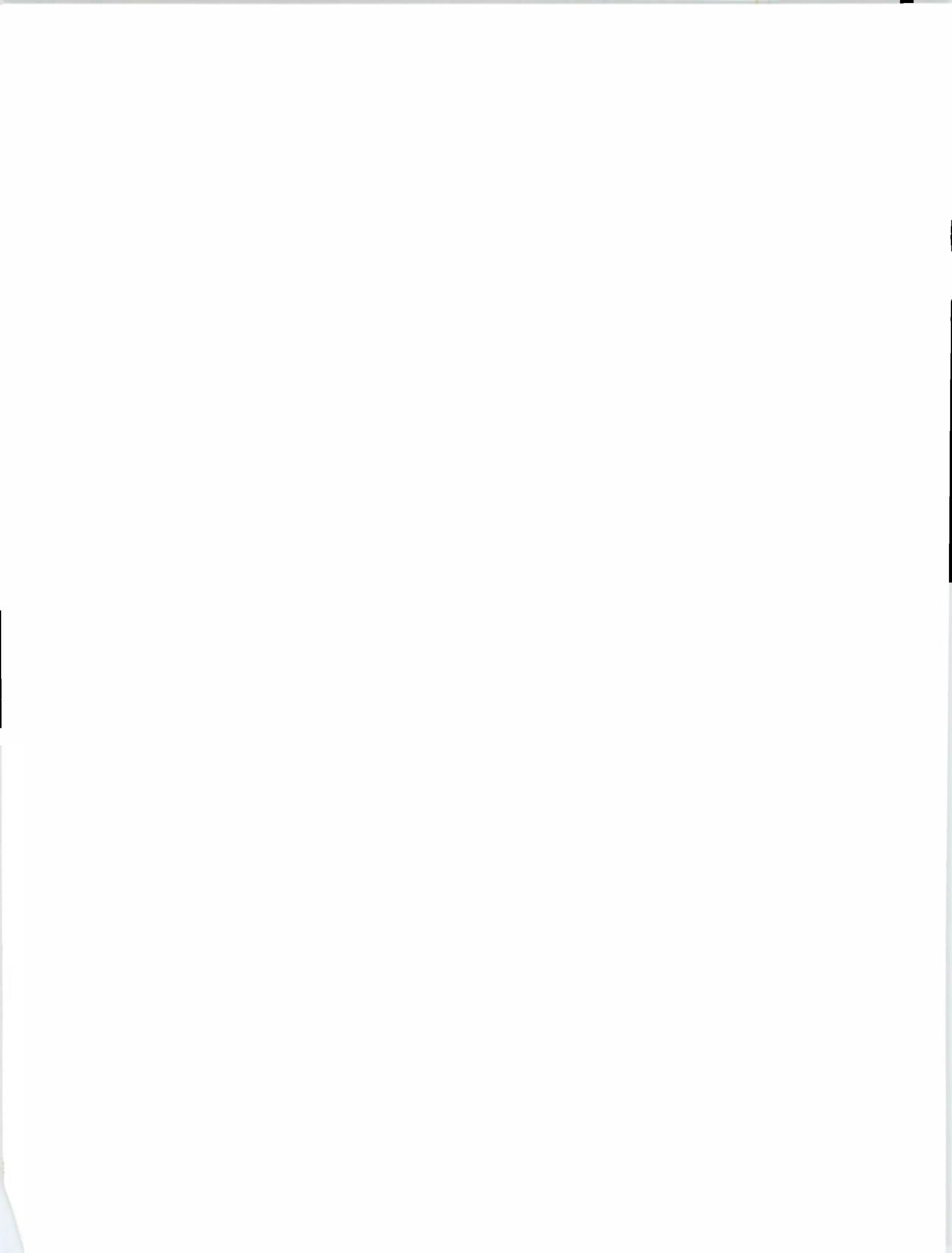
Specifications

Cable Length: VK-310A: 10m (33')
VK-318A: 18m (59')
VK-320A: 20m (65.6')

VK-305

Connecting Cable (4-pin/4-pin)

- 4-pin (male) ↔ 4-pin (female), 5m (16.4 ft.) ■ Water-resistant extension cable for SSC-520AM/SSM-621AM



Data Storage

Data Storage

DIR-1000 Series	B-2
DMS-24/16	B-4
DMS-700M/300M.....	B-5
PC-204/208.....	B-6
PC-116	B-7
PC-108M	B-8
PC-IF21.....	B-10
PC-IF11	B-11

B



DIR-1000L
DIR-1000M
DIR-1000

DIR-1000 Series

Digital Instrumentation Recorder

- High density, helical scan recording is used to record wide band and high data rate digital signals. Using a large size cassette, the DIR-1000 series provides up to 770 Gbits of data storage capacity
- Incorporates cassette based digital recording technology to make a significant contribution to the automation of complex operations in various types of data storage systems, and also ensure effective space saving, easier handling and storage of large quantities of data and better tape protection than that of open reel recorders
- Conforms to the standard specified in the 19mm type D-1 format, which has been widely adopted by broadcast and post production users all over the world
- Complies with the ANSI X3B.6 ID-1 standards, maintaining compatibility with other data recorders which conform to this format
- Extremely high speed recording and playback is possible with a maximum data rate of 256 Mbps
- Time companding capability: Recording and playback are possible at data rates from 256 Mbps down to 8 Mbps
- Reed-Solomon error correction is performed by the use of customised encoder and decoder chips to permit powerful error correction
- Read-after-Write facility makes it possible to monitor the error conditions of recording in real time
- Two annotation channels are provided to record auxiliary information such as oral comments, time code, etc. One of two annotation channels (Channel 1) can be used to record and play back oral comments through microphone and headphone jacks on the front panel.
- Search function via Track Set ID numbers recorded on the control track can be read at any tape speed during fast forward or re-wind
- Versatile remote control system interface via three different types of communication port: RS-422/485 (Primary port), IEEE-488 (GPIB), and RS-232C
- Built-in diagnostic system, which is designed to detect an operation error or hardware fault

Sony DIR-1000 Series Digital Instrumentation Recorders			
	DIR-1000L	DIR-1000M	DIR-1000
Recording/reproduction	Rotary helical scan		
Tape	19mm D-1 tape cassettes (Large/Medium/Small)		
Format	ID-1 format (ANSI X3.175-1990)		
Bit error rate	1 x 10 ⁻¹² with re-write and re-read		
Error correction	Read-after-write; interleaved double Reed-Solomon encode/decode		
Maximum sustained transfer rate	8 Mbytes/sec	16 Mbytes/sec	32 Mbytes/sec

D-1 19mm Tape Cassettes	
SIZE	USER DATA CAPACITY
Small 6.8" x 4.3" x 1.3"	12 Gbytes 100 Gbits
Medium 10" x 5.9" x 1.3"	41 Gbytes 330 Gbits
Large 14.4" x 8.1" x 1.3"	96 Gbytes 770 Gbits

Supplied Accessories:

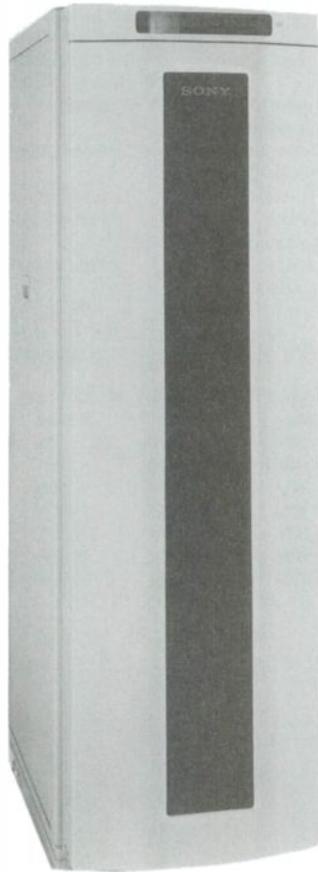
Rack Angle Assemblies (2)
AC Power Cord
Plug Holder
Operation and Installation Manual

Optional Accessories:

Cables
VCD-2D/VCD-5D/VCD-10D/VCD-30D (2/5/10/30m) Digital Video Cable for data input/output signals
ECD-3C/ECD-10C/ECD-30C (3/10/30m) Digital Audio Cable, for annotation input/output signals
EC-5XLR2/EC-10XLR2 (5/10m) analog Audio Cable for annotation input/output signals
RCC-5G/RCC-10G/RCC-30G (5/10/30m) RS-422/485 Remote Control Cable for remote interface
SMK-0032 (2m) IEEE-488 (GPIB) Interface Cable for remote interface
RMM-18DV Digital VTR Rack Mount Rail (for use with Rack angle assemblies)
D-1 19mm Type Cassette (Hi-Hc): L/M/S size tapes

Specifications

	DIR-1000	DIR-1000M	DIR-1000L		DIR-1000	DIR-1000M	DIR-1000L	
Performance				Input/Output Signals (Connector)				
Recorded Tape Format:	ANSI X3B.6 ID-1 Standard			Data Input (D25S):	8 line pairs for data (ECL, NRZ) (with clock, sync, parity)			
Cassette Tape:	19mm type D-1 Broadcast standard (Hi-Hc) Large/Medium/Small sizes			Data Output (D25S):	8 line pairs for data (ECL, NRZ) (with clock, sync, parity and error flag)			
Recording Capacity:	Max. 770 Gbits (L-cassette, 16 μm) Max. 330 Gbits (M-cassette, 16 μm) Max. 100 Gbits (S-cassette, 16 μm)			REF (reference) Input (D25S):	Clock and sync (ECL)			
User Data Rate (Mbps)	256	128	64	Annotation Input				
(Record/Playback):	128	64	32	CH-1/CH-2 (XLR 3-pin, female):	+ 4 dBm, 600Ω, balanced			
	64	32	16	Annotation Output				
	32	16	8	CH-1/CH-2 (XLR 3-pin, male):	Low Impedance, balanced			
	16			MIC IN (Standard Jack):	For Annotation CH-1			
Bit Error Rate (Corrected):	1 x 10E-10			Headphone Out				
Data Assurance:	Read-after-Write for Data and CTL (Data and Track Set ID)			(Standard Jack):	For Annotation CH-1			
Tape Loading Time:	< 14 seconds			AUX (Auxiliary) Data				
Servo Lock Time:	10 sec. from stop mode (approx.) < 2.5 sec. from standby mode			Input/Output (D15S):	RS-422 interface			
Fast Forward/ Rewind Time:	< 180 sec. with L-cassette < 90 sec. with M-cassette < 45 sec. with S-cassette			Remote 3:	IEEE-488 (GPIB) interface			
				Remote 4/5 (D9S):	RS-422/485 (Primary) interface			
General				Data Rate (Mbps)	Recording Time (H: hours, M: minutes)			Tape Speed (mm/sec.)
Power Requirements:	100V ~ 120V/220V ~ 240V ± 10%, 50/60 Hz			256	L-size 50M	M-size 20M	S-size 7M	423.8
Power Consumption:	550W	450W	400W	128	1H 40M	45M	15M	211.9
Operating Temperature:	10°C to 35°C (50°F to 95°F)			64	3H 20M	1H 30M	30M	105.9
Storage Temperature:	-20°C to +60°C (-4°F to 140°F)			32	6H 40M	3H 00M	1H 00M	53.0
Operating Humidity:	20% - 80% (non-condensing)			16	13H 30M	6H 00M	2H 00M	26.5
Storage Humidity:	10% - 90% (non-condensing)			10.7	20H 20M	9H 00M	3H 00M	17.7
Weight:	Approx. 147 lb. 11 oz. (67 kg.)	Approx. 136 lb. 11 oz. (62 kg.)	Approx. 127 lb. 14 oz. (58 kg.)	8	27H 00M	12H 00M	4H 00M	13.25
Dimensions (WHD):	436 x 432.5 x 635.5mm (17 1/4" x 17 1/8" x 25 1/8") Including handles and feet							



DMS-24/16

Digital Mass Storage System

- Maximum data storage capacity of 2.3 terabytes with 24 D-1 large cassettes
- Incorporates Sony's DIR-1000 series digital instrumentation recorder which conforms to ANSI ID-1 format
- With a one recorder system, 24 D-1 large or medium cassettes can be loaded
- With a two recorder system, 15 D-1 large or medium cassettes can be loaded
- Space efficient, high density data storage of 3.8 terabytes per square meter (360 gigabytes per square foot) with 24 large cassettes loaded in the system
- High density data recording capacity of up to 96 gigabytes on a single D-1 large cassette
- High speed data recording/playback capability at a maximum data rate of 32 megabytes/sec. with the DIR-1000

Supplied Accessories:

Operation Manual
Maintenance Manual

Optional Accessories:

Rack Mount Kit (1)
Control Interface Protocol Manual (1)

Specifications

	DMS-24	DMS-16
Data Storage Capacity:	2.3 terabytes	1.5 terabytes
Cassette Console Capacity (D-1 large or medium cassettes):	24 Cassettes	16 Cassettes
DIR Console Capacity (Sony DIR-1000 Series):	1	2
Storage Density per Square Meter:	3.5 terabytes	2.3 terabytes
per Square Foot:	320 gigabytes	215 gigabytes
Access Time*:	< 6 sec.	
Power Requirements:	AC-120V, 50/60 Hz AC-220/240V, 50/60 Hz	
Power Consumption (without DIRs):	1kVA	
Operating Temperature:	10°C to 30°C (50°F to 86°F)	
Storage Temperature:	-20°C to 60°C (-4°F to 140°F)	
Operating Humidity:	25% - 80% (non-condensing)	
Storage Humidity:	10% - 90% (non-condensing)	
Weight (without DIRs and Cassettes):	440 lb. 15 oz. (200 kg.)	
Dimensions (WHD):	600 x 1980 x 1100mm 23 ⁵ / ₈ " x 78" x 43 ³ / ₈ "	

*Access Time: From when a request is received until a cassette reaches to a cassette compartment of a DIR.

DMS-700M/300M

Digital Mass Storage System

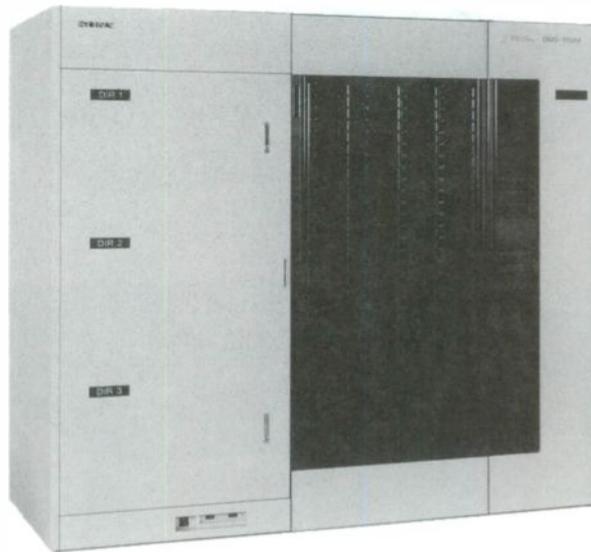
- Mass data storage capacity of 27 terabytes or 13 terabytes with a 672 or 320 medium cassette console, respectively
- System can be configured with up to three Sony DIR-1000 Series recorders conforming to the ANSI ID-1 format
- Space efficient, high density data storage of 8.6 terabytes or 6.2 terabytes per square meter (800 gigabytes or 570 gigabytes per square foot) with each 672 or 320 medium cassette console, respectively
- High density data recording capacity of up to 41 gigabytes on a single D-1 medium cassette
- High speed data recording/playback capability at a maximum data rate of 32 megabytes/sec. with the DIR-1000

Supplied Accessories:

Operation Manual (1)
Maintenance Manual (1)
Extension Board (1)

Optional Accessories:

Control Interface Protocol Manual (1)



B

Specifications

	DMS-700M	DMS-300M
Data Storage Capacity:	30 terabytes	13 terabytes
Cassette Console Capacity (D-1 medium cassette):	736 cassettes	320 cassettes
DIR Console Capacity (Sony DIR-1000 Series):	3	3
Storage Density per Square Meter:	8.9 terabytes	6.1 terabytes
per Square Foot:	830 gigabytes	570 gigabytes
Access Time:	< 6 sec.	< 6 sec.
Power Requirements:	AC-120V, 50/60 Hz AC-220V/240V, 50/60 Hz	
Power Consumption (without DIRs):	2 kVA	
Operating Temperature:	10°C to 30°C (50°F to 86°F)	
Storage Temperature:	-20°C to 60°C (-4°F to 140°F)	
Operating Humidity:	25% - 80% (non-condensing)	
Storage Humidity:	10% - 90% (non-condensing)	
Weight (without DIRs and cassettes):	2755 lb. 12 oz. (1250 kg.)	1873 lb. 15 oz. (850 kg.)
Dimensions (WHD):	3425 x 2050 x 930mm (142" x 80 ³ / ₄ " x 36 ⁵ / ₈ ")	2330 x 2050 x 930mm (89 ⁷ / ₈ " x 80 ³ / ₄ " x 36 ⁵ / ₈ ")



PC-204



PC-208

Specifications

Tape Transport

Tape Used: DG60MA, DG90MA
DT-46, DT-60, DT-120

Tape Width: 3.81mm

Tape Speed: 8.15 mm/sec. (normal speed), 16.30 mm/sec. (double speed)

Record/Playback

Time (in min.): DT-46: Normal Speed 46, Double Speed 23; DT-60: Normal Speed 60, Double Speed 30; DT-90: Normal Speed 90, Double Speed 45; DT-120: Normal Speed 120, Double Speed 60; DG-60MA: Normal Speed 120, Double Speed 60; DG-90MA: Normal Speed 180, Double Speed 90

Channel: 4 (PC-204), 8 (PC-208)

Sampling Frequency: PC-204: 24 kHz (normal speed), 48 kHz (double speed)
PC-208: 12 kHz (normal speed), 24 kHz (double speed) (64-times oversampling in both record and playback)

Quantization: 16-bit, linear

Head Configuration: 2 heads for recording, 2 heads for playback

Subcode Channel: ID, time, address, announce, input range setting

Frequency Response: PC-204: DC to 10 kHz, 0.5 dB to -1.0 dB @ 200 Hz (normal speed), DC to 20 kHz, 0.5 dB to -1.0 dB @ 200 Hz (double speed)
PC-208: DC to 5 kHz, 0.5 dB to -1.0 dB @ 200 Hz (normal speed), DC to 10 kHz, 0.5 dB to 1 - 1.0 dB @ 200 Hz (double speed)

Dynamic Range: > 80 dB (within the bandwidth)

S/N Ratio: > 78 dB (within the bandwidth)

Interchannel Phase

Difference Error: < 1°

Cross Talk: < -80 dB

Distortion: < 0.02%

DC Linearity: < ±0.1%

Input Range: ±20V, ±10V, ±5V, ±2V, ±1V, ±0.5V

PC-204/208

Instrumentation Cassette Recorder Using DAT Technology

■ Double Bandwidth Record/Playback: The PC-204 provides four 20 kHz channels while the PC-208 offers eight 10 kHz channels ■ Double Speed Time Compression/Expansion ■ Portability: second generation DAT tape transport mechanisms and considerable LSI technology has enabled the manufacture compact, lightweight recorders suitable for a wide range of applications ■ Multiple AC/DC Power Source ■ 200 times normal speed, high speed search enables quick access to any desired data location ■ 3 Hour recording with DDS tape ■ Automatic zero adjustment and gain calibration ■ Head scanner enables real time read-after-write monitoring for the ultimate in recorded data confidence ■ Highly accurate inter-channel phase difference error ■ Dynamic range of more than 80 dB within the bandwidth is achieved utilizing 16-bit linear quantization ■ Switchable %/dB bar display ■ Optional PCRM21 remote control unit comes equipped with bar meters for all channels and a tape position indicator ■ Can also be controlled by a PC computer via RS-232C interface. An external control terminal is also provided for relay contact input

Optional Accessories:

PCRM21 Remote Control Unit

NP-1B Battery Pack

PCHL21 Guard Frame

BC-1WB 4-Cell Battery Charger

BNC Cable: PCBK11 (BNC/BNC), PCBK18 (Colored BNC/BNC, 8 pieces)

Cassette Tapes: DG90MA, DG60MA, DG-5CLA (Cleaning Tape)

PCTC21 Carrying Case (aluminum)

Input/Output

Zero Adjustment: Automatic (at power-on, E-E, recording and playback)

Output Lever Adjustment: ±1V to ±3V, continuously variable

Output Current: 10 mA max.

Input Impedance: 100 kΩ, unbalanced

Output Impedance: 50Ω

Drift: < ±0.1% in record and playback (in the 15 min.-20 min. period after power-on)

Function

High Speed Search: Max. 200 times normal speed

High Speed

Search Targets: Mark, 1, Mark 2, ID, Start ID

Manual Search: Tape runs at 16 times normal speed

Remote Control: Optional PCRM21

External Control: External relay contact input

Test Signal: ±100% AC (500 Hz @ (normal speed), 1 kHz @ (double speed), 100% DC, -100% DC, 0V

Centralized Display: High-contrast, wide view LCD (with backlight)

Bar Meter: Simultaneous all channel display, voltage % and dB (characteristics selectable) input range and monitored channel indicators

ID: 000-999, auto increment

Tape counter: ± hr., min., sec.

Tape Remainder

Counter: hr., min. (in recording and playback)

Address: ± hr., min., sec.

Time: Year-month-day/hr.-min.-sec. display

switchable

(6 digits)

Warning: Display: DC battery low, mechanical troubles, condensation, and error check messages

LED: Overrange input

Monitor Output: Data signal of a selected channel

Sound Monitor: Switchable between memo announce and data signal of a selected channel; built-in speaker or earphone

PC-116

Instrumentation Cassette Recorder

Using DAT Technology

- 2 to 16-channel multi-band/channel mode offers a wide range of applications
- Signal-to-noise ratio of more than 78 dB (Dynamic range: more than 80 dB)
- Interchannel phase difference error of 5° or less
- Various monitoring functions including 2 channel waveform monitor
- Direct-drive mechanism (pinch roller, capstan and reels) ensures high reliability
- Optional GP-IB interface for digital data transfer
- 16-bit digital data output
- Menu-driven operation for ease of use
- 6 distinct search modes
- Automatic attenuator setting and input/output zero adjustment
- 1-bit digital input/output using data LSB (switchable)
- Easy-to-read EL display

Specifications

Tape Transport

Tape Used: Commercially available DAT cassette tapes (DT-46R, DT-60R, DT-90R, DT-120R)
Tape width: 3.81mm, Tape speed: 8.15mm/sec.

Recording/Reproducing

Time: DT-46R: 46 min., DT-60R: 60 min., DT-90R: 90 min., DT-120R: 120 min.

Heads: Rotary Heads

Drum dia.: 30mm, Wrapping angle: 90°
Drum rotation: 2,000 rpm

Relative Speed: 3.133 m/sec.

Track Pitch: 13.59 μm

Tracking: Area-dividing ATF

Starting/Stopping Time: < 3 sec./ < 1 sec.

Tape End Detection: BOT/EOT transparent leader sections are detected by photo sensors

Recording/Reproducing

Direction: Forward direction only

Servo: Capstan: ATF control (in FWD) and phase control (in REC-FWD)

Drum: Phase control, speed control

Reel: Tension-constant control (except search and FF)

Fast Forward/

Rewind Time: < 1 min. (with DT-120)

Recording/Reproducing System

Recording/Reproducing

System: NRZ digital saturation recording

Sampling Frequency: 48 kHz (2 channels, 20 kHz bandwidth)

Recording Block: 1/2 decimation digital filters

Reproducing Block: 2-times oversampling digital filters

Quantization System: 16-bit

Modulation System: 8-10 modulation

Error Correction System: 2-track finished interleave, Double Reed-Solomon

Transmission Rate: 1.536 Mbit/sec. (data only)

Postrecording System: Non-erase, overwrite system

Subcodes: PCM Area: Format partition, subformat partition, sampling frequency, B/C mode, recording tape speed
Subcode Area: ID, time code, address, voice memo, memo, start ID, data ID, format ID, event marker, attenuator code, coupling code



B

Recording/Reproducing System (continued)

Signal-to-Noise Ratio: > 7 dB, Dynamic Range: > 80 dB

Crosstalk: < -80 dB

Distortion: Within 0.1%

DC Linearity: < ±0.1%

Inter-channel Phase

Difference Error: < 5° between channels of the same bands

Drift: Within ±0.1% (from 15 minutes after power-on)

Analog Input:

Input Level: ±20Vp, ±10Vp, ±5Vp, ±2Vp, ±1Vp; auto/manual selectable

Coupling: AC/DC selectable, cut-off frequency 3 Hz

Input Impedance: > 100 kΩ, unbalanced

Analog Output:

Auto zero point adjustment: Output Level: ±1Vp-±5Vp, in 0.1V steps

Output Current: 10 mA max.

Load Impedance: > 600Ω

Digital Output:

Data 16 bits + Address 4 bits + Data block 1 bit + Trigger 1 bit + Error flag 1 bit + Muting 1 bit

Functions:

Monitor: EL display, waveform display, bar meters for all channels, digital voltmeter
High-Speed Search: Max. 200 times the normal speed (counter, address, time code, ID, event marker, start ID, manual search and blank search)

GP-IB Interface: Remote control, digital data transfer (2 MB buffer), frame trigger/event marker trigger



PC-108M

Digital Audio Tape (DAT) Instrumentation Cassette Recorder

- Easy-to-read high-contrast LCD for the display, information including the signal levels of each channel are accurately displayed. The contrast of the LCD can be adjusted for optimum monitoring. In addition, a backlight is provided for monitoring in the dark
- Signal-to-Noise ratio of more than 78 dB: Enhanced dynamic range
- Marked decline in inter-channel phase difference error
- "Double Reed-Solomon" error correction system
- High anti-vibration and heavy-duty characteristics
- Large capacity subcode area permits various supplementary information to be recorded and reproduced simultaneously with data for easy data retrieval and rearrangement
- High-speed search of maximum 200 times normal speed enables quick access to any desired data
- Compact design
- Easy operation
- Palm-size cassette tape of large capacity (Commercially available DAT cassette tape can be used)
- Multiple B/C (band/channel) modes to extend the use of this unit
- Digital output permits easy system upgrading
- GP-IB control which permits various control functions of the unit from a personal computer, EXT control which permits tape transport control by control signals through make-contacts, and remote control using an optional remote control unit are possible
- Memory buffer expandable to 8-Mbytes: 2-Mbyte standard configuration, expandable in 2-Mbyte increments
- Channel Selectable: User can select which channels of data are loaded in the buffer, allowing more efficient use of memory
- Selectable Storage Rate: user can store selected data samples rather than all samples, reducing memory required for a given record length
- Pre-Trigger Memory: data prior to trigger point can be stored in the buffer
- Programmable Loading Conditions: Channels to be stored, storage rate and block length for a series of data blocks can be preset. This enables intermittent loading and quick switching of loading conditions
- Various Trigger Functions: 1. GET (Group Execute Trigger): Trigger via GP-IB from host computer 2. Internal trigger (address, event marker): Trigger by address or event marker. Using address trigger, timing is accurate to $\frac{1}{32}$ of a second. 3. External Trigger: BNC connection for external trigger. Trigger input level selectable from TTL, 0.5V, 1.0V and 2.0V

Optional Accessories:

- RM-108 Remote Control Unit
- HL-108 Carrying Handle (A, B)
- DK-108 Digital Dubbing Cable
- RT-108 Rack Mount Adaptor
- Data Recorder Interface

Specifications

Tape Transport

Tape Used: Commercially available DAT cassette tapes (DT-46, DT-60, DT-90, DT-120)
Tape width: 3.81mm, **Tape speed:** 8.15 mm/sec.

Recording/Reproducing

Time: DT-46: 46 min., DT-60: 60 min., DT-90: 90min., DT-120: 120 min.

Heads: Rotary Heads
Drum dia.: 30mm,
Wrapping angle: 90°
Drum rotation: 2,000 rpm

Relative Speed: 3.133 m/sec.

Track Pitch: 13.59 μ m

Tracking: Area-dividing ATF

Starting/Stopping Time: < 3 sec./< 1 sec.

Tape End Detection: BOT/EOT transparent leader sections are detected by photo sensors

Recording/Reproducing

Direction: Forward Direction Only
Servo: Capstan: ATF control (in FWD) and phase control (in REC*FWD)
Drum: Phase control, speed control
Reel: Tension-constant control (except search and FF)

Fast Forward/

Rewind Time: < 1 min. (with DT-120)

Recording/Reproducing System

Recording/Reproducing

System: NRZ digital saturation recording

Sampling Frequency: 48 kHz (in 2-channel mode)

Recording Block: 1/2 decimation of digital filters

Reproducing Block: 2-times oversampling digital filters

Quantization System: 16-bit linear quantization

Modulation System: 8-10 modulation

Error Correction System: 1-track finished interleave, Double Reed-Solomon

Transmission Rate: 1.536 Mbit/sec. (data only)

Head Configuration: 2 heads for both recording and reproducing uses

Postrecording System:

Subcodes: PCM area: Format partition, subformat partition, sampling frequency, B/C mode, recording tape speed
Subcode area: ID, time code, address, voice memo, memo (12 characters), start ID, data ID, format ID, event marker, attenuator code, coupling code

Signal-to-Noise Ratio: > 76 dB

Crosstalk: < -70 dB (0 dB = ± 1 Vp)

Distortion: < 0.05%

DC Linearity: < $\pm 0.1\%$

Inter-Channel Phase

Difference Error: < 6° between channels of the same bands
Drift: < $\pm 0.1\%$ each in recording and reproducing blocks (for 2 hours from 15 minutes after power-on)

Analog Input: Input Level: ± 20 Vp, ± 10 Vp, ± 5 Vp, ± 2 Vp, ± 1 Vp
Coupling: AC/DC selector, cut-off frequency 3 Hz
Input Impedance: > 100 k Ω

Analog Output: Output zero point adjustment: Approx. $\pm 2\%$
Output Level: ± 1 Vp to ± 5 Vp continuously variable
Output Current: 10 mA max.
Load Impedance: > 600 Ω

Digital Output: Data 16 bits + Address 3 bits + Data clock 1 bit + Trigger 1 bit + Error flag 1 bit + Muting 1 bit

Digital Dubbing: Dubbing in the internal signal format by connecting two units with the specified cable

Functions: High-speed search: Max. 200 times of the normal speed (For details, refer to the "Concentrated Display")

GP-IB control: (For details, refer to "System Configuration")

Remote control: (For details, refer to "Optional Accessories") and EXT control (For details, refer to "System Configuration")

Digital output, digital dubbing

Time code, address, event marker, ID, memo

Self-check: (For details, refer to the "Concentrated Display")

Monitor: Set-up, process, 4-home menu on the concentrated display, warning indications, checks with keys and indicators, voice memo recorded in the subcode area (played back through a speaker or an earphone), counter (elapsed/remaining time indication)



PC-IF21

Instrumentation Recorder Start-Up Memory Unit

- **Trigger Input:** The data recorder connected can be started by an external trigger input, an advantage in applications such as monitoring of irregular events. In addition, data signal such as irregular events can be used to trigger recording, which proves very convenient in measuring meteorological phenomena such as thunder
- **Time Shift:** The time shift function using memory prevents failure to record data at the start-up and also enables recording of the data that precedes the trigger
- **Memory Expansion:** Expansion by 10 sec. is possible with each set (2 pcs) of Expansion Memory PCEB14 added, enabling time shift of up to 40 sec.
- **Recording Duration Setting:** The time from the start-up to stop can be selected from 6 duration of 1 min., 2 min., 3 min., 5 min., 10 min., and CONT. when CONT. is selected, the recording is continued until an external stop signal is input
- **Data Backup:** Since the data recorder connected can be started or stopped by an external signal (TRIG IN/STOP IN), the PC-IF21 can be used for data backup with an analyzer or monitor

Operations

- The analog data loaded in the recorder is digitized before it is produced from the DIGITAL DATA OUT terminal
- The digital data is delayed by the memory in the PC-IF21 (a delay of about 10 sec. is effected by a 2 Mbyte) and fed back to the digital input terminal of the recorder
- In response to the external trigger, the signal preceding it is recorded for a delay time set (less the recorder's start-up time)
- The data recorder stops after recording for a RECORDING DURATION set
- The PC-IF21 awaits the next trigger to repeat the above operation

Specifications

- Signal Input: Serial digital data from the recorder
- Signal Output: Serial digital data to the recorder
- Clock Input: Synchronizing word clock
- Trigger Input: External trigger causes the recorder to initiate recording
[Level]: + 0.5V / + 1.0V / + 2.0V (rise) and TTL (rise)
- Stop Input: External stop signal causes the recorder to stop after the set delay
[Level]: TTL
- EXT Control: Controls the tape transport
- Time Shift: 0 sec./5 sec./10 sec./20 sec./30 sec./40 sec.
Up to 10 sec. as standard. Extension possible in 10 sec. steps with every PCEB14 expansion memory additionally used
- Recording Duration: Selectable from 6 durations: 1 min., 2 min., 3 min., 5 min., 10 min. and CONT. When CONT. is selected, the recording is continued until an external stop signal is input
- Power Supply: 100V AC to 240V AC, 50/60 Hz
12V DC $\pm 10\%$ (inversed-polarity connection prevented)
- Dimensions (WHD): 430 x 49.5 x 275mm
Mass: Approx. 3 kg.

PC-IF11

Data Recorder Interface

- Memory buffer expandable to 8-Mbytes: 2-Mbyte standard configuration, expandable in 2-MByte increments
- Channel Selectable: User can select which channels of data are loaded in the buffer, allowing more efficient use of memory
- Selectable Storage Rate: User can store selected data samples rather than all samples, reducing memory required for a given record length
- Pre-Trigger Memory: Data prior to trigger point can be stored in the buffer
- Programmable Loading Conditions: Channels to be stored, storage rate and block length for a series of data blocks can be preset. This enables intermittent loading and quick switching of loading conditions
- Various Trigger Functions:
 1. GET (Group Execute Trigger): Trigger via GP-IB from host computer
 2. Internal trigger (address, event marker): Trigger by address or event marker. Using address trigger, timing is accurate to $\frac{1}{32}$ of a second.
 3. External Trigger: BNC connection for external trigger. Trigger input level selectable from TTL, 0.5V, 1.0V and 2.0V.

Supplied Accessories:

AC Cord (1)
 AC Spare Fuse (1)
 Digital Cable (1)
 Operation Manual (1)

Optional Accessories:

PCEB14 (2-Mbytes Expansion Memory)

Specifications

Input:	Digital Data from PC-108M/PC116
Output:	GP-IB (IEEE-488) SH1, AH1, T6, TE0, L4, LE0, SR1, RL2, PP0, DC1, DT1, C0
Trigger Input:	TTL, +0.5V, +1.0V, +2.0V
Memory Capacity:	2-Mbytes (1M words) Expandable up to 8-Mbytes (4M words) (Optional)
Power Requirement:	90V–250V AC, 50/60 Hz Power Consumption: 20W max.
Dimensions (WHD):	430 x 50 x 275mm 16.9" x 20" x 10.8"
Weight:	Approx. 6.6 lbs. (3 kg.)
Operation Temperature and Humidity:	0°C to 40°C (32°F to 104°F) 20%–80% RH (No condensation)



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BVM-2811

28-inch Broadcast Color Monitor

- Large size master monitor for precise evaluation of video signals
- Employs a 16:9 aspect ratio CRT switchable between 16:9 and 4:3
- CPU Control system for enhanced monitor operation and remote control flexibility
- High resolution of approx. 750 TV lines (16:9) and approx. 1000 TV lines (4:3)
- Highly stable white balance
- Optional accessories available for alternative applications—BKM-2056 and BKM-2053 for Auto setup and with fine adjustment capability (NTSC, PAL, PAL-M, SECAM, RGB/Component)—Optional Comb Filter for NTSC (BKM-1412*) and PAL (BKM-1422)—Accepts serial component digital input with BKM-2085 or composite digital input with BKM-2090

*The BKM-1412 is supplied with the BVM-2811.

Specifications

General

System:	BVM-2811: 525 lines, 60 fields interlaced BVM-3011P: 625 lines, 50 fields interlaced
Power Requirements:	AC-100V/120V and 220V/240V ± 10%, Line frequency 48 Hz to 66 Hz
Power Consumption:	220W (typical)
Dimensions (WHD):	754 x 615 x 677mm (29 ³ / ₄ " x 24 ¹ / ₄ " x 26 ³ / ₄ ")
Weight:	202 lb. 13 oz. (92kg.)

CRT Performance

CRT Type:	Super fine pitch Trinitron with SMPTE C phosphors (BVM-2811) EBU phosphors (BVM-3011P), aspect ratio 16:9, 0.35mm phosphor trio pitch Center resolution: Approx. 750 TV lines (16:9) Approx. 1000 TV lines (4:3)
Screen Size:	Diagonal: 711.2mm (28") Width: 620mm (24 ¹ / ₂ ") Height: 349mm (13 ³ / ₄ ")
Color Temperature:	PRESET: Factory adjusted for 6500k white MANUAL control is also available, which allows alternative setting of color temperature

Raster and Picture Performance

Normal Scan:	16:9 aspect ratio, Blanked raster < + 5%, raster size has internal adjustment
Under Scan:	16:9 aspect ratio, - 3%, picture blanking boundaries displayed
Stability of Raster Size:	1% of picture height for a 0% to 100% APL change
Linearity of Center H & V Lines:	0.5% of picture height
Geometry (all over the screen):	1% of picture height

Input Performance

RGB/VIDEO/TEST:	Loop-through BNC 0.7Vp-p non-composite or 1Vp-p composite ± 6 dB positive, high impedance
Component Y:	Loop-through BNC 0.7Vp-p non-composite or 1Vp-p composite ± 6 dB positive, high impedance
R-Y/B-Y:	Loop-through BNC 0.7Vp-p non-composite ± 6 dB positive, high impedance
External Sync:	Loop-through BNC 0.3Vp-p to 8Vp-p negative, high impedance
Return loss:	≥ 46 dB, up to 7 MHz
Cross Talk:	≥ 50 dB, up to 7 MHz

RGB Performance

Frequency Response:	50 Hz to 10 MHz ± 1 dB
DC Restoration:	Back porch type, Back porch level: within 1% of peak luminance, 10% to 90% APL

PAL/NTSC Performance

Differential Gain:	Within 2%
Differential Phase:	Within 2°
Frequency Response:	Y: 50 Hz to 8 MHz ± 1 dB C: 1.3 MHz
Aperture Correction:	Adjustable continuously up to 6 dB boost at 4.5 MHz or 6.5 MHz (selectable)

BVM-1911

19 Inch Broadcast Color Monitor

- CPU Control system for enhanced monitor operations and remote control flexibility
- Aspect ratio is switchable between 4:3 and 16:9
- Auto setup (optional BKM-2056 for NTSC, PAL, PAL-M, SECAM, RGB/Component and BKM-2053) with capability of fine adjustment.
- By using optional decoder boards (plug-in type), a maximum of 3 TV standard systems can be selected
- Component (Y, R-Y, B-Y) and RGB input facilities are available
- Stabilized color temperature is obtained by employing a developed beam control unit
- A unique picture setup switch functions as an adjustment for accurate incoming video level alignment
- Up to 6 dB of aperture correction at 4.5 MHz and 6.5 MHz selectable
- H. delay/V. delay functions are provided to check the horizontal and vertical syncs simultaneously
- Built-in cross hatch and white signal generator (100 IRE) for easy monitor alignment
- Optional component (Y, R-Y, B-Y) and R, G, and B output facilities are available with the BKM-1440
- Split screen (upper half: color mode; lower half: monochrome mode) for precise picture confirmation
- VITC display facility (with optional BKM-1460)
- Safe Area Display facility (with optional BKM-1470)
- With the optional BKM-1480, the black level signal generator is available for easy and precise adjustment of black level settings of the monitors
- Blue only mode with monochrome display to evaluate noise components precisely
- Optional Comb Filter BKM-1412 for NTSC (supplied with the BVM-1911)
- Optional Comb Filter BKM-1422 for PAL
- Digital 4:2:2 input capability (with optional BKM-2085)
- Composite digital signal input capability (with optional BKM-2090)
- Auto/Manual Degaussing
- Provides SMPTE C and EBU standard phosphors to meet customer requirements
- The AFC switch provides 3 modes. (FAST/NORMAL/SLOW)
- Over Drive Protection circuit protects against picture tube damage
- Super Fine pitch CRT provides a center resolution of 900 TV lines at 103 cd/m² (30 fL)
- 19-inch rack mountable with the optional BKM-2000
- Raster size stability within 1%, from 0 to 103 cd/m² (0 to 30 fL)
- Precise convergence; convergence errors are less than 0.4mm at the center and 0.7mm at the edges.

Supplied Accessories:

- BKM-1410 NTSC Decoder
- BKM-1412 Three-Line Dynamic NTSC Comb Filter
- AC Power Cord
- Extension Board
- 10 Pin Connector
- Tally Number Plates
- Operation and Maintenance Manual



Optional Accessories:

- BKM-2000 Rack Mount Kit (slide rails, screws)
- BKM-1420 PAL Decoder
- BKM-1421 PAL-M Decoder
- BKM-1422 Three-Line Dynamic PAL Comb Filter
- BKM-1430 SECAM Decoder
- BKM-1440 RGB/Component Adaptor
- BKM-1460 VITC Adaptor
- BKM-1470 Safe Area Display Board
- BKM-1480 Black Level Signal Generator
- BKM-2053 Probe for Auto Setup
- BKM-2056 Auto Setup Adaptor
- BKM-2085 Digital 4:2:2 Input Adaptor Kit
- BKM-2090 D2 Serial Input Adaptor Kit

BVM Monitors

Specifications (BVM-1911, cont.)

CRT PERFORMANCE

CRT Type: Super Fine Pitch In Line Stripe Grille
Aperture Grille (AG) pitch: 0.40mm
Center resolution: 900 TV lines
Screen Size: Diagonal: 48.2cm (19")
Width: 38.4cm (15 1/8")
Height: 29.1cm (11 1/2")

Chromaticity Coordinates:

SMPTE C Standard Phosphors (NTSC only)
BVM-1911

	x	y	u	v
Red	0.630	0.340	0.433	0.351
Green	0.310	0.595	0.130	0.375
Blue	0.155	0.070	0.176	0.119

Tolerance = ±0.005

EBU Standard phosphors
BVM-2011P

	x	y	u	v
Red	0.64	0.33	0.451	0.349
Green	0.29	0.60	0.121	0.374
Blue	0.15	0.06	0.175	0.105

Tolerance = ±0.005

Color Temperature: PRESET control—
Factory adjusted for 6500K white.
When using the optional Auto Setup Kit,
4 different color temperatures can be adjusted
automatically.
MANUAL control is also available, which
allows alternative setting of color temperature.

Color Temperature Stability: Differential variations between Red, Green
and Blue screens are less than 1% over 500
hour period. This high level of stability is
guaranteed by the novel Beam Feedback
Control system employed to stabilize CRT
black level.

Preset Brightness Range: From below cut off to 5.14 cd/m² (1.5 fL)
Maximum Brightness: > 206 cd/m² (60 fL)
Preset Contrast: 103 cd/m² (30 fL) (at 100% white)
CRT Protection: High voltage is automatically switched off if
either scans fail.
A warning lamp on the front panel lights if the
CRT is driven beyond preset limits.
Degaussing: Manual push button and automatic
Warm Up Period: 30 minutes to meet specifications.

RASTER and PICTURE PERFORMANCE

Normal Scan: 4 × 3 Aspect Ratio, Blanked raster < +5%,
Raster size has internal adjustment
Underscan: 4 × 3 Aspect Ratio Approx. -3%, Picture and
blanking boundaries displayed, Underscanned
raster has additional internal adjustments.
Stability of Raster Size: 1% of picture height for a 0 to 100% APL
change when 100% peak white set to
103 cd/m² (30 fL brightness).
Linearity of center
H & V lines: 0.5% of the picture height
Geometry
(all over screen): 1% of the picture height
Convergence: 0.4mm within circle centered on the screen
and with a diameter equal to the vertical
height.
0.7mm at any other point
High Voltage: 27 kV typical
High Voltage Regulation: When set at a beam current of 150 μA there
shall be less than ±0.5% change when the
brightness is varied from 0 to 103 cd/m²
(0 to 30 fL).
Hum Fluctuation: Periodic movement or jitter of the raster is less
than 0.2mm (0.07%) for any power hum
interference.

INPUT FACILITIES

Video Inputs:

Input Signal	Signal Level	Input Connector Type
Video A	Composite 1.0Vp-p ± 6 dB	High impedance loop-through, two BNCs
Video B	Composite 1.0Vp-p ± 6 dB	High impedance loop-through, two BNCs
Red/R-Y	Non-Composite 0.7Vp-p ± 6 dB	High impedance loop-through, two BNCs (each)
Green/Y/Test	Composite 1.0Vp-p ± 6 dB Non-composite 0.7Vp-p ± 6 dB	
Blue/B-Y	Non-composite 0.7Vp-p ± 6 dB	
Sync	Negative going 0.3 to 8.0Vp-p	High impedance loop-through, two BNCs

Power Inputs: 3-pin power plug
Voltage selector AC 100/120 &
AC 220/240V ± 10%
150W (typical), 185W (max.)
Line frequency 48 Hz to 66 Hz

Control Inputs: Tally and Remote Control via 10-pin connector

Input Technical Specifications:

The following specs apply to all video inputs

Return Loss: > 46 dB, up to 7 MHz
Crosstalk (between inputs): > 50 dB, up to 7 MHz
Hum Suppression: 50 dB down with up to 4V RMS power
hum when in floating ground mode.

OUTPUT FACILITIES

Output	Signal	Signal Level	Level if terminated	Connector Type
R-Y, B-Y (standard)	R-Y	PAL/NTSC: 0.68Vp-p for 75% Color Bars SECAM: 0.544Vp-p	—	BNC
	B-Y	PAL/NTSC: 0.5Vp-p for 75% Color Bars SECAM: 0.4Vp-p	—	BNC
*Component out (option)	Red/R-Y	1.4Vp-p	0.7Vp-p	BNC
	Green/Y	2.0Vp-p (with sync)	1.0Vp-p	
	Blue/B-Y	1.4Vp-p	0.7Vp-p	

*Using the optional BKM-1440, component out is available.

RGB PERFORMANCE

The following specs are measured from the RGB inputs to the input of the final stage CRT video drive amplifier. The specs apply to both 625 and 525 systems and therefore all waveform specs are quoted with 625 test waveforms:

Frequency Response: 100 Hz to 10 MHz ± 1.0 dB

Linear Waveform

Distortion:

625 Line T-Step:

Line-time waveform distortion: < 1%

Short-time waveform distortion: < 1%

50 Hz squarewave:

Field-time waveform distortion: < 1%

2T pulse response:

2T Pulse to Bar Ratio: < ±0.5% K rating

2T Pulse base line: < ±1% K rating

Non Linear Distortion: Line-time non linearity (measured with 5-rise
stairsteps): < 3%

Dynamic gain (for all APL's): < 3%

Specifications (BVM-1911, cont.)

DECODER PERFORMANCE (NTSC/PAL)

Luminance:

NTSC Performance

	Without Notch Filter	With Notch Filter	With Comb Filter
Frequency Response	± 1.0 dB 100 Hz to 8 MHz	-30 dB at 3.58 MHz	± 1.5 dB 100 Hz to 8 MHz
Linear waveform distortion 2T pulse to Bar (525 lines) 2T pulse to baseline (525 lines)	< ± 1% K < ± 1% K	< ± 2% K < ± 2% K	< ± 1% K < ± 1% K
525 T-step Line time distortion	< 1%	< 1%	< 1%
Short time distortion	< 1%	< 1%	< 1%
60 Hz squarewave distortion	< 1%	< 1%	< 1%

PAL Performance

	Without Notch Filter	With Notch Filter	With Comb Filter*
Frequency Response	± 1.0 dB 100 Hz to 8 MHz	-30 dB at 4.43 MHz	± 1.0 dB 100 Hz to 8 MHz
Linear waveform distortion 2T pulse to Bar (625 lines) 2T pulse to baseline (625 lines)	< ± 1% K < ± 1% K	< ± 2% K < ± 2% K	< ± 1% K < ± 1% K
625 T-step Line time distortion	< 1%	< 1%	< 1%
Short time distortion	< 1%	< 1%	< 1%
50 Hz squarewave distortion	< 1%	< 1%	< 1%

*Using the optional BKM-1422, PAL comb filter is available.

Non Linear Distortion: Line time non linearity: < 1%
Dynamic gain (for all APL's): < 1%

Aperture Correction: This can be internally selected to provide one of two modes of operation:
MODE 1 provides continuously adjustable (control on front panel) control of frequency response with up to 6 dB boost at 6.5 MHz. This control can be employed to compensate for the aperture loss of the CRT.
MODE 2 provides continuously adjustable control of frequency response, with up to 6 dB boost at 4.5 MHz. This control can be employed for subjective enhancement of the display picture.

Chrominance/Luminance Parameters:

NTSC Performance

	With Comb Filter	With Notch Filter
Chrominance suppression in luminance	> 24 dB at 3.58 MHz	> 30 dB at 3.58 MHz
Luminance suppression in chrominance	> 20 dB at 3.58 MHz	—
Chrominance/Luminance delay	< 30 ns	< 30 ns

PAL Performance

	With Comb Filter*	With Notch Filter
Chrominance suppression in luminance	> 30 dB at 4.43 MHz	> 30 dB at 4.43 MHz
Luminance suppression in chrominance	> 20 dB at 4.43 MHz	—
Chrominance/Luminance delay	< 30 ns	< 30 ns

*Using the optional BKM-1422, PAL comb filter is available.

Chrominance: Demodulator axes: R-Y and B-Y (90° ± 1° relative to each other)

Chrominance bandpass: 1.3 MHz equiband

*Hue regulation

Calibrated position: ± 1°

Control range: ± 15° (NTSC/PAL-M),
± 10° (PAL/PAL-M)

*Saturation regulation

Calibrated position: ± 3%

Variable range: ± 6 dB

*Chrominance can be adjusted automatically using the optional Auto Setup Kit.

Oscillator Performance: Phase error: < 2° for burst frequency change of ± 10 Hz
< 2° for burst level change ± 6 dB
< 2° for ambient temperature change of 10°C
< 2° if time relation of sync and burst moves anywhere within allowable FCC or CCIR regulatory range
Subcarrier lock in range
± 200 Hz (NTSC/PAL-M)
± 300 Hz (PAL)

DECODER PERFORMANCE (SECAM)

Luminance Channel: Differential gain: Within 1% for a luminance from 0 to 103 cd/m² (0 to 30 fL)

Frequency response

Monochrome mode:

100 Hz to 8 MHz ± 1 dB

(aperture correction at zero)

Color mode (with notch filter):

Chrominance Filter removes frequencies in 4.25 MHz and 4.406 MHz (-3 dB at 2.7 MHz)

Chrominance Channel: High frequency de-emphasis (Bell filter)

Error: 3.9 MHz to 4.75 MHz ± 0.5 dB

Drift: within ± 20 kHz at 4.286 MHz

Limiting ratio: > 30 dB

Linearity of the demodulator: < 3% at ± 350 kHz

Demodulator center frequency stability:

Within ± 3.0 kHz

Color range: Preset at zero dB

> ± 6 dB

Chrominance/Luminance: Rise time R-Y/B-Y: 500 ns at 25% modulation

Time error: < 40 ns

Gain error: < 5%

Aperture correction: Adjustable continuously up to 6 dB boost at 4.5 MHz, 6.5 MHz (selectable)

DC restoration: Back porch type

Back porch level: Within 1% of peak luminance 10% to 90% APL

R-Y/B-Y Crosstalk > 50 dB

BVM-1916

19 Inch Broadcast Color Monitor

- CPU Control system for enhanced monitor operations and remote control flexibility
- Aspect ratio is switchable between 4:3 and 16:9
- Auto setup (optional BKM-2056 and BKM-2053) with capability of fine adjustment
- Stabilized color temperature obtained by employing a beam current feedback
- Component (Y/R-Y/B-Y) and R, G, B inputs standard
- Optional decoder boards (plug-in type) available for different TV standards (NTSC, PAL, SECAM, PAL-M)
- A unique picture setup switch facilitates setup level adjustments
- Up to 6 dB of aperture correction at 4.5 MHz and 6.5 MHz selectable
- H. delay/V. delay functions are provided to check the horizontal and vertical intervals simultaneously
- Built-in cross hatch and white signal generator (100 IRE) for easy monitor alignment
- Split screen operation (upper half-color, lower half-monochrome) for precise picture confirmation
- Blue only mode with monochrome display available for easy chroma gain/phase adjustments and VTR noise observation
- Optional Comb Filter BKM-1412 for NTSC (supplied with the BVM-1916)
- Optional Comb Filter BKM-1422 for PAL
- Three switchable AFC modes (FAST/NORMAL/SLOW)
- Manual color balance/level adjustments in the lockable pull-out drawer
- Component (Y, R-Y, B-Y) and R, G, and B outputs available with the optional BKM-1440
- Optional VITC display (with BKM-1460)
- Optional Safe Area display (with BKM-1470)
- A black level signal generator (PLUGE signal generator) available for easy and precise black level settings (with BKM-1480)
- Digital 4:2:2 input capability (with the optional BKM-2085)
- Composite digital signal input capability (with optional BKM-2090)
- Super Fine Pitch CRT provides a center resolution of 600 TV lines at 103cd/m² (30 fL)
- Provides SMPTE C and EBU standard phosphors to meet customer requirements
- Raster size stability within 1%, from 0 to 103cd/m² (0 to 30 fL)
- Auto/Manual Degaussing
- Over Drive Protection circuit incorporated to prevent picture tube damage
- 19-inch rack mountable (with the optional BKM-2000)

Supplied Accessories:

- AC Power Cord
- Extension Board
- 10-Pin Connector
- Tally Number Plates Operation
- BKM-1410 NTSC Decoder
- BKM-1412 NTSC Three-Line Dynamic Comb Filter

Optional Accessories:

- BKM-2000 Rack Mount Kit (slide rails, screws)
- BKM-1420 PAL Decoder
- BKM-1421 PAL-M Decoder
- BKM-1422 Three-Line Dynamic PAL Comb Filter
- BKM-1430 SECAM Decoder
- BKM-1440 RGB/Component Adaptor
- BKM-1460 VITC Adaptor
- BKM-1470 Safe Area Display Board
- BKM-1480 Black Level Signal Generator
- BKM-2053 Probe for Auto Setup
- BKM-2056 Auto Setup Adaptor
- BKM-2085 Digital 4:2:2 Input Adaptor Kit
- BKM-2090 D-2 Serial Input Adaptor Kit

BVM Monitors

Specifications (BVM-1916, cont.)

CRT PERFORMANCE

CRT Type: Super Fine Pitch In Line Stripe Grille
Aperture Grille (AG) pitch: 0.40mm
Center resolution: 600 TV lines
Screen Size: Diagonal: 48.2cm (19")
Width: 38.4cm (15 1/8")
Height: 29.1cm (11 1/2")

Chromaticity Coordinates:

SMPTE C Standard Phosphors (NTSC) only
BVM-1916

	x	y	u	v
Red	0.630	0.340	0.433	0.351
Green	0.310	0.595	0.130	0.375
Blue	0.155	0.070	0.176	0.119

EBU Standard phosphors
BVM-2016P

	x	y	u	v
Red	0.64	0.33	0.451	0.349
Green	0.29	0.60	0.121	0.374
Blue	0.15	0.06	0.175	0.105

Color Temperature: PRESET control—
Factory adjusted for 6500K white.
When using the optional Auto Setup Kit, 4 different color temperatures can be adjusted automatically.
MANUAL control is also available, which allows alternative setting of color temperature.

Color Temperature Stability: Differential variations between Red, Green and Blue screens are less than 1% over 500 hour period. This high level of stability is guaranteed by the novel Beam Feedback Control system employed to stabilize CRT black level.

Preset Brightness Range: From below cut off to 5.14 cd/m² (1.5 fL)
Maximum Brightness: > 206 cd/m² (60 fL)

Preset Contrast: 103 cd/m² (30 fL) (at 100% white) factory setting (Any other contrast available)

CRT Protection: High voltage is automatically switched off if either scans fall.

A warning lamp on the front panel lights if the CRT is driven beyond preset limits.

Degaussing: Manual push button and automatic

Warm Up Period: 30 minutes to meet specifications.

RASTER and PICTURE PERFORMANCE

Normal Scan: 4 × 3 Aspect Ratio, Blanked raster < + 5%, Raster size has internal adjustment

Underscan: 4 × 3 Aspect Ratio Approx. -3%, Picture and blanking boundaries displayed, Underscanned raster has additional internal adjustments.

Stability of Raster Size: 1% of picture height for a 0 to 100% APL change when 100% peak white set to 103 cd/m² (30 fL brightness).

Linearity of center H & V lines: 1% of the picture height

Geometry (all over screen): 2% of the picture height

Convergence: 0.5mm within circle centered on the screen and with a diameter equal to the vertical height.

1.0mm at any other point

High Voltage: 27 kV typical

High Voltage Regulation: When set at a beam current of 150 μA there shall be less than ±0.5% change when the brightness is varied from 0 to 103 cd/m² (0 to 30 fL).

Hum Fluctuation: Periodic movement or jitter of the raster is less than 0.2mm (0.07%) for any power hum interference.

INPUT FACILITIES

Video Inputs:

Input Signal	Signal Level	Input Connector Type
Video A	Composite 1.0Vp-p ± 6 dB	High impedance loop-through, two BNCs
Video B	Composite 1.0Vp-p ± 6 dB	High impedance loop-through, two BNCs
Red/R-Y	Non-Composite 0.7Vp-p ± 6 dB	High impedance loop-through, two BNCs (each)
Green/Y/Test	Composite 1.0Vp-p ± 6 dB Non-composite 0.7Vp-p ± 6 dB	
Blue/B-Y	Non-composite 0.7Vp-p ± 6 dB	
Sync	Negative going 0.3 to 8.0Vp-p	High impedance loop-through, two BNCs

Power Inputs: 3-pin power plug
Voltage selector AC 100/120 & AC 220/240V ± 10%
BVM-1916: 135W (typical), 170W (max.)
BVM-2016P: 130W (typical), 165W (max.)
Line frequency 48 Hz to 66 Hz

Control Inputs: Tally and Remote Control via 10-pin connector

Input Technical Specifications:

The following specs apply to all video inputs:

Return Loss: > 46 dB, up to 7 MHz

Crosstalk (between inputs): > 50 dB, up to 7 MHz

Hum Suppression: 50 dB down with up to 4V RMS power hum when in floating ground mode.

OUTPUT FACILITIES

Output	Signal	Signal Level	Level if terminated	Connector Type
*Component out (option)	Red/R-Y	1.4Vp-p	0.7Vp-p	BNC
	Green/Y	2.0Vp-p (with sync)	1.0Vp-p	
	Blue/B-Y	1.4Vp-p	0.7Vp-p	

*Using the optional BDM-1440, component out is available.

RGB PERFORMANCE

The following specs are measured from the RGB inputs to the input of the final stage CRT video drive amplifier. The specs apply to both 625 and 525 systems and therefore all waveform specs are quoted with 625 test waveforms:

Frequency Response: 100 Hz to 6 MHz ± 1.0 dB

Linear Waveform

Distortion:

625 Line T-Step:

Line-time waveform distortion: < 1%

Short-time waveform distortion: < 1%

50 Hz squarewave:

Field-time waveform distortion: < 1%

2T pulse response:

2T Pulse to Bar Ratio: < ±0.5 K rating

2T Pulse base line: < ±1% K rating

Non Linear Distortion: Line-time non linearity (measured with 5-rise stairsteps): < 5%

Dynamic gain (for all APL's): < 5%

Specifications (BVM-1916, cont.)

DECODER PERFORMANCE (NTSC/PAL)

Luminance:

NTSC Performance

	Without Notch Filter	With Notch Filter	With Comb Filter
Frequency Response	100 Hz to 6 MHz ± 1.0 dB 100 Hz to 8 MHz -3.0 dB	-30 dB at 3.58 MHz	100 Hz to 6 MHz ± 1.0 dB 100 Hz to 8 MHz -3.0 dB
Linear waveform distortion 2T pulse to Bar (525 lines) 2T pulse to baseline (525 lines)	< ± 1% K < ± 1% K	< ± 2% K < ± 2% K	< ± 1% K < ± 1% K
525 T-step Line time distortion	< 1%	< 1%	< 1%
Short time distortion	< 1%	< 1%	< 1%
60 Hz squarewave distortion	< 1%	< 1%	< 1%

PAL Performance

	Without Notch Filter	With Notch Filter	With Comb Filter*
Frequency Response	100 Hz to 6 MHz ± 1.0 dB 100 Hz to 8 MHz -3.0 dB	-30 dB at 4.43 MHz	100 Hz to 6 MHz ± 1.0 dB 100 Hz to 8 MHz -3.0 dB
Linear waveform distortion 2T pulse to Bar (625 lines) 2T pulse to baseline (625 lines)	< ± 1% K < ± 1% K	< ± 2% K < ± 2% K	< ± 1% K < ± 1% K
625 T-step Line time distortion	< 1%	< 1%	< 1%
Short time distortion	< 1%	< 1%	< 1%
50 Hz squarewave distortion	< 1%	< 1%	< 1%

*Using the optional BKM-1422, PAL comb filter is available.

Non Linear Distortion: Line time on non linearity: < 1%
Dynamic gain (for all APLs): < 1%

Aperture Correction: This can be internally selected to provide one of two modes of operation:
MODE 1 provides continuously adjustable (control on front panel) control of frequency response with up to 6 dB boost at 6.5 MHz. This control can be employed to compensate for the aperture loss of the CRT.
MODE 2 provides continuously adjustable control of frequency response, with up to 6 dB boost at 4.5 MHz. This control can be employed for subjective enhancement of the displayed picture.

Chrominance/Luminance Parameters:

NTSC Performance

	With Comb Filter	With Notch Filter
Chrominance suppression in luminance	> 24 dB at 3.58 MHz	> 30 dB at 3.58 MHz
Luminance suppression in chrominance	> 20 dB at 3.58 MHz	—
Chrominance/Luminance delay	< 30 ns	< 30 ns

PAL Performance

	With Comb Filter*	With Notch Filter
Chrominance suppression in luminance	> 30 dB at 4.43 MHz	> 30 dB at 4.43 MHz
Luminance suppression in chrominance	> 20 dB at 4.43 MHz	—
Chrominance/Luminance delay	< 30 ns	< 30 ns

*Using the optional BKM-1422, PAL comb filter is available.

Chrominance: Demodulator axes: R-Y and B-Y (90° ± 1° relative to each other)

Chrominance bandpass: 1.3 MHz equiband

*Hue regulation

Calibrated position: ± 1°

Control range: ± 15° (NTSC),
± 10° (PAL/PAL-M)

*Saturation regulation

Calibrated position: ± 3%

Variable range: ± 6 dB

*Chrominance can be adjusted automatically using the optional Auto Setup Kit.

Oscillator Performance: Phase error: < 2° for burst frequency change of ± 10 Hz
< 2° for burst level change ± 6 dB
< 2° for ambient temperature change of 10°C
< 2° if time relation of sync and burst moves anywhere within allowable FCC or CCIR regulatory range
Subcarrier lock in range
± 200 Hz (NTSC/PAL-M)
± 300 Hz (PAL)

DECODER PERFORMANCE (SECAM)

Luminance Channel: Differential gain: Within 1% for a luminance from 0 to 103 cd/m² (0 to 30 fl.)

Frequency response

Monochrome mode:

100 Hz to 6 MHz ± 1 dB

100 Hz to 8 MHz -3 dB

(aperture correction at zero)

Color mode (with notch filter): Chrominance

Filter removes frequencies in 4.25 MHz

and 4.406 MHz

(-3 dB at 2.7 MHz)

Chrominance Channel: High frequency de-emphasis (Bell filter)

Error: 3.9 MHz to 4.75 MHz ± 0.5 dB

Drift: within ± 20 kHz at 4.286 MHz

Limiting ratio: > 30 dB

Linearity of the demodulator: < 3% at

± 350 kHz

Demodulator center frequency stability:

Within ± 3.0 kHz

Color range: Preset at zero dB

> ± 6 dB

Chrominance/Luminance: Rise time R-Y/B-Y: 500 ns at 25% modulation

Time error: < 40 ns

Gain error: < 5%

Aperture correction: Adjustable

continuously up to 6 dB boost at 4.5 MHz,

6.5 MHz (selectable)

DC restoration: Back porch type

Back porch level: Within 1% of peak

luminance 10% to 90% APL

R-Y/B-Y Crosstalk > 50 dB

BVM-1912

19-inch Color Monitor

- Auto Convergence adjustment
- Auto Geometry correction
- Auto setup capability (with the optional probe BKM-2053) with capability of fine adjustment
- SMPTE C standard phosphors
- Stabilized color temperature is obtained with a beam current feedback
- Super Fine Pitch CRT provides a center resolution of 900 TV lines at 30 fL
- Component (Y, R-Y, B-Y) and R, B, and G inputs standard
- Optional plug-in type decoder boards available for PAL, SECAM and PAL-M operation (supplied with BKM-1410 for NTSC)
- Pulse Cross Function
- Built-in cross hatch and white signal generator (100 IRE)
- Composite digital signal input capability (with the optional BKM-2090)
- 4:2:2 Digital serial and parallel input capability with the optional BKM-2080 or BKM-2085
- Split screen operation (upper half: color mode, lower half: monochrome mode)
- Blue only mode with monochrome display
- Selectable NTSC Comb Filter: Two-line simple comb filter/Three-line dynamic comb filter (supplied with BKM-1412)
- Optional PAL Comb Filter (BKM-1422)
- Optional Component (Y, R-Y, B-Y) and R, G, and B outputs (with the BKM-1440)
- Optional VITC display (with the optional BKM-1460)
- Optional Safe Area Display (with the BKM-1470)
- The black level signal generator with the optional BKM-1480
- Provides US and EBU standard phosphors to meet customer requirements
- Auto/Manual degaussing
- 19-inch rack mountable (with the optional BKM-2000)

Supplied Accessories:

- BKM-2056 Auto Setup Adaptor
- AC Power Cord
- Extension Board
- 10-pin Connector
- Tally Number Plates
- Operation and Maintenance Manual

Optional Accessories:

- BKM-2000 Rack Mount Kit (slide rails, screw)
- BKM-1420 PAL Decoder Board
- BKM-1421 PAL-M Decoder Board
- BKM-1422 PAL Comb Filter
- BKM-1430 SECAM Decoder Board
- BKM-1440 RGB/Component Board
- BKM-1460 VITC Adaptor
- BKM-1470 Safe Area Display Adaptor
- BKM-1480 Black Level Signal Generator
- BKM-2053 Probe for Auto Setup
- BKM-2085 Digital 4:2:2 Input Adaptor Kit
- BKM-2090 D-2 Serial Input Adaptor Kit



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BVM Monitors

Specifications (BVM-1912, cont.)

GENERAL

System: 525 lines 60 fields NTSC
Power Requirements: AC 100V-120V/220V-240V \pm 10% selectable
Power Consumption: Typical 145W, max. 190W
Dimensions (WHD): 448 x 455 x 570mm
(17 $\frac{3}{4}$ " x 18" x 22 $\frac{1}{2}$ ")
Weight: 94 lb. 13 oz. (43 kg.)

CRT PERFORMANCE

CRT Type: Super Fine Pitch In Line Strip Grille, AG pitch:
0.3mm, center resolution: 900 TV lines
Screen Size (DWH): 48.2 x 38.4 x 29.1cm
(19" x 15 $\frac{1}{8}$ " x 11 $\frac{1}{4}$ ")
Color Temperature: PRESET: Factory adjusted for 6500K white,
MANUAL control is also available, which allows
alternative setting of color temperature
Preset Brightness
Range: From below cut off to 1.5 fL
Preset Contrast: 30 fL (at 100% white)

RASTER AND PICTURE PERFORMANCE

Normal Scan: 4 x 3 aspect ratio, blanked raster < +5%, raster
size has internal adjustment
Under Scan: 4 x 3 aspect ratio, (approx.) -3%, picture and
blanking boundaries displayed
Stability of Raster
Size: 1% of picture height for a 0% - 100% APL change
when 100% peak level white set to 30 fL
brightness
Linearity of Center
H and V Lines: 0.5% of the picture height
Geometry
(all over screen): < 0.5% of the picture height
Convergence: < 0.2mm within 80% of entire screen, < 0.5mm
at any other points (Convergence can be
automatically adjusted in the Auto Convergence
mode)

INPUT PERFORMANCE

R,G,B/VIDEO/TEST: 0.7Vp-p non-composite or 1.0Vp-p composite
video signal \pm 6 dB positive, loop-through, high
impedance
Component: Y: 0.7Vp-p non-composite or 1.0Vp-p composite
video signal \pm 6 dB positive, loop-through, high
impedance
R-Y/B-Y: 0.7Vp-p non-composite \pm 6 dB positive,
loop-through, high impedance
EXT SYNC: 0.3Vp-p-8Vp-p negative, loop-through, high
impedance
Return Loss: > 46 dB, up to 7 MHz
Cross Talk: > 50 dB, up to 7 MHz

OUTPUT FACILITY

Component/RGB
(BKM-1440): 1.4Vp-p non-composite or 2.0Vp-p composite,
0.7Vp-p non-composite or 1.0Vp-p composite if
terminated
R-Y (VECTOR OUT): 0.68Vp-p for 75% color bar
B-Y (VECTOR OUT): 0.5Vp-p for 75% color bar

RGB PERFORMANCE

Frequency Response: 100 Hz-10 MHz \pm 1 dB
DC Restoration: Back porch type

NTSC PERFORMANCE

Differential Gain: Within 2% for a luminance from 0 fL-30 fL
Differential Phase: Within 2 degrees for a luminance from 0 fL-30 fL
Frequency Response: Monochrome mode:
100 Hz-8 MHz \pm 1 dB
(Aperture correction at 0)
Color mode:
-30 dB @ 3.58 MHz (with Notch Filter)
100 Hz-8 MHz \pm 1.5 dB (with Comb Filter)
Aperture Correction: Adjustable continuously up to 6 dB boost @
4.5 MHz or 6.5 MHz (selectable)

BVM-1311

13 Inch Broadcast Monitor

- CPU Control system for enhanced monitor operations and remote control flexibility
- Aspect ratio is switchable between 4:3 and 16:9
- Auto Setup (optional BKM-2056, for NTSC, PAL, SECAM, RGB, Component and BKM-2053) with capability of fine adjustment
- By using optional decoder boards (plug-in type), a maximum of 3 TV standard systems can be selected
- Stabilized color temperature is obtained by employing a developed beam control circuit
- A unique picture setup switch functions as an adjustment for accurate incoming video level alignment
- Up to 6 dB of aperture correction at 4.5 MHz and 6.5 MHz selectable
- H. delay/V. delay functions are provided to check the horizontal and vertical syncs simultaneously
- Built-in cross hatch and white signal generator (100 IRE) for easy monitor alignment
- Component (Y, R-Y, B-Y) and RGB input facilities are available
- Optional component (Y, R-Y, B-Y) and RGB output facilities are available with the BKM-1440
- Split screen (vertical only) for precise picture confirmation
- VITC display facility (optional BKM-1460)
- Safe area display facility (with the optional BKM-1470)
- With the optional BKM-1480, black level signal generator is available for easy and precise adjustment of black level setting of monitor
- Blue only mode with B/W display to evaluate noise component precisely
- Two lockable pull-out drawers give access to convergence, color balance, level adjustment and other controls
- Optional Comb Filter BKM-1412 for NTSC (supplied with the BVM-1311)
- Optional Comb Filter BKM-1422 for PAL
- Optional Digital 4:2:2 Input Adaptor Kit BKM-2085 and D-2 Serial Input Adaptor Kit BKM-2090 available
- Auto/Manual Degaussing
- Provides SMPTE C and EBU standard phosphors to meet customer requirements
- The AFC switch provides 3 modes (FAST/NORMAL/SLOW)
- Over Drive Protection circuit protects against picture tube damage
- Super Fine Pitch CRT provides a center resolution of 700 TV lines at 137cd/m² (40 fL)
- 19-inch rack mountable with the optional BKM-1400
- Raster size stability within 1% from 0 to 137cd/m² (0 to 40 fL)
- Precise convergence; convergence errors are less than 0.3mm at center and 0.6mm at edge of area

Supplied Accessories:

- BKM-1410 NTSC Decoder
- BKM-1412 Three-Line Dynamic NTSC Comb Filter
- Operation & Maintenance Manual
- AC Power Cord
- Extension Board
- 10-Pin Connector
- Tally Number Plates



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Optional Accessories:

- BKM-1400 Rack Mount Kit (slide rails, screws)
- BKM-1420 PAL Decoder
- BKM-1421 PAL-M Decoder
- BKM-1422 Three-Line Dynamic PAL Comb Filter
- BKM-1430 SECAM Decoder
- BKM-1440 RGB/Component Adaptor
- BKM-1460 VITC Adaptor
- BKM-1470 Safe Area Display Board
- BKM-1480 Black Level Signal Generator
- BKM-2053 Probe for Auto Setup
- BKM-2056 Auto Setup Adaptor
- BKM-2085 Digital 4:2:2 Input Adaptor Kit
- BKM-2090 D2 Serial Input Adaptor Kit

BVM Monitors

Specifications (BVM-1311, cont.)

CRT PERFORMANCE

CRT Type: Super Fine Pitch In Line Stripe Grille
Aperture Grille (AG) pitch: 0.25mm
Center resolution: 700 TV lines

Screen Size: Diagonal: 30.08cm (13 $\frac{1}{8}$ "")
Width: 26.72cm (10 $\frac{5}{8}$ "")
Height: 20.03cm (8")

Chromaticity Coordinates:

SMPTE C Standard phosphors (NTSC only)
BVM-1311

	x	y	u	v
Red	0.630	0.340	0.433	0.351
Green	0.310	0.595	0.130	0.375
Blue	0.155	0.070	0.176	0.119

Tolerance = ± 0.005

EBU Standard phosphors
BVM-1411

	x	y	u	v
Red	0.64	0.33	0.451	0.349
Green	0.29	0.60	0.121	0.374
Blue	0.15	0.06	0.175	0.105

Tolerance = ± 0.005

Color Temperature: PRESET control—
Factory adjusted for 6500K white.
When using the optional Auto Setup Kit,
4 different color temperatures can be adjusted
automatically.
MANUAL control is also available, which
allows alternative setting of color temperature.

Color Temperature
Stability: Differential variations between Red, Green
and Blue screens are less than 1% over 500
hour period. This high level of stability is
guaranteed by the novel Beam Feedback
Control system employed to stabilize CRT
black level.

Preset Brightness Range: From below cut off to 5.14 cd/m² (1.5 fL)
Maximum Brightness: > 274 cd/m² (80 fL)
Preset Contrast: 137 cd/m² (40 fL) (at 100% white)
CRT Protection: High voltage is automatically switched off if
either scans fail.
A warning lamp on the front panel lights if the
CRT is driven beyond preset limits.
Degaussing: Manual push button and automatic
Warm Up Period: 30 minutes to meet specifications.

RASTER and PICTURE PERFORMANCE

Normal Scan: 4 × 3 Aspect Ratio, Blanked raster < +5%,
Raster size has internal adjustment

Underscan: 4 × 3 Aspect Ratio Approx. -3%, Picture and
blanking boundaries displayed, Underscanned
raster has additional internal adjustments.

Stability of Raster Size: 1% of picture height for a 0 to 100% APL
change when 100% peak white set to
137 cd/m² (40 fL brightness).

Linearity of center
H & V lines: 0.5% of the picture height

Geometry
(all over screen): 1% of the picture height
Convergence: 0.3mm within circle centered on the screen
and with a diameter equal to the vertical
height.
0.6mm at any other point

High Voltage: 25 kV typical

High Voltage Regulation: When set at a beam current of 150 μ A there
shall be less than $\pm 0.5\%$ change when the
brightness is varied from 0 to 137 cd/m²
(0 to 40 fL).

Hum Fluctuation: Periodic movement or jitter of the raster is less
than 0.2mm (0.07%) for any power hum
interference.

INPUT FACILITIES

Video Inputs:

Input Signal	Signal Level	Input Connector Type
Video A	Composite 1.0Vp-p ± 6 dB	High impedance loop-through, two BNCs
Video B	Composite 1.0Vp-p ± 6 dB	High impedance loop-through, two BNCs
Red/R-Y	Non-Composite 0.7Vp-p ± 6 dB	High impedance loop-through, two BNCs (each)
Green/Y/Test	Composite 1.0Vp-p ± 6 dB Non-composite 0.7Vp-p ± 6 dB	
Blue/B-Y	Non-composite 0.7Vp-p ± 6 dB	
Sync	Negative going 0.3 to 8.0Vp-p	High impedance loop-through, two BNCs

Power Inputs: 3-pin power plug
Voltage selector AC 100/120 &
AC 220/240V $\pm 10\%$
140W (typical), 160W (max.)
Line frequency 48 Hz to 66 Hz

Control Inputs: Tally and Remote Control via 10-pin
connector

Input Technical Specifications:

The following specs apply to all video inputs

Return Loss: > 46 dB, up to 7 MHz
Crosstalk (between inputs): > 50 dB, up to 7 MHz
Hum Suppression: 50 dB down with up to 4V RMS power
hum when in floating ground mode.

OUTPUT FACILITIES

Output	Signal	Signal Level	Level if terminated	Connector Type
R-Y, B-Y (standard)	R-Y	PAL/NTSC: 0.68Vp-p for 75% Color Bars	—	BNC
		SECAM 0.544Vp-p		
R-Y, B-Y (standard)	B-Y	PAL/NTSC: 0.5Vp-p for 75% Color Bars	—	BNC
		SECAM: 0.4Vp-p		
*Component out (option)	Red/R-Y	1.4Vp-p	0.7Vp-p	BNC
	Green/Y	2.0Vp-p (with sync)	1.0Vp-p	
	Blue/B-Y	1.4Vp-p	0.7Vp-p	

*Using the optional BKM-1440, component out is available.

RGB PERFORMANCE

The following specs are measured from the RGB inputs to the input of the final stage CRT video drive amplifier. The specs apply to both 625 and 525 systems and therefore all waveform specs are quoted with 625 test waveforms:

Frequency Response: 100 Hz to 8 MHz ± 1.0 dB

Linear Waveform

Distortion:

625 Line T-Step:

Line-time waveform distortion: < 1%

Short-time waveform distortion: < 1%

50 Hz squarewave:

Field-time waveform distortion: < 1%

2T pulse response:

2T Pulse to Bar Ratio: < $\pm 0.5\%$ K rating

2T Pulse base line: < $\pm 1\%$ K rating

Non Linear Distortion: Line-time non linearity (measured with 5-rise
stairsteps): < 3%

Dynamic gain (for all APL's): < 3%

Specifications (BVM-1311, cont.)

DECODER PERFORMANCE (NTSC/PAL)

Luminance:

NTSC Performance

	Without Notch Filter	With Notch Filter	With Comb Filter
Frequency Response	± 1.0 dB 100 Hz to 8 MHz	-30 dB at 3.58 MHz	± 1.5 dB 100 Hz to 8 MHz
Linear waveform distortion 2T pulse to Bar (525 lines) 2T pulse to baseline (525 lines)	< ± 1% K < ± 1% K	< ± 2% K < ± 2% K	< ± 1% K < ± 1% K
525 T-step Line time distortion	< 1%	< 1%	< 1%
Short time distortion	< 1%	< 1%	< 1%
60 Hz squarewave distortion	< 1%	< 1%	< 1%

PAL Performance

	Without Notch Filter	With Notch Filter	With Comb Filter*
Frequency Response	± 1.0 dB 100 Hz to 8 MHz	-30 dB at 4.43 MHz	± 1.0 dB 100 Hz to 8 MHz
Linear waveform distortion 2T pulse to Bar (625 lines) 2T pulse to baseline (625 lines)	< ± 1% K < ± 1% K	< ± 2% K < ± 2% K	< ± 1% K < ± 1% K
625 T-step Line time distortion	< 1%	< 1%	< 1%
Short time distortion	< 1%	< 1%	< 1%
50 Hz squarewave distortion	< 1%	< 1%	< 1%

*Using the optional BKM-1422, PAL comb filter is available.

Non Linear Distortion: Line time non linearity: < 1%
Dynamic gain (for all APL's): < 1%

Aperture Correction: This can be internally selected to provide one of two modes of operation:
MODE 1 provides continuously adjustable (control on front panel) control of frequency response with up to 6 dB boost at 6.5 MHz. This control can be employed to compensate for the aperture loss of the CRT.
MODE 2 provides continuously adjustable control of frequency response, with up to 6 dB boost at 4.5 MHz. This control can be employed for subjective enhancement of the display picture.

Chrominance/Luminance Parameters:

NTSC Performance

	With Comb Filter	With Notch Filter
Chrominance suppression in luminance	> 24 dB at 3.58 MHz	> 30 dB at 3.58 MHz
Luminance suppression in chrominance	> 20 dB at 3.58 MHz	—
Chrominance/Luminance delay	< 30 ns	< 30 ns

PAL Performance

	With Comb Filter*	With Notch Filter
Chrominance suppression in luminance	> 30 dB at 4.43 MHz	> 30 dB at 4.43 MHz
Luminance suppression in chrominance	> 20 dB at 4.43 MHz	—
Chrominance/Luminance delay	< 30 ns	< 30 ns

*Using the optional BKM-1422, PAL comb filter is available.

Chrominance: Demodulator axes: R-Y and B-Y (90° ± 1° relative to each other)

Chrominance bandpass: 1.3 MHz equiband

*Hue regulation

Calibrated position: ± 1°

Control range: ± 15° (NTSC),
± 10° (PAL/PAL-M)

*Saturation regulation

Calibrated position: ± 3%

Variable range: ± 6 dB

*Chrominance can be adjusted automatically using the optional Auto Setup Kit.

Oscillator Performance: Phase error: < 2° for burst frequency change of ± 10 Hz
< 2° for burst level change ± 6 dB
< 2° for ambient temperature change of 10°C
< 2° if time relation of sync and burst moves anywhere within allowable FCC or CCIR regulatory range
Subcarrier lock in range
± 200 Hz (NTSC/PAL-M)
± 300 Hz (PAL)

DECODER PERFORMANCE (SECAM)

Luminance Channel: Differential gain: Within 1% for a luminance from 0 to 137 cd/m² (0 to 30 fL)

Frequency response

Monochrome mode:

100 Hz to 8 MHz + 1 dB

(aperture correction at zero)

Color mode (with notch filter):

Chrominance Filter removes frequencies in 4.25 MHz and 4.406 MHz (-3 dB at 2.7 MHz)

Chrominance Channel: High frequency de-emphasis (Bell filter)

Error: 3.9 MHz to 4.75 MHz ± 0.5 dB

Drift: within ± 20 kHz at 4.286 MHz

Limiting ratio: > 30 dB

Linearity of the demodulator: < 3% at ± 350 kHz

Demodulator center frequency stability:

Within ± 3.0 kHz

Color range: Preset at zero dB

> ± 6 dB

Chrominance/Luminance: Rise time R-Y/B-Y: 500 ns at 25% modulation
Time error: < 40 ns
Gain error: < 5%
Aperture correction: Adjustable continuously up to 6 dB boost at 4.5 MHz, 6.5 MHz (selectable)
DC restoration: Back porch type
Back porch level: Within 1% of peak luminance 10% to 90% APL
R-Y/B-Y Crosstalk > 50 dB

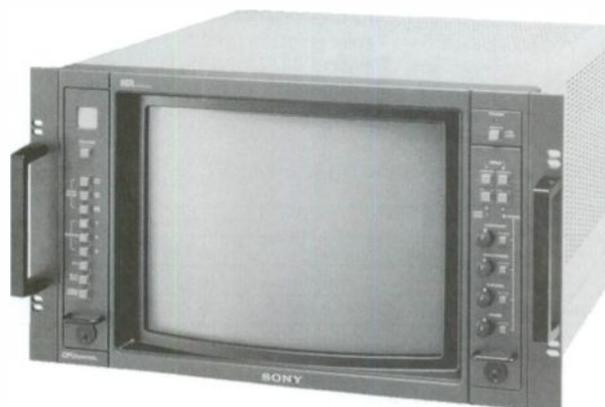
BVM-1316

13 Inch Broadcast Monitor

- CPU Control system for enhanced monitor operations and remote control flexibility
- Aspect ratio is switchable between 4:3 and 16:9
- Auto setup. (optional BKM-2056 and BKM-2053) with capability of fine adjustment
- Stabilized color temperature is obtained by employing an automatic beam control circuit
- Component (Y, R-Y, B-Y) and R, G, and B inputs standard
- Optional decoder boards (plug-in type) available for different TV standard systems. (NTSC, PAL, SECAM, PAL-M)
- A unique picture setup switch functions setup level adjustments
- Up to 6 dB of aperture correction at 4.5 MHz and 6.5 MHz selectable
- H. delay/V. delay functions are provided to check the horizontal and vertical syncs simultaneously
- Built-in cross hatch and white signal generator (100 IRE) for easy monitor alignment
- Split screen operation (upper half: color mode; lower half: monochrome mode) for precise picture confirmation
- Blue only mode with monochrome display available for easy chroma gain/phase adjustments and observation of VTR noise
- Optional Comb Filter BKM-1412 for NTSC (supplied with the BVM-1316)
- Optional Comb Filter BKM-1422 for PAL
- Optional Digital 4:2:2 Input Adaptor Kit BKM-2085 and D-2 Serial Input Adaptor Kit BKM-2090 available
- The AFC switch provides 3 modes. (FAST/NORMAL/SLOW)
- Manual color balance/level adjustments are possible in the lockable pull-out drawer
- Component (Y R-Y, B-Y) and R, G, and B outputs available with the optional BKM-1440
- VITC display (with optional BKM-1460)
- Safe Area Display. (with optional BKM-1470)
- With the optional BKM-1480, a black level signal generator (PLUGE signal generator) is available for easy and precise adjustment of black level settings of the monitors
- Super Fine Pitch CRT provides a center resolution of 600 TV lines at 137cd/m² (40 fL)
- SMPTE C and EBU standard phosphors provided to meet customer requirements
- Raster size stability within 1%, from 0 to 137cd/m² (0 to 40 fL)
- Auto/Manual Degaussing
- Over Drive Protection circuit incorporated to protect picture tube against damage
- 19-inch rack mountable with the optional BKM-1400 rack mount kit

Supplied Accessories:

- BKM-1410 NTSC Decoder
- BKM-1412 Three-Line Dynamic NTSC Comb Filter
- AC Power Cord
- 10-Pin Connector
- Tally Number Plates
- Operation & Maintenance Manual



Optional Accessories:

- BKM-1400 Rack Mount Kit (slide rails, screws)
- BKM-1420 PAL Decoder
- BKM-1421 PAL-M Decoder
- BKM-1422 Three-Line Dynamic PAL Comb Filter
- BKM-1430 SECAM Decoder
- BKM-1440 RGB/Component Adaptor
- BKM-1460 VITC Adaptor
- BKM-1470 Safe Area Display Board
- BKM-1480 Black Level Signal Generator
- BKM-2053 Probe for Auto Setup
- BKM-2056 Auto Setup Adaptor
- BKM-2085 Digital 4:2:2 Input Adaptor Kit
- BKM-2090 D-2 Serial Input Adaptor Kit

BVM Monitors

Specifications (BVM-1316, cont.)

CRT PERFORMANCE

CRT Type: Super Fine Pitch In Line Stripe Grille
Aperture Grille (AG) pitch: 0.25mm
Center resolution: 600 TV lines

Screen Size: Diagonal: 33.08cm (13 1/8")
Width: 26.72cm (10 5/8")
Height: 20.03cm (8")

Chromaticity Coordinates:

SMPTE C Standard phosphors (NTSC only)
BVM-1316

	x	y	u	v
Red	0.630	0.340	0.433	0.351
Green	0.310	0.595	0.130	0.375
Blue	0.155	0.070	0.176	0.119

EBU Standard phosphors
BVM-1416P

	x	y	u	v
Red	0.64	0.33	0.451	0.349
Green	0.29	0.60	0.121	0.374
Blue	0.15	0.06	0.175	0.105

Color Temperature: PRESET control—
Factory adjusted for 6500K white.
When using the optional Auto Setup Kit,
4 different color temperatures can be adjusted
automatically.
MANUAL control is also available, which
allows alternative setting of color temperature.

Color Temperature
Stability: Differential variations between Red, Green
and Blue screens are less than 1% over 500
hour period. This high level of stability is
guaranteed by the novel Beam Feedback
Control system employed to stabilize CRT
black level.

Preset Brightness Range: From below cut off to 5.14 cd/m² (1.5 fL)
Maximum Brightness: > 274 cd/m² (80 fL)
Preset Contrast: 137 cd/m² (40 fL) (at 100% white)
CRT Protection: High voltage is automatically switched off if
either scans fail.

A warning lamp on the front panel lights if the
CRT is driven beyond preset limits.

Degaussing: Manual push button and automatic

Warm Up Period: 30 minutes to meet specifications.

RASTER and PICTURE PERFORMANCE

Normal Scan: 4 × 3 Aspect Ratio, Blanked raster < +5%,
Raster size has internal adjustment

Underscan: 4 × 3 Aspect Ratio Approx. -3%, Picture and
blanking boundaries displayed, Underscanned
raster has additional internal adjustments.

Stability of Raster Size: 1% of picture height for a 0 to 100% APL
change when 100% peak white set to
137 cd/m² (40 fL brightness).

Linearity of center
H & V lines: 1% of the picture height

Geometry
(all over screen): 2% of the picture height
Convergence: 0.5mm within circle centered on the screen
and with a diameter equal to the vertical
height.

1.0mm at any other point

High Voltage: 25 kV typical

High Voltage Regulation: When set at a beam current of 150 μA there
shall be less than ±0.5% change when the
brightness is varied from 0 to 137 cd/m²
(0 to 40 fL).

Hum Fluctuation: Periodic movement or jitter of the raster is less
than 0.2mm (0.07%) for any power hum
interference.

INPUT FACILITIES

Video Inputs:

Input Signal	Signal Level	Input Connector Type
Video A	Composite 1.0Vp-p ±6 dB	High impedance loop-through, two BNCs
Video B	Composite 1.0Vp-p ±6 dB	High impedance loop-through, two BNCs
Red/R-Y	Non-Composite 0.7Vp-p ±6 dB	High impedance loop-through, two BNCs (each)
Green/Y/Test	Composite 1.0Vp-p ±6 dB Non-composite 0.7Vp-p ±6 dB	
Blue/B-Y	Non-composite 0.7Vp-p ±6 dB	
Sync	Negative going 0.3 to 8.0Vp-p	High impedance loop-through, two BNCs

Power inputs: 3-pin power plug
Voltage selector AC 100/120 &
AC 220/240V ±10%
125W (typical), 155W (max.)
Line frequency 48 Hz to 66 Hz

Control inputs: Tally and Remote Control via 10-pin
connector

Input Technical Specifications:

The following specs apply to all video inputs

Return Loss: > 46 dB, up to 7 MHz

Crosstalk (between inputs): > 50 dB, up to 7 MHz

Hum Suppression: 50 dB down with up to 4V RMS power
hum when in floating ground mode.

OUTPUT FACILITIES

Output	Signal	Signal Level	Level if terminated	Connector Type
*Component out (option)	Red/R-Y	1.4Vp-p	0.7Vp-p	BNC
	Green/Y	2.0Vp-p (with sync)	1.0Vp-p	
	Blue/B-Y	1.4Vp-p	0.7Vp-p	

*Using the optional BKM-1440, component out is available.

RGB PERFORMANCE

The following specs are measured from the RGB inputs to the input of the
final stage CRT video drive amplifier. The specs apply to both 625 and 525
systems and therefore all waveform specs are quoted with 625 test wave-
forms:

Frequency Response: 100 Hz to 6 MHz ±1.0 dB

Linear Waveform

Distortion:

625 Line T-Step:

Line-time waveform distortion: < 1%

Short-time waveform distortion: < 1%

50 Hz squarewave:

Field-time waveform distortion: < 1%

2T pulse response:

2T Pulse to Bar Ratio: < ±0.5% K rating

2T Pulse base line: < ±1% K rating

Non Linear Distortion: Line-time non linearity (measured with 5-rise
stairsteps): < 5%

Dynamic gain (for all APL's): < 5%

Specifications (BVM-1316, cont.)

DECODER PERFORMANCE (NTSC/PAL)

Luminance:

NTSC Performance

	Without Notch Filter	With Notch Filter	With Comb Filter
Frequency Response	100 Hz to 6 MHz ±1.0 dB 100 Hz to 8 MHz -3.0 dB	-30 dB at 3.58 MHz	100 Hz to 6 MHz ±1.0 dB 100 Hz to 8 MHz -3.0 dB
Linear waveform distortion 2T pulse to Bar (525 lines) 2T pulse to baseline (525 lines)	< ±1% K < ±1% K	< ±2% K < ±2% K	< ±1% K < ±1% K
525 T-step Line time distortion	< 1%	< 1%	< 1%
Short time distortion	< 1%	< 1%	< 1%
60 Hz squarewave distortion	< 1%	< 1%	< 1%

PAL Performance

	Without Notch Filter	With Notch Filter	With Comb Filter*
Frequency Response	100 Hz to 6 MHz ±1.0 dB 100 Hz to 8 MHz -3.0 dB	-30 dB at 4.43 MHz	100 Hz to 6 MHz ±1.0 dB 100 Hz to 8 MHz -3.0 dB
Linear waveform distortion 2T pulse to Bar (625 lines) 2T pulse to baseline (625 lines)	< ±1% K < ±1% K	< ±2% K < ±2% K	< ±1% K < ±1% K
625 T-step Line time distortion	< 1%	< 1%	< 1%
Short time distortion	< 1%	< 1%	< 1%
50 Hz squarewave distortion	< 1%	< 1%	< 1%

*Using the optional BKM-1422, PAL comb filter is available.

Non Linear Distortion: Line time non linearity: < 1%
Dynamic gain (for all APL's): < 1%

Aperture Correction: This can be internally selected to provide one of two modes of operation:
MODE 1 provides continuously adjustable (control on front panel) control of frequency response with up to 6 dB boost at 6.5 MHz. This control can be employed to compensate for the aperture loss of the CRT.
MODE 2 provides continuously adjustable control of frequency response, with up to 6 dB boost at 4.5 MHz. This control can be employed for subjective enhancement of the display picture.

Chrominance/Luminance Parameters:

NTSC Performance

	With Comb Filter	With Notch Filter
Chrominance suppression in luminance	> 24 dB at 3.58 MHz	> 30 dB at 3.58 MHz
Luminance suppression in chrominance	> 20 dB at 3.58 MHz	—
Chrominance/Luminance delay	< 30 ns	< 30 ns

PAL Performance

	With Comb Filter*	With Notch Filter
Chrominance suppression in luminance	> 30 dB at 4.43 MHz	> 30 dB at 4.43 MHz
Luminance suppression in chrominance	> 20 dB at 4.43 MHz	—
Chrominance/Luminance delay	< 30 ns	< 30 ns

*Using the optional BKM-1422, PAL comb filter is available.

Chrominance: Demodulator axes: R-Y and B-Y (90° ± 1° relative to each other)
Chrominance bandpass: 1.3 MHz equiband
*Hue regulation
Calibrated position: ± 1°
Control range: ± 15° (NTSC), ± 10° (PAL/PAL-M)
*Saturation regulation
Calibrated position: ± 3%
Variable range: ± 6 dB

*Chrominance can be adjusted automatically using the optional Auto Setup Kit.

Oscillator Performance: Phase error: < 2° for burst frequency change of ± 10 Hz
< 2° for burst level change ± 6 dB
< 2° for ambient temperature change of 10°C
< 2° if time relation of sync and burst moves anywhere within allowable FCC or CCIR regulatory range
Subcarrier lock in range
± 200 Hz (NTSC/PAL-M)
± 300 Hz (PAL)

DECODER PERFORMANCE (SECAM)

Luminance Channel: Differential gain: Within 1% for a luminance from 0 to 137 cd/m² (0 to 40 fL)
Frequency response
Monochrome mode:
100 Hz to 8 MHz ± 1 dB (aperture correction at zero)
Color mode (with notch filter):
Chrominance Filter removes frequencies in 4.25 MHz and 4.406 MHz (-3 dB at 2.7 MHz)

Chrominance Channel: High frequency de-emphasis (Bell filter)
Error: 3.9 MHz to 4.75 MHz ± 0.5 dB
Drift: within ± 20 kHz at 4.286 MHz
Limiting ratio: > 30 dB
Linearity of the demodulator: < 3% at ± 350 kHz
Demodulator center frequency stability: Within ± 3.0 kHz
Color range: Preset at zero dB > ± 6 dB

Chrominance/Luminance: Rise time R-Y/B-Y: 500 ns at 25% modulation
Time error: < 40 ns
Gain error: < 5%
Aperture correction: Adjustable continuously up to 6 dB boost at 4.5 MHz, 6.5 MHz (selectable)
DC restoration: Back porch type
Back porch level: Within 1% of peak luminance 10% to 90% APL
R-Y/B-Y Crosstalk > 50 dB

BVM Monitors

Specifications (BVM-1316, cont.)

SYNCHRONIZATION

Sync Input Return Loss: > 46dB up to 7MHz

Vertical Hold: Digital countdown systems

Free running frequency of oscillator:

Automatic { Mode 1: 42Hz to 50Hz
Mode 2: 50Hz to 60Hz

Horizontal Hold: Stability of free running frequency: within 1Hz

Free running frequency of oscillator
15.75kHz \pm 1kHz with H-hold control or
15.625kHz \pm 1kHz with H-hold control

Horizontal oscillator locking range
Pull in: \pm 500Hz
Holding: \pm 500Hz

Free running stability: Within \pm 100Hz

AFC Time constant: Three horizontal time constants are provided (0.5ms, 2.0ms and 7.0ms)

Sync Stability: On INTERNAL sync the stability of the raster shall be preserved under the following conditions:

Video Input Level: \pm 6 dB about nominal

Picture level changes: + 3 dB to - 40 dB and sync level changes - 6 dB.

Line-sync white-noise immunity: 26 dB

Field-sync white-noise immunity: 26 dB

AFC: Switchable (FAST/NORMAL/SLOW): Slow AFC displays timing errors of incoming sync with a selected horizontal time constant of 7.0ms. Fast AFC largely corrects for incoming timing errors with a selected horizontal time constant of 0.5ms.

Normal AFC is set at 2.0ms

Blanking Intervals: Horizontal retrace time: 10 μ s
Horizontal blanking: Adjustable
Vertical retrace time: < 0.6ms
Vertical blanking: < 19H for normal scan
< 15H for under scan
Interlace: Better than 45/55

PHYSICAL CHARACTERISTICS

Weight: 63 lb. 14 oz. (29 kg.) (approx.)

Dimensions (WHD): 480 x 281.5 x 490mm
(19" x 11 $\frac{1}{8}$ " x 19 $\frac{3}{8}$ ")

Environmental: Operating temperature range: 0°C to 40°C
Optimum temperature range: 20°C to 30°C
Humidity: 0 to 90% non-condensing
Altitude: 3,050m (10,000 feet)

X-ray Radiation: PTB (for West Germany)
DNHW (for Canada)
Complies with DHHS rules 21 CFR Subchapter J sec 1020.10

PHM-3400

34" HDVS/IDTV Color Monitor

- Can reproduce 1125-line high definition signals as well as 525-line NTSC signals with the best possible picture quality
- New, large Trinitron CRT (16:9 aspect ratio) for a bright clear image
- IDTV (Improved Definition TV) capability with digital frame memory makes scanning lines unnoticeable and minimized line-flickering
- Wide bandwidth of 25 MHz for precise reproduction of the HDTV picture
- Beam Current Feedback for consistent picture performance
- Picture Out Picture (NTSC only)
- Picture Zoom mode to adjust the picture to fit the screen area when an NTSC signal is selected
- Multiple input terminals: two high definition video inputs, four channels of either composite video or Y/C input
- Dolby Prologic

Supplied Accessories:

RM-798 Wireless Remote Control Unit
AC Power Cord
Operation and Installation Manual

Specifications

System: HDVS 1125 lines, 60 fields/sec.
(Interlace scanning)
*Conforms to SMPTE 240M
NTSC 525 lines, 59.94 frames/sec.
(Progressive scanning)
*When a standard NTSC signal is input to the monitors, a scanning is automatically switched to the progressive scanning, providing 525 lines per field

Picture Tube: TRINITRON CRT, 0.48mm phosphor trio pitch, 36" measured diagonally, 110° deflection

Visual Screen Size (WH): 754 x 424mm (29³/₄" x 16³/₄")

Picture Requirements: AC-120V, 50/60 Hz

Power Consumption: 450W (approx.)

Dimensions (WHD): 900.2 x 643.4 x 870.2mm
(35¹/₂" x 25³/₈" x 16¹/₂")

Weight: 275 lb. 9 oz. (125 kg.) (approx.)

Horizontal Resolution: 800 TV lines (High Definition Video Signal Input)

Color Temperature: HDTV mode: 6500K +8 MPCD
(Factory pre-set)
NTSC mode: 9300K +8 MPCD
(Factory pre-set)
*Adjustable to other color temperatures.



Video Inputs

HD 1: G/Y, B/P_B and R/P_R (Loop-through BNC): Automatic 75Ω termination

HD 2/ED: G/Y, B/P_B and R/P_R (BNC): 75Ω
Tri-Level sync, bi-level sync, or HD/VD (BNC): 75Ω

VIDEO 1: COMPOSITE VIDEO (Loop-through BNC): Automatic 75Ω termination
S VIDEO (Y/C separate video)
Loop-through Mini DIN 4-pin: Automatic 75Ω termination

VIDEO 2/3/4*1: COMPOSITE VIDEO (BNC): 75Ω
S VIDEO (Y/C separate video)
(Mini DIN 4-pin): 75Ω

Video Output: COMPOSITE VIDEO (BNC): 75Ω
S VIDEO (Y/C separate video)
(Mini DIN 4-pin): 75Ω

Audio Inputs

HD1/2/ED: Left, Right, Center, Side Left and Side Right (Phono)

VIDEO 1: Left and Right (Phono)

VIDEO 2/3/4: Left and Right (Phono)

Speaker Output: Speaker terminal x 5
(Left, Right, Center, Side Left and Side Right)
Left, Right and Center: 15W
Side Left and Side Right: 10W
*Dolby Prologic included.

Headphone Output: Stereo Mini-jack

CONTROL S: IN/OUT (Mini-jack)

*1 VIDEO 4 is loop-through of VIDEO IN in the front panel.

PVM-3230

Color Video Monitor



- The cubic style ■ A high resolution of 650 TV lines (composite video)/640 x 200 pixels (RGB input)
- Accepts composite video, Y/C, and Analog/Digital RGB signals ■ Accepts external sync and sync on Green
- Memorizes the adjusted picture and sound settings for each input, and 4 sets of global settings for all inputs
- Can be used with IBM PC with CGA card ■ Touch key control and supplied remote control unit RM-785

SPECIFICATIONS		MODEL	PVM-3230	
Video Signals		EIA 525 lines, 60 fields		
Color System		NTSC		
Picture Tube		34" fine pitch black TRINITRON tube, visible picture size 32" measured diagonally, 110° deflection		
Horizontal Resolution		650 TV lines (composite video), 640 x 200 pixels/2000 characters (RGB)		
Audio Power Output		15W max. (with external speakers, 8Ω-16Ω)		
Power Requirements		AC-120V, 50/60 Hz		
Power Consumption		220W max.		
Dimensions (WHD):		841 x 629 x 595mm (32 ⁷ / ₈ " x 24 ⁷ / ₈ " x 23 ¹ / ₂ " (approx.))		
Weight		185 lb. 3 oz. (84 kg.) (approx.)		
VIDEO	IN	VTR	8-pin	Composite: 1Vp-p, sync negative, 75Ω
		LINE A	Mini DIN 4-pin* ¹	Y (Luminance signal): 1Vp-p, sync negative C (Chrominance signal): 0.286Vp-p, Automatic 75Ω termination
			BNC* ¹	Composite: 1Vp-p, sync negative, Automatic 75Ω termination
		LINE B	Mini DIN 4-pin* ¹	Y (Luminance signal): 1.0Vp-p, sync negative C (Chrominance signal): 0.286Vp-p, Automatic 75Ω termination
	BNC* ¹		Composite: 1.0Vp-p, sync negative, Automatic 75Ω termination	
	OUT	LINE A	Mini DIN 4-pin	Loop-through
BNC			Loop-through	
LINE B		Mini DIN 4-pin	Loop-through	
		BNC	Loop-through	
RGB	IN	ANALOG RGB	BNC	R, B: 0.7Vp-p, Automatic 75Ω G/Sync on G* ² : 0.7Vp-p or 1.0Vp-p, sync negative, Automatic 75Ω
		DIGITAL RGE	8-pin D	TTL level
	OUT	ANALOG RGB	BNC	Loop-through
AUDIO	IN	LINE	Phono	-5 dBs, high impedance, stereo
		LINE B	Phono	-5 dBs, high impedance, stereo
		VTR	8-pin	-5 dBs, high impedance
		ANALOG RGB	Phono	-5 dBs, high impedance
		DIGITAL RGB	Phono	-5 dBs, high impedance, monaural
	OUT	LINE A	Phono	Loop-through
		LINE B	Phono	Loop-through
		ANALOG RGB	Phono	Loop-through

*¹ The Y/C input has priority over the composite input.

*² External or internal sync (Green or Sync on Green) can be selected in the on-screen display mode.

21"/25" PVM-2030/2530

21" & 25" Color Video Monitors

- Unique cubic design ■ A high resolution of 560 TV lines (video input), 2000 characters (RGB input) ■ Y/C input
- Built-in interface for IBM PC with a CGA adaptor
- Touch key control and supplied remote control unit RM-739
- Three video/audio inputs and 25-pin RGB input (Analog/TTL)

Optional Accessories:

- SS-X6A, APM-X5A Speakers
- SU-538 Tilt Swivel
- SU-540 Monitor Stand
- ST-92TV TV Tuner Unit
- SMF-500 Color Monitor Cable (25-pin/9-pin, 2m)
(PVM-2030 IBM PC with a CGA Adaptor)



Specifications for Color Video Monitors

SPECIFICATIONS		MODEL	PVM-2030	PVM-2530
Video signals			EIA 525 lines, 60 fields	
Color system			NTSC	
Picture tube			21" fine pitch TRINITRON tube, visible picture size 50.8cm (20") measured diagonally, 100° deflection	27" fine pitch TRINITRON tube, visible picture size 63.5cm (25") measured diagonally, 114° deflection
Horizontal resolution			560 TV lines (video input), 2000 characters (RGB input)	
Audio power output			7W max. (with external speakers, 8Ω)	15W max. (with external speakers, 8Ω)
Power requirements			AC-120V, 50/60 Hz	AC-120V, 50/60 Hz
Power consumption			150W max.	180W max.
Dimensions (WHD)			516 x 409 x 481mm (20 ¹ / ₈ " x 16 ¹ / ₈ " x 19")	653 x 508 x 491mm (25 ³ / ₈ " x 20" x 19 ³ / ₈ ")
Weight			67 lb. 4 oz. (30.5 kg.)	116 lb. 14 oz. (53 kg.)
VIDEO	IN	VTR*	8-pin	Composite: 1Vp-p, sync negative, 75Ω
		Y/C* (S VIDEO)	Mini DIN 4-pin	Y (Luminance signal): 1Vp-p, sync negative, 75Ω C (Chrominance signal): 0.286Vp-p (burst signal), 75Ω
		LINE A	BNC	Composite: 1Vp-p, sync negative, 75Ω switchable
	OUT	LINE B	BNC	Composite: 1Vp-p, sync negative, 75Ω switchable
		LINE A	BNC	Loop-through
		LINE B	BNC	Loop-through
AUDIO	IN	VTR	8-pin	-5 dBs, high impedance
		LINE A	Phono	-5 dBs, high impedance
		LINE B	Phono	-5 dBs, high impedance
	OUT	LINE A	Phono	Loop-through
		LINE B	Phono	Loop-through
		CMPTR IN	25-pin D	For computer equipped with analog or digital RGB

*VTR or S VIDEO can be selected via the selection switch.



20" PVM-1944Q

Super Fine Pitch, SMPTE C Phosphors, for Studio Use

- High resolution of 600 TV lines at center
- Adoption of SMPTE C phosphors for monitor matching
- Beam current feedback circuit for stable color reproduction
- Component (Y/R-Y/B-Y) or RGB input facility
- 6500K/9300K color temperature selection switch
- Comb filter for NTSC
- H/V delay and Normal scan/Underscan selection
- Blue only mode
- User preset function
- Accepts an external sync and sync on Green
- Mountable into a 19" EIA standard rack with optional SLR-101

Optional Accessories:

Monitor Connecting Cable VMC Cable
SLR-101 Slid Rail Kits

Specifications

Video Signals: EIA 525 lines, 60 fields/CCIR 625 lines, 50 fields (switching of EIA to CCIR or vice versa is automatically done)

Color System: NTSC/PAL/SECAM/NTSC_{4.43}^{*1} (automatically selected)

Picture Tube: 52cm (20"), Super Fine Pitch Trinitron tube, visible picture size 49cm (19") measured diagonally, 90° deflection
SMPTE C phosphors

Horizontal Resolution: 600 TV lines at center (Video Inputs)

Audio Power Output: 0.6W with built-in speaker

Power Requirements: AC-120V, 50/60 Hz

Power Consumption: 130W max

Dimensions (WHD): 452 x 461.5 x 502.9mm (17⁷/₈" x 18¹/₄" x 19⁷/₈")

Weight: 66 lb. 2 oz. (30.0 kg.) (approx.)

VIDEO IN

LINE A: BNC: Non-composite 0.7Vp-p, Composite 1Vp-p, sync negative, Automatic 75Ω termination^{*4}

LINE B: BNC: Non-composite 0.7Vp-p, Composite 1Vp-p, sync negative, Automatic 75Ω termination^{*4}

VTR^{*2}: 8-Pin: Composite 1Vp-p, sync negative, 75Ω

Y/C^{*2}: Mini, DIN, 4-pin:
Y (Luminance signal): 1Vp-p, Sync negative, 75Ω
C (Chrominance signal):
NTSC: 0.286Vp-p, 75Ω
PAL: 0.3Vp-p, 75Ω

COMPONENT^{*3}: (BNC) R-Y/B-Y: 0.7Vp-p, Automatic 75Ω termination^{*4}
(BNC) Y/Sync on Green: Composite 1Vp-p, sync negative, Automatic 75Ω termination^{*4}

RGB^{*3}: BNC: 0.7Vp-p, Automatic 75Ω termination^{*4}

VIDEO OUT

LINE A: BNC: Loop-through

LINE B: BNC: Loop-through

COMPONENT: BNC: Loop-through

RGB: BNC: Loop-through

SYNC IN

BNC: 4Vp-p, negative
Automatic 75Ω termination^{*4}

SYNC OUT

BNC: Loop-through

AUDIO IN

LINE A: Phono: -5 dBs; high impedance

LINE B: Phono: -5 dBs; high impedance

VTR: 8-pin: -5 dBs; high impedance

Y/C: Phono: -5 dBs; high impedance

COMPONENT: Phono: -5 dBs; high impedance

RGB: Phono: -5 dBs; high impedance

AUDIO OUT

LINE A: Phono: Loop-through

LINE B: Phono: Loop-through

^{*1} The NTSC_{4.43} system refers to an NTSC color system in which the subcarrier frequency is modified to 4.43 MHz.

^{*2} The Y/C input has priority over the VTR input.

^{*3} RGB/Component is switch selectable.

^{*4} 75Ω termination is automatically set to OFF when connection is made to the OUT connector.

13" PVM-1390

Color Video Monitor

- A high resolution of 450 TV lines (video), 2000 characters (RGB)
- Y/C input
- D-sub 25-pin connector for Analog/Digital RGB input
- Built-in speaker for sound monitoring



C

PVM-1380

Color Video Monitor

- Exclusive Sony Trinitron one-gun/one lens system for superior picture quality
- Two-line selectable audio/video inputs/outputs
- Loop-through with switchable 75Ω termination
- Built-in speaker for audio monitoring

Optional Accessories:
VMC Monitor Connecting Cable
(8-pin (male)/8-pin (male))



PHM/PVM Monitors

Specifications for Color Video Monitors

SPECIFICATIONS				MODEL	PVM-1380	PVM-1390
Video signals				EIA 525 lines, 60 fields		
Color system				NTSC		
Picture tube				Trinitron 36.8cm (14"), visible picture size 33.7cm (13") measured diagonally, 100° deflection		
Horizontal resolution				250 TV lines at center	450 TV lines at center	
Audio power output				1.0W with built-in speaker	0.5W with built-in speaker	
Power requirements				AC-120V, 50/60 Hz		
Power consumption				80W	85W max.	
Dimensions (WHD)				368 x 358.5 x 408.5mm (14½" x 14⅛" x 16⅞")	385 x 342 x 434mm (15¼" x 13½" x 17⅞")	
Weight				25 lb. 6 oz. (11.5 kg.)	28 lb. 9 oz. (13 kg.) (approx.)	
VIDEO	IN	TEST	BNC	—		
		LINE A	BNC	Composite: 1.0Vp-p, sync negative, 75Ω and high impedance switchable		
		LINE B	BNC	Composite: 1.0Vp-p, sync negative, 75Ω and high impedance switchable	—	
	OUT	LINE A	8-pin	VTR: Composite: 1.0Vp-p, sync negative, 75Ω	VTR*: Composite: 1.0Vp-p, sync negative, 75Ω	
			Mini DIN 4-pin	—	Y/C (S VIDEO)*: Y (Luminance signal): 1.0Vp-p, sync negative, 75Ω C (Chrominance signal): 0.286Vp-p, 75Ω	
		LINE B	BNC	Loop-through	—	
SYNC	IN	SYNC IN	BNC	—		
	OUT	SYNC OUT	BNC	—		
AUDIO	IN	LINE A	Phono	-5 dBs, high impedance		
		LINE B	Phono	-5 dBs, high impedance	Y/C (S VIDEO)*: -5 dBs, high impedance	
	OUT	LINE A	8-pin	VTR: -5 dBs, high impedance		
		LINE B	Phono	Loop-through		
CMPTR	IN	LINE A	Phono	Loop-through		
		LINE B	Phono	Loop-through	—	
CMPTR	IN	CMPTR IN	25-pin C	—	For computer with analog or digital RGB	

*VTR or S VIDEO can be selected via the selection switch.

PVM-1344Q

Super Fine Pitch, SMPTE C Phosphors, for Studio Use

- High resolution of 600 TV lines at center
- Adoption of SMPTE C phosphors for monitor matching
- Beam current feedback circuit for stable color reproduction
- Accepts three TV system standards: NTSC and modified 4.43 MHz NTSC; PAL; SECAM
- Component (Y/R-Y/B-Y) or RGB input facility
- 6500K/9300K color temperature selection switch
- Comb filter for NTSC
- H/V delay and Normal scan/Underscan selection
- Blue only mode
- User preset function
- Accepts an external sync and sync on Green
- Built-in speaker for Audio monitoring
- Two composite line inputs and one S-video input
- Mountable into a 19-inch EIA standard rack with optional MB-502A and SLR-102

Optional Accessories:

- Monitor Connecting VMC Cable
- MB-502A Mounting Bracket
- SLR-102 Slide Rail Kit

Specifications

- Video Signals:** EIA 525 lines, 60 fields/CCIR 625 lines, 50 fields (switching of EIA to CCIR or vice versa is automatically done)
- Color System:** NTSC/PAL/SECAM/NTSC_{4.43}^{*1} (automatically selected)
- Picture Tube:** 36.8 cm (14"), Super Fine Pitch Trinitron tube, visible picture size 33.7 cm (13") measured diagonally, 90° deflection
SMPTE C phosphors
- Horizontal Resolution:** 600 TV lines at center (Video Inputs)
- Audio Power Output:** 0.6W with built-in speaker
- Power Requirements:** AC-120V, 50/60 Hz
- Power Consumption:** 99W max
- Dimensions (WHD):** 346 x 340 x 412mm (13 5/8" x 13 1/4" x 16 1/4")
- Weight:** 36 lb. 6 oz. (16.5 kg.) (approx.)
- VIDEO IN**
- LINE A:** BNC: Non-composite 0.7Vp-p, Composite 1Vp-p, sync negative, Automatic 75Ω termination^{*4}
- LINE B:** BNC: Non-composite 0.7Vp-p, Composite 1Vp-p, sync negative, Automatic 75Ω termination^{*4}
- VTR^{*2}:** 8-Pin: Composite 1Vp-p, sync negative, 75Ω
- Y/C^{*2}:** Mini, DIN, 4-pin:
Y (Luminance signal): 1Vp-p, Sync negative, 75Ω
C (Chrominance signal):
NTSC: 0.286Vp-p, 75Ω
PAL: 0.3Vp-p, 75Ω
- COMPONENT^{*3}:** (BNC) R-Y/B-Y: 0.7Vp-p, Automatic 75Ω termination^{*4}
(BNC) Y/Sync on Green: Composite 1Vp-p, sync negative, Automatic 75Ω termination^{*4}



- RGB^{*3}:** BNC: 0.7Vp-p, Automatic 75Ω termination^{*4}
- VIDEO OUT**
- LINE A:** BNC: Loop-through
- LINE B:** BNC: Loop-through
- COMPONENT:** BNC: Loop-through
- RGB:** BNC: Loop-through
- SYNC IN**
- BNC:** 4Vp-p, negative
Automatic 75Ω termination^{*4}
- SYNC OUT**
- BNC:** Loop-through
- AUDIO IN**
- LINE A:** Phono: -5 dBs, high impedance
- LINE B:** Phono: -5 dBs, high impedance
- VTR:** 8-pin: -5 dBs, high impedance
- Y/C:** Phono: -5 dBs, high impedance
- COMPONENT:** Phono: -5 dBs, high impedance
- RGB:** Phono: -5 dBs, high impedance
- AUDIO OUT**
- LINE A:** Phono: Loop-through
- LINE B:** Phono: Loop-through
- ^{*1} The NTSC_{4.43} system refers to an NTSC color system in which the subcarrier frequency is modified to 4.43 MHz.
- ^{*2} The Y/C input has priority over the VTR input.
- ^{*3} RGB/Component is switch selectable.
- ^{*4} 75Ω termination is automatically set to OFF when connection is made to the OUT connector.



14" PVM-1341

High Cost Performance Color Monitor

- A variety of input facilities
- Beam current feedback circuit for stable color reproduction
- 6500°K/9300°K color temperature selection switch
- Comb filter for NTSC
- Accepts Analog/Digital RGB signals
- H/V delay and Normal scan/Underscan selection
- Blue only mode
- Accepts an external sync
- Mountable into a 19-inch EIA standard rack with optional MB-502A and SLR-102

Optional Accessories:
Monitor Connecting VCM Cable
MB-502A Mounting Bracket
SLR-102 Slide Rail Kit

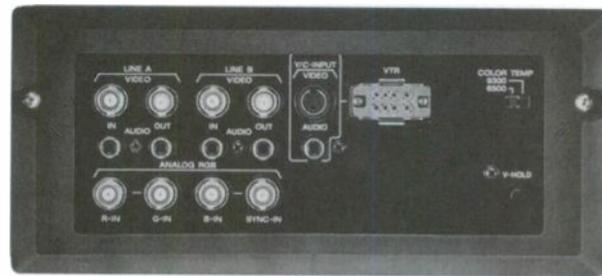
PVM-1340

Color Monitor for General Use

- Beam current feedback circuit for stable color reproduction
- 6500K/9300K color temperature selection switch
- Comb filter for NTSC
- Dynamic picture for high contrast picture reproduction
- Accepts an RGB video signal
- Blue only mode
- Mountable into a 19-inch EIA standard rack with optional MB-502A and SLR-102

Optional Accessories:

- VMC Monitor Connecting Cable
- MB-502A Mounting Bracket
- SLR-102 Slide Rail Kits



Specifications for Color Video Monitors

SPECIFICATIONS		MODEL		PVM-1341	PVM-1340	
Video Signals		EIA 525 lines, 60 fields				
Color System		NTSC				
Picture Tube		36.8 cm (14"), Dark tint Trinitron tube, visible picture size 33.7 cm (13") measured diagonally, 90° deflection				
Horizontal Resolution		450 TV lines at center (Video Inputs) 640 x 200 pixels (RGB inputs)		450 TV lines at center (Video Inputs)		
Audio Power Output		0.6W with built-in speaker				
Power Requirements		AC-120V, 50/60 Hz				
Power Consumption		99 W max				
Dimensions (WHD)		346 x 340 x 412mm (13 ⁵ / ₈ " x 13 ¹ / ₂ " x 16 ¹ / ₄ ")				
Weight		36 lb. 6 oz. (16.5 kg.) (approx.)				
VIDEO	IN	LINE A	BNC	Non-composite 0.7Vp-p, Composite 1Vp-p, sync negative, Automatic 75Ω termination* ⁴	Composite 1Vp-p, sync negative, Automatic 75Ω termination* ⁴	
		LINE B	BNC	Non-composite 0.7Vp-p, Composite 1Vp-p, sync negative, Automatic 75Ω termination* ⁴	Composite 1Vp-p, sync negative, Automatic 75Ω termination* ⁴	
		VTR* ²	8-Pin	Composite 1Vp-p, sync negative, 75Ω		
		Y/C* ²	Mini DIN 4-Pin	Y (Luminance signal): 1Vp-p, Sync negative 75Ω C (Chrominance signal): 0.286Vp-p, 75Ω		
		RGB* ³	BNC	0.7Vp-p, Automatic 75Ω termination* ⁴	0.7Vp-p, 75Ω	
	OUT	LINE A	BNC	Loop-through		
		LINE B	BNC	Loop-through		
		RGB	BNC	Loop-through	—	
	SYNC	IN	BNC	4Vp-p, negative, Automatic 75Ω termination* ⁴	4Vp-p, negative 75Ω	
		OUT	BNC	Loop-through	—	
AUDIO	IN	LINE A	Phono	-5 dBs, high impedance		
		LINE B	Phono	-5 dBs, high impedance		
		VTR	8-pin	-5 dBs, high impedance		
		Y/C	Phono	-5 dBs, high impedance		
		RGB	Phono	—	—	
	OUT	LINE A	Phono	Loop-through		
		LINE B	Phono	Loop-through		
CMPTR	IN	9-pin D	TTL, For computer equipped with digital RGB		—	

*¹ The NTSC_{4.43} system refers to an NTSC color system in which the subcarrier frequency is modified to 4.43 MHz.

*² The Y/C input has priority over the VTR input.

*³ RGB/component is switch selectable.

*⁴ 75Ω termination is automatically set to OFF when connection is made to the OUT connector.

PVM-8044Q

Super Fine Pitch, Rack-Mount Type Monitor for Studio Use

- High resolution 8-inch Trinitron CRT provides 450 TV lines horizontal resolution
- Beam current feedback for stable color reproduction and comb filter for improved luminance/chrominance separation
- 8-inch Trinitron CRT
- Component input (Y/R-Y/B-Y or RGB), Y/C input and composite inputs for convenience and versatility
- Pulse cross and Blue only modes
- AC or DC powered for field operation
- Accepts external sync and sync on green signal of an RGB input
- 19-inch EIA standard rack mountable
- Compatible with NTSC, PAL, SECAM and NTSC4.43

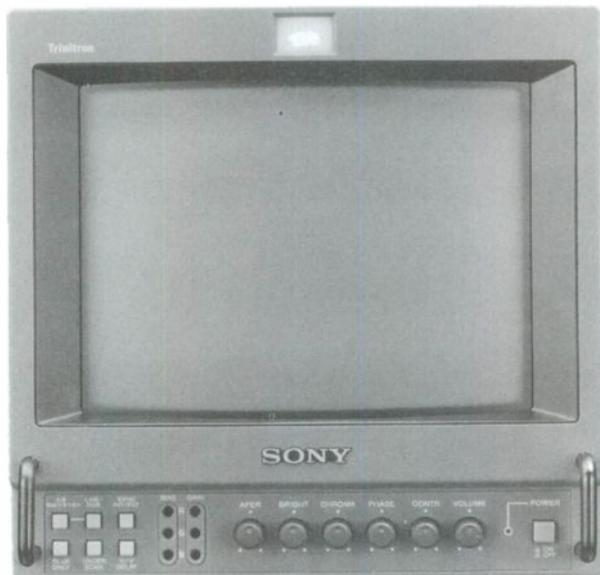


C

PVM-8041Q

AC/DC Operation, Portable Color Video Monitor

- Beam current feedback for stable color reproduction and comb filter for improved luminance/chrominance separation
- 8-inch Trinitron CRT
- Component input (Y/R-Y/B-Y or RGB), Y/C input and composite inputs for convenience and versatility
- Pulse cross and Blue only modes
- AC or DC powered for field operation
- Accepts external sync and sync on green signal of an RGB input
- 19-inch EIA standard rack mountable
- Compatible with NTSC, PAL, SECAM and NTSC4.43





PVM-8040

8-Inch Portable Color Video Monitor

■ Beam current feedback for stable color reproduction over a long period of time ■ Heavy duty construction with metal cabinet to minimize electromagnetic interference between adjacent monitors ■ Built-in speaker ■ 19-inch EIA standard rack mountable

Optional Accessories:

MB-504 rack mount for two PVM8040 monitors in a 19" rack

Specifications

Video Signal System: EIA Standard, NTSC Color
Picture Tube: 8" Trinitron® measured diagonally, 70° deflection
Video Input: BNC type, 1Vp-p ± 6 dB composite 75Ω, sync negative
Video Output: BNC-type, 1Vp-p ± 6 dB composite, sync negative
Horizontal Resolution: > 250 lines
Power Requirements: AC-120V 60 Hz
Power Consumption: AC-40W
Operating Temperature: -10°C to 40°C (14°F to 104°F)
Storage Temperature: -10°C to 149°C (14°F to 149°F)
Dimensions (WHD): 216 x 217 x 351mm
(8½" x 8½" x 13¾")
Rack Mount: Optional MB-507 for two monitors, MB-509 blank panel for mounting one PVM-8040
MAMB-507
Weight: 16 lbs. 8 oz. (7.5 kg.)

Specifications for Portable Color Video Monitors

SPECIFICATIONS		MODEL	PVM-8044Q	PVM-8041Q	PVM-8040
GENERAL	Color System		NTSC/PAL/SECAM/NTSC _{4.43}	NTSC/PAL/SECAM/NTSC _{4.43}	NTSC
	CRT Type		9" HR Trinitron Tube, visible picture size 8" measured diagonally, 70° deflection, AG pitch 0.25mm	9" Trinitron Tube, visible picture size 8" measured diagonally, 70° deflection, AG pitch 0.5mm	
	Resolution		Composite video: 450 TV lines at center	Composite video: 250 TV lines at center	
	Frequency Response		6.0 MHz (-3.0 dB)		
	Aperture Correction		-4.0 dBs to +6.0 dB (at 3.0 MHz)		
	Synchronization		AFC time constant 1.0 ms		
	Normal Scan		6% overscan		
	Underscan		3% underscan	—	
	H Linearity		< 7% (Typical)		
	V Linearity		< 7% (Typical)		
	Convergence		Central: 0.43mm (Typical) Corner: 0.53mm (Typical)		
	Raster Size Stability		H: 1.0%, V: 1.5%		
	HV Regulation		3.0% (Cut off to High light)		
	Color Temperature		6500K (D65)		
	Operating Temperature		0 to 35°C (32°F to 95°F)		
	Storage Temperature		-10 to 40°C (14°F to 104°F)		
	Humidity		0 to 90%		
	Power Requirements		AC: 120V, 50/60 Hz DC: 12V		AC: 120V, 50/60 Hz
Power Consumption		40W (Typical)			
VIDEO INPUT	LINE A/ LINE	Composite Video*1	Loop-through BNC connector 1Vp-p ± 6 dB, Sync negative, Automatic 75Ω termination*2		
		Y/C*1	Loop-through BNC Mini DIN 4-pin connector Y (luminance): 1Vp-p ± 6 dB, Sync negative, Automatic, 75Ω termination*2 C (chrominance): (NTSC): 0.286Vp-p ± 6 dB, Automatic 75Ω termination*2 (PAL): 0.3Vp-p ± 6 dB, Automatic 75Ω termination*2	Loop-through Mini DIN 4-pin connector Y (luminance): 1Vp-p ± 6 dB, Sync negative, Automatic 75Ω termination*2 C (chrominance): (NTSC): 0.286Vp-p ± 6 dB, Automatic 75Ω termination*2	
	LINE B	Composite Video	Loop-through BNC connector 1.0Vp-p ± 6 dB, Sync negative, Automatic 75Ω termination*2	—	
COMPONENT (RGB/Y, R-Y, B-Y)*3			BNC connector Red/R-Y: Non-composite: 0.7Vp-p ± 6 dB, Positive, 75Ω terminated Sync on Green/Green/Y: Composite: 1Vp-p ± 6 dB, Positive, Non composite: 0.7Vp-p ± 6 dB, positive, 75Ω terminated Blue/B-Y: Non-composite: 0.7Vp-p ± 6 dB, positive, 75Ω terminated	—	
EXTERNAL SYNC			Loop-through BNC connector 4.0Vp-p ± 6 dB, negative, Automatic 75Ω termination*2	—	
DC			XLR 4-pin connector	—	
TALLY			Mini DIN 8-pin connector	—	
AUDIO INPUT	LINE A/LINE		Loop-through BNC connector -5 dBs, high impedance		
	LINE B		Loop-through Phono connector -5 dBs, high impedance	—	
	RGB/Y, R-Y, B-Y		Phono connector -5 dBs, high impedance	—	
OUT-PUT	Speaker Out:		0.5W, 8Ω, monaural		
PHYSICAL CHARACTERISTICS	Weight		Approx. 16 lb. 9.5 oz. (7.5 kg.) without batteries		
	Dimensions (WHD):		Approx. 217 x 217 x 352.5mm (8 ⁵ / ₈ " x 8 ⁵ / ₈ " x 14")		
SUPPLIED ACCESSORIES			AC power cord, Mini DIN 8-pin connector (350Ω, 13 ⁷ / ₈ "). Tally number plates (For PVM-8044Q/8041Q, 12 pcs: No. 1 to 5, A, B, C, P, R, white x 2 pcs), Operation manual		

*1: The Y/C input has priority over the composite video input.

*2: 75Ω termination is automatically set to OFF when connection is made to the OUT connector.

*3: RGB and Y/R-Y/B-Y input is switch selectable.





PVM-5041Q

Color Video Monitor

■ Compact, rugged lightweight 5-inch color monitor especially suited for field operation ■ Also ideal in studios when rack mounted ■ Beam current feedback circuit for greatly improved color balance stability ■ Accepts composite video component (Y/R-Y/B-Y or RGB) and an external sync input for system versatility

Supplied Accessories:

AC Power Cord
Mini DIN 8-pin Connector with Cable (cable length: 350mm, 13⁷/₈")
Operation Manual

Specifications

General

Color System: NTSC/PAL/SECAM/NTSC4.43
CRT Type: 6-inch Trinitron Tube, visible picture size 5-inch measured diagonally, 70° deflection, AG pitch 0.5mm
Resolution: Composite Video 220 TV lines
Frequency Response: 6.0 MHz (−3 dB)
Aperture Correction: −4.0 dB to +6.0 dB (at 3.0 MHz)
Synchronization: AFC time constant 1.0 ms
Normal Scan: 6% overscan
Underscan: 3% underscan
H-linearity: < 7.0% (Typical)
V-linearity: < 7.0% (Typical)
Convergence: Central: 0.5mm, Peripheral: 0.6mm (Typical)
Raster Size Stability: 2.0% (Typical)
HV-Regulation: 3.0% (Cut off to high light)
Color Temperature: D65
Operating Temperature: 0°C to 35°C (32°F to 95°F)
Storage Temperature: −10°C to 40°C (14°F to 104°F)
Humidity: 0%–90%
Power Requirements: AC-120V, DC-12V
Power Consumption: AC: 42W (max.), DC: 40W (max.)

Input

Video Input Line: Composite Video: Loop-through BNC connector
1Vp-p ± 6 dB, Sync negative, Automatic 75Ω termination*
(*75Ω termination is automatically set to OFF when connection is made to the OUT connector)

Component (Y/R-Y/B-Y or RGB)*: BNC connector
Red/R-Y: Non-composite
0.7Vp-p ± 6 dB, Positive, 75Ω
Sync on Green/Y:
Composite: 1Vp-p ± 6 dB, Sync negative, 75Ω
Green: Non-composite: 0.7Vp-p ± 6 dB, Positive, 75Ω
Blue/B-Y: Non-composite: 0.7Vp-p ± 6 dB, Positive, 75Ω
(*Y/R-Y/B-Y or RGB input is switch selectable)

External Sync: BNC connector
4.0Vp-p ± 6 dB, Negative, 75Ω

DC: XLR 4-pin connector

Remote: Mini DIN 8-pin connector

Audio Input Line: Loop-through phono connector −5 dBs, high impedance

Component (Y/R-Y/B-Y or RGB): Phono connector
−5 dBs, high impedance

Output

Speaker Out: 0.5W, 8Ω, monaural

Physical Characteristics

Weight: 12 lb. 2 oz. (5.5 kg.) (approx.)

Dimensions (WHD): 146 x 173 x 352.5mm
(5³/₈" x 6⁷/₈" x 14") (approx.)

GVM-2020

Color Monitor for a Variety of Sources

- Multiple input facility with audio
- MultiScan capability; horizontal 15 kHz to 36 kHz, vertical 50 Hz to 100 Hz
- A high resolution of 560 TV lines/720 x 480 pixels
- Beam current feedback circuit for stable color reproduction
- Can be used with IBM PC with CGA/EGA display adaptor, IBM PS/2
- 8/16/64-color display capability
- Horizontal shift and Horizontal/Vertical size controls in RGB mode
- Slot type RGB input modules for future I/F board
- Optional wireless remote control unit RM-787

Optional Accessories:

RM-787 Wired Remote Control Unit



C

13" GVM-1316TSQ

(NTSC/PAL/SECAM/NTSC_{4.43})

- Employs Surface Acoustic Wave touch screen system for high transparency and reliability
- Two-piece construction
- Multiscan capability; horizontal 15 kHz–36 kHz, vertical 50 Hz–100 Hz
- A high resolution of 1024 x 768 pixels (RGB)/600 TV lines (composite video)
- Can be used with IBM PC with CGA/EGA card, IBM PS/2, and Apple Macintosh II color mode
- VGA autosize function in RGB A mode
- Horizontal and vertical size/shift controls in RGB mode
- Slot type RGB input for future I/F board
- 8/16/64-color and monochrome display capability
- Sub picture control for RGB mode
- Built-in speaker and earphone jack for audio monitoring
- Minimizes VLF/ELF interference

Supplied Accessories:

Softwares for Touch Screen;

Users' Disk 3.5-inch (1 piece), 5-inch (1 piece)

Programmers' Disk 3.5 inch (1 piece), 5-inch (1 piece)

Optional Accessories:

RM-787 Wired Remote Control Unit

SU-552 Tilt Swivel Stand





13" GVM-1311Q

(NTSC/PAL/SECAM/NTSC_{4.43})

- Multiple input facility with audio
- Multiscan capability; horizontal 15 kHz–36 kHz, vertical 50 Hz–100 Hz
- A high resolution of 600 TV lines/1024 x 768 pixels
- Can be used with IBM PC with CGA/EGA card, IBM PS/2, and Apple Macintosh II color mode
- 8/16/64-color and monochrome display capability
- VGA Audiosize function in RGB A mode
- Horizontal and vertical size/shift controls in RGB mode
- Slot type RGB input for future I/F board
- Sub picture control for RGB mode
- Built-in speaker and earphone jacks for audio monitoring
- Minimizes VLF (Very Low Frequency)/ELF (Extreme Low Frequency) interference

Optional Accessories:

RM-787 Wired Remote Control Unit
SU-552 Tilt Swivel Stand

Specifications for Color Video Monitors

SPECIFICATIONS		MODEL		GVM-1311Q	GVM-1316TSQ	GVM-2020	
Video signals		EIA 525 lines, 60 fields/CCIR 625 lines, 50 fields (switching of EIA to CCIR or vice versa is automatically done)				EIA 525 lines, 60 fields	
Color system		NTSC/PAL/SECAM/NTSC _{4.43} ^{*3} (automatically selected)				NTSC	
Picture tube		14" Super Fine Pitch Trinitron CRT, visible picture size 13" measured diagonally, AG pitch 0.25mm				54.5cm (21"), Fine Pitch Trinitron tube, visible picture size 50.6cm (20") measured diagonally, 100° deflection	
Horizontal resolution		600 TV lines (Video inputs) 1024 x 768 pixels (RGB Inputs)				560 TV lines (Video inputs) 720 x 480 pixels (RGB Inputs)	
Scanning frequency		Horizontal: 15 kHz to 36 kHz Vertical: 50 Hz to 100 Hz					
Audio power output		0.5W, 8Ω, monaural				2.0W with built-in speaker	
Power requirements		AC-120, 50/60 Hz					
Power consumption		95W		103W		160W	
Dimensions (WHD)		379 x 365 x 411mm (15" x 14 ³ / ₈ " x 16 ¹ / ₄ ")		379 x 365 x 421mm (15" x 14 ³ / ₈ " x 16 ¹ / ₈ ")		510 x 475 x 510mm (20 ¹ / ₈ " x 18 ³ / ₄ " x 20 ¹ / ₈ ")	
Weight		Approx. 37 lb. 8 oz. (17 kg.)		Approx. 40 lb. 13 oz. (18.5 kg.)		Approx. 66 lb. 2 oz. (30.0 kg.)	
VIDEO	IN	LINE A	BNC	Composite 1.0Vp-p, sync negative, Automatic 75Ω termination ^{*2}		Composite 1.0Vp-p, sync negative, Automatic 75Ω termination ^{*2}	
		LINE B ^{*1}	Mini DIN 4-pin	Y/C: Y (Luminance signal): 1.0Vp-p, sync negative, 75Ω switchable C (Chrominance signal): NTSC: 0.286Vp-p, 75Ω, switchable PAL: 0.3Vp-p, 75Ω, switchable		Y/C: Y (Luminance signal): 1.0Vp-p, sync negative, 75Ω switchable C (Chrominance signal): NTSC: 0.286Vp-p, 75Ω switchable	
			BNC	—		Composite 1.0Vp-p, sync negative, Automatic 75Ω termination ^{*2}	
	OUT	LINE A	BNC	Loop-through			
		LINE B	Mini DIN 4-pin	Loop-through			
			BNC	—		Loop-through	
RGB	IN	RGB A	9-pin D	Analog RGB: 0.7Vp-p, positive, 75Ω Digital RGB: TTL level, positive Sync: Analog level: 1.0Vp-p, negative, 75Ω Sync on Green: 0.3Vp-p, negative, 75Ω TTL level: negative/positive		Analog RGB: 0.7Vp-p, positive, 75Ω Digital RGB: TTL, positive Sync: Composite sync; 1.0Vp-p, negative, 75Ω H/V separate sync; TTL, negative/positive	
		RGB B	25-pin D	Analog RGB: 0.7Vp-p, positive, 75Ω Digital RGB: TTL level, positive Sync: Analog level: 1.0Vp-p, negative, 75Ω Sync on Green: 0.3Vp-p, negative, 75Ω TTL level: negative/positive		—	
			BNC	—		RGB: 0.7Vp-p, positive, 75Ω Sync: Composite sync; 1.0Vp-p, negative, 75Ω H/V separate sync; TTL, negative/positive Sync on Green: 0.3Vp-p, negative, 75Ω	
AUDIO	IN	LINE A	Phono	-5 dBs, high Impedance			
		LINE B	Phono	-5 dBs, high Impedance			
		RGB A	Phono	-5 dBs, high Impedance			
		RGB B	Phono	-5 dBs, impedance > 47 kΩ	-5 dBs, high Impedance		
	OUT	LINE A	Phono	Loop-through			
		LINE B	Phono	Loop-through			
Touch screen for GVM-1316TSQ							
External computer Interface		RS232C port, D-sub 25-pin Baud rate: 9600 bps, Communication Protocol: Binary					
Material		Glass (non-glare), 3.2mm thick					

*1The Y/C input has priority over the composite input.

*275Ω termination is automatically set to OFF when connection is made to the OUT connector.

*3The NTSC_{4.43} system refers to an NTSC color system in which the subcarrier frequency is modified to 4.43 MHz.



B/W Monitors



PVM-411

Rack Mount Type

- Specially designed as a camera monitor for a surveillance system or a video studio with multiple camera installation
- Accepts external sync
- BNC connectors for cable connections



PVM-91

High Resolution Monitor

- 800 TV lines of horizontal resolution at center
- Normal/Underscan can be selected
- DC clamp switch provides a stable reference for the black level
- Accepts an external sync
- Can be used as a dual monitor with the MB-504 optional bracket

Optional Accessories:
MB-504 Mounting Bracket



PVM-122

High Resolution Monitor

- 1,000 TV lines of horizontal resolution at center
- Normal/Under scanning selection
- Accepts an external sync
- Dual inputs (LINE A and B)
- Built-in speaker for audio monitoring
- DC Clamp ON/OFF switch

Optional Accessories:
SLR-102 Rack Mounting Rail

Specifications for Monochrome Video Monitors

MODEL		PVM-411	PVM-91	PVM-122
SPECIFICATIONS				
Video signals		EIA 525 lines, 60 fields	EIA 525 lines, 60 fields	EIA 525 lines, 60 fields
Picture tube		10.3cm (4"), visible picture size 9.4cm (3.7") measured diagonally, 50° deflection	23.3cm (9"), visible picture size 21.1cm (8.3") measured diagonally, 90° deflection	31.9cm (12"), visible picture size 29.5cm (11.6") measured diagonally, 90° deflection
Horizontal resolution		500 TV lines at center	800 TV lines at center	1000 TV lines at center
Power requirements		AC-120V, 50/60 Hz	AC-120V, 50/60 Hz	AC-120V, 50/60 Hz
Power consumption		56W	38W	37W Max.
Dimensions (WHD)		483 x 133 x 410mm (19 ¹ / ₈ " x 5 ¹ / ₄ " x 16 ¹ / ₄ ")	216 x 228.5 x 246.5mm (8 ⁵ / ₈ " x 9 x 9 ³ / ₄ ")	302 x 305 x 336mm (12" x 12 ¹ / ₈ " x 13 ¹ / ₄ ")
Weight		30 lb. 14 oz. (14.2 kg.)	13 lb. 7 oz. (6.1 kg.)	21 lb. 10 oz. (9.8 kg.)
Video IN	BNC	Composite: 1.0Vp-p, sync negative, 75Ω and high impedance switchable Non-composite: 0.7Vp-p	Composite: 1.0Vp-p, sync negative, 75Ω and high impedance switchable Non-composite: 0.7Vp-p	Composite: 1.0Vp-p, sync negative, 75Ω and high impedance switchable Non-composite: 0.7Vp-p (both LINE A & B)
Video OUT	BNC	Loop-through	Loop-through	Loop-through
Audio IN	Mini	—	—	-5 dBs, high impedance
Audio OUT	Mini	—	—	Loop-through
Audio power output	—	—	—	1W with built-in speaker
Sync IN	BNC	4.0Vp-p, negative, 75Ω switchable	1.0 to 8.0Vp-p, negative, 75Ω switchable	2.0 to 8.0Vp-p, negative, 75Ω switchable
Sync OUT	BNC	Loop-through	Loop-through	Loop-through



CKV-27EXR/20EXR

Trinitron® Color TV Monitor

■ Microblack Trinitron tube for a high resolution/high contrast picture display ■ CKV-27EXR: 27-inch screen measured diagonally, CKV-20EXR: 20-inch screen measured diagonally ■ Comb filter and notch filter (3.58 MHz, ON/OFF selectable) for reduced cross color/dot interference ■ New dynamic color with Trinitone® color adjustment system (Trinitone HIGH/LOW selectable) for natural color reproduction ■ Dynamic picture for enhanced contrast ■ Multi-band tuner is capable of receiving up to 181 channels with MTS and Matrix Surround Sound system

Supplied Accessories:

RM-77 Remote Commander
Size AA battery for RM-771 (2)
Operation Manual

Optional Accessories:

EAC-66 U/V Mixer
EAC-31 Antenna/Connector
UGC-1/2, RK-C73/C75, YC-15V/30V Connecting Cables

Specifications

General

Color System: NTSC
TV System: American TV Standard
Channel Coverage: VLF: 2 ch-6 ch, VHF: 7 ch-13 ch, UHF: 14 ch-69 ch, CATV: 1 ch-125 ch
Antenna Terminal: 75 Ω external antenna terminal for VHF/UHF/CATV
Picture Tube: CKV-27EXR 28" Microblack Trinitron tube, visible picture size 27" measured diagonally, 100° deflection
CKV-20EXR 21" Microblack Trinitron tube, visible picture size 20" measured diagonally, 100° deflection
Horizontal Resolution: CKV-27EXR 500 TV lines
CKV-20EXR 450 TV lines
White Balance: Dark (10 Nit): 8000K
Trinitone®: Low, bright picture: 8000K
High, bright picture: 9000K
Normal Scan: 15% overscan
Power Requirements: AC-120V, 60 Hz
Power Consumption: CKV-27EXR: Max. 160W (stand by: 1.5W)
CKV-20EXR: Max. 130W
Weight: CKV-27EXR: 108 lb. 1 oz. (49 kg.)
CKV-20EXR: 55 lb. 2 oz. (25 kg.)

Video Inputs

VIDEO 1: S VIDEO: Mini DIN 4-pin connector
(Y/C Separate): Y (luminance):
1Vp-p, sync negative, 75 Ω
C (chrominance):
NTSC: 0.286Vp-p, 75 Ω

Composite Video: BNC connector
1Vp-p, sync negative, 75 Ω

VIDEO 2: Composite Video: BNC connector
1Vp-p, sync negative, 75 Ω

Audio Input:

VIDEO 1: Phono connector (x 2)
500 mVrms, impedance 47 k Ω
VIDEO 2: Phono connector (x 2)
500 mVrms, impedance 47 k Ω

Output

Audio Out (Variable): Phono connector (x 2)
> 408 mVrms at the maximum volume setting
(variable), impedance: 5 k Ω

Speaker Out: 5W (x 2)

CVM-1271

12" Trinitron® Color TV Receiver/Monitor

■ Patented Trinitron color system ■ 12" picture, measured diagonally ■ Built-in TV channel tuner ■ Super Fine Pitch™ tube with 0.25mm Aperture Grille ■ Comb filter for high resolution ■ 500 lines of horizontal resolution, via video inputs

Supplied Accessories:

F-Type Connector
Antenna Connector with 300Ω–75Ω matching transformer

Specifications

Video Signals: IEA 525 lines, 60 fields
Color System: NTSC
TV Signal Standard: American TV Standard; VHF channels 2–13, UHF channels 14–83 (channels 2–13 preset at factory)
Picture Tube: Super Fine Pitch Trinitron tube (0.25mm phosphor stripe pitch), 12" picture measured diagonally, 90° deflection
Horizontal Resolution: > 500 lines, video input
Color Temperature: Switchable 6500°K or 9300°K
Frequency Response: 5.5 MHz, –3 dB composite video
Linearity: Horizontal: +8%; Vertical: +5%
Long Pull Range: Horizontal: +500 Hz; Vertical: 10 Hz
Video Inputs: 8-pin VTR connector 0.5Vp-p–1.5Vp-p, 75Ω sync negative, Line BNC connector; 1.0Vp-p nominal, 75Ω, sync negative
Audio Inputs: 8-pin VTR connector and minijack; –5 dB, high impedance
Loop-Through Outputs: Video Out BNC connector 1.0Vp-p, 75Ω, sync negative, high impedance; Audio Out minijack –5 dB, <4.7 kΩ
Video Outputs: Video Out BNC connector 1.0Vp-p, 75Ω, sync negative, high impedance; Audio Out minijack –5 dB, <4.7 kΩ
TV Outputs: Video Out BNC connector 1.0Vp-p, 75Ω, sync negative, high impedance; Audio Out minijack –5 dB, <4.7 kΩ
VTR Outputs: 8-pin VTR connector 1.0Vp-p, 75Ω, sync negative, high impedance; Audio Out minijack –20 dB, <4.7Ω
Antenna Inputs: 75Ω for VHF (F-type connector); 300Ω screw terminals for UHF
Power Requirements: 120V AC, 50/60 Hz
Power Consumption: 80W average
Dimensions (WHD): 339 x 346 x 388mm (13⁵/₈" x 13⁵/₈" x 15³/₈")
Weight: 34 lb. 13 oz. (15.8 kg.)



FDL-X600

LCD Color Monitor

- 5.9-inch (visible size) Liquid Crystal Display (LCD)
- Thin Film Transistor Active Matrix LCD panel with 194,040 pixel
- Accepts both NTSC and PAL signals
- DC operation capability
- Switchable to B/W mode
- Color temperature switch selectable; 5000°K/6500°K/9300°K
- Automatic detection of EXT SYNC and SYNC ON GREEN
- Multiple input facilities
- Built-in monaural speaker

Supplied Accessories:

Detachable Hood
Carrying Belt

Optional Accessories:

AC-S10, AC-V55 AC Power Adaptor
DCP-77 Car Battery Adaptor
Rechargeable Battery Pack
NP-55H/66H/77H/77HD
EBP-77 Battery Case

Specifications

General

- System:** 525 lines, 60 fields/625 lines, 50 fields
NTSC and PAL automatically selected
- LCD Panel:**
- Drive Method:** TN (Twisted Nematic) full color with Anti-Reflection Glass Panel
a-Si TFT (Thin Film Transistor) Active Matrix, Normally White, Non-Interface, line order scan (NTSC) with line skip (PAL)
- Picture Size:** Visible picture size 5.9" (14.9cm) measured diagonally
- Dots, Pixels:** Dot pitch: 404 μm (V) x 405 μm (H); 135 μm for each pixel
Pixel number: 220 (V) x 882 (H) = 194,040
RGB delta arrangement
- Color Temperature:** 9300K or 6500K or 5000K switchable
- Horizontal Resolution:** Composite video input; 330 TV lines
RGB input; 294 dots
- Speaker:** 0.15W monaural
 \varnothing 28mm Round x 1
- Power Requirements:** DC-8V-9V
- Power Consumption:** 12W (approx.)
- Dimensions (WHD):** 216 x 132 x 82.4mm
(8 $\frac{5}{8}$ " x 5 $\frac{1}{4}$ " x 3 $\frac{1}{4}$ "
(including projecting parts and controls)
- Weight:** 2 lb. 10 oz. (1.2 kg.) (approx.)

Input/Output

- Video Inputs:** Composite video
Line A/B; Loop-through BNC
Y/C; Mini-DIN 4-pin
RGB Input (Analog); D-sub 9-pin
- Audio Inputs:** Composite video
Line A/B; Loop-through phono
Y/C; Phono
- RGB:** Phono
- Headphone Output:** \varnothing 3.5 Stereo mini jack (Audio monaural)

FDL-X40

LCD Color Monitor

- High-quality 4-inch color liquid crystal display (LCD)
- Audio playback with built-in speaker
- Built-in fluorescent lamps provide high and equal luminescence, and allows for variable adjustments in brightness
- Four-way AC/DC power capability
- Auto power saving function turns the power off automatically when there is no signal coming into the monitor

Supplied Accessories:

VF-K41 Shading Hood
 AV Connecting Cord
 Instruction Manual
 VCT-K41 Connecting Bounce Shoe

Optional Accessories:

NP-77H Battery Pack
 ACV-55 AC Power Adaptor

Specifications

Color System: NTSC
 Display: TN LCD/TFT active matrix
 Picture Size: 4" picture measured diagonally
 80.6 x 60.5mm (3¹/₄" x 2¹/₂")
 Picture Elements: 105,600 pixels (480 x 220)
 Speaker: 36mm (1⁷/₁₆") round
 Input Jack: A/V In jack: minijack.
 Input impedance: Audio 47 k Ω , 500 mVrms;
 Video 75 Ω , 1Vp-p
 Output Jacks: A/V Out jack: minijack
 Output impedance: Audio 1 k Ω
 Video: 75 Ω , 1Vp-p
 Earphone jack: Stereo minijack;
 Load impedance: 8-45 Ω
 Power Requirements: 6V DC
 Battery Life: NP-77H (approx. 205 min.)
 Power Consumption: 4.2W (approx.)
 Dimensions (WHD): 135 x 114 x 49mm
 (5⁵/₁₆" x 4¹/₂" x 1⁹/₁₆")
 (Not including projecting parts and controls)
 Operating Temperature: 0°C to 40°C (32°F to 104°F)
 Weight: 11 oz. (350 g.) (approx.) not including batteries



C

APM-X5A

Speaker System (One Pair)

■ For PVM-2030/2530/3230 ■ Provides high quality Hi-fi sound ■ Magnetically shielded ■ Can be attached directly to the monitor

Specifications

Dimensions (WHD): 183 x 280 x 80mm
(7 1/4" x 11 1/8" x 3 1/8")
Weight: 5 lb. 8 oz. (2.5 kg.)

BKM-2080

Digital 4:2:2 Input Kit for the BVM-1912/1910/1915 Series (Both parallel and serial video available)

BKM-2085

Digital 4:2:2 Serial Input Kit for the BVM-1912/1910/1915/1310/1315 Series

BKM-2090

D-2 Serial Input Adaptor Kit for the BVM-1912/1910/1915/1310/1315 Series

DCC-16AW

Car Battery Cord

■ Supplies car battery power to Sony portable video monitor

Specifications

Input: DC-12V or 24V
Output: DC-12V or 24V
Max. Output Current: 5A
Cable Length: 3m (9.8 ft.)

DMIF-1000

Digital Monitor Interface

- Accepts a Component Serial Digital Video signal input
- Outputs analog component (Y, R-Y, B-Y) signals
- Operates in either 525/60 or 625/50 systems (automatic selection)
- Employs active outputs
- 19" EIA standard rack mountable with a second DMIF-1000 using the optional rack mount kit MB-510

Optional Accessories:
MB-510 Rack Mount Kit

Specifications

Digital Serial Component: BNC, 75Ω
Output Signal

Digital Serial Component: Active through-out BNC, 75Ω
Analog Component: Y: BNC, 75Ω
R-Y/B-Y: BNC, 75Ω

Signal System: 525/60 or 625/50, automatic selection
Transmission Length: Max. 200m (656 ft.)
Sampling Frequency: Y: 13.5 MHz
R-Y/B-Y: 6.75 MHz

Bit Rate: 270 Mb/sec
Quantization: 8 bits/sample
Video Bandwidth: Y: 100 Hz to 5.75 MHz ± 1 dB
R-Y/B-Y: 100 Hz to 2.75 MHz ± 1 dB

K Factor: < 1% (2T pulse)

Power Requirements: AC-100V-240V, 50/60 Hz, automatic selection

Power Consumption: 15W
Dimensions (WHD): 212 x 44 x 280mm
(8³/₈" x 1³/₄" x 11¹/₈")
Weight: 4 lb. 6 oz. (2 kg.)



DMIF-2000

Digital Monitor Interface

- Accepts a composite serial digital video signal input
- Outputs analog composite signals
- Operates in both NTSC and PAL systems (front panel switch)
- Active buffered output which allows the signal to be fed to other equipment up to 200m away
- 19" EIA standard rack mountable with a second DMIF-2000 using the optional rack mount kit MB-510

Optional Accessories:
MB-510 Rack Mount Kit

Specifications

Power Requirements: AC-100V-240V, 50/60 Hz automatic selection
Power Consumption: 10W
Dimensions (WHD): 212 x 22 x 280mm
(8³/₈" x 1³/₄" x 11¹/₈")
Weight: 4 lb. 6 oz. (2 kg.)

Input:
Serial Composite: BNC, 75Ω

Output:
Analog Composite: BNC, 75Ω
Active Output: BNC, 75Ω
Signal System: NTSC or PAL manual selection

Sampling Frequency: NTSC: 14.3 MHz
PAL: 17.7 MHz

Bit Rate: NTSC: 143 Mb/s
PAL: 177 Mb/s

Quantization: 8 bits/sample
Video Bandwidth: 100 Hz-6 MHz ± 1 dB
K Factor: < 1% (2T pulse)





Supplied Accessories:

AC Power Adaptor
Sony Blue Filter
Operation Manual

Optional Accessories:

NP-55H/NP-77H Rechargeable Battery Pack
BC-S10/DC-S10 Battery Charger

Specifications

General

Compatible Monitors:	Any monitor with a demodulation axis of 90° and a BNC composite video input.
Color System:	NTSC
Composite Video Output:	BNC 1Vp-p ±0.5 dB, unbalanced, sync negative, 75Ω
Storage Temperature:	-10°C to 40°C (14°F to 104°F)
Operating Temperature:	0°C to 35°C (32°F to 95°F)
Power Requirements:	6V DC (AC power adaptor) 6V DC (battery pack)
Power Consumption:	1.5W
Weight:	15 oz. (420 g) (approx.)
Dimensions (WHD):	104 x 48 x 268mm (4 ¹ / ₈ " x 11 ¹ / ₁₆ " x 10 ⁵ / ₈ ")

DSG-10

Display Signal Generator

The DSG-10 is a portable Display Signal Generator which provides the many test patterns necessary for proper monitor adjustments. Compact and lightweight, the DSG-10 makes monitor adjustments and installation simple by incorporating various test patterns such as SMPTE bars, window, gray scale, flat field, and cross hatch. To further simplify the adjustment process, the DSG-10 provides step-by-step on-screen operating instructions, making it easy to achieve accurate pictures. In addition, it is convenient for field use with its DC capability. With its small size and easy operation, the DSG-10 will be an indispensable tool for simple and precise monitor adjustment and installation in practically any situation

■ **Portability**—The DSG-10 is extremely compact and lightweight. It can easily be transported to anywhere adjustment or installation of monitors is required. The DSG-10 has DC operation capability with the optional NP-55H/77H rechargeable battery. Using the supplied AC adaptor, AC operation is also possible

■ **The DSG-10 incorporates a variety of test patterns, which are indispensable for adjusting or installing monitors**

■ **SMPTE Bars**; This color bar, which corresponds to the SMPTE ECR-1978, aids in achieving the precise color adjustment by adjusting the Chroma, Phase, Brightness, and Contrast volume controls respectively. The adjustment procedure necessary for each control is displayed step by step on the monitor screen as a guide for easy operation

■ **Window Pattern**; Characteristics of the video circuits and high voltage stability can be examined with this test pattern which is composed of a white window against a black background. The white window changes alternately from 100 IRE to 20 IRE by pressing the pattern button

■ **Gray Scale Pattern**; Three types of patterns (10 steps of full field: normal, split (normal/invert), invert) are provided to aid the adjustment of the white balance. By adjusting the Bias and Gain volumes, white balance can be attained. In this mode, operating instruction is displayed on the screen

■ **Flat Field Pattern**; Five patterns (all white (100/20 IRE), red, green, blue) can be displayed one by one to check the white balance and uniformity of monitors

■ **Cross Hatch Pattern**; Monitor linearity, convergence, and picture positioning can be verified with this test marks. In addition to the 17 vertical and 13 horizontal lines, the DSG-10 also contains display area markers, which enables easy reference to the size of the picture.

■ **Ease of Operation**—Blue Filter; as a supplied accessory for monitor adjustment. By looking through this filter, the same effect as the blue only mode of a monitor can be attained. This filter can be stored in the DSG-10 when not in use

■ **Hand Strap**; For easy operation on location, the DSG-10 contains a sturdy hand strap.

MB-502A

Mounting Bracket

- Bracket for PVM-1270Q/1271Q/1344Q/1342Q/1341/1340/CVM-1270/1271 to mount into 19" EIA standard rack (used with SLR-102)

Specifications

Dimensions (WHD): 483 x 355 x 329mm
(19¹/₈" x 14" x 13")
Weight: 8 lb. 13 oz. (4 kg.)

MB-503

Mounting Bracket

- Bracket for PVM-122 (used with SLR-102)

Specifications

Dimensions (WHD): 483 x 355 x 332mm
(19¹/₈" x 14" x 13¹/₈")
Weight: 9 lb. 4 oz. (4.2 kg)

MB-504

Mounting Bracket

- The MB-504 is specially designed to hold a pair of PVM-8220/8221/91 video monitor units as a dual monitor and can be mounted in a 19" EIA standard rack

Specifications

Dimensions (WHD): 482 x 221 x 341mm (approx.)
(19" x 8³/₄" x 13¹/₂") (approx.)
Weight: 5 lb. 5 oz. (2.4 kg)

NP-1A

Rechargeable Battery Pack

- Supplies DC-12V to PVM-8020, EVM-8010R

Specifications

Battery Used: Nickel-cadmium battery
Output Voltage: 12V DC
Capacity: 1.7Ah
Dimensions (WHD): 72 x 25 x 185mm
(2⁷/₈" x 1" x 7³/₈")
Weight: 1 lb. 8 oz. (690 g.) (approx.)

RM-787

Wired (10m) Remote Control Unit for GVM-2020/1311Q/1316TSQ

Specifications

Remote Control System: Infrared control
Power Requirements: DC-3V, two size AA (R6) batteries
Dimensions (WHD): 40 x 177 x 20mm (1³/₄" x 7" x 3/₄")
Weight: 4 oz. (110 g.) (with batteries)

SLR-101/102

Slide Rail Kit

- SLR-101 for PVM-1960/1942Q/1944Q SLR-102 for PVM-122/1344Q/1342Q

SMF-500

Monitor Cable

- For PVM-2030/2530 ■ IBM PC with CGA adaptor
- 25-pin/9-pin, 2m (6.4')

SS-X6A

Speaker System (One Pair)

- For PVM-2030/2530/3230 ■ Magnetically shielded
- Can be attached directly to the monitor

Specifications

Dimensions (WHD): 201 x 113 x 83mm
(8" x 4½" x 3⅜")
Weight: 2 lb. 10 oz. (1.2 kg.)

ST-92TV

TV Stereo Tuner Unit

- For PVM-2030/2530/3230 ■ Multi-band American TV standards VHF/UHF and Cable TV channels (1 to 125)
- Supplied remote control unit RM-U72 can control full functions of the monitor

Supplied Accessories:

RM-U72 Remote Control Unit
Remote Control Cable
RK 74A Connecting Cord (2 Phono Plugs to 2 Phono Plugs)
VMC-1S Video Cable (Phono Plug to Phono Plug)
Control Cable (Mini Plug to Mini Plug)
SUM-3 (NS) Sony Batteries (2)
Antenna Connector

Specifications

Power Requirements: AC-120V, 60 Hz
Power Consumption: 27W
Channel Coverage: VHF channels 2-13
UHF channels 14-69
Dimensions: 430 x 55 x 280mm (17" x 2⅛" x 11⅛")
Weight: 6 lb. 13 oz. (3.1 kg.) (approx.)

SU-538

Tilt Swivel Stand

- For PVM-2030

Specifications

Dimensions (WHD): 492 x 121 x 459mm
(19⅝" x 4⅞" x 18⅞")
Weight: 18 lb. 12 oz. (8.5 kg.) (approx.)

SU-539

Tilt Swivel Stand

- For PVM-2530

Specifications

Dimensions (WHD): 656 x 203 x 494mm
(25⁷/₈" x 8" x 19¹/₂")
Weight: 29 lb. 12 oz. (13.5 kg.) (approx.)

SU-540

Monitor Stand

- For PVM-2030

Specifications

Dimensions (WHD): 512 x 535 x 560mm
(20¹/₈" x 21¹/₈" x 22¹/₈")
Weight: 39 lb. 11 oz. (18 kg.) (approx.)

SU-541

Monitor Stand

- For PVM-2530

Specifications

Dimensions (WHD): 629 x 535 x 560mm
(24⁷/₈" x 21¹/₈" x 22¹/₈")
Weight: 48 lb. 8 oz. (22 kg.) (approx.)

TU-1110

TV Tuner Unit

- For PVM-1910/1911/1910Q, PVM-8020 ■ American TV standards VHF/UHF and Cable TV channels (1 to 99)

Supplied Accessories:

Connecting Cable for Monitor
Mounting Bracket with 2 Screws for PVM-19" Series

Specifications

External Power Input: 6-pin DIN Connector, 12V
Power Consumption: 45W DC max.
Dimensions (WHD): 210 x 50 x 154mm (8³/₈" x 2" x 6¹/₈")
Weight: 2 lb. 7 oz. (1.1 kg)

VLC-100

TV Tuner/BP-90A Holder

- Bracket for TU-1110 TV tuner unit and BP-90A

Specifications

Dimensions (WHD): 229 x 185 x 307mm (9¹/₈" x 7³/₈" x 12¹/₈")
Weight: 4 lb. 3 oz. (1.8 kg)

MULTISCAN



VPH-1271Q

MultiScan Projector (NTSC/PAL/SECAM/NTSC 4.43)

- MultiScan capability: Horizontal 15 kHz–85 kHz; Vertical 38 Hz–150 Hz
- Remarkable light output of 650 lumens (peak white), 200 lumens (all white)
- A high resolution of 1280 x 1024 pixels (RGB input)/ 700 TV lines (video input)
- RGB bandwidth of 70 MHz for precise reproduction of high frequency computer graphic images
- New HACC lens for superior and stable picture performance
- Dynamic Focus feature for improved corner focus
- 21 point registration for accurate registration across the entire screen area
- Handles both analog and digital RGB signals
- Plug-in type RGB input modules
- Wired/wireless remote control RM-1271 for full adjustments and operation of the projector
- Optional IFB series interface boards, the SIC series signal interface cable and the PC-1271 signal interface switcher for enhanced system versatility
- Can be used with screens from 70-inch to 300-inch in size with a simple adjustment (factory preset 120-inch)

Supplied Accessories:

- IBF-11 Interface Board
- RM-1271 Remote Commander
- Remote Control Cable (10m)
- Lens Spacer (2)
- CRT Spacer
- Washers (12 pcs each for 4 types;
t = 0.4mm/t = 0.5mm/t = 1.0mm/t = 1.2mm)
- AA Size Battery (3) (for RM-1271)
- AC Power Cord
- Operation Manual

Optional Accessories:

- IBF-11/20/30/100/101/1000/1200 Interface Board
- IFU-1271 Interface Unit
- PC-1271 Signal Interface Switcher
- SIC-10/20/21/22/30 Signal Interface Cable
- RM-1270S Infrared Remote Control Unit: (Supplied with PC-1271)
- VXP-010 Projector Auto Setup System
- PSS-10/1270 Suspension Support
- VPS-100F1: 100", VPS-120F: 120" Flat Screen
- VPS-72HG1: 72", VPS-100HG1: 100" Curved Screen
- VPS-701R, VPS-700R2: 70" Rear Screen
- VPF-701R Rear Screen Frame
- Multi Cable: CCQ-BRS cable (14-pin–14-pin, 2/5/10/25/50m)
- RM-PJ10 Remote Infrared Sensor for wireless projector control
- MB-507 Rack Mounting for PVM-5041Q/8040/8041Q/8044Q
- MB-508 Blank Panel for use with PVM-5041Q and MB-507
- MB-509 Blank Panel for use with PVM-8040/8041Q/8044Q and MB-507
- MB-510 Mounting Bracket

Specifications

Optical

Projection System:	3 picture tubes, 3 lenses, direct projection system
Picture Tube:	7" (6.2" V) high luminance monochrome tubes with coolant sealed
Projection Lens:	New high performance HACC hybrid lenses, f1.2/140mm, resolution 6 lp/mm
Screen Size:	70" - 200" measured diagonally (factory preset 120")
Light Output:	200 lumens (all white) 650 lumens (peak white)
Throw Distance:	72": 2047mm (6' 9") 120": 3279mm (11' 9") 200": 5334mm (17' 6") 250": 6635mm (21' 10") 300": 7935mm (26' 1")

General

Color System:	NTSC, PAL, SECAM, NTSC _{4.43} automatically selected
Resolution:	700 TV lines (VIDEO IN) 1280 x 1024 pixels (RGB IN, VPH-1271Q: measured at fH: 64 kHz, fV: 60 Hz VPH-1251Q: measured at fH: 40 kHz, fV: 38 Hz)
RGB bandwidth:	VPH-1271Q: 70 MHz (-3 dB) VPH-1251Q: 40 MHz (-3 dB)
Scanning Frequency:	Horizontal: VPH-1271Q: 15 kHz-85 kHz VPH-1251Q: 15 kHz-58 kHz Vertical: VPH-1271Q/1251Q: 38 kHz-105 kHz
Test Signal:	Hatch (coarse), Hatch (fine), Hatch (fine, invert), Cross hair, Dot pattern, H-pattern, Window, Pluge, All white
Speaker:	Max. 3W, 8Ω, monaural
Power Requirements:	AC-120V, 50/60 Hz
Power Consumption:	VPH-1271Q: Max. 450W VPH-1251Q: Max. 440W
Dimensions (WHD):	620 x 355 x 817mm (24 1/2" x 14" x 32 1/4")
Weight:	VPH-1271QM: 143 lb. 4.8 oz. (65 kg.) VPH-1251QM: 141 lb. 1.5 oz. (64 kg.)

Input

VIDEO IN	
Composite Video:	BNC connector 1Vp-p, sync negative, 75Ω
Y/C:	Mini DIN 4-pin Y(luminance): 1Vp-p, sync negative, 75Ω C(chrominance): 0.286Vp-p (NTSC) 0.3Vp-p (PAL), 75Ω
	The Y/C IN has priority over the composite video in.
AUDIO IN:	Phono connector -5 dBs, monaural, impedance more than 47 kΩ
INPUT A	Supplied with IFB-11 fitted.
R/B:	BNC connector 0.7Vp-p, positive, 75Ω
G/Sync on G:	BNC connector 0.7Vp-p, positive 75Ω (non-composite) 1Vp-p, sync negative, 75Ω (composite)
Sync:	Composite sync: BNC connector *Analog level: 0.6Vp-p-8Vp-p, high impedance, positive/negative *TTL level: Positive/negative
HD/VD separate:	*Analog level: 0.6Vp-p-8Vp-p, high impedance, positive/negative *TTL level: Positive/negative
AUDIO IN:	Phono x 2 -5 dBs, impedance more than 47 kΩ (stereo or monaural selectable)
INPUT B:	Open
REMOTE 1:	14-pin connector (male)
REMOTE 2:	D-sub 9-pin connector (female, RS-422 port)
CONTROL S:	Loop-through Mini connector

Output

VIDEO OUT:	BNC connector 1Vp-p, sync negative, 75Ω
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VPH-1251Q

MultiScan Projector (NTSC/PAL/SECAM/NTSC 4.43)

- MultiScan capability: Horizontal, 15 kHz to 58 kHz; Vertical, 38 Hz to 150 Hz
- Remarkable light output of 650 lumens (peak white), 200 lumens (all white)
- A high resolution of 1280 x 1024 pixels (RGB input)/700 TV lines (video input)
- RGB bandwidth of 40 MHz for precise reproduction of high frequency computer graphic images
- New HACC lens for superior and stable picture performance
- Dynamic Focus feature for improved corner focus
- Handles both analog and digital RGB signals
- Plug-in type RGB input modules
- Wired/wireless remote control RM-1271 for full adjustments and operation of the projector
- Optional IFB series interface boards, the SIC series signal interface cables and the PC-1271 signal interface switcher for enhanced system versatility
- Can be used with screens from 70-inch to 300-inch in size with a simple adjustment (factory preset 120-inch)

Supplied Accessories:

IFB-11 Interface Board
RM-1271 Remote Commander
Remote Control Cable (10m)
Lens Spacer (2)
CRT Spacer
Washers (12 pcs each for 4 types; t = 0.4mm/t = 0.5mm/t = 1.0mm/t = 1.2mm)
RM-1271 AA Size Battery
AC Power Cord
Operation Manual

Optional Accessories:

IFB-1200 Interface board
IFB-100 Interface Board
RM-PJ10 Remote Infrared Sensor for wireless projector control
MB-507 Rack Mounting Bracket for PVM-5041Q/8040/8041Q/8044Q
MB-508 Blank Panel for use with PVM-5041Q and MB-507
MB-509 Blank Panel for use with PVM-8040/8041Q/8044Q and MB-507
MB-510 Mounting Bracket
IFB-11/20/30/101/1000/1200 Interface Board
IFU-1271 Interface Unit
PC-1271 Signal Interface Switcher
SIC-10/20/21/22/30 Signal Interface Cable
RM-1270S Infrared Remote Control Unit (supplied with PC-1271)
VPX-010 Projector Auto Setup System
PSS-10/1270 Suspension Support
VPS-100F1 100" Flat Screen
VPS-120F 120" Flat Screen
VPS-72HG1 72" Curved Screen
VPS-100HG1 100" Curved Screen
VPS-701R 70" Rear Screen
VPS-700R2 70" Rear Screen
VPF-701R Rear Screen Frame
CCQ-BRS Multi-Cable (14-pin-14-pin, 2m/5m/10m/25m/50m)

Specifications

Optical

- Projection System:** 3 picture tubes, 3 lenses, direct projection system
Picture Tube: 7" (6.2" V) high luminance monochrome tubes with coolant sealed
Projection Lens: New high performance HACC hybrid lenses, f1.12/140mm, resolution 6 lp/mm
Screen Size: 70" to 300" measured diagonally (factory preset 120")
Light Output: 200 lumens (all white)
650 lumens (peak white)
Throw Distance: 72": 2047mm (8' 9")
120": 3279mm (10' 21")
200": 5334mm (17' 6")
250": 6635mm (21' 10")
300": 7935mm (25' 13")

General

- Color System:** NTSC, PAL, SECAM, NTSC4.43 automatically selected
Resolution: 700 TV lines (VIDEO IN)
1280 x 1024 pixels (RGB IN,
measured at fh: 40 kHz, fv: 38 Hz)
RGB Bandwidth: 40 MHz (-3 dB)
Scanning Frequency: Horizontal: 15 kHz-58 kHz
Vertical: 38 Hz-150 Hz
Test Signal: Hatch (coarse), Hatch (fine), Hatch (fine, invert),
Cross hair, Dot pattern, H-pattern, Window, Plug, All white
Speaker: Max. 3W, 8Ω, monaural
Power Requirements: AC-120V, 50/60 Hz
Power Consumption: Max 440W
Dimensions (WHD): 620 x 355 x 817mm
(24½" x 14" x 32¼")
Weight: 141 lb. 1.5 oz. (64 kg.)

Input

- Composite Video*:** BNC connector
1Vp-p, sync negative, 75Ω
Y/C*: Mini DIN 4-pin
Y (luminance): 1Vp-p, sync negative, 75Ω
C (chrominance): 0.286Vp-p (NTSC)
0.3Vp-p (PAL), 75Ω
*The Y/C IN has priority over the composite video in
AUDIO IN: Phono connector
-5 dBs, monaural, impedance > 47 kΩ
INPUT A: Supplied with IFB-11 fitted
R/B: BNC connector
0.7Vp-p, positive, 75Ω
G/Sync on G: BNC connector
0.7Vp-p, positive, 75Ω (non-composite)
1Vp-p, sync negative, 75Ω (composite)
Sync: Composite Sync: BNC connector
*Analog level: 0.6 to 8Vp-p, high impedance,
positive/negative
*TTL level: Positive/negative
HD/VD Separate:
*Analog level: 0.6 to 8Vp-p, high impedance,
positive/negative
*TTL level: Positive/negative
AUDIO IN: Phono x 2
-5 dBs, impedance > 47 kΩ
(stereo or monaural selectable)
INPUT B: Open
REMOTE 1: 14-pin connector (male)
REMOTE 2: D-sub 9-pin connector (female, RS-422 port)
CONTROL S: Loop-through Mini connector
- Output**
VIDEO OUT: BNC connector
1Vp-p, sync negative, 75Ω

Video Graphic MULTISCAN



Specifications

General

Projection Picture Size (WH):	70": 1422 x 1067mm (4.7' x 3.5')
	72": 1463 x 1097mm (4.8' x 3.6')
	100": 2032 x 1524mm (6.7' x 5.0')
	200": 4064 x 3048mm (13.5' x 10.2')
Projection Distance:	72": 2.5m (8.2')
	100": 3.3m (10.8')
	200": 6.4m (21.0')
Picture Tube:	5.5" high-luminance monochrome tubes, with coolant sealed
Projection Lens:	F1.0, 135mm (3 pcs.) High performance hybrid lens HACC/HD-6
Projection Picture Brightness (Peak White):	Light output: 300 lumens
Video Signal System:	NTSC/PAL/SECAM/NTSC _{4.43} * color (automatically selected) or CCIR/EIA monochrome
Scanning Frequency:	H.F.: 15 kHz-36 kHz V.F.: 40 Hz-150 Hz
Horizontal Resolution:	1100 TV lines (RGB inputs) at center 650 TV lines (VIDEO inputs) at center
Character Display Capacity:	4050 characters at 24 kHz (90 letters x 45 lines)
Built-in Speaker:	2 speakers (monaural)
Power Requirements:	AC-120V, 50/60 Hz
Power Consumption:	215W max.
Dimensions (WHD):	532 x 280 x 597mm (21" x 11 1/8" x 23 3/8")
Weight:	83 lb. 12 oz. (38 kg.)

Input

Video Input:	BNC: 1.0Vp-p, sync negative, 75Ω
RGB Input:	9-pin D: TTL level
	25-pin D: Analog RGB or TTL level
Audio Input:	Phono: -5 dBs, high impedance

Output

Audio Power Output:	Phono: 3W max. (monaural, built-in speakers)
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*The NTSC_{4.43} system refers to an NTSC color system in which the subcarrier frequency is modified to 4.43 MHz.

VPH-1031Q

Color Video Projection System

- Can project RGB input within 15 kHz-36 kHz Horizontal Frequency and 40 Hz-150 Hz Vertical Frequency
- A high resolution of more than 1100 TV Lines at center/640 x 480 pixels (RGB input) with PGA card
- Can be used with IBM PC with CGA, PGA, or EGA adaptors
- Employs high quality lens HACC/HD-6
- Responds to Analog/Digital RGB Signals
- Sync signal on green channel can be detected automatically.
- RGB signals can be superimposed on Composite Video signal (only when connected with RGB-2 (25-pin))
- Can be used with screen from 67-inch to 250-inch in size with a simple adjustment

Supplied Accessories:

AC Power Cord

Optional Accessories:

VPR-722S Remote Control Unit
CCQ-5BRS/10BRS/25BRS/50BRS Extension Cables between VPR-722S and VPH-1031Q
SU-722 Projector Pedestal
VPS-701R/700R2 70" Rear Screen
VPS-72HG1 72" Concave Screen
VPS-100F1 100" Flat Screen
VPS-120F 120" Flat Screen
VPS-100HG1 100" Concave Screen
VPS-701R/700R2 Screen Frame
VLC-1040 Carrying Case
VSS-100 Screen Stand
SMF-508 Shielded Cable
PSS-10/722 Projection Suspension Support

Controller (VPR-722S):

Power Requirements:	DC-28V (Supplied from projector)
Power Consumption:	2.0W max.
Video Input:	1 Vp-p, 75Ω, sync negative
Y/C Input (S VIDEO):	Y (Luminance): 1Vp-p, sync negative, 75Ω C (Chrominance): 0.286Vp-p (NTSC), 0.3Vp-p (PAL), 75Ω
Y/C Output (S VIDEO):	Loop-through
Video Monitor Output:	1Vp-p, 75Ω, sync negative
Audio Input:	-5 dBs, high impedance
Audio Output:	-5 dBs, high impedance
Audio Monitor Output:	-5 dBs, high impedance
Connector:	14-pin for projector (Phono for Audio, Video) 8-Pin for VTR (Mini for Control) BNC for Video (Mini DIN 4-pin for Y/C input)
Dimensions (WHD):	430 x 50 x 235mm (17" x 2" x 9 3/8")
Weight:	4 lb. 10 oz. (2.1 kg.)

Screen and Stand

Weight:	Optional screen
	VPS-701R (70"): 16 lb. 9 oz. (7.5 kg.)
	VPS-700R2 (70"): 18 lb. 11.8 oz. (8.5 kg.)
	VPF-701R (screen frame for VPS-701R/700R2): 18 lb. 11.8 oz. (8.5 kg.)
	VPS-72HG1 (72"): 30 lb. 14 oz. (14 kg.)
	VPS-100F1 (72" / 100"): 17 lb. 10 oz. (8 kg.)
	VPS-100HG1 (100"): 66 lb. 2 oz. (30 kg.)
	VPS-120F (120"): 46 lb. 5 oz. (21 kg.)
	VPE/VPL/VPM series
	Optional stand
	VSS-72 (72"): 55 lb. 2 oz. (25 kg.) for VPS-72HG1
	VSS-100 (100"): 63 lb. 15 oz. (29 kg.) for VPS-100HG1

RVP-6000Q

Rear Screen Color Video Projection System

- 60-inch MultiScan rear projection unit
- MultiScan capability: horizontal 15 kHz to 65 kHz, vertical 38 Hz to 150 Hz
- High contrast images with Optical Coupling CRT
- Super Fine Pitch screen with black stripes for wide vertical viewing angle
- A high resolution of 1280 x 1024 pixels (RGB input)/700 TV lines (video input)
- Heavy duty casters with brakes for high mobility
- Wired/wireless remote control RM-1270 for full adjustments and operation of the projector
- Slot type RGB input modules
- Optional IFB series interface boards, the SIC series signal interface boards and the PC-1270 signal interface switcher for enhanced system versatility

Supplied Accessories:

RM-1270 Infrared Remote Control Unit
IFB-11 Interface Board
Remote Control Cable for RM-1270
Extension Board
AC Power Cord

Optional Accessories:

IFB-11/20/30/1000 Interface Board
PC-1270 Signal Interface Switcher
SIC-10/20/21/22/30 Signal Interface Cables
CCQ-BRS Cables (14-pin/14-pin, 2m, 5m, 10m, 25m)

MULTISCAN



RVP-400Q

Rear Screen Color Video Projection System

- 40-inch MultiScan rear projection unit
- Suitable for both a multi-screen display and a stand-alone projection
- MultiScan capability; horizontal 15 kHz to 50 kHz, vertical 38 Hz to 150 Hz
- High resolution, high brightness, high contrast display
- Up to 4 projector units can be stacked vertically
- Wide viewing angle of 110° horizontally and 44° vertically
- Thin screen frame of only 5mm ($\frac{7}{32}$ ") wide
- Color temperature selection: 9300K/6500K/3200K/User preset (Factory preset: 6500K)
- Various optional accessories available for system versatility
- Automatic power on with the external power feed and presettable delay time for power on
- Optional wire/wireless remote commander RM-1271 with address function for all projector control functions, including input selection, picture control, RGB size and shift and centering controls

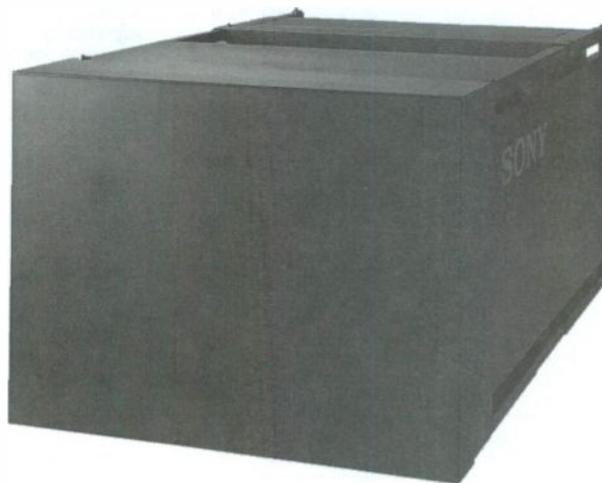
Supplied Accessories:

IFB-11 Interface Board
Control S Connecting Cable (1m, 3', 3")
Extension Board
AC Power Cord
Operation Manual

Optional Accessories:

RM-1271 Remote Commander
PC-1270 Signal Interface Switcher
IFB-11/20/30/1200/1000 Interface Board
SIC-10/20/21/22/30 Signal Interface Cable
CCQ-BRS Cable (14-pin/14-pin, 2m, 5m, 10m, 25m)

MULTISCAN



Multiscan Projectors

Specifications for Color Video Projection Systems

SPECIFICATIONS		MODEL	RVP-6000Q	RVP-400Q	
GENERAL	Projection Picture Size (WH)		60-inch: 1219 x 914mm (4' x 3')	40-inch: 813 x 610mm (2.7' x 2')	
	Projection Distance		—	—	
	Picture Tube		7" high-luminance monochrome optical coupled with coolant sealed	7" high-luminance monochrome optical coupled, with coolant sealed	
	Projection Lens		High performance HACC lens, f1.1/116mm	High performance HACC lens, 1.0/96mm	
	Screen		0.6mm pitch, Black stripe two-layer (lenticular/fresnel)	1.0mm pitch, Black stripe two-layer (lenticular/fresnel)	
	Brightness		Peak white: > 150 ft-L, All white: > 40 ft-L	Peak white: > 500 ft-L, All white: > 150 ft-L	
	Contrast Ratio		70:1	100:1	
	Viewing Angle		Horizontal: ± 100° (1/10 brightness) Vertical: ± 40° (1/10 brightness)	Horizontal: 100° Vertical 44°	
	Video Signal System		NTSC/PAL/SECAM/NTSC _{4.43} * ¹ (automatically selected)	NTSC/PAL/SECAM/NTSC _{4.43} * ¹ (automatically selected)	
	Scanning Frequency		Horizontal: 15 kHz–65 kHz automatically locked Vertical: 38 Hz–150 Hz automatically locked	Horizontal: 15 kHz–50 kHz automatically locked Vertical: 38 Hz–150 Hz automatically locked	
	Horizontal Resolution		1280 x 1024 pixels (RGB In measured at fH: 40 kHz, fV: 38 Hz) 700 TV lines (VIDEO In)	640 x 480 pixels (RGB In measured at fH: 50 kHz) 600 TV lines (VIDEO In)	
	Speaker		Max. 10W + 10W, 8Ω, stereo	—	
	Power Requirements		AC-120V, 50/60 Hz	AC-120V, 50/60 Hz	
	Power Consumption		460W max. (Video In), 530W max. (RGB In)	340W max.	
	Dimensions (WHD):		1340 x 1930 x 990mm (52 ⁷ / ₈ " x 76" x 39") With the mirror cover folded in: 1340 x 1930 x 750mm (52 ⁷ / ₈ " x 76" x 29 ⁵ / ₈ ")	823 x 621 x 1470mm (32 ¹ / ₂ " x 24 ¹ / ₂ " x 57 ⁷ / ₈ ")	
	Weight		462 lb. 15 oz. (210 kg.)	249 lb. 3 oz. (113 kg.)	
INPUT	VIDEO	VIDEO* ²	BNC	1.0Vp-p, sync negative, 75Ω	1.0Vp-p, sync negative, 75Ω
		Y/C* ²	Mini DIN 4-pin	Y (Luminance signal): 1Vp-p, sync negative, 75Ω C (Chrominance signal): 0.286Vp-p (NTSC), 0.3Vp-p (PAL), 75Ω	Y (Luminance signal): 1Vp-p, sync negative, 75Ω C (Chrominance signal): 0.286Vp-p (NTSC), 0.3Vp-p (PAL), 75Ω
	AUDIO		Phono	–5 dBs, high impedance > 48 kΩ	–5 dBs, high impedance > 47 kΩ
	INPUT A* ³		BNC	R/B: 0.7Vp-p, positive, 75Ω G/sync on G: 0.7Vp-p, positive, 75Ω 1Vp-p, sync negative, 75Ω Sync: Composite sync: Analog level 0.6Vp-p–8Vp-p high impedance, positive/negative, TTL level: positive/negative HD/VD separate: Analog level: 0.6Vp-p–8Vp-p, high impedance positive/negative, TTL level: positive/negative	Accepts IFB-101
			Phono	AUDIO: –5 dBs, impedance > 47 kΩ (stereo or monaural selected)	—
	INPUT B		BNC	Blank. Will accept an optional IFB series module.	R/B: 0.7Vp-p, positive, 75Ω G/sync on G: 0.7Vp-p, positive, 75Ω 1Vp-p, sync negative, 75Ω Sync: Composite sync: Analog level 0.6Vp-p–8Vp-p, high impedance, positive/negative, TTL level: positive/negative HD/VD separate: Analog level: 0.6Vp-p–8Vp-p, high impedance positive/negative, TTL level: positive/negative
			Phono	—	AUDIO: –5 dBs, impedance > 47 kΩ (stereo or monaural selected)
	OUTPUT	VIDEO	BNC	1Vp-p, sync negative, 75Ω	1Vp-p, sync negative, 75Ω
		AUDIO	Phono	Reference level –5 dBs at 6.8 kΩ (Variable from –66 dB to reference level)	—

*¹The NTSC_{4.43} system refers to an NTSC color system in which the subcarrier frequency is modified to 4.43 MHz.

*²The Y/C input has priority over the VIDEO input.

*³INPUT A for RVP-6000Q is supplied with IFB-11.

VPH-1042Q

Color Video Projection System

- Remarkable light output of 600 lumens
- Can be used with screen from 70-inch to 250-inch in size with a simple adjustment
- Y/C input
- Adopts high quality lens HACC/HD-6
- Desk top mounted projection, Ceiling mounted projection, Floor mounted projection and Rear projection capabilities
- A high resolution of 1000 TV lines or 2000 characters (RGB input)
- Accepts an analog RGB video signal
- Normal/Blue Background/Clear Blue switchable
- Remote control possible up to 50m by using optional remote control unit VPR-722S and optional CCQ-BRS cable
- Designed to be easy-to-operate and easy-to-adjust model for functional use

Optional Accessories:

- VPR-722S Remote Control Unit
- SU-722 Projector Pedestal
- PSS-722/PSS-10 Projector Suspension Support
- VLC-1040 Carrying Case
- CCQ-BRS Cables (14-pin/14-pin, 2m, 5m, 10m, 25m, 50m)
- VPS-120F 120" Flat Screen
- VPS-100F 100" Flat Screen
- VPS-100HG1 100" Concave Screen
- VPS-72HG1 72" Concave Screen
- VPS-701R/700R2 70" Rear Screen
- VPF-701R 70" Rear Screen Frame
- VPE/VPL/VPM Series for 150" -250" projection



C

VPH-1000Q

Color Video Projection System

- Remarkable light output of 600 lumens
- Can be used with screen from 70-inch to 250-inch in size with a simple adjustment
- Y/C input
- Desk top mounted projection, Ceiling mounted projection, Floor mounted projection and Rear projection capabilities
- Remote control possible up to 50m by using optional remote control unit VPR-722S and optional CCQ-BRS cable
- Designed to be easy-to-operate and easy-to-adjust model for functional use

Optional Accessories:

- VPR-722S Remote Control Unit
- SU-722 Projector Pedestal
- PSS-722/PSS-10 Projector Suspension Support
- VLC-1040 Carrying Case
- CCQ-BRS Cables (14-pin/14-pin, 2m, 5m, 10m, 25m, 50m)
- VPS-120F 120" Flat Screen
- VPS-100F 100" Flat Screen
- VPS-100HG1 100" Concave Screen
- VPS-72HG1 72" Concave Screen
- VPS-701R/700R2 70" Rear Screen
- VPF-701R 70" Rear Screen Frame
- VPE/VPL/VPM Series for 150" -250" projection



Video Projectors

Specifications for Color Video Projection Systems

SPECIFICATIONS		MODEL	VPH-1042Q	VPH-1000Q
GENERAL	Projection picture size (WH)		70-inch: 1422 x 1067mm (4.7' x 3.5') 72-inch: 1463 x 1097mm (4.8' x 3.6') 100-inch: 2032 x 1524mm (6.7' x 5.0') 200-inch: 4064 x 3048mm (13.5' x 10.2')	70-inch: 1422 x 1067mm (4.7' x 3.5') 72-inch: 1463 x 1097mm (4.8' x 3.6') 100-inch: 2032 x 1524mm (6.7' x 5.0') 200-inch: 4064 x 3048mm (13.5' x 10.2')
	Projection distance		72-inch: 2.5m (8.2') 100-inch: 3.3m (10.8') 200-inch: 6.4m (21.0')	72-inch: 2.5m (8.2') 100-inch: 3.3m (10.8') 200-inch: 6.4m (21.0')
	Picture tube		5.5" high-luminance monochrome tubes, with coolant sealed	5.5" high-luminance monochrome tubes, with coolant sealed
	Projection lens		f1.0, 135mm (3 pcs.) High performance hybrid multi-coating lens HACC/HD-6	f1.0, 130mm (3 pcs.) High performance hybrid multi-coating lens
	Projection picture brightness (peak white)		Light output: 600 lumens	Light output: 600 lumens
	Video signal system		NTSC/PAL/SECAM/NTSC _{4.43} * color (automatically selected) or CCIR/EIA monochrome	NTSC/PAL/SECAM/NTSC _{4.43} * color (automatically selected) or CCIR/EIA monochrome
	Horizontal resolution		1000 TV lines (RGB inputs) at center 650 TV lines (VIDEO inputs) at center	650 TV lines (VIDEO inputs) at center
	Character display capacity		2000 characters	—
	Built-in speaker		1 speaker (monaural)	1 speaker (monaural)
	Power requirements		AC-120V, 50/60 Hz	AC-120V, 50/60 Hz
	Power consumption		230W max.	210W
	Dimensions (WHD)		532 x 288 x 597mm (21" x 11 ³ / ₈ " x 23 ⁵ / ₈ ")	532 x 288 x 597mm (21" x 11 ³ / ₈ " x 23 ⁵ / ₈ ")
	Weight		83 lb. 12 oz. (38 kg.)	66 lb. 2 oz. (30 kg.)
INPUT	Video input	BNC	1.0Vp-p, sync negative, 75Ω	1.0Vp-p, sync negative, 75Ω
	Y/C input (S VIDEO)	Mini DIN 4-pin	Y (Luminance): 1Vp-p, sync negative, 75Ω C (Chrominance): 0.286Vp-p (NTSC), 0.3Vp-p (PAL), 75Ω *S VIDEO input has priority over composite video input	Y (Luminance): 1Vp-p, sync negative, 75Ω C (Chrominance): 0.286Vp-p (NTSC), 0.3Vp-p (PAL), 75Ω *S VIDEO Input has priority over composite video input
	RGB input	BNC	Non-composite: 0.7Vp-p Sync: 0.3 to 4.0Vp-p, negative	—
	Audio input	Phono	—5 dBs, high impedance	—5 dBs, high impedance
Out-put	Audio power output	Phono	3W max. (monaural, built-in speaker)	3W max. (monaural, built-in speaker)
CONTROLLER (VPR-722S)	Power requirements		DC-28V (Supplied from projector)	
	Power consumption		2.0W max.	
	Video input		1Vp-p, 75Ω, sync negative	
	Y/C input (S VIDEO)		Y (Luminance): 1Vp-p, sync negative, 75Ω C (Chrominance): 0.286Vp-p (NTSC), 0.3Vp-p (PAL), 75Ω	
	Y/C output (S VIDEO)		Loop-through	
	Video monitor output		1Vp-p, 75Ω, sync negative	
	Audio input		—5 dBs, high impedance	
	Audio output		—5 dBs, high impedance	
	Audio monitor output		—5 dBs, high impedance	
	Connector		14-pin for projector 8-pin for VTR BNC for Video	Phono for Audio, Video Mini for Control Mini DIN 4-pin for Y/C input
Dimensions		430 x 50 x 235mm (17" x 2" x 9 ³ / ₈ ")		
Weight		4 lb. 10 oz. (2.1 kg.)		
SCREEN & STAND	Weight		Optional screen VPS-701R (70"): 16 lb. 9 oz. (7.5 kg.) VPS-701R2 (70"): 18 lb. 11.8 oz. (8.5 kg.) VPF-701R (screen frame for VPS-701R/VPS-700R2): 18 lb. 11.8 oz. (8.5 kg.) VPS-72HG1 (72"): 30 lb. 14 oz. (14 kg.) VPS-100F1 (72/100"): 17 lb. 10 oz. (8 kg.) VPS-100HG1 (100"): 66 lb. 2 oz. (30 kg.) VPS-120F (120"): 46 lb. 5 oz. (21 kg.) VPE/VPL/VPM series Optional stand VSS-72 (72"): 55 lb. 2 oz. (25 kg.) for VPS-72HG1 VSS-100 (100"): 63 lb. 15 oz. (29 kg.) for VPS-100HG1	Optional screen VPS-701R (70"): 16 lb. 9 oz. (7.5 kg.) VPS-701R2 (70"): 18 lb. 11.8 oz. (8.5 kg.) VPF-701R (screen frame for VPS-701R/700R2): 18 lb. 11.8 oz. (8.5 kg.) VPS-72HG1 (72"): 30 lb. 14 oz. (14 kg.) VPS-100F1 (72/100"): 17 lb. 10 oz. (8 kg.) VPS-100HG1 (100"): 66 lb. 2 oz. (30 kg.) VPS-120F (120"): 46 lb. 5 oz. (21 kg.) Optional stand VSS-72 (72"): 55 lb. 2 oz. (25 kg.) for VPS-72HG1 VSS-100 (100"): 63 lb. 15 oz. (29 kg.) for VPS-100HG1

*The NTSC_{4.43} system refers to an NTSC color system in which the subcarrier frequency is modified to 4.43 MHz.

PC-1271

Signal Interface Switcher

■ The PC-1271 is a signal interface switcher for the VPH-1271Q/1251Q and is designed to offer maximum flexibility in the display system ■ Accepts up to eight signal inputs with IFB interface boards installed (a maximum of sixteen signal inputs with a second PC-1271) ■ Connection to the VPH-1271Q/1251Q via a single CCQ-BRS multi-cable ■ Incorporates cable length compensation to maintain the RGB bandwidth of 70 MHz when using a CCQ-BRS cable of up to 50m (165 ft.) (Compensation switch selectable according to cable length) ■ Can be remotely controlled via a REMOTE 2 (D-sub 25-pin) for use with an external control unit ■ Last channel memory ■ Supplied RM-1270S remote control unit for easy operation ■ 19-inch EIA standard rack mountable with supplied rack mount kit

**C**

Supplied Accessories:

RM-1270S Remote Control Unit
AA Size Battery (2)
AC Power Cord
Rack Mount with Screws
Operation Manual

Specifications

General

RGB Bandwidth: 100 MHz (-3 dB)
Power Requirements: AC-120V, 50/60 Hz
Power Consumption: 60W (approx.)
Dimensions (WHD): 424 x 133 x 290mm
(16³/₄" x 5¹/₄" x 11¹/₂")
Weight: 17 lb. 10 oz. (8 kg.) (approx.)

Inputs

Input 1-8: Blank. Part of optional IFB series input modules
REMOTE 1: 14-pin (male), from a second PC-1271
REMOTE 2: D-sub 25-pin (female) from the external control unit
Control S: Loop-through Mini jack

Outputs

MONITOR OUT

VIDEO: BNC connector
1Vp-p, sync negative, 75Ω
Y/C: Mini DIN 4-pin Connector
Y (luminance): 1Vp-p, sync negative, 75Ω
C (chrominance): 0.286Vp-p (NTSC)
0.3Vp-p (PAL), 75Ω
R/B: Analog level: BNC connector
0.7Vp-p, positive, 75Ω
G/Sync on G: BNC connector
0.7Vp-p, positive, 75Ω (Non-composite)
1Vp-p, sync negative, 75Ω (Composite)
HD/VD/HV: BNC connector
1Vp-p, positive/negative, 75Ω
AUDIO: Phono x 2 (stereo or monaural selectable)
-5 dBs, impedance 1 kΩ
REMOTE 1: 14-pin (female), To VPH-1271Q/1251Q, or first PC-1271



IFU-1271

Interface Unit for VPH-1271Q/1251Q, RVP-6000Q/400Q, PC-1271

■ This interface unit is used when two outputs are necessary from one IFB board. The IFU-1271 will accept an input signal from any IFB board. The two signals are output from this unit in the same form as the input signal: composite, Y/C separate, analog RGB or component (Y/R-Y/B-Y). A digital RGB signal input is converted into an analog RGB signal for output. The output sync signal type can be selected via the sync output select mode switch.

Supplied Accessories:

AC Power Cord
Operation Manual

Specifications

Input: Blank, Optional IFB board can be plugged into
Output: BNC x 5 (x 2), phono x 2 (stereo or monaural selectable)
Bandwidth: 100 MHz (-3 dB)
Power Requirements: AC-120V, 50/60 Hz
Dimensions (WHD): 180 x 105 x 185mm
(7¹/₈" x 4¹/₄" x 7³/₈")
Weight: 6 lb. 9.8 oz (3 kg.) (approx.)

RM-1271

Infrared Remote Control Unit

■ (Supplied with the VPH-1271Q and VPH-1251Q) ■ The RM-1271 offers full remote control functions including input selection on both the projector and signal interface switcher, picture control, RGB size/shift, centering and volume controls. These function keys can be illuminated to ease operation in darkened rooms. When several projectors are installed in a system, each one can be assigned a unique number when fitted with an optional IFB-101 index board. By selecting a projector number on the RM-1271, only this individual unit is then controlled. The wired remote control can be implemented by interconnecting the remote control unit to either the VPH-1271Q/1251Q or PC-1271 with the supplied 10m cable.

RM-1270S

Infrared Remote Control Unit

■ (Supplied with the PC-1271) ■ The RM-1270S provides simplified operation of only power on/off and input selection for both a VPH-1271Q/1251Q and a PC-1271

IFB-11

**Interface Board for VPH1271Q/1251Q,
RVP-6000Q/400Q, PC-1271**

Specifications

Inputs

RGB: Analog, BNC x 5
AUDIO: Phono x 2
(Stereo or monaural selectable)

Dimensions (WHD): 129 x 35 x 125mm
(5¹/₈" x 1⁷/₁₆" x 5")

Weight: 6.3 oz. (180 g.) (approx.)

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IFB-20

**Interface Board for VPH-1271Q/1251Q,
RVP-6000Q/400Q, PC-1271**

Specifications

Inputs

RGB: Analog, D-sub 9-pin (male)
AUDIO: Phono x 2
(Stereo or monaural selectable)

Dimensions (WHD): 129 x 35 x 125mm
(5¹/₈" x 1⁷/₁₆" x 5")

Weight: 6.0 oz. (170 g.) (approx.)

IFB-30

**Interface Board for VPH-1271Q/1251Q,
RVP6000Q/400Q, PC-1271**

Specifications

Inputs

RGB: TTL level, D-sub 9-pin
AUDIO: Phono x 2
(Stereo or monaural selectable)

Dimensions (WHD): 129 x 35 x 125mm
(5¹/₈" x 1⁷/₁₆" x 5")

Weight: 3.9 oz. (110 g.) (approx.)

IFB-1000

**Interface Board for VPH-1271Q/1251Q,
RVP-6000Q/400Q, PC-1271**

Specifications

Inputs

VIDEO*: Loop-through BNC
Y/C*: Loop-through mini DIN 4-pin
AUDIO: Phono x 2
(Stereo or monaural selectable)

Dimensions (WHD): 129 x 35 x 125mm
(5¹/₈" x 1⁷/₁₆" x 5")

Weight: 5.6 oz. (160 g.) (approx.)

*The Y/C IN has priority over the VIDEO IN.

IFB-3000

Interface Board for the PC-1271

■ Interface board for double scanning composite video input (x3), Y/C input (x3) component input (Y/R-Y/B-Y) (x3), and audio input

Projector Accessories/Peripherals/Interface Boards

SIC-10

**Signal Interface Cable for VPH-1271Q/1251Q,
RVP-6000Q/400Q, PC-1271**

Specifications

Connector: 5 BNC/5 BNC
Length: 10m (32.8 ft.)

SIC-20

**Signal Interface Cable for VPH-1271Q/1251Q,
RVP-6000Q/400Q, PC-1271**

Specifications

Connector: D-sub 15-pin to local monitor (female)
D-sub 15-pin to computer (male)
D-sub 9-pin to IFB-20 (female)
Length: 2m (6.6'), overall, 0.2m (0.7'), branch

SIC-21

**Signal Interface Cable for VPH-1271Q/1251Q;
RVP-6000Q/400Q, PC-1271**

Specifications

Connector: D-sub 9-pin to local monitor (female)
D-sub 9-pin to computer (male)
D-sub 9-pin to IFB-20 (female)
Length: 2m (6.6'), overall, 0.2m (0.7'), branch

SIC-22

**Signal Interface Cable for VPH-1271Q/1251Q,
RVP-6000Q/400Q, PC-1271**

Specifications

Connector: High Density 15-pin to local monitor (female)
High Density 15-pin to computer (male)
D-sub 9-pin to IFB-20 (female)
Length: 2m (6.6'), overall, 0.2m (0.7'), branch

SIC-30

**Signal Interface Cable for VPH-1271Q/1251Q,
RVP-6000Q/400Q, PC-1271**

Specifications

Connector: D-sub 9-pin to local monitor (female)
D-sub 9-pin to computer (male)
D-sub 9-pin to IFB-30 (female)
Length: 2m (6.6'), overall, 0.2m (0.7'), branch

PSS-10/722/1270

Suspension Support: PSS-10/722 for VPH-600Q/722Q1/1020Q1/2020Q1/1030Q1/2030Q1/1031Q/1040Q/1041Q/1042Q/1000Q PSS-10/1270 for VPH-1270Q/1271Q/1251Q

■ Methods of installing the projector using the PSS-10 and PSS-722 or PSS-1270: 1. Direct installation on the ceiling (PSS-722) 2. Installation on the ceiling (height adjustable) (PSS-10 + PSS-722 or PSS-1270)

Specifications

Weight

PSS-10: 22 lb. 11 oz. (10.3 kg.)
 PSS-722: 3 lb. 15 oz. (1.8 kg.)
 PSS-1270: 17 lb. 3 oz. (7.8 kg.)



SU-722

Pedestal for VPH-600Q/722Q1/1020Q1/1030Q1/1031Q/1040Q/1041Q/1042Q/1000Q

■ For floor mounting operation used with the concave screens VPS-72HG1 or VPS-100HG1 ■ Equipment, such as a U-matic VTR can be placed on the bottom plate (in the case of the VPH-722Q1)

Specifications

Carrying Capability: Bottom plate: 132 lb. 4 oz. (60 kg.)
 Shelf: 66 lb. 2 oz. (30 kg.)
 Dimensions (WHD): 590 x 640 x 600mm
 (23¹/₄" x 25¹/₄" x 23⁵/₈"
 Weight: 32 lb. 3 oz. (14.6 kg.)

VPS-120F/100F1/72HG1/100HG1

Video screen for VPH-722Q1/1020Q1/1030Q1/1031Q/1040Q/1041Q/1042Q/1000Q/1270Q/1271Q/1251Q

	VPS-120F	VPS-100F1	VPS-72HG1	VPS-100HG1
Screen Size	120"	72" /100" compatible	72"	100"
Construction	Beaded glass high-efficiency flat screen with winding mechanism		Aluminized High-efficiency concave screen	
Dimensions (WH)	2780 x 2545mm (109 ¹ / ₂ " x 100 ¹ / ₄ "	2200 x 1756mm (86 ⁵ / ₈ " x 69 ¹ / ₂ "	1510 x 1125mm (59 ¹ / ₂ " x 44 ³ / ₈ "	2100 x 1600mm (82 ³ / ₄ " x 63"
Weight	46 lb. 5 oz. (21 kg.)	17 lb. 10 oz. (8 kg.)	31 lb. (14 kg.)	66 lb. 2 oz. (30 kg.)

Projector Accessories/Peripherals/Interface Boards

VPS-701R/700R2

70-inch Rear Screen for VPH-722Q1/1020Q1/
1030Q1/1031Q/1040Q/1041Q/1042Q/1000Q/
1270Q/1271Q/1251Q

	VPS-701R	VPS-700R2
Screen Size	70"	
Screen Pitch	0.78mm (1/32")	1.2mm (1/8")
Construction	Rear projection, acrylic plastic screen, Two layered (Fresnel, Lenticular), Black stripe	
Dimensions (WHD)	max. outer size: 1456 x 1110 x 4mm (57 3/4" x 43 3/8" x 3/16") Valid screen size: 1427(W) x 1070(H)mm (56 1/4" x 42 1/4")	max. outer size: 1465 x 1110 x 4.5mm (57 3/4" x 43 3/8" x 3/16") Valid screen size: 1427(W) x 1070(H)mm (56 1/4" x 42 1/4")
Weight (approx.)	16 lb. 19.5 oz. (7.5 kg.)	18 lb. 11.8 oz. (8.5 kg.)

VPF-701R

Rear Screen Frame

Supplied Accessories:

Bracket
Screws

Specifications

Dimensions (WHD): Outer size:
1597 x 1240 x 30mm
(63" x 48 7/8" x 1 3/16")
Inner size:
1427(W) x 1070(H)mm
(56 1/4" x 42 1/4")
Weight: 18 lb. 11.8 oz. (8.5 kg.) (approx.)

VPX-010

Projector Auto Setup System for VPH-1270Q/ 1271Q/1251Q, RVP-6000Q/400Q

■ Comprises three components; a high resolution CCD camera, a processing unit and a controller ■ Various adjustment modes available; geometry distortion adjustment, convergence adjustment, centering adjustment and white balance adjustment ■ Can adjust plural projector with the system ■ Can adjust projector regardless of the type of installations ■ All the system components including connecting cables fit into a supplied carrying case

Supplied Accessories:

AC Power Cord
Operation Manual

Optional Accessories:

RMM-010 Rack Mount Kit
CCQ-BRS Cables: (14-pin/14-pin, 2m, 5m, 10m, 25m, 50m)
RCC-G Control Cables: (9-pin/9-pin, 5m, 10m, 30m)

Specifications

General

Power Requirements: VPX-010: AC-100V-120V, 50/60 Hz
Power Consumption: Complete system: 20W (approx.)
Weight: Complete system: 26 lb. 7oz. (12 kg.) (approx.)

Compatible Projectors

VPH-1270Q, RVP-6000Q, RVP-400Q, HDIH-1200, HDIH-2000, HDIH-3000, HDIR-500

Connectors

Projector 1: 14-pin (Female), D-sub 9-pin (Female, RS-422 port)
Projector 2: 14-pin (Female), D-sub 9-pin (Female, RS-422 port)
Controller: 6-pin (Female)
Camera: 12-pin (Female)
Monitor: BNC connector, Composite Video
External Sensor: D-sub 9-pin (Female)

Main Unit

Dimensions (WHD): 261 x 81 x 239mm
(10³/₈" x 3¹/₄" x 9¹/₂")
Weight: 5 lb. 15 oz. (2.7 kg.)
420,000 pixels (768 x 498 dots)

CCD Camera

Dimensions (WHD): 44 x 29 x 128mm
(1³/₄" x 1¹/₈" x 5¹/₈")
Weight: 1 lb. 9 oz. (0.7 kg.)

Controller

Dimensions (WHD): 111 x 35 x 247mm
(4³/₈" x 1⁷/₁₆" x 9³/₄")
Weight: 1 lb. 9 oz. (0.7 kg.)

Camera Tripod

Dimensions: Extended:
Max. spread: 860(H)mm (33⁷/₈")
25° spread stride 1050(H)mm
(41³/₈")
Collapsed:
Max. spread: 415(H)mm (16³/₈")
25° spread stride: 485(H)mm
(19¹/₈")
Weight: 2 lb. 3 oz. (1.0 kg.)

Carrying Case

Dimensions (WHD): 550 x 435 x 217mm
(21³/₄" x 17¹/₄" x 8⁵/₈")
Weight: 12 lb. 6 oz. (5.6 kg.)

Electronic Photography and Publishing

Still Video Camera

MVC-7000D-2

Still Video Recorder/ Players

MVR-5300D-3

MVR-5400D-4

MVP-660D-5

Frame Synchronizer

MPU-F100AD-6

Color Video Scanner

UY-T55VD-7

Color Video Printers

UP-2200D-8

UP-2200RD-9

UP-3000D-10

Color Video Printers (Cont.)

UP-5100D-11

UP-7000D-12

Digital Printers

UP-D7000D-13

UP-D860D-14

Monochrome Video Printers

UP-860D-15

UP-910D-16

UP-930D-17

Transmission Systems

DIH-2100D-18

PVT-115D-19

Digital Camera System

SEPS-1000™D-20

LCD Color Monitors

FDL-X40D-21

FDL-X600D-22

Color Monitors

PVM-8040D-23

PVM-8044QD-23

PVM-1341D-24

PVM-1344QD-25

PVM-1944QD-26

PVM-2530D-27

GVM-1311QD-28

GVM-2020D-28

Graphics Monitor

RGM-1901D-29



MVC-7000

Still Video Camera Recorder

- High density 1/2 inch Interline Transfer CCD 3-chip camera
- Approx. 380,000 effective pixels per CCD
- Over 500 TV lines of resolution using Hi-band recording
- Easy-to-operate, ergonomically designed
- Increased effective focal length
- Flexible exposure control system
- Playback and erase functions
- High quality video output
- Convenient ID recording
- Mechanical focal plane shutter for quality frame recording
- Skip function
- Selectable frame or field recording mode
- Precise metering system
- Informative LCD
- Convenient shutter release
- AC/DC operation
- Optional electronic flash

Supplied Accessories:

Shoulder Strap
Body Cap
Lithium Battery
Instruction Manual

Optional Accessories:

MKA-7 Output Adaptor
MCL-06T Wide Lens
MCL-300C Lens Adaptor (for Canon)
SMF-1200 RGB-4BNC Cable
SMF-1230 LCD Monitor Cable
AC-M55 AC Adaptor/Battery Charger
NP-55H/77H Rechargeable Battery Pack
MCL-913T Zoom Lens
MCL-806H Zoom Lens
MCL-05H Wide Lens
MCL-200N Lens Adaptor (for Nikon)
SMF-512 RGB-D-sub Cable
SMF-1210 Y/R-Y/B-Y Cable
MFL-36 Electronic Flash
RM-S7 Remote Control Unit
MCL-50/50H Still Video Disk
MCL-710H Zoom Lens

Specifications

Recording Format:	Still Video Floppy	EV Compensation:	-3EV to +3EV (0.5EV steps)
Video:	Luminance: FM recording Chrominance: R-Y, B-Y Differential Color Line Sequential FM recording	Normal Sensitivity:	Frame Recording: ISO 200 (100, 400 selectable) Field Recording: ISO 400 (200, 800 selectable)
Recording Mode:	Hi-band	Recording Capacity:	Frame Recording: 25 pictures Field Recording: 50 pictures
Video Signal System:	NTSC color	Horizontal Resolution:	More than 500 TV lines (Hi-band, recorded on floppy disk) More than 650 TV lines (Through Video Output)
Imager:	Three 1/2" interline transfer CCD image sensors	Inputs:	Remote control (for RM-S7) Hot shoe
Picture Elements:	380,000 pixels (768(H) x 494(V))	Power Requirements:	NP-55/77H Battery Pack Memory back-up lithium battery (CR2032) AC 120V, 50/60 Hz (w/AC-M55)
Lens Mount:	Bayonet mount (Sony original)	Power Consumption:	9.1W (Standby mode) 6.2W (Playback mode) 8.3W (Video Out mode)
Focusing System:	Manual	Operating Temperature:	0°C to 40°C (32°F to 104°F)
Viewfinder:	TTL optical viewfinder, viewing area 92%	Storage Temperature:	-25°C to 60°C (-13°F to 140°F)
Light Metering:	TTL center-weighted and spot metering	Dimensions (WHD):	168.2 x 114 x 140mm (6 5/8" x 4 1/2" x 5 5/8") w/o lens
Shutter:	Focal-plane, 1/6 - 1/2000 sec.	Weight:	3 lb. 1 oz. (1.42 kg.) (main unit) 5 lb. 10 oz. (2.57 kg.) (w/NP-55H, floppy disk and MCL-710H zoom lens)
Flash-Sync:	1/250 sec. (Max. synchronization speed)		
White Balance:	Self-adjusting automatic white balance, 3200K/5600K/memory		
Drive (Shutter) Mode:	Single, approx. 2.5 images/sec. continuous self timer, interval		
Multiplex Data:	Normal: Year, month, day, hour, minute, second, aperture value, shutter speed ID: Year, month, day, ID (11 digits)		
Video Recording Mode:	Frame/Field, selectable		
Exposure Control System:	Programmed AE/Shutter Priority, AE/Aperture Priority, AE/Manual Mode		

MVR-5300

Still Video Recorder/Player

- High quality picture due to the adoption of the Hi-band format
- Offers 500 TV lines of horizontal resolution
- Both Hi-band and normal band recording/playback capabilities
- A maximum of 25 frame or 50 field pictures, or any combination of the two, can be recorded on a single video floppy disk
- Multiple inputs/outputs
- Quick random access of 1.5 seconds or less
- Remote control operations using optional RM-C540 or RM-C30
- External computer control capabilities through the RS-232C interface
- Cue tone control through the TC SYNC connector
- On screen display
- ID number/truck number/recording information display
- Rack mountable on a 19-inch EIA standard rack with the optional RMM-57K
- Time base corrector interface and external SYNC IN



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Supplied Accessories:

AC Power Cord
AC Cord Holder
Operation Manual
RS-232C Interface Manual

Optional Accessories:

MP-50 Still Video Disk
RM-C540 Remote Control Unit
RM-C30 Wireless Remote Commander
FS-20 Foot Switch
RMM-57K Rack Mount Kit (19-inch)
MP-5CL Cleaning Disk
SMF-0131 Cable for RS-232C

Specifications

General

Video Format:	Video: Still video floppy (2" size) Luminance: FM recording Chrominance: R-Y, B-Y differential color line sequential FM recording
Recording/Playback Mode:	Hi-band/normal band selectable
Recording Method:	Frame or field recording by dual head guard band method
Recording/Playback Capability:	25 frame pictures (frame REC/PB) 50 field pictures (field REC/PB)
Access Time:	30 ms (to the next track) to 1.5 sec. (from the first track to the fiftieth track)
External Control:	RS-232C (D-sub 25-pin female) for computer control TC SYNC (Mini-jack) for tape recorder control, 1 kHz/0.5 sec. to the next track, 1 kHz/2.5 sec. to outermost picture track REMOTE (6-pin mini DIN) for RM-C540 FOOT SW (Mini-jack) for FS-20 EXT. CONT. OUT (Mini-jack) for MPU-F100
Power Requirements:	AC120V, 60 Hz
Power Consumption:	Approx. 32W
Dimensions (WHD):	424 x 97 x 455mm (16 ³ / ₄ " x 3 ⁷ / ₈ " x 18")
Weight:	19 lb. 13 oz. (8.7 kg.)
Operating Temperature:	5°C to 35°C (41°F to 95°F)
Storage Temperature:	-20°C to 60°C (-4°F to 140°F)

Video

Signal:	EIA standard, NTSC color
Horizontal Resolution:	500 TV lines (Hi-band) 360 TV lines (normal band)
S/N Ratio:	45 dB (luminance) 46 dB (chrominance)
Input:	Composite (BNC x 1): 1.0Vp-p, 75Ω, unbalanced, sync negative, Y/C (DIN 4-pin S type): Y: 1.0Vp-p, 75Ω, unbalanced, sync negative C: 0.286Vp-p, 75Ω, unbalanced RGB (BNC x 3): 0.7Vp-p, 75Ω, unbalanced Sync (BNC x 1): 0.2-4.0Vp-p, 75Ω, unbalanced, negative
Output:	Composite (BNC x 1): 1.0Vp-p, 75Ω, unbalanced, sync negative, Y/C (DIN 4-pin S type): Y: 1.0Vp-p, 75Ω, unbalanced, sync negative C: 0.286Vp-p, 75Ω, unbalanced RGB (BNC x 3): 0.7Vp-p, 75Ω, unbalanced Sync (BNC x 1): 4.0Vp-p, 75Ω, unbalanced, negative

Still Video Recorder/Players



MVR-5400

Still Video Recorder/Player

- High quality picture due to the adoption of the Hi-band format
- Offers 500 TV lines of horizontal resolution
- Both Hi-band and normal band recording/playback capabilities
- A maximum of 25 frame or 50 field pictures or any combination of the two can be recorded on a single video floppy disk
- Audio recording capability
- Multiple inputs/outputs
- Quick random access of 1.5 seconds or less
- Remote control operation using optional RM-C540 or RM-C30
- Cue tone control through the TC SYNC connector
- 11 digits of ID number recording with the aid of RM-C540
- On-screen display
- Superior quality dubbing via DUB IN and OUT connectors
- 19-inch EIA standard rack mountable with the optional RMM-57K
- Time base corrector interface and external SYNC In

Supplied Accessories:

- AC Power Cord
- AC Cord Holder
- Operation Manual

Optional Accessories:

- MP-50 Still Video Disk
- RM-C540 Remote Control Unit
- RM-C30 Wireless Remote Commander
- FS-20 Foot Switch
- RMM-57K Rack Mount Kit (19-inch)
- VDC-54 Dubbing Cable (2m)
- MP-5CL Cleaning Disk

Specifications

General

Video Format: Video: Still video floppy
Luminance: FM recording
Chrominance: R-Y, B-Y differential color line sequential FM recording

Recording/Playback Mode: Hi-band/normal band selectable

Recording Method: Frame or field recording by dual head guard band method

Recording/Playback Capability: 25 frame pictures (frame REC/PB)
50 field pictures (field REC/PB)

Access Time: 30 ms (to the next track) to 1.5 sec. (from the first track to the fiftieth track)

External Control: TC SYNC (Mini-jack) for tape recorder control, 1 kHz/0.5 sec. to the next track, 1 kHz/2.5 sec. to outermost picture track
REMOTE (6-pin mini DIN) for RM-C540
FOOT SW (Mini-jack) for FS-20
EXT. CONT. OUT (Mini-jack) for MPU-F100

Power Requirements: AC 120V, 60 Hz

Power Consumption: Approx. 35W

Dimensions (WHD): 424 x 97 x 455mm (16³/₄" x 3⁷/₈" x 18")

Weight: 19 lb. 13 oz. (9.0 kg.)

Operating Temperature: 5°C to 35°C (41°F to 95°F)

Storage Temperature: -20°C to 60°C (-4°F to 140°C)

Video

Signal: EIA standard, NTSC color

Horizontal Resolution: 500 TV lines (Hi-band)
360 TV lines (normal band)

S/N Ratio: 45 dB (luminance)
46 dB (chrominance)

Input: Composite (BNC x 1): 1.0Vp-p, 75Ω, unbalanced, sync negative, Y/C (DIN 4-pin S type):
Y: 1.0Vp-p, 75Ω, unbalanced, sync negative
C: 0.286Vp-p, 75Ω, unbalanced
RGB (BNC x 3): 0.7Vp-p, 75Ω, unbalanced
Sync (BNC x 1): 0.2-4.0Vp-p, 75Ω, unbalanced, negative

Output: Composite (BNC x 1): 1.0Vp-p, 75Ω, unbalanced, sync negative, Y/C (DIN 4-pin S type):
Y: 1.0Vp-p, 75Ω, unbalanced, sync negative
C: 0.286Vp-p, 75Ω, unbalanced
RGB (BNC x 3): 0.7Vp-p, 75Ω, unbalanced
Sync (BNC x 1): 4.0Vp-p, 75Ω, unbalanced, negative
DUB (D-sub 15-pin) for video/audio dubbing

Audio

Input: LINE (phono): -10 dBs, more than 47 kΩ
MIC for microphone: -55 dBs

Output: LINE (phono): -10 dBs

MVP-660

Portable Still Video Player

- High quality picture due to the adoption of the Hi-band format
- Hi-band/normal band selectable
- Compact size and easy to operate
- AC (ACP-150 AC pack, battery charger)/DC (NP-1B) operation capabilities
- Audio playback capability (9.6 sec. per track)
- Shuttle dial for easy picture search operation
- Automatic playback operation
- Erase function
- External computer control capabilities through the RS-232C
- Cue tone control through the TC SYNC connector
- Wired remote control capability with the RM-52



Optional Accessories:

- ACP-150 AC Pack/Battery Charger
- NP-1A Battery Pack
- BC-1WA Battery Charger
- RM-52 Remote Control Unit
- SMK-0002 Color Monitor Cable (D sub 25-pin-D sub 25-pin)
- SMF-506 Color Monitor Cable (D sub 25-pin-BNC x 4)
- VDC-52 Dubbing Cable
- MP-50 Still Video Disk
- FED-0002 RGB and Audio 25-pin Connector Cable
- MP-5CL Cleaning Disk
- MVM-660 Interface Manual for MVP-660

Specifications

Playback Format:	Still Video Floppy	Playback Mode:	1. Picture by picture via the dial (8 pictures/rotation)
Video:	Luminance: FM recording		2. Auto play mode
	Chrominance: R-Y, B-Y Differential Color Line sequential FM recording		3. Power on auto play mode
Audio:	Time compressed FM recording (9.6 sec./track)	Erase:	All erase/one picture erase/Audio erase
Playback Capacity:	Frame pictures: 25	Power Requirements:	AC power adaptor usable (ACP-150)
	Field pictures: 50		DC 12V ±0.5V (DIN 5-pin)
	Frame picture with audio recording: 16 pictures		Rechargeable battery (NP-1A)
	Field picture with audio recording: 25 pictures (Audio only: 480 sec.)		(1 consecutive hour playback with the NP-1A)
Playback Mode:	Hi-band/normal band automatic detection	Power Consumption:	14W (playback mode)
	Frame/Field automatic detection	Operating Temperature:	10°C to 40°C (50°F to 104°F)
Horizontal Resolution:	500 lines (Hi-band)	Storage Temperature:	-20°C to 60°C (-4°F to 140°F)
	360 lines (normal band)	Dimensions (WHD):	335 x 77 x 230mm (13.2" x 3" x 9.2")
S/N Ratio:	Luminance: 45 dB, Chrominance: 46 dB	Weight:	5.3 lb. (2.4 kg.) (without battery)
Input:	TC Sync: 1 kHz/0.3 sec., to the next track, 1 kHz/2.5 sec. to the outer most track, mini jack		
	RS-232C: D-SUB 25-pin (with a baud rate selector: 1200/2400/4800/9600 bps)		
	Ext. DC: DIN 5-pin		
Remote Control:	D-SUB 9-pin (for RM-52)		
Output:	Video		
	Composite NTSC: 1Vp-p 75Ω, unbalanced, sync negative, BNC		
	Analog RGB: 0.7Vp-p, Sync 1.1Vp-p, D-SUB 25-pin		
	Component (Y/R-Y-B-Y): Multi-connector 16-pin, 1.0Vp-p (luminance), 0.7Vp-p (R-Y/B-Y), 75Ω, unbalanced		
	S VIDEO Out:		
	4-pin DIN Y: 1Vp-p, 75Ω unbalanced, Sync negative		
	C: 0.28Vp-p, 75Ω unbalanced		
Audio:	Line: -10 dBs (less than 10 kΩ), pin jack		

Frame Synchronizer



MPU-F100A

Frame Memory Unit

- Frame synchronization and time base error correction
- Simple connection with ProMavica player/recorders, VTRs and video disc players
- Multiple inputs/outputs: Composite video, component video (RGB or Y/R-Y/B-Y) and Y/C
- Picture effects: MOSAIC, POSTERIZATION, and MULTIPICTURE (3 x 3)
- External genlock capability
- Hue, color level, video level and set-up level adjustment
- Noise reduction
- RS-232C interface for external computer control

Supplied Accessories:

AC Power Cable
Operation Manual
Interface Manual

Optional Accessory:

IFC-100 Interface Cable (2m)

Specifications

General

Power Requirement: 120V AC
Power Consumption: 35W
Dimensions (WHD): 424 x 54 x 446mm (16³/₄" x 2¹/₈" x 17⁵/₈")
Weight: 14 lb. 5 oz. (6.5 kg.)
External Control: RS-232C, D-sub 25-pin female for micro computer control
CONTROL 1 (A), D-sub 9-pin male for ProMavica Recorders/Players
CONTROL 1 (B), D-sub 9-pin female for RM-52

Video Input

Composite Video: 1.0Vp-p, 75Ω (BNC), with loop-through
S Video: Y: 1.0Vp-p, 75Ω
C: 0.28Vp-p, 75Ω (DIN 4-pin)
R, G, B: 0.7Vp-p, 75Ω (BNC x 3)*
Sync: 1.0-4.0Vp-p, 75Ω (BNC)
Y/R-Y/B-Y: Y: 1.0Vp-p, 75Ω
R-Y: 0.7Vp-p, 75Ω
B-Y: 0.7Vp-p, 75Ω (BNC x 3)*
*RGB or Y/R-Y/B-Y is selectable
Reference Video: 1.0Vp-p, 75Ω (composite video black burst signal, with loop-through)

Video Output

Composite Video: 1.0Vp-p, 75Ω (BNC), with loop-through
S Video: Y: 1.0Vp-p, 75Ω
C: 0.28Vp-p, 75Ω (DIN 4-pin)
R, G, B: 0.7Vp-p, 75Ω (BNC x 3)*
Sync: 4.0Vp-p, 75Ω (BNC)
Y/R-Y/B-Y: Y: 1.0Vp-p, 75Ω
R-Y: 0.7Vp-p, 75Ω
B-Y: 0.7Vp-p, 75Ω (BNC x 3)*
*RGB or Y/R-Y/B-Y is selectable
Memory Input: Odd field, Even field, Frame
Frame Memory: Y:R-Y:B-Y = 4:1:1
Picture Effects: LAP DISSOLVE (transition time: 1.2 sec.)
MOSAIC
POSTERIZATION
MULTI-PICTURE (3 x 3)
Gen Lock: H Phase: -0.5μs to 1 μs
SC phase: 0° to 360°

UY-T55V

Color Video Scanner

- High speed scanning of approx. 7 sec. per image (normal color mode, A4 size)
- High quality video images: horizontal resolution of more than 500 TV lines, 256 gradations/each color of R, G, B
- No image distortion for whole area of the image using CCD technology
- Multiple outputs of RGB video signal output, Y/C separate output, and composite video output
- Trimming function
- Title superimpose function
- Scroll and pointer functions for presentation
- Various color adjustment functions (color, contrast, brightness, and sharpness)
- External sync in/out connectors for sync lock with other video equipment
- Transportable (compact and light weight)



D

Supplied Accessories:

- AC Power Cord
- Operating Instructions
- Carrying Case

Specifications

General

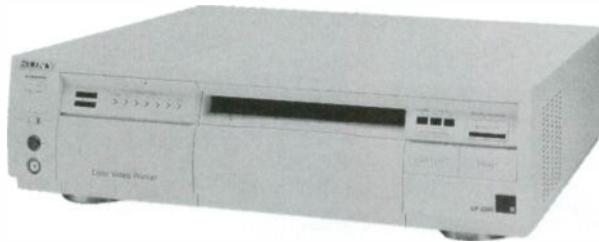
- Scanning System: Flat-bed, linear CCD sensor one pass scanning
- Input Media: Sheet, card, book
- Maximum Scanning Area: 212 x 283mm (8³/₁₆" x 11¹/₄")
- Sensor: Linear CCD sensor
(8 dots/mm: 1,728 dots)
- Light Source: Red LED, green LED, blue fluorescent lamp
- Gradations: 256 gradations/each color
(R, G, B 3-channel)
- Scanning Time: Approx. 7 sec. (normal color mode)
- Trimming: 12 trimming levels, free positioning
- Picture Memory (HV): 768 x 512 x 8 bits x 3 colors for image—
Effective image area: 700 x 430
768 x 512 x 4 bits for superimpose—Effective
image area: 700 x 430
- Pointer: 2 pointers selectable (8 colors/pointer)
- Scanning Mode: NORM/FINE/B&W/TITLE
- Color Adjustment: COLOR/CONTRAST/BRIGHTNESS/
SHARPNESS RED/BLUE (on rear panel)
- Dimensions (WHD): 328 x 121 x 507mm
(13" x 4³/₄" x 20")
- Weight: Approx. 19.1 lb. (8.7 kg.)
- Power Requirements: AC 120V, 50/60 Hz
- Power Consumption: Approx. 45W

Video

- Video Format: EIA standard, NTSC
(H: 15.73 kHz, V: 59.940 Hz, interlaced)
- Resolution: 500 TV lines
- RGB Analog: BNC x 4 (R/G/B/SYNC)
R/G/B: 0.7Vp-p, 75Ω, unbalanced
SYNC: 1.0Vp-p, 75Ω, unbalanced, negative
- Y/C Separate: Multi-connector (4-pin), Y: 1.0Vp-p,
C (burst level): 0.29Vp-p
- Composite: BNC x 1: 1.0Vp-p, 75Ω, unbalanced, sync
negative

Sync Lock

- Ext. Sync In: BNC x 1: 1.0~4.0Vp-p, 75Ω, unbalanced,
negative
- Ext. Sync Out: BNC x 1: Loop-through



UP-2200

Color Video Printer

- Superb print quality using RGB full frame memory
- Input video signal digitally processed in 8-bit/256 gradations
- More than 500 TV lines of resolution
- A6 print size (5⁵/₈" x 4") can be printed out in approx. 67 seconds
- Accepts Y/C and composite input through S-video and (DIN 4-pin) BNC connectors
- Multiple print modes including: 4 or 16 Split Memory Print; 4 or 16 Multi Picture Print; Composite Print; 4 or 16 Strobe Image Print; Caption Setting
- Menu options include: print quantity, date, title or caption, print mode selection and picture adjustment
- Front access for print paper and ribbon
- Supplied wireless remote control

Supplied Accessories:

RMT-7 Remote Control Unit
UM-3 Battery (2)
VPM-30STA Standard Printing Pack
Paper Tray
AC Power Cable
Operation Manual

Optional Accessories:

VPM-30STA Color Printing Pack
VPM-90STA Color Printing Pack
VPM-30WSA Sticker Printing Pack
PAF-A6 Original Album

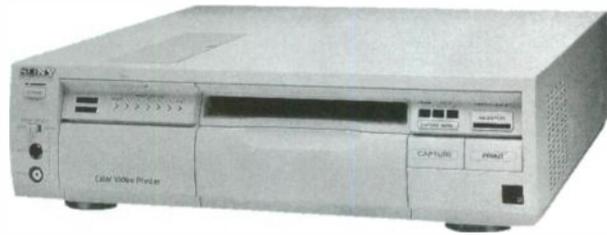
Specifications

Printing Method:	Dye transfer sublimation printing (Yellow/Magenta/Cyan three channels)
Thermal Head:	512 elements (6 dots/mm)
Printing Paper Size:	102 x 75mm (4 ¹ / ₈ " x 3")
Picture Elements:	708(H) x 448(V)
Gradations:	256 levels process (Yellow, Magenta, Cyan) over 16.7 million colors per pixel
Picture Memory:	One frame memory (8 bits x RGB three color process)
Printing Time:	Approx. 67 sec.
Inputs:	Y/C separate (4-pin S terminal x 2) Y: 1.0Vp-p, sync negative, 75Ω, unbalanced C: 0.286Vp-p, 75Ω, unbalanced Composite video (BNC x 1, Phono x 1) EIA/NTSC 1.0Vp-p, sync negative, 75Ω, unbalanced
Power Requirements:	AC-120V, 60 Hz
Power Consumption:	120W (during printing) 20W (during stand-by)
Dimensions (WHD):	430 x 109 x 375mm (17" x 4 ³ / ₈ " x 14 ⁷ / ₈ ")
Weight:	18 lb. 4 oz. (8.3 kg.) (approx.)
Safety Standard:	UL-1409

UP-2200R

Color Video Printer

■ Color video printer ideally suited for producing a variety of novelty goods including: Buttons, Mugs, Photo Key Chains, T-shirts, etc. ■ When set in "Mirror" mode the image acquired is reversed and then output using optional transfer media (10UPC-3050) ■ Using the RGB full frame memory, up to 330,000 effective pixels with an image size of 708(H) x 448(V) can be printed ■ Natural photographic quality outputs 16.7 million full color variations on A6 size media ■ Up to 30 consecutive prints of the same picture are possible ■ Menu options can be accessed by the control keys on the unit's front panel ■ Functions include Print Quantity, Date, Title or Caption Input, Print Mode Selection, Picture Adjustment (RED, GREEN, BLUE, BRIGHT and SHARP) ■ Print paper and ribbon cassette can be easily loaded from the front panel



Supplied Accessories:

Paper Tray
AC Power Cable
Operation Manual

Optional Accessories:

10UPC-3050 Color Transfer Printing Pack

Specifications

Printing Method: Dye transfer sublimation printing (Yellow/Magenta/Cyan, 3 channels)
Thermal Head: 512 elements (8 dots/mm)
Printing Paper size: A6 size
140 x 100mm (5 $\frac{5}{8}$ " x 4")
Picture Size: 102 x 75mm (4 $\frac{1}{8}$ " x 3")
Picture Elements: 708(H) x 448(V)
Gradations: 256 levels process (Yellow, Magenta, Cyan) over 16.7 million colors per pixel
Picture Memory: 24 bits, one frame memory
Printing Time: 67 seconds (approx.)
Inputs: Y/C separate (4-pin S terminal x 2)
Y: 1.0Vp-p, sync negative, 75 Ω , unbalanced
C: 0.288Vp-p, 75 Ω unbalanced
Composite video (BNC x 1, phono x 1)
EIA/NTSC 1.0Vp-p, sync negative, 75 Ω , unbalanced
Outputs: Y/C separate (4-pin S terminal x 1)
Y: 1.0Vp-p, sync negative, 75 Ω , unbalanced
C: 0.288Vp-p, 75 Ω unbalanced
Composite video (BNC x 1)
EIA/NTSC 1.0Vp-p, sync negative, 75 Ω , unbalanced
Power Requirements: AC-120V, 60 Hz
Power Consumption: 120W (during printing)
20W (during standby-by)
Dimensions (WHD): 420 x 109 x 375mm
(17" x 4 $\frac{3}{8}$ " x 14 $\frac{7}{8}$ ")
Weight: 16 lb. 4 oz. (6.3 kg.) (approx.)
Safety Standard: UL-1409



UP-3000

Color Video Printer

- Single frame memory, ■ High quality prints with 8-bit/256 gradations, and over 16 million colors per pixel
- More than 500 TV lines of horizontal resolution ■ A6 size print, 140 x 100mm (5 $\frac{5}{8}$ " x 4") in approx. 80 seconds
- Easy-to-use operation with function menu display on the monitor
- Front access operations
- Remote control function by an optional foot switch FS-20 or an external computer via an RS-232C interface
- Multiple video inputs: Analog RGB, Y/C and composite video
- Various print modes such as four split memory print mode, composite print mode, 25 multi picture print mode, mirror print mode, wide scan mode and caption setting
- Alarm display for easy maintenance

Supplied Accessories:

- Remote Control Unit
- Two "AA" Batteries (IEC Designation R6) For Remote Control Unit
- Remote Control Cable (5m)
- Color Print Pack (for 40 copies)
- Operation Manual
- AC Power Cable

Optional Accessories:

- UPC-3010 Color Printing Pack
- UPC-3020 Black & White Printing Pack
- FS-20 Foot Switch
- RM-81 Remote Commander
- SMF-1015 Cross Cable for RS-232C
- UPM-3000 Interface Manual

Specifications

Printing Method: Dye transfer sublimation thermal printing
Thermal Head: 512 elements (512 x 2 dot drive, 6 dots/mm)
Printing Paper Size: 140 x 100mm (5 $\frac{5}{8}$ " x 4")
Picture Size: Normal Scan Mode: 103 x 78mm (4 $\frac{1}{8}$ " x 3 $\frac{1}{8}$ ")
Wide Scan Mode: 108 x 82mm (4 $\frac{3}{8}$ " x 3 $\frac{1}{8}$ ")
Picture Elements: Normal Scan Mode: 716 x 468 dots
Wide Scan Mode: 750 x 490 dots
Gradations: 256 levels process (yellow, magenta, cyan)
over 16 million colors per pixel
Picture Memory: One frame (R, G, B, three channels)
Printing Time: Approx. 80 sec.
Input Terminal: RGB analog (BNC x 4, R, G, B, Sync)
RGB: 0.7Vp-p, 75 Ω , unbalanced
Sync: 0.2 ~ 4.0Vp-p, negative, 75 Ω , unbalanced
Y/C separate (4-pin S terminal)
Y: 1.0Vp-p, sync negative, 75 Ω , unbalanced
C: 0.286Vp-p, 75 Ω , unbalanced
Composite video (BNC x 1)
EIA/NTSC 1.0Vp-p, sync negative, 75 Ω , unbalanced

Output Terminal: (Monitor out)
RGB analog (BNC x 4, R, G, B, Sync)
RGB: 0.7Vp-p, 75 Ω , unbalanced
Sync: 1.1Vp-p, negative, 75 Ω , unbalanced
Y/C separate (4-pin S terminal)
Y: 1.0Vp-p, sync negative, 75 Ω , unbalanced
C: 0.286Vp-p, 75 Ω , unbalanced
Composite video (BNC x 1)
EIA/NTSC 1.0Vp-p, sync negative, 75 Ω , unbalanced

Remote Terminal: Remote (for the optional foot switch FS-20): stereo mini jack
Optional foot switch jack: stereo mini

Power Requirements: AC 120V, 50/60 Hz
Power Consumption: 140W max. (during printing),
50W max. (during stand-by)

Dimensions (WHD): 430 x 125 x 435mm
(17" x 5" x 17 $\frac{1}{8}$ ")

Weight: 22 lb. (10 kg.)

UP-5100

Color Video Printer

- Single frame memory
- High quality pictures: more than 500 TV lines of horizontal resolution, 720(H) x 468(V) dots in normal mode
- 8 bit/256 gradations
- OHP print capability
- A5 size print in approx. 60 seconds
- Easy to use operation menu displayed on the unit's LCD panel or a connected monitor
- Wireless or wired remote control operation
- Multiple video inputs of RGB, Y/R-Y/B-Y, Y/C and composite EIA/NTSC inputs
- Multiple print mode and caption setting capable

Supplied Accessories:

Remote Control Unit (with battery)
 Cable for Remote Control Unit (5m)
 UPC-5010A Color Printing Pack
 AC Power Cord
 Operation Manual

Optional Accessories:

UPC-5010A Color Printing Pack
 UPC-5020A Black and White Print Pack
 UPC-5030 OHP Transparency Printing Pack
 FS-20 Foot Switch
 RM-81 Remote Commander
 UPM-5000 Interface Manual
 SMF-1015 RS-232-C Cross Cable
 FED-0002 RGB and Audio 25-pin Connector Cable
 SMF-506 RGB Video Cable (25-pin-BNC)



Specifications

Printing Method: Dye transfer sublimation thermal printing
Thermal Head: 512 elements (4 dots/mm)
Printing Paper Size: 210 x 148mm (8³/₈" x 5⁷/₈")
Picture Size: (full size mode)
 (Narrow size) 152.5 x 115.5mm (6¹/₈" x 4⁵/₈")
 (Normal size) 155.0 x 117.0mm (6¹/₈" x 4⁵/₈")
 (Wide size) 162.7 x 121.5mm (6¹/₂" x 4⁷/₈")
Picture Elements: (full size mode)
 (Narrow size) 708 x 468 dots
 (Normal size) 720 x 468 dots
 (Wide size) 756 x 486 dots
Gradations: 256 levels process (Yellow, Magenta, Cyan) over 16 million colors per pixel
Picture memory: UP-5100 One frame memory (RGB channels)
Printing Time: 60 sec. (approx.)
Input: RGB analog or Y/R-Y/B-Y signal (switchable)
 (BNC x 4, R/Y, G/R-Y, B/BY, Sync)
 RGB: 0.7Vp-p, 75Ω, unbalanced
 Sync: 0.2 to 4.0Vp-p, negative, 75Ω, unbalanced
 Y: 1.0Vp-p, 75Ω, sync negative, unbalanced
 R-Y/B-Y: 0.7Vp-p, 75Ω, unbalanced

Y/C separate (4-pin S terminal)
 Y: 1.0Vp-p, sync negative, 75Ω, unbalanced
 C: 0.286Vp-p, 75Ω, unbalanced
 Composite video (BNC)
 EIA/NTSC 1.0Vp-p, sync negative, 75Ω, unbalanced
Output: RGB analog (BNC x 4, R, G, B, Sync)
 RGB: 0.7Vp-p, 75Ω, unbalanced
 Sync: 1.1Vp-p, negative, 75Ω, unbalanced
 Y/C separate (4-pin S terminal)
 Y: 1.0Vp-p, sync negative, 75Ω, unbalanced
 C: 0.286Vp-p, 75Ω, unbalanced
 Composite video (BNC)
 EIA/NTSC 1.0Vp-p, sync negative, 75Ω, unbalanced

Control Terminals: Remote control jack (special mini)
 Foot switch jack (stereo mini)
 RS-232C interface port (D-sub 25-pin)
Power Requirement: AC 120V, 50/60 Hz
Operating Voltage: AC 85V-132V
Power Consumption: 200W (average)
Dimensions (WHD): 424 x 470 x 190mm
 (16¹/₄" x 18⁵/₈" x 7¹/₂")
Weight: 33 lb. (15 kg.)

UP-D7000

Digital Color Printer

- State-of-the-art "dye transfer sublimation thermal printing" ■ Component dye colors (yellow, magenta and cyan) provide 256 gradations, for over 16 million colors
- Thermal head with 1280 elements reproduces high quality output ■ Prints a full color image on letter size paper and transparency material in approx. 140 seconds, and black and white in approx. 60 seconds
- SCSI interface to directly connect to a number of computers and networks
- Digital processing assures optimum image quality
- High data transmission speed (1.5 Mbyte/sec.)
- Cascade connection of up to seven printers from the source signal
- Versatile print control menu
- Print quantity (Max. 20 copies)
- Color adjustment of red, green, blue, dark and light, even after capturing the image in the built-in frame memory
- Fine adjustment of aspect ratio (± 20 mm longitudinally)
- Print area assignment (the image can be printed out in a selected area of the paper)
- Data transmission method (Dot sequential or plane sequential)



D

Supplied Accessories:

- Ink Ribbon Holder (Color/Black & White/OHP) (x 3)
- Paper Tray
- Paper Cover
- SCSI Terminator
- AC Power Cord
- Operating Instructions

Optional Accessories:

- UPC-7011 Color Print Pack
(100 sheets of print paper and 1 roll of ink ribbon)
- UPC-7021 Black & White Print Pack
(100 sheets of print paper and 1 roll of ink ribbon)
- UPC-7031 OHP Print Pack
(100 sheets of transparency paper and 1 roll of ink ribbon)

Specifications

- Printing Method: Dye transfer sublimation thermal printing
- Thermal Head: 1280 elements
- Resolution: 163 dpi, 6.4 dots/mm
- Paper Size: 216 x 279mm (8 $\frac{1}{2}$ " x 11") (letter)
- Picture Elements: 1478 x 1280 dots (letter)
- Picture Size: Max. 231 x 200mm (9 $\frac{1}{8}$ " x 7 $\frac{7}{8}$ ")
- Print Media: Ribbon: Color, black & white paper and transparency
- Gradation: 256 gradations for yellow, magenta and cyan (16.7 million colors per dot)
- Picture Memory: 2040 x 1536 x 8 x 3 bits (RGB three channels)
- Printing Time: Approx. 140 sec. for color, and approx. 60 sec. for black & white
- Interface: SCSI 1 channel (amphenol 50 pin), unbalanced, data transfer speed approx. 1.5 Mbyte/sec. (asynchronous), accepts both dot sequential and plane sequential transmission
- Power Requirement: AC 120V, 50/60 Hz
- Power Consumption: Max. 240W
- Dimensions (WHD): 424 x 177 x 490mm (16 $\frac{3}{4}$ " x 7" x 19 $\frac{3}{8}$ ")
- Weight: Approx. 44 lbs. (20 kg.)



UP-D860

Digital Graphic Printer

- High quality pictures with a fast print speed
- Compact and lightweight
- Digital interface
- Print mode selections
- Printing paper selectable
- Selectable gamma levels
- Printing pixel aspect ratio
- Positive/negative printing selectable
- Normal/reverse direction selectable
- User-friendly operation
- Easy paper loading
- Alarm buzzer/indicator
- Thermal head protection

Supplied Accessories:

- AC Power Cable
- UPP-110HD Paper Roll
- Head Cleaning Sheet
- Operation Manual

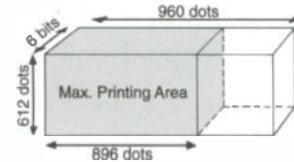
Optional Accessories:

- UPP-110S Printing Paper Type I (110mm x 20m)
- UPP-110HD High Density Printing Paper Type II (110mm x 20m)

Specifications

- Thermal Head: Thin film thermal head 896 dots drive
 Gradation: 64 gray levels (6-bit internal process, without dithering)

Memory Configuration:



Printed Picture Size: 100.3(H) x 69(V)mm (4" x 2³/₄")

Printing Speed: 4.0 sec./print (approx.)

Picture Elements: 896(H) x 612(V) dots

Dot Density: H: 896/100.3 = 8.9 dots/mm

V: 612/69 = 8.9 dots/mm

Interface Connector: Centronics standard, 8-bit parallel, TTL level, 36-pin Amphenor type (x 1)

Power Requirements: AC-120V, 50 Hz/60 Hz

Power Consumption: Max. 1.6A

Dimensions (WHD): 154 x 106 x 300mm

(6¹/₈" x 4¹/₄" x 11⁷/₈")

Weight: 7 lb. 15 oz. (3.6kg.) (approx.)

Safety Regulations: UL-1950, CSA-C22.2 No. 950

UP-860

Monochrome Video Graphic Printer

- Thermal video graphic printer with 256 steps of gradation
- Small size and lightweight
- Fast printing speed of less than four seconds
- High resolution printing of 896 x 508 dots (in Wide 2 scan mode)
- Wide scanning function (Normal/Wide 1/Wide 2 selectable)
- Multiple copy function
- Economy print mode offers maximum 270 prints from one paper roll (230 prints in normal print mode)
- Frame/Field memory selectable
- 4:3/1:1 aspect ratio selectable
- Positive/negative printing
- Normal/reverse direction printing

Supplied Accessories:

- AC Power Cord
- BNC Cable (1.5m)
- UPP-110HD Printing Paper Roll
- Head Cleaning Sheet
- Operation Manual

Optional Accessories:

- UPP-110S Printing Paper (Type I)
- UPP-110HD High Density Printing Paper (Type II)
- FS-20 Foot Switch
- RM-91 Remote Commander
- MB-860 Rack Adaptor for use with MB-920 for mounting one UP-860 and one SSM-920 in a 19" rack space

Specifications

- Thermal Head: Thin-film thermal head (with built-in drive IC) of 896-dot drive
- Gradations: 256 gray levels (quasi)
- Print Size: EIA
- (at aspect ratio 4:3):
 - Normal: 90 x 69mm (3⁵/₈" x 2³/₈")
 - Wide 1: 95 x 72mm (3³/₄" x 2⁷/₈")
 - Wide 2: 100 x 74mm (4" x 3")
- CCIR
 - Normal: 90 x 68mm (3⁵/₈" x 2³/₈")
 - Wide 1: 95 x 71mm (3³/₄" x 2⁷/₈")
 - Wide 2: 100 x 74mm (4" x 3")
- Effective Pixels: EIA
 - Normal: 808 dots x 472 lines
 - Wide 1: 848 dots x 490 lines
 - Wide 2: 896 dots x 508 lines
- CCIR
 - Normal: 808 dots x 560 lines
 - Wide 1: 848 dots x 582 lines
 - Wide 2: 896 dots x 608 lines
- Printing Speed: Less than four seconds/screen (at aspect ratio 4:3)
- Picture Memory: 6 bit (3.36 Mbit)
- Input/Output: Video IN (BNC): EIA or CCIR composite video signal 1.0Vp-p, 75Ω, high impedance switchable
Video OUT (BNC): Loop-through or E.E. switchable
- Remote: Stereo mini jack for the optional foot switch FS-20
- Power Requirements: AC120V, 50/60 Hz
- Dimensions (WHD): 154 x 106 x 300mm (6¹/₈" x 4¹/₄" x 11⁷/₈")
- Weight: 7 lb. 15 oz. (3.6 kg.)





UP-910

Monochrome Video Graphic Printer

- Large print size (182 x 140mm in normal scan mode, 200 x 150mm in wide 2 scan mode, at aspect ratio 4:3)
- High quality printing with a horizontal resolution of 768 dots and 128 gradations of gray level
- High speed printing (approx. 20 seconds)
- Frame/Field memory selectable
- Printing direction selectable: Normal/Reverse
- Normal/Wide scan selectable
- 4:3/1:1 aspect ratio selectable
- EIA/CCIR automatic selection
- Multiple copy function by pressing the "COPY" button
- Safety regulations (UL-544, CSA C 22.2 No. 220 and No. 125 approved)

Supplied Accessories:

AC Power Cord
UP-216HD Paper Roll
Paper Shaft
Head Cleaning Sheet
BNC-BNC Connecting Cable (1.5m)

Optional Accessories:

FS-20 Foot Switch
RM-81 Remote Commander
UPP-216HD High Density Paper (Type II)
UPP-216SE Normal Density Paper (Type II)

Specifications

Printing Method:	Direct thermal printing
Thermal Head:	Thin-film thermal head (with built-in drive IC) 768-dot drive
Print Size (at aspect ratio 4:3):	EIA/CCIR Normal: 182 x 140mm (7 ¹ / ₄ " x 5 ⁵ / ₈ ") Wide 1: 192 x 146mm (7 ⁵ / ₈ " x 5 ³ / ₄ ") Wide 2: 200 x 150mm (7 ⁷ / ₈ " x 6")
Picture Elements (at aspect ratio 4:3):	EIA Normal: 700 dots x 472 lines Wide 1: 736 dots x 490 lines Wide 2: 768 dots x 508 lines CCIR Normal: 700 dots x 560 lines Wide 1: 736 dots x 582 lines Wide 2: 768 dots x 608 lines
Gradations:	128 (black & white)
Picture Memory:	One frame (600k x 6 bit)
Printing Time:	Approx. 20 sec./screen (at aspect ratio 4:3)
Input/Output:	Video IN (BNC)-EIA/NTSC or CCIR/PAL composite: 1.0Vp-p, sync negative, 75Ω, high impedance (switchable) Video OUT (BNC): Loop-through
Remote Terminal:	REMOTE (for the optional foot switch FS-20: Stereo mini jack
Power Requirements:	AC 100-120V, 50/60 Hz
Power Consumption:	Max. 2.5A, 190W
Dimensions (WHD):	424 x 130 x 380mm (16 ³ / ₄ " x 5 ¹ / ₈ " x 15")
Weight:	Approx. 20 lb. 1 oz. (9.1 kg.)

UP-930

Monochrome MultiScan Video Printer

- MultiScan capability (max. scanning rate: approx. 50 kHz)
- Large print size (EIA standard: 1216 dots x 478 lines, 190 x 141mm at normal direction print mode)
- Multiple print modes (up to four split pictures)
- 128 gradations of gray level by 7-bit digital processing
- Two types of input video signals of Composite video (BNC)/RGB analog or TTL (D-sub 15-pin)
- Scan adjust function (Scanning size and aspect ratio)
- Selectable printing direction: Normal/Reverse (180° rotation)/Side (90° rotation)
- Auto paper cut function
- RS-232C interface for external computer control
- Medical safety regulation (UL-544 and FCC class A listed)



Supplied Accessories:

- AC Power Cord
- UPP-216SE Printing Paper
- Paper Shaft
- Head Cleaning Sheet
- BNC-BNC Connecting Cable

Optional Accessories:

- SMF-3005 RGB Cable
- FS-20 Foot Switch
- RM-81 Remote Commander
- UPP-216HD High Density Paper (Type II)
- UPP-216SE Normal Density Paper (Type II)

Specifications

Printing Method: Direct thermal printing
Thermal Head: Thin-film thermal head, 1280-dot drive x 2
Picture Size (aspect ratio 4:3): Normal Direction: (EIA) 190 x 141mm (7½" x 5½")
Side Direction: (EIA) 200 x 149mm (7⅞" x 5⅞")
Picture Elements: (EIA) 1216 x 478 dots
Gradations: 128 (black & white)
Picture Memory: 2 MB
Printing Time: Approx. 20 sec./screen (at normal direction)
Input Terminal: Video In (BNC)
Composite video signals 1.0Vp-p, 75Ω/high-impedance
RGB In (D-sub, 15pin)
Composite sync/Separate Sync/Sync on G, 0.7Vp-p (analog)/5Vp-p (TTL), 75Ω/high-impedance
Output Terminal: Video Out (BNC)
Loop-through
RGB Out (D-sub, 15-pin)
Loop-through
Remote Terminal: REMOTE (for the optional foot switch FS-20): stereo mini jack
RS-232C: D-sub 25-pin
Sampling Frequency: Max. 40 MHz
Scanning Rate: Approx. 15 to 50 kHz
Power Requirements: AC 100V-120V, 50/60 Hz
Power Consumption: Max. 3.5A
Dimensions (WHD): 424 x 130 x 380mm (16¾" x 5¼" x 15")
Weight: 23 lb. (10.5 kg.)



DIH-2100

Digital Information Handler

- Superior quality picture transmission (a horizontal resolution of 500 TV lines or 768 x 480 pixels) in seconds
- Can use multiple communication lines such as a conventional analog telephone line, a high-speed digital leased line and the new ISDN
- Magneto-optical disk file via SCSI interface
- Can communicate with the DIH-2000, DIH-2100 and the portable still image transceiver PVT-115
- Audio commentary, characters or handwritten messages can be added using the keyboard or optional writing tablet
- Unattended send and receive function
- Image magnification/reduction, move and trim functions
- Multiple display and send function
- Automatic dial and programmed send function
- Character superimposition on each image
- Security provision

Supplied Accessories:

AC Power Cable
Operation Manual

Optional Accessories:

KI-500 Keyboard
VTI-T50 Writing Tablet
RK-635 Connecting Cable (D-sub 15-pin-V.35)
PCZ-310T Connecting Cable (SCSI, half-pitch-standard pitch)
SMF-3002 Monitor Cable (D-sub 15-pin-D-sub 25-pin)
SME-3005 RGB Cable (D-sub 15-pin-BNC x 4)
SMF-3031 Straight Cable for RS-232C (D-sub 9-pin-D-sub 25-pin)
SMF-3036C Cross Cable for RS-232C (D-sub 9-pin-D-sub 25-pin)
VDC-52 Dubbing Cable (16-pin-16-pin)

Specifications

Picture Elements (HV): 768 x 480
Horizontal Resolution: 500 TV lines (RGB input, Y/R-Y/B-Y output)
Data Transmission Method: Compressed mode: JPEG (Joint Photographic Experts Group)
Uncompressed mode: PCM (Pulse Code Modulation)
Transmission Speed: Maximum 64 kbps (Connecting to ISDN with a terminal adaptor)
Communication Protocol: Conforming to 7-Layer OSI model
Control: RS-232C (1) (D-sub 9-pin) for ProMavica
RS-232C (2) (D-sub 9-pin) for Video Printer, or external control I/F
RS-232C (D-sub 9-pin) for Writing Tablet
SCSI (Half-pitch 50-pin)
Printer control (Stereo mini)
Video Input: NTSC composite (BNC): 1.0Vp-p, 75Ω
Analog RGB (D-sub 9-pin): 0.7Vp-p, 75Ω
Y/R-Y/B-Y (D-sub 16-pin)
Y: 1.0Vp-p, 75Ω
R-Y/B-Y: 0.7Vp-p, 75Ω (75% color bar)

Video Output: NTSC composite (BNC): 1.0Vp-p, 75Ω
Analog RGB (D-sub 9-pin): 0.7Vp-p, 75Ω
Y/R-Y/B-Y (D-sub 16-pin)
Y: 1.0Vp-p, 75Ω
R-Y/B-Y: 0.7Vp-p, 75Ω (75% color bar)
Hi-Scan Video Output: Analog RGB non-interlace (D-sub 15-pin)
Horizontal frequency 31.5 kHz
Printer Output: Analog RGB (D-sub 15-pin)
Composite black and white (BNC)
Audio Input: Phono, -10 dBs (at load impedance 47 kΩ)
Audio Output: Phono, -10 dBs (at load impedance 47 kΩ)
MIC In: Mini, -60 dBs (Low impedance)
Dimensions (WHD): 424 x 88 x 360mm
(16³/₄" x 3¹/₂" x 14¹/₄")
Weight: Approx. 16 lb. 12 oz. (7.6 kg.)
Power Requirements: AC-100-120V, 50/60 Hz
Power Consumption: 80W

PVT-115

Portable Still Image Transceiver

- Compact size and lightweight: A4 paper size (210 x 60 x 297mm) and 1.8 kg. without batteries
- Superior quality picture transmission (a horizontal resolution of 500 TV lines or 768 x 480 pixels) in seconds
- System-up flexibility with DIH-2100 Digital Information Handler
- Three way power supply (from card batteries, from 120V AC power sources, from NP-55/77H DC batteries)
- Easy transmission using conventional telephone network
- Transmission via public telephone or cellular phone by the SMF-1600 acoustic coupler
- Unattended send and receive function
- Image memory function
- External modem facility
- RS-232C interface for external computer control

Supplied Accessories:

Shoulder Strap
Operation Manual
Power Adaptor

Optional Accessories:

FDL-X40 LCD Color Monitor
SMF-1600 Acoustic Coupler
AC-M55 AC Power Adaptor
DCP-77 Car Battery Adaptor
LC-S110 Pliable Bag
NP-55/77H Rechargeable Battery Pack
SMF-1600 RGB Cable (D-sub 9-pin-BNC x 4)
LCP-115 Hard Shell Attache
SMF-1210 Y/R-Y/B-Y Cable (D-sub 9-pin-16-pin multi)
SMF-1220 RGB Cable (D-sub 9-pin-D-sub 25-pin)
SMF-1020 External Modem Cable (Mini D-sub 15-pin-D-sub 25-pin)
SMF-1025 RS-232C Cable (Mini D-sub 15-pin-D-sub 25-pin)
SMF-1035 Video Control Cable (Mini D-sub 15-pin-Miniplug)

Specifications

Picture Elements (HV): 768 x 480
Horizontal Resolution: 500 TV lines (RGB, Y/R-Y/B-Y input)
Data Compression Method: JPEG (Joint Photographic Experts Group) standard
Transmission Speed: Fine mode: approx. 110 sec.
Normal mode: approx. 70 sec.
Field mode: approx. 50 sec.
Rough mode: approx. 50 sec.
Communication Protocol: "HDLC"
Data Sampling: 14.3 MHz sampling frequency, 8-bit resolution, Y/R-Y/B-Y, 4:2:2
Modem: CCITT V.29, V.27ter, V.21
Control: RS-232C (Mini D-sub 15-pin) for ProMavica, video printer, or VCR
Connection to Phone Line: Phone line: Modular jack (6 position, 2 conductor type)
Acoustic coupler (6-pin mini DIN)
Video Input: NTSC composite (BNC): 1.0Vp-p, 75Ω
Analog RGB (D-sub 9-pin): 0.7Vp-p, 75Ω
Y/R-Y/B-Y (D-sub 9-pin)
Y: 1.0Vp-p, 75Ω
R-Y/B-Y: 0.7Vp-p, 75Ω (75% color bar)
S Video (4-pin mini DIN)
Y: 1.0Vp-p, 75Ω
C: 0.286Vp-p, 75Ω (color burst)



PVT-115 Shown with Optional FDL-X40 LCD Monitor

Video Output: NTSC composite (BNC): 1.0Vp-p, 75Ω Analog
RGB (D-sub 9-pin): 0.7Vp-p, 75Ω
Y/R-Y/B-Y (D-sub 9-pin)
Y: 1.0Vp-p, 75Ω
R-Y/B-Y: 0.7Vp-p, 75Ω (75% color bar)

Recommended External Modem: TELEBIT T-2000, T-2500
Motorola Codex 2266
MICROCOM AX/9624C

Dimensions (WHD): 210 x 60 x 297mm
(8³/₈" x 2³/₈" x 11³/₄")

Weight: Approx. 1.8 kg. (without battery)
Approx. 2.5 kg. (with NP-77H x 2)

Power Consumption: Max. 12W
Power Requirement: DC 6V-14V
AC 100V-240V, 50/60 Hz with AC-M55
AC adaptor



SEPS-1000™

Digital Studio Camera System

- Includes camera, real-time viewfinder, 13" color monitor calibrated to 5000°K, remote control for aperture, color, and contrast adjustments, 28.4 MHz digital processor, and Adobe Photoshop® plug-in software module
- Interchangeable lenses sold separately
- Three CCDs (1.3 million total elements) separately capture red, green, and blue light
- Separate reference and graphic memories for layout and text overlays
- Built-in strobe, tungsten, and daylight filters
- Built-in strobe synchronization
- 256 gray levels per color (16.7 million colors)
- High resolution images (4.9 Mbyte file)
- Sony HyperHAD™ CCDs with on-chip lens and overflow substrate
- Built-in AC power supply
- SCSI output to Macintosh® computers
- VCT-14 quick mount tripod adaptor
- Sony quality and support

Optional Accessories:

Wide variety of Canon®, Fujinon®, and Nikon® lenses

Remote Lens Controls

Sony Magneto-Optical Disk Drives

Sony UP-D7000 Digital Dye Sublimation Thermal Color Printer

High Resolution Viewfinder

Microscope Adaptor

RGM-1901 5000°K Color Graphic Monitor

SCI-537 PAC Camera Control Module

Cachet™ 1000 Color Calibration Software from Electronics for Imaging

Specifications

- Image Sensors: Interline-transfer CCD, 3 chips
- Optics: f1.4 medium index prism system
- Sensing Area: $\frac{2}{3}$ " arrays (786 x 582 pixels each)
- Scan System: Frame integration, 10 MHz bandwidth
- Minimum Illumination: 13 lux with f1.8, +18 dB;
7.5 lux with f1.4, +18 dB
- Sensitivity: About 400 ASA at 0 dB
- Signal-to-Noise: 60 dB (f8 at 2000 lux)
- Registration: 0.05% (all zone, without lens)
- Distortion: Below measurable level
- Lens Mount: $\frac{2}{3}$ " bayonet mount
- Viewfinder: Monochrome, 400 scan lines
- Effective Shutter Speed: Strobe: dependent on exposure time,
Tungsten: 1/25 sec.
- Built-in Filters: 1: 3200°K, 2: 5600°K + $\frac{1}{4}$ ND
3: 5600°K, 4: 5600°K + $\frac{1}{16}$ ND
- Frame Memory: 1536 x 576 x 3 colors x 8 bits
(picture area: 1476 x 576 x 3 x 8)
- Reference Memory: 768 x 576 x 3 colors x 8 bits
(picture area: 738 x 576 x 3 x 8)
- Graphic Memory: 768 x 576 x 1 bit (picture area: 738 x 576 x 1)
- Digital Sampling: 28.4 MHz bandwidth, 8 bits
- Digital Interface: Amphenol 50-pin SCSI
(1.2 MB/sec., unbalanced)
- Strobe Interface: X connector
- Final Resolution: 1476 x 1108 x 3 colors x 8 bits
- Dimensions (WHD): Camera: $7\frac{3}{4}$ " x $10\frac{1}{2}$ " x $18\frac{1}{8}$ "
Processor: $16\frac{3}{4}$ " x $4\frac{1}{4}$ " x $17\frac{3}{4}$ "
Monitor: 15" x $14\frac{3}{4}$ " x $16\frac{1}{4}$ "
- Weight: Camera: 7 lb. 11 oz., Processor: 25 lb. 7 oz.,
Monitor: 38 lb. 9 oz.
- Power: 120V AC, 50/60 Hz, Camera: 11.8W,
Processor: 100W, Monitor: 95W

FDL-X40

LCD Color Monitor

- High-quality 4-inch color liquid crystal display (LCD)
- Audio playback with built-in speaker
- Built-in fluorescent lamps provide high and equal luminescence, and allows for variable adjustments in brightness
- Four-way AC/DC power capability
- Auto power saving function turns the power off automatically when there is no signal coming into the monitor

Supplied Accessories:

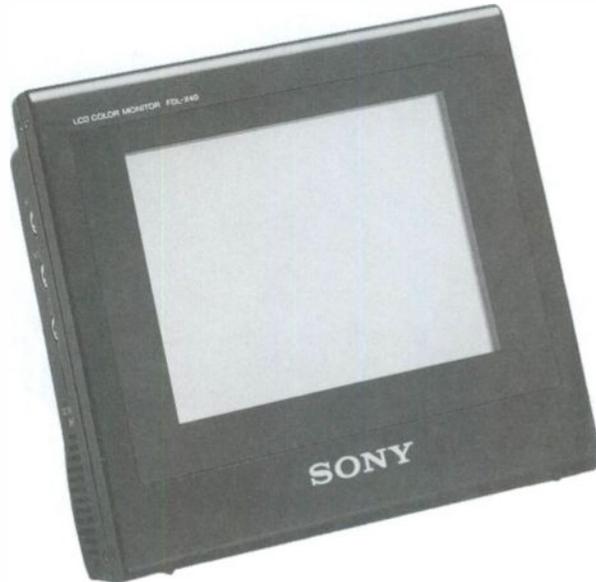
- VF-K41 Shading Hood
- AV Connecting Cord
- Instruction Manual
- VCT-K41 Connecting Bounce Shoe

Optional Accessories:

- NP-77H Battery Pack
- ACV-55 AC Power Adaptor

Specifications

- Color System: NTSC
- Display: TN LCD/TFT active matrix
- Picture Size: 4" picture measured diagonally
80.6 x 60.5mm (3 $\frac{1}{4}$ " x 2 $\frac{1}{2}$ ")
- Picture Elements: 105,600 pixels (480 x 220)
- Speaker: 36mm (1 $\frac{7}{16}$ ") round
- Input Jack: A/V In jack: minijack
Input impedance: Audio 47 k Ω , 500 mVrms;
Video 75 Ω , 1Vp-p
- Output Jacks: A/V Out jack: minijack
Output impedance: Audio 1 k Ω
Video: 75 Ω , 1Vp-p
Earphone jack: Stereo minijack;
Load impedance: 8-45 Ω
- Power Requirements: 6V DC
- Battery Life: NP-77H (approx. 205 min.)
- Power Consumption: 4.2W (approx.)
- Dimensions (WHD): 135 x 114 x 49mm
(5 $\frac{5}{16}$ " x 4 $\frac{1}{2}$ " x 1 $\frac{9}{16}$ ")
(Not including projecting parts and controls)
- Operating Temperature: 0°C to 40°C (32°F to 104°F)
- Weight: 11 oz. (350 g.) (approx.) not including batteries





FDL-X600

LCD Color Monitor

- 5.9-inch (visible size) Liquid Crystal Display (LCD)
- Thin Film Transistor Active Matrix LCD panel with 194,040 pixel
- Accepts both NTSC and PAL signals
- DC operation capability
- Switchable to B/W mode
- Color temperature switch selectable; 5000°K/6500°K/9300°K
- Automatic detection of EXT SYNC and SYNC ON GREEN
- Multiple input facilities
- Built-in monaural speaker

Supplied Accessories:

Detachable Hood
Carrying Belt

Optional Accessories:

AC-S10, AC-V55 AC Power Adaptor
DCP-77 Car Battery Adaptor
Rechargeable Battery Pack
NP-55H/66H/77H/77HD
EBP-77 Battery Case

Specifications

General

- System:** 525 lines, 60 fields/625 lines, 50 fields
NTSC and PAL automatically selected
- LCD Panel:**
- Drive Method:** TN (Twisted Nematic) full color with Anti-Reflection Glass Panel
a-Si TFT (Thin Film Transistor) Active Matrix, Normally White, Non-Interface, line order scan (NTSC) with line skip (PAL)
- Picture Size:** Visible picture size 5.9" (14.9cm) measured diagonally
- Dots, Pixels:** Dot pitch: 404 μm (V) x 405 μm (H); 135 μm for each pixel
Pixel number: 220 (V) x 882 (H) = 194,040
RGB delta arrangement
- Color Temperature:** 9300K or 6500K or 5000K switchable
- Horizontal Resolution:** Composite video input; 330 TV lines
RGB input; 294 dots
- Speaker:** 0.15W monaural
 \varnothing 28mm Round x 1
- Power Requirements:** DC-6V-9V
- Power Consumption:** 12W (approx.)
- Dimensions (WHD):** 216 x 132 x 82.4mm
(8 $\frac{5}{8}$ " x 5 $\frac{1}{4}$ " x 3 $\frac{1}{8}$ "
(including projecting parts and controls)
- Weight:** 2 lb. 10 oz. (1.2 kg.) (approx.)

Input/Output

- Video Inputs:** Composite video
Line A/B; Loop-through BNC
Y/C; Mini-DIN 4-pin
RGB Input (Analog); D-sub 9-pin
- Audio Inputs:** Composite video
Line A/B; Loop-through phono
Y/C; Phono
- RGB:** Phono
- Headphone Output:** \varnothing 3.5 Stereo mini jack (Audio monaural)

PVM-8040

8-Inch Portable Color Video Monitor

■ Beam current feedback for stable color reproduction over a long period of time ■ Heavy duty construction with metal cabinet to minimize electromagnetic interference between adjacent monitors ■ Built-in speaker ■ 19-inch EIA standard rack mountable

Optional Accessories:

MB-504 rack mount for two PVM8040 monitors in a 19" rack

Specifications

Video Signal System: EIA Standard, NTSC Color
 Picture Tube: 8" Trinitron® measured diagonally, 70° deflection
 Video Input: BNC type, 1Vp-p ± 6 dB composite 75Ω, sync negative
 Video Output: BNC-type, 1Vp-p ± 6 dB composite, sync negative
 Horizontal Resolution: > 250 lines
 Power Requirements: AC-120V 60 Hz
 Power Consumption: AC-40W
 Operating Temperature: -10°C to 40°C (14°F to 104°F)
 Storage Temperature: -10°C to 149°C (14°F to 149°F)
 Dimensions (WHD): 216 x 217 x 351mm (8½" x 8½" x 13¾")
 Rack Mount: Optional MB-507 for two monitors, MB-509 blank panel for mounting one PVM-8040 MAMB-507
 Weight: 16 lbs. 8 oz. (7.5 kg.)

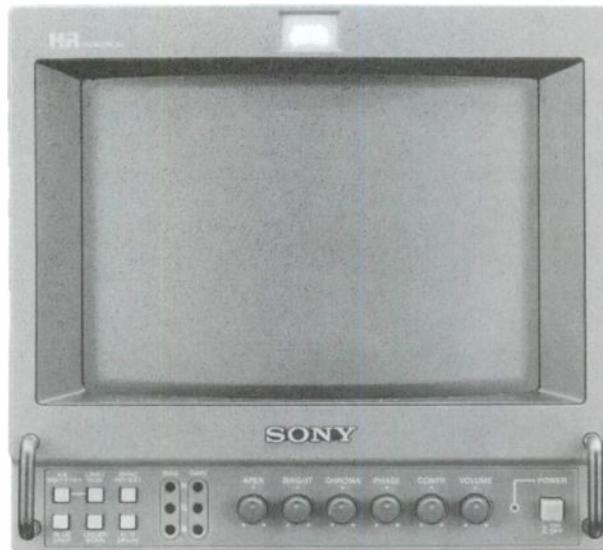


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PVM-8044Q

Super Fine Pitch, Rack-Mount Type Monitor for Studio Use

■ High resolution 8-inch Trinitron CRT provides 450 TV lines horizontal resolution ■ Beam current feedback for stable color reproduction and comb filter for improved luminance/chrominance separation ■ 8-inch Trinitron CRT ■ Component input (Y/R-Y/B-Y or RGB), Y/C input and composite inputs for convenience and versatility ■ Pulse cross and Blue only modes ■ AC or DC powered for field operation ■ Accepts external sync and sync on green signal of an RGB input ■ 19-inch EIA standard rack mountable ■ Compatible with NTSC, PAL, SECAM and NTSC4.43





14" PVM-1341

High Cost Performance Color Monitor

- A variety of input facilities
- Beam current feedback circuit for stable color reproduction
- 6500°K/9300°K color temperature selection switch
- Comb filter for NTSC
- Accepts Analog/Digital RGB signals
- H/V delay and Normal scan/Underscan selection
- Blue only mode
- Accepts an external sync
- Mountable into a 19-inch EIA standard rack with optional MB-502A and SLR-102

Optional Accessories:

- Monitor Connecting VCM Cable
- MB-502A Mounting Bracket
- SLR-102 Slide Rail Kit

PVM-1344Q

Super Fine Pitch, SMPTE C Phosphors, for Studio Use

- High resolution of 600 TV lines at center
- Adoption of SMPTE C phosphors for monitor matching
- Beam current feedback circuit for stable color reproduction
- Accepts three TV system standards: NTSC and modified 4.43 MHz NTSC; PAL; SECAM
- Component (Y/R-Y/B-Y) or RGB input facility
- 6500K/9300K color temperature selection switch
- Comb filter for NTSC
- H/V delay and Normal scan/Underscan selection
- Blue only mode
- User preset function
- Accepts an external sync and sync on Green
- Built-in speaker for Audio monitoring
- Two composite line inputs and one S-video input
- Mountable into a 19-inch EIA standard rack with optional MB-502A and SLR-102

Optional Accessories:

- Monitor Connecting VMC Cable
- MB-502A Mounting Bracket
- SLR-102 Slide Rail Kit

Specifications

- Video Signals:** EIA 525 lines, 60 fields/CCIR 625 lines, 50 fields (switching of EIA to CCIR or vice versa is automatically done)
- Color System:** NTSC/PAL/SECAM/NTSC_{4.43}^{*1} (automatically selected)
- Picture Tube:** 36.8 cm (14"), Super Fine Pitch Trinitron tube, visible picture size 33.7 cm (13") measured diagonally, 90° deflection SMPTE C phosphors
- Horizontal Resolution:** 600 TV lines at center (Video Inputs)
- Audio Power Output:** 0.6W with built-in speaker
- Power Requirements:** AC-120V, 50/60 Hz
- Power Consumption:** 99W max
- Dimensions (WHD):** 346 x 340 x 412mm (13⁵/₈" x 13¹/₂" x 16¹/₄")
- Weight:** 36 lb. 6 oz. (16.5 kg.) (approx.)

VIDEO IN

- LINE A:** BNC: Non-composite 0.7Vp-p, Composite 1Vp-p, sync negative, Automatic 75Ω termination^{*4}
- LINE B:** BNC: Non-composite 0.7Vp-p, Composite 1Vp-p, sync negative, Automatic 75Ω termination^{*4}
- VTR^{*2}:** 8-Pin: Composite 1Vp-p, sync negative, 75Ω
- Y/C^{*2}:** Mini, DIN, 4-pin:

- Y (Luminance signal): 1Vp-p, Sync negative, 75Ω
- C (Chrominance signal):
- NTSC: 0.286Vp-p, 75Ω
- PAL: 0.3Vp-p, 75Ω

- COMPONENT^{*3}:** (BNC) R-Y/B-Y: 0.7Vp-p, Automatic 75Ω termination^{*4}
- (BNC) Y/Sync on Green: Composite 1Vp-p, sync negative, Automatic 75Ω termination^{*4}



D

- RGB^{*3}: BNC: 0.7Vp-p, Automatic 75Ω termination^{*4}

VIDEO OUT

- LINE A:** BNC: Loop-through
- LINE B:** BNC: Loop-through
- COMPONENT:** BNC: Loop-through
- RGB: BNC: Loop-through

SYNC IN

- BNC: 4Vp-p, negative Automatic 75Ω termination^{*4}

SYNC OUT

- BNC: Loop-through

AUDIO IN

- LINE A:** Phono: -5 dBs, high impedance
- LINE B:** Phono: -5 dBs, high impedance
- VTR:** 8-pin: -5 dBs, high impedance
- Y/C:** Phono: -5 dBs, high impedance
- COMPONENT:** Phono: -5 dBs, high impedance
- RGB: Phono: -5 dBs, high impedance

AUDIO OUT

- LINE A:** Phono: Loop-through
- LINE B:** Phono: Loop-through

^{*1} The NTSC_{4.43} system refers to an NTSC color system in which the subcarrier frequency is modified to 4.43 MHz.

^{*2} The Y/C input has priority over the VTR input.

^{*3} RGB/Component is switch selectable.

^{*4} 75Ω termination is automatically set to OFF when connection is made to the OUT connector.



20" PVM-1944Q

Super Fine Pitch, SMPTE C Phosphors, for Studio Use

- High resolution of 600 TV lines at center
- Adoption of SMPTE C phosphors for monitor matching
- Beam current feedback circuit for stable color reproduction
- Component (Y/R-Y/B-Y) or RGB input facility
- 6500K/9300K color temperature selection switch
- Comb filter for NTSC
- H/V delay and Normal scan/Underscan selection
- Blue only mode
- User preset function
- Accepts an external sync and sync on Green
- Mountable into a 19" EIA standard rack with optional SLR-101

Optional Accessories:

- Monitor Connecting Cable VMC Cable
- SLR-101 Slid Rail Kits

Specifications

- Video Signals: EIA 525 lines, 60 fields/CCIR 625 lines, 50 fields (switching of EIA to CCIR or vice versa is automatically done)
- Color System: NTSC/PAL/SECAM/NTSC_{4.43}^{*1} (automatically selected)
- Picture Tube: 52cm (20"), Super Fine Pitch Trinitron tube, visible picture size 49cm (19") measured diagonally, 90° deflection SMPTE C phosphors
- Horizontal Resolution: 600 TV lines at center (Video Inputs)
- Audio Power Output: 0.6W with built-in speaker
- Power Requirements: AC-120V, 50/60 Hz
- Power Consumption: 130W max
- Dimensions (WHD): 452 x 461.5 x 502.9mm (17⁷/₈" x 18¹/₄" x 19⁷/₈"
- Weight: 66 lb. 2 oz. (30.0 kg.) (approx.)
- VIDEO IN**
- LINE A: BNC: Non-composite 0.7Vp-p, Composite 1Vp-p, sync negative, Automatic 75Ω termination^{*4}
- LINE B: BNC: Non-composite 0.7Vp-p, Composite 1Vp-p, sync negative, Automatic 75Ω termination^{*4}
- VTR^{*2}: 8-Pin: Composite 1Vp-p, sync negative, 75Ω
- Y/C^{*2}: Mini, DIN, 4-pin:
Y (Luminance signal): 1Vp-p, Sync negative, 75Ω
C (Chrominance signal):
NTSC: 0.286Vp-p, 75Ω
PAL: 0.3Vp-p, 75Ω
- COMPONENT^{*3}: (BNC) R-Y/B-Y: 0.7Vp-p, Automatic 75Ω termination^{*4}
(BNC) Y/Sync on Green: Composite 1Vp-p, sync negative, Automatic 75Ω termination^{*4}

RGB^{*3}: BNC: 0.7Vp-p, Automatic 75Ω termination^{*4}

VIDEO OUT

- LINE A: BNC: Loop-through
- LINE B: BNC: Loop-through
- COMPONENT: BNC: Loop-through
- RGB: BNC: Loop-through

SYNC IN

- BNC: 4Vp-p, negative
Automatic 75Ω termination^{*4}

SYNC OUT

- BNC: Loop-through

AUDIO IN

- LINE A: Phono: -5 dBs; high impedance
- LINE B: Phono: -5 dBs; high impedance
- VTR: 8-pin: -5 dBs; high impedance
- Y/C: Phono: -5 dBs; high impedance
- COMPONENT: Phono: -5 dBs; high impedance
- RGB: Phono: -5 dBs; high impedance

AUDIO OUT

- LINE A: Phono: Loop-through
- LINE B: Phono: Loop-through

^{*1} The NTSC_{4.43} system refers to an NTSC color system in which the subcarrier frequency is modified to 4.43 MHz.

^{*2} The Y/C input has priority over the VTR input.

^{*3} RGB/Component is switch selectable.

^{*4} 75Ω termination is automatically set to OFF when connection is made to the OUT connector.

PVM-2530

Color Video Monitor

- The cubic style ■ A high resolution of 560 TV lines (video input), 2000 characters (RGB input) ■ Y/C input
- Built-in interface for IBM PC with a CGA adaptor
- Touch key control and supplied remote control unit RM-739
- Three video/audio inputs and 25-pin RGB input (Analog/TTL)



D

Specifications

Video Signals: EIA 525 lines, 60 fields
 Color System: NTSC
 Picture Tube: 27" fine pitch TRINITRON tube, visible picture size 6.3cm (25") measured diagonally, 114° deflection

Horizontal Resolution: 560 TV lines (video input), 2000 characters (RGB input)

Audio Power Output: 15W max. (with external speakers, 8Ω)

Power Requirements: AC-120V, 50/60 Hz

Power Consumption: 180W max.

Dimensions (WHD): 653 x 508 x 491mm
 (25 3/4" x 20" x 19 3/8")

Weight: 116 lb. 14 oz. (53 kg.)

VIDEO IN

VTR* (8-pin): Composite: 1Vp-p, sync negative, 75Ω

Y/C* (S VIDEO)

(Mini DIN 4-pin): Y (Luminance signal): 1Vp-p, sync negative, 75Ω
 C (Chrominance signal): 0.286Vp-p (burst signal), 75Ω

Line A (BNC): Composite: 1Vp-p, sync negative, 75Ω switchable

Line B (BNC): Composite: 1Vp-p, sync negative, 75Ω switchable

VIDEO OUT

Line A (BNC): Loop-through

Line B (BNC): Loop-through

AUDIO IN

VTR (8-pin): -5 dBs, high impedance

LINE A (Phono): -5 dBs, high impedance

LINE B (Phono): -5 dBs, high impedance

AUDIO OUT

LINE A (Phono): Loop-through

LINE B (Phono): Loop-through

CMPTR IN

CMPTR IN (25-pin D): For computer equipped with analog or digital RGB

*VTR or S Video can be selected via the selection switch

Color Monitors



13" GVM-1311Q/5K

(NTSC/PAL/SECAM/NTSC_{4.43})

- Multiple input facility with audio
- Multiscan capability; horizontal 15 kHz–36 kHz, vertical 50 Hz–100 Hz
- A high resolution of 600 TV lines/1024 x 768 pixels
- Can be used with IBM PC with CGA/EGA card, IBM PS/2, and Apple Macintosh II color mode
- 8/16/64-color and monochrome display capability
- VGA Audiosize function in RGB A mode
- Horizontal and vertical size/shift controls in RGB mode
- Slot type RGB input for future I/F board
- Sub picture control for RGB mode
- Built-in speaker and earphone jacks for audio monitoring
- Minimizes VLF (Very Low Frequency)/ELF (Extreme Low Frequency) interference

Optional Accessories:

RM-787 Wired Remote Control Unit

SU-552 Tilt Swivel Stand



GVM-2020

Color Monitor for a Variety of Sources

- Multiple input facility with audio
- MultiScan capability; horizontal 15 kHz to 36 kHz, vertical 50 Hz to 100 Hz
- A high resolution of 560 TV lines/720 x 480 pixels
- Beam current feedback circuit for stable color reproduction
- Can be used with IBM PC with CGA/EGA display adaptor, IBM PS/2
- 8/16/64-color display capability
- Horizontal shift and Horizontal/Vertical size controls in RGB mode
- Slot type RGB input modules for future I/F board
- Optional wireless remote control unit RM-787

Optional Accessories:

RM-787 Wired Remote Control Unit

RGM-1901

Trinitron® Color Graphic Monitor

- Excellent color reproduction ■ Specially selected Trinitron CRT is employed for excellent color uniformity
- SMPTE Type C color phosphors provide wide color dynamic range ■ Color temperature of 5000°K provides natural color reproduction ■ High resolution display of 1024(H) x 768(V) dots reproduces fine graphic images
- Color Temperature Stability ■ Can drive any high resolution 24-bit color graphics card with a vertical refresh rate of 75 Hz ■ Flat screen provides minimum distortion even in the corners ■ Easy operation with optional tilt/swivel display stand

Supplied Accessories:

Operation Manual
Power Cable

Optional Accessories:

SU-536 Display Stand



Specifications

Scanning System: Raster scanning system, Non-interlace RGB inputs full color system, Sync on green (internal sync) or external sync input

CRT: Super fine pitch™ trinitron color CRT, phosphor trio pitch 0.31mm, 90° deflection, 19" diagonal

Color Temperature: 5000K +8 MPCD

Horizontal Scanning
Frequency: 60.241 kHz

Vertical Scanning
Frequency: 74.93 Hz

Input Signal Timing: Dot clock 12.50 ns (80 MHz)

Video Amplifier

Frequency Response: 75 Hz to 80 MHz ±3 dB

Effective Display Area: 360 x 270mm (approx.)

Signal Inputs: (Internal sync)
R/B: 0.714Vp-p, positive
G: 1Vp-p, Video 0.741Vp-p positive,
Sync 0.286Vp-p negative
(External sync)
R/G/B: 0.714Vp-p, positive
HD, VD: 1 to 4Vp-p, negative
Connector: BNC, 75Ω

Power Requirement: 100V-120V ±10%, 50/60 Hz ±3 Hz

Power Consumption: Max. 2.7A

Operating Temperature: 10°C to 40°C

Operating Humidity: 10% to 80%

Weight: 79 lb. 6 oz. (36 kg.) (approx.)
(without SU-536 display stand)

Dimensions (WHD): 480 x 446 x 535mm
(19" x 17⁵/₈" x 21¹/₈")

HDVS

Camera System

HDC-500	E-2
HDCA-350	E-3
HDCO-350	E-4
HDCS-350	E-5
HDCR-350	E-5
HDCA-50	E-6
HDCD-50	E-7
HDCR-50	E-7

Camera System/Optional Accessories

HDVF-150	E-8
HDVF-30	E-8
HDVF-500	E-8
HDVF-75	E-8
HDM-90	E-8
HDM-145	E-9
HKCF-750	E-9
HKCH-500	E-9
HDCC-2/5/50/100	E-9
HKCF-90	E-9

Optical Fiber Transmission System

Optical Fiber Transmission System	E-10
HDFT-300	E-10

Optical Fiber Transmission System (Cont.)

HDFR-300	E-10
FC6-PA250/500	E-11
FC6E-PA10	E-11

VTR System

HDD-1000	E-12
HDDP-1000	E-13
HDDR-1000	E-13
HDDR-A1000	E-14
HDDR-V1000	E-14
HDV-10	E-15
HDDF-500	E-16
HDL-2000	E-17
HDN-2000	E-17
HDL-5800	E-18

Post Production Equipment

HDS-1000T	E-19
HDST-1000T	E-19
EBR System	E-19

Projection Systems

HDIH Series	E-20
HDIS-1200RK	E-21
HDIR-550	E-21

Color Monitors

HDM-1230	E-22
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Color Monitors (Cont.)

HDM-2830	E-24
HDM-3830	E-25

Optional Accessories

HDSC-1000	E-26
HKDF-504/HKDF-508	E-26
HDCC-2/5/50/100	E-26
HDVF-150	E-26
HDVF-30	E-26
HDVF-500	E-27
HDVF-75	E-27
LBX-1000	E-27
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HD-1D Series	E-28
HCT-63	E-28
FC6-PA250/500	E-28
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Peripheral Equipment

BVE-910	E-29
BVE-9100	E-30
BKH-2501/BKH-2017A	E-31
MXP-2900 Series	E-32

HDCA-350

Camera Adaptor

- Up to 25 remote operation of HDC-500

Supplied Accessories:

110 Jack Type Intecom Panel
Operation Manual for HDC-500, HDCA-350, HDCO-350, HDCA-350
Operation Guide
Maintenance Manual

Specifications

Outputs: MONITOR OUT (BNC): 1.0Vp-p, 75Ω SCRIPT
(4-pin): 12V, 5W
Intercom: INTERCOM (XLR 5-pin x 2): Mic on/off
Connectors: CCU (11-pin) for HDCA-350
VF OUT (12-pin)
VF POWER OUT (4-pin) for HDVF-75
AUX 12V OUT (4-pin)
Special Function: Frame and Center mark on/off
VF video select
Filter select
Power Consumption: 5W
Dimensions (WHD): 165 x 156 x 127mm
(6½" x 6¼" x 5")
Weight: 3 lb. 11 oz. (1.7 kg.)



HDCO-350

Camera Operation Control Unit

- Provides full automatic camera setup functions and full manual control
- Four setup files and four scene files
- Electronic shutter on/off switch with shutter speed selection
- Super EVS on/off switch with mixing ratio selection

Supplied Accessories:

- Rack Mount Assembly (3U)
- Intercom Panel Assembly (for 110 Jack type)
- Operation Guide
- Maintenance Manual

Specifications

- Lens: IRIS: Automatic/Manual, close
- FOCUS: Remote control operation on/off
- Levels: CONTROL DATA: PRESET/MEMORY switched
- PEDESTAL: MASTER/R/B
- GAIN: G/R/B/, Master gain
- 0 dB/ + 6 dB/ + 12 dB/ + 18 dB
- selectable Color gain D56
- FLARE: G/B/R
- GAMMA: OFF/VARIABLE/FIX selectable, Black
- (continuously adjustable within each range except for OFF)
- KNEE: MASTER/AUTO/OFF
- SLOPE: MASTER
- WHITE SHAD: Vertical SAW
- Camera Head: CHU POWER: Power on/off
- SHUTTER: $\frac{1}{100}$, $\frac{1}{125}$, $\frac{1}{250}$, $\frac{1}{350}$, $\frac{1}{500}$, $\frac{1}{1000}$, $\frac{1}{2000}$
- selectable $\frac{1}{60}$ – $\frac{1}{350}$ variable
- Super EVS: 0.125, 0.25, 0.375, 0.5, 0.625, 0.75, 0.875 selectable
- Automatic white balance
- Automatic black balance
- Automatic time delay compensation
- AUTO SETUP: Level (pedestal/gain/flare/gamma)
- Digital Image
- Enhancement Levels: Crisp, Level dependence, Limit curve, Limit level
- Boost frequency, V ratio Detail gain
- (*Detail signals detected from R/G/B/R + G/B + G/R + G + B)
- Monitor Outputs: PIC MONI: G/B/R/Y/NAM Y
- WFM: G/B/R/SEQ/Y/R + B/R + G/B + G/GBR
- Intercom: INTERCOM: COMM/PRIV switched
- AUX INTERCOM: 4 wires, 600 Ω , 0 dBm or RTS system
- Buzzer: Buzzer on/off
- Dimensions (WHD): 424 x 100 x 440mm
- (16 $\frac{3}{4}$ " x 4" x 17 $\frac{3}{8}$ ") (approx.)
- Weight: 20 lb. 15 oz. (9.5 kg.) (approx.)

HDCA-350

Camera Signal Processor

- Up to 300m (985') cable compensation circuit
- All-digital image enhancer for clear and natural pictures
- Incorporates selectable five linear matrixes
- Black gamma correction

Supplied Accessories:

Connecting Cable (for HDCA-350)
 Connecting Cable (for waveform monitor)
 Connecting Cable (for picture monitor)
 19-pin Plug
 19" Rack Mount Bracket
 AC Power Cord (2)
 Extension Board
 Operation Guide
 Maintenance Manual



Specifications

Signal Standard: SMPTE 240M, BTA-S001
 Outputs: G(Y), B(P_B), R(P_R), Y OUT (BNC x 4 each)
 1.0Vp-p: w/sync, 0.7Vp-p: w/o sync
 switchable, 75Ω
 SYNC OUT (BNC x 4): ±0.3V, 75Ω
 PIC MONI OUT (BNC, XLR 7-pin): 1Vp-p, 75Ω
 tally signal for HDM-90/145
 WF MONI OUT (BNC x 4, 15-pin): video
 0.7Vp-p, sync ±0.3V, control signal for 1730HD
 Inputs: RETURN VIDEO (BNC x 2): 1Vp-p, 75Ω
 GENLOCK SYNC (BNC): Sync ±0.3V, 75Ω
 Intercom: TALLY (19-pin) Red and green tally signal
 INTERCOM (19-PIN/XLR 3-PIN)
 PGM (19-pin): 0 dBm/ -20 dBm (switchable)
 Power Requirements: AC-100V to 120V/220V-240V ±10% selectable,
 50/60 Hz
 Power Consumption: 750 VA (with HDC-500, HDCA-350, HDCA-350,
 HDVF-75)
 Dimensions (WHD): 424 x 221 x 486mm
 (16³/₄" x 8³/₄" x 19¹/₄" (approx.)
 Weight: 72 lb. 12 oz. (33 kg.) (approx.)

E

HDCA-350

Remote Control Panel

- Connected to either HDCA-350 Camera Signal Processor, HDCA-50 Camera Adaptor or HDCA-50 Signal Distributor
- Provides a choice of Joystick or Dial type for iris/master-black control
- EIA 19-inch rack mountable with another 2 units of HDCA-350

Supplied Accessories:

Joystick Iris Control Unit
 Connecting Cable (for HDCA-350)
 Connecting Cable (for HDCA-50)
 6-pin Plug (for preview)
 Operation Manual
 Maintenance Manual

Specifications

Power Requirements: DC 10.5V-17V
 Power Consumption: 4W
 Maximum Cable Length: 200m (656') when used with HDCA-350
 20m (66') when used with either HDCA-50
 or HDCA-50
 Dimensions (WHD): 136 x 310 x 67mm
 (5³/₈" x 12¹/₄" x 2³/₄"
 Weight: 44 lb. 10 oz. (2.1 kg.)



HDCA-50

Camera Adaptor

- Provides basic camera control functions, including SMPTE 240M signal processing, digital image enhancement, auto white/black balance, Auto setup and four scene files
- Up to 25m remote operation of HDC-500
- Full Genlock capability
- AC/DC operation

Supplied Accessories:

Operation Manual for HDC-500, HDCA-50, HDCD-50, HDCA-50, HDCH-500
 Operation Guide
 Maintenance Manual

Specifications

- Signal Standard: SMPTE 240M, BTA-S001
- Output Signals: G(Y): B(P_B), R(P_R) OUT (HDCZ 26-pin): 1.0Vp-p, 75Ω G, B, R/Y, P_B, P_R selectable
 MIC OUT (HDCZ 26-pin): -20 dBm
 MONITOR OUT (BNC): 1.0Vp-p, 75Ω
- Input Signals: GENLOCK SYNC (HDCZ 26-pin): ±0.3Vp-p, 75Ω
 RETURN VIDEO (HDCZ 26-pin): 1.0Vp-p, 75Ω
 MIC IN 2CH (XLR 3-pin): -60 dBs/-40 dBs/-20 dBs selectable
 +48V power supply to external condenser microphone on/off
- Outputs: Script DC out: DC 10.5V-17V
 Earphone out: mini jack
- Connectors: Viewfinder (12-pin): for HDVF-500, HDVF-150, HDVF-30
 Intercom (XLR): Mic on/off switchable
 Remote (12-pin): for HDCA-50, HDCA-350
- Power Requirements: DC IN (XLR 4-pin/HDCZ 26-pin): DC 10.5V-17V
- Power Consumption: 14W
- Dimensions (WHD): 165 x 155 x 114mm
 (6⁵/₈" x 6¹/₈" x 4¹/₂")
- Weight: 4 lb. 3 oz. (1.9 kg.)

HDCA-50

Signal Distributor

■ Provides two channels of G(Y)/B(P_B)/R(P_R) outputs in addition to VTR and MONITOR outputs ■ Accepts a return video and an external sync signal ■ AC/DC operation ■ Half a 19" EIA rack size wide

Supplied Accessories:

Extension Board
Mail XLR 3-pin MIC Panel
110 Jack Intercom Panel

Specifications

Outputs: G(Y), B(P_B), R(P_R) OUT (BNC x 2 each): selected in HDCA-50: 1.0Vp-p, 75Ω
MONITOR OUT (BNC): 1.0Vp-p, 75Ω
MIC OUT CH-1/2 (XLR 3-pin): 600Ω balanced

Inputs: RETURN VIDEO (BNC): 1.0Vp-p, 75Ω
GENLOCK SYNC (BNC)—: ±0.3Vp-p, 75Ω

Intercom: INTERCOM (19-pin/XLR 3-pin)
PGM (19-pin): 0 dBm/ -20 dBm switchable
TALLY (19-pin): Red and Green tally

Power Requirements: AC IN: AC-100V-120V/220V-240V ±10%, 50/60 Hz
DC IN: DC 10.5V-17V

Power Consumption: AC IN: 380 VA
(WITH HDCA-500, HDCA-50, HDVF-150)
DC IN: 9W (with only HDCA-50)

Dimensions (WHD): 200 x 118 x 336mm
(7⁷/₈" x 4³/₄" x 13¹/₄")

Weight: 15 lb. 7 oz. (7 kg.) (approx.)



E

HDCA-50

Remote Control Unit

■ Connected to either the HDCA-50 or HDCA-50 ■ Contained in a rugged die-cast casing

Supplied Accessories:

Operation Guide (1)
Maintenance Manual (1)

Specifications

Lens Control: IRIS: Automatic/Manual
Level Control: PEDESTAL: Master/R/B
GAIN: R/B Master gain select
0/ + 6/ + 12/ + 18 dB
GAMMA: Preset/Manual
KNEE: Auto/Preset/Manual
DETAIL: Gain

Shutter Speed Control: VARI, 1/100, 1/125, 1/250, 1/350, 1/500, 1/1000, 1/2000 selectable

Other Control: CHU POWER: On/off
TEST SELECT: Camera/Color bars/CHU test
FILE STORE: Storing to HDCA-50 files

Intercom: INTERCOM: Common/Private, Mic on/off

Power Consumption: 3W

Maximum Cable Length: 5m (16.4 ft.)

Dimensions (WHD): (3¹/₂" x 7³/₈" x 2⁵/₈")
86 x 186.2 x 66mm

Weight: Approx. 1 lb. 5 oz. (0.6 kg.)

Camera System/Optional Accessories



HDVF-150

1.5-Inch Viewfinder

HDVF-30

3-Inch Viewfinder

■ This viewfinder provides a high resolution of 450 TV lines.



HDVF-500

5-inch Viewfinder

Supplied Accessories:
Connecting Cord
Indoor Hood
V-wedge Shoe Attachment
Operation and Maintenance Manual

Specifications

Power Consumption: 16W
Input: Composite video
Aspect Ratio: 16:9
Picture Size (HW): 54 x 96mm
(2 $\frac{1}{4}$ " x 3 $\frac{7}{8}$ ")
Resolution: 650 TV lines
Dimensions (WHD): 191 x 186 x 291mm
(7 $\frac{5}{8}$ " x 7 $\frac{1}{2}$ " x 11 $\frac{1}{2}$ ")
Weight: 4 lb. 3 oz. (1.9 kg.)

HDVF-75

7-Inch Viewfinder

■ A seven inch monochrome viewfinder designed to enhance operational ease.

HDM-90

9-Inch Monochrome Monitor

■ This monitor is used with the camera system and can be mounted in a rack with the HDCS-300/HDCO-300 and the 1730HD.

HDM-145

14 Inch Monochrome Monitor

■ This monitor provides a high resolution of 1000 TV lines.

HKCF-750

Pan Tilt Table

HKCH-500

Shoulder Pad

HDCC-2/5/50/100

Multicore Cable

(2m, 5m, 50m, 100m)

HKCF-90

Rack Mount Plate Kit

Optical Fiber Transmission System

Optical Fiber Transmission System

■ Mutual transmission system via optical fiber cables between the HDCA-350 and the HDCS-350 (video x 1, return video x 1, talk back x 2, data x 2) ■ Analog transmission of full bandwidth (G, B, R) component video ■ Digital transmission of total six channels of audio; ■ HDFT-300 (Transmitter): Four channels of digital audio inputs conforming to the AES/EBU format, Two channels of analog audio inputs; ■ HDFR-300 (Receiver): Six channels of

digital audio outputs in which two channels can be selected for output of analog audio parallel to digital outputs ■ Transmission distance can be extended up to 1 km using cable extension connectors ■ Power supply for the HDC-500, HDCA-350 and HDFT-300 is provided by the HDFR-300 ■ The HDFT-300 provides audio synchronization to video capability ■ Reel with casters is supplied for easy wiring operation



HDFT-300

Optical Fiber Transmitter

Supplied Accessories:

Carrying Case
HDCC-5A Multicore Cable
Shoulder Belt
Maintenance Manual

Specifications

Input: G/B/R analog component video (11-pin multiple connector)
Analog audio (XLR 3-pin, 2 channels)
Digital audio (XLR 3-pin, 4 channels)
Output: 11-pin multiple connector to HDFR-300
Sync out (11-pin multiple connector)
Digital audio sync out (XLR 3-pin)
Dimensions (WHD): Approx. 316 x 116 x 286mm
(12½" x 4⅝" x 11⅜")
Weight: Approx. 11 lb. (5 kg.)



HDFR-300

Optical Fiber Receiver

Supplied Accessories:

AC Power Cord
HDCC-2A Multicore Cable
Rack Mount Assembly
Maintenance Manual

Specifications

Input: 11-pin multiple connector to HDFT-300
Output: G/B/R analog component video (11-pin multiple connector)
Analog Audio (XLR 3-pin, 2 channels)
Digital Audio (XLR 3-pin, 6 channels)
Power Requirements: AC-100V to 120V/220V to 240V, 50/60 Hz
Power Consumption: Max. 400W
Dimensions (WHD): Approx. 423 x 88 x 450mm
(16¾" x 3½" x 17¼")
Weight: Approx. 26 lb. 7 oz. (12 kg.)

FC6-PA250/500

Optical Fiber Cable

Specifications

Cable Length:	250m (FC6-PA250), 500m (FC6-PA500)
Fiber Type:	G.I. type, 80/150m diameter (internal/external)
Connector:	Optical multi-connector
Optical Fiber Loss:	< 4 dB/km
Dimensions (WHD):	FC6-PA250 (with a reel): Approx. 520 x 680 x 440mm (20 $\frac{1}{2}$ " x 26 $\frac{7}{8}$ " x 17 $\frac{3}{8}$ ") FC6-PA500 (with a reel): Approx. 600 x 790 x 440mm (25 $\frac{5}{8}$ " x 31 $\frac{1}{8}$ " x 17 $\frac{3}{8}$ ")
Weight:	FC6-PA250 (with a reel): 121 lb. 4 oz. (55 kg.) FC6-PA500 (with a reel): 187 lb. 6 oz. (85 kg.)

FC6E-PA10

Cable Extension Connector

Specifications

Connection Loss:	< 1 dB
Dimensions:	Approx. 36 \varnothing x 32mm (1 $\frac{7}{16}$ " x 1 $\frac{5}{16}$ ")
Weight:	5 oz. (150 g.) (approx.)



HDD-1000

Digital VTR

- Incorporates many of the features of the BVH-3000 including compact size, lightweight, ease of tape threading, computerized servo control, and front panel operation
- With wide band Y, P_B, P_R recording, a high quality picture is assured
- Wide band (30 MHz) recording system
- Front panel controls for basic simple editing
- One hour recording time with 11.75-inch reel
- Time code editing possible when interfaced with the BVE-910 Editing Control Unit or the BVE-9100 Editing Control System
- Built-in time code generator/reader
- 9-pin Remote Interface
- Special playback modes — JOG: still to $\pm 1/4$ times normal — SHUTTLE: still to ± 8 times normal
- Eight channels of digital audio

Optional Accessories:

- BVE-910 Editing Control Unit
- BVE-9100 Editing Control System
- HDDP-1000 VTR Signal Processor

Specifications

GENERAL

Signal Standard:	SMPTE 240M
Power Requirements:	AC-100-120/220-240V $\pm 10\%$, 50/60 Hz
Power Consumption:	550W
Operating Temperature:	5°C to 35°C (41°F to 95°F)
Storage Temperature:	-20°C to 60°C (-4°F to 140°F)
Humidity:	10% - 85% (non-condensing)
Weight:	147 lb. 11 oz. (67 kg.) (approx.)
Dimensions (WHD):	480 x 680 x 572mm (approx.) (19" x 26 $\frac{7}{8}$ " x 22 $\frac{5}{8}$ ")
Tracks:	Video tracks: 8 Audio tracks: 8 CTL tracks: 1 T/C tracks: 1 Cue tracks: 1
Tape Speed:	80.5 cm/s
Writing Speed (Relative Speed):	51.5 m/s
Recording Time:	63 min. with 11.75 in. reel
Fast Forward/Reverse Speed:	Approx. 5 minutes
Recommended Tapes:	Sony's 1-inch High Density Tape or equivalent
Reel Size:	NAB Standard, 6.5 in. - 11.75 in. reel

Input/Output:

Audio:	LINE INPUT: CUE: XLR 3-pin TIME CODE: XLR 3-pin
	LINE OUTPUT: CUE: XLR 3-pin TIME CODE: XLR 3-pin
	MONITOR OUT: R/L: XLR 3-pin HEADPHONES: Stereo
	TO PROCESSOR: CN-1: D-sub 50-pin

Input/Output: (continued)

Video:	TO PROCESSOR: CN-2: D-sub 50-pin CN-3: D-sub 50-pin
Remote:	SERIAL REMOTE: REMOTE-1: for BVH-1000/1100 through BKH-2016 D-sub 15-pin REMOTE-2A IN: 9-pin remote REMOTE-2A OUT: 9-pin remote REMOTE-2B IN/OUT: 9-pin remote AUX: for external WFM select, D-sub 9-pin
	PARALLEL REMOTE: REMOTE-3: D-sub 50-pin

VIDEO (with HDDP-1000)

Signal System:	Y P _B P _R
Signal-to-Noise Ratio:	Better than 56 dB (full band, unweighted)
Quantization:	8 bits
Sampling Rate:	74.25 MHz
Bandwidth:	DC to 30 MHz 0-1.5 dB (luminance) DC to 15 MHz 0-1.5 dB (chrominance)
K Factor:	< 1%, 2T pulse
Phase Error of Each Component Channel:	< 3.5 ns

AUDIO

Frequency Response:	20 Hz-20 kHz (+0.5/-1.0)dB
Crosstalk:	< -80 dB at 1 kHz (between any two channels)

HDDP-1000

VTR Signal Processor

- Compact ■ Easy to service ■ 8-bit digital processing system ■ Signal to noise ratio of 56 dB

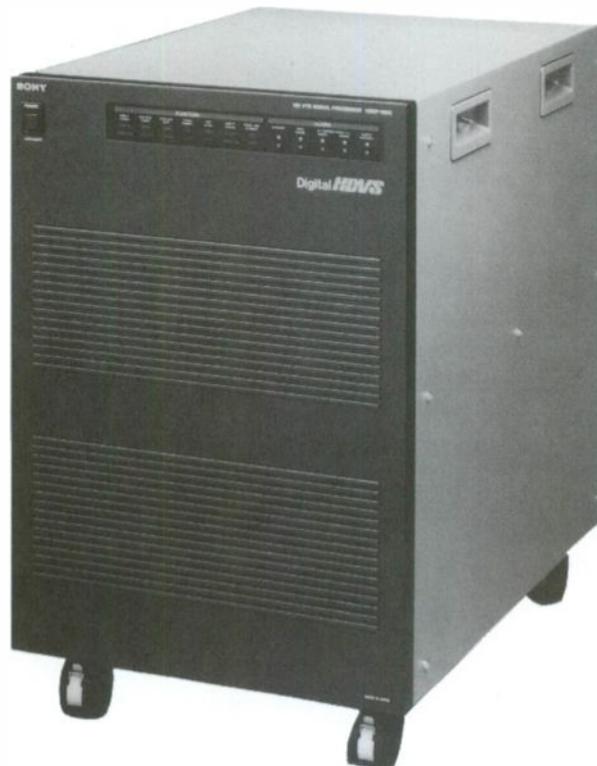
Specifications

GENERAL

- Power Requirements: AC-100-120/220-240V \pm 10%, 50/60 Hz
 Power Consumption: 1200W
 Operating Temperature: 5°C to 35°C (41°F to 95°F)
 Storage Temperature: -20°C to 60°C (-4°F to 140°F)
 Humidity: 10%-85% (non-condensing)
 Weight: 220 lb. (100 kg.) (approx.)
 Dimensions (WHD): 482 x 650 x 630mm (approx.)
 (19" x 25 $\frac{5}{8}$ " x 24 $\frac{7}{8}$ ")

Input/Output:

- Video: VIDEO IN:
 G/Y, B/P_B, R/P_R (BNC, 2 inputs)
 EXT SYNC (BNC, 1 input)
 VIDEO OUT:
 G/Y, B/P_B, R/P_R (BNC, 2 outputs)
 EXT SYNC (BNC, 2 outputs)
 MONITOR OUT:
 G/Y, B/P_B, R/P_R (BNC, 1 output)
 EXT SYNC (BNC, 1 output)
 WFM OUT:
 G/Y, B/P_B, R/P_R (BNC, 1 output)
 EXT SYNC (BNC, 1 output)
 TO VTR:
 CN-2 D-sub 50-pin
 CN-3 D-sub 50-pin
 DIGITAL VIDEO IN/OUT:
 DIGITAL VIDEO IN D-sub 50-pin
 DIGITAL VIDEO OUT D-sub 50-pin
 Audio: ANALOG AUDIO IN:
 XLR 3-pin (8 channels)
 ANALOG AUDIO OUT:
 XLR 3-pin (8 channels)
 DIGITAL AUDIO IN:
 XLR 3-pin (4 channels)
 DIGITAL AUDIO OUT:
 XLR 3-pin (4 channels)
 DIGITAL AUDIO:
 PARALLEL IN D-sub 15-pin
 DIGITAL AUDIO:
 PARALLEL OUT D-sub 15-pin
 TO VTR:
 CN-1 D-sub 15-pin
 REMOTE:
 RS-232C



HDDR-1000

VTR Control Unit

- Similar control functions available on the HDD-1000 function control panel
- Accepts both the HD sync signal and conventional sync signals as reference
- Controls other VTRs having a Sony 9-pin remote interface

Supplied Accessories:

Rack Mount Kit

Specifications

- Power Requirements: AC-100-240V \pm 10%, 50/60 Hz
 Power Consumption: Approx. 25W max.
 Dimensions (WHD): 448 x 129 x 260mm
 (17 $\frac{5}{8}$ " x 5 $\frac{1}{8}$ " x 10 $\frac{1}{4}$ ")
 Weight: Approx. 14 lb. 5 oz. (6.5 kg.)
 Serial Remote: REMOTE R: 9-pin remote
 REMOTE P: 9-pin remote
 AUX: D-sub 9-pin
 Parallel Remote: REMOTE: D-sub 25-pin

HDDR-A1000

Audio Remote Control Unit

- Adjustments for recording/playback level in analog mode
- Adjustments for playback level in digital mode

Supplied Accessories:

Rack Mount Kit

Specifications

Power Requirements: AC-100-240V \pm 10%, 50/60 Hz

Power Consumption Approx. 15W max.

Dimensions (WHD): 424 x 84 x 123mm

(16 $\frac{3}{4}$ " x 3 $\frac{3}{8}$ " x 4 $\frac{7}{8}$ ")

Weight: 6 lb. 10 oz. (3 kg.) (approx.)

Remote: HOST: D-sub 9-pin

ADDITION: D-sub 9-pin

SPARE for a custom made control unit: D-sub 25-pin

HDDR-V1000

Video Remote Control Unit

- Adjustments for input level of G/Y, B/P_B, R/P_R for analog mode
- Adjustments for output level of Y, P_B, P_R for analog mode
- Video Phase and Sync Phase adjustment

Supplied Accessories:

D-sub 15-pin cable

Specifications

Power Requirements: AC-100-240V \pm 10%, 50/60 Hz

Power Consumption Approx. 10W max.

Dimensions (WHD): 214 x 133 x 301mm

(8 $\frac{1}{2}$ " x 5 $\frac{1}{4}$ " x 11 $\frac{7}{8}$ ")

Weight: 7 lb. 11 oz. (3.5 kg.) (approx.)

Remote: HOST: D-sub 9-pin

ADDITION: D-sub 9-pin

WFM out: D-sub 15-pin

SPARE for a custom made control unit: D-sub 25-pin

HDV-10

Videocassette Recorder

- Wide bandwidth analog frequency modulation recording
- Four digital audio channels ■ UNIHI videocassette tape HCT-63
- Compact and lightweight ■ Sequential recording/playback capability
- Automatic operation ■ Picture freezing
- Simple operation ■ Built-in editing facility
- Digital audio I/O ■ Analog video and audio I/O
- RS-232C/9-pin remote interface



Specifications

GENERAL

Power Requirements:	AC-100-120/200-240V ± 10% selectable, 50/60 Hz
Power Consumption:	450W max.
Operating Temperature:	10°C to 35°C (50°F to 95°F)
Humidity:	25% - 80%
Weight:	110 lb. 4 oz. (50 kg.H) (approx.)
Dimensions (WHD):	424 x 331 x 621mm (16 3/4" x 13 1/8" x 24 1/2")
Recording Format:	UNIHI format
Tracks/Channels:	Video: 6 tracks/1 field Digital audio: 2 tracks Analog audio (cue): 1 track Time code: 1 track CTL: 1 track
Tape Speed:	119.7 mm/s
Writing Speed	
(Relative Speed):	21.4 m/s
Recording Time:	Max. 63 minutes
Cassette type:	UNIHI videocassette
Servo Look Time:	Within 2 sec. (stand by on start)
Load/Unload Time:	Within 7 sec.
Fast Forward/Rewind Time	Within 150 sec.

VIDEO

Video Bandwidth:	Y: 20 MHz P _B , P _R : 7 MHz (line sequential)
S/N Ratio:	Y: 37 dB P _B , P _R : 43 dB

AUDIO

Sampling Frequency	48 kHz
Quantization:	16 bits/sample
Frequency Response:	DA 1-4: 20 Hz-20 kHz (+0.5/-1.0)dB CUE: 100 Hz-10 kHz ±3 dB
S/N Ratio (Dynamic Range):	DA 1-4: > 90 dB CUE: > 45 dB
Distortion:	DA1-4: < 0.05% CUE: < 2%

AUDIO (continued)

Crosstalk:	< -80 dB
Wow and Flutter:	DA 1-4: Below measurable limit CUE: < 0.2% (NAB unweighted)
Head Room:	DA 1-4: 18 dB CUE: 9 dB
Emphasis:	T1 = 50 μs/T2 = 15 μs
Input/Output Signal	
Video Input:	G, B, R/Y, P _B , P _R : 1.0Vp-p, 75Ω, (loop-through)
Video Output:	G, B, R/Y, P _B , P _R : 1.0Vp-p, 75Ω, 2 channels Monitor: 1.0Vp-p, 75Ω, (G, B, R) 1.0Vp-p, 75Ω (Y)
Audio Input	
Analog:	CH 1-4: -16- + 10 dBm, balanced 150Ω/600Ω/ 10 kΩ CUE Line in: -16- + 16 dBm, balanced 600Ω or 10 kΩ Mic in: -60 dBs, 3 kΩ
Digital:	CH 1-4: AES/EBU format
Audio Output	
Analog:	CH 1-: 4 dBm, balanced, 600Ω CUE: 4 dBm, balanced, 600Ω Monitor L/R: 4 dBm, balanced, 600Ω Headphone: 8Ω, unbalanced
Digital:	CH 1-4: AEs/EBU format
Audio Time Code:	Input: SMPTE/EBU time code, 600Ω, balanced Output: SMPTE/EBU time code, balanced
Audio Remote:	
Remote In:	For RS-422 serial interface, D-sub 9-pin
Remote Out:	For RS-422 serial interface, D-sub 9-pin
Remote In/Out:	For RS-422 serial interface, D-sub 9-pin
RS-232C:	For RS-232C interface, D-sub 25-pin



HDDF-500

Digital Frame Recorder

- 3 channel (G, B, R) equal bandwidth system (30 MHz)
- Can store 8 up to 32 HDVS frames (or 16–64 fields) by combining any of the optional 8 frame memory and 4 frame memory boards (a minimum of two same boards is required)
- Emulates HD Digital VTR (Real time operation): Can be controlled by VTR remote controllers provided for BVH-2000 or BVH-3000 series, a front panel of HD Digital VTR or editing control units through the 9-pin remote interface; Basic control is possible via pre-set internal switches of the HDDF-500
- Equipped with computer parallel interface and SCSI interface (Non-real time operation): Allows special effects or computer graphics storage into the HDVS format; Transfers to and from the external equipment such as DEC Micro VAX™, Micro PDP™ or VAX™
- Single and multi-frame recording is possible just like the BVH-2500 or BVH-3000 series 1-inch VTR when using the BKH-2501 with BKH-2017A or BKH-3090 Sony VTR remote controller
- Looping Playback/Endless recording is possible
- Electronics to Electronics (E to E) capability
- Meets the needs of a variety of video signal I/O with selectable analog or digital input and simultaneous analog and digital outputs
- Allows stunt motion playback when tied to auxiliary controller
- 74.25 MHz sampling frequency, 8 bit quantization digital processing system

Specifications

GENERAL:

Signal Standard: SMPTE 240M
 1125 line, 2:1 interlace, 60 Hz, 1035 active lines

Power Requirements: AC-100–120/220–240V ± 10%, 50/60 Hz

Power Consumption: 400W max.

Operating Temperature: 5°C to 40°C (41°F to 104°F)

Storage Temperature: –20°C to 60°C (–4°F to 140°F)

Humidity: 10%–85% (non-condensing)

Weight: 72 lb. 12 oz. (33 kg.)

Dimension (WHD): 424 x 241 x 555mm
 (16¾" x 9½" x 21⅞")

VIDEO:

Sampling Rate: 74.25 MHz in each G, B, R channel

Quantization: 8 bit/sample

Capture: 8–32 frames or 16–64 fields (G, B, R)

Display: Frame or field (selectable)

Memory Content: 1920(H) x 1040(V) pixels per frame (R, G, B)

2 Mbyte per frame each channel

Frequency Response: 0–27 MHz: ± 0.5 dB
 0–30 MHz: –1.5 dB ± 0.5 dB

K Factor: < 1% (HDTV 2T–66 ns HAD)

Tilt: < 1% (Horizontal and vertical)

S/N Ratio: > 56 dB

Sync Jitter: < 2 ns

Input/Output Signal:

Input

Analog: G, B, R: 1Vp-p ± 2 dB
 (75Ω BNC per channel)

Digital: D-sub 25-pin (one per channel)

Reference: Composite video: 1Vp-p ± 3 dB or
 Sync (Tri Level): ± 0.3V (BNC, loop-through)

Output

Analog: G, B, R: 1Vp-p (0.7Vp-p video into 75Ω, ± 0.3V Tri
 Level sync)
 (BNC, three outputs per channel)

Digital: D-sub 25-pin (one per channel)

Remote 1,2: 9-pin remote

Computer Parallel
 Interface: DRV-11WA (for Q bus system)
 DR-11W (for Unibus system)

Audio Processing: None

SCSI Interface: ANSI x 3.131-1986, 50-pin shielded connector

HDL-2000

Videodisc Player

- Full band high definition video (Y = 20 MHz)
- Two channel PCM audio
- 15 min. of playback with a CLV disc (CAV disc = 8 min.)
- Automatic selection of CLV/CAV
- Special playback modes available in CAV mode (SCAN/SLOW/STILL)
- Wired/wireless remote control available
- RS-232C interface provided
- Automatic repeat

Specifications

- Signal Standard: SMPTE 240M
- Power Requirements: AC-100V-120V/220V-240V (± 10%)
- Power Consumption: 350W
- Video:
 - S/N: 42 dB (Y)
 - Bandwidth: 20 MHz (Y)
 - 6 MHz (C)
- Audio:
 - Frequency bandwidth: 20 Hz-20 kHz (± 1 dB)
 - Harmonic distortion: < 0.05%
 - Dynamic range: 90 dB
 - Channel crosstalk: -80 dB
 - Wow and flutter: Below measurable levels
- Input/Output:
 - VIDEO OUT: G/Y, B/P_B, R/P_R (BNC, 2 outputs)
 - REF VIDEO IN: Loop-through BNC
 - AUDIO OUT: CH-1/CH-2 (XLR 3-pin, 2 channels)
 - REMOTE: RS-232C
 - SPARE: D-sub 9-pin
- Weight: 77 lb. 10 oz. (35.2 kg.) (approx.)
- Dimensions (WHD): 436 x 286 x 608mm (6 rack units)
(17¹/₄" x 11³/₈" x 24")



E

HDN-2000

NTSC Down-Converter

- Four down-conversion modes: Edge Crop; Letter Box; Squeeze; Magnify
- Field freeze mode
- 60.00 Hz or 59.94 Hz
- Field synchronizer
- Image enhancer
- NTSC color bar generator

Specifications

- Signal Standard: SMPTE 240M SONY sync
- Power Requirements: AC-100V-120V/220V-240V ± 10% (50/60 Hz ± 5%)
- Power Consumption: 800W
- Inputs:
 - High definition video: SMPTE 240M (G/B/R)
 - NTSC sync: Black burst (through input)
- Outputs:
 - NTSC composite: Based on EIA RS-170A (x3)
 - NTSC component: G/B/R or Y/B-Y/R-Y
 - DUB/component: 12-pin for Betacam VTRs
 - High definition video: Waveform, monitor (with cursor), sync
- Dimensions (WHD): 436 x 650 x 630mm
(17¹/₄" x 25⁵/₈" x 24⁷/₈")
- Weight: 209 lb. 7oz. (95 kg) (approx.)



HDL-5800

Video Disc Recorder

■ The HDL-5800 is designed to record both high definition still images and continuous video onto an optical disc with a video bandwidth of 20 MHz for the Y signal and 6 MHz for P_B and P_R signals. Taking full advantage of optical disc technology, the HDL-5800 has many convenient features, such as single frame recording, fast random access, and slow/still playback. With the HDL-5800, a disc program can be internally produced, providing substantial savings in cost and time ■ Superior Picture Performance ■ Capable of recording HD still images and video onto either the WHD-3AL0 or the WHD-3AA0 optical disc; WHD-3AL0 for CLV mode (Up to 10 minute video or 18,000 still frames per side); WHD-3AA0 for CAV mode (Up to 3 minute video or 5400 still frames per side) ■ Wide Bandwidth: Y: 20 MHz, P_B/P_R: 6 MHz ■ The alloy formation technique assures long term storage of quality images ■ High resolution black and white mode with the extended Y signal bandwidth of 26 MHz ■ PCM recording with 2/4 selectable digital audio channel ■ Operating Convenience ■ Frame picture recording/playback capability ■ Fast random access within 0.6 seconds in the CAV mode ■ Frame memory ■ Compatibility with read-only videodisc for the HDL-2000 (A supplied disc tray should be attached to a read-only disc) ■ Jog/Shuttle dial operation for picture playback at variable speed ■ Auto repeat playback mode ■ Interface Facilities ■ Equipped with RS-232C/RS-422 remote interfaces ■ Digital Audio input facilities

Supplied Accessories:

RM-5800 Remote Control Unit
RS-232C I/F Manual
9-pin Remote I/F Manual
Read-Only Disc Tray
Rack Angle (1 pair)
AC Power Cord
Operation Manual

Optional Accessories:

WHD-3AA0 Laser VideoDisc Media for CAV Mode
WHD-3AL0 Laser VideoDisc Media for CLV Mode
RM-9000PR Programmable Remote Controller
FS-20 Foot Switch

Specifications

General

Signal Standard: SMPTE 240M, BTA-S001
Power Requirements: AC 100 to 120V/220 to 240V, 50/60 Hz
Power Consumption: Approx. 350W
Operating Temperature: 5°C to 35°C (41°F to 95°F)
Humidity: 30% to 70%
Weight: 85 lb. 15 oz. (39 kg) (approx.)
Dimensions (WHD): 436 x 332 x 643mm
(17¹/₄" x 13¹/₈" x 25³/₈")

Specifications—Continued

Recording/Playback System

Recording Mechanism: Alloy mode
Laser: Semiconductor diode laser (λ: 780nm)
Laser Output Power: 35 mW x 2
Maximum Playback/
Recording Time & Frames: CAV: 3 min./side, 5400 frames/side
CLV: 10 min./side, 18000 frames/side
Read-only disc CAV: 8 min./side
CLV: 15 min./side
Spindle Speed: CAV: 1800r/min.
CLV: 1200 to 3000r/min.
Access Time: 0.6s in CAV mode (full stroke average)
15s in CLV mode (full stroke average)

Video

Video Bandwidth: Y: 20- MHz, P_B/P_R: 6 MHz
S/N Ratio: Y: 42 dB (WHD-3AA0/3AL0)
Y: 41 dB (read-only disc)

Audio

Sampling Frequency: 48 kHz
Quantization: 16 bits (linear)/sample (2-channel)
12 bits (non-linear)/sample (4-channel)
Frequency Response: 30 Hz to 20 kHz ± 1 dB
S/N Ratio
(Dynamic Range): > 88 dB
Distortion: < 0.04%
Crosstalk: < -63 dB
Head Room: 20 dB
Emphasis: Analog Input: 50μs/flat (automatic selection)
Digital Input: 50μs/flat (ON/OFF, selectable)

Input/Output Signal

Video

Input
G, B, R/Y, P_B, P_R: 1.0Vp-p, 75Ω, loop-through BNC
Output
G, B, R/Y, P_B, P_R: 1.0Vp-p, 75Ω, BNC
Monitor: 1.0Vp-p, 75Ω, BNC

Audio

Input
Analog
CH 1-4/1-2: -8 dBs to +10 dBs, balanced; 600Ω/10kΩ switchable, XLR -15 dBs to -5 dBs, unbalanced 10 kΩ, Phono
Digital
CH 1-4/1-2: AES/EBU format, XLR
Output
Analog
CH 1-4/1-2: +4 dBs, balanced, 600Ω, XLR
-5 dBs, unbalanced, 10 kΩ, Phono
Headphone: 8Ω, unbalanced, Phono

REMOTE

REMOTE 1 IN: For RS-232C interface
D-sub 25-pin
REMOTE 2 IN: For Sony 9-pin serial interface, D-sub 9-pin
REMOTE 2 OUT: For Sony 9-pin serial interface, D-sub 9-pin

Writable Laser VideoDisc Media (WHD Series)

Recording System: WHD-3AA0: CAV Mode
WHD-3AL0: CLV Mode
Disc Diameter: 300mm (12-inch)
Cartridge Dimension (WHD): 325 x 345 x 16mm
(12⁷/₈" x 13⁵/₈" x 2¹/₂")
Weight: 2 lb. 3 oz. (980 g.)

HDS-1000T

Switcher

- Thirty-one standard/rotary wipes
- Effects (Wipe/Key Wipe/Mix/Key Mix)
- Variable soft and border wipes
- Chroma keyer/Downstream keyer
- 7 input and 4 output buses
- Serial and parallel interfaces
- Color bar/Two title color generator
- Take/Auto take (variable transition time)
- Pattern modulator/Positioner
- Genlock inputs

Specifications

Signal Standard:	SMPTE 240M
Video Input:	VS x 7, RGB component
Title Input:	VS x 2, B/W
Program Output:	VS x 2, RGB component
Preview Output:	VS x 1, RGB component
Return Video Output:	VS x 1, RGB component
Sync Output:	Tri-sync x 2, ± 0.3Vp-p
Differential Gain:	< 2% at 50% APL
Frequency Response:	20 MHz ± 0.3 dB, ~ 30 MHz (+ 0.3/ - 0.3 dB)
Cross Talk:	- 40 dB at 30 MHz
Path Length Deviation:	< ± 0.2 dB
Power Requirements:	AC-100V-120/220V-240V
Power Consumption:	160W
Dimensions (WHD):	450 x 150 x 420mm (17 ³ / ₈ " x 6" x 16 ⁵ / ₈ " (approx.))
Weight:	28 lb. 11 oz. (13 kg.) (approx.)



E

HDST-1000T

Telop Camera

- High resolution
- Single 2/3" Saticon
- Auto beam optimizer
- Genlock
- Auto gain control
- Auto black level

Specifications

Signal Standard:	SMPTE 240M
Resolution:	750 TV lines
Pick Up Tube:	Single 2/3" MF Saticon
Auto Gain Control:	0 dB/ + 6 dB/AGC
Frequency Response:	30 Hz-25 MHz ± 1 dB
Lens Mount:	C mount



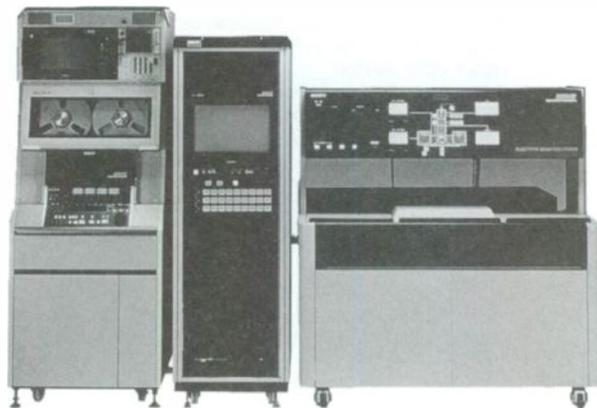
EBR System

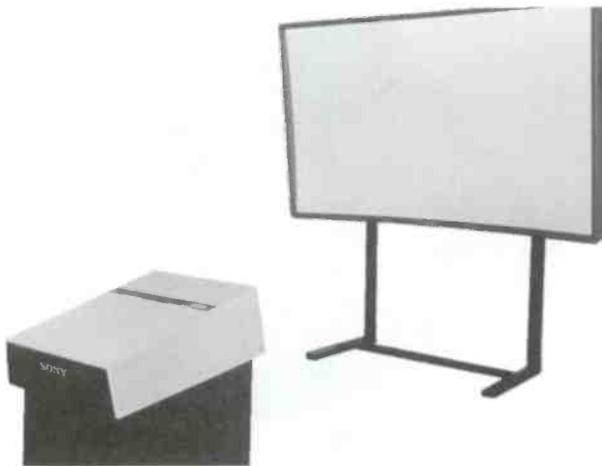
Digital Electron Beam Recording (EBR) System

- Developed to meet the demand for tape to film transfer
- Provides producers with an alternative to producing with film

Specifications

Video Interface:	Input: Y, P _B , P _R /8-bit parallel interface (Clock frequency: 74.5 MHz, conforms to SMPTE 240M) Bandwidth: 30 MHz
EBR Interface:	Signal: G, B, R, Time Division Multiplex Output/10-bit parallel interface (Clock frequency: 59.4 MHz)
Film Speed:	24 frames/sec., 30 frames/sec.
Film Size:	35mm
Operation:	Microcomputer aided





HDIH Series

High Definition Projector HDIH-1200, HDIH-2000, HDIH-3000

- Automatically selected aspect ratio: 16:9 (H:V) for HDTV; 4:3 (H:V) for four color standards (NTSC, PAL, SECAM, NTSC_{4.43})
- Large scale of screen display: HDIH-1200: Display in size from 100-inch to 150-inch diagonally; HDIH-2000: Display in size from 150-inch to 220-inch diagonally; HDIH-3000: Display in size from 220-inch to 350-inch diagonally
- High brightness: The light output of 300 lumens at peak white is realized thanks to the adoption of high performance 9-inch CRT and HACC lens. The HACC lens also provides accurate color reproduction.
- LC² system: Liquid Coupling and Cooling (LC²) system is adopted to realize high contrast ratio.
- Wireless or wired remote control is possible for both registration and lens focus adjustments
- The registration is digitally adjusted, and instructions and status indications are displayed on the screen
- 9 types of test signal generators are built-in for easy adjustments of registration, white balance and lens focus
- Ceiling and table top setup both possible
- Rear projection: Employing with the optional HDIS-1200RK Rear Screen kit, the HDIH-1200 can be used as the rear projection system
- Twin stacking capability: Using the optional HDIT-3000W Projection Head Stand, twin stacking application of HDIH-3000 is possible. This system provides bright image projection (peak white: 600 lumens, all white: 260 lumens).

Optional Accessories:

HDIS-1200RK Rear Screen Kit, using the optional HDIS-1200RK, the HDIH-1200/1200M can construct a rear projection system, which provides a wide viewing angle ($\pm 60^\circ$ horizontally, $\pm 26^\circ$ vertically). This system can be more effectively used even in the difficult lighting conditions compared with the front projection system

Specifications

General

Power Requirements: AC-120V, 50/60 Hz (HDIH-1200/2000/3000)
 Power Consumption: 480W (approx.)
 Horizontal Resolution: 1000 TV lines (at screen center)—HDTV input
 700 TV lines (at screen center)—Composite video input
 Vertical Resolution: 850 TV lines (at screen center)—HDTV input
 Frequency: H: 15 kHz–35 kHz, V: 50 Hz–120 Hz
 Video Bandwidth: 30 MHz
 Brightness: 300 lm (peak white), 130 lm (all white)
 Input: G/Y, B/P_B, R/P_R, Sync/HD, VD (HDTV) x 2 lines: BNC, 75Ω terminated
 Composite video: BNC, 75Ω, terminated
 Y/C: Din-4-In, 75Ω terminated
 Control S: Mini jack
 Operating Temperature: 0°C to 40°C (32°F to 104°F)

Dimensions (WHD): 743 x 402 x 998mm
 (29³/₈" x 15⁷/₈" x 39³/₈")
 Weight: 218 lb. 4 oz. (99 kg.)

Optical

Projection System: 3 picture tubes, 3 lenses, horizontal in-line system
 Picture Tube: 9-inch high brightness, magnetic focus CRT Impre-cathode, LC² (Liquid Coupling and Cooling) system
 Lens: High performance HACC lens, Anti-reflection coating
 f1.24, f172mm (HDIH-1200)
 f1.25, f174mm (HDIH-2000)
 f1.25, f177mm (HDIH-3000)
 Projection Size: 100–150-inch diagonally (120-inch, factory set)—HDIH-1200
 150–200-inch diagonally (200-inch, factory set)—HDIH-2000
 220–350-inch diagonally (240-inch, factory set)—HDIH-3000

HDIS-1200RK

Rear Projection

■ Using the optional HDIS-1200RK Rear Screen Kit, the HDIH-1200 can construct a rear projection system, which provides a wide viewing angle ($\pm 60^\circ$ horizontally, $\pm 26^\circ$ vertically). This system can be more effectively used even in the difficult lighting conditions compared with the front projection system.

HDIR-550

High Definition Rear Projector

■ One-piece unit: A projection head, a rear screen and other mechanical devices are put together in one-piece unit for high mobility ■ Four casters allow easy transportation ■ High quality picture: With the adoption of new 7" CRT, high resolution/non-spherical lens and super fine pitch screen, the HDIR-550 can provide high quality and precise images ■ High contrast ratio is realized due to the development of the optical coupling and liquid cooling system together with the adoption of anti reflective multi-coating lens ■ Black stripes are coated on the screen surface for absorption of the ambient light ■ Automatically selected aspect ratio: 16:9 (H:V) for HDTV; 4:3 (H:V) for four color standards (NTSC, PAL, SECAM, NTSC_{4.43})

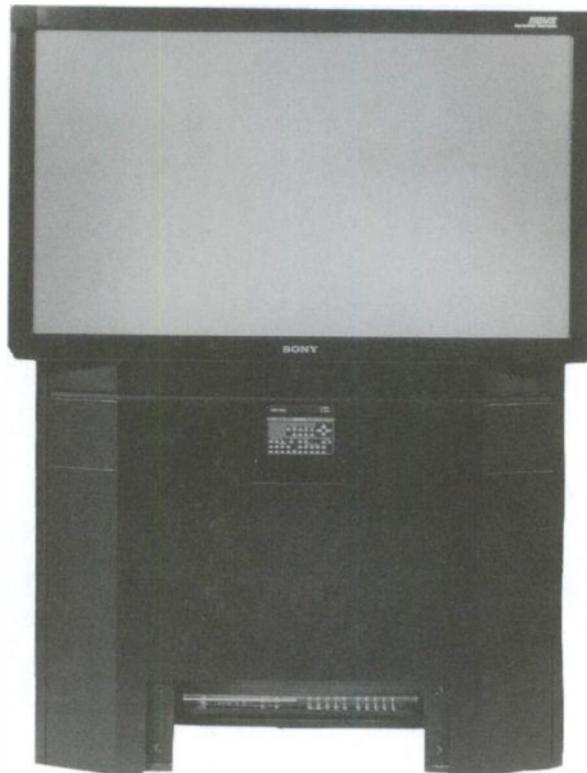
Specifications

General

Power Requirements:	AC-120V, 50/60 Hz (HDIR-550)
Power Consumption:	400W (approx.)
Horizontal Resolution:	800 TV lines (at screen center)—HDTV input 700 TV lines (at screen center)—Composite video input
Vertical Resolution:	750 TV lines (at screen center)—HDTV input
Frequency (H,V):	15 kHz–35 kHz, 50 Hz–120 Hz
Video Bandwidth:	30 MHz
Brightness:	200 ft.-L. (peak white), 50 ft.-L. (all white)
Input:	G/Y, B/P _B , R/P _R , Sync/HD, VD (HDTV) x 2 lines: BNC, 75 Ω terminated Composite video: BNC, 75 Ω terminated Control S: Mini-jack
Operating Temperature:	0°C to 40°C (32°F to 104°F)
Dimensions (WHD):	1340 x 1815 x 990mm (52 $\frac{7}{8}$ " x 71 $\frac{5}{8}$ " x 39")
Weight:	446 lb. 14 oz. (220 kg.)

Optical

Projection System:	3 picture tubes, 3 lenses, horizontal in-line rear projection system
Picture Tube:	7" high brightness, optical coupling and liquid cooling system
Lens:	High performance HACC lens, f1.1, f116mm, multi-coating
Projection Size:	55" diagonally
Screen	2 pieces type, black stripe coating
Optimum Viewing Angle (H,V):	$\pm 50^\circ$, $\pm 20^\circ$





HDM-1230

Color Monitor

- 16:9 aspect ratio
- SMPTE standard phosphor
- Adjustable color temperature
- The beam detecting circuit system allows black level and color temperature to be stabilized
- Tri-level sync system
- G, B, R/Y, P_B, P_R inputs both are available
- H Delay, V Delay and Under-scan facilities are provided for monitoring or evaluating of camera/VTR signals
- The pulse adding current is used for precise brightness and contrast controls
- 9 independent sections of the screen for convergence adjustment
- 7 types of test signals are incorporated
- Aperture adjustment in RGB mode
- EIA standard 19" rack mountable

Specifications

Picture Tube: Super Fine Pitch Trinitron 0.26mm phosphor trio pitch 12" visible picture measured diagonally

Picture Height: 151mm

Picture Width: 268mm

Aspect Ratio: 16:9

Resolution: Center: H 600 TV lines
V 750 TV lines
Corner: H 580 TV lines
V 700 TV lines

Input/Output: Video: G, B, R/Y, P_B, P_R with loop-through (BNC x 6)
Sync: Tri-level sync, bi-level sync, or HD/VD
Remote: 10-pin connector

Frequency Response: 60 Hz–30 MHz ±3 dB

Linearity: DG: <5%

Convergence: Center: < 0.3mm
Corner: < 0.5mm

Color Temperature: Preset mode: 6500K
Manual mode: adjustable (6500K at ex-factory)

Power Requirements: AC-100V–120V, 220V–240V ±10%, 50/60 Hz

Power Consumption: 160W

Operating Temperature: 0°C to 40°C (32°F to 104°F)

Operating Humidity: 10%–85% (non-condensing)

Dimensions (WHD): 480 x 284 x 512mm
(19" x 11 1/4" x 20 1/4") (approx.)

Weight: 57 lb. 5 oz. (26 kg.) (approx.)

HDM-1730

Color Monitor

- 16:9 aspect ratio
- SMPTE standard phosphor
- 525 lines non-interlaced signal (IDTV decoder output) input is possible
- Adjustable color temperature
- The beam detecting circuit system allows black level and color temperature to be stabilized
- Tri-level sync system
- G, B, R/Y, P_B, P_R inputs both are available
- H Delay, V Delay and underscan facilities are provided for monitoring or evaluating of camera/VTR signals
- The pulse adding current is used for precise brightness and contrast controls
- 15 dependent sections of the screen for convergence adjustment
- 7 types of test signals are incorporated
- Aperture adjustment in RGB mode
- EIA standard 19" rack mountable

Specifications

Picture Tube: Super Fine Pitch Trinitron 0.31mm phosphor trio pitch 17" visible picture measured diagonally

Picture Height: 217mm

Picture Width: 385mm

Aspect Ratio: 16:9

Resolution: Center: H 760 TV lines
V 750 TV lines
Corner: H 700 TV lines
V 700 TV lines

Input/Output: Video: G, B, R/Y, P_B, P_R with loop-through (BNC x 6)
Sync: Tri-level sync, bi-level sync, or HD/VD
Remote: 10-pin connector

Frequency Response: 60 Hz–30 MHz (+0.5/–3.0 dB)

Linearity: DG: <5%

Convergence: Center: < 0.4mm
Corner: < 0.7mm

Color Temperature: Preset mode: 6500K
Manual mode: adjustable (6500K at ex-factory)

Power Requirements: AC-100V–120V, 220V–240V ±10%, 50/60 Hz

Power Consumption: 230W

Operating Temperature: 0°C to 40°C (32°F to 104°F)

Operating Humidity: 10%–85% (non-condensing)

Dimensions (WHD): 480 x 456 x 628mm (19" x 18" x 24³/₄" (approx.))

Weight: 95 lb. 4 oz. (43.2 kg.) (approx.)



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HDM-2830

Color Monitor

- 16:9 aspect ratio
- Flat and square screen is adopted
- The anti-reflection coating provides high contrast
- SMPTE standard phosphor
- 525 lines non-interlaced signal (IDTV decoder output) input is possible
- Adjustable color temperature
- The beam detecting circuit system allows black level and color temperature to be stabilized
- Tri-level sync system
- G, B, R/Y, P_B, P_R inputs both are available
- H Delay, V Delay and Under-scan facilities are provided for monitoring or evaluating of camera/VTR signals
- The pulse adding current is used for precise brightness and contrast controls
- Digital convergence system is incorporated (169 points adjustable for the entire screen)
- 7 types of test signals are incorporated
- Aperture adjustment in RGB mode

Specifications

- Picture Tube: Super Fine Pitch Trinitron 0.35mm phosphor trio pitch 28" visible picture measured diagonally
- Picture Height: 349mm
- Picture Width: 620mm
- Aspect Ratio: 16:9
- Resolution: Center: H 1000 TV lines
V 750 TV lines
Corner: H 950 TV lines
V 750 TV lines
- Input/Output: Video: G, B, R/Y, P_B, P_R with loop-through (BNC x 6)
Sync: Tri-level sync, bi-level sync, or HD/VD
Remote: 10-pin connector
- Frequency Response: 60 Hz-30 MHz (+0.5/-3.0 dB)
- Linearity: DG: <5%
- Convergence: Center: < 0.5mm
Corner: < 0.8mm
- Color Temperature: Preset mode: 6500K
Manual mode: adjustable (6500K at ex-factory)
- Power Requirements: AC 100V-120V, 220V-240V ± 10%, 50/60 Hz
- Power Consumption: 330W
- Operating Temperature: 0°C to 40°C (32°F to 104°F)
- Operating Humidity: 10%-85% (non-condensing)
- Dimensions (WHD): 754 x 615 x 677mm
(29³/₄" x 24¹/₄" x 26³/₄" (approx.))
- Weight: 202 lb. 13 oz. (92 kg.) (approx.)

HDM-3830

Color Monitor

- 16:9 aspect ratio
- Flat and square screen is adopted
- The anti-reflection coating provides high contrast
- SMPTE standard phosphor
- 525 lines non-interlaced signal (IDTV decoder output) input is possible
- Adjustable color temperature
- The beam detecting circuit system allows black level and color temperature to be stabilized
- Tri-level sync system
- G, B, R/Y, P_B, P_R inputs both are available
- The pulse adding current is used for precise brightness and contrast controls
- The digital uniformity circuit allows the white uniformity to be improved.
- Digital convergence system is incorporated (169 points adjustable for the entire screen)
- 7 types of test signals are incorporated
- Aperture adjustment in RGB mode



Specifications

Picture Tube: Super Fine Pitch Trinitron 0.46mm phosphor trio
pitch 38" visible picture measured diagonally

Picture Height: 477mm
Picture Width: 852mm
Aspect Ratio: 16:9

Resolution: Center: H 1000 TV lines
V 750 TV lines
Corner: H 950 TV lines
V 750 TV lines

Input/Output: Video: G, B, R/Y, P_B, P_R with loop-through
(BNC x 6)
Sync: Tri-level sync, bi-level sync, or HD/VD
Remote: 10-pin connector

Frequency Response: N
Linearity: DG: < 5%

Convergence: Center: < 0.7mm
Corner: < 1.0mm

Color Temperature: Preset mode: 6500K
Manual mode: adjustable
(6500K at ex-factory)

Power Requirements: AC 100V-120V, 220V-240V ± 10%, 50/60 Hz
Power Consumption: 350W

Operating Temperature: 0°C to 40°C (32°F to 104°F)
Operating Humidity: 10%–85% (non-condensing)
Dimensions (WHD): 1030 x 764 x 865mm
(40⁵/₈" x 30¹/₈" x 34¹/₈") (approx.)
Weight: 405 lb. 8 oz. (184 kg.) (approx.)

Optional Accessories

HDSC-1000

Sync Converter

- Supports all three high definition video sync signals
 - Automatic sync signal input and field frequency detection
 - Genlock capability
 - Sync phase adjustment
 - 525 sync output for off-line editing
 - Two sync converters per unit
-

HKDF-504/HKDF-508

HKDF-504—

HD Frame Memory Board (4 Frame Memory)

HKDF-508—

HD Frame Memory Board (8 Frame Memory)

- These boards are designed for storing HDVS frames or fields, which are inserted into the Hddf-500 HD Digital Frame Recorder
-

HDCC-2/5/50/100

Multicore Cable

(2m, 5m, 50m, 100m)



HDVF-150

1.5-inch Viewfinder

HDVF-30

3-Inch Viewfinder

- This viewfinder provides a high resolution of 450 TV lines.
-

HDVF-500

5-inch Viewfinder

Supplied Accessories:

Connecting Cord
Indoor Hood
V-wedge Shoe Attachment
Operation and Maintenance Manual

Specifications

Power Consumption: 16W
Input: Composite video
Aspect Ratio 16:9
Picture Size (HW): 54 x 96mm
(2 $\frac{1}{4}$ " x 3 $\frac{7}{8}$ ")
Resolution: 650 TV lines
Dimensions (WHD): 191 x 186 x 291mm
(7 $\frac{5}{8}$ " x 7 $\frac{1}{2}$ " x 11 $\frac{1}{2}$ ")
Weight: 4 lb. 3 oz. (1.9 kg.)



HDVF-75

7-Inch Viewfinder

■ A seven inch monochrome viewfinder designed to enhance operational ease.

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LBX-1000

Lightbox

■ For use with the HDST-100T Telop Camera.

VF-503

Monitor Hood

■ Created expressly for use with the HDM-2820/2820E HD Color Monitor, this hood enhances viewing.

HDM-90

9-Inch Monochrome Monitor

■ This monitor is used with the camera system and can be mounted in a rack with the HDCS-300/HDCO-300 and the 1730HD.

HDM-145

14 Inch Monochrome Monitor

■ This monitor provides a high resolution of 1000 TV lines.

HD-1D Series

High Quality Video Tape

■ This tape was especially designed for the digital VTR of HDVS. It is available in 33, 48 and 63 minute recording time.

HD Tapes (HD-1D Series)

	HD-1D-33A	HD-1D-48A	HD-1D-63A
Reel size	10.5"	10.5"	11.75"
Length	1,620m (5,344')	2,330m (7,689')	3,080m (10,164')
Playing time*	33 min.	48 min.	63 min.
Weight **	6 lb. 10 oz. (3.0 kg.)	8 lb. 6 oz. (3.8 kg.)	11 lb. (5.0 kg.)
Case type	Shipper case	Shipper case	Shipper case

*Tape Speed = 80.5 cm/sec.

**With case

HCT-63

Sony UNIHI Videocassette

■ This cassette was especially designed for analog videocassette recorder of HDVS, based on the UNIHI format. It is available for 63 minute recording time.

FC6-PA250/500

Optical Fiber Cable

Specifications

Cable Length: 250m (FC6-PA250), 500m (FC6-PA500)
Fiber Type: G.I. type, 80/150m diameter (internal/external)
Connector: Optical multi-connector
Optical Fiber Loss: < 4 dB/km
Dimensions (WHD): FC6-PA250 (with a reel):
Approx. 520 x 680 x 440mm
(20¹/₂" x 26⁷/₈" x 17³/₈")
FC6-PA500 (with a reel):
Approx. 600 x 790 x 440mm
(25⁵/₈" x 31¹/₈" x 17³/₈")
Weight: FC6-PA250 (with a reel): 121 lb. 4 oz. (55 kg.)
FC6-PA500 (with a reel): 187 lb. 6 oz. (85 kg.)

FC6E-PA10

Cable Extension Connector

Specifications

Connection Loss: < 1 dB
Dimensions: Approx. 36∅ x 32mm
(1⁷/₁₆" x 1⁵/₁₆")
Weight: 5 oz. (150 g.) (approx.)

BVE-910

Editing Control Unit

- Up to four VTRs can be controlled in A/B roll editing
- Two auxiliary sources
- Powerful switcher interface via serial and parallel control; Fader, keyer, wipes and dissolves control; Save/recall or initial panel settings for the BVS-3000/SEG-2550A series, and GVG model 100 switchers; Save/recall of E-File™/E-MEM™ register of the BVS-3000 series/GVG model 100; DME-450 Digital Multi Effects control; Monitor switcher control
- Four audio channel control
- List management facility; INSERT, DELETE, CORRECT, MOVE, COPY TO NEW, and RENUMBER functions; RIPPLE function; 998 event memory (Non-volatile memory)
- 3.5" floppydisk drive unit (optional: BKE-9500)
- Any combination of LTC, VITC, and CTL editing
- Discontinuous time code source can be handled
- Dynamic Motion Control
- NTSC color framed edit
- Cue tone record/playback
- 10 user programmable keys
- Automatic time tracking allows automatic calculation of the player matched frame
- ACTION TRACK (enhanced timetrack operation)
- Advanced graphic effect mode display (B/W)
- Synchronization accuracy selection provides synchronization using various time code grades, or no time code at all
- Flexible VTR selection as a player or a recorder

Supplied Accessories:

Expansion Board for Card File Unit
8-pin Keyboard Cable (5m)
15-pin D-sub Connector (male)
25-pin D-sub Connector (2) (male)
AC Power Cord
Operation and Maintenance Manual

Optional Accessories:

BKE-900K Upgrade Kit for Serial # 15,000 and up
BKE-K K2 Upgrade Kit for Serial # 14,999 and below
BKE-917 Serial Mixer Interface
RMM-507 Rack Mount Kit
RMM-450 Mounting Panel

BVE-910 Optional Accessories

BKE-9500	Editing Control Disk Unit (Two 3.5" floppydisk drives)
BVS-V1201	12 x 1 Video Matrix Switcher
BVS-A1201	12 x 1 Audio Matrix Switcher
CPD-121	B/W Data Display

BVE-910 Optional Cables

RCC-30K (30m, 8-pin)	BVE-910 Keyboard ↔ BVE-910 Card File Unit
RCC-30V (30m, 25-pin)	BKE-915A ↔ SEG-2550A
RCC-30A (30m, 15-pin)	BKE-916A ↔ MXP-2900/290
RCC-5C/10C/30C (5m, 10m, 30m)	BKE-911 ↔ BVS-500, GVG Model 50CV
RCC-5G/10G/30G (5m, 10m, 30m)	BKE-904 ↔ DVR series, BVH-2000/3000 series, BVW series, BVU-900 series, PVW series VO-9850 series, EVO-9800, BKE-9500
	BKE-905 ↔ DVR series, BVH-2000/3000 series, BVW series, BVU-900 series, PVW series VO-9850 series
	BKE-912A ↔ GVG Model 100/1680 series
	BKE-913 ↔ BVS-3000 series, DME-450 series

BVE-910 Optional Board Kit

Model	Description	Applicable Equipment
BKE-901	NTSC Color Framing Detector	—
BKE-902	PAL Color Framing Detector	—
BKE-903	Cue Tone Rec/PB Adaptor	—
BKE-904	2 x 9-pin Interface	DVR series, BVH-2000/3000 series, BVW series, BVU-900 series, VO-9850 series, PVW series EVO-9800, BKE-9500
BKE-905	9-pin Interface/Time Code Reader	DVR series, BVH-2000/3000 series, BVW series, BVU-900 series, VO-9850 series, PVW series
BKE-906	Time Code Generator	DVR series, BVH-2000/3000 series, BVW, VO-9850 series, BVU-900 series, PVW series
BKE-907	PAM-M Color Framing Detector	—
BKE-908	Monitor Switcher Interface	BVS-V1201, BVS-A1201, MXP-290
BKE-911	Parallel Switcher Interface	BVS-500, GVG-50CV
BKE-912A	Serial Switcher Interface	GVG-100/1680 series
BKE-913	Serial Switcher Interface	BVS-3000 series, DME-450 series
BKE-915A	Serial Switcher Interface*1	SEG-2250A series
BKE-916A	Parallel mixer interface*2	MXP-290/2900

*1 25-Pin (5m) switcher control cable is supplied with the BKE-915A.

*2 15-pin (5m) mixer control cable is supplied with the BKE-916A.

Specifications

Power Requirements:	AC-100V-240V ± 10%, 48 Hz-64 Hz
Power Consumption:	Max. 50W including all BKE boards
Operating Temperature:	0°C to 45°C (32°F to 113°F)
Storage Temperature:	-20° to 60°C (-4°F to 140°F)
Weight:	
Keyboard	5 lb. 8 oz. (2.5 kg.)
Card File Unit	19 lb. 13 oz. (9 kg.)
Dimensions (WHD):	
Keyboard	424 x 53 x 275mm (16 ³ / ₄ " x 2 ¹ / ₈ " x 10 ⁷ / ₈ ")
Card File Unit	424 x 175 x 262mm (16 ³ / ₄ " x 7 x 10 ³ / ₈ ")
Video/Reference Signal:	
External Sync Input	0.2V-5.0Vp-p sync or 1.0 ± 0.2Vp-p video signal, 75Ω
Reference Video Input	1.0V ± 0.2Vp-p, 75Ω (with BKE-901/902/907)
Field Reference Input (PAL/PAL-M only)	Nominal 4.0Vp-p, 1.5 kΩ Negative going edge in line 1 through line 15 of field 1 (with BKE-902/907)
VDU Input	1.0V ± 0.3Vp-p, 75Ω
Cue Tone Signal:	Frequency 1 kHz (Begin cue), 400 Hz (End cue)
(BKE-903)	Cue audio input/output + 4 dB, 600Ω, XLR 3-pin, balanced
Operation:	Data and source controlled by keyboard with VDU display of edit data and source status
Edit Reference:	Control track signal, SMPTE/EBU LTC (Longitudinal Time Code), VITC (Vertical Interval Time Code)
Edit Accuracy:	± 0 frame with time code operation (normal play mode)
Edit List:	998 edits
GPI:	4 ports, programmable pulse output
External Edit Control:	2 x RS-232C, programmable BAUD rate and bit
VDU:	6 x 7 dot matrix, 80 characters x 24 lines



BVE-9100

Editing Control System

- Fast CPU processing: 32 bit CPU running at 20 MHz
- Large memory capacity: Approx. 4.5 Mbytes
- Standard color display monitor interface
- Optional color corrector interface for BVX-D10
- Modular design: system expansion via a variety of optional BKE boards/units and BZE softwares
- Full system interface; Parallel or serial video switcher interface; Parallel or serial audio mixer interface; Direct DME interface; 14 VTR control (can assign up to 8 VTRs as recorders or 12 as players); 4 standard GPI ports and 32 optional GPI ports
- 2 standard RS-232C printer ports and 4 optional RS-232C ports
- Full list management
- Four channel audio control
- DMC/switcher/mixer/color corrector learn functions
- Two types of editing keyboards, Qwerty style and dedicated style
- 16 user programmable keys
- Keyboard reassignment function
- Action Track (enhanced timetrack operation) capability
- Sub keyboard with 30 x 3 assignable keys
- Character superimposing on picture monitor
- Self-diagnostics



BVE-9100 System Configuration

Model Name	Description
BVE-9100	Editing Control Unit (NTSC)
BKE-9000K1	BVE-9000 Expansion Kit
BKE-9002	4 x Intelligent Device Controller Interface
BKE-9003	4 x RS-232D Interface
BKE-9004A	2 x 9-pin Sony VTR (DMC learn) or 1 x Video Switcher (GVG ^{*1} 100) Interface
BKE-9006A	2 x 9-pin Ampex VPR-3/6 Interface (Fixed Speed slow-motion)
BKE-9008	Kaleidoscope ^{*2} Interface
BKE-9009	DME (Sony DME-5000, 9000) Interface
BKE-9011	Video Switcher/Audio Mixer/Monitor Switcher Interface
BKE-9012	4 x 9-pin Sony VTR (DMC learn)
BKE-9013	4 x color Corrector (BVX-D10) Interface
BKE-9107	Hard Disk Unit
BKE-9400A ^{*4}	Editing Keyboard (Qwerty)
BKE-9401 ^{*5}	Sub Keyboard
BKE-9410 ^{*4}	Editing Keyboard (Dedicated)
BKE-9500	Dual 3.5" MFD
BKE-9510	8" Floppydisk Drive
BKE-9600	Intelligent Device Controller
BKE-9601	Time Code Generator/Reader
BKE-9602	Character Superimposer
BKE-9603	Expansion RAM Board (for serial switcher interface)

Model Name	Description
BKE-9604	Component Character Superimposer
BKE-9611	9-pin VTR Control/Character Superimposer Control ROM Kit
BKE-9632	Parallel Mixer Interface
BKE-9633	Monitor Switcher Interface
BKE-9651	General Purpose Interface Kit (16 ports)
BZE-9101	Basic Operating Program
BZE-9102	Advanced Operating Program
BZE-9601	Switcher Control Program (GVG 100/1680/300, Sony HDS-1000T)
BZE-9602	Switcher Control Program (GVG 200)
BZE-9603	Switcher Control Program (GVG Kadenza ^{*2})
BZE-9604	Switcher Control Program (Sony DVS-8000/BVS-3000 series)
BZE-9605	Switcher Control Program (Abekas A84 ^{*6})
BZE-9606	Switcher Control Program (Ampex AVC VISTA ^{*3} series)
BZE-9611	Mixer Control Program (Sony VSP-8000, Graham-Patten GPS-600 series)

- ^{*1}: GVG is a registered trademark of the Grass Valley Group Inc.
^{*2}: Kaleidoscope and Kadenza are trademarks of the Grass Valley Group Inc.
^{*3}: Vista is a trademark of Ampex Corporation.
^{*4}: 15-pin (30m) keyboard cable is supplied with the BKE-9400A and BKE-9410.
^{*5}: 15-pin (1.2m) keyboard cable is supplied with the BKE-9410.
^{*6}: A84 is a trademark of Abekas.

Supplied Accessories:

3.5" Micro Floppydisk with Based Program
 System Disk x 2
 Extension Board
 AC Power Cord
 15-pin D-sub Connector (male)
 25-pin D-sub Connector (male)
 9-pin D-sub Connector (male)
 Rack Angle Set
 Plug Holder
 Indicator Label
 Operation and Maintenance Manual

Optional Accessories:

BVS-A1201 12 x 1 Analog Audio Preview Switcher
 BVS-V1201 12 x 1 Analog Video Preview Switcher
 EDLEXPRESS List Management and Translation Software
 OKIDATA TURBO 80 Column Serial/Parallel
 PLUS UPGRADE EdlExpress Software Upgrade

Specifications

Power Requirements: AC-100V-240V, 50/60 Hz (± 10%)
 Power Consumption: 60W (incl. 7 BKE boards)
 Operating Temperature: 5°C to 35°C (41°F to 95°F)
 Storage Temperature: -20°C to 60°C (-4°F to 140°F)
 Dimensions (WHD): 424 x 220 x 480mm
 (16¾" x 8¾" x 19") (approx.)
 Weight: 46 lb. 5 oz. (21 kg.) excl. optional boards
 (approx.)
 System: 32-bit microprocessor with 4 Mbytes DRAM and
 512 Kbytes SRAM
 Editing Reference: CTL, LTC and VITC (SMPTE/EBU time codes)
 Editing Accuracy: ± 0 frame in time code operation (normal play
 mode)
 EDL Memory Capacity: 6000 edits/lines

CPD-121	Data Display Unit (B/W)
CDP-1302AW	Data Display Unit (Color)
CTG-535L	Color Monitor Cable (30m)
RCC-5G/10G/30G	Remote Control Cable (5m, 10m, 30m)
CTG-535L	Swivel Tilt Stand for CPD-1302AW

BKH-2501/BKH-2017A

Remote Control Panel with a Adaptor Box

- This remote controller is capable of controlling the Hddf-500 Digital Frame Recorder



MXP-2900 Series

Broadcast/Post-Production Audio Console

■ Most suitable for video editing, post-production and on-air applications ■ Four frame sizes: MXP-2908 — 10 slots (Desk or 19" rack mounted for edit suite and mobile applications); MXP-2916 — 20 slots; MXP-2926 — 30 slots; MXP-2936 — 40 slots ■ Video editing features (controlled from BVE-9000 system or BVE-910 video editor): Stereo or 4 channel audio preview switching; Channel crossfade control; Depth of fade "voice over" control; 4 channels of group outputs ■ Post-production features: 3-band EQ on mono, stereo and group modules; Four AUX sends; Assignable dynamics module ■ On-air features: Control room and studio muting functions; Talkback and reverse talkback; Cough switch; Fader start; Multiple outputs; Programmable clock

System Configuration

Model	Description
MXP-2908	10-slot Frame
MXP-2916/2916P	20-slot Frame with VU or PPM
MXP-2926/2926P	30-slot Frame with VU or PPM
MXP-2936/2936P	40-slot Frame with VU or PPM
MXBK-2901/2901E	Mono Input Module
MXBK-2902*	Group Module
MXBK-2903*	Dynamics Module
MXBK-2904/2904E	Stereo Input Module
MXBK-2905**	System Module with One Stereo Fader
MXBK-2925**	System Module with Two Mono Faders
MXBK-2906*	Monitor Module
MXBK-2908*	Master Module
MXBK-2909/2909E	Stereo Input Module without EQ
MXBK-2916**	Monitor TV Module with VU
MXBK-2926**	Monitor TV Module with PPM
MXBK-2917**	Communication Module
MXBK-MI23/MI24	Mic Input Board
MXBK-LI23/LI24	Line Input Board
MXBK-EI21	Video Editor Interface
MXBK-EI22*	BVE-910/9000 Video Editor Interface
MXBK-EI24**	EVE-910/9000 Video Editor Interface
AC-P8**	Power Supply Unit
AC-2000A*	Power Supply Unit

*Usable with MXP-2916/2916P/2926/2926P/2936/2936P

**Usable with MXP-2908

Specifications

Inputs:	8-72 channels (user configurable): MIC, LINE, RETURN EXT MONITOR IN (x2)
Input Connectors:	MIC: 45-pin multi-connector LINE: 45-pin multi-connector RETURN: 45-pin multi-connector MONITOR: 45-pin multi-connector TB: 45-pin multi-connector
Frequency Response:	30 Hz-20,000 Hz ±0.5 dB 20 Hz-20,000 Hz ±1.5 dB
Harmonic Distortion:	< 0.1% (+ 12 dBs at 1 kHz, THD + Noise)
Equivalent Input Noise (150Ω terminated):	MIC: -124 dBs
Residual Noise:	-90 dBs (master fader OFF) -83 dBs (channel fader OFF) w/MXP-2916
Crosstalk:	-83 dB (channel to channel at 16 kHz) -69 dB (bus to bus at 16 kHz)

Specifications (Continued)

Max. Overall Gain:	+72 dB (w/MXBK-MI23 or MXBK-MI24)
Built-in Oscillator:	1 kHz (w/MXBK-2916/2926) 15 Hz to 15 kHz variable (w/MXBK-2917)
Equalizer:	High frequency: 10 kHz, ±15 dB, shelving Mid frequency: 150 Hz-5 kHz, ±15 dB, shelving Low frequency: 80 Hz, ±15 dB, shelving
Filters:	Low cut filter: 80 Hz (at -3 dB), 12 dB/oct
Compressor:	Threshold: -20 dB-10 dB Attack time: 1 ms-5 ms Recovery time: 25 ms-1,000 ms Ratio: 1.5:1-5:1
Limiter:	Threshold: -12 dB-12 dB Attack time: 100 μs Recovery time: 500 ms Ratio: 20:1
Metering:	VU or peak
Outputs:	LINE OUT, GROUP OUT (up to 4)
Output Connectors:	LINE: 45-pin multi-connector GROUP: 45-pin multi-connector MONITOR: 45-pin multi-connector TB: 45-pin multi-connector
Power Requirements:	AC-90-132V or 198-264V (w/AC-P8 or AC-P2000A)
Power Consumption:	MXP-2908: 200W MXP-2916/P: 280W MXP-2926/P: 350W MXP-2936/P: 450W
Dimensions (WHD):	MXP-2908: 476.2 x 620.3 x 158.5mm (18 ³ / ₄ " x 24 ¹ / ₂ " x 6 ¹ / ₄ ") MXP-2916/P: 850.9 x 331.7 x 624.2mm (33 ¹ / ₂ " x 13 ¹ / ₈ " x 24 ⁵ / ₈ ") MXP-2926/P: 1257.3 x 331.7 x 624.2mm (49 ¹ / ₂ " x 13 ¹ / ₈ " x 24 ⁵ / ₈ ") MXP-2936/P: 1663.7 x 331.7 x 624.2mm (65 ¹ / ₂ " x 13 ¹ / ₈ " x 24 ⁵ / ₈ ")
Weight:	MXP-2908: 63 lb. (28.8 kg.) MXP-2916/P: 125 lb. (57 kg.) MXP-2926/P: 175 lb. (80 kg.) MXP-2936/P: 225 lb. (102 kg.)

Multicassette Systems

Library Management Systems

DVC-80 thru 1000S	F-2
BVC-80 thru 1000A	F-4

Betacart System

BVC-10	F-6
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Flexicart System

BFC-1	F-7
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8mm Cart System

VLCS-800	F-9
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Multicassette Systems Software Packages

BZC-100	F-11
BZC-110	F-11
BZC-120	F-12
BZC-1100	F-13
BZC-2100	F-14
BZC-3009	F-15
BZC-0201	F-15
BZC-0101 Series	F-15

Multicassette Systems Software Packages (Cont.)

COMBAK™	F-16
CPS	F-17
MMS	F-18

LMS/Betacart Accessories

BAC-1101A	F-19
BKAC-1105	F-19
NWS-1850	F-20
NWB-231A	F-21
BAC-1200	F-21
BVBC-10	F-21
BVBP-11/12/14	F-22
BVBR-10	F-23
DSU-V210	F-23
BKDS-V211	F-24
BKDS-V212	F-24
BKDS-V213	F-24
BKDS-V214	F-25
DSU-A210	F-25

LMS/Betacart Accessories (Cont.)

BKDS-A211	F-25
BKDS-A212	F-26
DAD-A210	F-26
BKDA-A211	F-26
BKDA-A212	F-27
BVS-V1212	F-27
BVS-A1212	F-28
BKS-R1210	F-28
DVR-C20	F-29
BVW-75/70/65/60	F-30
BVW-96	F-31
BVW-95	F-31
BKE-9600	F-31
BKC-1601	F-32
BKC-1612	F-33
IF-9300A	F-34
IF-10	F-35
BVR-12	F-35

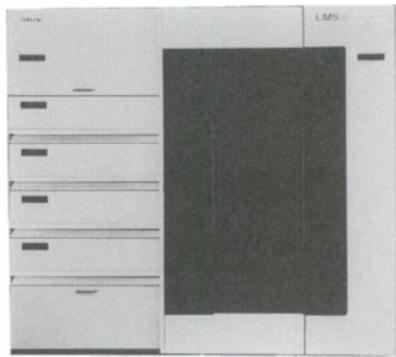
DVC-80/DVC-300M/DVC-500S/ DVC-600M/DVC-1000S

D-2 Multi-Cassette System

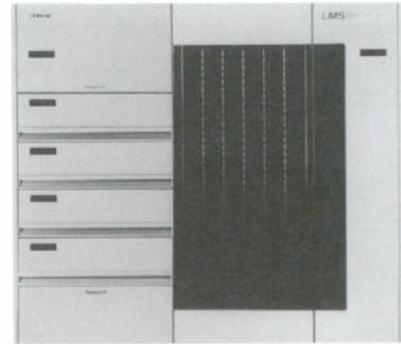
- Uses composite digital (D-2) VTR—DVR-C20/C20P
- Four VTRs can be internally accommodated (Expansion to six VTRs is possible)
- 12 x 10 digital video matrix switcher
- 12 x 10 digital audio matrix switcher
- Choice of cassette size and capacity: DVC-80S provides 84 S-size D-2 cassette capacity (All direct access bins); DVC-80 provides 84 S-size/M-size D-2 cassettes capacity (All direct access bins); DVC-300M provides 316 M-size D-2 cassette capacity (28 direct access bins); DVC-500S provides 460 S-size D-2 cassette capacity (28 direct access bins); DVC-600M provides 668 M-size D-2 cassette capacity (28 direct access bins); DVC-1000S provides 1036 S-size D-2 cassette capacity (28 direct access bins)
- Direct access bins allow cassette insert/eject even during on-air operation
- Equipped with cassette input and output ports for long term bins (except DVC-80S/80)
- High speed elevator mechanism



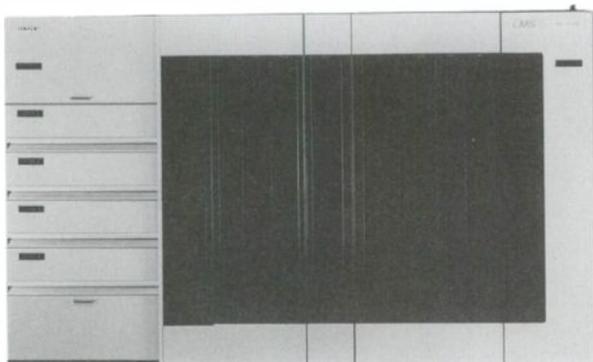
DVC-80



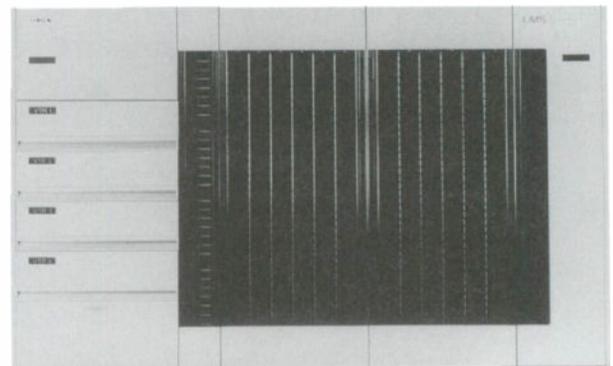
DVC-300M



DVC-500S



DVC-600M



DVC-1000S

Library Management Systems

Specifications

INTERNAL VTRs

DVR-C20/C20P: Max. 6 VTRs (optional)
 Minimum Preroll: 0.6 sec. (Standby to CF lock)
 Audio Stabilization: 0.6 sec.

EXTERNAL VTRs

Sony 9-pin equipped VTRs

CONNECTIONS

Reference Signal: Black burst
 Color Reference: SMPTE/EBU time code, XLR input
 External Event Input: 1 NTSC/PAL input
 Output Channels: A and B program out. Next event. Monitor channel
 Character Superimposer: 1 channel (data for current and next event)
 Remote Control: 1 RS-422 port accepts either IF-10 or BVR-12/15
 1 parallel control port

Tally Interface: 1 parallel port for tally signal interconnection
 External Barcode Reader: 1 RS-422 port for connection to BVBR-10

BARCODE LABELS

Code Format: Interleaved 2 of 5

APPLICATION CONTROLLER

Disk Drives: Hard disk (286 MB)
 3.5" (1.0 MB) Microfloppy drive x 1
 Disk Format: MS-DOS compatible
 Memory Backup: Hard Disk or Uninterruptable power supply
 Standard Interface: ETHERNET x 1
 SCSI x 1
 RS-232C x 2
 Centronics parallel x 1
 Optional Interface: NWB-231A 4 channel RS-232C/422 serial interface board

SPECIFICATIONS OF THE DVC SERIES

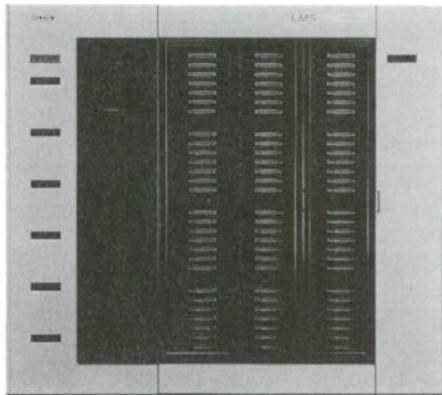
ITEM	MODEL	DVC-1000S	DVC-500S	DVC-600M	DVC-300M	DVC-80
Power Requirements		AC-90V-256V, 48 Hz-64 Hz				
Power Consumption		System: 3.0 KVA				
Max. AC Line Disturbance without System Interrupt		30m Sec.				
Operating Temperature:		5°C to 35°C (41°F to 95°F)				
Humidity		25% - 80% RH non-condensing				
Weight:		990 (450) (with 4 VTRs, switchers)				
VTR Console	lb (kg)					
Cassette console	lb (kg)	1970 (850) (W/O cassettes)	1100 (500) (W/O cassettes)	2090 (950) (W/O cassettes)	1210 (550) (W/O cassettes)	990 (450) (W/O cassettes)
System	kg (lb)	1300 (2860) (W/O cassettes)	950 (1870) (W/O cassettes)	1400 (3080) (W/O cassettes)	1000 (2200) (W/O cassettes)	900 (1980) (W/O cassettes)
System Dimension (WHD):						
System	mm (inch)	3250 x 2050 x 800 (128" x 80 ³ / ₄ " x 31 ¹ / ₂ ")	2220 x 2050 x 800 (87 ¹ / ₂ " x 80 ³ / ₄ " x 31 ¹ / ₂ ")	3375 x 2050 x 930 (133" x 80 ³ / ₄ " x 36 ⁵ / ₈ ")	2280 x 2050 x 930 (89 ⁷ / ₈ " x 80 ³ / ₄ " x 36 ⁵ / ₈ ")	1950 x 2050 x 880 (76 ⁷ / ₈ " x 80 ³ / ₄ " x 34")
VTR Console	mm (inch)	910 x 2050 x 800 (35 ⁷ / ₈ " x 80 ³ / ₄ " x 31 ¹ / ₂ ")				
Cassette Console	mm (inch)	2340 x 2050 x 800 (92 ¹ / ₄ " x 80 ³ / ₄ " x 31 ¹ / ₂ ")	1310 x 2050 x 800 (51 ⁵ / ₈ " x 80 ³ / ₄ " x 31 ¹ / ₂ ")	2465 x 2050 x 930 (97" x 80 ³ / ₄ " x 36 ⁵ / ₈ ")	1370 x 2050 x 930 (54" x 80 ³ / ₄ " x 36 ⁵ / ₈ ")	1040 x 2050 x 880 (41" x 80 ³ / ₄ " x 35")
Cassette Console:						
Bin Capacity		1008 small cassettes	432 small cassettes	640 medium cassettes	288 medium cassettes	Direct access bins: 84 (holds both small and medium cassettes)
Direct Access Bins		28 small cassettes	28 small cassettes	28 medium cassettes		
Input/Output Ports		14 (bins)/14 (stacker) small cassettes	14 (bins)/14 (stacker) small cassettes	14 (bins)/7 (stacker) medium cassettes		
Cassettes		Sony D2S-6M/12M/22M/32M (small cassettes)		D2M-6M/12M/22M/34M/64M/94M (medium cassettes)		D2S-6M/12M/ 22M/32M (small cassettes) D2M-6M/12M/22M/ 34M/64M/94M (medium cassettes)

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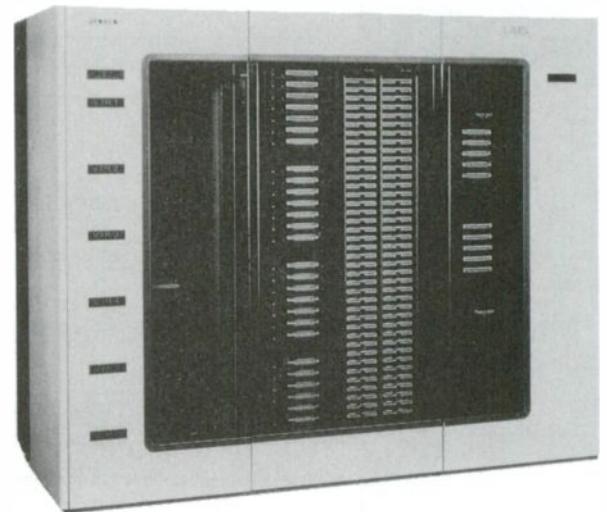
BVC-80/BVC-400A/BVC-1000A

Betacam SP Multi-cassette System

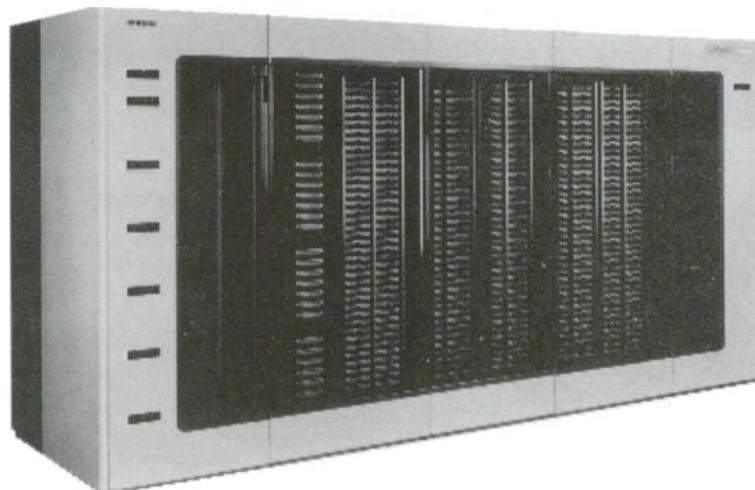
- Uses Betacam SP VTRs
- Four VTRs can be internally accommodated (Expansion to six VTRs is possible)
- Optional DVS-V1616 switcher accommodates DVW VTR's
- 12 x 12 video matrix switcher
- 12 x 12 stereo audio matrix switcher
- Choice of cassette size and capacity; BVC-80 provides 84 S/L-size Betacam cassette capacity (All direct access bins); BVC-400A provides 351 S-size and 28 S-size/L-size Betacam cassette capacity (28 direct access bins); BVC-1000A provides 1114 S-size and 28 S-size/L-size Betacam cassette capacity (28 direct access bins)
- Direct access bins accommodate both L-size and S-size cassettes and allow insert/eject even during on-air operation
- Equipped with cassette input and output ports for long term bins (except BVC-80)
- High speed elevator mechanism



BVC-80



BVC-400A



BVC-1000A

Library Management Systems

Specifications

INTERNAL VTRs

BVW-60/60P: Replay, Max. 6 VTRs (optional)
 BVW-65/65P: Replay with DT, Max. 6 VTRs (optional)
 BVW-70/70P: Recorder, Max. 6 VTRs (optional)
 BVW-75/75P: Recorder with DT, Max. 6 VTRs (optional)
 Minimum Preroll: 0.3 sec. (from still mode)
 0.9 sec. (from tension release)
 Audio Stabilization 0.5 sec.

EXTERNAL VTRs

Sony 9-pin equipped VTRs

CONNECTIONS

Reference Signal: Black Burst
 Clock Reference: SMPTE/EBU time code, XLR input
 External Event Input: 1 NTSC/PAL input
 Output Channels: A and B program out, Next event, Monitor channel
 Character Superimposer: 1 channel (data for current and next event)
 Remote Control: RS-422 port-accepts either IF-10 or BVR-12/15
 1 parallel control port
 Tally Interface: 1 parallel port for tally signal interconnection
 External Barcode Reader: 1 RS-422 port for connection to BVBR-10

BARCODE LABELS

Code Format: Interleaved 2 to 5

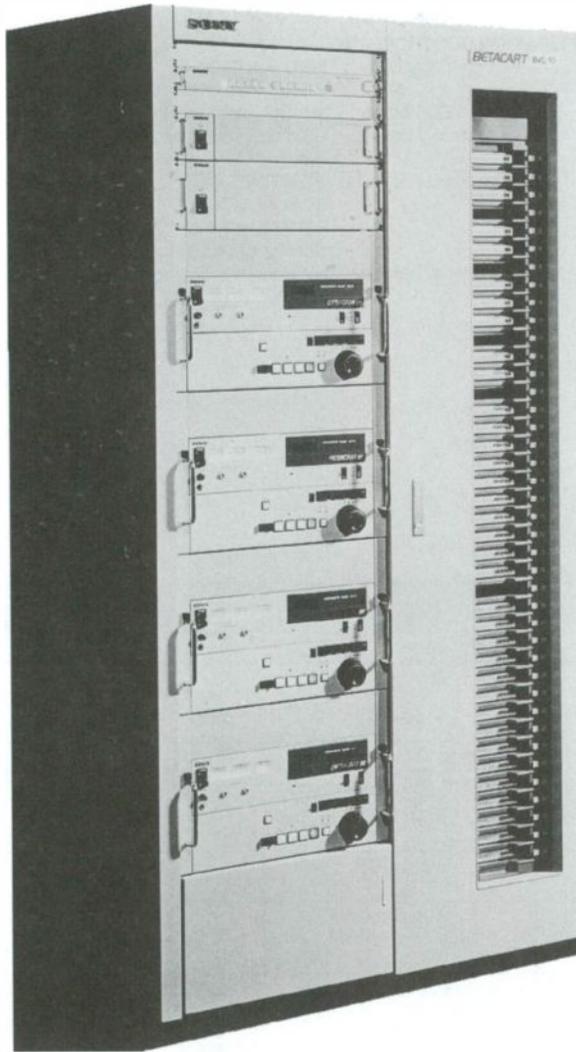
APPLICATION CONTROLLER

Disk Drives: Hard disk (288MB)
 3.5" (1.0MB) microfloppy drive x 1
 Disk Format: MS-DOS compatible
 Memory Backup: Hard disk or uninterruptable power supply
 Standard Interface: ETHERNET x 1
 SCSI x 1
 RS-232C x 2
 Centronics parallel x 1
 Optional Interface: NWB-231A 4 channel
 RS-232C/422 serial interface board

SPECIFICATIONS OF THE BVC SEREIS

ITEM		MODEL	BVC-1000A	BVC-400A	BVC-80
Power Requirements			AC-90V-256V, 48 Hz-64 Hz		
Power Consumption			System: 3.0 KVA		
Max. AC Line Disturbance without System Interruption			100 ms		
Operating Temperature			5°C to 35°C (41°F to 95°F)		
Humidity			25% to 80% RH non-condensing		
Weight	VTR Console (W/O VTRs, Switchers)	lb (kg.)	770 (350)		
	Cassette Console (W/O Cassettes)	lb (kg.)	2310 (1050)	1210 (550)	750 (340)
	System (W/O VTRs, Switchers, Cassettes)	lb (kg.)	3080 (1400)	1980 (900)	1520 (690)
System Dimensions (WHD)			4115 x 2050 x 1209mm (162 ¹ / ₈ " x 80 ³ / ₄ " x 47 ⁵ / ₈ "	2460 x 2050 x 1209mm (96 ⁷ / ₈ " x 80 ³ / ₄ " x 47 ⁵ / ₈ "	2239 x 2050 x 1209mm (88 ¹ / ₄ " x 80 ³ / ₄ " x 47 ⁵ / ₈ "
Cassette Console	Bin Capacity		1014 small cassettes	351 small cassettes	Direct access bins: 84 (holds both small and large cassettes)
	Direct Access Bins		28 (holds both small and large cassettes)		
	Input/Output Ports		7/7 (small cassettes)		
Cassettes			Sony BCT-5G/10G/20G/30G, BCT-5GL/10GL/20GL/30GL/60GL/90GL (Oxide) BCT-5MA/10MA/20MA/30MA, BCT-5MLA/10MLA/20MLA/30MLA/60MLA/90MLA (Metal)		

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BVC-10

Betacart System

- BVC-E10 console; 40 S-size Betacam SP cassette capacity; Storage bins allow cassette insert/eject even during on-air operation; High speed/two port elevator mechanism; Uses Betacam SP VTRs, BVW-95/95P/96/96P
- BVS-V1212 12 x 12 video matrix switcher
- BVS-A1212 12 x 12 stereo audio matrix switcher
- DVS-V1616 serial digital switcher and DVW-C500 side loading digital Betacam

Specifications

GENERAL

- Power Requirements: AC-90V-265V, 48 Hz-64 Hz
- Power Consumption: 1.4 KVA
- Operating Temperature: 5°C to 40°C (41°F to 104°F)
- Humidity: 25%-80% RH, non-condensing
- Dimensions (WHD): 1025 x 2050 x 710mm
(40³/₈" x 80³/₄" x 28")
- Weight: 1146 lb. (520 kg.)

SYSTEM

- Cassettes: Sont BCT-5G/10G/20G/30G, BCT-5M/10M/20M/30M
- Bin Capacity: 40 cassettes maximum
- Cassette Players: BVW-95/95P/96/96P (x 4) (optional), side loaded, Betacam format
- Format: Sony Betacam CTDM
- Cassette ID: SMPTE/EBU Time Code/Bar Code Label
- ID Format: ID Code, Title, Start of Message, End of Message, Duration
- Host Interface: RS-422
- Remote Interface: RS-422, interface to parallel control systems by serial/parallel interface
- Printer Port: RS-232C, serial

CENTRAL CONTROL SYSTEM

- Disk Drives: 3.5" format (x 2)
- Disk Format: MS-DOS® compatible

BFC-1

FLEXICART™ Multi-Cassette System

- Flexible configuration of VTRs and cassette bin units allows installation of Sony DVR-28/20/18/10 series, D-2 VTRs, or BVW-75/70/65/60 series, Betacam SP VTRs (also S-VHS models) which are recognized by the television and post production industry for their high quality picture reproduction and reliable operational performance
- Compatible cassette bin units achieve flexible cassette handling by allowing operators to use any cassette tape length, regardless of its size
- For flexible system configurations equipped with the VCC (Versatile Cart Controller) interface communicating through a RS-232C/422A selective port, which enables versatile connection with an application controller
- IBM PC/AT based application software for simple operation

APPLICATION OVERVIEW

The Flexicart system's unique collection of features—size, functionality, reconfigurability—makes it an incredibly versatile system. And the incredibly low price means that a wide range of needs can be cost-effectively automated.

Program Playback. Now any operation can automate its program playback with the Flexicart. VTRs are readied, tapes are cued and events are switched automatically. Tapes can be loaded in advance—there's no shuffling back and forth of tapes, no need to stand by to load a tape. The Flexicart maximizes VTR resources with a minimum commitment of human resources.

Recording. More and more program material is delivered by satellite feed rather than in tape form. Someone has to be on call to initiate and monitor the recording—no matter what time the feed comes in. The Flexicart now lets you automate the process, freeing up your valuable manpower.

News. By the same token, the Flexicart has some powerful news applications. The Flexicart can record incoming news service and local feeds from ENG vans. Your recording is not limited by the length of a cassette because the Flexicart automatically switches to the next cassette. And, when the news segments have been edited, they can be replayed by the Flexicart.

Sports. And in the sports arena, the Flexicart system's ability to record any length material makes it particularly well suited to recording lengthy sports events.

Cable. Plays back even the most demanding schedule of cable movies and filler material. The Sony software allows up to four different outputs.

Time Delay. The network feed arrives on the hour, but you need to delay broadcast by five minutes. Or an hour. With the Flexicart, whether you want to extend primetime or adjust for a time-zone difference, you can make it happen automatically and seamlessly.



Flexicart System

APPLICATION OVERVIEW (BFC-1, cont.)

Editing. The Flexicart makes editing tasks like auto-assembly and personalization of promo tags an easy automated process.

Dubbing or striping. Use the Flexicart to automate these procedures during off-peak hours, maximizing resources, saving time and cutting costs.

A wide range of software packages—both from Sony and third party vendors—make the Flexicart perfect for applications you may never have considered automating. This kind of flexibility lets you reassign manpower to other areas, smooth operations and help you accomplish things you never had time for before. In fact, the Flexicart can be used in so many ways, it's impossible to describe them all here.

Optional Accessories:

BVS-V1212 Analog Video Routing Switcher
 BVS-A1212 Analog Audio Routing Switcher
 DVS-V1616 D-1/D-2 Serial Digital Routing Switcher
 DSU-V210 D-2 Parallel Digital Video Routing Switcher
 DSU-A210 AES/EBU Digital Audio Routing Switcher
 DAD-A210 Audio AD/DA Converter

Application Software Packages

BZC-100: Remote Control Software
 BZC-110: Playback Software
 BZC-120: Record Software

FLEXICART VCC Interface Protocol Manual

D-1 Cassette:

D1S-6
 D1M-12/22/34
 D1L-76/94

D-2 Cassette:

D2S-6M/12M/22M/32M/6MNP
 D2M-6M/12M/22M/34M/64M/94M
 D2L-126M/156M/188M/208M

Betacam SP Cassette:

BCT-5MA/10MA/20MA/30MA
 BCT-5MLA/10MLA/20MLA/30MLA/60MLA/90MLA
 BCT-5G/10G/20G/30G
 BCT-5GL/10GL/20GL/30GL/60GL/90GL
 SBT-5M/10M/20M/30M
 SBT-5ML/10ML/20ML/30ML/60ML/90ML

S-VHS Cassette: VXST-60V/120V/140V/160V

Supplied Accessories:

Power Cable
 Operation Manual
 Maintenance Manual
 Installation Manual

Format	Applicable VTR	Configuration (VTR/Bin Unit Ratio)		Cassette Capacity ¹	
		VTRs	Bin Units 4 U High	S-Cassette	M/L Cassette
D-1	DVR-2100/2000	1	7	56	28
D-2	DVR-20/18 DVR-P28 (6 U high)	2	5	40	20
		3	3	24	12
		1	7	56	28
	DVR-20/10 DVR-P20 (6 U high)	2	6	48	24
		3	4	32	16
		4	3	24	12
Betacam SP	BVW-D75/75/70	1	7	70	35
	BVW-D265/65/60	2	6	60	30
	PVW-2800	3	4	40	20
	(5 Unit high + Unit*2)	4	3	30	15
S-VHS	SVO-9600 SVP-9000	1	7	70	
		2	7	70	
		3	6	60	
		4	5	50	
		5	4	40	
		6	4	40	

¹: Each cassette bin can hold one L/M-cassette or two S-cassettes, except for the BKFC-10S for S-VHS cassettes. M/L-cassette.

The cassette capacities shown are those with either all S-size or all M/L-size cassettes loaded.

²: Space for radiation

Specifications

General

Power Requirements: AC 100/120/220/230/240V, 50/60 Hz
 Power Consumption: 600 VA (without VTRs)
 Operating Temperature: 5°C to 35°C (41°F to 95°F)
 Operating Humidity: 25%–80% (non-condensing)
 Weight: 551 lb. 2.5 oz. (250 kg.)
 (without VTRs, cassette bin units and cassettes)
 Dimensions (WHD): 600 x 1980 x 1090mm
 (23⁵/₈" x 78" x 43")

Connections

Remote Control Interface: REMOTE-1
 RS-422A D-SUB 9-pin
 REMOTE-2
 RS-232C D-SUB 25-pin
 Parallel Interface: D-SUB 50-pin
 Reference Video in: BNC Black burst or Composite video
 Time Code in: BNC

VLCS-800

Video Hi8 Library System

- Large Capacity and Compact Console permits storage of up to 808 videocassettes
- 32 VTR Capacity
- Multiplex Signal Transmission allows video, audio, and remote signals to be transmitted up to 1 km via a single coaxial cable
- Video Hi8 VTR provides both Hi8 and standard playback
- Intelligent System Control by the Sony NEWS computer using the VL-ZC800 Multi Cassette System Software
- 32 x 32 Matrix Multiplex Switcher
- VL-DC1 Device Control Unit converts RS-422 serial interface signals from the NEWS computer into parallel signals to control the MPXS-3232 Multiplex Switcher
- MPXM-1 Multiplex Modulator Unit (Optional) captures external sources, such as those from VTRs or studio cameras shooting live programs
- VL-PS1 Program Selector Unit is designed for easy access to the desired programs
- MPXD-1 Multiplex Demodulator Unit (Optional) provides demodulation capability of a multiplex signal without a program selection function

Supplied Accessories:

- VL-CC800 Multi Cassette Console
- VL-V8 (NTSC) Video Hi8 VTR
- NEWS Computer
- MPXS-3232 Matrix Multiplex Switcher
- VL-DC1 Device Control Unit
- VL-PS1 Program Selector Unit
- AC Power Cord
- Operating Manual

Optional Accessories:

- MPXM-1 Multiplex Modulator Unit
- MPXD-1 Multiplex Demodulator Unit



8mm Cart System

Specifications (VLCS-800, cont.)

VL-CC800 Library System Console

Dimensions (WHD): 1280 x 1940 x 720mm
(49⁵/₈" x 76¹/₂" x 28³/₈")
Weight: 705 lb. (320 kg.) (approx.) without
VTRs and cassettes
Power Requirements: AC-100V/120V/220V/240V
selectable, 50/60 Hz
Power Consumption: 1.5 kW
Operating Temperature: 5°C to 40°C (42°F to 104°F)
Cassette Capacity: Maximum 808 cassettes
Cassettes: Sony E6-HME, P6-HMP, P6-MP
series or equivalent
VTR Capacity: Maximum 32 Units (VL-V8)

VL-V8 Video Hi8 Recorder/Player

General

Dimensions (WHD): 185 x 92 x 354mm
(7³/₈" x 3⁵/₈" x 14")
Weight: 9 lb. (4 kg.) (approx.)
Power Requirements: DC-12V (supplied from VL-CC800
or CMA-8 AC Adaptor)
Power Consumption: 30W
Operating Temperature: 5°C to 40°C (42°F to 104°F)

Video

Signal: EIA monochrome/NTSC color
Horizontal Resolution: Hi8 mode: > 400 TV lines
(color monochrome): Standard mode: > 240 TV lines
S/N Ratio: Hi8 mode: > 45 dB
(color): Standard mode: > 45 dB

Audio

Dynamic Range: AFM: 60 dB
PCM: 80 dB

Multiplex

Video S/N Ratio: > 45 dB
Audio S/N Ratio: > 60 dB

MPXS-3232 Multiplex Switcher

Dimensions (WHD): 424 x 177 x 450mm
(16³/₄" x 7" x 17³/₄")
Weight: 40 lb. (18 kg.) (approx.)
Power Requirements: AC-85V-132V/170V-264V
selectable, 50/60 Hz
Power Consumption: 300W
Operating Temperature: 5°C to 40°C (42°F to 104°F)

VL-DC1 Device Control Unit

Dimensions (WHD): 424 x 132 x 350mm
(16³/₄" x 5¹/₄" x 13⁷/₈")
Weight: 18 lb. (8 kg.) (approx.)
Power Requirements: AC-85V-132V/170V-264V
selectable, 50/60 Hz
Power Consumption: 30W
Operating Temperature: 5°C to 40°C (42°F to 104°F)

VL-PS1 Program Selector Unit

Dimensions (WHD): Unit: 355 x 88 x 350mm
(14" x 3¹/₂" x 13⁷/₈")
Keyboard: 220 x 180 x 53mm
(8³/₄" x 7¹/₈" x 2¹/₈")
Weight: Unit: 16 lb. (7 kg.) (approx.)
Keyboard: 2 lb. (1 kg.) (approx.)
Power Requirements: AC-85V-132V/170V-264V
selectable, 50/60 Hz
Power Consumption: 45W
Operating Temperature: 5°C to 40°C (42°F to 104°F)

MPXM-1 Multiplex Modulator Unit

Dimension (WHD): 424 x 44 x 400mm
(16³/₄" x 1³/₄" x 15³/₄")
Weight: 12 lb. (5.5 kg.) (approx.)
Power Requirements: AC-85V-132V/170V-264V
selectable, 50/60 Hz
Power Consumption: 30W
Operating Temperature: 5°C to 40°C (42°F to 104°F)
Video Input: 1.0Vp-p, 75Ω, unbalanced
Audio Input: -10 dB, 47 kΩ, unbalanced

MPXD-1 Multiplex Demodulator Unit

Dimensions (WHD): 424 x 44 x 400mm
(16³/₄" x 1³/₄" x 15³/₄")
Weight: 11 lb. (5.0 kg.) (approx.)
Power Requirements: AC-85V-132V/170V-264V
selectable, 50/60 Hz
Power Consumption: 30W
Operating Temperature: 5°C to 40°C (42°F to 104°F)
Video Output: 1.0Vp-p, sync negative, 75Ω,
unbalanced
Audio Output: -10 dB, 1 kΩ, unbalanced

BZC-100

Remote Control Software

This package operates on IBM PC/AT compatible computers with MS-DOS™ (V5) and Windows™ (V3.1, enhanced mode) installed as their operation system. ■ The software provides comprehensive on-screen HELP menus for operational assistance ■ Based on GUI (Graphical User Interface) operation, the BZC-100 Remote Control software supports manual control of the entire FLEXICART system, including internal VTRs and external video and audio routing switchers ■ During operation of this program, graphical representations of cassette bins, VTR front panels (including basic function keys and time code) and switcher matrices are displayed in each sub-window, showing the real-time status of the entire system. Cassettes loaded into the FLEXICART console are identified with their corresponding bin number, even

while loaded in a VTR ■ By simply designating these graphics with the mouse, cassette transfer, basic VTR functions and switcher cross-point assignment are easily executed. System malfunctions are indicated by a warning sign on the display and details of the error can be obtained by simply clicking the sign ■ The BZC-100 also contains a Monitor program which displays the same graphics as the Remote Control program to show the status of the entire system, but does not accept any operational command to prevent accidental operation during monitoring. The monitoring graphics can be simultaneously displayed with the playback or recording schedule. This is useful for monitoring the status of the system while the schedule is being implemented

BZC-110

Playback Software

This package operates on IBM PC/AT compatible computers with MS-DOS™ (V5) and Windows™ (V3.1 enhanced mode) installed as their operation system. ■ Simultaneous operation of the BZC-120 and the BZC-110 is possible by the use of four VTRs, two for recording and two for playback. All the software provides comprehensive on-screen HELP menus for operational assistance. ■ The installation of the BZC-110 Playback software provides automatic playback operation for applications such as sequential program transmission. This automatic playback operation is accomplished for a schedule known as a Playlist. Up to 1000 events can be programmed into a single Playlist and each Playlist is managed as a file in the Playback program. The Playlist can be programmed by using simple edit commands. ■ Transmission of programs to be played back from cassettes are scheduled as Play Events in the Playlist by storing details of their Start time, Bin number, SOM; start time code and duration. If some events are scheduled to be executed consecutively, then only the start time of the first event need be entered. The Playlist can be started manually or triggered by an external equipment or system via a parallel communication port. ■ Additionally, one of four output channels can be selected for each event in the Playlist to transmit the output signal to the required destination. As well as Play Events, Logo Events and Break Events can also be programmed into the Playlist. During a Logo Event, the FLEXICART simply outputs a signal fed into the FLEXICART system switcher, making it simple to transmit external signals such as station and network logos. The Break Event holds Playlist execution while a live program, external to the FLEXICART system,

is being transmitted. ■ The Playback program can also output external pulses to trigger external equipment such as a switcher or DME. The timing of these pulses can be adjusted to occur before, after or Co-incident with a Playlist event.

Utilities for The Playback Program

■ **Edit Function**—The Playlist can be edited either on-line or off-line. The off-line editing utility has the same function as on-line, but without operational commands. ■ **Status Monitoring**—During operation of the Playlist, the status of each event is displayed, together with a message, as the schedule is being implemented. ■ **Auto Skip Control**—When an error occurs during the execution of a Playlist event, this event can be automatically skipped and the next event started to avoid interrupting the entire schedule. ■ **As Run Log and Channel Record Log**—As the Playlist schedule is carried out, the completion of each event is logged into the As Run Log and Channel Record Log files respectively, together with actual start times and durations. The operator can then confirm later if scheduled events were correctly accomplished. If a malfunction occurs during an event, up to four error messages can be viewed from an on-screen pop-up sub-window and also logged. This is useful in diagnosing the location of a fault to allow quick restoration of the system ■ **File Exchange**—The Playlist files can be exchanged between the FLEXICART application controller and a host computer via a floppy disc. The format of the Playlist is also the same as the BZC Series of application software for the LMS and Betacart ranges, providing full interchange of Playlist data with a Flexicart system.

BZC-120

Record Software

This package operates on IBM PC/AT compatible computers with MS-DOS™ (V5) and Windows™ (V3.1, enhanced mode) installed as their operation system. Simultaneous operation of the BZC-120 and the BZC-110 is possible by the use of four VTRs, two for recording and two for playback. All the software provides comprehensive on-screen HELP menus for operational assistance.

- With BZC-120 Record software installed, input sources can be automatically recorded according to a schedule. It can be used for various applications, for example the automatic recording of programs received from a key station on a network line, the continuous recording of a long duration event such as a live sports program or tape initializing (striping). The Record program operates in a similar way to Playback program.
- However an additional feature is that each source channel can be identified with an ID word to allow an operator to clearly recognize each input source.
- The Recordlist also allows up to three different input signals to be recorded as a tape header prior to recording the source program. This is ideal for recording a station logo and reference and test signals such as black burst, color bars and 1 kHz audio signal. The source signal can also be recorded with either a preset time code or current time, depending on Setup menu selection.

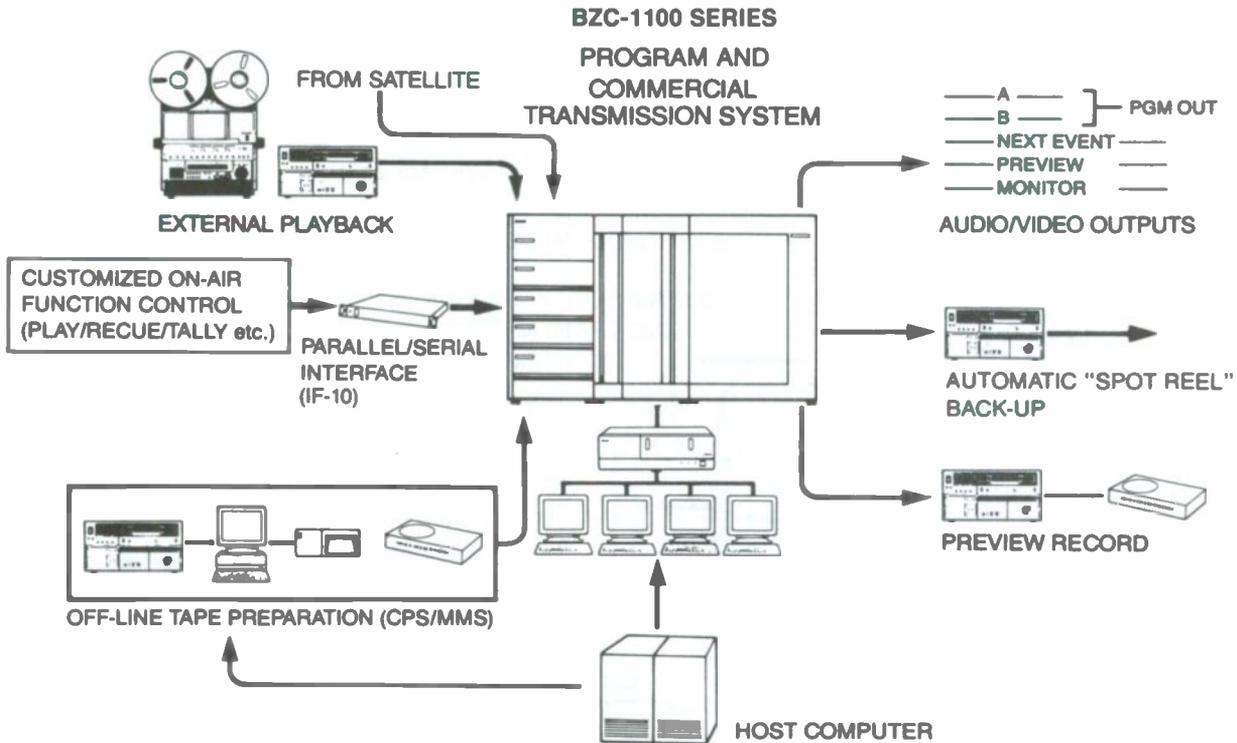
Utilities for the Record Program

- Edit Function—The Recordlist can be edited either on-line or off-line. The off-line editing utility has the same function as on-line, but without operational commands.
- Status Monitoring—During operation of the Recordlist, the status of each event is displayed, together with a message, as the schedule is being implemented.
- Auto Skip Control—When an error occurs during the execution of a Recordlist event, this event can be automatically skipped and the next event started to avoid interrupting the entire schedule.
- As Run Log and Channel Record Log—As the Recordlist schedule is carried out, the completion of each event is logged into the As Run Log and Channel Record Log files respectively, together with actual start times and durations. The operator can then confirm later if scheduled events were correctly accomplished. If a malfunction occurs during an event, up to four error messages can be viewed from an on-screen pop-up sub-window and also logged. This is useful in diagnosing the location of a fault to allow quick restoration of the system.
- File Exchange—The Recordlist files can be exchanged between the FLEXICART application controller and a host computer via a floppy disc. The format of the Recordlist is also the same as the BZC Series of application software for the LMS and Betacart ranges, providing full interchange of Recordlist data with a Flexicart system.

BZC-1100

LMS Application Software Package

- Commercial/program direct on-air replay
- Off-line tape preparation
- Barcode label identification
- Single segment commercials (random order replay)
- Sequential multi-segment programs (sequential order replay)
- Control up to four external VTRs
- Automatic spot reel recording and back-up replay option
- Preview facility with "Preview record"
- Record option
- Up to four user work stations
- Traffic interface
- Automation interface

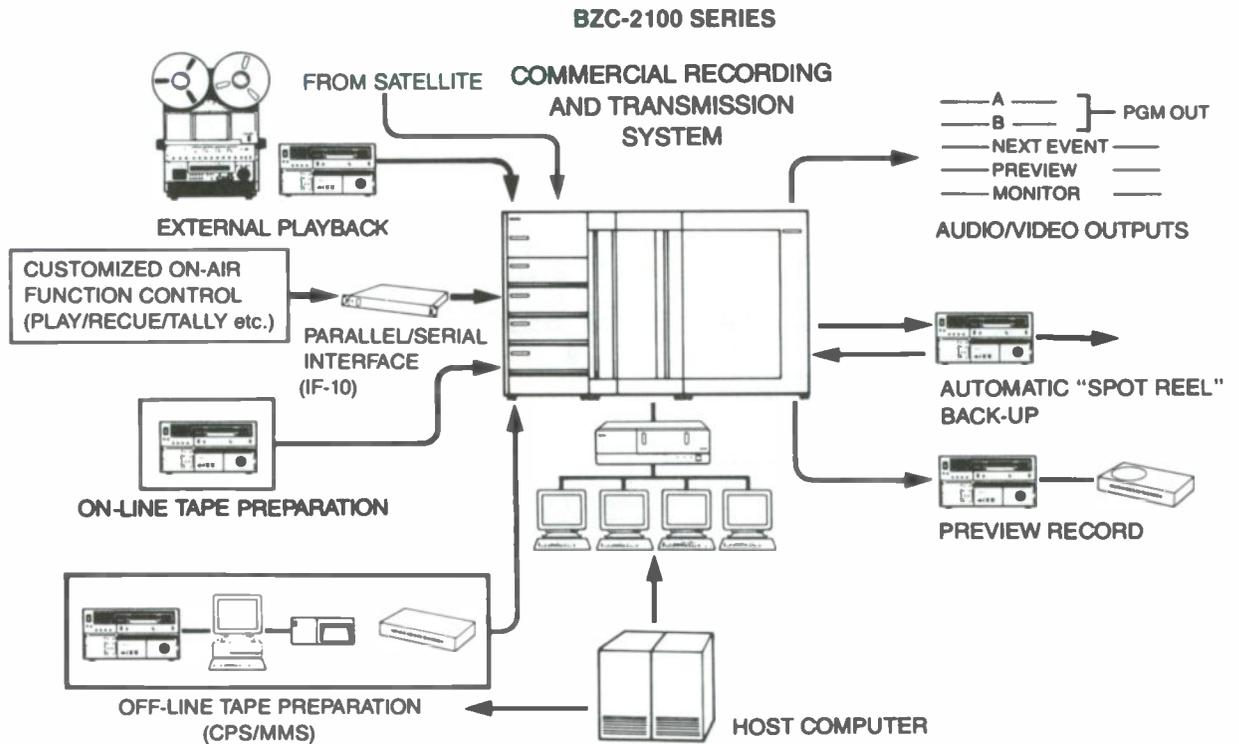


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BZC-2100

LMS Application Software Package

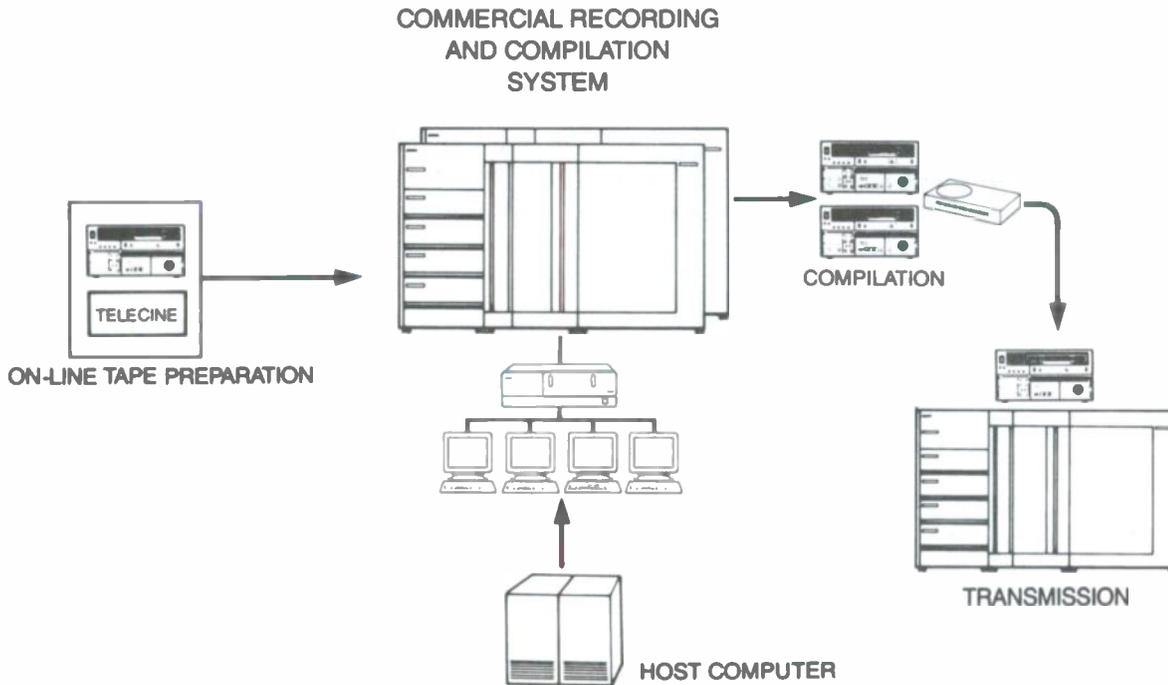
- Commercial/program direct on-air replay
- On-line tape preparation
- Data based identification
- Random multi-spot commercials
- Sequential multi-segment programs (off-line prepared tape, sequential order replay)
- Control of four external VTRs
- Dual mother tape system
- Control of equipment for replay of source material
- Preview facility with "Preview record"
- Upgradeable from BZC-1100
- Up to 10,000 spots on-line
- Control of external program playback VTRs (BZCA-2101 - option)
- Automatic spot reel backup and simultaneous replay (BZCA-2102 - option)
- Traffic interface (BZCA-2102 - option)
- Automation interface (BZCA-2103 - option)
- Record utility (BZCA-2104 - option)
- Graphic user interface (BZCA-2105 - option) (multi-window display - option - multi LMS control)



BZC-3009

LMS Application Software Package

- On-line tape preparation
- Data based identification
- Random multi-segment commercials
- Automatic Commercial compilation of transmission tape with external VTRs
- Off-line transmission system
- Single and dual cart configurations
- Up to 10,000 commercials on-line
- X-window graphical user interface
- Up to 6 workstations
- User and terminal security system
- Ultimate in system reliability
- Traffic interface
- Simultaneous compiling and filing of commercials



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BZC-0201

Betacart Application Software Package for Commercials Replay

- Commercial transmission package
- Extensive playlist editing facilities
- Last minute changes even while on air
- Traffic interface
- Automation interface
- Off line tape preparation

BZC-0101 Series

Betacart Application Software Package for News Presentation

- Automatically assigns consecutive stories in the play list to up to 4 output channels
- Independent control of each channel
- Continous display of countdowns of each story
- Traffic interface
- Automation interface
- Off line tape preparation

Multicassette Systems Software Packages

Sony Cassette Management System

COMBAK™

Backup Compiler System

■ **Fast, Simple Backup Reel Assembly:** The COMBAK™ system runs on the same PC as the CPS Cassette Preparation System and uses the VTRs already connected to CPS as a simple edit pair to compile backup spot reels. Using a copy of the cart system's playlist, the COMBAK™ Backup Compiler provides bin locations for the required cassettes. It prompts the operator to retrieve the cassettes and load them into the source VTR. As the cassettes are loaded, the COMBAK™ system automatically assemble-edits a backup spot reel

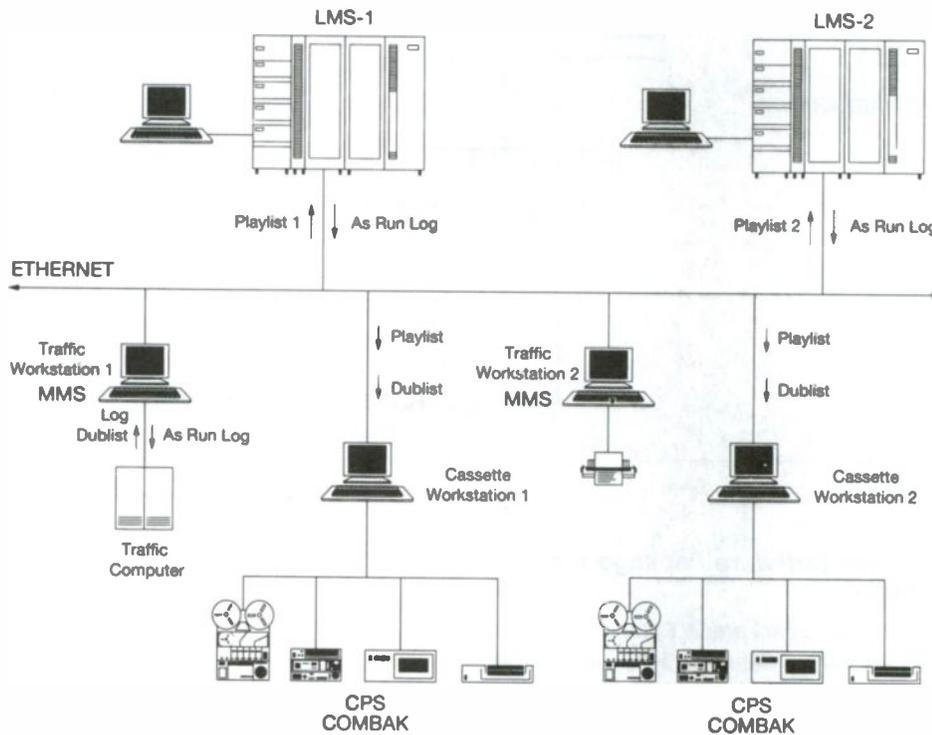
■ **Editing capabilities include Add, Delete, Move, and Redo.** A list of events compiled onto tape can be automatically printed out

■ **When integrated into MMS (to complete CMC-2100)** all data transfer may be accomplished by electronic transfer between the LMS and the

COMBAK™ system

■ **Minimal Operator Input:** When the COMBAK™ system is resident on the CPS PC, it has full access to the cassette database. This tight integration of the COMBAK™ Compiler with the CPS database results in advanced features that greatly simplify operation. In a panic situation, it provides immediate access to SOM and duration information

■ **Time-Saving and Hardware-Saving:** The COMBAK™ system can replay the compiled spot reel directly from the record VTR after the assembly process is completed for each sequence. Using this feature, backup reels can be quickly readied for airplay without the need for additional hardware. The COMBAK™ Backup Compiler System is thus an invaluable, highly cost-effective investment for any station with a Sony multi-cassette system



Sony Cassette Management System

CPS

Cassette Preparation System

CPS significantly improves the efficiency and precision of dubbing room operations. A PC-based off-line tape preparation system, CPS automates the repetitive, labor-intensive tasks involved in cassette dubbing and identification for Sony multicassette systems. It accommodates both single- and multi-segment tapes. Furthermore, CPS creates a database into which all new material is automatically logged.

Faster, Easier Dubbing

The advanced Auto-Dub™ feature simplifies the transfer process. The entire process is essentially automatic, requiring little more of the operator than loading and unloading the VTRs.

After the spot master has been threaded and cued on the source VTR and a blank cassette loaded into the record VTR, the Auto-Dub™ system takes over the dubbing process. After dubbing, an automatic preview feature allows for EOM (End of Message)/SOM (Start of Message) verification and correction. The label is printed and applied to the cassette while the spot is logged into the database.

Improved Multi-Segment Cassette Preparation and Management

CPS also simplifies the process of preparing multi-segment tapes. The Sony Multi-Segment Identification System or SID (Segment ID) Code is a "directory" of program segment locations and durations written into the timecode user bits. Unlike external identification methods, all relevant segment information resides entirely on tape in the user bits. Multi-segment cassettes thus retain the full transportability and ease of management associated with single-segment barcoded cassettes.

When CPS is used to prepare multi-segment tapes, the user bit data is automatically verified. In addition, segment user bit information can be read, modified, and rewritten should the program format change. And since

CPS automatically logs the completed multi-segment cassettes into a database, media management is enhanced while cart room operations are streamlined.

Early Warning Protection

By providing the ability to check playlists prior to their use in Sony multi-cassette systems, CPS helps avert last-minute panic situations. A powerful analysis feature compares a new playlist to the database. Potential problems—such as missing (unmade) cassettes, title mismatches, and exceeding the maximum-play count—are quickly identified, leaving ample time to take any necessary corrective action.

Simple, Precise Database Maintenance

CPS permits a variety of database tests to be performed with ease and provides more positive control over the insertion and deletion of cassettes. For example, when CPS resides on a network with MMS or MTS, the traffic interface permits a purge list be printed at any network station. Using the optional barcode reader, the CPS operator can quickly and easily act on the list to remove inactive cassettes from the database.

CPS + MMS/MTS: An Even Better Way to Prepare Cassettes

While the information needed to dub and barcode a cassette can be entered manually or transferred via floppy disk, it is ideally supplied to CPS electronically via MMS or MTS. This not only saves time, but also virtually eliminates the problem of missing or mismatched titles caused by operator typing errors.

Once the ID numbers, titles, durations, and any user data have been supplied to CPS, the operator can select a spot simply by moving the on-screen cursor to the title. All relevant information about the spot appears on the screen in the form of a barcode label. From there, the operator can initiate the Auto-Dub™ process with the push of key.

Sony Cassette Management System

MMS

Media Management System

A traffic system interface should provide much more than simple log-to-playlist translation. MMS enhances the power of CPS and Sony multi-cassette systems by enabling them to communicate directly with your station's traffic computer. This critical link to traffic is enhanced by comprehensive translation and data transfer capabilities that eliminate the need to manually re-type list and log information from hard copies. MMS is in essence a remote "front end," providing vital information regarding a station's operations areas. It gives your traffic department access to detailed information on media inventory, including tapes in library storage and those loaded in Sony multi-cassette systems.

Efficient, Intelligent List Translation

MMS translates a station's traffic log/schedule into playlists ready for use on Sony multi-cassette systems. The translation of the raw data from the traffic system schedule can be customized to suit virtually any station configuration. For example, the translation process can be designed to accommodate non-cart events, or provide separate playlists for multiple cart systems.

In addition, MMS has the capability to translate dub lists and purge lists from a station's traffic computer into a format readable by Sony multi-cassette systems.

Versatile Data Transfer Capabilities

MMS expedites the flow of lists and logs in and out of your traffic department. Dub lists can be transferred from MMS to CPS workstations. Playlists can be transferred to Sony multi-cassette systems. Playlists can also be transferred to CPS, where they can be checked against the database for any missing cassettes.

MMS can also access the As-Run Log generated by a Sony multi-cassette system. This can be transferred back to the station's traffic computer for efficient, accurate reconciliation of daily schedules.

Comprehensive Database Management

MMS not only provides access to virtually every aspect of a cassette's history, but also helps you better utilize that information with flexible analysis and reporting tools. MMS can search the CPS and/or multi-cassette system database, then sort the information using a virtually limitless number of parameters. These can include, ID number, when the spot was dubbed, who performed the dub, when the spot aired, how often it aired, and numerous others. This expanded ability to gather and analyze media data enables a station to optimize operating efficiency.

MMS can also update the number of plays counter in the CPS database according to the traffic log or the multi-cassette system As-Run log. Based on this counter, a warning can be issued whenever a cassette exceeds a presettable maximum number of plays.

Powerful Playlist Editor

The versatility of MMS is further enhanced by its integral playlist editor. Using information from the CPS database, MMS enables the user to create and revise playlists with an absolute minimum of keystrokes. Typing errors are virtually eliminated, and many routine playlist modifications are vastly simplified. Event insertion, for example, can be accomplished easily with a search of the database or very quickly with an optional barcode reader. The editor also automatically performs accuracy checks and alerts the operator should it find any missing or erroneous event information.

MTS Media Translation System

MTS is a version of MMS that provides the file translation and transfer capabilities of MMS; it is a cost-effective solution when database management and playlist editing capabilities are not required.

BAC-1101A

Cart Controller for LMS

■ The cart controller includes virtual device control and receives commands from the application controller. An important feature of this controller is its ability to provide real time control of the various devices ■ The cart controller utilizes a distributed processing system incorporating both 68000 and Z80 family devices ■ Through the cart controller, the application software provides control of up to 6 internal VTRs, as many as 3 or 4 external VTRs, audio and video switchers and the cassette storage console(s) ■ In addition, the cart controller manages interfaces to a serial port for an emergency barcode reader, a parallel port for on-air transmission control (play, freeze, recue etc.), external trigger outputs, tally control ■ The cart controller includes a 40M BYTES hard disk and battery protected RAM to protect the system data from being deleted during power failures. After applying power, the cart control software is loaded from hard disk to RAM. Cassette data (bin number, cassette ID, SOM, DUR etc.) is maintained in the cart controller ■ The BAC-1101A exclusive for the LMS includes two main control systems: SCC (Standard Cassette Console) and VCC (Versatile Cassette Console). SCC is used mainly for control of VCC, external VTRs, internal switchers and CCC (Cassette Console Control) which controls virtual devices within cassette console

Supplied Accessories:

Power Code

AC Plug Holder

Mounting Tools

Rack Angle (6U) Assemblies, 1 set

Screws and Nuts, 1 set

Extension Boards

EX-105 Assembly (rear extension board)

EX-181 Assembly (front extension board)

9-pin Interface Cable (50cm)

Maintenance Manual*

*This is included in a maintenance manual for DVC or BVD series multi-cassette system.

Specifications

Dimensions (WHD): 424 x 280.5 x 500mm
(16 $\frac{5}{8}$ " x 11" x 19 $\frac{5}{8}$ " (approx.)
Weight: 66 lb. 3 oz. (30 kg.) (approx.)
Power Consumption: 50W in Standard Configuration

BKAC-1105

9-pin Remote VTR Interface (Board and ROM Set)

■ The BKAC-1105 is a ROM set to provide a VTR interface for the BAC-1101A cart controller, which is mounted on the BKAC-1103. It can control VTRs of not only Sony but also AMPEX® (VPR-3/6/80). A single BKAC-1105 with the BKAC-1103 allows the combination use of Sony and AMPEX VTRs. The power-on sequence identifies the VTRs connected to the BAC-1101A



NWS-1850

Application Controller

■ The application software is designed to run under the UNIX™ operating system on an application controller such as the Sony NEWS™ (Network Engineering Work Station) computer (NWS-1850). The application controller connects to the LMS Cart Controller which provides real time control of the multi-cassette system and other devices within the system ■ The application controller provides a multi-tasking, multi-user environment for the operation of the system. The maximum number of operator terminals to be connected to the application controller depends on the application software package, each with full or limited access to the system, as determined by the user in the set-up mode. ■ The application controller manages the user interface and maintains the system cassette database. Play lists, as run logs, data base files and system files are maintained on this hard disk ■ The application controller also interfaces to host computers (including provision for both direct serial and micro-floppy disk interfaces to traffic systems), a (parallel) log printer, a barcode printer and an external barcode reader ■ The NEWS system of NWS-1850 used with the LMS also incorporates a 3.5" micro-floppy disk drive for writing and reading MS-DOS format disks. This system clock runs at 25 MHz for NWS-1850. An additional NWB-231A interface board provides 4 additional RS-232C/422 serial ports. The license for UNIX (UNIX 4.3 BSD for NWS-1850) is included in the system ■ A UPS (Uninterruptable Power Supply) should be used to protect the hard disk in the event of power failure. We recommend a minimum rating of 1500W for 5 minutes in order to protect the hard disk of the application controller and cart controller. This is sufficient to support the application controller, the cart controller and one control terminal ■ Software is layered and modularized for easy maintenance and modification, and mostly written in the C programming language ■ The NWS-1850 used with the LMS is a powerful workstation employing the following specifications

Specifications

CPU:	MC 68030 (25 MHz)
I/O Processor:	MC 68030 (25 MHz)
MIPS*:	5.3
Main Memory:	16 Mbytes
Cache Memory:	64 Kbytes
3.5" FDD:	720 Kbytes MS-DOS, 2 HD (formatted)
Hard Disk:	288 Mbytes (formatted)
Standard I/F:	ETHERNET, SCSI, RS-232C x 2, CENTRONICS, PARALLEL
Dimensions (WHD):	430 x 145 x 377mm (17" x 5 ³ / ₈ " x 14 ⁴ / ₈ " (approx.))
Weight:	33 lb. (15 kg.) (approx.)
Power Consumption:	600W (100-120V) 650W (220-220V)

*MIPS = Mega-Instructions Per Second

NWB-231A

Serial Interface Board

■ The NWB-231A is a serial interface board for the NWS-1850, with 4 channels of switchable RS-232C/RS-422 serial port

BAC-1200

Control Terminal

■ The application computer system in the LMS/Betacart system can support independent control terminals ■ For example these may be used by master control, library and engineering ■ The maximum number of control terminals used depends on the application software package ■ The BAC-1200 comes with two parts; control terminal and keyboard ■ The BAC-1200 is used with a color monitor (CPD-1302/1402E) which is mounted on the top of the control terminal, and connected via 9-pin remote control and RGB cables

Supplied Accessories:
RGB Cable (50cm)
9-pin Remote Cable (10m)

Specifications

Dimensions (WHD): Control terminal: 300 x 65 x 380mm
(11¹/₈" x 2¹/₂" x 15") (approx.)
Keyboard: 516 x 43 x 206mm
(20¹/₂" x 1³/₄" x 8") (approx.)
Weight: Control terminal: 6 lb. (2.7 kg.) (approx.)
Keyboard: 5 lb. (2.3 kg.) (approx.)
Power Consumption: 10W total



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BVBC-10

Barcode Writer

■ If the Betacam LMS/Betacart application requires only single segment tape replay but not sequential multi-segment or mother tapes, a barcode writer system is required ■ The Barcode writer system consists of a Barcode writer BVBC-10, a monitor, a Barcode Printer BVBP-11/14, and a VTR

Supplied Accessories:
Remote Control Cable (36-pin)
Printer Parallel Cable (36-pin)
XLR-3 pin Time Code Connecting Cable
AC Power Cord
Operator Manual
Maintenance Manual

Specifications

Dimensions (WHD): 452 x 87 x 263mm
(14⁴/₈" x 3³/₈" x 10³/₈" (approx.)
Weight: 11 lb. (5 kg.) (approx.)
Power Consumption: 18W





BVBP-11

BVBP-11/12/14

Barcode Printer

■ The BVBP-11/12/14 is specially designed for high speed printing and semi-automatic attachment of barcode labels for Betacam small/large or D2 small/medium size cassettes ■ RS-232C serial and 36-pin parallel interface ports are included in each barcode printer to interface to the BVBC-10 Barcode writer ■ The types of cassettes which can be handled by the BVBP-11/12/14 are shown below:

- BVBP-11: Betacam small size cassettes
- BVBP-12: D2 small and medium size cassettes
- BVBP-14: Betacam small and large size cassettes

Supplied Accessories:

BVCR-11 Ribbon Cartridge
BVCP-10 Label Sheet
Head Cleaner
Rack Mount Handle*
AC Power Cord
Operation Manual
Maintenance Manual

*Rack mount handle is not supplied with the BVBP-12/14. THE RMM-950 rack mount metal is required to mount the BVBP-12/14 on the 19" rack.

Specifications

BVBP-11

Dimensions (WHD): 424 x 176 x 420mm
(16½" x 7" x 16½") (approx.)
Weight 56 lb. (25.5 kg.) (approx.)
Power Consumption: 120W (120V)
135W (220V-240V)

BVBP-12/BVBP-14

Dimensions (WHD): 424 x 221 x 450mm
(16½" x 8¾" x 17¾") (approx.)
Weight: 68 lb. (30.0 kg.) (approx.)
Power Consumption: 120W (120V)
135W (220V-240V)

BVBR-10

Barcode Reader

■ The BVBR-10 reads any Sony barcode label attached to any Betacam SP small/large or D2 small/medium cassettes. It incorporates a scanning laser diode for fast operation. It is used with LMS for manual or emergency operation; for identifying programs replayed on external cassette VTRs; or used with the CMS* series system. This versatile product also has applications in any custom designed control system where barcode labels must be read. ■ The BVBR-10 includes beeper to make sure if a barcode is correctly read, and provides interface facility using either RS-232C or RS-422

* CMS is a comprehensive cassette management system for an off-line tape preparation.

Supplied Accessories:

AC Power Cord
9-pin Remote Cable (10m)
Rack Mount Kit (1 set)
Installation Manual
Maintenance Manual

Specifications

Dimensions (WHD): 424 x 87 x 255mm
(16½" x 3⅜" x 10") (approx.)
Weight: 11 lb. (5 kg.) (approx.)
Power Consumption: 15W max.



DSU-V210

Digital Video Matrix Switcher for D-2 LMS

■ A maximum system configuration is a 12 input x 10 output matrix ■ Select from optional boards for analog or digital inputs, and analog or digital outputs (2 channels per board) ■ A maximum of 11 optional boards can be installed ■ Switches parallel digital/analog composite video ■ Automatic chrominance phase control ■ Protection against phase shift and jitter ■ Built-in black burst and color bar generators ■ Built-in reference DA (Distribution Amplifier)—6 analog BNC outputs ■ Equipped with RS-422 control ports

Supplied Accessories:

Rack Angle (1 set)
EX-139 Extension Board
AC Power Cord
75Ω Terminator (for Reference Video)
Operation Manual
Maintenance Manual

Specifications

Dimensions (WHD): 424 x 132 x 498mm
(16½" x 5⅓" x 31⅜") (approx.)
Weight: 44 lb. (20 kg.) (approx.)
Power Consumption: 100W max.



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BKDS-V211

Digital Video Input Board for DSU-V210

■ The BKDS-V211 is a digital input board for the DSU-V210. It accepts two channels of composite parallel digital video via its two connectors. When it is installed in the DSU-V210, the two input channels can be switched independently

Specifications

Dimensions (WHD): Circuit Board: 20 x 380 x 105mm
($\frac{4}{5}$ " x 15" x 4") (approx.)

Connector Panel: 25 x 130 x 70mm
(1" x 5" x $2\frac{4}{5}$ ") (approx.)

Weight: Circuit Board: 1 lb. 1 oz. (500 g.) (approx.)
Connector Panel: 7 oz. (200 g.) (approx.)

Power Consumption: 6W max.

BKDS-V212

Digital Video Output Board for DSU-V210

■ The BKDS-V212 is a digital video output board for the DSU-V210. When it is installed in the DSU-V210, two channels of composite parallel digital video can be output from its two connectors

Specifications

Dimensions (WHD): Circuit Board: 20 x 380 x 105mm
($\frac{4}{5}$ " x 15" x 4") (approx.)

Connector Panel: 25 x 130 x 70mm
(1" x 5" x $2\frac{4}{5}$ ") (approx.)

Weight: Circuit Board: 1 lb. 2 oz. (550 g.) (approx.)
Connector Panel: 7 oz. (200 g.) (approx.)

Power Consumption: 7W max.

BKDS-V213

Analog Video Input Board for DSU-V210

■ The BKDS-V213 is an analog video input board for the DSU-V210. It accepts two channels of analog composite video via its two BNC connectors. When it is installed in the DSU-V210, two input channels can be switched independently

Specifications

Dimensions (WHD): Circuit Board: 20 x 380 x 105mm
($\frac{4}{5}$ " x 15" x 4") (approx.)

Connector Panel: 25 x 130 x 70mm
(1" x 5" x $2\frac{4}{5}$ ") (approx.)

Weight: Circuit Board: 1 lb. 3 oz. (600 g.) (approx.)
Connector Panel: 7 oz. (200 g.) (approx.)

Power Consumption: 10W max.

BKDS-V214

Analog Video Output Board for DSU-V210

■ The BKDS-V214 is an analog video output board for the DSU-V210. When it is installed in the DSU-V210, two channels of composite analog video can be output in pairs from its four BNC connectors

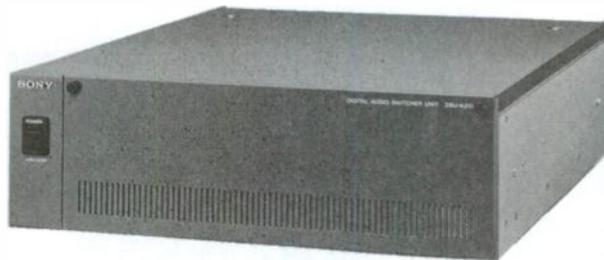
Specifications

Dimensions (WHD): Circuit Board: 20 x 380 x 105mm
 (3/8" x 15" x 4") (approx.)
 Connector Panel: 25 x 130 x 70mm
 (1" x 5" x 2 7/8") (approx.)
 Weight: Circuit Board: 1 lb. 4 oz. (650 g.) (approx.)
 Connector Panel: 7 oz. (200 g.) (approx.)
 Power Consumption: 6W max.

DSU-A210

Digital Audio Matrix Switcher

■ Maximum system configuration is a 12 stereo input x 10 stereo output matrix ■ Select from two types of optional boards; digital audio input and output boards ■ A maximum of 11 optional boards can be installed ■ Switches only serial digital audio conforming to AES/EBU format ■ Protection against phase shift and jitter ■ Two stereo channels per optional board ■ Built-in 1 kHz audio tone and muted signal generators ■ Equipped with RS-422 control ports ■ Reference audio input facility to synchronize to external audio equipment ■ Reference video input facility to synchronize to its input video



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Supplied Accessories:

Rack Angle (1 set)
 EX-139 Extension Board
 AC Power Cord
 75Ω Terminator (for Reference Video)
 Operation Manual
 Maintenance Manual

Specifications

Dimensions (WHD): 424 x 132 x 498mm
 (16 1/2" x 5 1/8" x 31 3/8") (approx.)
 Weight: 40 lb. (18 kg.) (approx.)
 Power Consumption: 50W max.

BKDS-A211

Digital Audio Input Board for DSU-A210/A210P

■ The BKDS-A211 is a digital audio input board for the DSU-A210/A210P. It accepts two stereo channels of AES/EBU format digital audio via its two connectors. When it is installed in the DSU-A210/A210P, the two stereo input channels can be switched independently

Specifications

Dimensions (WHD): Circuit Board: 20 x 380 x 105mm
 (3/8" x 15" x 4") (approx.)
 Connector Panel: 25 x 130 x 70mm
 (1" x 5" x 2 7/8") (approx.)
 Weight: Circuit Board: 14 oz. (400 g.) (approx.)
 Connector Panel: 7 oz. (200 g.) (approx.)
 Power Consumption: 1W max.

BKDS-A212

Digital Audio Output Board for DSU-A210/A210P

■ The BKDS-A212 is a digital audio output board for the DSU-A210/A210P. When it is installed in the DSU-A210/A210P, two stereo channels of AES/EBU format digital audio can be output from its two connectors

Specifications

Dimensions (WHD): Circuit Board: 20 x 380 x 105mm
($\frac{4}{8}$ " x 15" x 4") (approx.)
Connector Panel: 25 x 130 x 70mm
(1" x 5" x 2 $\frac{7}{8}$ " (approx.)
Weight: Circuit Board: 14 oz. (400 g.) (approx.)
Connector Panel: 7 oz. (200 g.) (approx.)
Power Consumption: 1W max.



DAD-A210

Audio AD/DA Converter

■ Required for use with DSU-A210 if analog audio signals are incorporated within the system ■ Select from optional boards for A/D or D/A converter; A/D board: 2 analog inputs/1 stereo digital output; D/A board: 1 stereo digital input/2 analog outputs ■ Standard system configuration is 2 A/D and 4 D/A converter boards ■ A maximum of 10 optional boards can be installed ■ Reference audio and video input facilities

Supplied Accessories:

Rack Angles 1 set
EX-139 Extension Board
AC Power Cord
75 Ω terminator (for reference video)
Operation Manual
Maintenance Manual

Specifications

Dimensions (WHD): 424 x 132 x 449mm
(16 $\frac{2}{8}$ " x 5 $\frac{1}{8}$ " x 17 $\frac{3}{8}$ " (approx.)
Weight: 44 lb. (20 kg.) (approx.)
Power Consumption: 150W Max.

BKDA-A211

Analog Audio Input Board for DAD-A210/A210P

■ The BKDA-A211 is an analog audio input board for DAD-A210/A210P. When it is installed in the DAD-A210/A210P, the analog audio signals fed to its two analog input connectors are converted into a stereo digital audio signal which conforms to the AES/EBU format

Specifications

Dimensions (WHD): Circuit Board: 20 x 380 x 105mm
($\frac{4}{8}$ " x 15" x 4") (approx.)
Connector Panel: 25 x 130 x 70mm
(1" x 5" x 2 $\frac{7}{8}$ " (approx.)
Weight: Circuit Board: 1 lb. 4 oz. (650 g.) (approx.)
Connector Panel: 7 oz. (200 g.) (approx.)
Power Consumption: 12W max.

BKDA-A212

Analog Audio Output Board for DAD-A210/ A210P

■ The BKDA-A212 is an analog audio output board for DAD-A210. When it is installed in the DAD-A210, a stereo digital audio signal conforming to the AES/EBU format, is converted into two channels of analog (stereo) audio.

Specifications

Dimensions (WHD): Circuit Board: 20 x 380 x 105mm
($\frac{1}{8}$ " x 15" x 4") (approx.)
Connector Panel: 25 x 130 x 70mm
(1" x 5" x 2 $\frac{3}{4}$ ") (approx.)
Weight: Circuit Board: 19 lb. 8 oz. (550 g.) (approx.)
Connector Panel: 7 lb. (200g.) (approx.)
Power Consumption: 12W max.

BVS-V1212

Analog Video Matrix Switcher for Betacam SP LMS/Betacart

■ 12 input × 12 output matrix size ■ Audio-video simultaneous switching is possible by looping RS-422 control on the BVS-A1212 ■ Built-in reference DA (Distribution Amplifier) ■ 8 analog BNC connectors ■ Reference video input facility to synchronize to the BVS-A1212 ■ Allows component video inputs with the interconnection of 3 BVS-V1212 units ■ Retains the last cross points even after AC power is interrupted ■ Equipped with two RS-422 serial control ports (one for loop-through) ■ Parallel remote control from the optional BKS-R1210 remote control panel is possible

Supplied Accessories:

AC Power Cord
Plug Holder
Unit Harness (D-sub 25P) (for connection to BKS-R1210)
Extension Harness (20 pin) (for connection to BVS-A1212)
75Ω Terminator (for reference video)
Operation Manual
Maintenance Manual

Specifications

Dimensions (WHD): 424 x 88 x 350mm
(16 $\frac{2}{3}$ " x 3 $\frac{1}{2}$ " x 13 $\frac{2}{3}$ ") (approx.)
Weight: 15 lb. 8 oz. (7.1 kg.) (approx.)
Power Consumption: 15W



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BVS-A1212

Analog Audio Matrix Switcher for Betacam SP LMS/Betacart

- 12 stereo input × 12 stereo output matrix size
- Two channels of audio switching capability
- Audio-video simultaneous switching is possible by looping RS-422 control on the BVS-V1212
- Selectable input/output audio impedance (input: 20k, 600Ω, balanced; output: 600/150/37.5Ω)
- Retains the last cross points even after AC power is interrupted
- Reference video input facility to synchronize to the BVS-V1212
- Allows 4 channel audio switching system with the interconnection of two BVS-A1212 units
- Equipped with two RS-422 serial control ports (one for loop-through)
- Parallel remote control from the optional BKS-R1210 remote control panel is possible

Supplied Accessories:

- AC Power Cord
- Plug Holder
- Unit Harness (D-sub 25P) (for connection to BKS-R1210)
- 75Ω Terminator (for reference video)
- Operation Manual
- Maintenance Manual

Specifications

Dimensions (WHD): 424 x 132 x 350mm
(16¹/₂" x 5" x 13⁵/₈") (approx.)
Weight: 34 lb. 6 oz. (15.6 kg.) (approx.)
Power Consumption: 30W

BKS-R1210

Remote Control Panel

- The BKS-R1210 is a remote control panel for use with the BVS-V1212/A1212 analog matrix switchers. It provides manual cross point selection via D-sub 25-pin remote control cable supplied with the BVS-V1212/A1212. In addition, by using an extension harness (20 pin) supplied with the BVS-V1212, a video-audio simultaneous switching is possible.

Specifications

Dimensions (WHD): 482 x 44 x 30mm
Weight: 230 g (Approx.)
Power Consumption: Max. 0.1W (supplied from the connected switcher)

DVR-C20

Composite Digital VTR for D-2 LMS

- Digital Composite ■ Superior multi-generation performance ■ Digital error correction and concealment for ultimate reliability and ruggedness
- Two cassette sizes accommodated:
 - Small D2S-6M/12M/22M/32M
 - Medium D2M-6M/12M/22M/34M/64M/94M





BVW-75



BVW-70



BVW-65



BVW-60

BVW-75/70/65/60

BVW-75/70 Betacam SP Recorder/Players

■ The BVW-75 provides more than 90 minutes (NTSC)/100 minutes (PAL) record/playback time with large cassettes. It offers 4 channels of audio and Dynamic Tracking (DT). ■ The BVW-75 can be used in either internal or external to the multi-cassette system

■ The BVW-70 is a Betacam SP VTR that is basically the same as the BVW-75 except it does not offer Dynamic tracking (DT) ■ It can be used in either internal or external to the Multi-cassette system

BVW-65/60 Betacam SP Players

■ The BVW-65 can be used in the Multi-cassette system if the application of the LMS includes only playback capability ■ It offers Dynamic Tracking capability and 4 channels of audio ■ The BVW-60 is a Betacam SP player that is basically the same as the BVW-65 except that it does not offer Dynamic Tracking

Supplied Accessories:

AC Power Cord
9-pin Remote Control Cable (5m)
12-pin Dubbing Cable (Exclusive for BVW-70/75)
Extension Board
Operation Manual
Maintenance Manual

Specifications

Dimensions (WHD): 427 x 237 x 520mm
Weight: BVW-75, 66 lb. (30 kg.) Max. (approx.)
BVW-70, 66 lb. (30 kg.) Max. (approx.)
BVW-65, 62 lb. (28 kg.) Max. (approx.)
BVW-60, 60 lb. (27 kg.) Max. (approx.)
Power Consumption: BVW-75, 240W Max.
BVW-70, 240W Max.
BVW-65, 175W Max.
BVW-60, 160W Max.

BVW-96

Betacam SP Recorder/Player for Betacart

■ The BVW-96 is a Betacam SP recorder/player exclusive for Betacart system to be used with recording software. It enables time delay operation and other recording applications. The BVW-96 offers Dynamic Tracking (DT) capability and 4 channels of audio.

BVW-95

Betacam SP Player Exclusive for Betacart

■ The BVW-95 is a Betacam SP player exclusive for Betacart. It can be used in Betacart System when the application of Betacart includes only playback capability. The BVW-95 offers Dynamic Tracking capability and 4 channels of audio.

Supplied Accessories:

AC Power Cord
9-pin Remote Control Cable (5m)
12-pin Dubbing Cable
Extension Board
Operation Manual
Maintenance Manual

Specifications

Dimensions (WHD): 482 x 309 x 641mm
(19" x 12" x 25 $\frac{1}{8}$ " (approx.)
Weight: 77 lb. (35 kg.) (approx.)
Power Consumption: 230W (NTSC), 245W (PAL)

BKE-9600

Intelligent Device Controller

■ The BKE-9600 is the general purpose Intelligent Device Controller (IDC) used with the BKC-1601/BKC-1612 optional boards. These optional boards are installed in this controller. IDC is equipped with RS-422 serial control ports, and with reference video inputs for system synchronization (one for loop-through)

Supplied Accessories:

AC Power Cord
Plug Holder
Rack Angle Assembly (1 set)
Rack Mount Screws (1 set)
Equipment Number Label (1 set)
Installation and Maintenance Manual

Specifications

Dimensions (WHD): 424 x 43 x 410mm
(16 $\frac{3}{8}$ " x 1 $\frac{3}{8}$ " x 16" (approx.)
Weight: 12 lb. (5.4 kg.) (approx.)
Power Consumption: 25W



BKC-1601

Title Character Generator Board (NTSC)

■ The BKC-1601 is the title character generator board installed in the BKE-9600. It permits information to be superimposed on the video signals for monitors. ■ In the BKC-1601 installed in the BKE-9600, information on character and time is provided by the cart controller through the RS-422 control port ■ The BKC-1601 is equipped with two video input/output connectors and one input of video with VITC (Vertical Interval Time Code) for sending its VITC data back to the cart controller through the RS-422 control port ■ User must supply scanning circuit ■ The BKC-1601 is only used in the BZC-3100/3200 system

Main Parts

DP-38 Board
TCR-5 Board
BF-32 Board
Rear Panels (4)
ROM (2)

Supplied Accessories:

Installation and Maintenance Manual
Board Name Labels (1 set)
9-pin Control Cable (10m)

Specifications

Color of Characters:	64 colors
Number of Displayed Characters	Double size: 5 lines x 6 characters
	Normal size: 10 lines x 16 characters
Display Mode:	With border (white or black)
Dimensions:	DP-38 board: 219 x 183mm
	(8 $\frac{3}{8}$ " x 7 $\frac{2}{8}$ ") (approx.)
	TCR-5 board: 219 x 94mm
	(8 $\frac{3}{8}$ " x 3 $\frac{7}{8}$ ") (approx.)
Power Requirements:	Supplied from BKE-9600

BKC-1612

Parallel/Serial Interface Board

■ The BKC-1612 is a board installed into the BKE-9600 to permit mixed use of serial and parallel control of a serial device. It is used with the DSU/DAD series and the BVS series switchers to provide alternate selection of switcher cross points from customized switcher panel. The BKC-1612 receives commands and status from the switcher panel through parallel connectors, and converts its parallel signals into serial ones to provide them for an LMS application controller and switchers internal to the multi-cassette system. It is equipped with three 36-pin connectors for parallel input and output respectively. Users must supply the switcher panel as required.

Main Parts

IF-169 Board
PS-153 Board
RX-5 Board
Rear Panels (with cables connected to the boards) (4)
Parallel Port Connectors (36-pin) (6)
ROM (2)

Supplied Accessories:

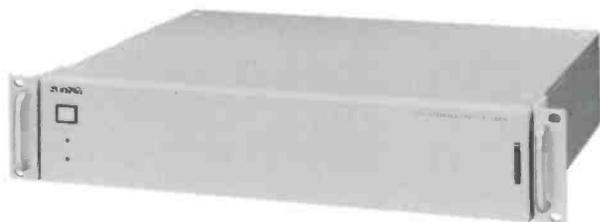
Installation and Maintenance Manual
Board Name Labels (1 set)
9-pin Control Cable (10m)

Specifications

Dimensions: IF-169 Board: 219 x 94mm
(8½" x 3½") (approx.)
PS-153 Board: 219 x 193mm
(8½" x 7⅝") (approx.)
RX-5 Board: 219 x 71mm
(8½" x 2½") (approx.)

Weight: 6 lb. 10 oz. (3.0 kg.) (approx.)

Power Requirements: Supplied from BKE-9600



IF-9300A

VTR Interface Unit

The IF-9300A VTR Interface Unit provides simple and effective on-air control of VTRs external to the multi-cassette system, with use of the automation controller.

Only simple commands may be required for replay of commercial or program materials in this on-air system using the IF-9300A. The IF-9300A is designed to be utilized in a direct on-air system for replay of compiled commercial or program tapes.

For tape preparation, the tape cueing point is determined, the stop code must now be recorded in the user bit area of LTC by means of the IF-9300A.

When used as part of an on-air system, the IF-9300A detects the stop code recorded in the user bit area of LTC and automatically stops the VTR.

Once the prepared tape is loaded into the on-air VTR, only two kinds of pulse from an external controller are required for on-air replay. One is the play pulse which is necessary for initiating replay of a segment, another is the switching pulse for the presentation switcher.

The IF-9300A also provides effective operation when used for on-air replay of the compiled tape prepared by the BZC-3100/3200 application software packages.

A further application for the IF-9300A is to provide emergency transmission of spot reel back-up tapes from a BZC-1100/2100 system.

■ Provide such functions as "play", "stop", "rewind" and "standby on/off" for the DVR-10/BVW-75/BVH-3000 series studio VTRs ■ Record and erase stop code in the user bit area of LTC through the ELCO 56-pin at the rear panel ■ Detect stop code in a range of ± 50 times normal playback speed, and automatically stop the VTR when the tape speed is normal ■ Record/erase and detect the tape data in the user bit area of LTC, such as primary code (tape ID/title) and segment code (segment ID/title) when used with the external computer. ■ Also detect material code in the user bit area of VITC ■ Provide superimposer of characters:- tape ID/title, segment ID/title, material code and time code can be superimposed onto a monitor ■ When the IF-9300A is used with the BKC-1601 (Character Superimposer) and BKE-9600 (Intelligent Device Control), color display is also possible

Supplied Accessories:

AC Cable
Extension Board
ELCO 56-Pin Plug
ELCO 20-Pin Plug
Number Label

Specifications

Readable Code: Primary code, Segment code, Stop code, End code, User's code, Material code
Recorded Code: Through Parallel I/O: Stop code, End code
Through RS-422: All codes are acceptable except for material code

Character: Alphabet (Capital)
Number
KATAKANA (Japanese Alphabet)
X < > , . / ? Space + - = * IX "

Number of

Displayed Characters: 5 lines x 8 characters
or 5 lines x 16 characters

Color: White with black border

LTC Readable Range: $+1/16$ to $+50$ times normal playback speed

VITC Readable Range: Less than normal playback speed

Dimensions (WHD): 424 x 88 x 350mm
($16\frac{1}{2}$ " x $3\frac{1}{2}$ " x $13\frac{2}{3}$ ") (approx.)

Weight: 17 lb. 8 oz. (8 kg.) (approx.)

Power Requirements: AC 120V/220V-240V, 50/60 Hz

Power Consumption: 20W

IF-10

Parallel Interface Box

■ The IF-10 is a parallel interface box to provide parallel control of LMS program transmission from a customized program transmission panel ■ It connects to the cart controller through RS-422 connector and to the transmission panel through parallel connectors ■ The commands include play, freeze, recue, tension, etc. ■ It is equipped with alarm and status lines on separate connectors ■ The IF-10 is equipped with a pair of parallel input/output connectors (50-pin) and RS-422 serial remote out connector

Supplied Accessories:

50-pin Plug (for Parallel Connector) (2)
Rack Mount Screws (1 set)
AC Power Cord
Operation Manual
Maintenance Manual

Specifications

Dimensions (WHD): 424 x 43 x 440mm
(16 $\frac{2}{3}$ " x 1 $\frac{3}{8}$ " x 17 $\frac{1}{3}$ ") (approx.)
Weight: 11 lb. (5 kg.) (approx.)
Power Consumption: 12W (max.)

BVR-12

Simple Remote Controller for Betacart

■ The BVR-12 is a desk top controller that provides simple commands referring to on-air transmission with the multi-cassette system ■ It is designed for use with the Betacart system but is also supported in the LMS via RS-422 serial remote control port ■ The commands available for the BVR-12 are play, freeze, and recue ■ BVR-12: 3 channel remote controller

Supplied Accessories:

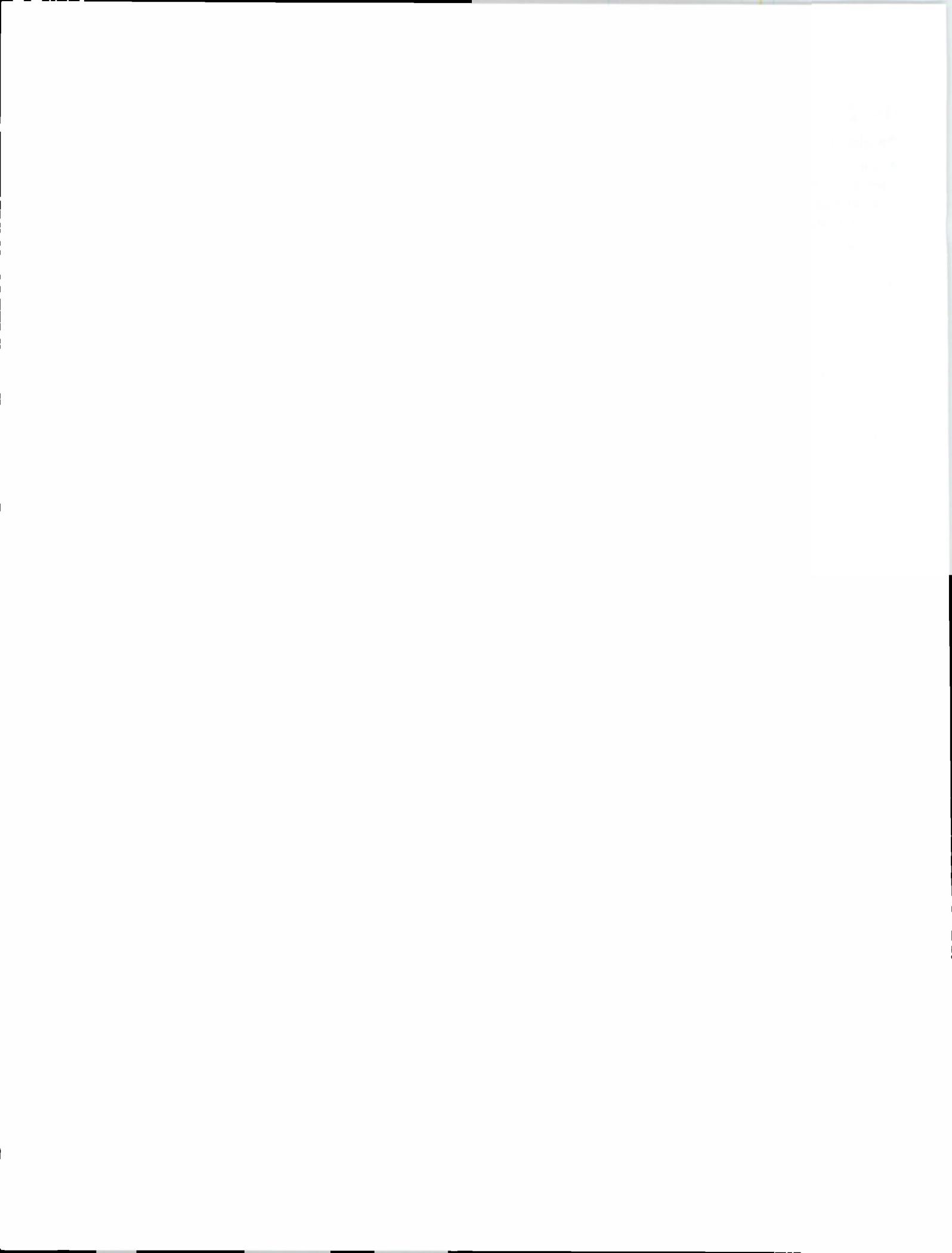
9-pin Remote Control Cable (10m)
Operation Manual
Maintenance Manual

Specifications

Dimensions (WHD): 275 x 216 x 85mm
(10 $\frac{4}{6}$ " x 8 $\frac{1}{2}$ " x 3 $\frac{1}{3}$ ") (approx.)
Weight: 6 lb. 8 oz. (3 kg.) (approx.)
Power Consumption: 7.5W max.



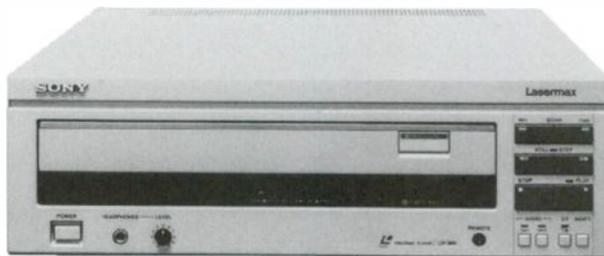
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Multimedia

Multimedia

LDP-2000	G-2
LDP-1550	G-3
LDP-1450	G-4
MDP-1150	G-5
VIW-5000A	G-6
PIX-100	G-8
SMI-3082	G-9
IVO-V11	G-10



LDP-2000

Videodisc Player

- Engineered for demanding professional applications and long-term reliability
- Automatic Optical Block Locking Mechanism
- Expandability—Plug-in boards allow upgrading the capabilities of your player
- High-Speed Access—CAV frame search is only 1.5 seconds or less
- The LDP-2000 offers extensive software control features including audio muting, video on/off, videodisc tray eject with enable/disable, memory search, picture stop code enable/disable, etc.
- External Computer Interface—An intelligent RS-232C serial communications port which receives commands from virtually any kind of computer and returns status information to the CPU
- Automatic Front-Load Mechanism

Supplied Accessories:

75Ω Coaxial Cable (F-type connector to F-type connector)
Operating Instructions Manual

Optional Accessories:

RM-2001 Remote Commander®
RMM-201B Rack Mount Kit
LDM-2000 Interface Manual
LDM-G1000 Interface Manual
SMF-3036C Null Modem Cable
SCK-2036 Null Modem Cable
SMF-503C Null Modem Cable
SMF-0033 IEEE-48 Cable
DB-2010 Plug-in Board
DB-2020 Plug-in Board
DB-2040 Plug-in Board
DB-2050 Plug-in Board
DB-2060 Plug-in Board
LDP-232A Cables
LDP-488A Cables

Specifications

Playback System

Videodisc Format: Laservision
Videodisc Size: 8" and 12"
Pick-up Method: Laser beam (reflective)
Laser Type: Semiconductor laser diode
Laser Output: .7 mW max.
Maximum Playing Time: CAV: 30 min./side
CLV: 60 min./side
Spindle Revolution: CAV: 1800 RPM
CLV: 1800-600 RPM
Access Time: CAV: 1.5 sec. max.
CLV: 36.0 sec. max.

Video Section

Signal: EIA standard, NTSC color
External Inputs: Ext. sync (BNC), 4V ± 1.0Vp-p, 75Ω unbalanced
Outputs: Video Out (BNC) = 1.0Vp-p, 75Ω unbalanced, negative polarity sync
VHF Out (F-type): channel 3 or 4 selectable, 75Ω unbalanced
Resolution: 360 lines
Signal-to-Noise: 42 dB

Audio Section

Outputs: 0 dBV (1 kHz, 100% modulation, 47 kΩ terminated) unbalanced
Headphone: 8Ω, -21 dB max.
Signal-to-Noise Ratio: CX On: 67 dB
CX Off: 55 dB
Frequency Response: 20 Hz-20 kHz ±2 dB

External Computer Interface

Interface Type: RS-232C (Female, 25-pin, D-shell connector)

Baud Rates: 1200, 2400, 4800 and 9600 selectable

Operating Environment

Operating Temperature: 5°C to 35°C
41°F to 95°F
Operating Humidity: 25%-80% non-condensing
Storage Temperature: -20°C to 60°C
-4°F to 140°F

General

Power Requirements: 120V AC, 60 Hz
AC Outlet: Unswitched, max. 300W
Power Consumption: 75W max.
Dimensions (WHD): 424 x 132 x 448mm (approx.)
Weight: 29 lbs. 9 oz. (13.4 kg.)

LDP-1550

VideoDisc Player

- RS-232C interface for connection to external computers
- Multiple track jump function
- Quick random access within 2 seconds (CAV mode)
- Adopts the CX™ noise reduction system for high fidelity sound reproduction
- Auto repeat function
- Wired/wireless remote operation via the RM-2001 optional Remote Control Unit
- Can be synchronized with external sync signals using the optional DB-1550 Synch Lock/Generator board
- 19-inch standard rack mountable with the optional rack mount kit RMM-201B

Supplied Accessory:

Operation Manual

Optional Accessories:

DB-1550 Synch Lock/Generator Board

LDM-1550 Interface Manual

RM-2001 Remote Control Unit

RMM-201B Rack Mount Kit

Specifications

General

Disk Format: LaserVision
 Pickup Method: Laser beam (reflective)
 Laser: Semiconductor diode laser ($\lambda = 7800\text{\AA}$)
 Maximum Playing Time: 300mm (12") standard play disc CAV (Constant Angular Velocity): 36 min./side
 300mm (12") extended play disc CLV (Constant Linear Velocity): 60 min./side
 Spindle Revolution: CAV: 1800 rpm
 CLV: 1800 rpm (inner circumference to 600 rpm (outer circumference)
 Access Time: CAV: 2 sec. or less by frame number search, 10 sec. or less by chapter number search
 CLV: 10 sec. or less by chapter number search
 Disc Size: 300mm (12"), 200mm (8")
 Ext. Communication Port: RS-232C (D-sub 25-pin female)
 Baud rate: 1200/2400/4800/9600 (selectable)
 Power Requirements: AC-120V, 60 Hz
 Power Consumption: 39W
 Dimensions (WHD): 424 x 116 x 405mm (16 $\frac{3}{4}$ " x 4 $\frac{5}{8}$ " x 16")
 Weight: 23 lb. 9 oz. (10.7 kg.)



Video

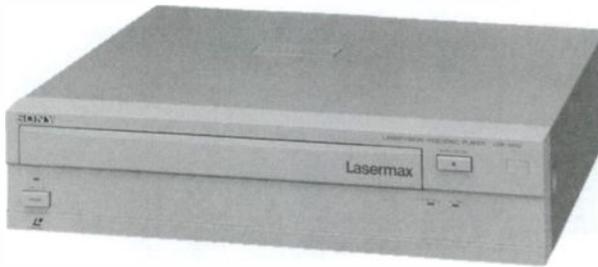
Signal: EIA standard, NTSC color
 Output: Composite: 1Vp-p, 75 Ω sync negative (BNC, TV 8-pin connector)

Horizontal Resolution: 400 TV lines

Audio

Output: Line Out: 0 dBV (1 kHz 100% modulation 47 k Ω terminated), unbalanced (Phono x 2, TV 8-pin connector)
 Headphone Out: -20 dBV (Variable resistance) max. 8 Ω (Phono)

Frequency Response: 40 Hz-20 kHz
 Signal-to-noise Ratio: 70 dB (CX on), 56 dB (CX off)



LDP-1450

VideoDisc Player

■ RS-232C interface for connection to external computers ■ Quick random access within 2 seconds (CAV mode) ■ Character superimpose capability ■ Adopts the CX™ noise reduction system for high fidelity sound reproduction ■ Wired/wireless remote operation via the RM-2001 optional Remote Control Unit ■ 19-inch standard rack mountable with the optional rack mount kit RMM-121

Supplied Accessories:

Operation Manual

Optional Accessories:

LDM-G1000 Interface Manual

RM-2001 Remote Control Unit

RM-9000PR Programmable Remote Controller

RMM-121 Rack Mount Kit

SMF-3036C Null Modem Cable

SCK-2036 Null Modem Cable

SMF-V503 Null Modem Cable

LDW-503 Voyager Video Stack™ for Sony

Specifications

General

Disc Format:	LaserVision
Pickup Method:	Laser beam (reflective)
Laser:	Semiconductor diode laser ($\lambda = 7800 \text{ \AA}$)
Maximum Playing Time:	300mm (12") standard play disc CAV: 36 min./side 300mm (12") extended play disc CLV: 60 min./side
Spindle Revolution:	CAV: 1800 rpm CLV: 1800 rpm (inner circumference) to 600 rpm (outer circumference)
Access Time:	CAV: 2 sec. or less by frame number search, 10 sec. or less by chapter number search CLV: 10 sec. or less by chapter number search
Disc Size:	300mm (12"), 200mm (8")
Ext. Communication Port:	RS-232C (D-sub 25-pin female) Baud Rate: 1200/2400/4800/9600 (selectable)
Power Requirements:	AC-120V, 60 Hz
Power Consumption:	38W
Dimensions (WHD):	430 x 100 x 410mm (17" x 4" x 16 1/4")
Weight:	21 lb. 6 oz. (9.7 kg.)

Video

Signal:	EIA standard, NTSC color
Output:	Composite: 1Vp-p, 75 Ω , sync negative (BNC)
Horizontal Resolution:	400 TV lines

Audio

Output:	Line Out: -3.7 dBV (1 kHz 100% modulation 47 k Ω terminated), unbalanced (Phono x 2) Headphone Out: -20 dBV (Variable resistance max. 8 Ω) (Phono)
Frequency Response:	40 Hz - 20 kHz
Signal-to-Noise Ratio:	70 dB (CX on), 56 dB (CX off)

MDP-1150

Multi Disc Player™

- Universal playback of 12 inch and 8 inch videodiscs, 5 inch CDV discs, 5 inch and 3 inch digital CD audio discs
- Computer Connection (RS-232C) compatible with the Sony LDP series offers control of both videodisc and CD audio disc functions
- Bar code control compatible with LaserBarcode, LaserBarcode2 and Bar Code CD systems
- Dual scan mode shuttle for easy operation
- Front Panel Display
- Simple level—1 extended control with the included Wireless Remote Commander™ remote control
- Remote/Local switch allows level—1 control even while the player is connected to a computer
- Surround Sound for enhanced theater-like sound quality
- S-Video output terminal for improved picture quality
- Unique Clear Scan™ or CLV laser discs
- Programmable playback of up to 20 chapters or tracks
- RF adaptor included for easy connection to any television set
- 8x Oversampling digital filter
- Playback of either digital or analog videodisc audio tracks

Supplied Accessories:

RMT-1050 Remote Commander™
 Size AA Batteries
 RFU Adaptor
 Video Connecting Cord (Phono Male-Phono Male)
 Audio Connecting Cord (Phono Male-Phono Male)
 SMF-503C Computer Control Cable for Apple Macintosh® Computers
 Interface Manual
 Operating Instruction Manual
 Bar Magic BarCode Print Program Sample Disk

Optional Accessories:

YC-15V S-video Connection Cable
 EAC-57 BNC Plug to Phonojack Adapter
 LBS-1150 Laser BarCode Scanner
 RMB-1150 Infrared BarCode Controller
 SMF-5036 Cable Kit, NULL Modem Cable, 25 MF at AT 9-25 Pin Adapter

Specifications

Playback System

Disc Size and
 Playing Time: LD CAV 12" 30 min./side
 CAV 8" 14 min./side
 CLV 12" 60 min./side
 CLV 8" 20 min./side
 CD 5" 74 min.
 3" 20 min.
 CDV Audio 20 min.
 Video 5 min.

Videodisc Format: LaserVision
 Pick-up Method: Laser beam (reflective)
 Laser Type: Semiconductor laser diode

Spindle Revolution
 for LD: CAV: 1800 RPM
 CLV: 1800 RPM to 600 RPM

Access Time
 for LD: CAV: 6 sec. typical
 CLV: 9 sec. typical

Video Section

Signal: EIA standard, NTSC color
 Outputs: Video out (phono type)—1.0Vp-p, 75Ω
 unbalanced, negative polarity sync S Video Out
 VHF Out (F-type)-channel 3 or 4 selectable, 75Ω
 unbalanced (through the supplied RF unit)

Resolution: 425 lines
 Signal-to-Noise Ratio: 49 dB



Audio Section

Outputs: Analog 200 mV ms (1 kHz, 40% modulation, 47 kΩ terminated) unbalanced
 Digital 200 mV rms (1 kHz, -20 dB)

Headphone: 28 mW (at 32Ω)

Signal-to-noise Ratio: Analog 50 dB
 Digital 108 dB

Frequency Response: Analog 20 Hz to 20 kHz ±3.0 dB
 Digital 4 Hz to 20 kHz ±0.5 dB

External Computer Interface: RS-232C
 DB-25 female connector

Laser BarCode Interface: Front panel Connector Infrared with optional RMB-1150

Operating Environment

Operating Temperature: 5°C to 35°C
 41°F-95°F

Operating Humidity: 5%-90% non-condensing

Storage Temperature: -20°C to 60°C
 -4°F to 140°F

General

Power Requirements: 120V AC, 60 Hz
 Power Consumption: 39W
 Dimensions (WHD): 430 x 115 x 420mm
 17" x 4½" x 16½"

Weight: 19 lbs., 6 oz. (8.8 kg.)



VIW-5000A

Low-Cost Interactive Delivery System

- Designed as a low-cost integrated delivery system workstation with advanced features and performance
- Its low profile, small-footprint one-piece configuration saves valuable work space and simplifies setup, installation and transportation.
- Offers compatibility with industry standard graphics, software, hardware and courseware practices
- Features non-interlaced, flicker-free display, rapid access of 2.0 seconds or less, and overlay in VGA and Super VGA graphic modes.
- The addition of SMI-3086/5061 Light Pen support gives the View System a new value for applications where a light pen may prove to be more desirable
- The ability to run most IBM® InfoWindow™ courseware provides a large library of ready-to-run courseware solutions
- A single-vendor integrated system offering component compatibility, simplified interconnection, compact design and Sony high performance

Optional Accessories:

SMW-3062 VDI (Virtual Device Interface) Software Package
SMW-3061C Developer's Tool kit. C language function library for VIW-5000A VGA-based VIEW System workstations.

Specifications

System Controller

CPU: Intel 80286
Clock Frequency: 8 MHz/10 MHz (keyboard switchable)
Main Memory: 640K
Standard Graphics Memory: 256K-(max. resolution: 640 x 480, 16 colors) can be increased with SMI-5051 graphics memory option.
BIOS ROM: 128K Phoenix BIOS ROM Version 3.10
DMA: 7 channel programmable DMA
Channel 2 used by floppy disk interface
Expansion Slots: Two 16-bit, full length PC-AT compatible expansion slots

Display

Graphics Output: Superimposed VGA graphics over video from videodisc player
RGB Video Output: RGB analog signal, 0.7Vp-p, 75Ω
Sync Signal: Horizontal: 31.5 kHz
Vertical: 60 Hz when displaying any VGA graphics superimposed over video
60 Hz when displaying VGA modes 11, 12 and 5F without superimpose
70 Hz in standard VGA modes except for 11, 12, and 5F

I/O Interface

Keyboard: 5-pin DIN jack, TTL level, serial interface
RS-232C: 9-pin connector, programmable to 9600 baud asynchronous serial communication, COM1
Printer: 25-pin connector, TTL level, 8-bit parallel interface, LPT1
Real Time Clock: DS-1287 with battery backup (5 year life)
Floppy Disk: Built-in controller on motherboard to support 3.5" micro floppy disk. Floppy disk drive supports both 1.44 MB (2HD) and 720K (2DD) diskettes
Hard Disk Drive: Built-in hard disk drive controller on motherboard with AT task File Interface
Videodisc Drive: Internal audio/video connections, system controller to videodisc communications are connected internally as COM2

Specifications—continued

Videodisc Drive

Disc Format:	Laservision
Pick-up Method:	Laser beam (reflective)
Laser Type:	Diode laser (lambda = 7800 Angstroms)
Emission Duration:	Continuous
Laser Output:	0.4 mW measured at 1.6mm from the objective lens surface on optical pick-up block
Videodisc Size:	12" and 8"
Max. Playing Time:	CAV: 30 min./side CLV: 60 min./side
Spindle Speed:	CAV: 1800 RPM CLV: 1800 to 600 RPM
Random Access Speed:	CAV: 2.0 sec. from frame 1 to 54000 10 sec. (by chapter search) CLV: 10 sec.

Audio

Output:	RCA jacks, line level, right and left channel, -1.5 dB (1 kHz, 100% MOD, load impedance 47 kΩ) Headphone jack, switching type and speaker Output level of headphone, RCA jacks, and speaker are controlled by volume control on front panel
Signal to Noise Ratio:	CX ON: 70 dB and more CX OFF: 56 dB and more
Audio Frequency Response:	40 Hz–20 kHz

General

Power Requirement:	120 VAC + 10%, 60 Hz
Power Consumption:	5.0A max. (VIW-5000: 2A + Aux outlet 3A)
Operating Temperature:	5°C to 35°C (41°F to 95°F)
Operating Humidity:	25%–80% (at 25°C/77°F)
Storage Temperature:	-20°C to 60°C (-4°F to 140°F)
Dimensions (WHD):	430 x 190 x 410mm (approx.) 16 ¹⁵ / ₁₆ " x 7.5" x 16 ¹ / ₈ " (approx.)
Weight:	37 lbs. (17 kg.) (approx.)

Software Required

SMW-5001C:	VIEW/VGA Operating System Package including MS-DOS 3.3 and VGA control program software VVCP version 1.35 providing IBM InfoWindow System Emulation
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Optional Peripherals

Hard Drives

SCK-5015APAC:	Hard Disk Drive Kit 42.6 MB (formatted) hard drive. Auto parking heads on power off. Includes SMF-5090 Hard Disk Drive Mounting Kit Seek Time: < 19 ms (avg.)
SCK-5020BPAC:	Hard Disk Drive Kit 100 MB (formatted) hard drive. Auto parking heads on power off. Includes SMF-5090 Hard Disk Drive Mounting Kit and EV-5000/01 EPROM Upgrade Seek Time: < 19 ms (avg.)

Expansion Cards

SMI-5051:	VGA Graphics RAM Expansion
SMI-5050:	2 MB Memory Upgrade Provides extended and/or LIM 4.0 extended memory
SMI-3031:	Dual RS-232C Board

Input Devices

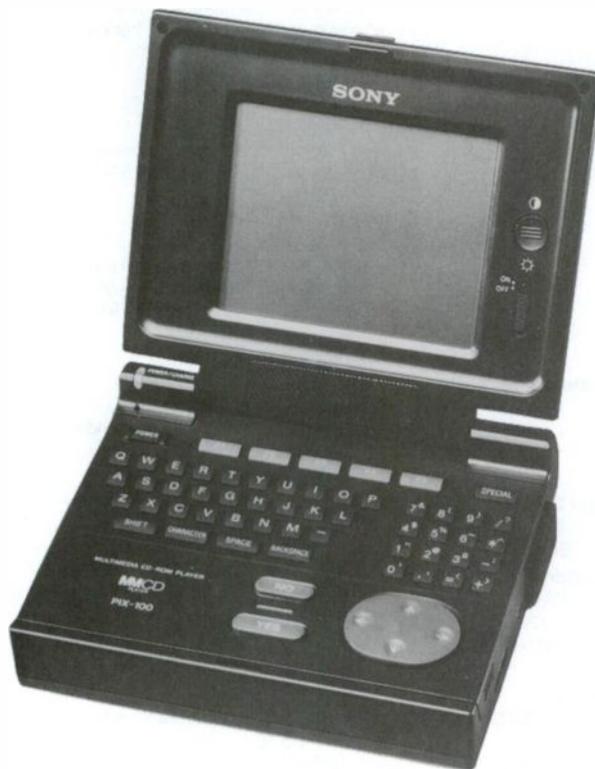
SMI-3062:	Mouse
SMI-3086/5061:	Light Pen and Interface Card

Monitors

CPD-1302AW2:	13" Multiscan™ Monitor
GVM-1311Q:	13" Multiscan video/computer monitor
GVM-1316TSQ:	13" Multiscan video/computer Touch Screen Monitor

Cables

CTG-PS11:	Analog RGB Cable for VGA graphics Male 15-pin to male 9-pin DSUB
SMF-3031:	Standard RS-232C serial communications cable for touch screen monitors. 25-pin male to 9-pin female



PIX-100

Multimedia CD-ROM Player

- Portable personal information product for general reference, business, education, entertainment, and personal productivity
- Plays multimedia CD-ROM player software and audio CDs
- Integrates playback of text, graphics and animation with CD quality sound
- Provides instant access to information
- Allows for high level of user interaction with information
- User's guide CD-ROM disc includes player demonstration, tutorial, and interactive electronic instruction manual
- Each Multimedia CD-ROM disc stores 600MB of information; Up to 300,000 pages of text, 39,000 graphic images, or 16 hours of audio
- High resolution blacklit 5 inch screen
- 256-Color video output
- Stereo audio output
- Built-in monaural speaker
- Screen displays 25 lines x 40 characters of text or 320 x 200 pixel graphics
- Easy to use typewriter-style keyboard
- Supplied rechargeable battery
- Programmable power-off timer
- Three-way power operation
- Scratchpad memory
- Character key language setting
- Slim compact design

Supplied Accessories:

- AC Adaptor/Battery Charger
- NP-55H Rechargeable Battery
- Player Demonstration, Tutorial, and Instruction Manual
- CD-ROM Disc
- Battery Attachment Stand
- Rechargeable Battery Pack
- AC Power Adaptor/Battery Charger
- Battery Attachment Stand (not shown)

Optional Accessories:

- NP-77H Rechargeable Battery
- DCC-E190L Car Battery Cord*
- MDR-E565 Headphones

*Use with car battery cord, will not recharge battery (NP-77H, NP-55H)

Specifications

CPU

- Processor: V20HLM™ (C-MOS software compatible with 8088 CPU)
- Clock Frequency: 9.55 MHz

Memory

- System RAM: 1 Mbyte
- Video RAM: 64 kbyte
- EE-PROM: 256 bytes
- Main ROM: 512 kbytes, 3.22 operating system
- Keyboard: Qwerty, numeric function, yes/no cursor pad
- LCD: 320 x 200 pixels; 7 shades of gray, backlit with adjustable contrast
- Audio: Internal monaural speaker (L&R)
- CD-ROM Drive: Lead screw type drive; 12cm without caddy (8cm acceptable) CD-ROM XA Format (1 stereo channel ADPCM audio)

Laser Diode Properties

- Material: GaAlAs
- Wave Length: 780 nm
- Emission Duration: Continuous
- Laser Output: < 44.6 μ W (at 200 mm)

Outputs

- Video: NTSC composite (video out pin jack); Output Level: 1Vp-p
- Audio: Stereo mini-jack; Maximum output level 10 mW + 10 mW
- Serial Port: Asynchronous communications port accessible as COM1; Baud rate can be set to 110, 150, 200, 300, 600, 2400, 4800, and 9600 (supported applications required)

General

- Inputs: DC In
- Power Requirements: DC: NP-55H rechargeable battery
AC: 120V, 60 Hz (supplied AC adaptor required)
- Power Consumption: 6W (approx.)
- Battery Life: Up to 2 hrs. continuous play (depending on conditions)
- Operating Conditions: Temperature: 5°C to 35°C (41°F to 95°F)
- Dimensions (WHD): 180 x 148 x 48mm (7 $\frac{1}{8}$ " x 5 $\frac{7}{8}$ " x 1 $\frac{9}{16}$ " (approx.))
- Weight: 1.94 lbs. (870g) (approx.) without battery

SMI-3082

High Scan Superimposer

■ Upgrades IBM-PC/XT/AT computers to implement interactive video systems ■ Provides non-interlace, flicker-free VGA graphics superimposition ■ Compatible with CGA, EGA, VGA and advanced VGA

Supplied Accessories:

Operation Manual
Video Cable
Utility Disk (3.5 inch DD)
(5.25 inch 2HD)

Optional Accessories:

SMW-3060C Control Program Software
GVM-1315TS Touch Screen Monitor
SRS Series Speakers
SMW-3062 VDI Software Package
SMI-3086/SMI-5061 Light Pen and Interface

Specifications

Display System:

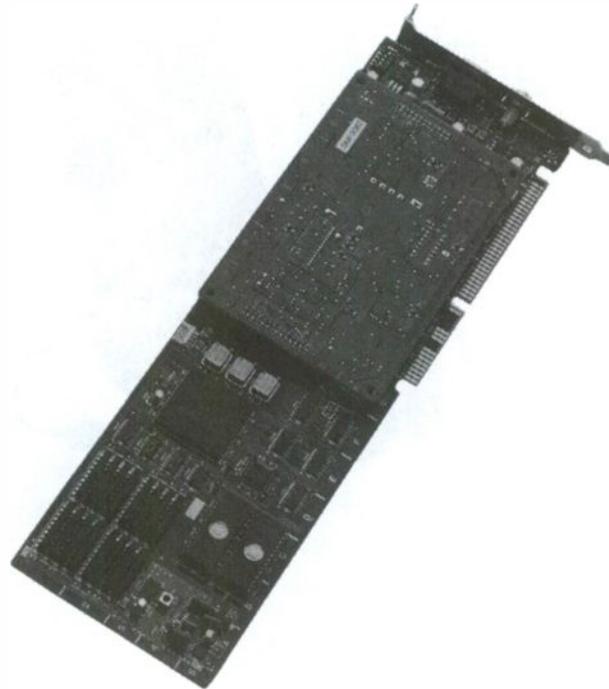
Maximum Resolution: 640 x 480 pixels/256 colors
Graphics Memory: 512 Kbyte

Connectors

Video Input: Phono Connector, 75 Ω terminated
Analogue RGB Output: High Density D-sub 15-pin

General:

Dimensions (WHD): 339 x 107 x 22mm
(13 $\frac{1}{8}$ " x 4 $\frac{1}{4}$ " x $\frac{7}{8}$ ")
Weight: 14 oz. (400 g.)





IVO-V11

Portable CD-I Viewer

■ CD-I represents an advanced multimedia application of the Compact Disc. In addition to audio, the CD-I disc can store text, graphics and high-quality color images. With a capacity of 600 MBytes, a single disc of 12 cm in diameter holds up to 16 hours of audio data, approximately 7,000 photographic quality pictures, or a whole copy of a 20-volume encyclopedia. The high capacity and multimedia capability of CD-I make it a powerful, high-leverage information tool, and at the same time, contribute greatly to cost and space savings. Aimed at the simplest possible operation. CD-I also provides a new way of information access. ■ Designed for business and industry applications, Sony's CD-I viewer is simple to operate, compact and battery operated for complete portability. This cost-effective powerful information delivery tool is ideally suited for a variety of applications including presentations, sales, service, and reference. The Sony IVO-V11 provides cost-effective multimedia information for more effective communication of your important message. ■ Worldwide compatibility ■ User-friendly operation ■ Exceptional data capacity (600 MBytes) ■ Versatile special effects (Fade In/Out, Dissolve, Overlay, Scroll, Animation, Wipe and Mosaic) ■ Complete portability (Operates on AC or Battery) ■ Operational simplicity, just 2 buttons and a cursor pad give random access to the information required ■ High Resolution Display (4" LCD Color Display which supports the multi-window system; The screen is backlit for easy viewing) ■ Flexible Audio/Video connection

Supplied Accessories:

IVA-M10 CD-I Mouse
AC-IV10 AC Power Adaptor
Lithium Battery

Optional Accessories:

LCH-V10 Carrying Case
NP-77HD Rechargeable Battery Pack
BC-S10 Battery Charger

Specifications

System

Applicable formats: Compact Disc digital audio
Compact Disc Interactive
Photo CD

Coding (D/A): 16 bits (44.1 kHz) linear and 8 bit (37.8 kHz)/
4 bits (37.8 kHz/18.9 kHz) non-linear

Display system: Transparent TN LCD panel

Drive system: TFT (thin-film transistor active matrix system)

No. of pixels: 112,086 (479 x 234)

Back illumination: Built-in FL tube

Signal system: EIA standard NTSC color (initial display non-interlaced)

Inputs/Outputs

Video: Phono jack (x1), 1 Vp-p, 75Ω unbalanced, sync negative (input/output switch selectable)

Audio: Phono jack (x2: L & R)

Input: -7.5 dBs, impedance more than 47 kΩ

Output: -1.6 dBs, impedance less than 10 kΩ (input/output switch selectable)

Control R: 8-pin mini DIN (x1)

Headphones: φ3.5mm stereo minijack (x1)

General

Power voltage: 7.5V/6V at battery input
(AC power adaptor or battery pack)

Power consumption: Approx. 9W

Speaker output: 200 mW

Operating temperature: 5°C to 35°C (41°F to 95°F)

Dimensions (WHD): 139 x 63 x 193mm
(5.47" x 2.48" x 7.60")

Weight: 2.6 lb. (1.2 kg.) (approx.)

CD-I Recording Capacity and Quality

CD-I enables high-density recording of text, audio, graphics and image data with an easy-to-handle, space-saving 12 cm disc. CD-I is also compatible with various coding formats, giving the flexibility you need to create applications that precisely meet your needs.

Audio Data

Coding Method	Audio Frequency Band	Recording Hours	Sound Quality
PCM	Up to 20 kHz	1H (stereo)	Super Hi-Fi mode (Equivalent to CD)
ADPCM Level A	Up to 17 kHz	2H (stereo) 4H (mono)	Hi-Fi mode (Equivalent to LP)
ADPCM Level B	Up to 17 kHz	4H (stereo) 8H (mono)	Mid Hi-Fi mode (Equivalent to FM)
ADPCM Level C	Up to 8.5 kHz	8H (stereo) 16H (mono)	Speech mode (Equivalent to AM)

Image/Graphics Data

Coding Method	Display Capability	Recording Capacity (Approx.)	Picture Quality
Delta-YUV (DYUV)	260,000 colors	7,000	High-quality still video
RGB	32,768 colors	3,500	High-quality graphics
Color Lookup Table (CLUT)	256 colors	7,000	Computer graphics
Run Length Encoding	128 colors	7,000 ~ 35,000 (depends on picture pattern)	Animation

Text Data

Data Type	Recording Capacity	
Numerical and alphabetical letters	600 million letters	Equivalent to a whole copy of a 20-volume encyclopedia
Computer data	600 MBytes	

Production Systems

Digital Switchers

DVS-8000/8000C	H-2
DVS-6000/6000C	H-3
DVS-2000C	H-4

Analog Switchers

BVS-3200	H-5
BVS-3200C	H-6
BVS-3100	H-7
CRK-2000	H-8
SEG-2550A	H-9

Editors

BVE-9100	H-11
BVE-2000	H-13
BVE-600	H-14
RM-450	H-15
PVE-500	H-17

Digital Multi Effects Systems

DME-9000	H-18
DME-5000	H-19
DME-3000	H-20
DFS-500	H-21
DME-450	H-22

Routers

DVS-V1201	H-23
DVS-V1616	H-23
DVS-V3232	H-23
DVS-V6464	H-24
DVS-A1201	H-25
DVS-A3232	H-26
DVS-RS1616	H-27
DVS-TC3232	H-28
BKS-R1210/R1610/R3202/ R3203/R5000	H-28
BKS-R3204	H-29
BKS-R3205	H-29
BKS-R3206	H-30
BKS-R3280/R3281	H-30
BVS-V1201	H-31
BVS-A1201	H-31

Time Code Generator and Reader

BVG-1500	H-32
BVG-1600	H-32

Stillstore System

DNS-1000	H-33
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Digital Peripherals

DFX-1200	H-34
DFX-2100	H-34
DDU-2100	H-35
DFX-2400	H-35
BKDV-4224AD/ BKDV-4224DA	H-36
DAD-A2000	H-37
PFV-D50	H-38
PFV-D100	H-39
PFA-D100	H-40
BVX-100	H-40
BVX-D10	H-41
DMIF-1000	H-41
DTR-3000	H-42
BKDV-108	H-42

Digital Interfaces

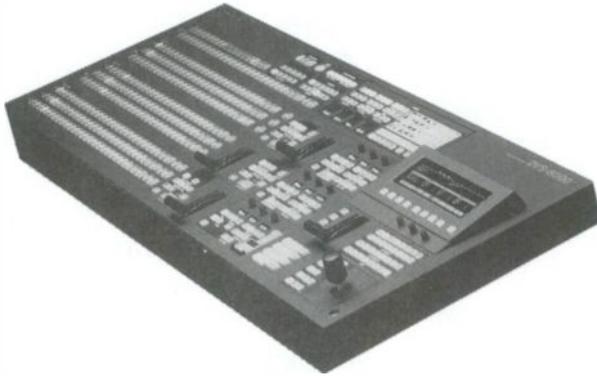
DAF-2000 System	H-43
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Select Systems for Post Production

Select™ Systems	H-44
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Select Systems for Duplication

Select™ Systems	H-45
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DVS-8000/8000C

Digital Video Switcher

■ DVS-8000 Composite Digital Video Switcher—Accepts serial composite digital video signals ■ DVS-8000C Component Digital Video Switcher—Accepts serial component digital video signals ■ Analog composite video input is available (DVS-8000 only) ■ A total of thirty-two Primary/External key inputs (except color black and two independent color backgrounds): DVS-8000 Serial composite digital video (standard)—8 ch ■ Analog composite or serial composite digital video (option)—24 ch ■ DVS-8000C Serial component digital video (standard)—32 ch ■ Twenty-four inputs are assigned as primary sources and eight for external key sources ■ Two M/E busses plus Program/Presets bus with mix/wipe/DSK capabilities ■ Two independent key processors with priority control for each M/E bus ■ Three types of mix/effects; Normal Mix, NAM (Non-Additive Mix), Super Mix ■ Digital wipe function (Diamond Dust, Polygon, Spring wipe, Multi pattern, Spiral modulation, etc) ■ Powerful key functions with Drop shadow, Drop Border, Outline, Border ■ Clean Chroma Key™ system for each M/E bus (option)—Component signals are used for both foreground and background—Digital component video for DVS-8000C and analog R/G/B or Y/R-Y/B-Y for DVS-8000 ■ Color wash for background colors ■ Snapshot memory ■ Keyframe memory (Up to 1000 key frames or 100 effects) ■ Status Report interface with the BVE-9100 ■ Keyframe link with the DME-5000/9000 ■ DME-5000 linked operation—DME Wipe, Squeazy Wipe

System configuration

DVS-8000 Composite digital switcher processor
DVS-8000C Component digital switcher processor
BKDS-8010 Control panel
BKDS-8020 Digital input board for DVS-8000 (8 ch)
BKDS-8021 Analog input board for DVS-8000 (8 ch)
BKDS-8030 Clean Chroma Key board for DVS-8000
BKDS-8031 Clean Chroma Key board for DVS-8000C
BKDS-8040 Frame memory board for DVS-8000
BKDS-8041 Frame memory board for DVS-8000C
BKDS-8050 Second 3½" floppy disk drive unit
BKDS-8090 Spare power supply unit

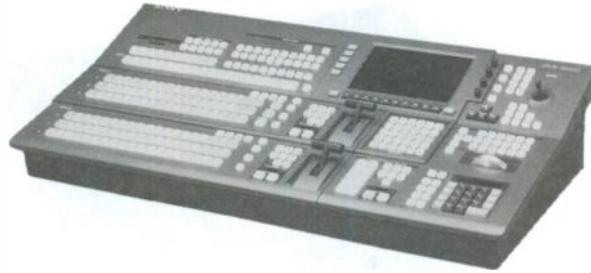
Specifications

Power Requirements: AC-100V–240V, 50/60 Hz (±10%)
Power Consumption: 300W
Dimensions (WHD):
Processor 424 x 443 x 450mm (16¾" x 17½" x 17¾")
Control Panel 1290 x 111 x 532mm (50⅞" x 4⅜" x 21")
Weight:
Processor 110 lb. 4 oz. (50 kg)
Control Panel 72 lb. 12 oz. (33 kg)

DVS-6000/6000C

Digital Video Switcher

- Module configuration ■ Control panel ■ Mix and wipe transition ■ Key effects ■ Alternative key functions
- Versatile chromakey functions ■ Clean Chromakey™ (DVS-6000/6000C) ■ RGB Chromakey (DVS-6000 only)
- Powerful effect memories ■ Keyframe effects—optionally available ■ Snapshot—stores all the panel settings
- Shotbox—permits ten memories each of snapshots and keyframes to be preset and recalled instantly
- Frame memories ■ Color background mix ■ System interface ■ Compact processor ■ Software upgrades readily implemented with a 3.5-inch floppy disc
- The DVS-6000C component switcher operates on either the 625-line or 525-line system, with DIP switch selection
- Automatic phase adjustment function for input video signals within a range of $\pm 0.4H$ ■ Spare power supply option for minimizing downtime in the event of a fault



Specifications

Video Inputs

	DVS-6000	DVS-6000C
Primary/External key:	Serial composite digital (option) or analog composite 32ch	Serial component digital (option) 32ch available
Clean chromakey:	Analog G/B/R/SYNC or Y/R-Y/B-Y/SYNC (foreground/background) 2ch	Any primary input
External ref.:	Analog black burst	Analog sync or black burst

Video Outputs

	DVS-6000	DVS-6000C
Program:	Serial composite digital (option) or analog composite (option) 4ch	Serial component digital (option) 4ch
M/E Program:	Serial composite digital (option) or analog composite (option) 1ch per M/E	Serial component digital (option) 1ch per M/R
Edit preview:	Serial composite digital (option) or analog composite (option) 3ch	Serial component digital (option) or analog component (option) 3ch
Assign:	Serial composite digital (option) or analog composite (option) 2ch	Serial component digital (option) 2ch
Auxiliary Bus:	Serial composite digital (option) or analog composite (option) 6ch	Serial component digital (option) 6ch
Reference:	Analog black burst (option) 1ch	Analog sync or black burst (option) 1ch

System Interface

	DVS-6000	DVS-6000C
Control Panel/processor:	D-sub 9-pin x2, RS-422A	
Editor:	D-sub 9-pin, RS-422A	
Aux Bus Control:	D-sub 9-pin, RS-422A	
Tally:	D-sub 9-pin, RS-422A	
User:	D-sub 9-pin, RS-422A	
Terminal:	D-sub 25-pin, RS-232C	
GPI:	D-sub 25-pin, inputs 8ch/outputs 7ch programmable	
EXT:	Amphenol 50-pin	

General

Power requirements:	AC-100V to 240V, 50 HZ/60 Hz $\pm 10\%$	
Power consumption:	Processor: 4.5A at 100V, 2.5A at 200V	Processor: 5.7A at 100V, 3.2A at 200V
	Control panel: 1A at 100V, 0.5A at 200V	Control panel: 1A at 100V, 0.5A at 200V
Dimensions (WHD):	Processor: 424 x 443 x 450mm (16 $\frac{3}{4}$ " x 17 $\frac{1}{2}$ " x 17 $\frac{3}{4}$ ") (approx.)	
	Control panel: 950 x 184 x 486mm (37 $\frac{1}{2}$ " x 7 $\frac{1}{4}$ " x 19 $\frac{1}{4}$ ") (approx.)	
Weight:	Processor: 110 lb 4 oz (50 kg)	
	Control panel: 44 lb 1 oz (20 kg) (approx.)	



DVS-2000C

Digital Video Switcher

- Primary inputs
- Two keyers and a DSK
- Powerful key modifiers
- Dynamic priority control for the effect keyers
- Depth key processing
- High quality Chromakey
- Matte generators with color mix capability
- Newly designed control panel with integral LCD screen
- FlexiPad™
- Auxiliary Bus
- Assignable outputs
- Snapshot function
- Frame memories
- DME-WIPE
- Superior editor interface
- Compact processor
- 525/625 Switchable

Specifications

Dimensions

- Processor (WHD): 483 x 220 x 450mm (approx.)
(19¹/₈" x 8³/₄" x 17³/₄" (approx.)
- Control panel (WHD): 424 x 120 x 400cm (approx.)
(16³/₄" x 4³/₄" x 15³/₄" (approx.)
- Power consumption: 200W

BVS-3200

Composite Video Switcher

- BVS-3200 Composite Video Switcher—Accepts composite video signals
- Ten Primary inputs (including color black and color background)
- One M/E and two Key Busses/Processors (assignable)
- Key Over function
- Two common EXT Key sources and Fills available for both Keyers
- One EXT Key source and Fill available for DSK
- Ten basic and eight matrix wipe patterns with modifiers
- Fully adjustable internal Box Mask and EXT Mask inputs
- Four Color Matte Generators for Background, EFF/Border (Key 1 and Key 2), and DSK
- Chroma Keyer (RGB or Y/R-Y/B-Y selectable)
- DSK with Border, Drop Shadow, Outline-2H/4H selectable
- Fade to Black (FTB) function
- Auto Transition for M/E, DSK, and FTB
- RS-422 editor interface
- Communication of E-File™ and initial panel information with BVE-910/9100/9000
- DME-450/450P and DFS-500 interface
- Four Black Burst Outputs
- GPI Input port for M/E, DSK, FTB, and Select
- Two PGM Outputs and one PVW Output



Supplied Accessories:

- AC Power Cord
- Control Panel Cable (5m)
- Extension Board

Optional Accessories:

- SWC-2530D Control Panel Cable (30m)
- RMM-3000 Rack Mount Kit

Specifications

Power Requirements	AC-100V-240V ±, 50/60Hz ± 10%
Power Consumption:	140W
Operating Temperature:	0°C to 40°C (32°F to 104°F)
Storage Temperature:	-20°C to 60°C (-4°F to 140°F)
Dimensions (Approx.) (WHD):	
Control panel:	424 x 111 x 440mm 18 ³ / ₄ " x 3 ¹ / ₈ " x 17 ³ / ₈ "
Processor Unit:	424 x 132 x 350mm 16 ³ / ₄ " x 5 ¹ / ₄ " x 13 ⁷ / ₈ "
Weight (Approx.)	
Control Panel:	9 lb. 11 oz. (4.4 kg.)
Processor Unit:	28 lb. 11 oz. (13 kg.)



BVS-3200C

Component Video Switcher

■ BVS-3200C Component Video Switcher; Accepts composite or a combination of RGB, Y/R-Y/B-Y component signals; 12-pin Component Video Connector Inputs/Outputs for Betacam® VTRs are provided ■ Ten Primary inputs (including color black and color background) ■ One M/E and two Key Busses/Processors (assignable) ■ Key Over function ■ Two common EXT Key sources and Fills available for both Keyers ■ One EXT Key source and Fill available for DSK ■ Ten basic and eight matrix wipe patterns with modifiers ■ Fully adjustable internal Box Mask and EXT Mask inputs ■ Four Color Matte Generators for Background, EFF/Border (Key 1 and Key 2), and DSK ■ Chroma Keyer (RGB or Y/R-Y/B-Y selectable) ■ DSK with Border, Drop Shadow, Outline-2H/4H selectable ■ Fade to Black (FTB) function ■ Auto Transition for M/E, DSK, and FTB ■ RS-422 editor interface ■ Communication of E-File™ and initial panel information with BVE-910/9100/9000 ■ DME-450/450P and DFS-500 interface ■ Four Black Burst Outputs ■ GPI Input port for M/E, DSK, FTB, and SELECT ■ Four PGM Outputs and one PVW Output

Supplied Accessories:

AC Power Cord
Control Panel Cable (5m)
Extension Board

Optional Accessories:

SWC-2530D Control Panel Cable (30m)
RMM-3000 Rack Mount Kit

Specifications

Power Requirements: AC-100V-240V ± 10%, 50/60 Hz, ± 10%
Power Consumption: 180W
Operating Temperature: 0°C to 40°C (32°F to 104°F)
Storage Temperature: -20°C to 60°C (-4°F to 140°F)
Dimensions (WHD):
Control Panel: 424 x 111 x 440mm
(16³/₄" x 3¹/₈" x 17³/₈")
Processor Unit: 424 x 176 x 450mm
(16³/₄" x 7" x 17³/₄")
Weight:
Control Panel: 9 lb. 11 oz. (4.4 kg.) (approx.)
Processor Unit: 39 lb. 11 oz. (18 kg.) (approx.)

BVS-3100

Composite Video Switcher

- Ten Primary inputs (including color black and color background)
- One M/E and one Key Bus
- Two Ext Key sources and Fills available for Keyer
- One Ext Key source and Fill available for DSK
- Ten basic and eight matrix wipe patterns with modifiers
- Fully adjustable internal Box Mask and Ext Mask inputs
- Three Color Matte Generators for Background, EFF/Border and DSK
- Chroma Keyer (RGB or Y/R-Y/B-Y selectable)
- DSK with Border, Drop Shadow, Outline (2H/4H) selectable
- Fade to Black (FTB) function
- Auto Transition for M/E, DSK, and FTB
- RS-422 editor interface
- Communication of E-File™ and initial panel information with BVE-910/9000/9100 and DFS-500 interface
- DME-450/450P interface
- Four Black Burst Outputs
- GPI input port for M/E, DSK, FTB, and Select
- Two PGM Outputs and one PVW Output



Supplied Accessories:

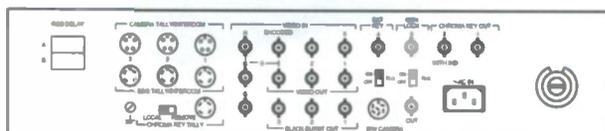
- AC Power Cord
- Control Panel Cable (5m)
- Extension Board
- Operation and Maintenance Manual

Optional Accessories:

- SWC-2530D Control Panel Cable (30m)
- RMM-3000 Rack Mount Kit

Specifications

- Power Requirements: AC-100V-240V $\pm 10\%$, 50/60 Hz $\pm 10\%$
- Power Consumption: 125W
- Operating Temperature: 0°C to 40°C (32°F to 104°F)
- Storage Temperature: -20°C to 60°C (-4°F to 140°F)
- Dimensions (WHD): Control Panel: 424 x 111 x 440mm
(16 $\frac{3}{4}$ " x 4 $\frac{3}{8}$ " x 17 $\frac{3}{8}$ " (approx.))
- Processor Unit: 424 x 132 x 350mm
(16 $\frac{3}{4}$ " x 5 $\frac{1}{4}$ " x 13 $\frac{7}{8}$ " (approx.))
- Weight: Control Panel: 9 lb. 11 oz. (4.4 kg.)
- Processor Unit: 28 lb. 11 oz. (13 kg.)



CRK-2000

Universal Chroma Keyer

■ The CRK-2000 is a universal Chroma Keyer which has both RGB and encoded Chroma Key functions. The CRK-2000 is provided with effect amplifier, background color generator, sync generator, external key input for telop, SC/H phase indicator for Genlock. The CRK-2000 works as a switcher (3-input) without an external SEG and as a chroma keyer. Also, in combination with SEG-2000, SEG-2000A, SEG-2550/2550A and WEX-2000, more artistic special effects operations can be performed

- RGB/LINE input (Video 1 and 2, RGB)
- Hard/Natural mode
- Background color generator
- Sync generator
- SC/H phase indicator
- Can be mounted into a 19-inch EIA standard rack

Supplied Accessories:

AC Power Cord
Chroma Key Cloth (Blue)

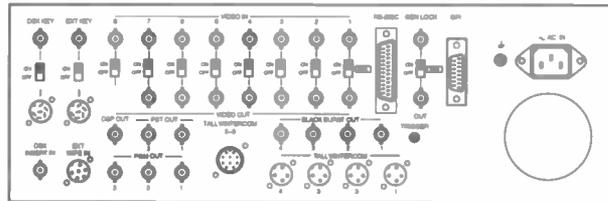
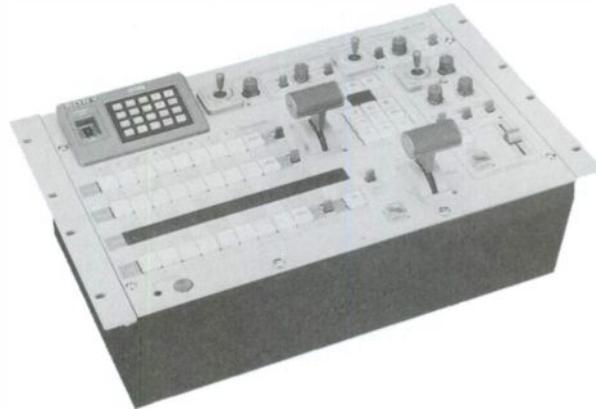
Specifications

Power Requirements: AC-120V, 50/60 Hz
 Power Consumption: 29W
 Operating Temperature: 0°C to 40°C (32°F to 104°F)
 Dimensions (WHD): 482 x 88 x 300mm
 (19" x 3 1/2" x 11 7/8") (approx.)
 Weight: 15 lb. 7oz. (7 kg.) (approx.)
 Color System: NTSC
 Video Input: VBS 1.0Vp-p, 75Ω
 RGB Input: V1.0Vp-p, 75Ω
 External Key: Video Input 1.0Vp-p or 0.714Vp-p, 75Ω
 Gen-Lock Input: Sync 0.3Vp-p, Burst 0.286Vp-p
 Video Outputs: VBS 1.0Vp-p, 75Ω
 Video Output DP: 1.5°
 Video Output DG: 1.5%
 Video Output
 Frequency Response: 5 MHz ± 1 dB
 Chroma Key Outputs: VBS 1.0Vp-p, 75Ω
 Chroma Key Output DP: 2.5°
 Chroma Key Output DG: 2.5%
 Chroma Key Output
 Frequency Response: 5 MHz ± 1 dB
 Black Burst Outputs: Sync 0.286Vp-p, Burst 0.286Vp-p
 Keying Bandwidth: RGB mode > 2.0 MHz
 LINE mode > 0.8 MHz

SEG-2550A

Color Special Effects Generator

- The SEG-2550A is a compact and cost effective special effects generator for program production and post production
- The E-File™ function, which memorizes and reproduces the setting of switches and buttons and the movement of the controls, levers and positioners, is adopted
- Interface capability with the BVE-900/910 automatic editing control unit and an external computer
- A total of 137 versatile wipe patterns
- Wipe pattern modifiers such as the positioner, the border wipe, softness border edge, echo/pairing wipe, and mosaic wipe are provided
- Perfect interface capability with the CRK-2000 universal chroma keyer and the WEX-2000 wipe pattern extender
- 8 video inputs and 4 bus lines (A, B, PGM and PST) for special effects (Mix, Wipe, and External Key)
- Built-in background color
- Built-in downstream keyer (DSK)
- Independent color generation for the DSK
- Shadow and edge adjustment for the key signal
- Built-in sync generator
- 4 black burst signal outputs for synchronization of video equipment
- SC and H phase indicators for easy phase adjustment
- 19-inch rack mountable
- Torque adjustment of the effects levers



Supplied Accessories:

- AC Power Cord
- Wipe Pattern List
- CCJ Connector for Tally/Intercom
- Designation Label
- D-sub (15-pin) Connector
- Transparent Designation Chips
- White Seal

Specifications

Power Requirements: AC-120V, 60 Hz
 Power Consumption: 82W
 Operating Temperature: 0°C to 40°C (32°F to 104°F)
 Dimensions (WHD): 481 x 155.5 x 310.4mm
 (19" x 6 1/8" x 12 1/4") (approx.)
 Weight: 31 lb. 15 oz. (14.5 kg.) (approx.)
 Color System: NTSC color
 Switching System: Vertical blanking switcher
 Effects: MIX
 Mixing by PGM/PST MIX lever and the EFF, lever
 WIPE
 137 wipe patterns (selectable)
 Wipe Edge: The softness is continuously variable
 Border: Hue, chroma, luminance and width are continuously variable
 Pairing: Scanning lines 2 lines/3 lines/4 lines (selectable)
 Echo: Possible
 EXT KEY
 Output signal (DIN, 6-pin): HD, VD, 4Vp-p, 75Ω, unbalanced
 Input signal (BNC type and DIN, 6-pin): 0.714Vp-p (video), 1Vp-p (VS), 75Ω, unbalanced with 75Ω termination switch

EXT KEY connector (BNC type and DIN, 6-pin):
 with 75Ω termination switch
 Slicer circuit is included (Clip level is variable)

DOWNSTREAM KEYER

Output signal (DIN, 6-pin): HD, VD, 4Vp-p, 75Ω, unbalanced
 Input signal (BNC type and DIN, 6-pin): 0.714Vp-p (video)
 1Vp-p (VS), 75Ω, unbalanced
 DSK KEY connector: (BNC type and DIN, 6-pin) with 75Ω termination switch
 Shadow: Wide and narrow (selectable)
 Edge: Variable
 Color matte: Continuously variable
 Chroma: 0mVp-p to 700mVp-p (approx.) (variable according to the hue level)
 Hue: 0° to 360°
 Luminance (Y): 50mV to 700mV (approx.) continuously variable

BACKGROUND COLOR

Chroma: 0mVp-p to 700mVp-p (approx.) (variable according to the hue level)
 Hue: 0° to 360°
 Luminance (Y): 50mV to 700mV continuously variable



Analog Switchers

Specifications (SEG-2550A, cont.)

Input Signal:	VIDEO IN: 1 to 8 connectors (BNC type) x 8 0.714Vp-p (VB) or 1Vp-p (VBS), 75Ω, unbalanced with 75Ω termination switches (The INDICATION selector does not function with the VB input signal)	Tally/Intercom:	TALLYINTERCOM: 1 to 4 connectors (DIN, 4-pin) x 4 TALLY/INTERCOM: 5 to 8 connectors (CCJ, 10-pin) x 1 Maximum pick-up value in a relay: 24V 200mA DC
	GENLOCK IN connector: (BNC type) x 1 0.286V/0.286Vp-p (BS) or 1Vp-p (VBS), with 75Ω termination switch	Trigger:	TRIGGER: (special minijack) x 1 TAKE function by earth (OPEN: +5V, impedance 65 kΩ)
	DSK INSERT IN connector: (BNC type) x 1 1Vp-p (VS)	GPI:	GPI (D-sub, 15-pin) x 1 TAKE function, PGM DSK Cut-in/out by earth (OPEN; ±5V, impedance 65 kΩ)
Output Signal:	EXT WIPE IN connector: (DIN, 6-pin) x 1	RS-232C:	9600 baud (fixed), DTE (terminal), Signal level ±9V
	VIDEO OUT: 1 to 8 connectors (BNC type) x 8 1Vp-p (VBS), 75Ω, unbalanced (loop-through output of the corresponding VIDEO IN connector)	DG:	< 1%
	PGM OUT: 1 to 3 connectors (BNC type) x 3 1Vp-p (VBS), 75Ω, unbalanced	DP:	< 1°
	PST OUT: 1 to 2 connectors (BNC type) x 2 1Vp-p (VBS), 75Ω, unbalanced	Crosstalk:	Over -50 dB
	GENLOCK OUT connector: (BNC type) x 1 (loop-through output of GENLOCK in connector)	Frequency Response:	8 MHz ± 0.5 dB
	DSP OUT connector: (BNC type) x 1 1Vp-p (VS), 75Ω, unbalanced	S/N Ratio:	Over -60 dB
	BLACK BURST OUT: 1 to 4 connectors (BNC type) x 4 0.286V/0.286Vp-p (BS), 75Ω, unbalanced		

BVE-9100

Editing Control System

- Fast CPU processing: 32 bit CPU running at 20 MHz
- Large memory capacity: Approx. 4.5 Mbytes
- Standard color display monitor interface
- Optional color corrector interface for BVX-D10
- Modular design: system expansion via a variety of optional BKE boards/units and BZE softwares
- Full system interface; Parallel or serial video switcher interface; Parallel or serial audio mixer interface; Direct DME interface; 14 VTR control (can assign up to 8 VTRs as recorders or 12 as players); 4 standard GPI ports and 32 optional GPI ports
- 2 standard RS-232C printer ports and 4 optional RS-232C ports
- Full list management
- Four channel audio control
- DMC/switcher/mixer/color corrector learn functions
- Two types of editing keyboards, Qwerty style and dedicated style
- 16 user programmable keys
- Keyboard reassignment function
- Action Track (enhanced timetrack operation) capability
- Sub keyboard with 30 x 3 assignable keys
- Character superimposing on picture monitor
- Self-diagnostics



BVE-9100 System Configuration

Model Name	Description
BVE-9100	Editing Control Unit (NTSC)
BKE-9000K1	BVE-9000 Expansion Kit
BKE-9002	4 x Intelligent Device Controller Interface
BKE-9003	4 x RS-232D Interface
BKE-9004A	2 x 9-pin Sony VTR (DMC learn) or 1 x Video Switcher (GVG® 100) Interface
BKE-9006A	2 x 9-pin Ampex VPR-3/6 Interface (Fixed Speed slow-motion)
BKE-9008	Kaleidoscope™ Interface
BKE-9009	DME (Sony DME-5000, 9000) Interface
BKE-9011	Video Switcher/Audio Mixer/Monitor Switcher Interface
BKE-9012	4 x 9-pin Sony VTR (DMC learn)
BKE-9013	4 x color Corrector (BVX-D10) Interface
BKE-9107	Hard Disk Unit
BKE-9400A*1	Editing Keyboard (Qwerty)
BKE-9401*2	Sub Keyboard
BKE-9410*1	Editing Keyboard (Dedicated)
BKE-9500	Dual 3.5" MFD
BKE-9510	8" Floppydisk Drive
BKE-9600	Intelligent Device Controller
BKE-9601	Time Code Generator/Reader
BKE-9602	Character Superimposer
BKE-9603	Expansion RAM Board (for serial switcher interface)

Model Name	Description
BKE-9604	Component Character Superimposer
BKE-9611	9-pin VTR Control/Character Superimposer Control ROM Kit
BKE-9632	Parallel Mixer Interface
BKE-9633	Monitor Switcher Interface
BKE-9651	General Purpose Interface Kit (16 ports)
BZE-9101	Basic Operating Program
BZE-9102	Advanced Operating Program
BZE-9601	Switcher Control Program (GVG 100/1680/300, Sony HDS-1000T)
BZE-9602	Switcher Control Program (GVG 200)
BZE-9603	Switcher Control Program (GVG Kadenza™)
BZE-9604	Switcher Control Program (Sony DVS-8000/BVS-3000 series)
BZE-9605	Switcher Control Program (Abekas A84™)
BZE-9606	Switcher Control Program (Ampex AVC VISTA™ series)
BZE-9611	Mixer Control Program (Sony VSP-8000, Graham-Patten GPS-600 series)

*1: 15-pin (30m) keyboard cable is supplied with the BKE-9400A and BKE-9410.

*2: 15-pin (1.2m) keyboard cable is supplied with the BKE-9410.



(BVE-9100, cont.)

Supplied Accessories:

3.5" Micro Floppydisk with Based Program
 System Disk x 2
 Extension Board
 AC Power Cord
 15-pin D-sub Connector (male)
 25-pin D-sub Connector (male)
 9-pin D-sub Connector (male)
 Rack Angle Set
 Plug Holder
 Indicator Label
 Operation and Maintenance Manual

Optional Accessories:

BVS-A1201 12 x 1 Analog Audio Preview Switcher
 BVS-V1201 12 x 1 Analog Video Preview Switcher
 EDLEXPRESS List Management and Translation Software
 OKIDATA TURBO 80 Column Serial/Parallel
 PLUS UPGRADE EdlExpress Software Upgrade

Specifications

Power Requirements: AC-100V-240V, 50/60 Hz (± 10%)
 Power Consumption: 60W (incl. 7 BKE boards)
 Operating Temperature: 5°C to 35°C (41°F to 95°F)
 Storage Temperature: -20°C to 60°C (-4°F to 140°F)
 Dimensions (WHD): 424 x 220 x 480mm
 (16³/₄" x 8³/₈" x 19") (approx.)
 Weight: 46 lb. 5 oz. (21 kg.) excl. optional boards
 (approx.)
 System: 32-bit microprocessor with 4 Mbytes DRAM and
 512 Kbytes SRAM
 Editing Reference: CTL, LTC and VITC (SMPTE/EBU time codes)
 Editing Accuracy: ± 0 frame in time code operation (normal play
 mode)
 EDL Memory Capacity: 6000 edits/lines

CPD-121	Data Display Unit (B/W)
CDP-1302AW	Data Display Unit (Color)
CTG-535L	Color Monitor Cable (30m)
RCC-5G/10G/30G	Remote Control Cable (5m, 10m, 30m)
CTG-535L	Swivel Tilt Stand for CPD-1302AW

BVE-2000

Editing Control Unit

■ **VTR Interface**—The BVE-2000 allows versatile machine control in various editing configurations and takes full advantage of the available Sony VTR functions

■ **VTR control** ■ **Dynamic Motion control** ■ **Recorder control/assignment** ■ **Four channel audio control** ■ **Color framing** ■ **Pre-read control** ■ **Time code source selection**

■ **Switcher Interface**—For sophisticated post production operations, interactive communication between the editing control unit and the switcher is essential. The BVE-2000 incorporates a powerful switcher interface capability for a wide range of switchers

■ **Basic controls**

■ **Independent DSK control** ■ **DFS-500 control** ■ **Initial panel settings** ■ **E-File™/Snapshot control** ■ **Monitor switcher control**

■ **Audio Interface**—Advanced audio device control for sophisticated audio/video production is featured in the BVE-2000

■ **Audio mixer interface**

■ **PCM-7000 series interface**

■ **Ease of operation**—During program production, the editing control unit is always at the heart of the system regardless of the system application. The BVE-2000 allows creative edit decisions to be made with its logical keyboard layout and advanced software

■ **Improved CRT display** ■ **Reel number settings**

■ **Programmable function keys** ■ **Advanced match frame edits**

■ **List Management**—In the actual video editing process, edit data is not merely a simple compilation of tape address information. The BVE-2000 provides facilities to store, review and modify the edit data for efficient editing

■ **List management function** ■ **998 event memory** ■ **Built-in floppy disk drive** ■ **Notes/Remarks** ■ **Other Interfaces;** Eight Standard GPI ports ■ Two Standard RS-232 interface



Supplied Accessories:

Maintenance Manual
User's Guide
Operational Manual
25-pin D-Sub Male
Rack Mount Screws
AC Power Cord

Optional Accessories:

BKE-2010 Editing Keyboard
BKE-2020 Expanded RS-422 I/F Board
BKE-2030 NTSC Color Framing Detector Board
BKE-2031 PAL Color Framing Detector Board
Peripherals:
CPD-121/CE BW Data Display Monitor
BVS-V1201 Video Monitor Switcher
BVS-A1201 Audio Monitor Switcher
BKE-9500 Editing Disk Unit

Specifications

Power Requirements: AC-100V to 240V $\pm 10\%$, 48 Hz to 64 Hz
Power Consumption: 28W max. including all BKE boards
Operating Temperature: 0°C to 35°C (32°F to 95°F)
Storage Temperature: -40°C to +60°C (-40°F to +140°F)
Weight: Card file unit 25 lb. 4 oz. (11kg.) (approx.)
Keyboard 5 lb. 1 oz. (2.3kg.) (approx.)

Dimensions (WHD): Card file unit 424 x 132 x 350mm (approx.)
(16 $\frac{3}{4}$ " x 5 $\frac{1}{4}$ " x 13 $\frac{7}{8}$ ")
Keyboard 424 x 65 x 258mm (approx.)
(16 $\frac{3}{4}$ " x 2 $\frac{5}{8}$ " x 10 $\frac{1}{4}$ ")

Video/Reference Signal: External sync input -0.2 to 5.0Vp-p
1.0 ± 0.2 Vp-p video signal, 75 Ω
Reference video input -0.1 ± 0.2 Vp-p,
75 Ω (when BKE-2030/1 fitted)
VDU output 1.0V ± 0.3 Vp-p, 75 Ω

Operation: Data and source controlled by keyboard with VDU of edit data and source status

Edit Reference: Control track signal, SMPTE/EBU LTC, VITC

Editing Accuracy: ± 0 frame with time code operation (normal play mode)

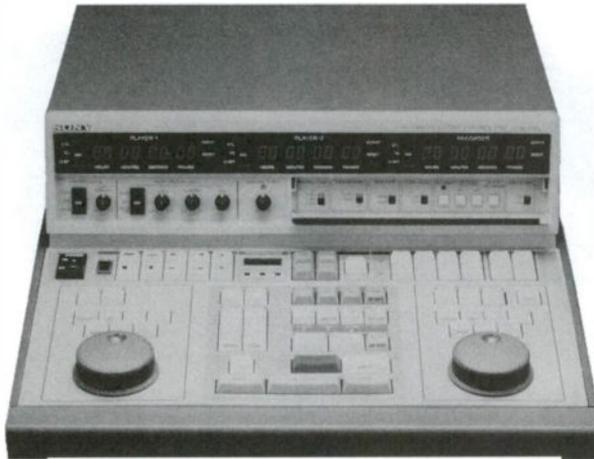
Edit List: 998 events

GPI: 8 ports, programmable pulse output

External Edit Control: RS-232C x 2, programmable BAUD rate and bit

VDU: 8 x 9 dot matrix, 80 characters x 29 lines





BVE-600

Editing Control Unit

■ Plug-in optional switcher boards enable simple A/B roll editing without an external switcher: Cut, Dissolve, Wipe (ten wipe patterns), and Title superimpose (B/W); Either composite or component switcher board selectable; Various edit data can be superimposed onto the main monitor; Background, color bar, and black signals can be generated ■ Up to three VTRs (one recorder and two players) can be controlled in an A/B roll edit ■ The two search dial operation enabling quick and easy access to edit points ■ Audio mixer interface for VSP-A600 or MXP-290 ■ VITC/LTC/CTL editing ■ Two GPI ports (T1, T2 pulses) ■ Dynamic Motion Control ■ Audio/Video split editing possible ■ Automatic time tracking ■ Color frame editing possible

Supplied Accessories:

AC Power Cord
15-pin Mixer Control Cable
Operation and Maintenance Manual

Optional Accessories:

BVE-600 Optional Board Kit
BKE-611 NTSC Composite Switcher Board
BKE-621 NTSC Component/Composite Switcher Board
RCC-30A Parallel Audio Mixer Interface Cable (30m, 15-pin D-sub)
RCC-5G/10G/30G Remote Control Cable
(5m/10m/30m, 9-pin)
VSP-A600 Audio Follow Mixer
VSBK-602 Rack Mount Adaptor for VSP-A600

Specifications

General

Power Requirements: AC-90V-132V, 198V-264V
Power Consumption: Max. 110W
Operating Temperature: 0°C to 45°C (32°F to 113°F)
Storage Temperature: -40°C to 60°C (-40°F to 140°F)
Dimensions (WHD): 440 x 175 x 574mm
(17³/₈" x 7" x 22⁵/₈" (approx.)
Weight: 25 lb. 9 oz. (11.6 kg.) (approx.) without
option boards
30 lb. 7 oz. (13.8 kg.) with BKE-611/612
33 lb. 8 oz. (15.2 kg.) with BKE-621/622

Systems

Edit Reference: CTL, LTC, LTC/VITC (SMPTE/EBU time code)
Edit Accuracy: ± 0 frame on time code, ± 1 frame on CTL
Memory Capacity: 1 event
Transition Control: 0 sec.-9.9 sec. (in 0.1 sec. step)

Control

VTR Interface: RS-422, Sony 9-pin remote connector
Controllable VTR: 1 recorder, up to 2 players
RS-232C Interface: Printer interface for edit point data output
GPI: BNC (2) (T1, T2 pulse out)
Mixer Interface: 15-pin D-sub x 1 for VSP-A600/MXP-290
interface
Display: LED display, 8 digit (3)

RM-450

Editing Control Unit

The RM-450 Editing Control Unit is designed to make two-machine editing operation easy and effective. ■ The RM-450 has 33-pin remote control interface connectors and can be connected to 33-pin equipped editing VTRs directly. Also, 9-pin remote control interface (RS-422 serial interface) connectors are provided to allow the RM-450 to be connected to 9-pin equipped VTRs. Furthermore, mixed operation of 33-pin and 9-pin equipped VTR can be executed. The RM-450 has many features which allow easy editing, a keyboard layout which minimizes key strokes, a JOG/SHUTTLE DIAL on both the player side and recorder side for convenient picture search operations, the Time Code/CTL/Relative Time Code editing modes for easy and accurate editing, the in-point auto counter reset function for convenient editing, and much more

■ 33-pin Interface and 9-pin Interface—The RM-450 provides 33-pin remote control interface connectors and 9-pin remote control interface (RS-422 serial interface) connectors on both the player side and recorder side. The RM-450 can be connected to various VTRs, such as the VO-5850/5800, which has a 33-pin interface, as well as VO-9850 series U-matics and other 9-pin equipped VTRs. ■ Each player VTR and recorder VTR can be selected via the 9-pin/33-pin switches on the front panel. Therefore, the RM-450 can edit using any combination of 33-pin and 9-pin equipped VTRs. ■ Time Code/CTL/Relative Time Code Editing—When a 9-pin equipped VTR is connected, the RM-450 not only allows CTL based editing but also makes Time Code based editing possible. Furthermore, the RM-450 provides the Relative Time code (RTC) editing mode, in which time code is used as an edit reference and time code progress is counted like CTL on the LED counter. It has the feel of CTL editing with the precision of time code editing. The AUTO COUNTER RESET function, in which the editing point first designated is automatically reset to "0:00:00:00", is also provided. ■ Editing Functions—The RM-450 can use the Assemble and Insert (V/A1/A2) edit modes, and provides editing functions such as editing IN-POINT/OUT-POINT ENTRY, PREVIEW, TRIM, AUTO EDIT/END, REVIEW/JUMP, GO TO, AUDIO SPLIT, and LAST EDIT. The function keys are laid out to enable easy operation.

■ Easy Operation—The RM-450 provides JOG/SHUTTLE dials on both the player side and recorder side and the function keys are laid out for easy operation to meet user demands. The RM-450 JOG/SHUTTLE dial operation adds a new dimension to the VO-5850/5800 by providing a JOG function. The RM-450 can remotely control basic functions of VTRs such as PLAY, STILL, FF, REW, STAND BY, EJECT, REC, and EDIT. (The EJECT func-



H

(RM-450, cont.)

tion can be executed only on 9-pin equipped VTRs. The REC and the EDIT keys are only on the recorder side.)

■ **Synchronized Capability**—The RM-450 accepts REF. VIDEO IN (reference video input) for synchronized operation. Therefore, when a reference video signal is input, the RM-450 can perform absolutely precise synchronized editing. The synchronization precision can be selected via the SYNCHRONIZE GRADE switch. ■ **Pinch on Delay Time Learning Capability**—The RM-450 detects differences between the pinch on delay times of the player and recorder and stores them in the memory using the LEARN function. The RM-450 can change the play command timing of one of the VTRs to adjust the timing of the edit in-points automatically. ■ **Audio Split Editing**—The RM-450 provides the AUDIO SPLIT function, which allows the audio edit in-point to be set differently from the video edit in-point to be set differently from the video edit in-point. Therefore, the RM-450 can effectively edit sound or music. ■ **Easy Mode Setting**—Mode setting is very easy and convenient when using the preset switches on the front panel. ■ **33-PIN/9-PIN** ■ **CTL/RTC/TC** ■ **PREROLL TIME: 3/5/7/10** ■ **EDIT TIMING: AUTO/ -1F ~ -7F** ■ **SIGNAL STANDARD: 30F/25F** ■ **CUE OUT SIGNAL TIMING: -7 SEC ~ 7 SEC FROM IN-POINT** ■ **BEEP SOUND: ON/OFF** ■ **SYNCHRONIZED VTR: PLAYER/RECORDER** ■ **SYNCHRONIZE GRADE: 0F/±1F ~** ■ **EDIT ENABLE WITHOUT SERVO LOCK: ON/OFF** ■ **CTL DISPLAY: 24H/±12H** ■ **SLO-420 USE: ON/OFF** ■ **AUTO COUNTER RESET: ON/OFF**

■ **Error Message**—The RM-450 indicates the "Error" and error number on the LED counter along with a warning sound to point out misoperation. The error number is explained on the error message chart. ■ **Cue Signal Out**—A cue pulse out from the RM-450 is provided for external equipment on which an external start trigger capability is equipped. ■ **Self-Diagnostics**—The RM-450 has a built-in self-diagnostic function to improve serviceability and make maintenance easy.

Supplied Accessories:

AC Power Cord
Error Message Chart
Operation Manual

Optional Accessories:

RCC-5F 33-pin Remote Control Cable
RCC-15FT 33-pin Remote Control Extension Cable
RCC-5G/10G/30G 9-pin Remote Control Cable
RMM-450 Rack Mount Kit
(for 19" EIA and SONY SU-512 rack)
SU-450 Double size table (for SONY SU rack)

Specifications

Power Requirements: AC-108V-132V, 48V-63 Hz (RM-450)
AC-198V-264V, 48V-63 Hz (RM-450CE)
Power Consumption: 11W
Weight: 6 lb. 13 oz. (3.1 kg) (approx.)
Dimensions (WHD): 390 x 93 x 265mm
(15⁵/₈" x 3³/₈" x 10¹/₂")
Operating Temperature: 0°C to 40°C (32°F to 104°F)
Storage Temperature: -20°C to 60°C (-4°F to 140°F)
Edit Reference: Control track signal, SMPTE/EBU LTC
(Longitudinal Time Code), VITC (Vertical Interval Time Code)
REF VIDEO IN
Reference Video Input: 0.5Vp-p - 2.0Vp-p, negative, 75Ω, unbalanced
External Sync Input: 0.5Vp-p - 5.0Vp-p, negative, 75Ω, unbalanced
CUE OUT
Cue Pulse Signal: Active low: low level 0V - 0.5V
high level 3.5V - 5.0V

PVE-500

Editing Control Unit

■ Three VTR control ■ Dynamic motion control ■ Time code based editing ■ Editing functions ■ 99 edit memory capacity ■ Audio split edit ■ Switcher interface ■ DFS-500 snapshot control ■ Audio mixer interface ■ Synchronized operation ■ RS-232 interface ■ GPI output ■ Ease of operation ■ Comprehensive error message ■ Self diagnostics

Supplied Accessories:

AC Power Cord
 Operation Manual

Optional Accessories:

RCC-5AA Audio Mixer Control Cable
 RCC-5/10/30G 9-pin Remote Control Cable
 RMM-500 Rack Mount Metal (for 19" EIA Standard)



Specifications

Power Requirements: AC-100V/120V/220V to 240V, $\pm 10\%$
 47.5 Hz-63 Hz
 Power Consumption: 12W
 Weight: 7 lb. 8 oz. (3.2kg.) (approx.)
 Dimensions (WHD): 390 x 93 x 265mm (approx.)
 (15 $\frac{3}{8}$ " x 3 $\frac{3}{4}$ " x 10 $\frac{1}{2}$ ")
 Operating Temperatures: 5°C to +40°C (41°F to +104°F)
 Storage Temperatures: -20°C to +60°C (-4°F to +140°F)
 Editing Accuracy: ± 0 frame with time code
 ± 1 frame with CTL
 Edit Reference: Control Track Signal, SMPTE/EBU Time Code
 GPI OUT: Active low — low level 0V-0.5V
 high level 3.5V-5V
 REF VIDEO IN: 0.5V to 2Vp-p, 75 Ω , unbalanced



DME-9000

Digital Multi Effects System

■ High quality picture manipulation: High performance Anti-Aliasing filter; 4:2:2:4 (Component digital + key) video processing ■ Real time Texture Mapping: Maps incoming video in real-time to the created object ■ Surface Deformation: Adds natural deformation to the surface of the object ■ Rotation object creation ■ Keyframe operation: 4 Independent Timelines ■ Animation effects available ■ Basic digital effects (2D linear and 3D non-linear): Independent rotation of target, independent positioning, size adjustment, perspective, page turn and roll, crop, mirror, mosaic, sparkle, etc. ■ Optional lighting effects ■ Multi Channel/Multi User operation ■ Graphic menu display ■ Sophisticated control panel: track ball and Z-ring™ ■ BVE-9100 editor interface (keyframe control): RS-422 serial interface

System Configuration

DME-9000 Digital Multi Effects Processor
BKDM-9010 Controller (Control panel, Control unit, ASCII keyboard, Mouse)
BKDM-9030 Lighting Effect Board (3 lighting sources)

Specifications

Power Requirements: AC-90V-132V, 50/60 Hz (525/60)
AC-175V-265V, 50/60 Hz (625/50)
Power Consumption: 1200W
Dimensions (WHD): Processor: 424 x 890 x 550mm
(16 $\frac{5}{8}$ " x 35 $\frac{1}{8}$ " x 21 $\frac{3}{4}$ ")
Control Panel: 270 x 85 x 310mm
(10 $\frac{5}{8}$ " x 3 $\frac{3}{8}$ " x 12 $\frac{1}{4}$ ")
Control Unit: 424 x 177 x 450mm
(16 $\frac{5}{8}$ " x 7" x 17 $\frac{3}{4}$ ")
Weight: Processor: 265 lb. (120 kg.)
Control Panel: 7 lb. 11 oz. (3.5 kg.)
Control Unit: 44 lb. 1 oz. (20 kg.)

DME-5000

Digital Multi Effects System

- Component and composite mode selectable (525/60 system only): Accepts either composite or component video signals (Only component mode is provided for 625/60 system); Both digital and analog input/output is available for each mode
- Frame based picture processing for high picture manipulation
- Adaptive frame-field based processing and interpolation
- Dedicated key-channel input/output
- Attractive 2D, 3D, non-linear effects: 2D Effects: Slide, Squeeze, Expansion, Split, Mirror, etc.; 3D Effects: Fade, Dim, 3-axis rotation, Perspective, etc.; Non-linear Effects: Page turn, Roll, Cylinder and Sphere
- Powerful Modifiers: Border width, Softness, Drop shadow, Mosaic, Recursive (Motion decay, star-dust, Strobe freeze), etc.
- Multi Channel/Multi User operation
- High performance anti-aliasing filter
- Graphic display
- RS-232C computer interface port
- DVS-8000 linked operation: DME-5000 and DVS-8000 can share a common control panel; DME Wipe function
- Squeezy Wipe function
- Keyframe operation: Up to 100 keyframe effects with 1000 keyframes can be created and stored in keyframe memories
- BVE-9100 editor interface



System Configuration

DME-5000 Digital Multi Effects Processor
BKDM-5010 Digital/Analog Composite Input/Output Board (525/60 only)
BKDM-5011 Digital/Analog Component Input/Output Board
BKDM-5012 Digital Composite Input/Output Board (525/60 only)
BKDM-5013 Digital Component Input/Output Board
BKDM-5020 Digital Combiner Board for composite operation (525/60 only)
BKDM-5021 Digital Combiner Board for component operation
BKDM-5030 Non-linear Effects Board
BKDM-5040 Wipe and Lighting Effects Board
BKDM-5060 Graphics Board
BKDM-5070 Stand-alone Control Panel
BKDM-5080 Source Selector

Specifications

Power Requirements: AC-100V-240V, 50/60 Hz (± 10%)
Power Consumption: 500W (Full option)
Dimensions (WHD): Processor: 424 x 443 x 450mm
(16³/₄" x 17¹/₂" x 17³/₄")
Control Panel: 420 x 308 x 133mm
(16⁵/₈" x 12¹/₄" x 5¹/₄")
Weight: Processor: 110 lb. 4 oz. (50 kg.)
Control Panel: 22 lb. 1 oz. (10 kg.)



Digital Multi Effects Systems



DME-3000

Digital Multi Effects

- Superb picture quality
- Digital signal processing
- Frame-based picture processing
- Stunning visual effects
- Non-linear effects
- Lighting effects
- Recursive effects
- Wipe pattern generator
- Modifiers
- DME capability
- Key-channel input/output
- Keyframe operation
- Multi-channel operation
- Switcher interface
- Keyframe-LINK™
- DME-WIPE™ function
- System integration
- Easy operation
- Built-in floppy disk drive

Supplied Accessories:

- Rack Mount Metal
- AC Power Cord
- Plug Adaptor
- Terminal Adaptor 75Ω
- D-sub 25-pin Cable
- Installation and Maintenance Manual

Specifications

Inputs/Outputs	Component Mode	Composite Mode
Digital Inputs		
Video Input:	Serial (A/B)	Serial (A/B)
Key Input:	Serial (A/B)	Serial (A/B)
Combiner Inputs		
Video/Y Input:	Serial	Serial
Key/Z Input:	Serial	Serial
C/EXT Input:	Serial	Serial
Z Input:	Serial	Serial
Digital Outputs		
Video Output:	Serial (2ch)	Serial (2ch)
Key Output:	Serial (2ch)	Serial (2ch)
Combiner Outputs		
Video/Y Output:	Serial	Serial
Key/Z Output:	Serial	Serial
C/EXT Output:	Serial	Serial
Z Output:	Serial	Serial
Analog Inputs		
Key Input:	1.0 Vp-p (A/B)	1.0 Vp-p (A/B)
Video/Y Input:	1.0 Vp-p (A/B)	Composite Vp-p
R-Y Input:	0.7 Vp-p (A/B)	—
B-Y Input:	0.7 Vp-p (A/B)	—
Analog Outputs		
Key Output:	1.0 Vp-p (A/B)	1.0Vp-p (A/B)
Video/Y/G Output:	1.0 Vp-p (A/B)	Composite Vp-p
R-Y/R Output:	0.7 Vp-p (A/B)	—
B-Y/B Output:	0.7 Vp-p (A/B)	—

Inputs/Outputs	Component Mode	Composite Mode
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CONTROL INPUTS/OUTPUTS

Control Panel:	25-pin x 2
	9-pin x 2
Switcher:	9-pin x 2
Editor:	9-pin
Aux:	9-pin
GPI:	15-pin

VIDEO CHARACTERISTICS

Linearity:	—	DG < 2%
	—	DP < 2%
Frequency Response:	0 MHz to 5.5 MHz, ± 0.5 dB	
K Factor:	< 1%	
S/N Ratio:	58 dB	
Sampling Clock:	13.5 MHz	14.3 MHz
Quantization:	10-bit	
Delay:	1 Frame	

GENERAL

Dimensions (WHD):	Processor: 424 x 221 x 450mm (16 ³ / ₄ " x 8 ³ / ₄ " x 17 ³ / ₄ " Control Panel: 424 x 80 x 285mm 16 ³ / ₄ " x 3 ¹ / ₄ " x 11 ¹ / ₄ "
Weight:	Processor: 25 lb. 2 oz. (25kg.) (approx.) Control Panel: 7 lb. 11 oz. (3.5kg.) (approx.)
Power Requirements:	AC 85V to 265V
Power Consumption:	300W

DFS-500

DME Switcher

- 2D, 3D, linear and non-linear effects, such as Compression, Location, Rotation and Perspective, are easily achieved by use of the positioner and associated controls; Non-linear effects such as Page Turn, Roll and Sphere are also controlled manually
- User programmable effects, including 3D linear and some of the non-linear effects, can be created by just storing the pictures at several spatial points
- Over 300 factory preset effects are stored for instant access including Mirror, Ripple, Flag, Melt Down, Zig Zag, Twist, Page Turn, Sphere, Picture-in-Picture, etc.
- Effects modification of preset and programmed effects provided by control over various parameters of the effects such as, Mosaic, Postarization, Solarization, Flag, Split, Strobe, Soft Luminance, etc.
- Optional Trail and Lighting board to provide advanced and powerful effects such as Drop Shadow, Trail and Lighting effects
- Auto/Manual Transition Cut, Mix and Wipes available from the stored preset patterns
- Optional (Down Stream Keyer) DSK available to introduce captions, characters, etc. after mix/effects processing
- Title key allows a title, caption or figure to be self-keyed over a BKGD source, rotated, compressed and located in 3D space
- Snapshot function can store the panel status for subsequent recall
- Internal Video Generator generates a color bar, grid pattern, color background and various embossed background patterns
- Accepts input signals in composite, component (Y, R-Y, B-Y) and S-VIDEO formats
- Digital component processing is particularly suitable for interfacing with the Sony Betacam SP® series VTRs, providing editing facilities with superb picture quality
- Two frame synchronizers which allow video input signals to be synchronized
- With the RM-450 Editing Controller, allows two-machine editing with effects

Specifications

Signal

Primary Video Inputs/
Program Video Outputs:

Composite (NTSC):	1.0Vp-p (75Ω)
	0.286Vp-p, at sync level
	0.286Vp-p, at burst level
S-Video (Y/C):	1.0Vp-p (75Ω)
	0.286Vp-p at sync level
	0.286Vp-p, at burst level
Component (Betacam):	
Y:	1.0Vp-p (75Ω)
	0.286Vp-p at sync level
R-Y/B-Y:	0.7Vp-p
	(100/7.5/77/7.5 color bars)
DSK Video Inputs:	Composite (NTSC): 1.0Vp-p (75Ω)
	0.286Vp-p, at sync level
	0.286Vp-p, at burst level
Component (Betacam):	
Y:	1.0Vp-p (75Ω)
	0.286Vp-p, at sync level
R-Y/B-Y:	0.7Vp-p
	(100/7.5/77/7.5 color bars)
Component (RGB):	1.0Vp-p (75Ω)
	0.3Vp-p, at sync level



Specifications—(continued)

EXT KEY IN:	1.0Vp-p (75Ω)
DSK KEY IN:	1.0Vp-p (75Ω)
KEY OUT:	1.0Vp-p (75Ω)
T1/CUE IN:	TTL level
T2 IN:	TTL level
REF OUT:	Black Burst: 0.286Vp-p (75Ω), at sync level
	0.286Vp-p (75Ω), at burst level
Frequency Response:	0 MHz–5 MHz +0.5 dB, -1 dB
	(Ref. 1 MHz)
DG:	≤ 2% (10%–90% APL)
DP:	≤ 2° (10%–90% APL)
Crosstalk:	≤ -50 dB (DC to 4.43 MHz)
S/N:	≥ 53 dB
Sampling Rate:	Y: 910/H
	R-Y/B-Y: 1/4(910/H)
Quantization:	Y/R-Y/B-Y: 8 bit

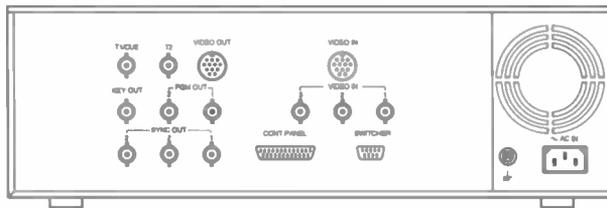
Connectors

VIDEO IN:	BNC type connector (Composite) (x 4)
	DIN 4-pin connector (S-Video) (x 4)
	12-pin connector (Y/R-Y/B-Y) (x 4)
VIDEO OUT:	BNC type connector (Composite) (x 2)
	DIN 4-pin connector (S-Video) (x 2)
	12-pin connector (Y/R-Y/B-Y) (x 2)
EXT KEY IN:	BNC type connector
DSK VIDEO IN:	BNC type connector
DSK KEY IN:	BNC type connector
KEY OUT:	BNC type connector
T1/CUE IN:	BNC type connector
T2 IN:	BNC type connector

General

Power Requirements:	AC-85V–132V, 47 Hz–63 Hz
Power Consumption:	140W
Operating Temperature:	0°C to 40°C
Dimensions (WHD):	Control Panel: 424 x 118 x 287mm
	(16 ³ / ₈ " x 4 ⁵ / ₈ " x 11 ³ / ₈ ")
	Processor: 424 x 177 x 450mm
	(16 ³ / ₈ " x 7" x 17 ³ / ₈ ")
Weight:	Control Panel: 6 lb. 10 oz. (3 kg.)
	Processor: 37 lb. 8 oz. (17 kg.)

Digital Multi Effects Systems



DME-450

Digital Multi Effects

- Simple switcher system with mix, wipes and digital effects capabilities
- Various preset effect patterns of 120 DMEs and 161 wipes
- Built-in field memories allow non time base corrected video signals input
- Freeze function allows simulated A/B roll in two machine editing systems
- Title superimpose/effect capability
- 5 preset transition speeds
- 4 user preset memories
- 3 video inputs and 2 busses (foreground and background)
- Key signal output
- External trigger capability with Cue or T1/T2 pulses from editing controller such as RM-450
- Two color matte generator
- Modular design composed of a control panel and main unit
- Simplified control panel for easy operation
- 3 units high and 19-inch rack mountable (main unit)

Typical DME Patterns

- Mosaic, Static mirror, Negative, Monotone, Posterization
- Freeze, Drop shadow, Picture in picture
- Translation
- Split
- Squeeze
- Skew
- Rotation
- Flip, Tumble

Supplied Accessories:

- AC Power Cord
- 25-pin Control Cable (5m)
- Rack Mount Adaptors (2)

Specifications

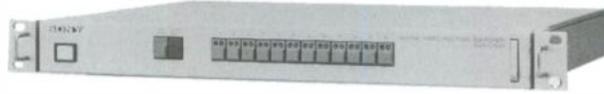
- Video Inputs:** VIDEO IN (BNC) x 3
 VBS 1.0Vp-p, 75Ω
 BVS-3200C IN (12-pin male) x 1
 Luminance: 1.0Vp-p, 75Ω
 Chrominance R-Y/B-Y: 0.7Vp-p (75% color bars), 75Ω
- Video Outputs:** PGM OUT (BNC) x 2
 VBS 1.0Vp-p, 75Ω
 BVS-3200C OUT (12-pin female) x 1
 Luminance: 0.714Vp-p, 75Ω (without sync)
 Chrominance R-Y/B-Y: 0.7Vp-p (75% color bars), 75Ω
 KEY OUT (BNC) x 1
 VBS 1.0Vp-p, 75Ω
 SYNC OUT (BNC) x 3
 2.5Vp-p, 75Ω, negative
- Interfaces:** BVS-3000/BVE-910: 9-pin Remote
 RM-450/BVE-600: BNC x 2, Cue/T1, T2
 Control Panel: 25-pin Remote
- DP:** < 2° (BKGD Path)
 < 3° (FRGD Path at full size)
- DG:** < 2% (BKGD Path)
 < 6% (FRGD Path at full size)

- Crosstalk:** < -52 dB
- Frequency Response:** 300 kHz ~ 5.5 MHz ± 0.5 dB (BKGD Path)
 300 kHz ~ 2.0 MHz (+ 1.0/-3.0) (FRGD Path at full size)
- S/N:** > 58 dB (BKGD Path)
- Effect System:** 284 preset effects
 5 transition speeds
 2 field memories
 455 x fH sampling
- Power Requirements:** AC-100V/120V, 50/60 Hz
- Power Consumption:** 70W
- Operating Temperature:** 0°C to 40°C (32°F to 104°F)
- Dimensions (WHD):** Control Panel: 390 x 62 x 265mm (15³/₈" x 2¹/₂" x 10¹/₂")
 Main Unit: 424 x 132 x 350mm (16³/₄" x 5¹/₄" x 13⁷/₈")
- Weight:** Control Panel: 6 lb. 10 oz. (3 kg.)
 Main Unit: 24 lb. 5 oz. (11 kg.) with cable

DVS-V1201

Digital Video Routing Switcher

- Serial digital input/output with BNC connectors
- 12 input and 1 output matrix size
- Handles either serial component or serial composite signals
- Both local and remote control panels are available
- D-sub 25-pin parallel remote control to interface with optional remote control panel or BVE-910/9100/9000
- Compact design, one unit height



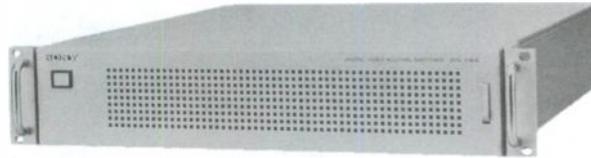
Specifications

Power Requirements: AC-100V-240V, 50/60 Hz
 Power Consumption: 20W
 Operating Temperature: +10°C - +35°C (+50°F-95°F)
 Dimensions (WHD): 424 x 43.6 x 450mm (16³/₄" x 1³/₄" x 17³/₄"
 Weight: 12 lb. 6 oz. (5.6 kg.)

DVS-V1616

Digital Video Routing Switcher

- Serial digital inputs/outputs with BNC connectors
- 16 input and 16 output matrix size
- Can operate in a combined environment of serial component and serial composite signals
- Sony Serial-Bus networking for advanced control with Source Control units and X-Y Control units
- Can be controlled by external computers via RS-232C serial port
- Compact design, two units height



Specifications

Power Requirements: AC-100V-240V, 50/60 Hz
 Power Consumption: 65W
 Operating Temperature: +10°C to +35°C (+50°F to 95°F)
 Dimensions (WHD): 424 x 66 x 450mm
 (16³/₄" x 3¹/₂" x 17³/₄"
 Weight: 17 lb. 10 oz. (6 kg.)

DVS-V3232

Digital Video Routing Switcher

- Serial digital inputs/outputs with BNC connectors
- 32 input and 32 output matrix size
- Can operate in a combined environment of serial component and serial composite signals
- Expandable up to 256 input and 256 output matrix size by using a master control unit
- Sony Serial-Bus networking for advanced control with Source Control units and X-Y Control units
- Can be controlled by external computers via RS-232C serial port
- Compact design, seven units height

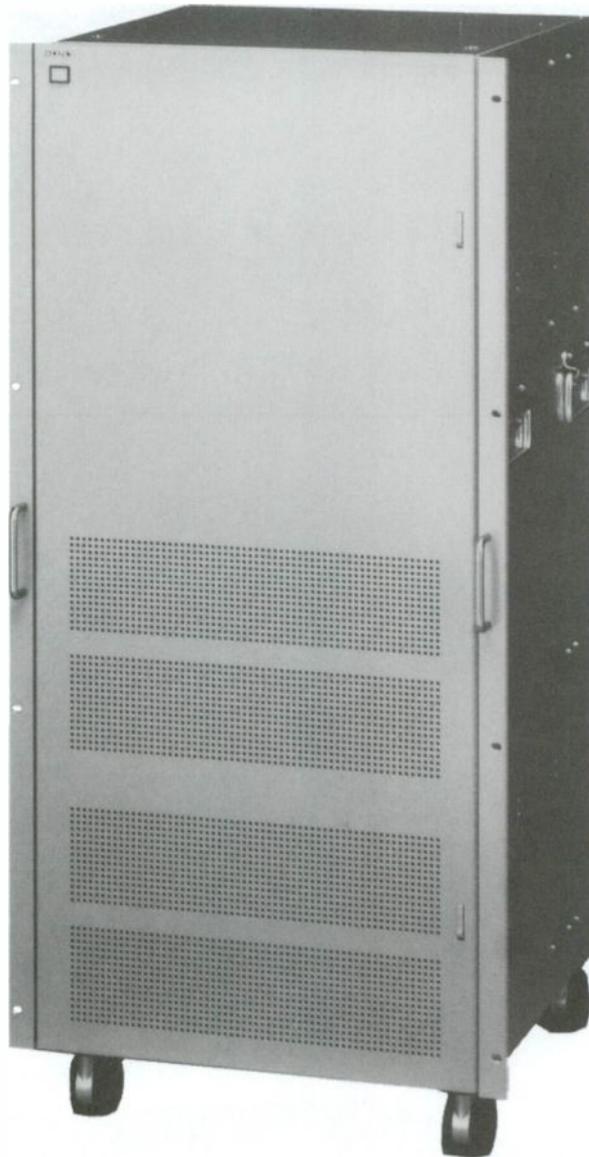
Optional Accessories:

BKDS-V3210 Serial Input Board (6 ch)
 BKDS-V3211 Serial Output Board (8 ch)
 BKDS-V3220 Cascade Input Board (8 ch)
 BKDS-V3222 Cascade Output Board (8 ch)
 BKDS-V3290 Backup Control Board

Specifications

Power Requirements: AC-100V-240V, 50/60 Hz
 Power Consumption: 200W
 Operating Temperature: 10°C to 35°C (50°F to 95°F)
 Dimensions (WHD): 424 x 310 x 450mm (16³/₄" x 12¹/₄" x 17³/₄"
 Weight: 66 lb. 2 oz. (30 kg.)





DVS-V6464

Digital Video Routing Switcher

■ **Serial digital transmission**—The DVS-V series offers transparent performance in data transfer by taking full advantage of digital technology. Its 1-chip LSI matrix processor and high-speed digital processors transfer data at extraordinarily high-speed—270 Mbits/s in the case of component signals for example. Further, as each video input and output uses BNC type connectors with a coaxial cable for data transfer, systems are easy to install, are highly reliable and easy to maintain.

■ **Flexible routing size**—With the DVS-V series, a wide range of matrix sizes are available from 12 x 1 up to 512 x 512. The DVS-V1201 and DVS-V1616 are standalone routing switchers for smaller systems. The DVS-V1201, equipped with 12 inputs by 1 output, may be used as a multi-purpose source selector or a monitor switcher and used with DVS-A1201 audio routers in digital video editing systems. The DVS-V1616 provides 16 inputs and 16 outputs for flexible source and destination selection. As the DVS-V3232 and DVS-V6464 only include cascade inputs and outputs as a standard configuration, the appropriate number of optional input/output boards must be installed in the main frame for proper operation. Each board accommodates eight channel ports so that a fully-loaded router forms a 32 x 32 or 64 x 64 matrix. By using more of these "Building Blocks," a large matrix system can be configured, expandable to 512 x 512 by using a router control unit. System expansion is accomplished by the addition of optional cascade boards to each router. Also the DVS-V3232 and DVS-V6464 can be configured for flexible routing sizes such as 48 x 56 or 192 x 128 as well as square sizes.

■ **Multiple signal format**—The DVS-V1201 can handle either serial component or serial composite signals by setting an internal switch. Moreover, if a system requires it, the DVS-V1616/V3232 can operate in a combined environment of both serial component and serial composite signals. This eliminates the need to prepare completely separate routing systems to handle two different signal formats. In such a combined operation source and destination selection is completely protected to preclude supplying incorrect format signals. For example, this protection capability prevents accidentally sending a composite digital signal to component digital equipment or vice versa.

Optional Accessories:

- BKDS-V3210A Input board (8 ch)
- BKDS-V3211A Output board (8 ch)
- BKDS-V3220A Cascade input board (8 ch)
- BKDS-V3222A Cascade output board (8 ch)
- BKDS-V3232A 32 x 32 matrix board (only for DVS-V6464)
- BKDS-V3233 Reclocking board
- BKDS-V3290 Backup control board
- BKDS-V6491 Backup power supply (only for DVS-V6464)

Specifications (DVS-V6464, cont.)**DATA TRANSFER**

Data transfer method: SCRAMBLED NRZI
 Data transfer speed: 270 Mbits/sec (component)
 178 Mbits/sec (PAL composite)
 143 Mbits/sec (NTSC composite)
 Signal amplitude: 0.8Vp-p \pm 10%
 Transfer distance: Max 200m (25 dB/km at 10 MHz)

DIGITAL VIDEO CHARACTERISTICS

Signal Type: Serial digital video conforming to SMPTE 259M
 Impedance: 75 Ω
 Return Loss: Less than 15 dB
 Cable Equalization: Automatic for up to 200m of Belden 8281 or equivalent for 270 Mbit/sec.
 Signal Amplitude: 800 mV \pm 10% when terminated into 75 Ω
 DC Offset: \pm 5% when terminated into 75 Ω
 Rise/Fall Times: 0.75 ns–1.5 ns (20% to 80%)

INPUTS/OUTPUTS

Serial Video IN: BNC type (64), 75 Ω (w/eight BKDS-V3210A)
 Serial Video OUT: BNC type (64), 75 Ω (w/eight BKDS-V3211A)
 Cascade IN: D-sub 25-pin (8)*
 Cascade OUT: C-sub 25-pin (8)*
 Reference Video IN: BNC type (2), loop-through
 Remote-1: BNC type (4), S-BUS
 Remote-2: D-sub 9-pin (1), RS-422A
 Remote-3: D-sub 25-pin (1), RS-232C

GENERAL

Power Requirements: AC 100V to 240V, 50/60 Hz
 Power Consumption: 600W
 Operating Temperature: 10°C to 35°C (50°F to 95°F)
 Dimensions (WHD): 424 x 924 x 450mm
 (16 $\frac{3}{4}$ " x 36 $\frac{1}{2}$ " x 17 $\frac{3}{8}$ ")
 Weight: 132 lb 4 oz (60 kg)

*The DVS-V3232 and DVS-V6464 respectively provide 8 or 16 cascade ports as standard and 8 slots or 16 slots for optional boards. Combination of video boards, cascade boards, 32 x 32 matrix boards and reclocking boards for each routing switcher depends on the system configuration.

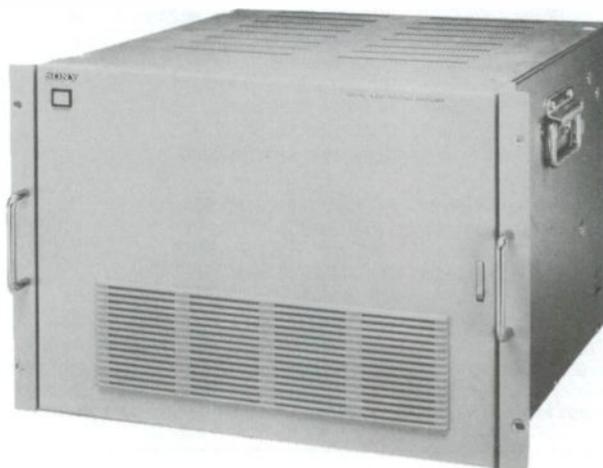
DVS-A1201**Digital Audio Routing Switcher**

- Stand-alone switcher with a 12 input x 1 output stereo matrix
- Suitable for a small system such as a source selector or a monitor switcher
- Two DVS-A1201 units provide four-channel audio operation
- Conforms to the AES/EBU format with the 48.0 kHz sampling frequency using XLR type connectors
- Ensures reliable and high speed signal transmission without noise penalty or signal degradation
- Phase synchronization for AES/EBU input
- Compact design, two units height

Specifications

Power Requirements: AC-100V–240V, 50/60 Hz
 Power Consumption: 18W
 Operating Temperature: 10°C to 35°C (50°F to 95°F)
 Dimensions: 424 x 88 x 350mm (16 $\frac{3}{4}$ " x 3 $\frac{1}{2}$ " x 13 $\frac{7}{8}$ ")
 Weight: 15 lb. 7 oz. (7.0 kg.)





DVS-A3232

Digital Audio Routing Switcher

- Provides 32 x 32 stereo, or a 16 x 16 four-channel audio matrix in a single unit
- The BKDS-A3220 optional cascade set enables various matrix sizes from 32 x 32 to 256 x 256
- Conforms to the AES/EBU format with the 48.0 kHz sampling frequency using XLR type connectors
- Ensures reliable and high speed signal transmission without noise penalty or signal degradation
- Phase synchronization for AES/EBU input
- Optional backup control board and backup power supply for continued operation
- Compact design, seven units height

Optional boards

- BKDS-A3220 Cascade set
- BKDS-A3290 Backup control board
- BKDS-A3291 Backup power supply

Specifications

- Power Requirements: AC-100V-120V/220V-240V, 50/60 Hz
- Power Consumption: 50W
- Operating Temperature: 10°C to 35°C (50°F to 95°F)
- Dimensions (WHD): 424 x 310 x 450mm (16³/₄" x 12¹/₄" x 17³/₄")
- Weight: 44 lb. 1 oz. (20 kg.)

DVS-RS1616

RS-422A Remote Routing Switcher

■ Video and audio equipment often use D-sub 9-pin connectors for remote signals conforming to RS-422A, an EIA serial digital interface standard which specifies the electrical characteristics of balanced voltage digital interface circuits. Sony's equipment is no exception and provision of RS-422A interfaces allows sophisticated control between VTRs, ATRs, switchers, DMEs, editors and so on. The DVS-RS1616 accommodates a 16 x 16 matrix as a standard configuration, providing 16 RS-422A ports for inputs and outputs. Its routing size can be expanded up to 128 x 128, using eight units in the same cascade connection as that of the audio router. The DVS-RS1616 matrix circuits correspond to the two-way signal transmission specification for the RS-422A interface, in which a bi-directional signal is transmitted over a single, four wire, cable. Crosspoint selection in the router can be restricted to one destination per source to prevent jamming from other ports.

Optional Accessories:

BKDS-RS1620 Cascade Set
BKDS-RS1690 Backup Control Board
BKDS-RS1691 Backup Power Supply

Specifications

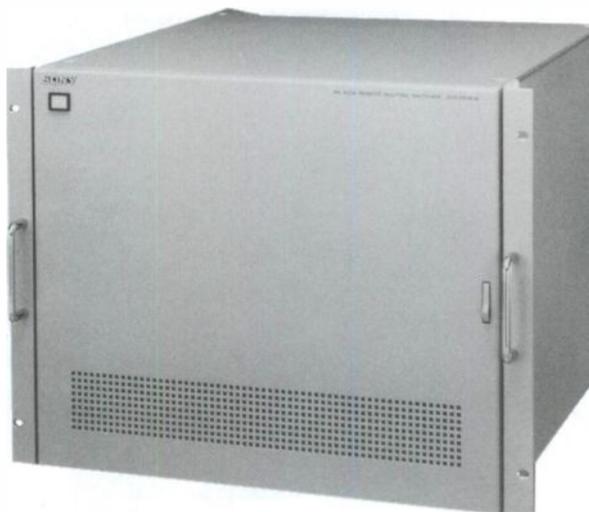
Inputs/Outputs

Signal IN: RS-422A Standard, D-sub 9-pin female (16)
Signal OUT: RS-422A Standard, D-sub 9-pin female (16)
Cascade IN: 68-pin Half-pitch, RS-422A (7)*
(with seven BKDS-RS1620)
Cascade OUT: 68-pin Half-pitch, RS-422A (7)*
(with seven BKDS-RS1620)
Reference Video IN: BNC type (2), loop-through
Remote-1: BNC type (4), S-BUS
Remote-2: D-sub 9-pin (2), RS-422A
Remote-3: D-sub 25-pin (1), RS-232C

General

Power Requirements: AC 100V to 240V, 50/60 Hz
Power Consumption: 200W
Operating Temperature: 10°C to 35°C (50°F to 95°F)
Dimensions (WHD): 424 x 355 x 450mm
(16³/₄" x 14" x 17³/₄")
Weight: 66 lb. 2 oz. (30 kg.)

*The DVS-RS1616 and DVS-TC3232 can contain up to seven BKDS-RS1620 optional cascade set for system expansion. The cascade board provides one cascade input and one cascade output port.





DVS-TC3232

Timecode Routing Switcher

■ The DVS-TC3232 facilitates transmission of time code signals that conform to the SMPTE/EBU standard. Thirty-two XLR-type connectors are arranged on the rear panel for both time code inputs and outputs. As all the I/O ports of a DVS-TC3232 are equipped as standard, a single unit forms a complete 32 x 32 matrix. Its routing size can be expanded in square format up to 256 x 256 by using eight units with the same cascade connection as that of the audio router. Input ports will accept wide variations of signal level, ranging from 0.5Vp-p to 18Vp-p, making the routing system adaptable to various video and audio equipment. Input and output buffers, provided for all ports including XLR-type and cascade connectors, reshape the waveform of the time code signals and regulate the output level to +4 dBm. Either NTSC or PAL format time code can be handled in the DVS-TC3232 without modification.

Optional Accessories:

BKDS-RS1620 Cascade Set
 BKDS-RS1690 Backup Control Board
 BKDS-RS1691 Backup Power Supply

Specifications

Inputs/Outputs

Signal IN: SMPTE/EBU time code, XLR-3-31 type (32)
 0.5Vp-p to 18Vp-p, 80Hz to 300kHz, 10k Ω

Signal OUT: SMPTE/EBU time code, XLR-3-32 type (32)
 +4 dBm, 600 Ω

Cascade IN: 68-pin Half-pitch, RS-422A (7)*
 (with seven BKDS-RS1620)

Cascade OUT: 68-pin Half-pitch, RS-422A (7)*
 (with seven BKDS-RS1620)

Reference Video IN: BNC type (2), loop-through

Remote-1: BNC type (4), S-BUS

Remote-2: D-sub 9-pin (2), RS-422A

Remote-3: D-sub 25-pin (1), RS-232C

General

Power Requirements: AC 100V to 240V, 50/60 Hz

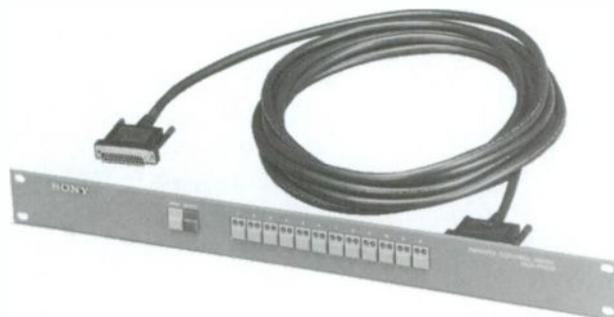
Power Consumption: 200W

Operating Temperature: 10°C to 35°C (50°F to 95°F)

Dimensions (WHD): 424 x 355 x 450mm
 (16 $\frac{3}{4}$ " x 14" x 17 $\frac{3}{4}$ ")

Weight: 66 lb. 2 oz. (30 kg.)

*The DVS-RS1616 and DVS-TC3232 can contain up to seven BKDS-RS1620 optional cascade set for system expansion. The cascade board provides one cascade input and one cascade output port.



BKS-R1210

BKS-R1210/R1601/R3202/R3203/ R5000

Control Units for Digital Routing Switchers

■ BKS-R1210: Remote control panel for DVS-V1201/A1201 ■ BKS-R1601: 16 Source control unit for DVS-V1616/V3232/A3232 ■ BKS-R3202: X-Y Control unit for DVS-V1616/V3232/A3232 ■ BKS-R3203: 32 Source control unit for DVS-V1616/V3232/A3232 ■ BKS-R5000: Router control unit for matrix sizes above 64 x 64

Optional Accessories:

BKS-R5001 S-BUS I/F Board
 BKS-R5002 RS-232C/422 I/F Board

BKS-R3204

Universal Control Unit

■ The BKS-R3204 is an universal control panel which uses thirty-two buttons on the front panel and allows the flexible combination of source and destination assignments, so that it can be used as a 32 x 1, 24 x 8, 16 x 16, or 8 x 24 source destination selector. For easy confirmation, source buttons have green illumination and destination buttons amber. The number of sources or destinations controlled can be expanded by using further BKS-R3204s and be chained to other control units such as BKS-R3205 and BKS-R3206. Up to 253 BKS-R3204 panels can be combined and operated as if a single control unit. The phantom function allows simultaneous switching of multiple sources by a press of a single source button.

Note: In multiple-unit application, the BKS-R3204 can be used as an extension of the BKS-R3205 or BKS-R3206.

BKS-R3205

Source and Destination Control Unit

■ The BKS-R3205 is a multi-source control panel which has thirty-two buttons, eight level control buttons and a sixteen-character LED display to show sources, destinations, levels, phantom names and panel ID. Like the BKS-R3204, this unit also allows flexible combination of source and destination assignments. Therefore, the unit can be used as a 32 x 1, 24 x 8, 16 x 16 or 8 x 24 source-destination selector. For easy confirmation, source buttons are illuminated green and destination buttons amber. The number of sources or destinations controlled can be expanded by using this unit and a further number of BKS-R3204 control panels. Up to 253 units can be combined and operated as if a single control unit. The phantom function allows simultaneous switching of multiple sources by a press of a single source button. Up to eight levels can be handled and the same breakaway capability as the BKS-R3202 is provided.



BKS-R3206

8-Destination Control Unit

■ The BKS-R3206 is a multi-destination control panel which controls up to sixteen switcher destinations. The sixteen switcher destinations are divided into two sets of eight A and B. The BKS-R3206 control panel features eight displays and select buttons which can be switched between sets A and B. Hence control of sixteen destinations is made possible. This unit can be used either as a button-per-source controller or as an X-Y controller. As a button-per-source controller, 16 sources can be selected for routing 16 destinations. In the X-Y control mode, up to 512 sources are controlled for routing to 16 destinations. To expand the number of sources and destinations to be controlled, like the BKS-R3205, this unit can be a mother unit of the BKS-R3204s. Up to 253 units can be combined in total and operated as a single control unit. Like the BKS-R3205, the phantom function, eight-level control and breakaway capability are provided.

BKS-R3280/R3281

Single Status Display

■ The BKS-R3280 and BKS-R3281 are status display units for under-monitor use. To show source, destination, source line number and source status the BKS-R3280 has a seven-character display. The BKS-R3281 has a sixteen-character display which can show two of these items simultaneously. The BKS-R3280/R3281 modes of operation are programmed from the control terminal of the routing system. PGM and PST indicators are provided via a tally line to show if a source is on air or not.

BVS-V1201

Analog Video Routing Switcher

- Twelve inputs with loop-through and one output
- Remote (optional)/Local (standard) control panel
- 25-pin remote connector for parallel remote control from the BVE-9000/9100/910 for the optional BKS-R1210
- 9-pin remote connector for serial remote control
- RGB or Y/R-Y/B-Y component signal process using three units
- 15-pin tally output
- 1 unit height and 19-inch rack mountable

Supplied Accessories:

AC Power Cord
 AC Plug Holder
 Extension Board
 Extension Flat Cable
 D-sub 25-pin Unit Harness (25m)
 75Ω Terminator
 Operation and Maintenance Manual

Specifications

Power Requirements: AC-100V–240V \pm 10%, 50/60 Hz \pm 10%
 Power Consumption: 5W
 Operating Temperature: 0°C to 40°C (–4°F to 104°F)
 Dimensions (WHD): 424 x 44 x 350mm
 (16 $\frac{3}{4}$ " x 1 $\frac{3}{4}$ " x 13 $\frac{7}{8}$ ")
 Weight: 12 lb. 6 oz. (5.6 kg.)

BVS-A1201

Analog Audio Routing Switcher

- Twelve inputs and one output of stereo audio
- Output transformer
- 25-pin parallel remote control from the BVE-9000/9100/910 or the optional BKS-R1210
- 9-pin serial remote control
- Independent 4 channel audio signal control using two units
- Two units height and 19-inch rack mountable

Supplied Accessories:

AC Power Cord
 AC Plug Holder
 Extension Board
 D-sub 25-pin Unit Harness (25m)
 75Ω Terminator
 Operation and Maintenance Manual

Specifications

Power Requirements: AC-100V–240V \pm 10%, 50/60 Hz \pm 10%
 Power Consumption: 10W
 Operating Temperature: 0°C to 40°C (–4°F to 104°F)
 Dimensions (WHD): 424 x 88 x 350mm
 (16 $\frac{3}{4}$ " x 3 $\frac{1}{2}$ " x 13 $\frac{7}{8}$ ")
 Weight: 16 lb. 12 oz. (7.6 kg.)



H

Time Code Generator and Reader

BVG-1500

Time Code Reader



- Readout capability of LTC/VITC and user bits
- Built-in character generator
- 8-digit LED display/display hold
- Waveform processing function (LTC)
- Various mode indication
- Frame suppress function
- Compact and lightweight
- TTY interface capability with BKG-1501 (optional)

Supplied Accessories:

- 50-pin Ribbon Connector
- 6-pin Connector
- Rack Mount Kit
- Labels for Remote Indicator
- Operation and Maintenance Manual

Optional Accessories:

- BKG-1501 Sony Printer Interface

Specifications

- Power Requirements: AC-100V-120V/220V-240V \pm 10%, 50/60 Hz
- Power Consumption: < 20W
- Operating Temperature: 0°C to 40°C (32°F to 104°F)
- Storage Temperature: -20°C to 60°C (-4°F to 140°F)
- Dimensions (WHD): 424 x 44 x 330mm
(16 $\frac{3}{4}$ " x 1 $\frac{3}{4}$ " x 13")
- Weight: 8 lb. 13 oz. (4 kg.) (approx.)

BVG-1600

Time Code Generator



- LTC/VITC generator
- Hexadecimal user bits data setting
- Normal speed LTC reader function
- Slave/Extrapolation capability
- Time code color frame lock capability
- 8-digit LED display
- Various mode indications

Supplied Accessories:

- 50-pin Cable
- 50-pin Ribbon Connector
- 5-pin Connector
- Rack Mount Kit
- Labels for Remote Indicator
- Operation and Maintenance Manual

Specifications

- Power Requirements: AC-100V-120V/220V-240V \pm 10%, 50/60 Hz
- Power Consumption: < 20W
- Operating Temperature: 0°C to 40°C (32°F to 104°F)
- Storage Temperature: -20°C to 60°C (-4°F to 140°F)
- Dimensions (WHD): 424 x 44 x 330mm
(16 $\frac{3}{4}$ " x 1 $\frac{3}{4}$ " x 13")
- Weight: 9 lb. 15 oz. (4.5 kg.) (approx.)

DNS-1000

Stillstore System

- Uses transportable and reliable recording media: Magneto Optical (5.25" MO disk): 500 stills per disk (250 per side), NTSC; 400 stills per disk (200 per side), PAL
- Highest picture quality image storage thanks to 4:2:2:4 digital component signal processing
- Key channel storage and recall
- Image library management by use of the optional system software
- Optional analog interface boards for composite, RGB or Y/R-Y/B-Y
- Optional RAM cache board for instant recall of stored still images
- MO drives can be located 200m away from the mainframe
- Stillstore mainframes can be linked as a network for image transfer (Up to six users for one frame)
- High speed and image control network system: Several users can share the same still images
- Two types of mainframe: SSCU-1000 (five slots for option boards); SSCU-1010 (thirteen slots for option boards)



System Configuration

- SSCU-1000 Stillstore Central Unit
- SSCU-1010 Stillstore Central Unit
- BKSS-1010 Digital Input Board
- BKSS-1011 A/D Converter Board
- BKSS-1020 Digital Output Board
- BKSS-1021 D/A Converter Board
- BKSS-1022 Key Output Board
- BKSS-1031 Full Function Control Panel
- BKSS-1040 Serial MO Drive Unit
- BKSS-1041 MO Drive Interface Board
- BKSS-1042 Rack Mount Bracket for Sub MO Drive
- BKSS-1050 RAM Cache Memory Board
- BKSS-1060 Picture Resize Board
- BZSS-1010 System Software for Workstation
- SMO-S501 Sub MO Drive Unit

Optional Accessories:

- EDM-1DAO MO Disk
- SMO-8801 MO Drive

Specifications

Video Characteristics

Component Analog

- Signal-to-Noise Ratio: 56 dB
- Bandwidth: Y: 30 Hz-5.5 MHz \pm 0.5 dB
- R-Y/B-Y: 30 Hz-2.5 MHz \pm 0.5 dB

Composite Analog

- Signal-to-Noise Ratio: 52 dB
- Bandwidth: 30 Hz-4.5 MHz \pm 0.5 dB



DFX-1200

Digital Rate Converter

- 4:2:2 component digital video (525/60 or 625/50) sampled at $Y = 13.5$ MHz, $R-Y/B-Y = 6.75$ MHz is converted into NTSC/PAL composite digital video sampled at 14.318 MHz/17.734 MHz
- Y, R-Y, B-Y component signals are encoded into NTSC composite digital signals
- Equipped with both parallel and serial digital I/O ports
- Audio transmission in video blanking period is possible
- Two rack units high and 19-inch rack mountable

Specifications

Power Requirements:	AC-100V-120V $\pm 10\%$ AC-220V-240V $\pm 10\%$ selectable
Power Consumption:	120W
Dimensions (WHD):	424 x 88 x 520mm (16 $\frac{3}{4}$ " x 3 $\frac{1}{2}$ " x 20 $\frac{1}{2}$ ")
Weight:	26 lb. 7 oz. (12 kg.)
Digital Video Input:	4:2:2 Component parallel format x 1 (D-sub 25-pin)
Reference In:	Composite video (BNC)
Digital Video Output:	4 fsc NTSC Composite parallel format x 2 (D-sub 25-pin)
Advanced Reference Output:	Sync and CF pulse



DFX-2100

Digital Rate Converter

- NTSC composite digital video sampled at 14.318 MHz is converted into 4:2:2 component digital video sampled at $Y = 13.5$ MHz, $R-Y/B-Y = 6.75$ MHz
- Adaptive filtering is used for Y/C separation of NTSC composite signal
- Two rack units high and 19-inch rack mountable

Specifications

Power Requirements:	AC-100V-120V $\pm 10\%$, AC-220V-240V $\pm 10\%$ selectable
Power Consumption:	120W
Dimensions (WHD):	424 x 88 x 520mm (16 $\frac{3}{4}$ " x 3 $\frac{1}{2}$ " x 20 $\frac{1}{2}$ ")
Weight:	26 lb. 7 oz. (12 kg.)
Digital Video Input:	4 fsc NTSC Composite parallel format x 1 (D-sub 25-pin)
Reference In:	Composite video (BNC) or composite sync/color frame pulse (BNC)
Digital Video Output:	4:2:2 Component parallel format x 2 (D-sub 25-pin)
Advanced Reference Output:	Black burst x 1

DDU-2100

Digital Audio Delay Unit

- Capable of delaying a maximum of 8 channels (4 inputs of AES/EBU digital audio signals and SMPTE/EBU time code (LTC) simultaneously
- Delay time can be adjusted by field, msec., samples: Field: 8.5 fields (0.1 field/step); M sec: 170m sec. (2.0m sec./step); Sample: 8100 samples (100 samples/step)
- Accepts 48 kHz, 44.1 kHz, 44.056 kHz and 32 kHz sampling frequencies
- One rack unit high and 19-inch rack mountable

Specifications

Power Requirements: AC-100V-120V \pm 10%,
AC-220V-240V \pm 10% selectable, 50/60 Hz

Power Consumption: 15W

Dimensions (WHD): 424 x 44 x 330mm
(16 $\frac{3}{4}$ " x 1 $\frac{3}{4}$ " x 13")

Weight: 7 lb. 11 oz. (3.5 kg.)

Audio Input: AES/EBU x 4 (XLR 3-pin)

Audio Output: AES/EBU x 4 (XLR 3-pin)

LTC Input: SMPTE/EBU x 1 (XLR 3-pin)

LTC Output: SMPTE/EBU x 1 (XLR 3-pin)

Sampling Frequency: 48 kHz/44.1 kHz/44.056 kHz/32 kHz
selectable

Maximum Delay Range: 8.5 fields/170 ms/8100 samples

DFX-2400

Sampling Rate Converter

- Converts any sampling frequency between 30 kHz and 50 kHz into any of the following frequencies: 32 kHz, 44.056 kHz, 44.1 kHz and 48 kHz
- Enables conversion between AES/EBU format and SDIF-2 format
- 16-bit conversion resolution, with no signal degradation such as that involved in A/D and D/A processing of analog methods
- Compact size and low power consumption

Supplied Accessories:

AC Power Cable
19" Rack Mount Kit

Specifications

Digital Audio/Performance

Data Word Length: 24 bits (AES/EBU)
16 bits (SDIF-2)

Input Sampling
Frequency: 30,000 kHz-50,000 kHz

Output Sampling
Frequency: 32 kHz, 44.056 kHz, 44.1 kHz or 48 kHz
 \pm 10 Hz

Frequency Response: + 0/ - 0.5 dB at 0 to 0.87 x 0.5 x the lower
of the input/output sampling frequencies
> 16 bits (at 1 kHz)

Conversion Resolution: > 16 bits

Processing Word Length: 28 bits

Coefficient Word Length: 20 bits

Inputs/Output: DIGITAL IN: AES/EBU (x 2), SDIF-2
unbalanced (x 2) and SDIF-2 balanced
SYNC IN: AES/EBU sync or word sync
DIGITAL OUT: AES/EBU (x 2), SDIF-2
unbalanced (x 2) and SDIF-2 balanced
SYNC OUT: AES/EBU sync or word sync

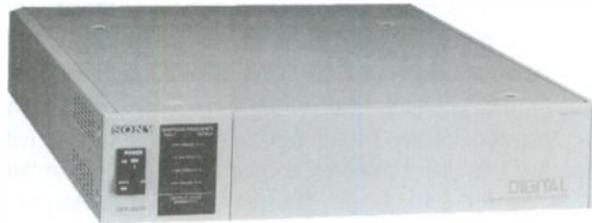
General

Power Requirements: AC-100V to 120V/220V to 240V, 50/60 Hz
selectable

Power Consumption: 45W (AC-100V to 120V)
48W (AC-220V to 240V)

Dimensions (WHD): 424 x 101 x 516mm
(16 $\frac{3}{4}$ " x 4" x 20 $\frac{3}{8}$ ")

Weight: 25 lb. 10 oz. (11.5 kg.)



BKDV-4224AD/4224DA

D-1 Signal Converter

■ The BKDV-4224AD/4224DA is a D-1 signal converter which provides, respectively, 8 bits A/D and D/A conversion capabilities for a D-1 VTR. In conjunction with two D-1 VTRs such as DVR-2100/2000, they can form a range of recording/playback systems: 4:2:2 picture plus key channel production (4:2:2:4 mode); Full band GBR plus key channel production (4 x 4 mode); Doubled horizontal resolution 525/60 or 625/50 signals (8:4:4 H mode); Progressive scan 525/60 or 625/50 system (8:4:4 V mode) ■ 4:2:2:4 Mode: A wide bandwidth key signal recording, impossible with analog equipment, can be carried out. Through the BKDV-4224AD, one D-1 VTR is used for recording/playback of the 4:2:2 component serial digital video, and the other VTR for key signal recording on the luminance channel, leaving the two color difference channels unused. The signal processing varies depending on whether input signals are in analog or digital form. ■ 4 x 4 Mode: The 4 x 4 mode is used for systems where recording of four equal video bandwidth signals such as G/B/R/Key or full band Y/B-Y/R-Y/Key is required. The signals encoded in the BKDV-4224AD are divided and then recorded onto two D-1 VTRs, one for standard 4:2:2 video and the other for the key signal and further color difference information. ■ 8:4:4 H Mode: The 8:4:4 H mode is designed for a system where double the horizontal resolution of 525/60 or 625/50 signals is required (1440 pixels per horizontal line). Every other sample encoded in the BKDV-2442AD is divided into two separate 4:2:2 data streams and can be recorded on two D-1 VTRs. ■ 8:4:4 V Mode: The 8:4:4 V mode is designed for progressive scan 525 or 625 (60 frames/sec. or 50 frames/sec.). Encoded samples in every other TV line are fed into one D-1 VTR as one 4:2:2 data stream while the remaining information from other TV lines forms another 4:2:2 data stream and is fed into a second D-1 VTR. ■ 4:2:2 Mode: The BKDV-4224AD/4224DA can also be used as an 8 bit A/D or D/A unit respectively conforming to CCIR-601 filter specifications.

Supplied Accessories:

AC Power Cord
 Plug Holder
 Rack Mount Bracket (1 set)
 Operation and Maintenance Manual (1 set)
 Plug Adaptor (1 set)
 75Ω terminator 5 (BKDV-4224AD only)

Specifications

General

Power Requirements: AC 100V to 120V 50/60 Hz
 AC 220V to 240V 50/60 Hz
 Power Consumption: 55W (Max.)
 Operating Temperature: 5°C to 40°C (41°F to 104°F)
 Weight: 15 lb. 7 oz. (7 kg.)
 Dimensions (WHD): 424 x 44 x 550mm
 (16³/₄" x 1³/₄" x 21³/₄")

Video

Sampling Frequency: (4:2:2:4): Y/KEY = 13.5 MHz,
 B-Y/R-Y = 6.75 MHz
 (4 x 4): Y/KEY/B-Y/R-Y or
 G/B/R/KEY = 13.5 MHz
 (8:4:4): Y = 27 MHz, B-Y/R-Y = 13.5 MHz
 (4:2:2): Y = 13.5 MHz, B-Y/R-Y = 13.5 MHz
 Frequency Response: (4:2:2:4): Y/KEY = DC to 5.75 MHz
 (± 0.5 dB)/6 MHz (-3 dB)
 B-Y//R-Y = DC to 2.75 MHz
 (± 0.5 dB)/3 MHz (-3 dB)
 (4 x 4): Y/KEY/B-Y/R-Y or G/B/R/KEY = DC
 to 5.75 MHz (± 0.5 dB)/6 MHz (-3 dB)
 (8:4:4): Y = DC to 11.5 MHz (± 0.5 dB)/
 12 MHz (-3 dB) B-Y/R-Y = DC to
 5.75 MHz
 (± 0.5 dB)/6 MHz (-3 dB)
 (4:2:2): Y = DC to 5.75 MHz (± 0.5 dB)/
 3 MHz (-3 dB) B-Y/R-Y = DC to
 2.75 MHz
 (± 0.5 dB)/3 MHz (-3 dB)
 S/N (Analog Output): 56 dB
 Linearity: Within 2.0%
 K Factor (2T pulse): Below 1.0%
 Channel Delay: Below ± 15 ns
 Serial Input/Output: Bit Rate: 270M bps
 Transmission Distance: Max. 200m
 Input/Output Level: 0.8Vp-p (75Ω terminated)

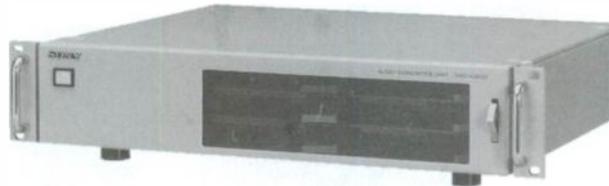
Input/Output

Video Input
 Analog: Y(G)/B-Y(B)/R-Y(R)/KEY/SYNC, BNC
 (BKDV-4224AD only)
 GBR = 0.7Vp-p
 SYNC = 0.28Vp-p to 4.0Vp-p
 Y = 1.0Vp-p (including sync)
 B-Y/R-Y = 0.7Vp-p
 KEY = 0.7Vp-p
 Digital: BNC: Digital Serial (270 Mb/sec.)
 BKDV-4224AD: VIDEO & KEY
 BKDV-4224DA: SERIAL INPUT 1 & 2
 Video Output
 Analog: Y(G)/B-Y(B)/R-Y(R)/KEY/SYNC, BNC
 (BKDV-4224DA only)
 B/R = 0.7Vp-p, G = 1.0Vp-p (including
 sync)
 SYNC = 0.3Vp-p
 Y = 1.0Vp-p (including sync)
 B-Y/R-Y = 0.7Vp-p
 KEY = 1.0Vp-p (including sync)
 Digital: BNC: Digital Serial (270M bps)
 BKDV-4224AD: SERIAL OUTPUT 1 & 2
 BKDV-4224DA: VIDEO & KEY
 REMOTE: D-SUB 25-PIN: VIDEO INDEX OF
 INFORMATION

DAD-A2000

Audio Converter Unit

■ 16-bit audio A/D and D/A conversion for the DVR-2100/2000 D-1 VTR ■ The DAD-A2000 consists of DAF-2000 Audio Frame, two DABK-2001 A/D Converter Boards and two DABK-2002 D/A Converter Boards ■ Up to four A/D and/or D/A boards can be installed in the DAF-2000 audio frame



Supplied Accessories:

DABK-2001 A/D Converter
DABK-2002 D/A Converter

Specifications

Power Requirements: AC-100V-120V/220V-240V 50/60 Hz

Power Consumption: 50W (approx.)

Dimensions (WHD): 424 x 88 x 350mm
(16³/₄" x 3¹/₂" x 13⁷/₈")

Weight: 19 lb. 13 oz. (9 kg.) (approx.)

Input/Output

Reference Video: Analog video signal
Black burst
Composite sync
Composite video
(525/59.94, 625/50 or 525/60
BNC, loop-through

Reference Audio: Word Sync In: BNC, loop through
AES/EBU Sync In: XLR-3-31 or XLR-3-32
buffered-through

Digital In: AES/EBU, XLR-3-31 on DABK-2002

Digital Out: AES/EBU, XLR-3-32 on DABK-2001

Analog In: XLR-3-31 x 2 on DABK-2001

Analog Out: XLR-3-32 x 2 on DABK-2002



PFV-D50

Digital Video Interface Unit

- Digital video interface unit which can hold and supply power to ten types of optional interface boards
- Each optional board provides an independent function such as A/D or D/A conversion, digital video distribution, or digital video delay capabilities
- Up to 4 optional boards can be installed in any combination
- Digital input/output signals are provided in the 10 bit serial digital format
- Processor board can be slotted in the chassis either from the front or rear of the unit

System Configuration

PFV-D50 Digital Video Interface Unit
BKPF-101 A/D Converter Board (NTSC composite video)
BKPF-101C A/D Converter Board (Component video)
BKPF-102 D/A Converter Board (NTSC composite video)
BKPF-102C D/A Converter Board (Component video)
BKPF-103 Digital Video Distribution Amplifier Board (NTSC, PAL composite video, 4:2:2 component digital)
BKPF-104 Digital Video Delay Line (NTSC composite digital)
BKPF-104C Digital Video Delay Line (4:2:2 component digital)
BKPF-109 Serial-Parallel Interface Board (NTSC, PAL composite digital, 4:2:2 component digital)
BKPF-110 Parallel-Serial Interface Board
PFV-D50 System Configuration (NTSC, PAL composite digital, 4:2:2 component digital)
BKPF-105 A/V Multiplexer Board (D2)
BKPF-105C A/V Multiplexer Board (D1)
BKPF-106 A/V De-Multiplexer (D2)
BKPF-106C A/V De-Multiplexer (D1)
BKPF-107 Line Synchronizer Board (D2)
BKPF-107C Line Synchronizer Board (D1)
BKPF-108 Frame Synchronizer Board (D2)
BKPF-108C Frame Synchronizer Board (D1)
BKPF-PS50 Backup Power Supply for PFV-D50

Specifications

Power Requirements: AC-90V-246V, 48 Hz-62 Hz
Power Consumption: Max. 100W
Dimensions (WHD): 424 x 132 x 450mm
(16³/₈" x 5¹/₈" x 17³/₈")
Weight: 33 lb. 1 oz. (15 kg.) (approx.) without optional boards

PFV-D100

Digital Video Interface Unit

■ Digital video interface unit can hold and supply power to ten types of optional interface boards ■ Each optional board provides an independent function such as A/D or D/A conversion, digital video distribution, or digital video delay capabilities ■ Up to 14 optional boards can be installed in any combination ■ Digital input/output signals are provided in the 10 bit serial digital format ■ Processor board can be slotted in the chassis either from the front or rear of the unit

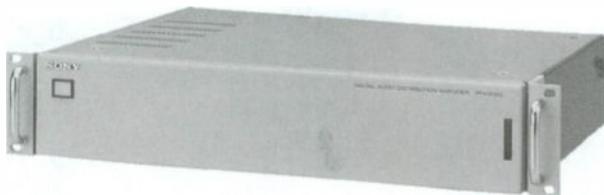
System Configuration

PFV-D100 Digital Video Interface Unit
BKPF-101 A/D Converter Board (NTSC composite video)
BKPF-101C A/D Converter Board (Component video)
BKPF-102 D/A Converter Board (NTSC composite video)
BKPF-102C D/A Converter Board (Component video)
BKPF-103 Digital Video Distribution Amplifier Board (NTSC, PAL composite video, 4:2:2 component digital)
BKPF-104 Digital Video Delay Line (NTSC composite digital)
BKPF-104C Digital Video Delay Line (4:2:2 component digital)
BKPF-109 Serial-Parallel Interface Board (NTSC, PAL composite digital, 4:2:2 component digital)
BKPF-110 Parallel-Serial Interface Board
PFV-D100 System Configuration (NTSC, PAL composite digital, 4:2:2 component digital)
BKPF-105 A/V Multiplexer Board (D2)
BKPF-105C A/V Multiplexer Board (D1)
BKPF-106 A/V De-Multiplexer (D2)
BKPF-106C A/V De-Multiplexer (D1)
BKPF-107 Line Synchronizer Board (D2)
BKPF-107C Line Synchronizer Board (D1)
BKPF-108 Frame Synchronizer Board (D2)
BKPF-108C Frame Synchronizer Board (D1)
BKPF-PS50 Backup Power supply for PFV-D50

Specifications

Power Requirements: AC-90V-264V, 48 Hz-62 Hz
Power Consumption: 300W Max.
Dimensions (WHD): 424 x 310 x 450mm
(16³/₄" x 12¹/₄" x 17³/₄")
Weight: 44 lb. 1 oz. (20 kg.) (approx.) without optional boards





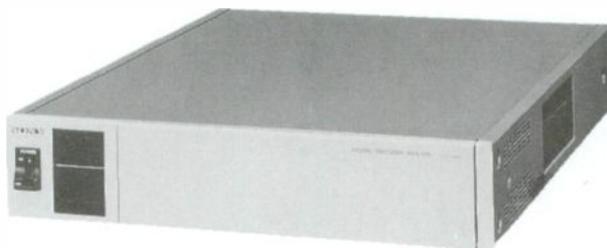
PFA-D100

Digital Audio Distribution Amplifier

■ Conforming to the AES/EBU format with 48.0 kHz sampling frequency ■ Four selectable distribution: Four blocks of one stereo input x 6 outputs; Two blocks of one stereo input x 12 outputs; A block of one stereo input x 24 outputs; Two blocks of one stereo input x 6 outputs and a block of one stereo input x 12 outputs; A block of one stereo input x 18 outputs and a block of one stereo input x 6 outputs ■ Locking to video reference or AES/EBU sync signals ■ Operation standard video signals can be selected with an internal switch ■ Re-clocking digital audio signals using a reference video or AES/EBU sync signal ■ Optional back-up power supply unit: BKPF-A100 ■ Dual AC inlets ■ 2U height and 19-inch rack mountable

Specifications

Power Requirements: AC-100V-120V/220V-240V, 50/60 Hz
Power Consumption: 15W (approx.)
Dimensions (WHD): 424 x 88 x 350mm
(16³/₄" x 3¹/₂" x 13⁷/₈" (approx.)
Weight: 15 lb. 7 oz. (7.0 kg.) (approx.)
Digital Input: AES/EBU format, XLR-3-31 type x 4
*One digital input signal selected with an internal switch is used as a reference audio signal
Digital Output: AES/EBU format, XLR-3-32 type x 24
Sync Input: AES/EBU format, XLR-3-31 type x 1
Reference Video Input: Analog video signal
Black burst
Composite sync
Composite video (525/59.94, 625/50 or 525/60)
BNC, loop-through



BVX-100

Digital Decoder

■ Capable of digitally decoding analog composite video into analog or digital component video ■ Y/C separation employs field comb, line comb and bypass mode filtering ■ Parallel digital component output allows direct interface to CCIR-601 equipment ■ 12-pin Betacam™ dubbing connector is provided ■ Adjustment of video parameters is possible: Input level, chroma gain, video phase, black level, Y/C delay, active video phase ■ Frame store synchronizer function ■ Auto freeze function ■ Basic parameters can be remotely controlled by the optional BVR-51 Remote control unit

Specifications

Power Requirements: AC-90V-132V/AC-198V-264V selectable, 50/60 Hz
Power Consumption: 130W
Dimensions (WHD): 474 x 88 x 515mm
(18³/₄" x 3¹/₂" x 20³/₈")
Weight: 28 lb. 10 oz. (13 kg.)

DTR-3000

Dynamic Motion Controller

- Provides speedy control of DT equipped VTRs in STILL, JOG, VARIABLE, and SHUTTLE modes
- Five current cues can be entered and accessed for search to the desired event
- Additional five memory cues are provided to store current cues
- Each cue point is easily accessed using the cue scroll or memory cue scroll keys
- Up to two VTRs can be controlled by one DTR-3000
- Up to four DTR-3000s can be interconnected for parallel operation, thus a maximum of eight VTRs can be controlled at the same time
- Both dial and lever operation are available
- Playback speed from -100%-300% in 50 steps (normal speed = 100%)
- Preroll times can be set within the range of 0 sec. 00 frames to 9 sec. 24 (NTSC)/29 (PAL) frames

Specifications

Power Requirements: AC-100V-240V, 50/60 Hz
Power Consumption: 35W
Dimensions (WHD): 212 x 257 x 271mm
(8³/₈" x 10¹/₈" x 10³/₈")
Weight: 10 lb. 2 oz. (4.6 kg.)

Input/Output Connectors:

RS-232C: D-sub 25-pin
VTR-1: D-sub 9-pin, RS-422
VTR-2: D-sub 9-pin, RS-422
GP-IB: GP-IB 24-pin
TALLY: D-sub 9-pin, AC/DC-24V
VIDEO IN: BNC, 1.0Vp-p, 75Ω
MONITOR OUT: BNC, 1.0Vp-p, 75Ω



BKDV-108

Digital Video Controller

- Up to four D-2 VTRs can be connected via RS-422 interface port
- Precise control of video output parameters: Video level, chrominance gain, black Level (setup level), hue (burst/chroma phase), video phase, sync phase, SC phase
- Input video gain can be controlled
- Unity (fix) and Variable modes for each parameter
- Video level and SC-H phase of the incoming video are displayed with LED bargraphs
- Fix, adjust, and free modes are available for input CF mode
- A total of 99 settings can be stored and retrieved

Specifications

Power Requirements: AC-100V-120V ± 10% (BKDV-108)
AC-220V-240V ± 10% (BKDV-109)
Power Consumption: 10W
Dimensions (WHD): 424 x 43.6 x 110mm
(16³/₈" x 1³/₄" x 4³/₈")
Weight: 4 lb. 6 oz. (2 kg.)

DAF-2000 SYSTEM

Audio Converter Unit

■ The DAF-2000 system is designed to provide a 20 bit or 16 bit A/D and D/A conversion for the DVR-2100 and DVR-2000. The system is based on the DAF-2000 Audio Frame, into which any combination of the four A/D and D/A converter boards can be installed;

DABK-2001: 16 bits A/D converter board;

DABK-2002: 16 bits D/A converter board;

DABK-2003: 20 bits A/D converter board;

DABK-2004: 20 bits D/A converter board;

These optional boards employ state of the art digital technology, i.e. $\Delta\Sigma$ type A/D converter and an 8-times oversampling filter for the D/A conversion, ensuring superb audio fidelity. The DAF-2000 system features phase synchronization to NTSC or PAL video signals, a word clock or an internal reference signal ■ **DAF-2000 Audio Frame** ■ 2 unit height and 19 inch EIA standard rack mountable frame ■ Up to four optional A/D and D/A converter boards can be accommodated and any combination of these four boards is available depending on the customer requirements ■ It is easy to check operational condition shown by LED display through the window of the front panel ■ **DABK-2001** 16 bits A/D Converter Board, **DABK-2003** 20 bits A/D Converter Board ■ Two channels of analog signals can be converted to the stereo AES/EBU format signals at 16 bits/sample in the DABK-2001 and 20 bits/sample in the DABK-2003 ■ $\Delta\Sigma$ type A/D conversion technique is provided for superb linearity ■ Locking to NTSC/PAL video signals, a word clock or an internal AES/EBU sync signal is possible ■ Sampling frequency can be selected from 48 kHz, 44.1 kHz or 44.056 kHz when using a video reference signal ■ Usable sampling frequency range is 38 kHz to 50 kHz with the DABK-2001 and 40 kHz to 54 kHz with the DABK-2003 when using Word sync or AES/EBU D-1 sync signal ■ Complete A/D conversion with no reference signals is possible ■ Analog input signals to the A/D converter can be monitored both via a headphone output and a monitor output. ■ **DABK-2002** 16 bits D/A Converter Board, **DABK-2004** 20 bits D/A Converter Board ■ Two channels of AES/EBU signals can be converted to analog audio signals at 16 bits/sample in the DABK-2002 and 20 bits/sample in the DABK-2004 ■ D/A conversion with an 8-times oversampling digital filter ensures the highest quality audio ■ Can accept a sampling frequency range of 38 kHz to 54 kHz ■ Analog output signals can be monitored via both a headphone output and a monitor output.

Supplied Accessories:

19-inch Rack Mount Adaptor
AC Power Cable (3)
Extension Card

Specifications

General

Dimensions (WHD): 424 x 88 x 350mm
(16 $\frac{3}{4}$ " x 3 $\frac{1}{2}$ " x 13 $\frac{7}{8}$ ")
Weight: 19 lb. 13 oz. (9 kg.)—DAF-2000 System
Power Requirements: AC 100V to 120V/200V to 240V 50/60 Hz
Power Consumption: 90W (approx)

Inputs/Outputs

Reference Video: Black Burst
(Analog video Signal) Composite Sync
Composite video: (525/59.94, 625/50, or 525/60)
(75 Ω terminated, switchable, BNC, loop-through)
Reference Audio: WORD Sync IN: TTL compatible, 75 Ω , switchable, BNC, loop-through
AES/EBU D-1 Sync IN: AES/EBU format, XLR-3-31 type buffered, through XLR-3-32 type (1)
DIGITAL IN: AES/EBU format, XLR-3-31 type (1)
—DABK-2002 or DABK-2004
DIGITAL OUT: AES/EBU format, XLR-3-32 type (1)
—DABK-2001 or DABK-2003
ANALOG IN: +4 dBs (+28 dBs max.) adjustable range of -4 to +8 dB, 20 k Ω or 600 Ω (selectable, balanced, XLR-3-31 type (x 2)
—DABK-2001 or DABK-2003
ANALOG OUT: +4 dBs (+28 dBs max.) adjustable range of -4 to +8 dB, < 60 Ω , balanced, XLR-3-32 type (x 2)
—DABK-2002 or DABK-2004
HEADPHONE OUT: Stereo Phone (x 1)
MONITOR OUT: +4 dBs (+24 dBs max.), < 60 Ω , balanced XLR-3-32 type (x 2)

Audio

Quantization: DABK-2003/2004—20 bits/sample
DABK-2001/2002—16 bits/sample
Frequency Response: DABK-2001/2002—20 Hz to 20 kHz
(+0.5/-1.0) dB
DABK-2003/2004—20 Hz to 20 kHz
(± 0.5) dB
Total Harmonic Distortion: DABK-2001/2002—< 0.05% at 1 kHz,
+4 dB output, emphasis OFF
DABK-2003/2004—< 0.03% at 1 kHz,
+4 dB output, emphasis OFF
Signal-to-Noise Ratio: DABK-2001/2002—> 90 dB (at max. input level, emphasis OFF)
DABK-2003/2004—> 102 dB (at max. input level, emphasis OFF)
Crosstalk: DABK-2001/2002—< -80 dB
DABK-2003/2004—< -90 dB
Emphasis: 50 μ s/15 μ s (ON/OFF, selectable)
—DABK-2001/2003
Deemphasis: 50 μ s/15 μ s (ON/OFF, automatic selection)
—DABK-2002/2004
Sampling Frequency: DABK-2001/2003;
When using reference or internal clock generator:
—44.056 kHz, 44.1 kHz, or 48 kHz, selectable
When using Word sync or AES/EBU sync signal
—38 kHz to 50 kHz (DABK-2001)
40—kHz to 54 kHz (DABK-2003)
DABK-2002/2004; 38 kHz to 54 kHz

Select™ Systems for Post Production



Select™ Systems

Select™ Systems for Post Production

■ Select Systems are a series of complete post-production systems that are predesigned and pre-engineered by Sony's Systems Integration Division ■ Seven levels of system configuration offered from simple A/B roll to a fully digital edit suite ■ Sony assures professional setup and installation backed by training and technical support

Select™ Systems

Select™ System for Duplication

- Real Time duplication with up to 1,000 slave VTRs
- 3 levels of Master Control capability
- 4 levels of Slave VTR racking
- Automated operation for unattended production



H

Professional Audio

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Supplied Accessories:

AC Power Cable (x 2)
Remote Cable (10m)
RH-10DA Empty Reel (10")
Multi-connector Plug (27-pin male, x 6)
Multi-connector Plug (27-pin female, x 6)
RM-3348 Remote Control Unit with Stand

Optional Accessories:

DABK-3340 Remote Interface Board for PCM-3348
DABK-3341 Upgrade Kit for PCM-3348
DMU-3048 Digital Meter Unit for PCM-3348

Specifications

Tape Format/ Performance

Recording Format: DASH-F double density
Number of Tracks: 48 digital audio tracks, CTL track, TC track and 2 cue tracks

Tape Speed
(at fs = 48 kHz): 76.20 cm/sec.
Recording Time: 60 min. with 14" reel at fs = 48 kHz
FF and REW Time: 4 min. 20 sec. with 14" reel
Variable Speed Range: ± 12.5%

Digital Audio Signal

Sampling Frequency: 48 kHz, 44.1 kHz and 44.056 kHz
Quantization: 16-bit linear
Dynamic Range: > 90 dB (emphasis ON)
Frequency Response: 20 Hz–21,700 Hz +0.5 dB/–1.0 dB
Total Harmonic Distortion: < 0.1% (+4 dBs)
Wow and Flutter: Below measurable limit
Inter-Channel Crosstalk: < –80 dB
Editing Resolution: 1 sector (1 msec. at fs = 48 kHz)
Crossfade Punch In/Out (fs = 48 kHz): 1.4 msec. to 341.3 msec. (in 16 steps)
Splice Editing: 5.2 msec.
Emphasis: 50 μs/15 μs, on/off selectable

Inputs/Outputs

Analog Inputs: Digital Audio IN (x 48): +4 dBs (+24 dBs max.) 10 kΩ or more, balanced, NK-27-31SL (1NK consists of 8 ch in total 6NKs)
Analog Audio IN (x 2): +4 dBs (+19 dBs max.) 10 kΩ, balanced, XLR-3-31 type

PCM-3348

Digital Audio Multi-Channel Recorder

- 1/2" DASH recorder with 48 digital audio tracks, 2 cue tracks and one track each for CTL and time code signals
- Compatible with PCM-3324A/3324 in recording and playback of digital audio tracks 1 through 24
- 2 times oversampling digital filtering for both A/D and D/A converters
- Wide interfacing—balanced analog multi I/O and three types of digital I/O (AES/EBU, SDIF-2 balanced/unbalanced)
- Comprehensive microprocessor-controlled servo system, unique design and excellent mechanics for fast and stable transport
- Built-in time code generator/reader capable of handling SMPTE drop frame/non-drop frame, EBU and film time codes
- 48 kHz, 44.1 kHz or 44.056 kHz sampling frequency selectable
- Advanced digital/analog output function enables pre-delay adjustment in 1-sample steps to compensate for signal processing delay in external equipment
- Approx. 20 sec. of digital audio data can be stored in sound memory and re-recorded back onto tape at any position
- Real-time digital ping pong

Specifications (continued)

Analog Outputs: Digital Audio OUT (x 48): +4 dBs (+24 dBs max.) < 100Ω load, balanced, NK-27-32S (1NK consists of 8 ch in total 6 NKs)
Analog Audio OUT (x 2): +4 dBs (+19 dBs max.), < 100Ω load, balanced, XLR-3-32 type

Digital Inputs: AES/EBU: XLR-3-31 type
SDIF-2 balanced: RS-422, D-sub 50-pin (x 2) (cover 48 ch)
SDIF-2 unbalanced: TTL level, 75Ω, BNC

Digital Outputs: AES/EBU: XLR-3-32 type
SDIF-2 balanced: RS-422, D-sub 50S (x 2) (cover 48 ch)
SDIF-2 unbalanced: TTL level, 75Ω, BNC

Other Inputs: WORD SYNC IN (loop through): TTL level, 75Ω, unbalanced, BNC
SECTOR SYNC IN (loop through): TTL level, 75Ω, unbalanced, BNC
SYNC INPUT VIDEO: TTL level, 75Ω, unbalanced, BNC, COMPOSITE VIDEO, COMPOSITE SYNC and SQUARE WAVE
REMOTE 1 IN: SRIF-1 format, TTL level, D-sub 37P
REMOTE 3 IN: SRIF-3 format, RS-422, D-sub 50P
TIME CODE IN: 0.5Vp-p–10Vp-p, 10 kΩ, balanced, XLR-3-31 type
SECTOR ADDRESS IN: TTL level, 75Ω, BNC
EXT. SPEED CONTROL IN: ±10V, 10 kΩ, balanced, XLR-3-31 type
EXT. PHASE CONTROL IN: ±10V, 10 kΩ, balanced, XLR-3-31 type

Other Outputs: WORD SYNC OUT (x 2): TTL level, 75Ω, BNC
SECTOR SYNC OUT (x 2): TTL level, 75Ω, BNC
TIME CODE OUT: 2.4Vp-p, 200Ω (PCM-3348), 1.5Vp-p–8Vp-p, 100Ω (PCM-3324A), balanced, XLR-3-32 type
SECTOR ADDRESS OUT: TTL level, 75Ω, BNC

General

Power Requirements: AC-100–120V/220–240V, 50/60 Hz
Power Consumption: 1.2 kW
Dimensions (WHD): 916 x 997 x 740mm (36 1/8" x 39 3/8" x 29 1/4")
Weight: 543 lb. (246 kg.)

RM-3348

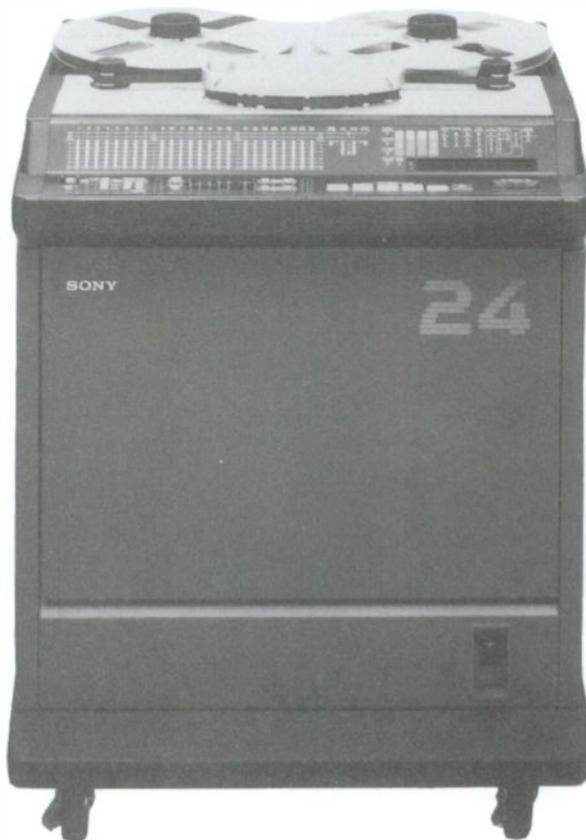
Remote Control Unit for PCM-3348 (Supplied)

■ Provides control over all functions of PCM-3348 including variable speed control, digital ping pong, sound memory, memory back up for three days, repro mute, synchronized operation of two or three PCM-3348 or PCM-3324A/3324 machines

Specifications

Dimensions (WHD): 52 x 1068 x 536mm
(20³/₄" x 42¹/₆" x 21¹/₆") with stand
Weight: 61 lb. 12 oz. (28 kg.) with stand
Power Requirements: AC-100V-120V/220V-240V, 50/60 Hz
Power Consumption: 42W





Supplied Accessories:

10-inch Reel
AC Power Cable (2)
Extension Board

Optional Accessories:

RM-3324 Remote Control Unit
RM-3324S Remote Control Unit
DABK-3321 REMOTE-1 Interface Board: Parallel remote interface board for connection between the PCM-3324S and external equipment, such as a synchronizer
DABK-3322 Interface Board: A PCM-3324S, fitted with a DABK-3322, can be connected to the RM-3324S for simple remote controlled operation via a DIN 8-pin remote connector
DABK-3323 REMOTE-3 Interface Board: Serial remote interface board providing connection between the PCM-3324S and the RM-3324
DABK-3324 REMOTE-4 Interface Board: Parallel remote interface board for connection between the PCM-3324S and an audio mixing console through connectors conforming to the SRIF-4 format
DABK-3325 SDIF-2 Balanced Digital I/O Board: 24 channels of balanced SDIF-2 type digital audio data can be input and output through the D-sub 50-pin balanced connectors on the DABK-3325
DABK-3326 SDIF-2 Unbalanced Digital I/O Board: Two channels of balanced SDIF-2 type digital audio data can be input and output through the BNC type connectors on the DABK-3326
DABK-3327 AES/EBU Digital I/O Board: Two channels of AES/EBU digital audio data can be input and output through the XLR-type connectors on the DABK-3327
DABK-3328 Time Code Reader Board: Provides enhanced time code operation functions

PCM-3324S

DASH 24-Channel Digital Audio Recorder

- Conforms to the DASH-F (Digital Audio Stationary Head—Fast speed) format which has been widely accepted as a major force in digital audio
- Compatibility with other DASH machines
- PWM (Pulse Width Modulation) system for cue track recording and playback, giving a dynamic range of over 60 dB
- Up to 3 recorder multi-operation/DASH chase synchronizer
- Customer configurable design to give maximum flexibility in choosing the best combination for a particular requirement; 13 optional units, including two remote controllers
- Compact dimensions and low power consumption
- Built-in video sync capability (external synchronization)
- Flexible remote control capability provides a wide range of remote interface connections, with enhanced remote-control available from the optional remote controllers RM-3324/RM-3324S
- A/D conversion uses 1-bit delta Σ type A/D converter with 64 x oversampling digital filters, giving superb linearity; for comparable playback quality, 18-bit D/A converters with eight times oversampling digital filters are used
- Three selectable sampling frequencies and Fs shift function
- Versatile digital audio interfacing options: 2-CH AES/EBU digital I/O (with DABK-3327); 2-CH unbalanced SDIF-2 digital I/O (with DABK-3326); 24-CH balanced SDIF-2 digital I/O (with DABK-3325)
- Advanced output function
- Optional stereo sound memory
- Digital ping pong
- Stable, high speed tape transport
- 4 x normal speed prestripping
- Built-in time code generator
- Time code re-generation option
- Time code chase synchronization
- Noiseless punch IN/OUT with cross fade
- Accurate auto location
- Convenient roll-back function
- Variable speed playback ranging over $\pm 12.5\%$

Optional Accessories (continued)

DABK-3329 Sound Memory Board: Stereo sound memory control is available on the PCM-3324S by installing a DABK-3329 under RM-3324 control

DAH-24R Monitor Playback Head: Installing the DAH-24R head in the head block of the PCM-3324S allows real time confidence monitoring (Read After Write) for checking the recording when in the advanced recording mode

DMU-3024 Digital Meter Unit for PCM-3324S/3324A/PCM-3324: Displays 24 channels of digital audio signal level and over level

D-1/2-2920 1/2-inch Master Tape: 14-inch size

Recording time: 60 min. (at fs 48 kHz)

65 min. (at fs 44.1 kHz)

D-1/2-1460 1/2-inch Master Tape: 10-inch size

Recording time: 30 min. (at fs 48 kHz)

32 min. (at fs 44.1 kHz)

RH-14DA: Empty Reel for D-1/2-2920

RH-10DA: Empty Reel for D-1/2-1460

SU-224 Stand: with adjustable height and angle for use with the RM-3324S

SU-15 Stand: with adjustable height and angle for use with the RM-3324S

SMK-0032 IEEE 488 Interface Cable for RM-3324

CY-24A Tape Splicer: for 1/2-inch and 1/4-inch digital audio tapes

AM-9 Audio Marker

Dash Format Digital Products

Specifications

Format/Performance

Recording Format: DASH-F (Digital Audio Stationary Head-Fast Version), 1 track/channel

Digital Audio Channel: 24 channels

Quantization: 16-bit linear

Error Correction: Cross Interleave

Recording Time: 60 min. (Fs = 48 kHz) with 14" reel
65 min. (Fs = 44.1 kHz) with 14" reel

Tape Speed: 76.20 cm/sec. (Fs = 48 kHz)
70.01 cm/sec. (Fs = 44.1 kHz)
69.94 cm/sec. (Fs = 44.056 kHz)

Variable Tape Speed: ± 12.5%

Fast Forward Time: 4 min. 20 sec. (with 14" reel)

Recommended Tape: 1/2" width, Sony D-1/2-2920 (14" reel)
D-1/2-1460 (10.5" reel)

Reel Size: 14, 12.5, 10 inches

Recording Tracks: Digital tracks 1 through 24, CTL,
Analog tracks 1, 2,
Time code
< 0.40 sec.

FWD Rise Time: 16.0m/sec., max.
1.52m/sec., max. in slow wind

Shuttle Speed: ± 7.6 cm/sec. to 3.8m/sec.

Input Sensitivity: External speed control:
160 cm/sec./V (with DABK-3321)

Phase Speed Control: ± 5% /V of play speed (with/DABK-3321)

Locate Accuracy: ± 0.72 sec. with time roller, 14" reel
± 16 sector, with CTL address, 14" reel (used when the CTL address on the tape can be read)

Editing Performance

Crossfade Time:	Fs (kHz)			
	44.056	44.1	48	
Electronic editing (ms)	min.	1.5	1.5	1.4
	max.	372	372	341.3
Splice editing (ms)		5.65	5.65	5.2

Note: 16 step adjustment between min. and max.

Editing Accuracy: 1 sector
1.00 ms (Fs = 48 kHz)
1.09 ms (Fs = 44.1 kHz, 44.056 kHz)

Digital Audio Signal

Frequency Response: 20 Hz–20 kHz, within + 0.5/– 1.0 dB

Total Harmonic Distortion: < 0.07% (20 Hz–20 kHz, at reference level)

Signal-to-Noise Ratio: > 90 dB (at maximum level, EMPHASIS ON: 1 kHz)

Crosstalk: < –80 dB between channels

Emphasis: 50 μs/15 μs, ON/OFF selectable for each channel

Sampling Frequency: 44.056 kHz
44.1 kHz ± 50 ppm
48 kHz
Fs shift (0.1% down at 44.1 kHz or 48 kHz)

Delay Time of Signal Processing: Average delay time in playback: 252 blocks
Average delay time in recording: 236 blocks
Advance out: 256 words fixed

Digital Inputs/Outputs

Digital Audio I/O: SDIF-2 balanced (24-CH): RS-422, D-sub 50P (x 1) and D-sub 50S (x 1) with DABK-3325
SDIF-2 unbalanced (2-CH): TTL level 75Ω, BNC, with DABK-3326
AES/EBU IN: XLR-3-31 type (x 1), with DABK-3327
AES/EBU OUT: XLR-3-32 type (x 1), with DABK-3327

Analog Audio Signal

Frequency Response: 50 Hz–10 kHz ± 3 dB

Signal-to-Noise Ratio: > 60 dB

Total Harmonic Distortion: < 3%

Wow and Flutter: < 0.1% RMS WTD (LPF 200 Hz)

Analog Inputs/Outputs

Digital Audio In: 4 dBs (24 dBs max.), 10 kΩ or more, balanced, XLR-3-31 type (x 24)

Digital Audio Out: 4 dBs (24 dBs max.), < 100Ω, balanced, XLR-3-32 type (x 24)

Analog Audio In: 4 dBs (12 dBs max.), 10 kΩ balanced, XLR-3-31 type (x 2)

Analog Audio Out: 4 dBs (12 dBs max.), < 100Ω, balanced, XLR-3-32 type (x 2)

Other Inputs/Outputs

Time Code In: 0.5Vp-p–10Vp-p, > 10 kΩ, balanced, XLR-3-31 type (x 1)

Time Code Out: 2.4Vp-p ± 0.1V, < 100Ω, balanced, XLR-3-32 type (x 1)

Word Sync I/O: TTL compatible, 75Ω, unbalanced, with loop-through, BNC (x 2, each)

Sector Sync I/O: TTL compatible, 75Ω, unbalanced, with loop-through, BNC (x 2, each)

Sector Address I/O: TTL level, 75Ω, with loop-through, BNC (x 1, each)

Reference Video: Black Burst: 0.3Vp-p, 75Ω
COMPOSITE SYNC: 4Vp-p, 75Ω
SQUARE WAVE: 0.3Vp-p–5Vp-p, 75Ω

Remote-1 In: SRIF-1 format, TTL level, D-sub 37P (female x 1), with/DABK-3321

Ext. Speed Control In: ± 10V, > 10 kΩ, balanced, XLR-3-31 type (x 1), with DABK-3321

Ext. Phase Control In: ± 10V, 10 kΩ, balanced, XLR-3-31 type (x 1), with DABK-3321

Remote-2 In: RS-422, D-sub 9P (x 1), with DABK-3322

RM-3324S In: DIN 8-pin (x 1), with DABK-3322

Remote-3 In: SRIF-3 format, RS-422, D-sub 50P (female x 1), with DABK-3323

Remote-4 In: SRIF-4 format, D-sub 50P (male x 2), D-sub 25P (male x 1), with DABK-3324

Cable Length

Maximum Cable Length:

Digital I/O	
SDIF-2 Balance	Up to 30m
SDIF-2 Unbalance	Up to 30m
AES/EBU	Up to 100m
Sync	Up to 30m
Remote meter	Up to 100m
Remotes	
Remote-2	Up to 30m
Remote-3	Up to 120m
Remote-4	Up to 30m

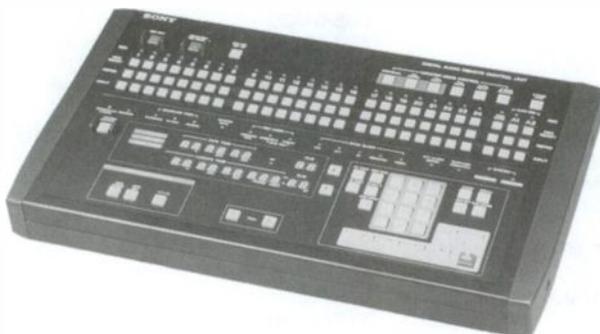
General

Dimensions (WHD): 766 x 943 x 726mm
(30 1/4" x 37 1/4" x 28 5/8")

Weight: 264 lb. 9 oz. (120 kg.) (approx.)

Power Requirements: AC-100V–240V, 50/60 Hz

Power Consumption: 800W



RM-3324S

Remote Control Unit for PCM-3324S

- Up to 120-CH DASH chase operation
- Time code chase synchronizer
- Auto punch IN/OUT operation
- 2-CH Digital I/O assign
- Crossfade time select
- Variable speed playback control/Variable speed setting
- Repeat
- Memorizing up to 100 cue points (memorizing up to 10 cue points, selectable)
- Recording/reproduction channel setup
- All input setting
- All repro setting
- Rec disable setting

Supplied Accessories:
DIN 8-Pin Remote Cable

Optional Accessories:
SU-15 Stand
SU-224 Stand

Specifications

Dimension (WHD): 472 x 266 x 78mm
(18 $\frac{5}{8}$ " x 10 $\frac{1}{2}$ " x 3 $\frac{1}{8}$ ")
Weight: 6 lb. 10 oz. (3 kg.) (approx.)
Power Supply: Supplied from the PCM-3324S via a DABK-3322



RM-3324

Remote Control Unit for PCM-3324S

- Up to 120-CH DASH sync operation
- Up to 120-CH DASH chase operation
- Time code chase synchronizer
- Stereo sound memory control
- Digital ping pong
- Auto punch IN/OUT operation
- 2-CH Digital I/O assign
- Crossfade time select
- Variable speed playback control/variable speed setting
- Repeat
- Memorizing up to 100 cue points (memorizing up to 10 cue points, selectable)
- Recording/reproduction channel setup
- Recording/reproduction channel control
- All input setting
- All repro setting
- Rec disable setting

Supplied Accessories:
AC Power Cable
50-Pin Remote Cable

Specifications

Dimensions (WHD): Unit: 472 x 399 x 187mm
(18 $\frac{5}{8}$ " x 15 $\frac{3}{4}$ " x 7 $\frac{3}{8}$ ")
Stand: 525 x 600 x 536mm
(20 $\frac{3}{4}$ " x 23 $\frac{3}{8}$ " x 21 $\frac{1}{8}$ ")
Weight: Unit: 24 lb. 4 oz. (11 kg.) (approx.)
Stand: 31 lb. 15 oz. (14.5 kg.) (approx.)
Power Requirements: AC-100V-240V, 50/60 Hz
Power Consumption: 30W

PCM-3324A

Digital Audio Multi-Channel Recorder

- 1/2" DASH recorder with 24 digital audio tracks, 2 cue tracks and one track each for CTL and time code signals
- Switchable 48 kHz and 44.1 kHz sampling frequencies
- Bi-directional manual search to any desired point on the tape using shuttle dial
- Auto locate of any cue point
- Electronic punch in/out with crossfade variable in 16 steps
- Splice editing
- Two selectable channels of AES/EBU and SDIF-2 digital I/O
- Built-in video clock board for synchronized operation with video equipment
- 2 times oversampling A/D and D/A with digital filtering
- External synchronization and external servo control
- Variable speed playback

Supplied Accessories:

AC Power Cable
RH-10DA Empty Reel (10")
RM-3310 Remote Control Unit

Optional Accessories:

DABK-3000 Video Clock Board for PCM-3324A
DMU-3024 Digital Meter Unit for PCM-3324A
D-1/2-2920 Digital Master Tape (65 min. at 44.1 kHz)
D-1/2-1460 Digital Master Tape (32 min. at 44.1 kHz)
RH-14DA Empty Reel for D-1/2-2920
RH-10DA Empty Reel for D-1/2-1460
CY-24A Digital Tape Splicer



Specifications

Tape Format/

Performance

Recording Format: DASH-F normal density
Number of Tracks: 24 digital audio tracks, CTL track, TC track and 2 cue tracks

Tape Speed
(at fs = 48 kHz): 76.20cm/sec.
Recording Time: 60 min. with 14" reel at fs = 48 kHz
FF and REW Time: 4 min. 55 sec. with 14" reel
Variable Speed Range: ± 12.5%

Digital Audio Signal

Sampling Frequency: 48 kHz and 44.1 kHz
Quantization: 16-bit linear
Dynamic Range: > 90 dB (emphasis ON)
Frequency Response: 20 Hz-20,000 Hz +0.5 dB/-1.0 dB

Total Harmonic Distortion: < 0.1% (+4 dBs)
Wow and Flutter: Below measurable limit
Inter-Channel Crosstalk: < -80 dB

Editing Resolution: 1 sector (1 msec. at fs = 48 kHz)
Crossfade Punch In/Out (fs = 48 kHz): 1.33 msec.-341 msec. (in 16 steps)
Splice Editing: 5.2 msec.
Emphasis: 50 μs/15 μs, on/off selectable

Inputs/Outputs

Analog Inputs: Digital Audio IN (x 24): +4 dBs (+24 dBs max.) 10 kΩ or more, balanced, XLR-3-31 type
Analog Audio IN (x 2): +4 dBs (+12 dBs max.) 10 kΩ, balanced, XLR-3-31 type

Analog Outputs: Digital Audio OUT (x 24): +4 dBs (+24 dBs max.) < 100Ω, balanced XLR-3-32 type
Analog Audio OUT (x 2): +4 dBs (+12 dBs max.), < 100Ω, balanced, XLR-3-32 type

Digital Inputs: AES/EBU: XLR-3-31 type
SDIF-2 balanced: RS-422, D-sub 50-pin (x 2) (cover 24 ch)
SDIF-2 unbalanced: TTL level, 75Ω, BNC

Digital Outputs: AES/EBU: XLR-3-32 type
SDIF-2 balanced: RS-422, D-sub 50S (x 2) (cover 24 ch)
SDIF-2 unbalanced: TTL level, 75Ω, BNC

Other Inputs: WORD SYNC IN (loop through): TTL level, 75Ω, unbalanced, BNC
SECTOR SYNC IN (loop through): TTL level 75Ω, unbalanced, BNC
SYNC INPUT VIDEO: TTL level, 75Ω, unbalanced, BNC, COMPOSITE VIDEO, COMPOSITE SYNC and SQUARE WAVE
REMOTE 1 IN: SRIF-1 format, TTL level, D-sub 37P
REMOTE 3 IN: SRIF-3 format, RS-422, D-sub 50P
TIME CODE IN: 0.5-10 Vp-p, 10 kΩ, balanced, XLR-3-31 type
SECTOR ADDRESS IN: TTL level, 75Ω, BNC
EXT SPEED CONTROL IN: ±10V, 10 kΩ, balanced, XLR-3-31 type
EXT. PHASE CONTROL IN: ±10V, 10 kΩ, balanced, XLR-3-31 type

Other Outputs: WORD SYNC OUT (x 2): TTL level, 75Ω, BNC
SECTOR SYNC OUT (x 2): TTL level, 75Ω, BNC
TIME CODE OUT: 2.4Vp-p, 200Ω (PCM-3348), 1.5Vp-p-8Vp-p, 100Ω (PCM-3324A), balanced, XLR-3-32 type
SECTOR ADDRESS OUT: TTL level, 75Ω, BNC

General

Power Requirements: AC-100V-120V/220V-240V, 50/60 Hz
Power Consumption: 1.2 kW
Dimensions (WHD): 842 x 1,002 x 745mm (33 1/4" x 39 1/2" x 29 1/8")
Weight: 400 lb. (180 kg.)

RM-3310

Remote Control Unit for PCM-3324A/3324

- Single cable connection to PCM-3324A/3324
- Consists of compact system control unit and separate keyboard for audio control
- Enables synchronized operation of up to three PCM-3324A/3324 recorders
- Complete master control and precise auto locate function

Optional Accessories:
SU-15 Mounting Stand

Specifications

Dimensions (WHD): System Control Unit
424 x 152 x 260mm
(16⁷/₁₀" x 6" x 10¹/₈")
Audio Control Unit
424 x 132 x 51mm
(16⁷/₁₀" x 5¹/₈" x 2")
Weight: System Control Unit: 16 lb. 8 oz. (7.5 kg.)
Audio Control Unit: 5 lb. 8 oz. (2.5 kg.)
Power Requirements: AC-100V-120V/220V-240V, 50/60 Hz
Power Consumption: 32W



VSU-3310

Vari Sync Unit

- Provides word sync output for varying the tape speed of PCM-3324A/3324/3324S within a range of $\pm 12.5\%$, making it easy to obtain digital audio signals of different pitches
- Fixed or variable word sync output available
- Capable of producing word sync output in synchronization with any of composite video signal, word clock and TTL level rectangular wave
- Complete interchangeability with RM-3310/IF-3310 system

Supplied Accessories:
Rack Mount Adaptor
IEEE-488 Cable (10m)

Specifications

Inputs/Outputs: VIDEO IN
WORD IN
AUX IN
EXT PHASE IN
SUB IN
WORD OUT
IEEE-488
SECTOR I/O
Power Requirements: AC-100V-120V/220V-240V, 50/60 Hz, selectable
Power Consumption: 23W
Dimensions (WHD): 424 x 44 x 330mm
(16³/₄" x 1³/₄" x 13")
Weight: 9 lb. 8 oz. (4.3 kg.)

IF-3310

Console Interface

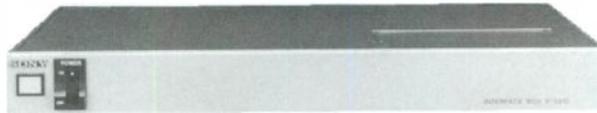
■ Adds versatility to the system set-up of PCM-3324A/3324/3324S digital audio multi-channel recorder/RM-3310 remote controller combination by making it compatible with specified mixing console ■ Supports tape transport control and channel REC READY control of 24 channels

Supplied Accessories:

IEEE-488 Cable (2m)
TACH Pulse Cable (10m)
D-sub 50-Pin Connector and Shell for REC READY control (2)
D-sub 25-pin connector and shell
D-sub 37-pin connector and shell for TRANSPORT control
Rack Mount Adaptor

Specifications

Inputs/Outputs: TRANSPORT CONTROL
REC READY CONTROL
IEEE-488
TACH
AUX
Power Requirements: AC-100V-120V/220V-240V, 50/60 Hz
Power Consumption: 18W
Dimensions (WHD): 424 x 44 x 330mm
(16 $\frac{3}{4}$ " x 1 $\frac{3}{4}$ " x 13")
Weight: 9 lb. 15 oz. (4.5 kg.)





PCM-3402

Digital Audio 2-Channel Recorder

- Switchable tape speed—7.5 ips (DASH-S) or 15 ips (TWIN DASH) ■ Built-in editing facility to enable electronic editing between two PCM-3402's ■ Two pairs of time code generator/readers to allow chase synchronization between two time codes of different types ■ 6 chase synchronization modes to bring greater convenience and efficiency in post-production ■ Digital level control (+21 dB to $-\infty$) and balance control (max. ± 3 dB) ■ 50-pin parallel remote Sony 9-pin serial remote connectors ■ 3-head configuration (REC-PB-REC) to enable sync recording (punch-in/out) and simultaneous monitoring ■ Individually selectable crossfade time for punch-in/out operation and electronic editing ■ 16 M-bit stereo digital sound memory capable of memorizing up to 12 seconds of stereo audio data (6 seconds each from recorder and player) to permit precise and efficient edit point search)

Supplied Accessories:

- Stand for Mounting PCM-3402
- AC Power Cable
- R-1/4-10DA 10 $\frac{1}{2}$ " Empty Reel
- Reel Clamps (2)

Optional Accessories:

- RM-3400 Remote Control Unit
- DABK-3400 Auxiliary D/A Board
- IF-3402 Interface Box

Specifications

Tape Format/Performance

Recording Format: DASH-S/TWIN-DASH selectable
 Number of Tracks: 2 digital audio tracks, CTL track, TC track and 2 cue tracks

Tape Speed (at fs = 48 kHz)
 Low: 19.05 cm/sec. (7.5 ips)
 High: 38.1 cm/sec. (15 ips)

Recording Time:
 Low: 180 min. with 12 $\frac{1}{2}$ " reel
 High: 90 min. with 12 $\frac{1}{2}$ " reel

FF and REW Time: 3.5 min. with 10 $\frac{1}{2}$ " reel
 Variable Speed Range: $\pm 12.5\%$

Digital Audio Signal

Sampling Frequency: 48 kHz, 44.1 kHz and 44.056 kHz
 Quantization: 16-bit linear
 Dynamic Range: > 90 dB (emphasis ON)
 Frequency Response: 20 Hz–20,000 Hz (+0.5/–1.0) dB
 Total Harmonic Distortion: < 0.05%
 Wow and Flutter: Below measurable limit
 Inter-Channel Crosstalk: < –80 dB
 Editing Resolution: Within 1 ms
 Crossfade Punch In/Out (fs = 48 kHz): 0 ms–171 ms (in 16 steps)
 Splice Editing: 0 ms–10.7 ms (in 16 steps)
 Emphasis: 50 μ s/15 μ s on/off selectable

Input/Outputs

Analog Inputs: LINE IN (x2): 4 dBs (24 dBs max.) –2 dB to 10 dB adjustable, < 50 Ω balanced XLR-3-31 type
 AUX TRACK IN (x2): 4 dBs (14 dBs max.) 10 k Ω , balanced XLR-3-31 type

Input/Outputs (continued)

Analog Outputs: LINE OUT (x2): 4 dBs (24 dBs max.) 600 Ω load, –10 dB to 2 dB adjustable, < 50 Ω , balanced XLR-3-32 type
 AUX TRACK OUT (x2): 4 dBs (14 dBs max.), 600 Ω load, < 50 Ω balanced, XLR-3-32 type

Digital Inputs: AES/EBU: XLR-3-31 type SDIF-2 unbalanced: TTL compatible, BNC

Digital Outputs: AES/EBU: XLR-3-32 type SDIF-2 unbalanced: TTL compatible BNC

Other Inputs: WORD SYNC IN (loop through): TTL level; 75 Ω , unbalanced, BNC
 COMPOSITE SYNC IN: TTL level, 75 Ω BNC, NTSC/PAL/SECAM, > 0.3Vp-p
 TIME CODE IN: 10 k Ω , balanced, XLR-3-31 type
 PARALLEL REMOTE CONTROL IN: TTL compatible, D-sub 50S
 SERIAL REMOTE CONTROL IN (loop through): Sony 9-pin serial remote, RS-422, D-sub 9-pin

Other Outputs: WORD SYNC OUT: TTL compatible; 75 Ω , BNC
 TIME CODE OUT: 200 Ω , balanced; XLR-3-32 type

General

Power Requirements: AC-100V–120V/220V–240V, 50/60 Hz
 Power Consumption: 300W
 Dimensions(WHD): 680 x 1,120 x 782mm (26 $\frac{7}{8}$ " x 44 $\frac{1}{8}$ " x 30 $\frac{7}{8}$ ")
 Weight: 169 lb. 13 oz. (77 kg.)

APR-24

24-Channel Multitrack Audio Recorder

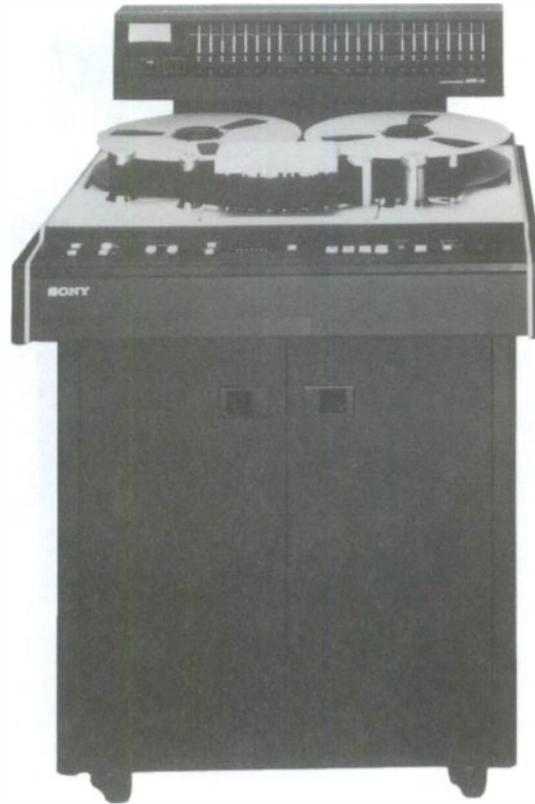
- 24 track recording/playback on 2" tape
- Supplied remote controller
- 16-bit microprocessor controls all transport parameters
- Deep-webbed die-cast deck provides extra strength for stable handling of tape
- Servo-controlled DC capstan motor with ceramic shaft for long life and mechanical precision
- Choice of stored presets for overbias selection, reference flexibility, tape formulation and equalization standards
- Three alternative alignment presets per tape speed can be stored in non-volatile memory
- Amorphous record and playback heads deliver wide response and long life
- Transformerless, balanced input and outputs
- Full-range, bi-color bargraph display, Zoom mode provides finer resolution of 0.25 dB around the 0 dB point
- Built-in time code generator/reader
- Synchronization to LTC and VITC, including SMPTE D/ND, EBU and film
- Chases and locks to external time code, tone and video
- Burst time code output facility

Supplied Accessories:

- Remote Control Unit
- Empty Reel
- Blank Tape
- Extension Board
- Preset Alignment Card Pack
- Spare Fuses
- Tuchel® Connector Kit

Optional Accessories:

- SU-224 Stand for mounting supplied remote controller
- MB-24U Rack Mount Kit for mounting supplied remote controller into 19" rack
- MB-24M Mounting Kit for mounting RM-5010/RM-3110 on supplied remote controller of APR-24
- MB-24D Mounting Kit for mounting dual multitrack remote controller on supplied remote controller of APR-24
- MB-24H Mounting Kit for mounting RM-3400 on supplied remote controller of APR-24
- MB-24A Arm Rest
- APR-OP24C Console Interface provides parallel record ready commands to audio mixing console



Specifications

Configurations:	24 analog audio tracks 2"	Weighted	
Reel Size:	10"	30 ips, AES:	61 dB
Tape Speed:	15 ips and 30 ips (38.1 and 76.2 cm/sec.)	15 ips, NAB:	57 dB
Bias Frequency:	400 kHz	7.5 ips:	—
Erase Frequency:	100 kHz	3rd Harmonic Distortion	
Depth of Erasure:	> 75 dB at 1 kHz, 510 nWb/m	(250 nWb/m, 1 kHz)	
Frequency Response		30 ips, AES:	< 0.15%
Record/Reproduce		15 ips, NAB:	< 0.35%
30 ips, AES:	48 Hz–25 kHz	7.5 ips, NAB:	—
	–0.75 dB/–3 dB	Wow and Flutter	
15 ips, NAB:	25 Hz–24 kHz	(DIN 45507 weighted)	
	+0.75 dB/–3 dB	30 ips:	0.03%
7.5 ips, NAB:	—	15 ips:	0.04%
Record/Sync		7.5 ips:	—
30 ips, AES:	48 Hz–23 kHz	Inputs	
	+0.75 dB/–2 dB	Audio Inputs:	Tuchel® type
15 ips, NAB:	25 Hz–18 kHz	Time Code Input	XLR-3-31 type
	+0.75 dB/–2 dB	Video Input:	75Ω, BNC
7.5 ips, NAB:	—	Outputs	
Signal to Noise Ratio		Audio Outputs:	Tuchel® type
(250 nWb/m)		Time Code Output:	XLR-3-32 type
Unweighted		Video Output:	75Ω, BNC
20 Hz–20 kHz		Power Requirements:	AC-100V/110V/120V
30 ips, AES:	58 dB		200V/220V/240V 50/60 Hz, selectable
15 ips, NAB:	54 dB	Power Consumption:	1.2 kW
7.5 ips, NAB:	—	Dimensions (WHD):	790 x 1,168 x 729mm
			(31 ¹ / ₈ " x 46" x 28 ³ / ₈ ")
		Weight:	400 lb. (181 kg.)



APR-5003V

Audio Recorder

- 12 $\frac{1}{2}$ " reel, $\frac{1}{4}$ " format two channel NAB standard three speed recorder/reproducer including IEC standard center track time code capability
- Internal chase synchronization to VITC or LTC time code
- Video style preview-review editing with Sony video editor BVE-910/9100 system
- Time code generation locked to a video reference
- Burst time code for synchronization with external devices
- 16-bit microprocessor control
- Precision tape counter with both location and go-to displays
- Forward-reverse tape shuttling and wind speed control through Manual Velocity Control (MVC)
- $\pm 50\%$ vari-speed range
- 400 kHz bias frequency for low modulation noise, low distortion and reduced "edit squeal"
- Spot erase function sensing
- Microprocessor-managed audio alignments with non-volatile parameter memory
- Instant recall of "personality" presets upon plug-in of alternative head block units
- Quick-change alignment stable head block units

Supplied Accessories:

- Fuse Set
- AC Power Cable
- Reel Clamper (2)
- Head Plate Cover
- Extender Board
- User Lable (50 copies)
- $\frac{1}{4}$ " x 10 $\frac{1}{2}$ " tape and empty reel

Optional Accessories:

- RM-5010 Remote Control Unit. Transport remote control
- SU-14 Tape Recorder Stand for mounting, features 15-angle positioning
- APR-HB5002 Head Block Unit for APR-5002
- APR-HB5002W Head Block Unit for APR-5002W
- APR-HB5002D Head Block Unit for APR-5002D
- APR-HB5002H Head Block Unit for APR-5002H

Specifications

Configurations: 2 analog audio tracks, 1 time code track NAB $\frac{1}{4}$ "
 Reel Size: NAB A: (3, 5, 7"), NAB B: (10 $\frac{1}{2}$ "")
 Tape Speed: 7.5, 15 and 30 ips (19.05, 38.1 and 75.2 cm/sec)
 Bias Frequency: 400 kHz
 Erase Frequency: 100 kHz
 Depth of Erasure: > 76 dB at 1 kHz, 250 nWb/m

Frequency Response

Record/Reproduce

30 ips, AES: 50 Hz-28 kHz
 + 0.75 dB/ -3 dB
 15 ips, NAB: 30 Hz-24 kHz
 + 0.75 dB/ -2 dB
 7.5 ips, NAB: 30 Hz-20 kHz
 + 0.75 dB/ -2 dB

Record/Sync

30 ips, AES: 50 Hz-20 kHz
 + 0.75 dB/ -3 dB
 15 ips, NAB: 30 Hz-16 kHz
 + 0.75 dB/ -2 dB
 7.5 ips, NAB: 30 Hz-8 kHz
 + 0.75 dB/ -2 dB

Signal to Noise Ratio (250 nWB/m)

Unweighted

20 Hz-20 kHz
 30 ips, AES: 59 dB
 15 ips, NAB: 56 dB
 7.5 ips, NAB: 56 dB

Weighted

30 ips, AES: 64 dB
 15 ips, NAB: 61 dB
 7.5 ips: 61 dB (NAB)

3rd Harmonic Distortion (250 nWb/m, 1 kHz)

30 ips, AES: < 0.14%
 15 ips, NAB: < 0.31%
 7.5 ips, NAB: < 1.01%

Wow and Flutter (DIN 45507 weighted)

30 ips: 0.025%
 15 ips: 0.035%
 7.5 ips: 0.055%

Inputs

Audio Inputs: XLR-3-31 type (x 3)
 Time Code Input: XLR-3-31 type (x 1)
 Video Input: 75 Ω , BNC

Outputs

Audio Outputs: XLR-3-32 type (x 3)
 Time Code Output: XLR-3-32 type
 Video Output: 75 Ω , BNC
 Power Requirements: AC-100/120/220/240V, 50/60 Hz, selectable
 Power Consumption: 300W
 Dimensions (WHD): 480 x 410 x 502mm
 (19" x 16 $\frac{1}{8}$ " x 19 $\frac{7}{8}$ "")
 580 x 1,090 x 520mm
 (22 $\frac{1}{8}$ " x 43" x 20 $\frac{1}{2}$ "")
 with SU-14 Stand

Weight: 91 lb. (41.26 kg.) w/o SU-14

Specifications for Analog Audio Recorders

SPECIFICATIONS	MODEL	APR-24	APR-5003V
Configurations		24 analog audio tracks 2"	2 analog audio tracks 1 time code track NAB 1/4"
Reel Size		10"	NAB A: (3, 5, 7"), NAB B: (10 1/2")
Tape Speed		15 ips and 30 ips (38.1 and 76.2 cm/sec.)	7.5, 15 and 30 ips (19.05, 38.1 and 76.2 cm/sec.)
Bias Frequency			400 kHz
Erase Frequency			100 kHz
Depth of Erasure		> 5 dB at 1 kHz, 510 nWb/m	> 76 dB at 1 kHz, 250 nWb/m
Frequency Response Record/Reproduce 30 ips, AES 15 ips, NAB 7.5 ips, NAB Record/sync 30 ips, AES 15 ips, NAB 7.5 ips, NAB		48 Hz–25 kHz +0.75 dB/–3 dB 25 Hz–24 kHz +0.75 dB/–3 dB — 48 Hz–23 kHz +0.75 dB/–2 dB 25 Hz–18 kHz +0.75 dB/–2 dB —	50 Hz–28 kHz +0.75 dB/–3 dB 30 Hz–24 kHz +0.75 dB/–2 dB 30 Hz–20 kHz +0.75 dB/–2 dB 50 Hz–20 kHz +0.75 dB/–3 dB 30 Hz–16 kHz +0.75 dB/–2 dB 30 Hz–8 kHz +0.75 dB/–2 dB
Signal-to-Noise Ratio (250 nWb/m) Unweighted 20 Hz–20 kHz 30 ips, AES 15 ips, AES 7.5 ips, AES Weighted 30 ips, AES 15 ips, AES 7.5 ips, AES		58 dB 54 dB — 61 dB 57 dB —	59 dB 56 dB 56 dB 64 dB 61 dB 61 dB (NAB)
3rd harmonic distortion (250 nWb/m, 1 kHz) 30 ips, AES 15 ips, NAB 7.5 ips, NAB		<0.15% <0.35% —	<0.14% <0.31% <1.01%
Wow and Flutter (DIN 45507 Weighted) 30 ips 15 ips 7.5 ips		0.03% 0.04% —	0.025% 0.035% 0.055%
Inputs Audio Inputs Time Code Input Video Input		Tuchel® type XLR-3-31 type 75Ω, BNC	XLR-3-31 type (x3) XLR-3-31 type (x1) 75Ω, BNC
Outputs Audio Output Time Code Output Video Output		Tuchel® type XLR-3-32 type 75Ω, BNC	XLR-3-32 type (x3) XLR-3-32 type 75Ω, BNC
Power Requirements		AC-100V/110V/120V/200V/220V/240V 50 Hz–60 Hz, selectable	AC-100V/120V/220V/240V 50 Hz–60 Hz, selectable
Power Consumption		1.2 kW	300W
Weight		400 lb. (181 kg.)	91 lb. (41.26 kg.) w/o SU-14



TC-D5 PROII

Portable Cassette Recorder

■ Reliable mechanism including disc-drive capstan-servo tape transport ■ Powered by two "D" size batteries; operates also on AC with the addition of optional AC-D468 AC adaptor and connects to car battery with optional DCC-127A car battery cable ■ Compact

Supplied Accessories:

Connecting Cable
Carrying Case
Shoulder Strap
Belt

Specifications

Recording System: 4-track 2-channel stereo
Frequency Response: FeCr cassette (Tape Select: Type III)
(Dolby NR OFF): 40 Hz-16,000 Hz \pm 3 dB (NAB)
40 Hz-16,000 Hz (DIN)
Total Harmonic Distortion: 0.9% (CrO₂ cassette)
Wow and Flutter: 0.06 (WRMS), \pm 0.17% (DIN)
Inputs: MIC (XLR type x 2) 0.28 mV, balanced, for low-impedance microphone
Outputs: LINE (Phono jack x 2) Output level 0.44V, < 4.7 k Ω
HEADPHONES: (Stereo phone jack x 1) 20 mW + 20 mW at 10% harmonic distortion, load impedance 8 Ω
Built-in Speaker: Approx. 5 cm (2") dia., 200 mW (at 10% harmonic distortion, DC operation)
Power Requirements: DC-3V, two "D" size batteries
DC-12V car battery with optional DCC-127A
AC-110, 120, 220, 240V, 50/60 Hz with optional AC-D468
Battery Life: Approx. 4.5 hours with "D" size alkaline batteries; approx. 2.5 hours with "D" size dry batteries
Dimensions (WHD): 242 x 48 x 168mm max
(9 $\frac{5}{16}$ " x 1 $\frac{9}{16}$ " x 6 $\frac{5}{16}$ ")
Weight: 3 lb. 12 oz. (1.7 kg.) (approx.) with batteries

CDP-3100/CDS-3100

CD Player System

- The CDP-3100/CDS-3100 is an exceptionally compact CD player system. The front loading design of the CDP-3100 player permits two of these units to be mounted side by side in a 19-inch standard rack, and up to four CDS-3100 remote controllers can be mounted in the same way
- The CDS-3100 provides very convenient remote operation of the CDP-3100 player, minimizing errors in an air applications. Only a single cable is required for the control interface
- The playback speed can be varied over a range of $\pm 12.5\%$ in 0.1% step from the CDS-3100
- A JOG search function, operated from the CDS-3100, allows speedy, easy and precise search to a desired start point
- An AES/EBU digital output allows professional digital audio equipment to be directly connected
- The CDP-3100/CDS-3100 can be fitted with various optional interface boards, so that a system can be expanded according to its application
- **DABK-3101 Memory Board** (optional)—With the DABK-3101, a memory start function which gives a rapid start and a memory JOG function to an accuracy of one WORD unit are provided
- **DABK-3102 Interface Board** (optional)—The DABK-3102 is an interface board for a digital mixer. AES/EBU digital out (which can be locked to an external sync signal in the range of 38 kHz to 50 kHz), reference video sync input, word sync input and time code signals are provided. The absolute time on a disc can be transformed to SMPTE 30 Hz NDF, 29.97 Hz DF or EBU 25 Hz timecode. This interface board also allows the CDP-3100 to be controlled from a digital mixer via 9-pin serial remote connector
- **DABK-3103 Interface Board** (optional)—With the DABK-3103, the CDP-3100 can be controlled from the DAE-3000 digital audio editor. Both an SDIF-2 output and word sync capability are provided
- The CDP-3100/CDS-3100 has other enhanced functions such as: AMS (Auto Music Sensor) function, Player Mode Setting function, Auto Remain Time indication, End Alarm function, Source Original Code Setting capability on AES/EBU digital out, Single Play function, Cue Point Memory function, Last Cue Memory function, Top Rehearsal function, and End Rehearsal function



Supplied Accessories:

CDP-3100 AC Power Cable
CDS-3100 Connecting Cable, 2m

DAT Recorders

Specifications (CDP-3100/CDS-3100, cont.)

CDP-3100 CD Player

Number of Channels: 2 (stereo)
Error Correction: Sony Super Strategy Cross Interleave
Reed Solomon Code (CIRC)
D/A Converter: 18-bit 8 times oversampling
Sampling Frequency: 44.1 kHz
Frequency Response: 20 Hz–20 kHz +0.5 dB/–1.0 dB
(maximum output level)
Harmonic Distortion: < 0.01 %
Wow and Flutter: Below measurable limit
Dynamic range: > 94 dB
Cross Talk: > 80 dB
Access Time: Within 2 seconds
Variable Speed Range: ±12.5% (0.1% steps)
Outputs:
 LINE OUT
 Balanced, XLR-3-32 type (x2), nominal
 +4 dBu (600Ω), maximum +19 dBu (600Ω)
 MONITOR OUT
 Unbalanced, Phono (x1), 0 dBu (10 kΩ)
 DIGITAL OUT
 AES/EBU, XLR-3-32 type (x1)
 HEADPHONE OUT
 20 mW (8Ω)

Parallel Remote Connector: DIN 8-pin type
Remote Control Connector: 10-pin
Power Requirements: AC-100V, 120V, 220V, 240V,
50 Hz/60 Hz
Dimensions (WHD): 212 x 118 x 408mm
(8³/₈" x 4³/₄" x 16¹/₈")
Weight: 18 lb. 11 oz. (8.5kg.) (approx.)

CDS-3100 Remote Controller

Search Precision: 1 frame (13.3 ms)
Headphone Output: 20 mW (8Ω)
Dimensions (WHD): 106 x 58 x 220mm
(4¹/₄" x 2³/₈" x 8³/₄")
Weight: 1 lb. 9 oz. (700g.) (approx.)
0 dBu = 0.775V r.m.s.

CDK-3600

CD Auto Disc Loader

- Holds 360 compact discs
- Incorporates two CD players for continuous playback, with crossfade between the two; crossfade time is variable over the range of zero to ten seconds in 0.1 second steps for each player
- Various types of CD formats such as CD-DA, CD-G, CD-I and CD-ROM can be played back
- Each player can be separately connected to an audio mixer
- Automatic cueing gives a rapid start from the point where modulation is detected on a compact disc for on-air applications
- Playback speed is variable over the range of $\pm 12.5\%$ in 0.1% steps, the adjusted playback signal being output from analog connectors
- Most operations are controlled from an external computer connected via the RS-232C or RS-422A interface
- Up to 28 CDK-3600 units can be connected through the computer interface, allowing up to 9,999 discs to be controlled from the user's computer
- Disk access time is less than two seconds and loading time is less than 15 seconds under computer control
- Digital outputs conform to both AES/EBU and unbalanced IEC-958 (type II) for direct connection to professional digital equipment
- Balanced XLR and unbalanced phono analog outputs are provided for connecting with various monitor systems
- A self-diagnosis function and hour-meter are provided for easy maintenance
- 19-inch rack mounting is possible with the optional rack mounting kit



Supplied Accessories:

AC Power Cable

Optional Accessories:

RMM-3600 19-inch Rack Mount Adaptor

Specifications

CD Storage Capacity: 360
 Number of Players: 2
 Frequency Response: 20 Hz to 20 kHz ± 0.5 dB
 Signal to Noise Ratio: > 100 dB
 Harmonic Distortion: < 0.04%
 Wow and Flutter: Below measurable limit
 Channel Separation: > 90 dB
 D/A Converter: 8 x fs 2DAC 18-bit DF (45-bit)
 Loading Time: < 15 sec.
 Access Time: < 2 sec.
 Analog Outputs: Balanced +4 dBu (+24 dBu max.)
 load impedance 600 Ω
 XLR-3-32 type (x6), (A, B, mixed)
 Unbalanced +8.5 dBu max. (50 k Ω terminated)
 Load impedance > 10 k Ω
 Phono type (x6), (A, B, mixed)
 Digital Outputs: AES/EBU, XLR-3-32 type (x2), (A, B)
 IEC-958 unbalanced (type II), Phono (x2) (A, B)
 Interface: RS-232C: D-sub 25-pin In/through
 RS-422A: D-sub 9-pin In/through
 Sub Code Outputs: D-sub 15-pin
 Variable Speed: $\pm 12.5\%$ (0.1% steps)
 Crossfade Time: 0 to 10 sec. (0.1 sec. steps)
 Power Consumption: 30W (approx.)
 Power Requirements: AC 120V, 60 Hz (U/C)
 AC 220V to 240V, 50 Hz/60 Hz (EK)
 Dimensions (WHD): 430 x 800 x 452mm (approx.)
 (17" x 31 $\frac{1}{2}$ " x 17 $\frac{7}{8}$ ") (approx.)
 Weight: 88 lb. 3 oz. (40 kg.) (approx.)

PCM-7000 Series

Professional DAT Recorders

- Allows flexible system configurations with three recorders and a full range of options for each recorder
- Sophisticated electronic editing capability
- SMPTE/EBU time code recording/reading
- Memory start for instant-start playback
- Synchronized operation with video/audio equipment
- Time code chase synchronization (PCM-7050/7030 with appropriate options)
- 4-head construction for RAW (Read-After-Write) and RMW (Read-Modify-Write)
- Search/location capability
- Variable speed playback in a range of $\pm 12.5\%$
- Switchable sampling frequencies of 48 kHz and 44.1 kHz (PCM-7010 supports recording and playback of digital audio data sampled at 32 kHz)
- Controlled from Sony video editor BVE-9100/910 or digital audio editor DAE-3000
- 19" rack mountable with optional rack mount rail/adaptor RMM-30/31

Optional Accessories:

- RM-D7200 Dual Remote Controller
- RM-D7100 Remote Controller
- DABK-7030/7010 Time Code Reader/Generator Option
- DABK-7031/7011A/7011B Digital I/O Option
- DABK-7032/7012 Memory Start Option
- DABK-7033/7013 Computer Interface (RS-232C) Option
- DABK-7055 Edit Memory Option
- RMM-30 19" Rack Mount Rail
- RMM-31 19" Rack Mount Adaptor



PCM-7050

2-Channel Digital Audio Recorder

- Sony's top range model recommended for use as the recorder in an editing system
- Millisecond accurate editing capability with DABK-7055



PCM-7030

2-Channel Digital Audio Recorder

- Optimized for use as a player in an editing system; ideal also for use in on-air or integrated audio/video systems



PCM-7010

2-Channel Digital Audio Recorder

- An affordable recorder suited for simple on-air applications
- Recording/playback of digital audio data sampled at 32 kHz

PCM-E7700

DATStation™ Dual-deck Editor

■ Large EL Screen for Graphical Editing—The PCM-E7700 has a large EL screen which graphically displays the EDL (Edit Decision List) and other operating information. This graphical presentation allows people unfamiliar with electronic editing to easily operate the PCM-E7700 without having to pay attention to the actual time code
 ■ Auto-Assemble Editing Function—As edit and out points are selected, they are displayed on the EL screen. A simple press of the Auto Edit key then initiates the complete editing sequence
 ■ High Speed Editing and Dubbing—Big savings in editing time can be achieved with the ability of the PCM-E7700 to edit and dub at twice normal speed, an advantage made possible by the development of special LSIs
 ■ Real Time Jog Capability with High Sound Quality—Newly developed technology also makes it possible to search for precise edit points in real time, using a jog dial. This mimics analog 'Rock'n Roll' cueing, giving fast edit point location with excellent sound quality
 ■ Compact and Lightweight Design—The compact, lightweight design of the PCM-E7700 means it is easy to carry and set up, providing DAT editing facilities anytime, anywhere
 ■ RAW (Read-After-Write) Function for Real Time Monitoring—A RAW function allows real time off-tape monitoring during recording, dubbing and editing
 ■ Editing Memory for Precise Editing—A large capacity edit memory enables edit point crossfade transitions to be rehearsed and modified
 ■ Time Code and Absolute Time Code Capability—SMPTE/EBU/Film time code or absolute time code can be used by the PCM-E7700 for editing. The same types of time code can be used during recording or dubbing
 ■ 44.1 kHz or 48.0 kHz Sampling Frequency
■ IDs can be inserted after recording
■ Time Code and ID Locate Capability
■ Headphone jack and unbalanced Analog Monitor Outputs are provided
■ EDL data and system set up data are stored in memory with battery back-up
■ Equipped with Both AES/EBU Digital and Balanced Analog Inputs



Supplied Accessories:

AC Power Cord
Operation Manual

Specifications

Tape Format/Performance

Recording System: Rotary-head DAT recording
 Tape Speed: Standard: 8.15mm/sec.
 Twice normal speed: 16.30mm/sec.
 FF and REW time: < 60 sec. (with Sony PDP-120)

Digital Audio Signal

Number of Channels: 2 (stereo)
 Sampling Frequencies: 48 kHz, 44.1 kHz
 Quantization: 16-bit linear
 Error Correction: Double-encoded Reed Solomon Code
 Dynamic Range: > 90 dB
 Frequency Response: 20 ~ 20,000 Hz ± 0.5 dB
 Total Harmonic Distortion: < 0.05%
 Wow and Flutter: Below Measureable Limit

Specifications

Input/Outputs

Analog Input: +4 dBu (+24 dBu max.), 10 kΩ (unbalanced) or 10 kΩ (balanced), 600Ω (balanced), XLR-3 type (x2)

Digital Input: AES/EBU: XLR-3-31(X1)

Monitor Output: -10 dBu, unbalanced, phono (x2)

Headphone Output: -26 dBu, (32Ω loaded)

Editing Characteristics

Editing Accuracy: ± 1 ms

Crossfade Time: 0 ~ 2.7s

General

Power Requirements: AC-100V/120V/220V/240V ± 10%, 50 Hz/60 Hz

Power Consumption: < 50 W

Dimensions (WHD): 380 x 120 x 420mm (15" x 4 3/4" x 17")

Weight: 28 lb. 10 oz. (13kg.) (approx.)



RM-D7300

Editing Controller

- Provides comprehensive control over editing operations with PCM-7050 and PCM-7030 via Sony 9-pin serial interface
- Makes it quick to input time code address, various ID codes and program numbers
- Enables gain control of both analog and digital inputs in the digital domain when used with PCM-7050 with DABK-7055

Supplied Accessories:

- AC Power Cable
- 9-pin Remote Cable (2)

Specifications

Dimensions (WHD): 464 x 78 x 308mm
(16³/₈" x 3¹/₈" x 12¹/₄")
Weight: 9 lb. 13 oz. (4.5 kg.)
Power Requirements: AC-100V to 240V, 50/60 Hz
Power Consumption: 10W

RM-D7200

Dual Remote Controller

- Provides remote control of two recorder transports

RM-D7100

Remote Controller

- Provides remote control of recorder transport functions of PCM-7050/7030/7010 and PCM-2700 via 37-pin parallel interface

DABK-7030/7010

Time Code Reader/Generator Option

- Provides capability of reading and generating SMPTE/EBU time code
- Enables recorder to operate in synchronization with an external video sync signal
- Provides time code chase synchronization facility to PCM-7050/7030 (DABK-7030)

DABK-7031/7011A/7011B

Digital I/O Option

- Conforms to the AES/EBU format (all models); offers unbalanced (IEC-958) digital I/O (DABK-7011A/7011B) and Sony SDIF-2 interface (DABK-7011B)
- Allows recorder to lock to an external word sync signal

DABK-7032/7012

Memory Start Option

- Uses 4 Mbit digital memory to give an instant start playback facility to PCM-7030/7010

DABK-7033/7013

Computer Interface (RS-232C) Option

- Enables recorder to be controlled from a computer RS-232C port
- Useful for building up a sound effects library or a programmed playback system

DABK-7055

Edit Memory Option

- Improves precision and flexibility of editing with PCM-7050
- Memory search/memory rehearsal
- Cross-fade at each edit point
- 1 ms editing accuracy

TCD-D10 PROII

2-Channel Digital Audio Recorder

- Portable DAT recorder of extremely compact dimensions
- Easy-to-read LCD multi-function display
- Absolute time recording
- Balanced, switchable MIC/LINE inputs
- Built-in hours meter, microphone low-cut filter and microphone attenuator/limiter
- AES/EBU type digital I/O
- High-speed search using the ID recorded in sub-code area
- Built-in speaker
- AC/DC operation: AC-100V to 240V with ACP-88 AC adaptor; DC-6V with NP-22H rechargeable battery pack

Supplied Accessories:

- Carrying Case
- Shoulder Belt
- NP-22H Rechargeable Battery Pack (2)
- ACP-88 AC Power Adaptor
- BC-D10 Charging Adaptor
- Digital I/O Connecting Cable
- SAD-44 Microphone Stand Screw Adaptor (PF $\frac{1}{2}$ " \leftrightarrow W $\frac{3}{8}$ ")
- SAD-45 Microphone Stand Screw Adaptor (PF $\frac{1}{2}$ " \leftrightarrow NS $\frac{5}{8}$ ")

Optional Accessories:

- NP-4000 Rechargeable Battery Pack
- DCP-80 Voltage Stabilizer for NP-4000
- DCC-16A/AW/AE Car Battery Cord



DAT Recorders

Specifications for DAT Recorders

SPECIFICATIONS		MODEL	PCM-7050/7030*	PCM-7010*	PCM-2700	TCD-D10 PROII
TAPE FORMAT/ PERFORMANCE	Recording System	Rotary-head DAT recording				
	Tape Speed	8.15mm/sec.			Standard: 8.15mm/sec. Long play mode: 4.075mm/sec.	8.15mm/sec.
	Recording Time (with Sony DT-120R)	120 min			Standard: 120mm Long play mode: 240mm	120mm
	FF and REW Time	< than 60 sec. (w/DT-120R)				
	Variable Speed Range	± 12.5%				
	Cueing Speed	x ¹ / ₆ , x ¹ / ₂ , x1, x3, x8 or x16 normal speed	x ¹ / ₂ , x1, x3 or x8 normal speed			—
DIGITAL AUDIO SIGNAL	Number of Channels	2 (stereo)				
	Sampling Frequency Playback Recording (analog IN)	48 kHz/44.1 kHz	48 kHz/44.1 kHz/32 kHz		48 kHz/44.1 kHz/32 kHz	48 kHz/44.1 kHz/32 kHz
	Recording (digital IN)	48 kHz/44.1 kHz	48 kHz/44.1 kHz/32 kHz		48 kHz/44.1 kHz/32 kHz (Long play mode)	48 kHz/44.1 kHz/32 kHz
	Quantization	16-bit linear (12-bit non-linear in Long play mode of PCM-2700)				
	Error Correction	Double-encoded RSC				
	Signal-to-Noise Ratio	> 90 dB				> 85 dB
	Frequency Response	20 Hz–20,000 Hz ± 0.5 dB (44.1 kHz)				20 Hz–22,000 Hz ± 1.0 dB (48 kHz)
	Total Harmonic Distortion	< 0.05%				
	Wow and Flutter	Below measurable limit				
	Channel Separation	> 80 dB at 8 kHz			> 80 dB at 1 kHz	
	Emphasis	50 μ sec/15 μ sec, on/off switchable			—	
	INPUTS/OUTPUTS	Analog Inputs	+ 4 dBs (+ 24 dBs max) 10k or 600Ω, balanced XLR-3-31 type (x2)			+ 4 dBs (+ 24 dB max) adjustable range of + 12 dBs to + 8 dBs, 10 kΩ, balanced XLR-3-31 type (x2)
Analog Outputs		+ 4 dBs (+ 24 dB max) < 50Ω, balanced XLR-3-32 type (x2)			+ 4 dBs (+ 24 dB adjustable range of max) – 12 dBs to + 8 dBs, < 50Ω, balanced XLR-3-31 type (x2)	LINE (Phono x2): –10 dBs 700Ω, unbalanced
Monitor Outputs		–20 dBs at 10 kΩ load 150Ω, unbalanced, phone (x2)			—	
Headphone Output		–26 dBs, at 8Ω load stereo phone			–27 dBs, > 8Ω, stereo phone	20 mW + 20 mW, 32Ω load, stereo phone
Digital Inputs		AES/EBU: XLR-3-31 type	AES/EBU: XLR-3-31 type SDIF-2: BNC Unbalanced (IEC-958 type I/II): Phono (x2)		Unbalanced (IEC-958 type I): Phono	Balanced (12-pin): AES/EBU type
Digital Outputs		AES/EBU: XLR-3-32 type	AES/EBU: XLR-3-32 type SDIF-2: BNC Unbalanced (IEC-958 type I/II): Phono (x2)		Unbalanced (IEC-958 type I): Phono	Balanced (12-pin): AES/EBU type
Time Code Input		SMPTE/EBU, 0.5Vp-p–10Vp-p at 10 kΩ, XLR-3-31 type			—	
Time Code Output		SMPTE/EBU, 2.4Vp-p at 600Ω load, XLR-3-32 type			—	
INPUTS/OUTPUTS (continued)	Word Sync Input	TTL compatible, 75Ω, BNC			—	—
	Word Sync Output	TTL compatible, 75Ω, BNC			—	—
	Video Sync Input	NTSC/PAL/SECAM, 0.3Vp-p–4Vp-p, 75Ω, BNC			—	—
	Parallel Remote	TTL compatible, D-sub 37-pin TTL compatible, DIN 8-pin			D-sub 37-pin	—
	Serial Remote	D-sub 9-pin			—	—
	Computer I/F	RS-232C, D-sub 25-pin			—	—
GENERAL	Power Requirements	AC-100V/120V/ 220V/240V ± 10%, 50 Hz/60 Hz	AC-100V/120V/220V/ 230V to 240V ± 10%, 50 Hz/60 Hz		AC-120V, 60 Hz (UC) AC-220V–240V 50 Hz/60 Hz (EK)	DC 6V with NP-22H AC-100–240 with ACP-88
	Battery Life	—			—	Approx. 2 hours with NP-22H
	Power Consumption	50W	80W		40W	—
	Dimensions (WHD):	424 x 132 x 474.5mm (16 ³ / ₈ " x 5 ¹ / ₈ " x 18 ³ / ₈ ")	424 x 132 x 450mm (16 ³ / ₈ " x 5 ¹ / ₈ " x 17 ³ / ₈ ")		430 x 130 x 350mm (17" x 5 ¹ / ₈ " x 13 ³ / ₈ ")	253 x 55 x 191mm (10" x 2 ¹ / ₄ " x 7 ⁵ / ₈ ")
	Weight	33 lb. (15 kg.)	39 lb. 9 oz. (18 kg.)		22 lb. 8 oz. (10.2 kg.)	4 lb. 7 oz. (2.0 kg.) with NP-22H

*With required options

PCM-2700A

2-Channel Digital Audio Recorder

- Affordable DAT recorder ■ Suited for simple program transmission at broadcasting stations and simple recording/playback use at recording studios
- Switchable sampling frequencies of 32 kHz*, 44 kHz, 1 kHz and 48 kHz
- Balanced digital I/O AES/EBU, Unbalanced (IEC-958 type I) digital I/O ■ Balanced (XLR type) analog I/O
- 4DD mechanism for stable tape transport ■ Auto locate-function based on absolute time ■ 4-head construction for RAW (Read-After-Write)
- Remote-controlled from optional RM-D7100 via 37-pin parallel connector/8-pin DIN serial connector for Fader start capability
- Long play mode for 4 hours of recording/playback of 12-bit non-linear digital audio sampled at 32 kHz frequency with PDP-120 tape
- 19-inch rack mountable with supplied rack mount adaptor

*In both Standard and Long Play modes, PCM-2700A supports recording and playback at 32 kHz sampling frequency except recording of the analog input in the Standard mode.

Supplied Accessories:

RM-D2700 Wireless Remote Control Unit
 SUM-3 AA size battery (2)
 19-inch rack mount adaptor
 RM-D7100 Overlay sheet

Optional Accessories:

RM-D7100 Remote Controller

Specifications

Tape Format/Performance

Recording System: Rotary-head DAT Recording
 Tape Speed: Standard: 8.15mm/sec.
 Long play mode: 4.075mm/sec.

Recording Time
 (with Sony DT-120R): Standard: 120 min
 Long play mode: 240 min

FF and Rew Time: < 60 sec. (w/DT-120R)

Digital Audio Signal

Number of Channels: 2 (stereo)
 Sampling Frequency
 Playback: 48 kHz/44.1 kHz/32 kHz
 Recording (Analog IN): 48 kHz/44.1 kHz/
 32 kHz (Long Play Mode)
 Recording (Digital IN): 48 kHz/44.1 kHz/32 kHz
 Quantization: 16-bit linear (12-bit non-linear in Long play mode)
 Error Correction: Double-encoded RSC
 Signal-to-Noise Ratio: > 90 dB
 Frequency Response: 20 Hz to 20,000 Hz \pm 0.5 dB
 (44.1 kHz)
 Total Harmonic Distortion: < 0.05%
 Wow and Flutter*: Below measurable limit
 Channel Separation: > 80 dB at 1 kHz



Input/Outputs

Analog Inputs: +4 dBs (+24 dBs max)
 adjustable range
 of -12 dBs to +8 dBs
 10 k Ω balanced XLR-3-31 type (x2)

Analog Outputs: +4 dBs (+24 dBs max)
 adjustable range
 of -12 dBs to +8 dBs,
 < 50 Ω , balanced XLR-3-32 type (x2)

Headphone Output: -27 dBs, > 8 Ω , stereo phone

Digital Inputs: Unbalanced (IEC 958 type I): Phono AES/EBU:
 XLR-3-31 (x1)

Digital Outputs: Unbalanced (IEC 958 type I): Phono AES/EBU:
 XLR-3-32 (x1)

Parallel Remote: D-sub 37-pin DIN 8-pin

General

Power Requirements: AC 120V, 60 Hz (UC)
 AC 220V to 240V, 50 Hz/60 Hz (EK)

Power Consumption: 40W

Dimensions (WHD): 430 x 130 x 350mm
 (17" x 5 1/8" x 13 7/8")

Weight: 22 lb. 8 oz. (10.2kg.)

*With required options



PCM-2700

2-Channel Digital Audio Recorder

- Affordable DAT recorder
- Suited for simple program transmission at broadcasting stations and simple recording/playback use at recording studios
- Switchable sampling frequencies of 48 kHz, 44.1 kHz and 32 kHz*
- Unbalanced (IEC-958 type I) digital I/O
- 4-head construction for RAW (Read-After-Write)
- Remote-controlled from optional RM-D7100 via 37-pin parallel connector
- Long Play mode for 4 hours of 12-bit non-linear digital audio recording playback with DT-120R tape
- 19" rack mountable with supplied rack mount adaptor
- Auto locate function based on absolute time

*In both Standard and Long Play modes, PCM-2700 supports recording and playback at 32 kHz sampling frequency except recording of the analog input in the Standard mode.

Supplied Accessories:

- RM-D2700 Wireless Remote Control Unit
- SUM-3 AA Battery (2)
- 19" Rack Mount Adaptor
- Overlay Sheet for RM-D7100

Optional Accessories:

- RM-D7100 Remote Controller

PCM-2300

Digital Audio Recorder

- Cost effective digital recording
- Superb sound quality
- Three alternative sampling frequencies
- Powerful error correction
- Flexible interfacing
- Absolute time recording
- Remote control facilities
- Reliable transport mechanism
- Software controlled servo
- Long recording and playback duration
- Alternative subcode recording
- Easy-to-read information display
- Date function
- Digital fader
- 19-inch rack mountable

Supplied Accessories:

RM-D2300 Wireless/Wired Remote Control Unit
 Remote Control Cable
 SUM-3 (NS) AA Size Battery (2)
 19-inch Rack Mount Adaptor
 AC Power Cable

Optional Accessories:

DT-120R/90R/60R Digital Audio Tape
 DT-120P/90P/60P/46P/30P Digital Audio Tape
 DT-10CL Cleaning Cassette

Specifications

Tape Format/Performance

Recording System: Rotary-head DAT recording
 Tape Speed: Standard: 8.15mm/sec.
 Long-play mode: 4.075 mm/sec.
 Recording Time: Standard: 120 minutes (with Sony DT-120R)
 Long-play: 240 minutes (with Sony DT-120R)
 FF and REW Time: 60 seconds (with Sony DT-120R) (approx.)

Digital Audio Signal

Number of Channels: 2 (stereo)

Sampling Frequencies:

Sampling Frequency		48 kHz 16-bit linear	44.1 kHz 16-bit linear	32 kHz 16-bit linear	32kHz* 12-bit non-linear
REC	Analog IN	Yes	Yes	No	Yes
	Digital IN	Yes	Yes	Yes	Yes
Playback		Yes	Yes	Yes	Yes

*Long play mode

Quantization: Standard: 16-bit linear
 Long-play mode: 12-bit non-linear
 Error Correction: Double-encoded Reed Solomon Code
 Signal-to-Noise Ratio: > 86 dB (A-weighted)
 Frequency Response: Standard: 20 Hz–20,000 Hz ±0.5 dB
 Long-play Mode: 20 Hz–14,500 Hz ±0.5 dB



Total Harmonic

Distortion: Standard: < 0.07%
 (reference at 1 kHz) Long-play mode: < 0.3%
 Wow and Flutter: Below measurable limit

Inputs/Outputs

Analog Inputs: +4 dBs (+24 dBs max.), adjustable from
 –12 dBs to +8 dBs, 10 kΩ, balanced XLR-3-31
 type (x2)
 Analog Outputs: +4 dBs (+24 dBs max.), adjustable from
 –12 dBs to +8 dBs, < 50Ω, balanced XLR-3-32
 type (x2)
 Digital I/O: Unbalanced (IEC-958 type I/II); Phono (x2)
 Remote: Serial, C-MOS compatible, Phone
 Headphone Outputs: –27 dBs, > 8Ω, stereo phone

General

Power Requirements: AC 120V, 60 Hz (U/C)
 AC 220 to 240V, 50/60 Hz (EK)
 Power Consumption: 33W (U/C) (approx.)
 37W (EK) (approx.)
 Dimensions (WHD): 430 x 125 x 350mm
 (17" x 5" x 13⁷/₁₆" (approx.)
 without the rack mount adaptor
 Weight: 15 lb. 14 oz. (7.2 kg.) (approx.)



PMD-C1/PMD-C1P

MD Cart™ Recorder and Player

- Provide quick random access; a desired track can be quickly accessed and cued by selecting the track number on a MD (MiniDisc™)
- Capable of memory start and cueing functions which provide rapid playback, suitable for on-air applications in radio broadcast stations
- The PMD-C1/C1P have an easy-to-read FL display on the front panels, which indicates the following; 25 track calendar, Track title, End cue, the effective date of commercials, Peak level meter, etc. This information can be displayed in segments one after another at standstill, with a maximum 12 characters at a time, by pressing the DISPLAY button. The peak level meter is displayed in 14 segments.
- RMS (Random Music Sensor) transmission is capable with a supplied remote controller. The tracks can be freely and randomly programmed in any order.
- An EOM (End of Message) signal is provided for the operator within five to 30 seconds prior to the completion of a program. This signal can also be used as the tally system.
- Equipped with balanced XLR analog outputs (L/R)
- Provides both single and continuous play modes
- Capable of parallel remote control
- An hour meter is provided for easy maintenance
- Features of PMD-C1 (recorder): The PMD-C1 searches the point on the disc where no audio signal is recorded, and then quickly begins recording. This function avoids accidental erasing of audio data which has already been recorded.
- With the supplied remote controller, for example, the title, end cue and the effective date for broadcasting commercials can be displayed with up to 12 alphanumeric characters
- The PMD-C1 provides the TOC (Table of Contents) EDIT function in which the following four functions are incorporated: COMBINE, DIVIDE, MOVE and ERASE. The DIVIDE function allows rehearsal with monitoring in ± 60 ms steps at a desired start point. Each of these functions are ideal for performing instant edits for on-air interviews and news

Supplied Accessories:

PMD-C1 Remote Controller

Specifications

PMD-C1 MD Cart Recorder

Format:	MiniDisc audio System
Recording System:	Magneto-optical overwriting
Playback System:	Optical pickup system
Laser:	GaAlAs Double hetero junction diode
Rotating-speed:	400 rpm to 900 rpm (approx.)
Error Correction System:	ACIRC (Advanced Cross Interleave Reed Solomon Code)
Sampling Frequency:	44.1 kHz
Signal Compression System:	ATRAC (Adaptive Transform Acoustic Coding)
Modulation System:	EFM (Eight to Fourteen Modulation)
Number of Channels:	2 channels (stereo)
Recording/Playback Time:	Maximum 74 minutes
Frequency Response:	5 Hz–20 kHz (± 0.5 dB)
Signal-to-Noise Ratio:	> 80 dB
Wow and Flutter:	Below measureable limit
Analog Inputs:	Balanced, XLR-3-31 type (x2), nominal +4 dBu
Analog Outputs:	Balanced, XLR-3-32 type (x2), nominal +4 dBu
Parallel Remote Connector:	D-SUB 25-pin
Power Requirements:	AC-120V–220V, 50 Hz/60 Hz
Power Consumption:	20W (approx.)
Dimensions (WHD):	142 x 132 x 375mm (5 $\frac{5}{8}$ " x 5 $\frac{1}{4}$ " x 14 $\frac{7}{8}$ ")
Weight:	11 lb. (5 kg.) (approx.)

PMD-C1P MD Cart Player

Format:	MiniDisc audio system
Playback System:	Optical pickup system
Laser:	GaAlAs Double hetero junction diode
Rotating-Speed:	400 rpm to 900 rpm (approx.)
Error Correction System:	ACIRC (Advanced Cross Interleave Reed Solomon Code)
Sampling Frequency:	44.1 kHz
Signal Compression System:	ATRAC (Adaptive Transform Acoustic Coding)
Modulation System:	EFM (Eight to Fourteen Modulation)
Number of Channels:	2 channels (stereo)
Recording/Playback Time:	Maximum 74 minutes
Frequency Response:	5 Hz–20 kHz (± 0.5 dB)
Signal-to-Noise Ratio:	> 80 dB
Wow and Flutter:	Below measureable limit
Analog Outputs:	Balanced, XLR-3-32 type (x2) nominal +4 dBu
Parallel Remote Connector:	D-SUB 25-pin
Power Requirements:	AC-120V–220V, 50 Hz/60 Hz
Power Consumption:	20W (approx.)
Dimensions (WHD):	142 x 132 x 375mm (5 $\frac{5}{8}$ " x 5 $\frac{1}{4}$ " x 14 $\frac{7}{8}$ ")
Weight:	11 lb. (5 kg.) (approx.)



PCM-9000

Digital Master Disc Recorder

■ Magneto-Optical Disc Advantages—The adoption of a new, single sided, 133mm (5.25-inch) MO (Magneto-Optical) disc makes repeated recording and playback possible, and because there is no contact with the medium during the operation of the unit, excellent durability of the disc is achieved **■ Long Recording Time**—The combination of a newly developed recording format and a high density MO disc means that up to 80 minutes of continuous recording is now possible in 20-bit linear mode. Sync-REC and Monitor-REC, two functions that are very attractive in a master recorder, are both provided and REC/READY operation of each channel allows single channel or two-channel recordings to be made **■ User Data Recording**—Cue data and nondestructive editing data can be recorded in the AUX-data area, making possible nonlinear editing in which the main data **■ Time Code Recording**—Absolute Address is pre-mastered on to the MO disc during manufacture. External time code can also be recorded **■ Quick Access for Improved Operating Efficiency**—Quick access, one of the benefits of a disc recorder, has been implemented by means of a linear motor thread mechanism **■ Three Sampling Frequencies and Quantizations**—This unit is compatible with three sampling frequencies: 48 kHz, 44.1 kHz, and 44.056 kHz. In addition, 16-bit, 20-bit or 24-bit quantization can be selected **■ Sync Signal Input Flexibility**—Reference video sync, D-I sync or word sync signals can be used as an external synchronization signal **■ Variable Speed Recording/Playback**—The speed can be varied by $\pm 12.5\%$ of normal, in steps of 0.1% **■ Double-Speed Copying**—Double-speed copying is provided through the SCSI interface, together with double-speed copying of the AUX-data **■ AES/EBU Insertion Interface**—This unit is equipped with an AES/EBU insertion interface so that external digital effectors can be connected. **■ Disc Check Function**—The unit is equipped with a disc check function that allow the user to check the condition of the medium before it is used **■ Disc Erase**—There are two erase modes: instant erase and disc erase. Instant erase erases only the data in the AUX data area, while disc erase erases all of the data on the disc **■ Wide Options Range**—A wide variety of options has been developed, making for users to customize the recorder for their particular application

Specifications

Disc Size:	Ø133mm (5.25")	Analog I/O:	18-bit or 20-bit AD/DA board (Optional) IN: XLR-3-31 type (x2) OUT: XLR-3-32 type (x2)
No. of Channels:	2 channels	Sync Signal:	Reference Video IN; BNC (x2) AES/EBU D-I Sync IN; XLR-3-31 type (x1) Word Sync IN; BNC (x2) OUT: BNC (x2)
Recording Time:	80 minutes (Sampled at 20-bit Fs = 44.1 kHz)	Power Requirements:	AC 100V to 240V, 50 Hz/60 Hz
Rotational Mode:	CLV (Constant Linear Velocity)	Power Consumption:	130W
Sampling Frequency:	44.056 kHz/44.1 kHz/48 kHz	Dimensions (WHD):	424 x 176 x 455mm (16 ³ / ₈ " x 7" x 17 ³ / ₈ ")
Quantization:	16/20/24-bit Linear, Selectable	Weight:	39 lb. 11 oz. (18kg.)
Error Correction:	CIRC (Cross Interleave Read Solomon Code)		
Variable Speed:	$\pm 12.5\%$ at 0.1% steps		
Digital I/O:	AES/EBU IN: XLR-3-31 type (x1) AES/EBU OUT: XLR-3-32 type (x1) SDIF-2 unbalanced (Optional): TTL level, 75Ω, BNC (x2)		

PCM-1630

Digital Audio Processor

■ 2-channel digital audio processor with 16-bit linear quantization ■ Switchable 44.1 kHz and 44.056 kHz sampling frequencies ■ RAR (Read After Read) function using optional DABK-1630 board and DMR-4000 recorder

Supplied Accessories:

AC Power Cable
BNC Cable (2)
8-pin to 8-pin Cable
Extension Board
Rack Mount Adaptors (2)

Optional Accessories:

DABK-1630 RAR Board: Enables RAR and dub/edit RAW when used in PCM-1630 combined with DMR-4000

DABK-1631 Digital I/O Board: Interfaces PCM-1630 with AES/EBU standard digital equipment

K-1149 Delay Board: Provides delayed digital output; max 2.9 sec. delay time, 1 msec delay time resolution; suited for perfect lip-sync

K-1154 Delay and D/A Board: Provides both delayed digital and analog delayed output; includes second D/A card in addition to K-1149 delay card; suited for analog disc mastering



Specifications

Number of Channels: 2 (stereo)
Modulation System: PCM system using NTSC standard TV signals
Sampling Frequency: 44.1 kHz or 44.056 kHz
Quantization: 16-bit linear
Signal-to-Noise Ratio: > 90 dB
Frequency Response: 20 Hz–20,000 Hz +0.5 db/–1.0 dB
Total Harmonic Distortion: < 0.05% (at reference input level)
Wow and Flutter: Below measurable limit
Inputs/Outputs: ANALOG IN CH-1 (D-I)/CH-2
ANALOG OUT CH-1 (D-O)/CH-2
COMPOSITE DIGITAL IN
COMPOSITE DIGITAL OUT
COMPOSITE DIGITAL I/O
COMPOSITE SYNC IN
COMPOSITE SYNC OUT
DIGITAL I/O
WORD SYNC IN
WORD SYNC OUT
STATUS OUT
HEADPHONE OUT
Power Requirements: AC-100V/120V/220V/240V ± 10%, 50/60 Hz, selectable
Power Consumption: 90W max.
Dimensions (WHD): 424 x 200 x 530mm
(16³/₄" x 7⁷/₈" x 20³/₈")
Weight: 57 lb. 5 oz. (26 kg.)



DMR-4000

Digital Master Recorder

- Confidence playback heads for RAW (Read After Write)
- Two composite digital outputs (MAIN/SUB) for connection to PCM-1630 with DABK-1630 for reliable RAR (Read After Read) operation that minimizes the effect of code errors on the reproduced sound

Supplied Accessories:

AC Power Cable
8-pin to 8-pin Cable
9-pin to 9-pin Cable
Extension Board

Optional Accessories:

DAU-30/60/75 Digital Audio Master Cassette (30, 60, 75 min.)

Specifications

Audio Performance

Recording System: Rotary 2-head system, helical scanning, FM recording
Signal Format: EIA standard
Usable Tapes: DAU series audio master cassettes (DAU-30/DAU-60/DAU-75)
Tape Speed: 9.53 cm/sec.
Recording Time: 75 min. (with DAU-75)
Number of Channels: PCM audio (2), AUX (analog) (2), and CTL (1)

Interfacing

Inputs/Outputs: COMPOSITE DIGITAL IN
COMPOSITE DIGITAL OUT
COMPOSITE DIGITAL OUT B-3
COMPOSITE DIGITAL I/O (8-pin)
AUX IN
AUX OUT
EXT SYNC IN
REMOTE-1
REMOTE-2
RF OUT
HEADPHONES OUT

Special Functions

Shuttle: $\frac{1}{30}$ to 10 times normal speed, variable
Time Code
Generator/Reader: REGEN/REC RUN/FREE RUN (selectable) drop frame or non-drop frame
Simple Editing: ± 2 Frame accuracy
Head Cleaner: Activated in every 5 min. in record and play modes
Long Pause Mode: 1.5 min.

General

Power Requirements: AC-100V/120V/220V/240V, 50/60 Hz, selectable
Power Consumption: 150W (at AC-100V)
Dimensions (WHD): 454 x 283 x 550mm (17 $\frac{7}{8}$ " x 11 $\frac{1}{4}$ " x 21 $\frac{3}{4}$ ")
Weight: 81 lb. 9 oz. (37 kg.)

DAE-3000

Digital Audio Editor

- Interfaces with a variety of digital audio equipment, including DMR-4000/2000 digital master recorder, PCM-3402 DASH 2-channel recorder and PCM-3324A/3324 DASH multi-channel recorder
- Accommodates up to four DMR-4000/2000 players and one DMR-4000/2000 recorder
- Edit point search with convenient memory rehearsal
- High editing resolution of approx. 23 μ sec.
- Easy-to-read, highly informative EL (Electro-Luminescent) display

Supplied Accessories:

- DABK-3001 Interface Kit (2)
- Extension Board
- Keyboard Cable (15-pin, 10m)
- Composite Digital Cable (8-pin to 8-pin) (2)
- Remote Cable (9-pin to 9-pin) (2)
- AC Power Cable

Optional Accessories:

- DABK-3001 Interface Kit: interfaces DAE-3000 with DMR-4000/2000
- DABK-3002 Interface Kit: interfaces DAE-3000 with PCM-3402
- DABK-3003 Interface Kit: interfaces DAE-3000 with PCM-3324A/3324
- DABK-3004 Interface Kit: interfaces DAE-3000 with DAQ-1000

Specifications

- Inputs/Outputs: DIGITAL I/O (SDIF-2 unbalanced, with DABK-3001/3002/3003/3004)
DIGITAL IN (AES/EBU, with DABK-3005)
COMPOSITE DIGITAL
REMOTE I/O
- Number of Controllable Players: 4 units
- Search Mode
- Memory Capacity: 6 sec. (16-bit digital, stereo) (approx.)
- Fader Level Control: +6 dB to $-\infty$, selectable
- Balance Control: 0 dB to -3 dB (0.2 dB steps)
0 dB to -6 dB (0.4 dB steps), selectable
- Crossfade Time: 0 ms - 999 msec
- Auto-Locate Accuracy: ± 1 frame (with DMR-4000/DMR-2000)
- Pre-roll Time: 0 sec. - 39 sec.
- Editing Resolution: 23 μ s (equivalent to one sample with PCM-1630)
- Power Requirements: AC-100V-240V, 50/60 Hz
- Power Consumption: 60W
- Dimensions (WHD): Processor: 424 x 242 x 510mm
(16 $\frac{3}{4}$ " x 9 $\frac{5}{8}$ " x 20 $\frac{1}{8}$ ")
Keyboard: 424 x 329 x 334mm
(16 $\frac{3}{4}$ " x 13" x 13 $\frac{5}{8}$ ")
- Weight: Processor: 55 lb. 2 oz. (25 kg.)
Keyboard: 15 lb. 6 oz. (7 kg.)



CD Mastering System



Specifications

Digital Audio

Signal Processing: 32 bits
Sampling Frequency: 48 kHz, 44.1 kHz or 44.056 kHz
Digital IN: AES/EBU, XLR-3-31 type
SDIF-2, BNC (x 2)
DIGITAL OUT: AES/EBU, XLR-3-32 type
SDIF-2, BNC (x2)
Unbalanced DIF (IEC-958), Phono (x 2)

Parametric Equalizer (4 bands)

Center Frequency: 16.0 Hz–20 kHz (4 points variable,
in 1/6 oct. steps)
Variable Q Range: 20.0, 2.45, 1.30, or 0.68, selectable
Gain Range: ±12 dB (0.5 dB steps)

Shelving Equalizer (LOW/HIGH)

Turnover Frequency: 16.0 Hz–20 kHz (1/6 oct. steps)
Gain Range: ±12 dB (0.5 dB steps)

Filters

Cutoff Frequency: LOW: 16.0 Hz–1 kHz (1/6 oct. steps)
HIGH: 500 Hz to 20 kHz (1/6 oct. steps)
Filter Slope: 6 dB/oct. or 12 dB/oct., selectable

SDP-1000

Digital Audio Effector

■ 2 channel digit audio effects (equalizer/dynamics) control unit ■ For use in DAT editing systems using PCM-7000 series or between two digital audio or video recorders ■ Four band parametric equalizer ■ Two shelving equalizers with high and low cut filters ■ Limiter, compressor, expander and noise gate ■ AES/EBU, SDIF-2 and unbalanced (IEC-958) digital I/O ■ Advanced custom DSP ICs using 32-bit arithmetic ■ Up to 100 events for storing effects settings ■ Snapshot automation for recalling memorized events at specified time code addresses ■ Dynamic automation based on time code ■ Printing of effects data with captions and commentaries by adding a Centronics compatible printer ■ Through function for digital dubbing without changing system connection ■ 2" floppy disk for data storage

Supplied Accessories:

AC Power Cable
AC Plug Adaptor
9-pin to 9-pin cable (10m for controller)
9-pin to 15-pin cable (10m for CDP-1302/1402E)
PD-1 2" Floppy Disk (10)
19" Rack Mount Kit

Optional Accessories:

CPD-1302/1402E Display Monitor
HBK-100 14-pin to 36-pin Printer Cable

Dynamics

Functions: Limiter, compressor, expander and noise gate
Threshold Level: 0 dB to -96 dB
Ratio: 1:1 to ∞:1 (limiter/compressor)
1:1 to 1:64.992 (expander/noise gate)
Attack Time: 0 ms–550 ms (64 points)
Recovery Time: 1 ms–9.43 sec.
Recover Mode: Continuous or Discontinuous
Pre-delay Time: 0–1,023 words
Side-chain Equalizer: Parametric equalizer and low/high cut filters
Hold Time: 0–129,024 samples (expander/noise gate)
Hold Threshold: 0 dB to -96 dB (expander/noise gate)

Controller

Track Ball Diameter: Ø44mm (Ø1 3/4")
Fader: 100mm stroke

General

Power Requirements: AC-100V–240V, 50/60 Hz
Power Consumption: 33W
Dimensions (WHD): Processor: 424 x 155 x 465mm
(16 3/4" x 6 1/8" x 18 3/8")
Controller: 418 x 87 x 249mm
(16 1/2" x 3 1/2" x 9 7/8")
Weight: Processor: 26 lb. 7 oz. (12 kg.)
Controller: 4 lb. 7 oz. (2 kg.)

DTA-2000

Digital Tape Analyzer

- Allows testing of the tape recorded with PCM-1630 system
- Connects to any printer with Centronics compatible interface for printing out a sequential list of CRC, Average, Hold, Mute and Parity errors as well as the sampling frequency, time code mode (drop frame/non-drop frame), time code jump and emphasis ON/OFF
- Error status/time code display
- Selectable operation mode: Auto or Manual

Supplied Accessories:

- 33-pin to 36-pin Cable
- 25-pin to 25-pin Cable
- 36-pin to 36-pin Digital Cable (2)
- Rack Mount Adaptor (2)
- Rail Bracket (4)
- AC Power Cable

Specifications

Output Information: CRC, average, hold, mute, parity, time code discontinuity, time code mode (DF or NDF), emphasis (ON/OFF), and sampling frequency (44.1 kHz or 44.056 kHz)

Input/Output: TIME CODE IN
STATUS IN
PRINTER OUT
VTR REMOTE I/O

Power Requirements: AC-100V-120V/220V-240V, 50/60 Hz, selectable

Power Consumption: 20W

Dimensions (WHD): 424 x 44 x 330mm
(16³/₄" x 1³/₄" x 13")

Weight: 9 lb. 15 oz. (4.5 kg.)





DAQ-1000

Cue Editor

■ Cue editor used in CD mastering ■ Capable of producing subcode data in the form of TOC (Table of Contents) and recording them on to audio track of master tape recorded with PCM-1630 system ■ Memory function to store subcode information, with selectable DIRECT, EDITOR TRANSFER and EDIT input modes ■ Built-in printer for making hard copies of data ■ With the addition of DABK-1000 PQ generator unit, enables recording of subcode data on P and Q channels of compact discs

Supplied Accessories:

Paper Shaft Assembly
Printer Paper Roll (2)
Cue Data Cable (3)
Remote Cable Assembly
Keyboard Cable (2)
Handle (2)
Dust Cover
Bracket (2)
Screw (3)
AC Power Cable

Optional Accessories:

DABK-1000 PQ Generator Unit
PE-1000 Printing Paper Roll

Specifications

Usable Recorders: DMR-4000/DMR-2000/DRD-100
Inputs/Outputs: TIME CODE IN
CUD CODE IN
CUE CODE OUT
VTR REMOTE I/O
KEY BOARD I/O
EDITOR TRANSFER IN
EDITOR TRANSFER OUT
DATA COMMUNICATION I/F
Power Requirements: AC-85V-276V, 50/60 Hz
Power Consumption: 72W (AC-100V-120V)
78W (AC-220V-240V)
Dimensions (WHD): Processor: 424 x 141 x 491mm
(16³/₈" x 5⁵/₈" x 19³/₈")
Keyboard: 424 x 100 x 380mm
(16³/₈" x 4" x 15")
Weight: Processor: 32 lb. 1 oz. (14.5 kg.)
Keyboard: 18 lb. 12 oz. (8.5 kg.)

DMU-30

Digital Meter Unit

■ For use with PCM-1630 CD mastering system, PCM-3402 2-channel digital audio recorder, BVH-2800 1 inch VTRs with digital sound and other digital audio equipment

Supplied Accessories:
D-sub 25-pin Cable (10m)
AC Power Cable

Specifications

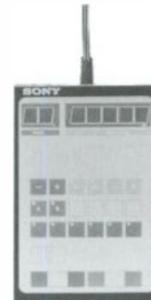
Power Requirements: AC-100V-240V, 50/60 Hz
Power Consumption: 12W
Dimensions (WHD): 105 x 132 x 190mm
(4 $\frac{1}{4}$ " x 5 $\frac{1}{4}$ " x 7 $\frac{1}{2}$ ")
Weight: 5 lb. 8 oz. (2.5 kg.)



DAL-1000

Digital Audio Limiter

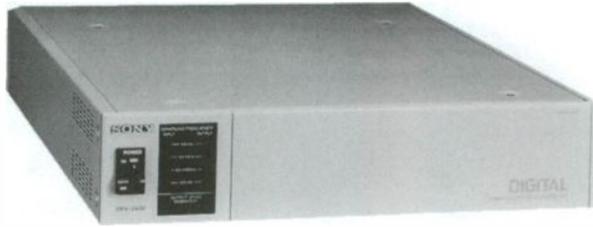
■ Digital limiter to achieve "ZERO WORD" attack time
■ Direct interfacing with SDIF-2 or AES/EBU format digital equipment
■ Selectable limiter curves: Type A and Type B
■ 6 programmable preset memories for parameters setup
■ Wired remote control unit supplied for quick, direct access from the console
■ Selectable sampling frequencies: 44.056 kHz, 44.1 kHz and 48 kHz (auto select)



Specifications

Attack Time: 0 word
Ratio: 0%-100%, variable in 101 steps
Input Digital
Attenuator Level: 0 dB to -42.1 dB and mute, variable in 129 steps
Input Digital Balance: -6.02 dB (CH-1) to 0 dB to -6.02 dB (CH-2), variable in 129 steps
Inputs/Outputs: DIGITAL IN: AES/EBU (XLR-3-31 type), SDIF-2 (TTL compatible, 75 Ω , unbalanced, BNC)
DIGITAL OUT: AES/EBU (XLR-3-32 type), SDIF-2 (TTL compatible, 75 Ω , unbalanced, BNC)
WORD SYNC IN: TTL compatible, 75 Ω , unbalanced, BNC

Sampling Frequency: 44.056 kHz, 44.1 kHz or 48 kHz, automatically selectable
Number of Programmable Memories: 6
Power Requirements: AC-100V/120V/220V/240V, 50/60 Hz
Power Consumption: 10W
Dimensions (WHD): Processor: 482 x 44 x 320mm (19" x 1 $\frac{3}{8}$ " x 12 $\frac{5}{8}$ ")
Remote Control Unit: 120 x 180 x 20mm (4 $\frac{3}{4}$ " x 7 $\frac{1}{8}$ " x 1 $\frac{3}{16}$ ")
Weight: Processor: 9 lb. 5 oz. (4.2 kg.)
Remote Control Unit: 1 lb. 13 oz. (0.8 kg.)
Remote Control Cable Length: 10m



DFX-2400

Sampling Rate Converter

- Converts any sampling frequency between 30 kHz and 50 kHz into any of the following frequencies: 32 kHz, 44.056 kHz, 44.1 kHz and 48 kHz
- Enables conversion between AES/EBU format and SDIF-2 format
- 16-bit conversion resolution, with no signal degradation such as that involved in A/D and D/A processing of analog methods
- Compact size and low power consumption

Supplied Accessories:

- AC Power Cable
- 19" Rack Mount Kit

Specifications

Digital Audio/Performance

- Data Word Length: 24 bits (AES/EBU)
16 bits (SDIF-2)
- Input Sampling Frequency: 30,000 kHz–50,000 kHz
- Output Sampling Frequency: 32 kHz, 44.056 kHz, 44.1 kHz or 48 kHz
± 10 Hz
- Frequency Response: +0/–0.5 dB at 0 to 0.87 x 0.5 x the lower of the input/output sampling frequencies
> 16 bits (at 1 kHz)
- Conversion Resolution: > 16 bits (at 1 kHz)
- Processing Word Length: 28 bits
- Coefficient Word Length: 20 bits
- Inputs/Output: DIGITAL IN: AES/EBU (x 2), SDIF-2 unbalanced (x 2) and SDIF-2 balanced
SYNC IN: AES/EBU sync or word sync
DIGITAL OUT: AES/EBU (x 2), SDIF-2 unbalanced (x 2) and SDIF-2 balanced
SYNC OUT: AES/EBU sync or word sync

General

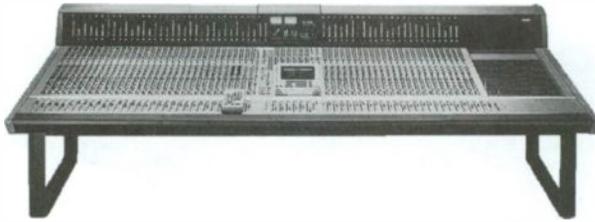
- Power Requirements: AC-100V to 120V/220V to 240V, 50/60 Hz selectable
- Power Consumption: 45W (AC-100V to 120V)
48W (AC-220V to 240V)
- Dimensions (WHD): 424 x 101 x 516mm
(16³/₄" x 4" x 20³/₆")
- Weight: 25 lb. 10 oz. (11.5 kg.)

MXP-3000 Series

Audio Recording/Remixing Consoles

- Available in three frame sizes: The MXP-3020 (20 inputs), the MXP-3036 (36 inputs), the MXP-3056 (56 inputs); all consoles can be ordered in non-automated or automated versions
- 24-track bus assigns for the MXP-3056 and MXP-3036
- 20-track bus assigns for the MXP-3020
- External microphone power supply (DC-48V) provided
- Six sends: 1–4 mono, 5–6 stereo pair with pan control, all pre- or post-fader with selectable channel or monitor location with level control
- Modular equalization section offers as standard: Wein 4-band EQ with Q of 1.5, low-band 40 Hz–250 Hz, mid 1 150 Hz–2.5 kHz, mid 2 800 Hz–8 kHz, high 8 kHz–20 kHz peak/shelf selectable on low- and high-bands with a cut/boost of ± 15 dB
- Five optional EQ types available
- Modular mic input section offers as standard: electronically balanced mic input, optional transformer coupled single and dual electronically balanced mic inputs
- Variable high-pass filter (20 Hz–320 Hz); fixed low-pass selectable between channel and monitor independent of EQ location
- Switchable control room outputs to feed up to four sets of monitors
- Phase coherence meter
- 2-stage peak indicators at either mic preamp or EQ output
- Variable control-room dim-level
- Variable bus control from -14 to $+5$ dB
- Patchless audio sub-grouping mode allows any of the first 24 I/O modules large fader, to be assigned as an audio group-master
- Metering, choice of mechanical VU or bargraph VF
- Low distortion internal oscillator
- Modular patchbay
- VF (Vacuum Fluorescent) Meters with MXP-3036VF and MXP-3056VF. This VF metering consists of 101-segment display with selectable VU or DIN/Nordic/BBC peak scales as well as DC-level for automation fader position indication. This metering also features a variable duration peak hold function.





MXP-3056VF

Audio Recording/Remixing Console

Features exclusive to the MXP-3056VF:

- Six Stereo Return modules which can be automated by each of the associated automated fader packages. These returns include equalization, bus assignment and enhanced solo capability
- Two cue modules allow the user to set-up stereo headphone mixes sourced from the 2-mix, Aux sends of external inputs. These cue modules include equalization, balance, solo and monaural switching control
- The MXP-3056VF includes a patchbay with 256 tie-lines
- X-Y phase meter
- The optional MXP-OP3022 includes a built-in keyboard and electroluminescent display (only with MXP-3056VF) in the center section of the console. This eliminates the need for the stand alone VT-220 keyboard and display
- The MXBK-3103 automation fader (only with MXP-3056VF) includes two panel switches. One for the channel "MUTE" functions and another "SEL" for selecting commands associated with the infrared remote keyboard of the automation system
- Includes remote transport control for three tape recorders. This provides the basic five button transport control, plus enhanced functions such as "LOCATE" and "RESET" which can be used with Sony APR-series recorders



MXP-3020/3036/3036VF

Audio Recording/Remixing Console

Features exclusive to the MXP-3020, MXP-3036/ MXP-3036VF:

- Built-in mechanical phase meter
- Optional Wild Faders providing four or eight additional automated faders which can be used as group masters or returns. These include panning and solo control mounted on the wild fader facilities module
- Optional Dual Microphone patchbay
- The MXP-3020 includes a patchbay with 136 tie-lines
- The MXP-3036 includes a patchbay with 200 tie-lines
- Optional MXP-OP3011 includes a stand-alone VT-220 keyboard and display to access hard-disk automation control when ordered with a MXP-3036, MXP-3036VF or MXP-3020 console

DMX-B4000 Series

Digital Audio Mixer

■ Full Digital Processing/Control On Air Console—

Audio signals are input and output in digital form, making high quality audio processing possible by eliminating the distortion and crosstalk of analog signals. In addition, automated and integrated operation are also possible

■ **Simple Operation**—Unique and user friendly operation is made possible through the use of a touch panel and EL display for the assignable control surface. These assignable controls allow centralized access to the main console functions such as input switching matrix, EQ, monitor section etc. In addition, mixer functions can be set to three levels so that access to them can be made available depending on the operator's convenience, preventing errors that could result from misoperation. This makes it possible to match operations to application, whether they are for simple operation or sophisticated audio production

■ **Snapshot Automation**—With the exception of the control panel faders, all console settings for up to 99 scenes can be stored, making it possible to reproduce those settings at any time

■ **Input Switching Matrix**—The DMX-B4008/B4016 is equipped with a 16 x 8 (AES/EBU)/30 x 16 (AES/EBU) input switching matrix linked to the snapshot automation function. Each switching matrix makes it possible to assign external sources to console channels and recall the set up data associated with that source

■ **3-Band Equalizer and Delay for Each Channel** ■ **Limiter for PGM Output and for Each Group Output (DMX-B4016)** ■ **20-Bit D/A Converter for Analog Output**—DMX-B4008: Studio monitor, control room monitor DMX-B4016: PGM, studio monitor, control room monitor

■ **Fader Start Function**—Each channel is equipped with a fader start and start/stop switch linked to the input switching matrix

■ **Channel Status Display**—This unit reads the channel status of the AES/EBU digital audio signal and displays the status for each channel, including the alphanumeric channel origin data

■ **Automation Control Data Storage**—The unit is equipped with a 3.5" FDD that can be used to store snapshot data

■ **Self-Diagnosis Function**

Optional Accessories:

Main Options

Remote Controller

Provides control of up to six CD players or DAT players

4 Stereo-Input Expansion Kit for the DMX-B4016

Group Expansion Kit for the DMS-B4016

Mic/Line Input using a 20-bit A/D converter

The sampling frequency can be selected as either 44.056 kHz, 44.1 kHz, or 48 kHz

Recording/Remixing Consoles

		DMX-B4008	DMX-B4016
Inputs	Switching Matrix Inputs	16 Stereo, AES/EBU, XLR-3-31 type (x16)	30 Stereo, AES/EBU, XLR-3-31 type (x30)
	External Monitor	1 Stereo, AES/EBU, XLR-3-31 type (x1)	4 Stereo, AES/EBU, XLR-3-31 type (x4)
	Insertion Return	1 Stereo, AES/EBU, XLR-3-31 type (x1)	2 Stereo, AES/EBU, XLR-3-31 type (x2)
Matrix		16 x 8 (AES/EBU)	30 x 16 (AES/EBU)
Outputs	Program (Digital)	8 Stereo, AES/EBU, XLR-3-32 type (x8)	2 Stereo, AES/EBU, XLR-3-32 type (x2)
	Program (Analog)	—	1 Stereo, balanced XLR-3-32 type (x2) + 4 dBu (+ 24 dBu max), 600Ω
	AUX Send	2 Stereo, AES/EBU, XLR-3-32 type (x2)	
	Insertion	1 Stereo, AES/EBU, XLR-3-32 type (x1)	2 Stereo, AES/EBU, XLR-3-32 type (x2)
	Group	—	8ch, AES/EBU, XLR-3-31 type (x8)
	Dubbing	—	8 Stereo, AES/EBU, XLR-3-31 type (x8)
Optional Analog MIC/LINE	MIC/LINE Inputs	2ch, balanced, XLR-3-31 type (x2) Up to 4ch (optional Unit2)	2ch, balanced, XLR-3-32 type (x2) Up to 8ch (Optional Unit x4)
	A/D Converter	Quantization: 20 bits/sample	
	Frequency Response	MIC: 30 Hz to 20 kHz within +0 dB/−0.5 dB LINE: 20 Hz to 20 kHz within +0 dB/−0.5 dB	
	Total Harmonic Distortion	MIC: < 0.3% LINE: < 0.1%	
	Cross Talk	> 70 dB (at 8 kHz)	
	Equivalent Input Noise	MIC: > 128 dB LINE: > 80 dB	
Reference	Video Sync	No. of channels: 1ch, BNC type (x2) (Loop-through) Video signal: 25 Hz (PAL), 29.97 Hz (NTSC) 30 HZ (EIA Black and White) Sync signal: Composite sync, Black burst or Composite video Termination: 75Ω	
	Word Sync	No. of ch: (IN) 1ch, BNC type (x1) (OUT) 2ch, BNC type (x2) (Buffered out) TTL Compatible 75Ω Sampling frequencies: 44.056/44.1/48.0 kHz	
	AES/EBU Sync	One digital input signal, selected with an internal switch, is used as reference audio signal	
Equalizer	HF (Shelving Type)	Frequency range: 1 kHz to 16 kHz Gain range: ± 15 dB Q type: 0.7 fixed Shelving type	
	MF	Frequency range: 220 Hz to 3.3 kHz Gain range: ± 15 dB Q type: 2 fixed	
	LF (Shelving Type)	Frequency range: 21 Hz to 330 Hz Gain range: ± 15 dB Q type: 0.7 fixed	
Filter	High Cut	Cut off frequency: 8 kHz Roll off characteristics: 12 dB/oct	
	Low Cut	Cut off frequency: 120 Hz Roll off characteristics: 12 dB/oct	
Dynamics	Limiter/Compressor	—	Threshold level: 0 dB to −60 dB Attack time: 30 μs to 300 ms Recovery time: 30 ms to 3s Ratio: 1:1 to ∞:1
General	Power Requirements	AC 100/120/220/240V, 50 Hz/60 Hz	
	Power Consumption	Control Panel: 120W Processor: 60W	Control Panel: 150W Processor: 120W
	Dimensions (WHD)	Control Panel: 678 x 272 x 716mm (26¾" x 10¾" x 28¼") Processor: 424 x 177 x 450mm (16¾" x 7" x 17¾")	Control Panel: 986 x 272 x 716mm 38⅞" x 10¾" x 28¼" Processor: 424 x 310 x 500mm (16¾" x 12¼" x 19¾")
	Weight:	110 lb. 4 oz. (50kg.)	176 lb. 8 oz. (80kg.)

MXP-2900 Series

Broadcast/Post-Production Audio Console

■ Most suitable for video editing, post-production and on-air applications ■ Four frame sizes: MXP-2908 — 10 slots (Desk or 19" rack mounted for edit suite and mobile applications); MXP-2916 — 20 slots; MXP-2926 — 30 slots; MXP-2936 — 40 slots ■ Video editing features (controlled from BVE-9000 system or BVE-910 video editor): Stereo or 4 channel audio preview switching; Channel crossfade control; Depth of fade "voice over" control; 4 channels of group outputs ■ Post-production features: 3-band EQ on mono, stereo and group modules; Four AUX sends; Assignable dynamics module ■ On-air features: Control room and studio muting functions; Talkback and reverse talkback; Cough switch; Fader start; Multiple outputs; Programmable clock



System Configuration

Model	Description
MXP-2908	10-slot Frame
MXP-2916/2916P	20-slot Frame with VU or PPM
MXP-2926/2926P	30-slot Frame with VU or PPM
MXP-2936/2936P	40-slot Frame with VU or PPM
MXBK-2901/2901E	Mono Input Module
MXBK-2902*	Group Module
MXBK-2903*	Dynamics Module
MXBK-2904/2904E	Stereo Input Module
MXBK-2905**	System Module with One Stereo Fader
MXBK-2925**	System Module with Two Mono Faders
MXBK-2906*	Monitor Module
MXBK-2908*	Master Module
MXBK-2909/2909E	Stereo Input Module without EQ
MXBK-2916**	Monitor TV Module with VU
MXBK-2926**	Monitor TV Module with PPM
MXBK-2917**	Communication Module
MXBK-MI23/MI24	Mic Input Board
MXBK-LI23/LI24	Line Input Board
MXBK-EI21	Video Editor Interface
MXBK-EI22*	BVE-910/9000 Video Editor Interface
MXBK-EI24**	EVE-910/9000 Video Editor Interface
AC-P8**	Power Supply Unit
AC-2000A*	Power Supply Unit

* Usable with MXP-2916/2916P/2926/2926P/2936/2936P

** Usable with MXP-2908

Specifications

Inputs:	8–72 channels (user configurable): MIC, LINE, RETURN EXT MONITOR IN (x2)
Input Connectors:	MIC: 45-pin multi-connector LINE: 45-pin multi-connector RETURN: 45-pin multi-connector MONITOR: 45-pin multi-connector TB: 45-pin multi-connector
Frequency Response:	30 Hz–20,000 Hz ± 0.5 dB 20 Hz–20,000 Hz ± 1.5 dB
Harmonic Distortion:	< 0.1% (+ 12 dBs at 1 kHz, THD + Noise)
Equivalent Input Noise (150Ω terminated):	MIC: –124 dBs –90 dBs (master fader OFF)
Residual Noise:	–83 dBs (channel fader OFF) w/MXP-2916
Crosstalk:	–83 dB (channel to channel at 16 kHz) –69 dB (bus to bus at 16 kHz)

Specifications—continued

Max. Overall Gain:	+ 72 dB (w/MXBK-MI23 or MXBK-MI24)
Built-in Oscillator:	1 kHz (w/MXBK-2916/2926) 15 Hz to 15 kHz variable (w/MXBK-2917)
Equalizer:	High frequency: 10 kHz, ± 15 dB, shelving Mid frequency: 150 Hz–5 kHz, ± 15 dB, shelving Low frequency: 80 Hz, ± 15 dB, shelving
Filters:	Low cut filter: 80 Hz (at –3 dB), 12 dB/oct
Compressor:	Threshold: –20 dB–10 dB Attack time: 1 ms–5 ms Recovery time: 25 ms–1,000 ms Ratio: 1.5:1–5:1
Limiter:	Threshold: –12 dB–12 dB Attack time: 100 μs Recovery time: 500 ms Ratio: 20:1
Metering:	VU or peak
Outputs:	LINE OUT, GROUP OUT (up to 4)
Output Connectors:	LINE: 45-pin multi-connector GROUP: 45-pin multi-connector MONITOR: 45-pin multi-connector TB: 45-pin multi-connector
Power Requirements:	AC-90–132V or 198–264V (w/AC-P8 or AC-P2000A)
Power Consumption:	MXP-2908: 200W MXP-2916/P: 280W MXP-2926/P: 350W MXP-2936/P: 450W
Dimensions (WHD):	MXP-2908: 476.2 x 620.3 x 158.5mm (18 3/4" x 24 1/2" x 6 1/4") MXP-2916/P: 850.9 x 331.7 x 624.2mm (33 1/2" x 13 1/8" x 24 5/8") MXP-2926/P: 1257.3 x 331.7 x 624.2mm (49 1/2" x 13 1/8" x 24 5/8") MXP-2936/P: 1663.7 x 331.7 x 624.2mm (65 1/2" x 13 1/8" x 24 5/8")
Weight:	MXP-2908: 63 lb. (28.8 kg.) MXP-2916/P: 125 lb. (57 kg.) MXP-2926/P: 175 lb. (80 kg.) MXP-2936/P: 225 lb. (102 kg.)



MXP-290

8-Channel Audio Mixer

- Suitable for video editing applications in broadcast and video post production
- Video editor control over VCA gain, preview switcher and monitor output mute via parallel 15-pin and 25-pin connectors
- Local switchable-channel to disable editor control
- Wide range of inputs; 8 channels of balanced MIC or LINE, unbalanced line (6 channels) and phono (2 channels)
- 30 dB trim on microphone and balanced line inputs
- DC-48V external power switch on microphone channel
- 3-band EQ, 2 AUX sends and PFL on each channel
- Two sub-inputs with level and panpot control
- Two external monitor inputs and switch
- Separate L and R master faders
- Two 15-segment VU meters
- 1 kHz test tone oscillator
- Talkback microphone, talkback output and "talk to master" switch
- Headphone amplifier

Supplied Accessory:

AC Power Cable

Optional Accessories:

MXBK-200 Rack Mount Adaptor (19")

MXBK-201 Table Kit

Specifications

<p>Inputs: 8 channels MIC/LINE (balanced x 8) LINE (unbalanced x 6) PHONO (unbalanced x 2) SUB (unbalanced x 2) MONITOR (balanced x 2)</p> <p>Input Connectors: LINE (Phono), MIC/LINE (XLR-3-31 type), PHONO (Phono), SUB (Phono), MONITOR (XLR-3-31 type)</p> <p>Frequency Response: 20 Hz–20,000 Hz (+0.5/–1.5) dB</p> <p>Harmonic Distortion: < 0.3% (4 dBs at 1 kHz output level)</p> <p>Equivalent Input Noise (150Ω terminated): MIC: < –123 dBs, LINE: < –80 dBs (input shorted)</p> <p>Residual Noise: < –85 dBs (master fader OFF) < –70 dBs (channel fader OFF)</p> <p>Crosstalk: > 70 dB (at 10 kHz)</p> <p>Built-in Oscillator: 1 kHz</p> <p>Equalizer: High frequency: 10 kHz, ± 15 dB Mid frequency: 2.8 kHz, ± 15 dB Low frequency: 100 Hz, ± 15 dB</p> <p>Filters: Low cut filter: 120 Hz (at –3 dB), 12 dB/oct</p> <p>Metering: 15-segment LED type VU</p>	<p>Outputs: LINE (balanced x 2) LINE (unbalanced x 2) AUX (unbalanced x 2) MONITOR (unbalanced x 2) PHONE TB (unbalanced) PFL (unbalanced)</p> <p>Output Connectors: LINE (XLR-3-32 type or Phono) AUX (Phono) MONITOR (Phono) PHONE (Stereo phone) TB (Phono) PFL (Phono)</p> <p>Power Requirements: AC-100V–120V (UC) AC-220V–240V (EK), 50/60 Hz</p> <p>Power Consumption: 24W</p> <p>Dimensions (WHD): 424 x 132 x 358mm (16³/₄" x 5¹/₄" x 14¹/₈")</p> <p>Weight: 16 lb. 9 oz. (7.5 kg.)</p>
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MX-P61VU/MX-P61PK

12-Channel Audio Mixer

- Equipped with 12 MIC/LINE inputs, 4 LINE outputs, TB output, communicate input and cascade connectors
- Switchable microphone power supply $\pm 48V$ (external power supply) and +12V (A/B feed)
- Built-in 1 kHz test tone
- High and low cut filters
- Monitoring through either headphones or external monitor speaker system
- Selectable displays: mechanical type VU meters (MX-P61VU) or bargraph peak program meters (MX-P61PK)
- Self-illuminating MUTE/LINE SELECT switches
- AC/DC operation

Supplied Accessories:

AC Power Cable

Optional Accessories:

MXBK-6100 Blank Panel

MXBK-6101 Input Module

MXBK-6101A Input Module provided with self-illuminating LINE SELECT and MUTE switches

MXBK-6102 Master 1 Module

MXBK-6102A Master 1 Module provided with self-illuminating LINE SELECT and MUTE switches for sub inputs 1 and 2

MXBK-6103 Master 2 Module

MXBK-6110 Maintenance Cables (4 pcs/set) for connecting each module to the mother board when servicing

ECP-1.5P15 Cascade Cable (1.5m, 15-pin connectors)



Specifications

Inputs:	12 channels MIC/LINE (x 12), balanced MONITOR IN (x 2), balanced SUB (x 2), balanced COMM IN (x 1), balanced	Outputs:	LINE (x 4), balanced AUX (x3), balanced MONITOR (x 2), balanced PFL (x 1), balanced TB (x 1), unbalanced PHONE (x 2), unbalanced
Input Connectors:	MIC/LINE: XLR-3-31 type MIC powering: DC-48V/12V LINE: XLR-3-31 type MONITOR IN: XLR-3-31 type COMM IN: XLR-3-31 type	Output Connectors:	LINE (balanced): XLR-3-32 type AUX: XLR-3-32 type MONITOR: XLR-3-32 type PHONE: Phone TB: XLR-3-32 type PFL: XLR-3-32 type
Frequency Response:	30 Hz–20 kHz ± 0.5 dB	Power Requirements:	AC-100 to 120V or AC-220 to 240V, selectable, 50/60 Hz
Peak Indicator:	Yes	Power Consumption:	52W (AC)/50W (DC)
Equalizer High:	10 kHz ± 12 dB	Dimensions (WHD):	430 x 130 x 560mm (17" x 5 $\frac{1}{8}$ " x 22 $\frac{1}{8}$ ")
Mid:	500 Hz/1 kHz/2 kHz/4 kHz ± 12 dB	Weight:	40 lb. 14 oz. (18.5 kg.)
Low:	100 Hz ± 12 dB		
Filter:	Low cut/high cut		
Compressor/Limiter:	Limiter for each input		
Built-in Oscillator:	1 kHz		
Metering:	MX-P61VU: 2 VU + 1 VU (AUX/PFL) MX-P61PK: 2 PPM + 1 PPM (AUX/PFL)		



MXP-210

8-Channel Audio Mixer

- Suitable for a variety of institutional audio/video applications
- 8 channels of balanced MIC/LINE inputs, plus unbalanced line (6 channels) and phono (2 channels) inputs
- 30 dB trim on microphone and balanced line inputs
- DC-48V external power switch on microphone channel
- 3-band EQ, 2 AUX sends and PFL on each channel
- Two sub-inputs with level and panpot control
- Two external monitor inputs and switch
- Separate L and R master faders
- Two 15-segment VU meters
- 1 kHz test tone oscillator
- Talkback microphone, talkback output and "talk to master" switch
- Headphone amplifier

Supplied Accessories:

AC Power Cable
AC Plug Adaptor

Optional Accessories:

MXBK-200 19" Mount Adaptor
MXBK-201 Table Kit

Specifications

Inputs: 8 channels
MIC/LINE (x 8), balanced
LINE (x 6), unbalanced
PHONO (x 2), unbalanced
SUB (x 2), unbalanced
MONITOR (x 2), unbalanced

Input Connectors: MIC/LINE: XLR-3-31 type
MIC powering: DC-48V
LINE: Phono
PHONO: Phono
SUB: Phono
MONITOR IN: Phono

Frequency Response: 20 Hz–20 kHz +0.5 dB/–1.5 dB

Peak Indicator: Yes

Equalizer High: 10 kHz ± 12 dB
Mid: 2.8 kHz ± 14 dB
Low: 100 Hz ± 12 dB

Filter: Low cut

Built-in Oscillator: 1 kHz

Metering: 2 VU (LED)

Outputs: LINE (x 2), balanced
LINE (x 2), unbalanced
AUX (x 2), unbalanced
MONITOR (x 2), unbalanced
PHONE (x 2), unbalanced
TB (x 1), unbalanced
PFL (x 1), unbalanced

Output Connectors: LINE (balanced): XLR-3-32 type
LINE (unbalanced): Phono
AUX: Phono
MONITOR: Phono
PHONE: Phono
TB: Phono
PFL: Phono

Power Requirements: AC-110V–120V (UC)
AC-220V–240V (EK)
50/60 Hz

Power Consumption: 24W

Dimensions (WHD): 424 x 132 x 358mm
(16³/₄" x 5¹/₄" x 14¹/₈")

Weight: 16 lb. 9 oz. (7.5 kg.)

Specifications for Audio Mixers and Consoles

MODEL SPECIFICATIONS	MXP-210	MX-P61VU/PK
Inputs	8 channels MIC/LINE (×8), balanced LINE (×6), unbalanced PHONO (×2), unbalanced SUB (×2), unbalanced MONITOR (×2), unbalanced	12 channels MIC/LINE (×12), balanced MONITOR IN (×2), balanced SUB (×2), balanced COMM IN (×1), balanced
Input Connectors MIC/LINE MIC Powering LINE PHONO SUB MONITOR IN COMM IN	XLR-3-31 type DC 48V Phono Phono Phono Phono —	XLR-3-31 type DC 48V/12V XLR-3-31 type — XLR-3-31 type XLR-3-31 type XLR-3-31 type
Frequency Response	20 Hz–20 kHz + 0.5 dB/ – 1.5 dB	30 Hz–20 kHz ±0.5 dB
Peak Indicator	Yes	Yes
Equalizer High Mid Low	10 kHz ± 12 dB 2.8 kHz ± 14 dB 100 Hz ± 12 dB	10 kHz ± 12 dB 500 Hz/1 kHz/2 kHz/4 kHz ± 12 dB 100 Hz ± 12 dB
Filter	Low cut	Low cut/high cut
Compressor/Limiter	—	Limiter for each input
Expander	—	—
Built-in Oscillator	1 kHz	1 kHz
Metering	2 VU (LED)	MX-P61VU: 2 VU + 1 VU (AUX/PFL) MX-P61PK: 2 PPM + 1 PPM (AUX/PFL)
Outputs	LINE (×2), balanced LINE (×2), unbalanced AUX (×2), unbalanced MONITOR (×2), unbalanced PHONE (×2), unbalanced TB (×1), unbalanced PFL (×1), unbalanced	LINE (×4), balanced AUX (×3), balanced MONITOR (×2), balanced PFL (×1), balanced TB (×1), unbalanced PHONE (×2), unbalanced
Output Connectors LINE (balanced) LINE (unbalanced) AUX MONITOR PHONE TB PFL SUB	XLR-3-32 type Phono Phono Phono Phono Phono Phono —	XLR-3-32 type — XLR-3-32 type XLR-3-32 type Phone XLR-3-32 type XLR-3-32 type
Power Requirements	AC 110V–120V (UC) AC 220V–240V (EK) 50/60 Hz	AC 100V–120V or AC 220V–240V, selectable 50/60 Hz
Power Consumption	24W	52W (AC)/50W (DC)
Dimensions (WHD):	424 x 132 x 358mm (16 ³ / ₄ " x 5 ¹ / ₄ " x 14 ¹ / ₈ ")	430 x 130 x 560mm (17" x 5 ¹ / ₈ " x 22 ¹ / ₈ ")
Weight	16 lb. 9 oz. (7.5 kg.)	40 lb. 14 oz. (18.5 kg.)



Supplied Accessories:

AC Power Cable (2)
 Processor—Controller Cable (30m)
 Controller—Meter Cable (1.5m)
 Fader Remover
 Extension Board (2)

Optional Accessories:

VSBK-8000 Equalizer/Dynamics Option: 4-band equalizer with variable center frequencies and ± 15 dB gain adjustment, shelving or peaking control selectable for high and low ranges; Low and high cut filters; Dynamics processing including limiter/compressor and expander/noise gate
 VSBK-8001 AES/EBU Routing Switcher: Random selection of 16 channels (eight AES/EBU digital audio signals) from 32 channels of inputs (16 AEX/EBU digital audio signals) connected to VSP-8000
 ECD-3C AES/EBU Digital Audio Cable: 3 meter length with XLR type connectors
 ECD-10C AES/EBU Digital Audio Cable: 10 meter length with XLR type connectors
 ECD-30C AES/EBU Digital Audio Cable: 30 meter length with XLR type connectors
 RCC-5G/10G/30G: Remote Control Cable
 DAD-A210 Audio AD/DA Unit: Provides slot positions for as many as 10 modules. These can be mixtures of BKDA-A211 and BKDA-A212 modules
 BKDA-A211 AD Module for DAD-A210: Provides two channels of analog to digital audio conversion
 BKDA-A212 DA Module for DAD-A210: Provides two channels of digital to analog audio conversion
 DFX-2400 Sampling Rate Converter: Can be used in conjunction with the VSP-8000 when two-channel digital audio sources require sampling rates other than 48 kHz. The DFX-2400 also allows the use of asynchronous digital audio signals with the VSP-8000

Specifications

Inputs: 16 channels
 (32 channels w/VSBK-8001)
 DIGITAL IN (AES/EBU x 8)
 (x 16 w/VSBK-8001)
 VIDEO SYNC IN
 WORD SYNC IN
 REMOTE IN
 RS-232C IN

Input Connectors: DIGITAL IN (XLR-3-31 type), REFERENCE
 VIDEO IN (BNC), WORD SYNC IN (BNC),
 REMOTE IN (D-sub 9-pin, serial), RS-232C IN (D-
 sub 25-pin)

Sampling Frequency: 48 kHz, 44.1 kHz, and 44.056 kHz
Quantization: 16-bit linear
Frequency Response: 20 Hz–20,000 Hz (+0.5/–1.0 dB) at 1 kHz
Built-in Oscillator: 1 kHz
Emphasis: 50 μ s/15 μ sec, ON/OFF selectable

VSP-8000

Video Sound Processor

- Video sound processor designed primarily for digital video edit suites
- Controlled completely from BVE-9100 or other video editor
- Equipped with AES/EBU digital I/O
- 16 inputs, 4 outputs and 2 preview busses
- 4 sets of parallel outputs for recorder re-assignment application
- AES/EBU D I/O ports, direct connection to Sony D-1 and D-2 digital VTRs, PCM-3402 2-channel DASH recorder and PCM-7000 series DAT recorders
- Audio sampling frequency locked to NTSC (29.97 Hz) PAL (25 Hz) and black and white (30 Hz) video signals
- Comprehensive preview control, no external audio switcher required
- Crossfade between program and pre-set busses, matches the style of video switchers
- Automated crossfader
- 48 kHz, 44.1 kHz and 44.056 kHz sampling frequencies
- 255 snapshot memories store console settings, up to 99 snapshots triggerable by video editor
- Snapshots saved on 3.5" floppy disk

Specifications—(continued)

Equalizer: w/VSBK-8000
 High frequency: 1 kHz–16 kHz, ± 15 dB, Q = 1.4 shelving/peaking, selectable
 Mid frequency: 330 Hz–5.3 kHz, ± 15 dB, Q = 1.4
 Mid-low frequency: 99 Hz–1.6 kHz, ± 15 dB, Q = 1.4
 Low frequency: 21 Hz–330 Hz, ± 15 dB, Q = 1.4 shelving/peaking, selectable

Filters: Low cut filter: 21 Hz–330 Hz (at –3 dB), 12 dB/oct
 High cut filter: 1 kHz–16 kHz (at –3 dB), 12 dB/oct

Limiter/Compressor: w/VSBK-8000
 Threshold: 0 dB to –60 dB
 Attack time: Normal/fast
 Recovery time: 30 ms.–3 sec.
 Compression ratio: 1.1:1 to 100:1
 Gain make-up: 0 dB to 30 dB, automatic or manual

Expander/Noise Gate: Threshold: 0 dB to –60 dB
 Attack time: Normal/fast
 Recovery time: 30 ms–3 sec.
 Expansion ratio: 1.5:1 to ∞ :1
 Range: 0 dB to 40 dB
 Noise gate hysteresis: 8 dB

Metering: 201-segment plasma meters w/peak hold

Outputs: DIGITAL OUT (AES/EBU, 4 x 4 channels)
 (48 x 4 channels w/VSBK-8001)
 PREVIEW OUT (AES/EBU, 2 channels)
 VIDEO SYNC OUT (loop-through)
 WORD SYNC OUT (loop-through)
 REMOTE OUT
 RS-232C OUT

Output Connectors: DIGITAL OUT (XLR-3-32 type)
 PREVIEW OUT (XLR-3-32 type)

Power Requirements: AC-100V–120V/220V–240V, 50/60 Hz
Power Consumption: Controller/meter unit: 150W;
 Processor: 150W

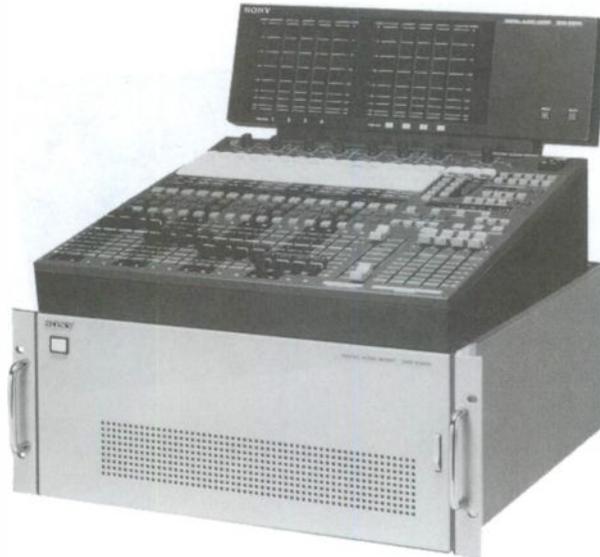
Dimensions(WHD): Controller:
 748 x 100 x 532mm
 (29 1/2" x 4" x 21")
 Processor:
 424 x 265.6 x 550mm
 (16 3/4" x 10 1/2" x 21 3/4")
 Meter unit:
 434 x 150 x 200mm
 (17 1/6" x 6" x 7 7/8")

Weight: Controller: 50 lb. 7 oz. (23 kg.)
 Processor: 59 lb. 5 oz. (27 kg.)
 Meter unit: 10 lb. 4 oz. (4.7 kg.)

DMX-E3000

Digital Audio Mixer

- 32 Inputs and 16-Channels Mixing Capability
- Built-in 32 x 16 AES/EBU Routing Switcher
- 4-CH PGM Outputs
- Stereo Digital Insertion
- Audio Delay Control
- Flexible Cross Fades (Transitions)
- Four Manual Master Faders for PGM Outputs
- Channel Link Operation
- 4-CH PVW Digital/Analog Outputs for Flexible Preview
- CH 1 to CH 4 Preview Buses
- Monitor Mix Matrix
- Depth of Fade Control
- Optional 16 Channel, 3-Band Equalizer and Filters
- Versatile Remote Control Facility
- Up to 99 Snapshot Memory
- Signal Processing Locked to a Video/Audio Reference
- Selectable Two Sampling Frequencies
- Phase Reverse Function for Easy Signal Compensation
- 19-inch Rack Mountable
- Compact Sizes
- Removable Meter Housing
- Self-Diagnostic Function for Trouble Free Operation



Supplied Accessories:

AC Power Cables (2)
 Processor - Controller Cable (30m)
 Controller - Meter Cable (3m)
 19-inch Rack Mount Kit for Controller/Meter Unit
 BNC 75Ω Termination

Optional Accessories:

DMBX-3000 Digital Equalizer/Filter Unit
 Equipped with the DMBK-3000, the DMX-E3000 provides assignable control of equalizer along with low/high cut filters.

Specifications

Inputs

Digital Audio: No. of channels: 32 channels (XLR-3-31 type x 16)
 Format: AES/EBU (2 channels)

Insertion: No. of channels: 2 channels (XLR-3-31 type x 1)
 Format: AES/EBU (2 channels)

Video Sync: No. of channel: 1 channels (BNC type)
 Video signal: NTSC color (29.97 Hz)
 PAL COLOR (25 Hz)
 Black and white (30 Hz)
 Sync signal: Composite sync, black burst or composite video
 Termination: 75Ω

AES/EBU Sync: One digital input signal, selected with an internal switch, is used as this references audio signal.

Word Sync: No. of channels: 1 channel (BNC type)
 Sampling frequency: 48.0 kHz, 44.1 kHz, 47.952 kHz

Outputs

Program: No. of channels: 8 x 4 channels (XLR-3-32 type x 16)
 Format: AES/EBU (2 channels)

Preview (Digital): No. of Channels: 4 channels (XLR-3-32 type x 2)
 Format: AES/EBU (2 channels)

Preview (Analog): No. of channels: 4 channels (XLR-3-32 type x 2)
 Reference level: 4 dBs
 Max. level: 24 dBs
 Impedance: 600Ω, balanced at 1 kHz

Insertion: No. of channels: 2 channels (XLR-3-32 type x 1)
 Format: AES/EBU (2 channels)

Video Sync: No. of channels: 1 channel (BNC type, x 2, loop-through)

Word Sync: No. of channels: 2 channels (BNC type x 2)
 Output level: TTL (at 75Ω termination)

Specifications—(continued)

REMOTE I/O

Serial REMOTE: Connector: D-sub 9-pin
 Format: Sony 9-pin serial, ESAM II Extended

Parallel REMOTE: Connector: D-sub 50-pin

RS-232C: Connector: D-sub 25-pin

Controller ↔ Processor: Connector: D-sub 15-pin

Meter ↔ Controller: Connector: D-sub 25-pin

Audio: Sampling frequency: 48.0 kHz, 44.1 kHz, 47.952 kHz
 Frequency response: 20 Hz–20 kHz within 0.2 dB/–0.5 dB
 Total harmonic distortion: < 0.02%
 Dynamic range: > 105 dB
 Cross talk: < –90 dB

Equalizer

(w/DMBK-3000)

High Frequency (Shelving type): Frequency range: 1 kHz–16 kHz
 Gain range: ± 15 dB
 Q: 0.7 fixed

Mid Frequency: Frequency range: 200 Hz–3.2 kHz
 Gain Range: ± 15 dB
 Q: 0.7 fixed

Low Frequency (Shelving type): Frequency range: 20 Hz–320 Hz
 Gain range: ± 15 dB
 Q: 0.7 fixed

Filters (w/DMBK-3000)

Low Cut Filter: Cut off frequency: 20 Hz–330 Hz
 Roll off characteristics: 12 dB/oct

General

Power Requirements: AC-100V/120V/220V/240V, 50/60 Hz

Power Consumption: Processor: 50W
 Controller: 30W

Dimensions (WHD): Processor: 424 x 177 x 450mm (16 3/4" x 7" x 17 3/4")
 Controller: 424 x 119.3 x 398.8mm (16 3/4" x 4 3/4" x 15 3/4")
 Meter: 424 x 132 x 40mm (16 3/4" x 5 1/4" x 1 5/8")

Weights: Processor: 28 lb. 10 oz. (13 kg.)
 Controller: 22 lb. (10 kg.)
 Meter: 2 lb. 3 oz. (1 kg.)

Built-in Oscillator: Frequency: 1 kHz
 Output level: –10 dB to –24 dB, variable

Indicator (peak metering): Level meters: 101 segment LED bargraphs



MXP-390 Series

12-Channel Audio Mixer

- Incorporates a D-sub 9-pin remote interface which conforms to the industry standard ESAM II Extended protocol
- MXP-P390 is the parallel version and provides Sony standard parallel remote interfaces for flexible control from appropriate Sony editing equipment
- 12 Channels/20 input capability: 4 monaural, MIC or LINE selectable inputs; 8 stereo LINE inputs
- 4-Channel outputs for video editing
- Enhanced video editor controlled functions: VCA gain on each channel fader; Crossfade trigger; 4-channel preview switching; Individual override of monitor outputs; Monitor output mute
- Depth of fade control
- Comprehensive four-channel monitor section
- 4-Channel free recorder assignment and preview switcher
- Monitor matrix switcher
- Filter and equalization controls
- Multi-position VTR configuration selector
- 4 Mono send and 2 stereo pair send outputs
- Easy-to-read 4-channel LED meters with VU scale
- Trim control
- Pan-pot control
- AUX channel level control
- A/B roll selection
- Manual crossfader (transition fader) for manual crossfade control

Optional Accessories:

MXBK-S390 Serial Remote Interface Kit for MXP-P390
MXBK-TK390 Table Kit for MXP-S390/P390

DMX-S6000 Series

Digital Audio Mixer

■ A Complete Line-Up—The DMX-S6000 Series consists of four models, differentiated by the number of channel inputs and the number of multi-track sends/returns, allowing users to select a model that best suits their system. Three of the models in the Series, the DMX-S6024/S6032/S6048, are designed for use with the Sony PCM-3324/3324A/3324S Digital Multi-Track Recorders. The DMX-S6064 is designed to be used with the PCM-3348

- Full Digital Processing
- Delay (max 9.9-frame delay for each channel)
- Snapshot Automation Function (up to 999 cues, 255 scenes, 999 events, 255 programs)
- Fader Automation Function
- 3.5-inch Floppy Disk Drive
- Dedicated Functions (all critical controls, such as mute, fader, PFL and solo are provided for every channel)
- Assignable Functions
- Definable Functions
- 4-Band Equalizer
- Dynamics includes high-quality limiter/compressor and expander/gate that can be set for each channel
- ALT Switch
- Channel Copy
- Large Fader/Small Fader
- Four-channel PGM outputs and Surround-Compatible Quad Panpot (Four Panpot modes: 1 stereo, 2 stereo, 2-2 Quad and 3-1 Quad. In addition a DIV (divergence) control is provided for 3-1 Quad mode so that the unit is also 3-1 surround compatible.)
- Flexible Monitor Outputs to select either STEREO, MONO or QUAD monitoring
- Control Interface
- External Synchronization
- Main Options
- Machine Controller a synchronizer that can control up to 5 slave VTRs, DAT Players, CD Players etc.
- Sampler/Shifter



DMX-S6024



DMX-S6064

Supplied Accessories:

- AC Power Cable
- Digital RGB Video Cable (30m)
- HDLC Cable (30m) (Processor—Console control surface)
- Rack Mount Bracket
- Operation Software
- Operation Manual

Optional Accessories:

- DMBK-6002 9.5-inch Blank Frame
- DMBK-6003 24/32 Channel Insertion Interface
- DMBK-6004 48 Channel Insertion Interface
- DMBK-6005 64 Channel Insertion Interface
- DMBK-6006 Extension Memory
- DMBK-6007 4 Channel Mic/Line Amplifier Module
- DMBK-6008 VU/Phase Meter
- DMBK-6009 Analog RGB Video Cable (30m)
- DMBK-6010 Mouse Table
- DMBK-6011 Console Stand (small)
- DMBK-6012 Console Stand (large)
- DMBK-6013 Stand Extension Kit
- DMBK-6015 Speaker Table
- DMBK-6016 24/32 Channel Sampler/Shifter
- DMBK-6017 48/64 Channel Sampler/Shifter
- DMBK-6018 Machine Controller
- DMBK-6001 19-inch Blank Frame
- DMBK-6014 Slide Table

Audio for Video Mixer

Specifications (DMX-S6000 Series, cont.)

Inputs

Channel:

DMX-S6064: 64ch, AES/EBU, XLR-3-31 type (x64)
 DMX-S6048: 48ch, AES/EBU, XLR-3-31 type (x48)
 DMX-S6032: 32ch, AES/EBU, XLR-3-31 type (x32)
 DMX-S6024: 24ch, AES/EBU, XLR-3-31 type (x24)

Track Return:

DMX-S6064: 48ch, SDIF-2 balanced, D-Sub 50P (x2)
 16ch, AES/EBU XLR-3-31 type (x16)
 DMX-S6048: 24ch, SDIF-2 balanced, D-Sub 50P (x1)
 24ch, AES/EBU XLR-3-31 type (x24)
 DMX-S6032: 24ch, SDIF-2 balanced, D-Sub 50P (x1)
 8ch, AES/EBU XLR-3-31 type (x8)
 DMX-S6024: 24ch, SDIF-2 balanced, D-Sub 50P (x1)
 8ch, AES/EBU XLR-3-31 type (x8)

AUX Return:

External Monitor:

8 Mono or 16 Stereo,
 AES/EBU XLR-3-31 type(s)

Outputs

Program:

4ch, AES/EBU XLR-3-32 type (x4)

Track Send:

DMX-S6064: 48ch, SDIF-2 balanced, D-Sub 50P (x2)
 8ch, AES/EBU XLR-3-32 type (x8)
 DMX-S6048: 24ch, SDIF-2 balanced, D-Sub 50P (x1)
 24ch, AES/EBU XLR-3-32 type (x24)
 DMX-S6032: 24ch, SDIF-2 balanced, D-Sub 50P (x1)
 8ch, AES/EBU XLR-3-32 type (x8)
 DMX-S6024: 24ch, SDIF-2 balanced, D-Sub 50P (x1)
 2ch, AES/EBU XLR-3-32 type (x2)

Mono:

AUX Send:

Insertion Send:

8 Mono or 16 Stereo,
 AES/EBU XLR-3-32 type (x8)

Monitor:

4ch, AES/EBU XLR-3-32 type (x2)
 for Control room
 L/R, AES/EBU XLR-3-32 type (x1)
 for Voice over booth

Reference

Video Sync:

No. of Ch: 1ch, BNC type (x2) through
 Video Signal: 25 Hz (PAL), 29.97 Hz (NTSC)
 30 Hz (EIA Black and White)
 Sync Signal: Composite sync, Black burst or Composite
 video
 Termination: 75Ω

Word Sync:

No. of Ch: 1ch, BNC type (x2) through, TTL Compatible
 75Ω

HD Sync:

No. of Ch: 1ch, BNC type (x2) through, ±0.3V, 75Ω

MIC/Line

No. of Channels: 4ch, balanced, XLR-3-31 type (x4)

Frequency Response:

MIC: 30 Hz to 20 kHz within +0 dB/ -0.5 dB
 LINE: 20 Hz to 20 kHz within +0 dB/ -0.5 dB

Total Harmonic Distortion:

MIC: < 0.3%
 LINE: < 0.1%
 Cross Talk: > 70 dB (at 8 kHz)

Equivalent Input Noise:

MIC: > 128 dB
 LINE: > 80 dB

Sampling Frequencies

48 kHz, 47.952 kHz, 44.1 kHz, 44.056 kHz

Equalizer

HF: Frequency Range: 1.3 kHz to 17.4 kHz
 Gain Range: ±15 dB
 Q Type: 0.7/1.4/2.5
 (Shelving/Peaking Selectable)

HMF: Frequency Range: 648 Hz to 8.7 kHz
 Gain Range: +15 dB
 Q Type: 0.7/1.4/2.5

LMF: Frequency Range: 193 Hz to 2.6 kHz
 Gain Range: ±15 dB
 Q Type: 0.7/1.4/2.5

LF: Frequency Range: 31 Hz to 420 Hz
 Gain Range: ±15 dB
 Q Type: 0.7/1.4/2.5
 (Shelving/Peaking Selectable)

Filter

High Cut: Cut off Frequency: 1.3 kHz to 17.4 kHz
 Roll off Characteristics: 12 dB/oct
 Low Cut: Cut off Frequency: 21 Hz to 330 Hz
 Roll off Characteristics: 12 dB/oct

Dynamics

Limiting/Compressor:

Threshold Level: 0 to -60 dB
 Attack Time: 30 μs to 300 ms
 Recovery Time: 30 ms to 3s
 Ratio: 1:1 to ∞:1
 Gain: 0 dB to 30 dB

Expander/Gate:

Threshold Level: -60 dB to 0 dB
 Attack Time: 1 μs to 10 ms
 Recovery Time: 30 ms to 3s
 Ratio: 1:1 to 1:10
 Gain: 0 dB to -60 dB

Built-in Oscillator

Frequency: PINK NOISE, WHITE NOISE, SIN WAVE
 (20 Hz to 20 kHz)
 Output Level: +10 dB to ∞

Indicator

Level Meters: 101 Segment LED bargraphs

General

Power Requirements: AC-100V/120V/220V/240V, 50 Hz/60 Hz
 Power Consumption:
 DMX-S6064: Max. 2.0 kW
 DMX-S6048: Max. 1.6 kW
 DMX-S6032: Max. 1.2 kW
 DMX-S6024: Max. 1.0 kW
 Processor: < 800W

Weight:

DMX-S6064 727 lb., 8 oz. (330kg.) (approx.)
 DMX-S6048 595 lb., 4 oz. (270kg.) (approx.)
 DMX-S6032 483 lb., (210kg.) (approx.)
 DMX-S6024 418 lb., 11 oz. (190kg.) (approx.)
 Processor: 132 lb., 4 oz. (60kg.) (approx.)

Dimensions (WHD):

DMX-S6064: 2670 x 980 x 1010mm (approx.)
 (104⁷/₈" x 38⁵/₈" x 39⁷/₈")
 DMX-S6048: 2160 x 980 x 1010mm (approx.)
 (84³/₄" x 38⁵/₈" x 39⁷/₈")
 DMX-S6032: 1850 x 980 x 1010mm (approx.)
 (65" x 38⁵/₈" x 39⁷/₈")
 DMX-S6024: 1390 x 980 x 1010mm (approx.)
 (15³/₈" x 38⁵/₈" x 39⁷/₈")
 Processor: 424 x 885 x 600mm (approx.)
 (16³/₄" x 34⁷/₈" x 23⁵/₈")

VSP-A600

Video Sound Processor

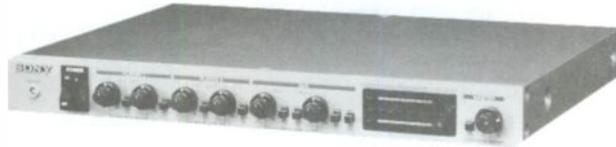
The VSP-A600 is a simple and compact audio mixer which meets the requirement of broadcast stations and post-production houses. Specifically it is designed to complement the BVE-600 Sony Video Editor, to which it can be connected directly via the Sony parallel remote interface. The VSP-A600 is only 1U high and was designed to fit on top of the BVE-600. With the VSBK-602 rack mount adaptor, it can also be installed in a 19-inch rack. The VSP-A600's compact design and its ability to interface directly to the BVE-600 are convenient features in news editing booths and other locations where space is at a premium. ■ Built-in Sony parallel remote interface—Via the Sony parallel remote connector (D-sub 15-pin) video editing units, such as the BVE-600, can be interfaced directly. The following functions of the VSP-A600 can be controlled from the video editor: —Audio-follow-video editing —VCA fader level —Cross fade during A/B roll editing —Monitoring the audio output of the recorder VTR during the playback of the recorder VTR —Muting the monitor output when the VTR is in fast-forward or rewind ■ 19" rack size—With the VSBK-602 optional rack mount adaptor, the VSP-A600 can be installed in a 19-inch rack. ■ Six channel inputs and two channel outputs—A total of six channels are assigned for two player VTR inputs and two AUX inputs (MIC/LINE selectable). ■ Editor remote or local mode selectable—Both remote and local modes are available to the operator. The local mode allows manual operation: pushing the local mode button on the front panel releases the unit from editor control.

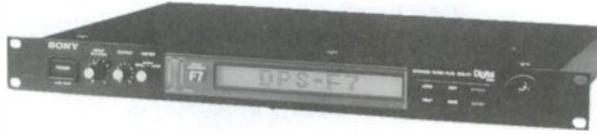
Optional Accessories:

VSBK-602 Rack Mount Adaptor

Specifications

<p>Inputs: LINE (4 channels, XLR-3-31 type) + 4 dBs (+ 20 dBs MAX.) 10 kΩ at 1 kHz, balanced AUX (2 channels, XLR-3-31 type) + 4 dBs (+ 20 dBs MAX.) for LINE, - 60 dBs (- 30 dBs MAX.) for MIC, 6 kΩ at 1 kHz, balanced</p> <p>Outputs: LINE (2 channels, XLR-3-32 type) + 4 dBs (+ 20 dBs MAX.) at 600Ω load, 150Ω at 1 kHz balanced Monitor (2 channels, XLR-3-32 type) - 5 dBs (+ 15 dBs MAX.) at 10 kΩ load, unbalanced</p> <p>Frequency Response: 20 Hz-20,000 Hz + 0.5 dB/- 1.5 dB at 1 kHz Harmonic Distortion: < 0.3% (+ 4 dB at 1 kHz output) Signal to Noise Ratio: MIC—> 63 dB at - 60 dBs input (150Ω terminated, 20 Hz-20,000 Hz) LINE—> 75 dB at + 4 dBs input (input shorted, 20 Hz-20,000 Hz)</p>	<p>Residual Noise: < - 85 dBs (Master fader OFF) < - 70 dBs (Channel fader OFF)</p> <p>Crosstalk: > 66 dB at 10 kHz</p> <p>Built-in Oscillator: 1 kHz with < 3% distortion</p> <p>Maximum Overall Gain: 84 dB at 600Ω load</p> <p>Power Requirements: AC-100V-120V (UC model), 220V-240V (EK model), 50/60 Hz</p> <p>Power Consumption: 15W</p> <p>Dimensions (WHD): 335.9 x 424 x 53.6mm (13$\frac{1}{4}$" x 16$\frac{3}{4}$" x 2$\frac{1}{8}$")</p> <p>Weights: 10 lb. 13 oz. (4.9 kg) (approx.)</p> <p>*0 dBs = 0.775 Vrms</p>
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DPS-F7

Digital Dynamic Filter Plus

- 2-channels of digital dynamic filter plus 10 algorithms provide a wide range of filter effects and outstanding sound quality
- 18-bit oversampling A/D and 1-bit D/A converter system with 45-bit noise shaping digital filters for superb sound quality
- Interfacing with external control equipment such as MIDI equipment
- 100 preset memory
- User memory for up to 256 effects setting
- 1U high and 19-inch rack mountable

Specifications

Quantization:	18-bit linear
Sampling Frequency:	48 kHz
Inputs:	+4 dBs (+24 dBs max.) 10 k Ω balanced XLR-3-31 type (x 2) -10 dBs (+10 dBs max.) 50 k Ω unbalanced PHONE (x 2)
Outputs:	+4 dBs (+24 dBs max.) > 600 Ω balance XLR-3-32 type (x 2) -10 dBs (-10 dBs max.) > 10 k Ω unbalanced PHONE (x2)
Frequency Response:	10 Hz-22 kHz +0 dB/-1.0 dB
Signal-to-Noise Ratio:	> 97 dB
Total Harmonic Distortion:	< 0.0035% (1 kHz)
Memory Capacity:	100 (Preset memory) Up to 256 (User memory)
Power Requirements:	AC 120V, 60 Hz (UC) AC 230V, 50/60 Hz (AE) AC 240V, 50/60 Hz (UK)
Power Consumption:	27W (approx.)
Dimensions (WHD):	482 x 44 x 320mm (19" x 1 $\frac{3}{4}$ " x 12 $\frac{5}{8}$ ")
Weight:	11 lb. (5 g)

DPS-M7

Digital Sonic Modulator

- Dynamic modulation function
- Oversampling effect signal processing
- Versatile choice of effects—100 preset memory
- Enhanced effect editing
- 256 user presets
- Block load function
- Two channel I/O
- Remote control capability
- Interface with MIDI equipment
- Converts two analog input channels to digital form for versatile effects control
- Incorporates a high density linear converter system to retain the audio quality of source material
- High speed 32-bit digital signal processing
- Realtime monitoring
- Memory back up function
- 1U high and 19-inch rack mountable compact dimensions



Optional Accessories:

RM-DPS7 Wired Remote Control Unit: Connects to the DPS-D7, DPS-R7, or DPS-M7 via the 9-pin remote interface; Controls up to 15 DPS-series effect processors

RK-R005(5m)/RK-R050(50m)/RK-R100(100m) Remote Control Cable: (connector, D-Sub 9-pin)

Specifications

Quantization:	18-bit linear
Sampling Frequency:	48 kHz
Inputs:	2 Channels: 4 dBs (24 dBs max.), 10 k Ω , balanced, XLR-3-31 type (1:GND 2:HOT 3:COLD) (x 2) or -10 dBs (10 dBs max.), 50 k Ω , unbalanced, PHONE (x 2); (0 dBs = 0.775 Vrms)
Outputs:	2 Channels: 4 dBs (24 dBs max.), > 600 Ω balanced, XLR-3-32 type (1:GND 2:HOT 3:COLD) (x 2) or -10 dBs (10 dBs max.), > 10 k Ω , unbalanced, PHONE (x 2); (0 dBs = 0.775 Vrms)
Frequency Response:	10 Hz-22 kHz, +0 dB/-1.0 dB
Signal-to-Noise Ratio:	> 97 dB
Dynamic Range:	> 97 dB
Total Harmonic Distortion:	< 0.0035% (1 kHz)
Memory Capacity:	Preset memory: 100 effects Use memory: Up to 256 effects
Power Requirements:	AC-120V, 60 Hz (U/C) AC-230V, 50/60 Hz (AE) AC-240V, 50/60 Hz (UK)
Power Consumption:	Approx. 27W
Dimensions (WHD):	482 x 44 x 320mm (19" x 1 $\frac{3}{4}$ " x 12 $\frac{3}{8}$ ")
Weight:	11 lb. (5 kg.)



DPS-D7

Digital Delay Unit

- Stereo digital audio delay unit including digital delay processing algorithm, 3-band digital equalizer and digital panpot control
- 18-bit oversampling A/D and 1-bit pulse D/A converter* system with digital filters for superb sound quality
- High-speed 32-bit digital signal processing for complex delay effects control
- 100 preset memory
- User memory for up to 256 effects settings
- Selectable unit for delay time, 'msec', 'm', '♪' or 'word'
- Realtime monitoring capability
- 1U high and 19" rack mountable

*Sony developed the Pulse D/A converter and designed the LSI circuitry, which incorporates the multistage noise shaping technique originated by NTT (Nippon Telegraph and Telephone Corporation).

Specifications

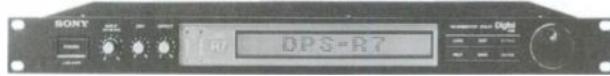
Quantization:	18-bit linear
Sampling Frequency:	48 kHz
Inputs:	+4 dBs (+24 dBs max.), 10 k Ω , balanced, XLR-3-31 type (x2) -10 dBs (+10 dBs max.), 50 k Ω , unbalanced, PHONE (x2)
Outputs:	+4 dBs (+24 dBs max.), > 600 Ω balanced, XLR-3-32 type (x2) -10 dBs (+10 dBs max.), > 10 k Ω unbalanced, PHONE (x2)
Frequency Response:	10 Hz-22 Hz (+0 dB -1.0 dB)
Signal-to-Noise Ratio:	> 94 dB
Total Harmonic Distortion:	< 0.0035% (1 kHz)
Memory Capacity:	100 (Preset memory) Up to 256 (User memory)
Power Requirements:	AC-120V, 60 Hz (UC) AC-230V, 50/60 Hz (AE) AC-240V, 50/60 Hz (UK)
Power Consumption:	28.2W (approx.)
Dimensions (WHD):	482 x 44 x 320mm (19" x 1 $\frac{3}{4}$ " x 12 $\frac{5}{8}$ ")
Weight:	10 lb. 9 oz. (4.8 kg.)

DPS-R7

Digital Reverberator

- High-performance 2-channel digital reverberator
- 18-bit oversampling A/D and 1-bit pulse D/A converter* system with digital filters for superb sound quality
- High-speed 32-bit digital signal processing for complex delay effects control
- 100 preset memory
- User memory for up to 256 effects settings
- Versatile reverb effects control
- 1U high and 19" rack mountable

*Sony developed the Pulse D/A converter and designed the LSI circuitry, which incorporates the multistage noise shaping technique originated by NTT (Nippon Telegraph and Telephone Corporation).



Specifications

Quantization:	18-bit linear
Sampling Frequency:	40 kHz
Inputs:	+ 4 dBs (+ 24 dBs max.), 10 k Ω , balanced, XLR-3-31 type (x2) - 10 dBs (+ 10 dBs max.), 50 k Ω , unbalanced, PHONE (x2)
Outputs:	+ 4 dBs (+ 24 dBs max.), > 600 Ω balanced, XLR-3-32 type (x2) - 10 dBs (+ 10 dBs max.), > 10 k Ω unbalanced, PHONE (x2)
Frequency Response:	10 Hz-18 Hz (+ 0/-1.0) dB
Signal-to-Noise Ratio:	> 90 dB
Total Harmonic Distortion:	< 0.004% (1 kHz)
Memory Capacity:	100 (Preset memory) Up to 256 (User memory)
Power Requirements:	AC-120V, 60 Hz (UC) AC-230V, 50/60 Hz (AE) AC-240V, 50/60 Hz (UK)
Power Consumption:	28.2W (approx.)
Dimensions (WHD):	482 x 44 x 320mm (19" x 1 $\frac{3}{4}$ " x 12 $\frac{5}{8}$ ")
Weight:	10 lb. 9 oz. (4.8 kg.)

MU-R201

Stereo Digital Reverb

- Complete stereo sound processing with Sony developed VLSI
- 100 factory presets and 100 user presets
- 4-band stereo digital equalizer built in
- MIDI compatible
- 10 basic algorithms
- Split reverberation programs for two simultaneous yet different effectors

Optional Accessories:

MU-RM1A Remote Control: Supports all operations and functions of MU-R201
5 meter cable

Specifications

Dimensions (WHD):	482 x 44 x 320mm (19" x 1 $\frac{3}{4}$ " x 12 $\frac{5}{8}$ ")
Weight:	9 lb. 15 oz. (4.5 kg.)



Audio Processors



MU-L021

Stereo Compressor Limiter

- Two-channel design with independent or linked operation
- Built-in noise gate on each channel
- Noise gate operation can be performed by external control signals
- Transformerless balanced input and output circuits
- XLR and 1/4" phone input and output connectors
- 19-inch EIA standard rack mountable
- LED metering showing gain reduction and operation
- Continuously variable control of threshold, attack time, ratio and release time



MU-E041

Parametric Equalizer

- Four-band parametric EQ
- Center frequencies of 80 Hz, 320 Hz, 1,300 Hz and 5,000 Hz
- Independent "Q" control of each band
- Boost/cut level switchable between 6 dB and 12 dB
- Transformerless balanced input and output circuits
- XLR and 1/4" phone input and output connectors
- 19-inch EIA standard rack mountable
- Continuously variable center frequency (± 2 octaves)
- Stacking return and sends for increased flexibility

WRT-820A

UHF Synthesized Transmitter

- PLL synthesized tuning for 94 frequencies
- Operates in the UHF TV band (initially ch. 68 thru 69 [794 MHz–806 MHz]) with a possible 11 simultaneous channels
- CPU controlled (PLL and all display functions)
- LCD display of Battery Status; Attenuation; RF; Audio Input; Channel Number
- "AA" Battery (x2) operation: 8 hrs. continuous
- Companded audio for wider dynamic range and resistance to external RF noise
- Tone squelch used during on/off to eliminate switching noise and to activate automatic squelch



WRR-820A

UHF Synthesized Diversity Receiver

- PLL synthesized tuning for 94 frequencies
- Operates in the UHF TV band (initially ch. 68–69 [794 MHz–806 MHz]) with a possible 11 simultaneous channels
- CPU controlled (PLL and all display functions)
- LCD display of Channel Number
- True space diversity operation
- Companded audio for wider dynamic range and resistance to external RF noise
- Tone squelch used during on/off to eliminate switching noise and to activate automatic squelch
- Switchable audio reference output level (–60 dBs, –40 dBs, –20 dBs)
- Output level control on front panel
- Balanced (XLR) and unbalanced (RCA) type output
- Mixed output/input connectors for mixing audio of multiple receivers to one output
- AC outlet on back
- RF and audio indications
- DC9V output on antenna connector to power active antenna system (AN-820)
- 19" rack mountable (one rack space high)





WRT-810A

UHF Synthesized Transmitter

- PLL synthesized tuning for 94 frequencies
- Operates in the UHF TV band (initially ch. 68–69 [794 MHz–806 MHz]) with a possible 11 simultaneous channels
- CPU controlled (PLL and all display functions)
- LCD display of Battery Status; Attenuation; RF; Audio Input; Channel Number
- “AA” Battery (x2) operation: 8 hrs. continuous
- Companded audio for wider dynamic range and resistance to external RF noise
- Tone squelch used during on/off to eliminate switching noise and to activate automatic squelch
- Switchable RF power output (10 mW and 2.5 mW)



WRR-840A

UHF Synthesized Diversity Receiver

- PLL synthesized tuning for 94 frequencies
- Operates in the UHF TV band (initially ch. 68–69 [794 MHz–806 MHz]) with a possible 11 simultaneous channels
- CPU controlled (PLL and all display functions)
- LCD display of Channel Number
- True space diversity operation
- Companded audio for wider dynamic range and resistance to external RF noise
- Tone squelch used during on/off to eliminate switching noise and to activate automatic squelch
- Built in antenna distribution
- Switchable audio reference output level (–60 dBs, –40 dBs, –20 dBs)
- Output level control on front panel
- Balanced (XLR) and unbalanced (RCA) type output
- Mix output/input connectors for mixing audio of multiple receivers to one output
- AC outlet on back
- RF and audio indications
- DC9V output on antenna connector to power active antenna system (AN-820)
- 19” rack mountable (one rack space high)

WRT-830A

UHF Synthesized Wireless Microphone

- PLL synthesized control transmission
- Easy-to-Read LCD Indication
- High quality sound for vocal
- ON/OFF power switch inside the body, (preventing turning-off the switch during operation.)
- Low handling noise
- AA-size battery operation
- Simultaneous multi-channel operation
- Selectable RF output power
- RF carrier with tone signal
- Compander (Compressor/Expander) system
- Unique and refined cosmetic design
- Rugged housing for complete protection during rough handling

*Use of Sony wireless devices is regulated by the Federal Communications Commission as described in Part 74 of the FCC regulations and users authorized thereby are required to obtain an appropriate license.

Supplied Accessories:

Microphone Holder
Stand Adaptor: PF 1/2-NS 5/8

Specifications

Carrier Frequency:	795 MHz-806 MHz 94 channels selectable
Oscillator:	Crystal-controlled PLL synthesizer
Tone Signal:	Approx. 32 kHz (for tone squelch control)
Type of Emission:	110KF3E
RF Power Output:	10 mW or 2.5 mW, selectable
Frequency Stability:	Within $\pm 0.005\%$
Antenna:	$\frac{1}{4}$ λ whip antenna
Pre-emphasis:	50 μ s
Reference Deviation:	± 5 kHz
Frequency Response:	70 Hz-15,000 Hz
Signal-to-noise Ratio:	60 dB (A-weighted)
Attenuator Adjustment Range:	21 dB, variable in 3 dB steps
Max. Input Sound Pressure Level:	140 dB SPL
Microphone Capsule:	Electret condenser
Directivity:	Uni-directional
Operating Voltage:	3V, LR6 AA size alkaline battery (2)
Power Consumption:	170 mA
Battery Life:	8 hours W/LR6 alkaline batteries (2) (approx.)
Dimension (WHD):	$\varnothing 48 \times 238$ mm ($\varnothing 1\frac{15}{16}'' \times 9\frac{3}{8}''$)
Weight	11 oz. (300 g.) (approx.) w/batteries





WRR-810A

UHF Synthesized Tuner

■ **PLL Synthesized System**—The PLL (Phase Locked Loop) synthesized system controls the reception frequency of the WRR-810A. It assures stability and easy access to multiple channel frequencies. By virtue of the PLL synthesized control system, the WRR-810A provides up to 94 selectable frequencies. ■ **Compact, Lightweight and Easy to Mount on Betacam SP Camcorders**—The WRR-810A is a compact and light-weight design. At only 7 oz. (220g.), it can be easily mounted on any Betacam® camcorder with the supplied holder kit and attachment case. ■ **Pre-Programmed Channel Plan**—The WRR-810A has six pre-programmed channel plans which are factory-preset for use in a multi-channel operation at one location. Up to 11 simultaneous channels can be programmed. ■ **Easy-to-Read LCD Indication**—Employing an LCD (Liquid Crystal Display) on the front panel, the WRR-810A provides extensive information on operating conditions. The selected operating channel, group, battery status and AF level can be displayed. ■ **Long Operation with LR6 (AA-size) Batteries**—Approximately six hours of continuous operation is possible with two LR6 (AA-size) alkaline batteries. The battery status can be shown on the built-in LCD. ■ **Monitoring Function**—The WRR-810A provides a monitor jack for monitoring the output sound with a supplied earphone. It is also equipped with a built-in rotary monitor volume switch. ■ **Tone Squelch Circuitry Control for Accurate Audio Reproduction**—Accurate audio reproduction is assured by the tone squelch circuitry control. Only after receiving the tone signals, will the WRR-810A reproduce audio signals for output. ■ **Compander System for Wide Dynamic Range and Low Noise**—By employing the Compander (Compressor/Expander) System, the WRR-810A ensures extended service area and optimum transmission/reception over a wide dynamic range with low noise and interference. ■ **Equipped with Muting Switch (ON/OFF)**

Supplied Accessories:

Antenna ¼ whip (x1)
Output Cable
Holder Kit for Betacam Camcorder
Attachment Case
Earphone

Specifications

Receiving Frequency: 794 MHz to 806 MHz, 94 channels, selectable
Oscillator: Crystal-controlled PLL synthesizer
Type of Reception: 110KF3E
De-emphasis: 50 µs
Reference Deviation: ± 5 kHz
Maximum Deviation: ± 40 kHz
Spurious Rejection: > 50 dB
Frequency Range: 100 Hz to 15,000 Hz
Signal-to-Noise Ratio: > 60 dB (A-weighted)
Harmonic Distortion: < 1.0% at 1 kHz

Selectivity: > 60 dB
Audio Output Level: -58 dBu
Audio Output Connector: SMC9-4S
Antenna Connector: BNC-R connector
Operating Voltage: 3.0V, LR6 (AA-size) alkaline batteries (x2)
Current Consumption: 180 mA
Dimensions (WHD): 63 x 120 x 17mm
(2½" x 4¾" x 1¼")
Weight: 7 oz. (220g.) w/batteries (approx.)

WRR-860A

UHF Synthesized Diversity Tuner

■ PLL Synthesized System—The WRR-860A employs the PLL synthesized system for stability and easy access to all 94 selectable frequencies **■ Space Diversity Reception System**—A Space Diversity System is incorporated to eliminate signal dropout and provide stable reception. Dual input and reception circuitry incorporating individual UHF synthesized tuners enables the WRR-860A to receive transmitted signals and select the optimum signals to be output. Stable reception at extended operating distances is also ensured **■ Compact, Lightweight and Easy to Mount on Betacam SP Camcorders**—The WRR-860A has a compact design, and weighs only 1 lb. 3 oz. (500g.), including a battery. It can be easily mounted on Sony Betacam camcorders with the supplied attachment and holder kit **■ Pre-Programmed Channel Plan**—The WRR-860A has six pre-programmed channel plans which are factory-preset for use in a multi-channel operation at one location. Up to 11 multi-operation channels can be programmed without interference **■ LCD Operating Status Display**—The WRR-860A employs an LCD indicator for more effective and accurate operation. RF input level, AF level, EXT DC, battery status, Muting RF level, group number, channel number, frequency and operating time are displayed on the LCD. By virtue of a back light, these indications can be seen even in low-light situations. **■ Long Operation by LR6(AA-size) Batteries**—Approximately six hours of continuous operation is possible with four LR6 (AA-size) alkaline batteries. The battery status can be shown on the built-in LCD. **■ Capable of Power Supply from Camcorders**—The WRR-860A is capable of receiving its power supply from all Sony Betacam camcorders with a DC output. **■ Monitoring Function**—The WRR-860A provides a monitor jack for monitoring the output sound with a supplied earphone. **■ Switchable Muting RF Level**—The WRR-860A has a Muting function which can easily be turned ON or OFF. In the ON mode, the RF level is selectable; from 5 dB μ , 15 dB μ and 25 dB μ **■ Comander System for Wide Dynamic Range and Low Noise**

Supplied Accessories:

Antenna 1/4 Whip (x2)
 Output Cable
 DC Cable
 Holder Kit for Betacam Camcorder
 Attachment case for Betacam Camcorder
 Earphone
 Battery Case (spare)
 Shoulder Belt

Specifications

Receiving Frequency: 794 MHz to 806 MHz, 94 channels, selectable
 Oscillator: Crystal-controlled PLL synthesizer
 Type of Reception: 110KF3E
 De-emphasis: 50 μ s
 Reference Deviation: ± 5 kHz
 Maximum Deviation: ± 40 kHz



Specifications—continued

Spurious Rejection: > 60 dB
 Frequency Range: 100 Hz to 15,000 Hz
 Signal-to-Noise Ratio: > 60 dB (A-weighted)
 Harmonic Distortion: < 1.0% at 1 kHz
 Selectivity: > 60 dB
 Audio Output Level: -58 dBu
 Audio Output Connector: XLR-3-12C type
 Antenna Connector: BNC-F connector
 Operating Voltage: 6.0V, LR6 (AA-size) alkaline batteries (x4)
 Current Consumption: 190 mA
 Dimensions (WHD): 95 x 108 x 33mm
 (3 3/4" x 4 3/8" x 1 5/16")
 Weight: 1 lb. 1.6 oz. (500g.) w/batteries

Wireless Microphones

WD-820A

UHF Antenna Divider

- Gain make-up for distribution loss
 - For use in multiple system applications
 - 2 or 4 antenna operation (for large rooms)
 - 4 diversity antenna outputs
 - 19" rack mountable (one rack space high)
 - Cascade output for more than 4 systems
-

AN-820A

UHF Antenna

- Unique antenna design
 - Provides 10 dB of gain to make up losses due to long cables
 - Versatile mounting (wall mount or microphone stand mount)
 - Water resistant construction
 - LED indication of operation
-



WRT-67

UHF Wireless Microphone

- Uni-directional, dynamic capsule
 - Available for operation in either 400 MHz or 900 MHz band
 - 3-position audio attenuator: 0 dB/ -10 dB/ -25 dB
 - AA-size battery operation
-



WRT-57

UHF Wireless Microphone

- Uni-directional, electret condenser capsule
 - Available for operation in either 400 MHz or 900 MHz band
 - Outstanding dynamic range and transmitter frequency stability
-

WRT-28

UHF Transmitter

- Compact and lightweight transmitter
- Operation in 902 MHz to 952 MHz (WRT-28H) or 470 MHz to 860 MHz (WRT-28M/28L(AE)/28L band)
- Switchable linear/compander mode (compatible with conventional receivers in linear mode)

Specifications

Dimensions (WHD): 50 x 90 x 17mm
(2" x 3⁵/₈" x 1¹/₁₆")
Weight: 4.6 oz. (130 g.)



WP-27

UHF Power Amplifier

- Compact power amplifier for boosting WRT-28H
- Operates in 900 MHz band

Specifications

Dimensions (WHD): 59 x 98 x 20mm
(2³/₈" x 3⁷/₈" x 1³/₁₆")
Weight: 7.8 oz. (220 g.)



AN-17

UHF Sleeve Antenna

- Slim, lightweight antenna for use with WRT-28H and WP-27

Specifications

Dimensions: \varnothing 10 x 222mm (L)
(\varnothing 1³/₃₂" x 8³/₄")

AD-27

Power Adaptor

- Supplies power to WRT-28H and WP-27 from external 12V DC source

Wireless Microphones



WRR-28

UHF Portable Tuner

- Operation in 902 MHz to 952 MHz (WRR-28H) or 470 MHz to 860 MHz (WRR-28M/28L(AE)/28L) band
- Easy mounting on Betacam using supplied attachment kit
- Switchable linear/compressor mode (compatible with conventional transmitters and wireless microphones in linear mode)

Specifications

Dimensions (WHD): 64 x 121 x 23mm
(2⁵/₈" x 4⁷/₈" x 2⁹/₃₂")
Weight: 9 lb. 9 oz. (280 g.)



WRR-37

UHF Diversity Tuner

- Dual tuner for diversity reception on 400 or 900 MHz band
- Whip and shoulder antennas supplied

Specifications

Dimensions (WHD): 35 x 172 x 203mm
(1⁷/₁₆" x 6⁷/₈" x 8")
Weight: 3 lb. (1.35 kg.) w/batteries

PB-36

Portable Base Unit

- Holds up to six WRR-37 receivers for multi-channel diversity reception
- Provides power, audio and antenna connections to receivers
- Built-in antenna divider

Specifications

Dimensions (WHD): 258 x 273 x 338mm
(10¹/₄" x 10⁷/₈" x 13³/₈")
Weight: 19 lb. 14 oz. (9 kg.)

WB-57A

UHF Antenna Booster

- Low noise booster
- 18 dB gain (400 MHz band)/20 dB gain (900 MHz band)

AN-57

UHF Ground Plane Antenna

- Folding elements to save storage space
 - Omni-directional for wide service area
-

BTA-37

UHF Diversity Tuner Attachment Kit

- Leatherette case with accessories to allow a WRR-37 receiver to be mounted on Betacam series Camcorders including BVW-507A/570IS/200/300A/400A



C-800

Condenser Microphone

■ Introduced after a two-year long evaluation program by Sony Music Entertainment, Sony Classical and the world's leading musicians and sound engineers ■ Uses a vacuum tube selected for optimum sonic quality ■ Ideal for quality recording of musical instruments at recording studios and for film post production ■ Successor to the world famous Sony C-37A ■ 150 dB SPL input capability and wide dynamic range ■ Warm, clear and natural reproduction of wide frequency range ■ Mechanically selectable directivity, either Omni- or Uni-directional ■ Fitted with a large diaphragm capsule ■ Rigorously selected vacuum tube for the ultimate in sound quality ■ Noise elimination construction ■ Incorporates an aluminum body divided into two parts which effectively prevents acoustic vibration from reaching the microphone capsule.

Supplied Accessories:

Wind Screen
Cradle Suspension
Stand Screw Adaptor (PF 1/2 → NS 5/8)
Stand Screw Adaptor (PF 1/2 → W 3/8)
Microphone Cable
Carrying Case
Screwdriver
Frequency Response Chart (2)

Optional Accessories:

AC-MC800 (AC Power Supply Unit)

Specifications

Performance

Capsule Type:	Condenser
Vacuum Tube:	6AU6A
Frequency Response:	20 Hz–22,000 Hz
Directivity:	Uni-directional/Omni-directional
Output Impedance at 1 kHz:	200Ω ± 20%, balanced
Sensitivity at 1 kHz:	–44.0 dB/Pa (Uni-directional) –46.0 dB/Pa (Omni-directional)
Signal-to-Noise Ratio:	> 70 dB (Uni-directional) > 68 dB (Omni-directional) (1 kHz 1 Pa IEC 651, A-weighted)
Inherent Noise:	< 24 dBSPL (Uni-directional) < 26 dBSPL (Omni-directional) (IEC 651, A-weighted)
Max. Input Sound Pressure Level:	150 dBSPL (631 Pa) (Uni-directional) 152 dBSPL (794 Pa) (Omni-directional) (1 kHz 1% distortion)
Dynamic Range:	> 126 dB

General

Power Requirements:	AC-100V, 120V, 220V or 240V, 50/60 Hz (AC-MC800)
Power Consumption:	AC-MC800: 30W
Dimensions:	Microphone: Ø57x 196(H)mm (Ø2 1/4" x 7 3/4") AC-MC800G: (WHD): 214 X 105 X 312mm (8 1/2" X 4 1/4" X 12 3/8")
Weight:	1 lb. 5 oz. (590 g.) (approx.) Cradle suspensions: 7 oz. (210 g.) (approx.) (AC-MC800: 9 lb. 15 oz. (4.5 kg) (approx.)
Connector:	Microphone: MIC output; NC6M type AC-MC800: MIC input; NC6FDL-B-1 type Audio output; NC3MDL-B-1 type

C-800G

Condenser Microphone

- Introduced after a two-year long evaluation program by Sony Music Entertainment, Sony Classical and the world's leading musicians and sound engineers
- Uses a vacuum tube selected for optimum sonic quality and an innovative cooling system
- Designed for the highest possible sound reproduction quality, warm, powerful, smooth and with fast transient response
- Particularly suitable for critical vocal recording in recording studios and film post production houses
- High sensitivity of -28 dB/Pa
- Low noise and low distortion due to a built-in thermoelectric cooling system employing a semiconductor device, heat pipe, and heat sink, the first microphone in the world to use this technique
- Fitted with a large diaphragm capsule
- Electronically selectable directivity, either omni- or uni-directional
- Rigorously selected vacuum tube for the ultimate in sound quality
- Advanced cooling system for superb audio quality
- Noise elimination construction
- The C-800G incorporates an aluminum body divided into two parts which effectively prevents acoustic vibration from reaching the microphone capsule

Supplied Accessories:

- Wind Screen
- Cradle Suspension
- Stand Screw Adaptor (PF $\frac{1}{2}$ → NS $\frac{5}{8}$)
- Stand Screw Adaptor (PF $\frac{1}{2}$ → W $\frac{3}{8}$)
- Microphone Cable
- Carrying Case
- Screwdriver
- Frequency Response Chart (2)

Optional Accessories:

- AC-MC800G (AC Power Supply Unit)

Specifications

Performance

Capsule Type:	Condenser
Vacuum Tube:	6AU6A
Frequency Response:	20 Hz–18,000 Hz
Directivity:	Uni-directional/Omni-directional
Output Impedance at 1 kHz:	$100\Omega \pm 20\%$, balanced
Sensitivity at 1 kHz:	-28.0 dB/Pa (Uni-directional) -31.0 dB/Pa (Omni-directional)
Signal-to-Noise Ratio:	> 76 dB (Uni-directional) > 73 dB (Omni-directional) (1 kHz 1 Pa IEC 651, A-weighted)
Inherent Noise:	< 18 dBSPL (Uni-directional) < 21 dBSPL (Omni-directional) (IEC 651, A-weighted)
Max. Input Sound Pressure Level:	131 dBSPL (71 Pa) (Uni-directional) 134 dBSPL (100 Pa) (Omni-directional) (1 kHz 1% distortion)
Dynamic Range:	> 113 dB

General

Power Requirements:	AC-100V, 120V, 220V or 240V, 50/60 Hz (AC-MC800G)
Power Consumption:	AC-MC800G: 35W
Dimensions:	Microphone: $\varnothing 57 \times 19$ (H) $\times 237$ mm(D) ($\varnothing 2\frac{1}{4} \times 7\frac{7}{8} \times 9\frac{3}{8}$ ") AC-MC800G: (WHD): 214 X 105 x 315mm ($8\frac{1}{2} \times 4\frac{1}{4} \times 12\frac{1}{2}$ ")
Weight:	1 lb. 16 oz. (900 g.) (approx.) Cradle suspensions: 7 oz. (210 g.) (approx.) AC-MC800G: 11 lb. 14 oz. (5.4 kg) (approx.)
Connector:	Microphone: MIC output; JR16RK-7P type AC-MC800G: MIC input; JR16RD-7S type Audio output; N3MDL-B-1 type





C-48

Studio Microphone

- Selectable directivity: uni-directional, omni-directional or bi-directional
- 2-way powering: internal battery (50 hours of continuous operation) or external power supply
- Suitable for vocal and instrumental recording
- 10 dB attenuation switch

Supplied Accessories:

- Carrying Case
- Stand Adaptor
- Battery (not included in some areas)

Specifications

Capsule Type:	Condenser
Frequency Response:	30 ~ 16,000 Hz
Directivity:	UNI/OMNI/BI
Effective Output Level:	-38.8 dBm at 1 kHz (0 dBm = 1 mW/1 Pa.) (1 Pa. = 10 μ bar)
Sensitivity:	-41.0 dB \pm 2.0 dB (0 dB = 1V/1 Pa. at 1 kHz)
Output Impedance:	150 Ω \pm 20% at 1 kHz (balanced)
Dynamic Range:	\geq 106 dB
S/N Ratio:	\geq 72 dB (A weighted, 1 kHz, 1 Pa.)
Inherent Noise:	\leq 22 dB SPL (0 dB = 20 μ Pa.)
Induction Noise from Ext. Magnetic Field:	\leq 0 dB SPL/m gauss (0 dB = 20 μ Pa.)
Wind Noise:	\leq 47 dB SPL (0 dB = 20 μ Pa.)
Max. Input Sound Pressure Level:	128 dB SPL (0 dB = 20 μ Pa.)
Mic Attenuator:	-10 dB
Tone Control:	Low Cut, M.V.
Power Supply:	Battery: S-006P (U) Ext. Power: Yes
Standard Operating Voltage:	Battery: 9V (approx.) Ext. Power: DC-48V
Current Drain:	Battery: \leq 5 mA (approx.) AC Power: \leq 1 mA (approx.)
Dimensions (WHD):	54 x 229 x 40mm (approx.) 2 $\frac{1}{4}$ " x 9 $\frac{1}{8}$ " x 1 $\frac{5}{8}$ " (approx.)
Weight:	1 lb. 4 oz. (550 g.) (approx.) without battery
Microphone Connector:	XLR-3-12C Type
Available Receptacle:	XLR-3-11C Type
External Power Supply:	Yes (AC-148F) or equivalent
Recommended Sony Battery:	S-006P (U)
Battery Life:	50 hours
Stand Screw/ Mic. Holder Screw:	PF $\frac{1}{2}$ " thread
Supplied Stand Adaptor:	NS $\frac{5}{8}$ " thread, W $\frac{3}{8}$ " thread
Mounting on A-12:	Yes (Available screw PF $\frac{1}{2}$ " thread, U $\frac{5}{16}$ " thread)
Mounting on A-25:	Not recommended
Mounting on A-25N:	Not recommended
Mounting on CRS-3P:	No

C-76

Uni-Directional Microphone

- Super-cardioid directional characteristics, rejecting indirect sound
- 2-way powering: internal battery (50 hours of continuous operation) or external power supply
- RF condenser design for low noise level



Supplied Accessories:

Wind Screen

Battery (not included in some areas)

Optional Accessories:

AD-76 Windscreen

GP-5 Universal Hand Grip

Specifications

Capsule Type:	Condenser
Frequency Response:	40 Hz ~ 16,000 Hz
Directivity:	UNI
Effective Output Level:	-38.0 dBm at 1 kHz (0 dBm = 1 mW/1 Pa.) (1 Pa. = 10 μ bar)
Sensitivity:	-3.8 dB \pm 2.0 dB (0 dB = 1V/1 Pa. at 1 kHz)
Output Impedance:	250 Ω \pm 20% at 1 kHz (balanced)
Dynamic Range:	\geq 112 dB
S/N Ratio:	\geq 80 dB (A weighted, 1 kHz, 1 Pa.)
Inherent Noise:	\leq 14 dB SPL (0 dB = 20 μ Pa.)
Induction Noise from Ext. Magnetic Field:	\leq 5 dBm SPL/m gauss (0 dB = 20 μ Pa.)
Wind Noise:	\leq 50 dB SPL (0 dB = 20 μ Pa.)
Max. Input Sound Pressure Level:	126 dB SPL (0 dB = 20 μ Pa.)
Tone Control:	Low-cut: M.M1.V1.
Power Supply:	Battery: 7MR9 Ext. Power: Yes
Standard Operating Voltage:	Battery: 9V (approx.) Ext. Power: DC-24V ~ 48V (approx.)
Current Drain:	Battery: \leq 5 mA (approx.) AC Power: \leq 9 mA (approx.)
Dimensions:	\varnothing 25 x 678mm (approx.) \varnothing 1" x 26 $\frac{1}{16}$ " (approx.)
Weight:	14.8 oz. (420 g.) (approx.) without battery
Remarks:	Shotgun Microphone
Microphone Connector:	XLR-3-12C Type
Available Receptacle:	XLR-3-11C Type
External Power Supply:	Yes (AC-148F) or equivalent
Recommended Sony Battery:	7MR9 (Mercury)
Battery Life:	50 hrs.
Mounting on CRS-3P:	No





C-74

Uni-Directional Microphone

- Super-cardioid directional characteristics, rejecting indirect sound
- 2-way powering: internal battery (50 hours of continuous operation) or external power supply
- RF condenser design for low noise level

Supplied Accessories:

Wind Screen

Battery (not included in some areas)

Optional Accessories:

AD-74 Wind Screen

GP-5 Universal Hand Grip

SC-72 Carrying Case

Specifications

Capsule Type:	Condenser
Frequency Response:	40 Hz ~ 16,000 Hz
Directivity:	UNI
Effective Output Level:	-38.0 dBm at 1 kHz (0 dBm = 1 mW/1 Pa.) (1 Pa. = 10 μ bar)
Sensitivity:	-3.8 dB \pm 2.0 dB (0 dB = 1V/1 Pa. at 1 kHz)
Output Impedance:	250 Ω \pm 20% at 1 kHz (balanced)
Dynamic Range:	\geq 112 dB
S/N Ratio:	\geq 80 dB (A weighted, 1 kHz, 1 Pa.)
Inherent Noise:	\leq 14 dB SPL (0 dB = 20 μ Pa.)
Induction Noise from	
Ext. Magnetic Field:	\leq 5 dBm SPL/m gauss (0 dB = 20 μ Pa.)
Wind Noise:	\leq 50 dB SPL (0 dB = 20 μ Pa.)
Max. Input Sound	
Pressure Level:	126 dB SPL (0 dB = 20 μ Pa.)
Tone Control:	Low-cut: M.M1.V1
Power Supply:	Battery: 7MR9 Ext. Power: Yes
Standard Operating	
Voltage:	DC-24 ~ 48V (approx.)
Current Drain:	Battery: \leq 5 mA (approx.) AC Power: \leq 9 mA (approx.)
Dimensions:	\varnothing 25 x 427mm (approx.) \varnothing 1" x 16 $\frac{3}{16}$ " (approx.)
Weight:	12.7 oz. (360 g.) (approx.) without battery
Remarks:	Shotgun Microphone
Microphone Connector:	XLR-3-12C Type
Available Receptacle:	XLR-3-11C Type
External Power Supply:	Yes (AC-148F) or equivalent
Recommended	
Sony Battery:	7MR9 (Mercury)
Battery Life:	50 hrs.
Mounting on CRS-3P:	Yes

C-535P/C-536P

Uni-Directional Microphone

- Designed especially for top-quality multi-microphone recording
- Sensitive to sound from the front (C-535P) or at right angle to the microphone axis (C-536P)

Supplied Accessories:

- Wind Screen
- Microphone Holder
- Carrying Case
- Stand Adaptor
- Battery (not included in some areas)

Specifications

- Capsule Type: Condenser
- Frequency Response: 30 ~ 16,000 Hz
- Directivity: UNI
- Effective Output Level: -40.0 dBm at 1 kHz
(0 dBm = 1 mW/1 Pa.)
(1 Pa. = 10 μ bar)
- Sensitivity: -41.0 dB \pm 2.0 dB
(0 dB = 1V/1 Pa. at 1 kHz)
- Output Impedance: 200 Ω \pm 20% at 1 kHz (balanced)
- Dynamic Range: \geq 116 dB
- S/N ratio: \geq 72 dB (A weighted, 1 kHz, 1 Pa.)
- Inherent Noise: \leq 22 dB SPL (0 dB = 20 μ Pa.)
- Induction Noise from Ext. Magnetic Field: \leq 5 dB SPL/m gauss
(0 dB = 20 μ Pa.)
- Wind Noise: \leq 70 dB SPL (535P) (0 dB = 20 μ Pa.)
 \leq 60 dB SPL (536P) (0 dB = 20 μ Pa.)
- Max. Input Sound Pressure Level: 138 dB SPL
- Mic Attenuator: -10 dB
- Power Supply: Ext. Power: Yes
Standard
- Operating Voltage: Ext. Power: DC-48V (approx.)
- Current Drain: AC Power: \leq 2 mA (approx.)
- Dimensions: \varnothing 21 x 154mm (approx.)
 \varnothing 2 $\frac{1}{32}$ " x 6 $\frac{1}{8}$ " (approx.)
- Weight: 5.3 oz. (148 g.) (approx.) without battery
- Microphone Connector: XLR-3-12C Type
- Available Receptacle: XLR-3-11C Type
- External Power Supply: Yes (AC-148F) or equivalent
- Supplied Mic Holder: Yes
Stand Screw/
Mic Holder Screw: PF $\frac{1}{2}$ " thread
- Supplied Stand Adaptor: NS $\frac{5}{8}$ " thread, W $\frac{3}{8}$ " thread
- Mounting on A-12: Yes (Available screw PF $\frac{1}{2}$ " thread, U $\frac{5}{16}$ " thread)
- Mounting on A-25: Yes (Available screw U $\frac{5}{16}$ " thread, PF $\frac{1}{2}$ " thread)
- Mounting a A-25N: Yes (Available screw NS $\frac{5}{8}$ " thread)
- Mounting on CRS-3P: Yes





ECM-672

Uni-Directional Microphone

- Super-cardioid directional characteristics, rejecting indirect sound
- 2-way powering: internal battery (3,000 hours of continuous operation) or external power supply
- 2-position low-cut filter
- Suitable for mounting on Sony Betacam and DXC series cameras

Supplied Accessories:

Wind Screen
Battery (not included in some areas)

Optional Accessories:

AD-72 Wind Screen

Specifications

Capsule Type: Electret condenser
Frequency Response: 50 Hz ~ 16,000 Hz
Directivity: UNI
Effective Output Level: -42.0 dBm at 1 kHz
(0 dBm = 1 mW/1 Pa.)
(1 Pa. = 10 μ bar)
Sensitivity: -42.0 dB \pm 2.0 dB
(0 dB = 1V/1 Pa. at 1 kHz)
Output Impedance: 250 Ω \pm 20% at 1 kHz (balanced)
Dynamic Range: \geq 92 dB
S/N ratio: \geq 72 dB (A weighted, 1 kHz, 1 Pa.)
Inherent Noise: \leq 22 dB SPL (0 dB = 20 μ Pa.)
Induction Noise from
Ext. Magnetic Field: \leq 0 dB SPL/m gauss (0 dB = 20 μ Pa.)
Wind Noise: \leq 45 dB SPL (0 dB = 20 μ Pa.)
Max. Input Sound
Pressure Level: 114 dB SPL (0 dB = 20 μ Pa.)
Tone Control: Low-cut: M.V.

Power Supply: Battery: SUM-3 (NS)
Ext. Power: Yes
Standard
Operating Voltage: Battery: 1.5V (approx.)
Ext. Power: DC-48V (approx.)
Current Drain: Battery: \leq 0.3 mA (approx.)
AC Power: \leq 0.5 mA (approx.)
Dimensions: \varnothing 24 x 304mm (approx.)
 \varnothing 3 $\frac{1}{2}$ " x 12" (approx.)
Weight: 8.1 oz. (230 g.) (approx.) without battery
Remarks: Short Shotgun
Microphone Connector: XLR-3-12C Type
Available Receptacle: XLR-3-11C Type
External Power Supply: Yes (AC-148F) or equivalent
Recommended Sony Battery: SUM-3 (NS)
Battery Life: 3,000 hrs.
Mounting on A-12: Yes (Available screw PF $\frac{1}{2}$ " thread, U $\frac{5}{16}$ " thread)
Mounting on CRS-3P: Yes

ECM-531

Electret Condenser Microphone

■ Gooseneck and extendable stem for flexible microphone positioning ■ Superb elegant design with matt black finish and refined look, the ECM-531 harmonizes with its surroundings in any conference rooms or lecture room. ■ Low-cut switch built in to the connector section permits optimum voice pick-up under almost any situations with enhanced intelligibility. ■ Operates from an external DC-12V-48V external power supply. ■ LED power indicator ■ Designed to be easily and directly installed in conference tables and lecterns via an XLR-type connector

Supplied Accessories:

Wind Screen

Specifications

Capsule Type:	Back-electret condenser
Directivity:	Uni-directional
Frequency Response:	70 Hz ~ 18,000 Hz
Sensitivity:	-49 dB \pm 3 dB (3.5 mV, 0 dB = V/1 Pa. at 1 kHz)
Output Impedance:	60 Ω \pm 20% at 1 kHz, balanced
Signal-to-Noise Ratio:	> 64 dB (at 1 kHz)
Inherent Noise:	< 30 dB SPL
Wind Noise:	< 57 dB SPL (with wind screen)
Induction Noise from External Magnetic Field:	< 5 dB SPL/1 x 10 T(mG)
Max. Input Sound Pressure Level:	130 dB SPL (63.2 Pa.) at 1 kHz, 1% distortion (0 dB = 20 μ Pa.)
Dynamic Range:	> 100 dB
External Power Supply:	DC-12V-48V
Power Consumption:	< 2 mA
Output Connector:	XLR-3-12C type
Weight:	4.6 oz. (130 g.)
Dimensions (WHD):	27 x 482 x 12mm ($27/32$ " x 19" x $1/2$ ")





ECM-530

Uni-Directional Microphone

- Ideally suited for conference and lecture applications
- Compact and slim table-top microphone
- 2-way powering: AA-size battery or external power supply

Supplied Accessories:

Wind Screen
Battery (not included in some areas)

Specifications

Capsule Type:	Electret condenser
Frequency Response:	70 Hz ~ 18,000 Hz
Directivity:	UNI
Effective Output Level:	-46.8 dBm at 1 kHz (0 dBm = 1 mW/1 Pa.) (1 Pa. = 10 μ bar)
Sensitivity:	-49.0 dB \pm 2.0 dB (0 dB = 1V/1 Pa. at 1 kHz)
Output Impedance:	150 Ω \pm 20% at 1 kHz (balanced)
Dynamic Range:	\geq 95 dB
S/N ratio:	\geq 63 dB (A weighted, 1 kHz, 1 Pa.)
Inherent Noise:	\leq 31 dB SPL (0 dB = 20 μ Pa.)
Induction Noise from	
Ext. Magnetic Field:	\leq 5 dB SPL/m gauss (0 dB = 20 μ Pa.)
Wind Noise:	\leq 55 dB SPL (0 dB = 20 μ Pa.)
Max. Input Sound	
Pressure Level:	126 dB SPL (0 dB = 20 μ Pa.)
Power Supply:	Battery: IEC-R6 or IEC-LR6 Ext. Power: Yes
Standard	
Operating Voltage:	Battery: 1.5V (approx.) Ext. Power: DC-14-48V (approx.)
Current Drain:	Battery: \leq 0.23 mA (approx.) AC Power: \leq 2 mA (approx.)
Dimensions:	\varnothing 12 x 314mm, \varnothing 86mm (Table Stand) (approx.) \varnothing 1/2" x 12 3/8", \varnothing 3 1/2" (Table Stand) (approx.)
Weight:	11.3 oz. (320 g.) (approx.) without battery
Supplied Cable:	XLR-3-12C Type
Cable Length:	2m
Available Receptacle:	XLR-3-11C Type
External Power Supply:	Yes (AC-148F) or equivalent
Recommended Sony Battery:	SUM-3 (NS)
Battery Life:	5,000 hrs.

ECM-510

Interview Microphone

■ Primarily for interview situations ■ Ultra slim, lightweight and balanced body ■ 2-way powering: internal AA-size battery or external power supply ■ Ideal length to maintain proper interviewer-to-interviewee distance ■ Coated hand grip reduces handling noise to a minimum



Supplied Accessories:

Wind Screen
Microphone Holder (2)
Battery (not included in some areas)

Specifications

Capsule Type: Electret condenser
Frequency Response: 40 Hz ~ 17,000 Hz
Directivity: OMNI
Effective Output Level: -50.0 dBm at 1 kHz
(0 dBm = 1 mW/1 Pa.)
(1 Pa. = 10 μ bar)
Sensitivity: -50.0 dB \pm 2.0 dB
(0 dB = 1V/1 Pa. at 1 kHz)
Output Impedance: 250 Ω \pm 20% at 1 kHz (balanced)
Dynamic Range: \geq 97 dB
S/N ratio: \geq 65 dB (A weighted, 1 kHz, 1 Pa.)
Inherent Noise: \leq 29 dB SPL (0 dB = 20 μ Pa.)
Induction Noise from
Ext. Magnetic Field: \leq 5 dB SPL/m gauss
(0 dB = 20 μ Pa.)
Wind Noise: \leq 40 dB SPL (0 dB = 20 μ Pa.)
Max. Input Sound
Pressure Level: 126 dB SPL (0 dB = 20 μ Pa.)
Power Supply: Battery: IEC R6 OR IEC LR6
Ext. Power: Yes
Standard
Operating Voltage: Battery: 1.5V (approx.)
Ext. Power: DC-12-48V (approx.)
Current Drain: Battery: \leq 0.23 mA (approx.)
AC Power: \leq 2 mA (approx.)
Dimensions: Max. \varnothing 23mm,
 \varnothing 8.5 x 364mm (approx.)
Max. \varnothing ²⁹/₃₂" , \varnothing ¹¹/₃₂" x 14³/₈"
(approx.)
Weight: 4.4 oz. (125 g.) (approx.) without
battery
Microphone Connector: XLR-3-12C Type
Available Receptacle: XLR-3-11C Type
External Power Supply: Yes (AC-148F) or equivalent
Recommended Sony Battery: SUM-3 (NS)
Battery Life: 5,000 hrs.
Supplied Mic. Holder: Yes
Stand Screw/Mic. Holder Screw: PF¹/₂" thread
Supplied Stand Adaptor: NS⁵/₁₆" thread, W³/₈" thread
Mounting on A-12: Yes (Available screw PF¹/₂" thread,
U⁵/₁₆" thread)
Mounting on CRS-3P: Yes



ECM-999

MS Stereo Microphone

- Variable stereo angle (0° to 150°)
- Low-cut filter
- Battery operation

Supplied Accessories:

Wind Screen
Microphone Holder
Microphone Cable
Stand Adaptor

In some areas, the battery may not be included.

Specifications

Capsule Type:	Electret Condenser
Frequency Response	20 Hz ~ 20,000 Hz
Directivity	UNI
Effective Output:	-51.0 (120°) at 1 kHz, (dBm) (0 dBm = 1 mW/1 Pa.)* ¹
Sensitivity:	-48.0 (120°)(dB) (0 dB = 1V/1 Pa., at 1 kHz)
Output Impedance:	480 at 1 kHz (balanced) ($\Omega \pm 20\%$)
Dynamic Range:	≥ 104 dB
Signal-to-Noise Ratio:	≥ 68 (120°)(dB) (A weighted, 1 kHz, 1 Pa.)
Inherent Noise* ² :	≤ 26 (120°) (db SPL)
Induction Noise from	
Ext. Magnetic Field* ² :	≤ 10 (dB SPL/1 x 10 ⁻⁷ T)
Wind Noise:	≤ 50 (dB SPL)* ²
Max. Input Sound	
Pressure Level:	130 (dB SPL)* ²
Tone Control:	Low-Cut: M.V.
Power Supply:	Battery Power: SUM-3 (ns)
Standard Operating Voltage:	Battery: 1.5V (approx.)
Current Drain:	Battery: ≤ 11.0 mA (approx.)
Dimensions:	$\varnothing 40 \times 246$ mm $\varnothing 1\frac{5}{8} \times 9\frac{3}{4}$ "
Weight* ³ :	13 oz. (366g.)
Remarks:	MS Stereo

*¹ 1 Pa. = 10 μ bar

*² 0 dB = 20 μ Pa.

*³ Without the battery for condenser and electret condenser microphones.

ECM-23F3**Uni-directional Microphone**

■ Multi-purpose use ■ Low-cut filter ■ Battery operation

Supplied Accessories:

Wind Screen
Microphone Holder
Microphone Cable
Stand Adaptor (x2)
Carrying Case

Specifications**Model**

Capsule Type: Electret Condenser
Frequency Response: 20 Hz–20,000 Hz
Directivity: UNI
Effective Output Level
at 1 kHz (dBm)
(0 dBm = 1 mW/1 Pa.): –47.0
Sensitivity (dB)
(0 dB = 1V/1 Pa., at 1 kHz): –48.0
Output Impedance at 1 kHz
(balanced) ($\Omega \pm 20\%$): 200
Dynamic Range: ≥ 110 dB
Signal-to-Noise Ratio (dB)
(A weighted, 1 kHz, 1 Pa.): ≥ 70
Inherent Noise (dB SPL): ≤ 24
Induction Noise from
ext. magnetic field
(dB SPL/1 x 10⁻⁷T): ≤ 5
Wind Noise (db SPL): ≤ 45
Max. Input Sound
Pressure Level (dB SPL): 134

Tone Control

Low-cut: M.V.

Power Supply

Battery Power: SUM-3 (NS)

Standard Operating Voltage

Battery: 1.5V (approx.)

Current Drain

Battery: ≤ 5 mA

Dimensions: $\varnothing 27 \times 246$ mm
 $\varnothing (1\frac{1}{8}'' \times 7\frac{1}{2}'')$ (approx.)

Weight: 7.6 oz. (215g)

Microphone Connector: XLR-3-12C Type

Supplied Cable: XLR-3-11C Type \approx Phone plug

Cable Length: 6m

Available Receptacle: Phone jack

External Power Supply

(AC-148F) of Equivalent: No

Recommended Sony Battery: SUM-3 (NS)

Battery Life: 150H

Supplied Mic Holder: Yes

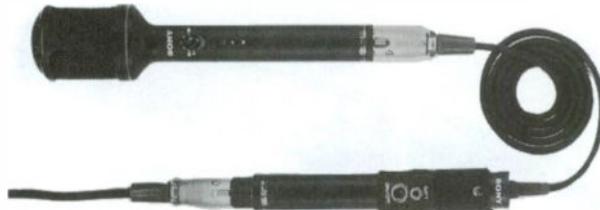
Stand Screw/Mic

Holder Screw: pF $\frac{1}{2}$ -inch thread

Supplies Stand Adapter: NS $\frac{5}{8}$ -inch thread

W $\frac{3}{8}$ -inch thread





Specifications

Capsule Type:	Electret condenser
Frequency Response:	70 Hz ~ 20,000 Hz
Directivity:	UNI
Effective Output Level:	-37.8 (0°) dBm at 1 kHz (0 dBm = 1 mW/1 Pa.) (1 Pa. = 10 μPa.) -34.8 (127°) dBm at 1 kHz (0 dBm = 1 mW/1 Pa.) (1 Pa. = 10 μPa.)
Sensitivity:	-40.0 dB ±2.0 dB (0°) (0 dB = 1V/1 Pa. at 1 kHz) -37.0 dB ±2.0 dB (127°) (0 dB = 1V/1 Pa. at 1 kHz)
Output Impedance:	150Ω ±20% at 1 kHz (balanced)
Dynamic Range:	≥ 108 dB
S/N ratio:	≥ 74 dB (0°) (A weighted, 1 kHz, 1 Pa.) ≥ 72 dB (127°) (A weighted, 127° kHz, 1 Pa.)
Inherent Noise:	≤ 20 dB SPL (0°) (0 dB = 20 μPa.) ≤ 22 dB SPL (127°) (0 dB = 20 μPa.)
Induction Noise from Ext. Magnetic Field:	≤ 0 dB SPL/m gauss (0 dB = 20 μPa.)
Wind Noise:	≤ 54 dB SPL (0 dB = 20 μPa.)
Max. Input Sound Pressure Level:	130 dB SPL (0 dB = 20 μPa.)
Tone Control:	Low-cut: M.V.
Power Supply:	Battery: Yes (with DC-MS5 DC power supply unit) Ext. Power: Yes

ECM-MS5

MS Stereo Microphone

- Compact and light MS (Mid-Side) stereo microphone
- 6-position stereo angle selector (0° to 127°)
- 2-way powering: external power supply or battery operation with optional DC-MS5

Supplied Accessories:

- Wind Screen
- Microphone Holder
- Microphone Cable
- Stand Adaptor (2)
- Battery (not included in some areas)

Optional Accessories:

- DC-MS5 DC Power Supply Unit: Provides stable DC-12V to ECM-MS5 (20 hours of continuous operation with a single AA-size battery); Built-in battery indicator

Standard	
Operating Voltage:	Battery: 1.5V (approx.) (with DC-MS5 DC power supply unit) Ext. Power: DC-12V-48V
Current Drain:	Battery: ≤ 1.75 x 2 mA (DC-12V) (approx.) AC Power: ≤ 2 x 2 mA (DC-48V) (approx.)
Dimensions:	∅47.5 x 212mm (approx.) ∅1 7/8" x 8 3/8" (approx.)
Weight:	7.6 oz. (215 g.) (approx.) without battery
Remarks:	MS Stereo
Microphone Connector:	XLR-5-12C Type
Supplied Cable:	XLR-5-11C ↔ XLR-3-12C
Cable Length:	3m
Available Receptacle:	XLR-3-11C Type
External Power Supply:	Yes (AC-148F) or equivalent
Recommended Sony Battery:	LR6 (Alkaline)
Battery Life:	20 hrs.
Supplied Mic. Holder:	Yes
Stand Screw/ Mic. Holder Screw:	PF 1/2" thread
Supplied Stand Adaptor:	NS 5/8" thread, W 3/8" thread
Mounting on A-12:	Yes (Available screw PF 1/2" thread, U 5/16" thread)
Mounting on A-25:	Yes (Available screw U 5/16" thread, PF 1/2" thread)
Mounting on A-25N:	Yes (Available screw NS 5/8" thread)
Mounting on CRS-3P:	Yes



ECM-166BC

Electret Condenser Lavalier Microphone

- Newly designed electret condenser capsule
- Uni-directional pick-up pattern
- Uses SMC-9 connector for connection to all Sony wireless systems
- Supplied wind screen and clip

ECM-77B

Omni-directional Lavalier Microphone

- Sony's smallest and lightest lavalier, measuring $\varnothing 5.6 \times 12.5\text{mm}$ ($\varnothing 1/4" \times 1/2"$), 0.04 oz. (1.5 g.) microphone head
- High performance, frequency response 40 Hz to 20,000 Hz
- 2-way powering: AA-size battery or external power supply
- Complete with in-line battery unit for 2-way powering

Supplied Accessories:

- S.H. Holder Clip
- S.V. Holder Clip
- M Wind Screen
- Microphone Case

Specifications

Capsule Type:	Electret condenser
Frequency Response:	40 Hz ~ 20,000 Hz
Directivity:	OMNI
Output Level at 1 kHz (0 dB = 1V/1 Pa.):	-52.0 dB \pm 2 dB
Output Impedance at 1 kHz:	150 Ω \pm 20% (balanced)
Dynamic Range:	\geq 90 dB
Signal-to-Noise Ratio (A weighted, 1 kHz, 1 Pa.):	\geq 64 dB
Inherent Noise (0 dB SPL = 20 μ Pa.):	\leq 30 dB SPL
Wind Noise (w/wind screen):	\leq 40 dB SPL
Induction Noise from Ext. Magnetic Field:	\leq 5 dB SPL/m gauss
Maximum Input Sound Pressure Level:	120 dB SPL
Microphone Cable:	3m
Output Connector:	XLR-3-12C Type
Power Supply:	Battery: SUM-3(NS) (1.5V) Battery Life: 5,000 hrs. (approx.) Ext. Power: DC-48V
Dimensions:	Microphone Head: $\varnothing 5.6 \times 12.5\text{mm}$ ($\varnothing 1/4" \times 1/2"$) Power Unit: $\varnothing 20.0 \times 133\text{mm}$ ($\varnothing 3/16" \times 5 1/4"$)
Weight:	Microphone Head: 0.053 oz. (1.5 g.) (approx.) Total: 4.3 oz. (121.5 g.) (approx.)





ECM-66B

Uni-directional Lavalier Microphone

- $\varnothing 10.6 \times 24.3\text{mm}$ ($\varnothing 7/16" \times 31/32"$), 0.24 oz. (7 g.) microphone head
- Designed for instrumental applications
- 2-way powering: AA-size battery or external power supply
- 130 dB SPL max. input sound pressure level
- Complete with in-line battery unit for 2-way powering

Supplied Accessories:

- S.H. Holder Clip
- S.V. Holder Clip
- M Wind Screen
- Microphone Case

Specifications

Capsule Type:	Electret condenser
Frequency Response:	70 Hz ~ 14,000 Hz
Directivity:	UNI
Output Level at 1 kHz (0 dB = 1V/1 Pa.):	-50.0 dB \pm 2 dB
Output Impedance at 1 kHz:	100 Ω \pm 20% (balanced)
Dynamic Range:	\geq 101 dB
Signal-to-Noise Ratio (A weighted, 1 kHz, 1 Pa.):	\geq 65 dB
Inherent Noise (0 dB SPL = 20 μ Pa.):	\leq 29 dB SPL
Wind Noise (w/wind screen):	\leq 50 dB SPL
Induction Noise from Ext. Magnetic Field:	\leq 5 dB SPL/m gauss
Maximum Input Sound Pressure Level:	130 dB SPL
Microphone Cable:	3m
Output Connector:	XLR-3-12C Type
Power Supply:	Battery: SUM-3(NS) (1.5V) Battery Life: 300 hrs. (approx.) Ext. Power: DC-48V
Dimensions:	Microphone Head: $\varnothing 10.6 \times 24.2\text{mm}$ ($\varnothing 7/16" \times 31/32"$) Power Unit: $\varnothing 20.0 \times 163\text{mm}$ ($\varnothing 13/16" \times 61/2"$)
Weight:	Microphone Head: 0.25 oz. (7 g.) (approx.) Total: 5.9 oz. (167 g.) (approx.)

ECM-55B

Omni-directional Lavalier Microphone

■ $\varnothing 10.6 \times 21\text{mm}$ ($\varnothing 7/16" \times 27/32"$), 6.5 g. (0.2 oz.) microphone head ■ Frequency response tailored for enhanced presence and improved voice quality in lavalier applications ■ 2-way powering: AA-size battery or external power supply ■ Complete with in-line battery unit for 2-way powering

Supplied Accessories:

S.H. Holder Clip
S.V. Holder Clip
Wind Screen
Microphone Case

Specifications

Capsule Type:	Electret condenser
Frequency Response:	30 Hz ~ 18,000 Hz
Directivity:	OMNI
Output Level at 1 kHz (0 dB = 1V/1 Pa.):	-52.0 dB \pm 2 dB
Output Impedance at 1 kHz:	100 Ω \pm 20% (balanced)
Dynamic Range:	\geq 98 dB
Signal-to-Noise Ratio (A weighted, 1 kHz, 1 Pa.):	\geq 66 dB
Inherent Noise (0 dB SPL = 20 μ Pa.):	\leq 28 dB SPL
Wind Noise (w/wind screen):	\leq 40 dB SPL
Induction Noise from Ext. Magnetic Field:	\leq 5 dB SPL/m gauss
Maximum Input Sound Pressure Level:	126 dB SPL
Microphone Cable:	3m
Output Connector:	XLR-3-12C Type
Power Supply:	Battery: SUM-3(NS) (1.5V) Battery Life: 5,000 hrs. (approx.) Ext. Power: DC-48V
Dimensions:	Microphone Head: $\varnothing 10.6 \times 21\text{mm}$ ($\varnothing 7/16" \times 27/32"$) Power Unit: $\varnothing 20.0 \times 133\text{mm}$ ($\varnothing 13/16" \times 5 1/4"$)
Weight:	Microphone Head: 0.23 oz. (6.5 g.) (approx.) Total: 4.5 oz. (126.5 g.) (approx.)





ECM-44B

Omni-directional Lavalier Microphone

- $\varnothing 8.5 \times 14.5\text{mm}$ ($\varnothing 1\frac{1}{32}'' \times 1\frac{9}{32}''$), 0.07 oz. (2 g.) microphone head
- Excellent cost/performance ratio
- Battery operation
- Complete with in-line battery unit for 2-way powering

Supplied Accessories:

Holder Clip
U. Wind Screen
Microphone Case

Specifications

Capsule Type:	Electret condenser
Frequency Response:	40 Hz ~ 15,000 Hz
Directivity:	OMNI
Output Level at 1 kHz (0 dB = 1V/1 Pa.):	-53.0 dB
Output Impedance at 1 kHz:	250 Ω \pm 20% (balanced)
Dynamic Range:	\geq 90 dB
Signal-to-Noise Ratio (A weighted, 1 kHz, 1 Pa.):	\geq 62 dB
Inherent Noise (0 dB SPL = 20 μ Pa.):	\leq 32 dB SPL
Wind Noise (w/wind screen):	\leq 40 dB SPL
Induction Noise from Ext. Magnetic Field:	\leq 5 dB SPL/m gauss
Maximum Input Sound Pressure Level:	122 dB SPL
Microphone Cable:	3m
Output Connector:	XLR-3-12C Type
Power Supply:	Battery: SUM-3(NS) (1.5V) Battery Life: 5,000 hrs. (approx.)
Dimensions:	Microphone Head: $\varnothing 8.5 \times 14.5\text{mm}$ ($\varnothing 1\frac{1}{32}'' \times 1\frac{9}{32}''$) Power Unit: $\varnothing 20.0 \times 126\text{mm}$ ($\varnothing 1\frac{3}{16}'' \times 5''$)
Weight:	Microphone Head: 0.07 oz. (2 g.) (approx.) Total: 4.3 oz. (121 g.) (approx.)

F-730

Uni-directional Microphone

■ For vocal applications ■ Efficient one-piece shock mount to protect the capsule from external noise and vibration ■ Built-in on/off switch ■ Integral double wind-screen to prevent pop/wind noise



Supplied Accessories:

Microphone Holder
Stand Adaptor (2)

Specifications

Capsule Type:	Dynamic
Frequency Response:	50 Hz ~ 11,000 Hz
Directivity:	UNI
Effective Output level at 1 kHz (0dBm = 1mW/1 Pa.):	-59.8 dBm (1 Pa. = 10 μ bar)
Sensitivity (0 dB = 1V/1 Pa. at 1 kHz):	-59.0 \pm 3.0
Output Impedance at 1 kHz (balanced) (Ω \pm 20%):	300
Induction Noise from ext. Magnetic Field (dB SPL/m gauss):	\leq 10 (0 dB = 20 μ Pa.)
Wind Noise (dB SPL):	< 45 (0 dB = 20 μ Pa.)
Dimensions:	\varnothing 44.4 x 166mm (\varnothing 1 $\frac{3}{4}$ " x 6 $\frac{5}{8}$ " (approx.))
Weight:	8.8 oz. (250 g.) (approx.)
Microphone Connector:	XLR-3-12C Type
Available Receptacle:	XLR-3-11C Type
Supplied Mic Holder:	Yes
Stand Screw/ Mic Holder Screw:	PF $\frac{1}{2}$ " thread
Supplied Stand Adaptor:	NS $\frac{5}{8}$ " thread, W $\frac{3}{8}$ " thread
Mounting on A-12 (Available Screw PF $\frac{1}{2}$ " thread, U $\frac{5}{16}$ " thread):	Yes
Mounting on A-25 (Available Screw U $\frac{5}{16}$ " thread, PF $\frac{1}{2}$ " thread):	Yes
Mounting on A-25N (Available Screw NS $\frac{5}{8}$ " thread):	Yes
Mounting on CRS-3P:	Yes



F-720

Uni-directional Microphones

- For general applications
- Efficient one-piece shock mount to protect the capsule from external noise and vibration
- Built-in on/off switch
- Integral double wind-screen to prevent pop/wind noise

Supplied Accessories:

Microphone Holder
Stand Adaptor (2)

Specifications

Capsule Type: Dynamic
Frequency Response: 50 Hz ~ 11,000 Hz
Directivity: UNI
Effective Output level at 1 kHz (0 dBm = 1 mW/1 Pa.): -60.8 dBm (1 Pa. - 10 μ bar
Sensitivity (0 dB = 1V/1 Pa. at 1 kHz): -60.0 \pm 3.0
Output Impedance at 1 kHz (balanced) (Ω \pm 20%): 300
Induction Noise from ext. Magnetic Field (dB SPL/m gauss) \leq 10 (0 dB = 20 μ Pa.)
Wind Noise (dB SPL): \leq 55 (0 dB = 20 μ Pa.)
Dimensions: \varnothing 37.6 x 180mm
(\varnothing 1 $\frac{1}{2}$ " x 6 $\frac{3}{8}$ " (approx.))
Weight: 9.2 oz. (260 g.) (approx.)
Microphone Connector: XLR-3-12C Type
Available Receptacle: XLR-3-11C Type
Supplied Mic Holder: Yes
Stand Screw/
Mic Holder Screw: PF1 $\frac{1}{2}$ " thread
Supplied Stand Adaptor: NS $\frac{5}{8}$ " thread, W $\frac{3}{8}$ " thread
Mounting on A-12 (Available Screw PF1 $\frac{1}{2}$ " thread, U $\frac{5}{16}$ " thread): Yes
Mounting on A-25 (Available Screw U $\frac{5}{16}$ " thread, PF1 $\frac{1}{2}$ " thread): Yes
Mounting on A-25N (Available Screw NS $\frac{5}{8}$ " thread): Yes
Mounting on CRS-3P: Yes

CRS-3P

Cradle Suspension

■ Available screw: PF $\frac{1}{2}$ " thread ■ Supplied stand screw adaptor: NS $\frac{5}{8}$ " ■ Grip: \varnothing 19mm to 24mm (\varnothing $\frac{3}{4}$ " to $\frac{3}{32}$ ") ■ Weight: 5.3 oz. (150 g.)

PBR-330

Parabolic Reflector

■ Dimensions (WHD): 345 x 377 x 135mm ($13\frac{5}{8}$ " x $14\frac{7}{8}$ " x $5\frac{5}{16}$ ") ■ Weight: 1 lb. 7oz. (650 g.) ■ Supplied stand screw adaptor: NS $\frac{5}{8}$ "



MDR-7506

Professional Headphones

- Rugged design — proven to be reliable in the toughest situations
- Folding construction — compact storage
- 40mm driver unit — for clear high quality reproduction of sound
- Closed ear design — comfort and reduction of external noise
- Stereo unimatch plug — 1/4" and 1/8" applications
- Gold connectors and OFC cord — reliable and stable signal connection and transmission
- Tighter frequency response specifications — 10 Hz to 20 kHz
- Supplied soft case — protective storage
- Sony Pro Audio support — included service manual, Professional Audio procured product, and Pro service if necessary

MDR-7504

Professional Headphones

- Folding construction - compact storage
- 40mm driver unit - for clear high quality reproduction of sound
- Closed ear design - comfort and reduction of external noise
- Stereo unimatch plug - 1/4" and 1/8" applications
- Gold connectors and OFC cord - reliable and stable signal connection and transmission
- Tighter frequency response specifications - 15 Hz to 18 kHz
- Supplied soft case - protective storage
- Sony Pro Audio support - included service manual, Professional Audio procured product, and Pro service if necessary

Security

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EVT-820	J-3
SVT-100	J-4
SVT-5000	J-5

RVTV Rearvision

YM-X7RVAM/YM-RVF7AM.....	J-6
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SSC-S20	J-36



EVT-801

Monochrome 8mm Time Lapse Video Recorder

- The adoption of the worldwide 8mm format standard has allowed the design of the smallest time lapse recorder ever made
- Sony's advanced 8mm VCR technology provides outstanding overall picture quality: More than 380 TV lines of horizontal resolution; More than 45 dB of signal-to-noise ratio
- Three kinds of still picture are available: 6-bit digital memory allows a choice of noiseless odd-field or even-field, plus a superclear noiseless frame still picture
- Search function provides noiseless pictures at up to nine times normal speed in forward and up to seven times in reverse
- Digital memory eliminates problems with head-clogging
- Recording time for a single P6-90 cassette is selectable as shown below:

TIME MODE (hr.)	12	24	48	96	192	384
INTERVAL(sec.)	0.25	0.5	1	2	4	8

- Automatic alarm recording capability (12 hr. time mode)
- Automatic repeat recording capability
- Built-in time and data generator
- Power-failure protection for 72 hours
- Tapes recorded on the EVT-801 can be played back on any 8mm VCR

Supplied Accessories:

Cleaning Cassette

Optional Accessories:

P6-15/30/60/90MP 8mm video cassette

Specifications

Video Recording System: Rotary, 2-head, helical-scan FM recording
 Video Signal System: EIA standard
 Horizontal Resolution: > 380 TV lines
 Signal-to-Noise Ratio: > 45 dB
 Freeze Picture: Selectable: frame, odd-field, even-field
 Recording Time: 12/24/48/96/192/384 hrs. with P6-90 tapes
 Video IN/OUT: BNC, 1.0Vp-p, 75Ω unbalanced
 F Forward/Rewind Time: 3 min. (with P6-90 tape) (approx.)
 Power Requirements: 120V AC, 60 Hz
 Power Consumption: 27W
 Weight: 13 lb. 14 oz. (6.3 kg.)
 Operating Temperature: 5°C to 40°C (41°F to 104°F)
 Dimensions (WHD): 355 x 86 x 340
 (14" x 3½" x 13½")

EVT-820

Color 8mm Time Lapse Video Recorder

- The adoption of the worldwide 8mm format standard has allowed the design of the smallest time lapse recorder ever made
- Sony's advanced 8mm VCR technology provides outstanding overall picture quality: More than 380 (B/W)/250 (Color) TV lines of horizontal resolution; More than 45 dB of signal-to-noise ratio
- Three kinds of still picture are available: 6-bit digital memory allows a choice of noiseless odd-field or even-field, plus a super-clear noiseless frame still picture
- Search function provides noiseless pictures at up to nine times normal speed in forward and up to seven times in reverse
- Digital memory eliminates problems with head-clogging
- Weekly Matrix Timer allows up to three blocks of recording time during a 24 hr. period to be specified
- Recording time for a single P6-90 cassette is selectable as shown below:

TIME MODE (hr.)	12	24	48	96	192	760
INTERVAL (sec.)	0.25	0.5	1	2	4	15

- Automatic alarm recording capability (12 hr. time mode)
- Convenient alarm recall capability
- Rapid alarm search function
- Automatic repeat recording capability
- Built-in time and date generator
- Power-failure protection for 72 hr.
- Tapes recorded on the EVT-820 can be played back on any 8mm VCR

Supplied Accessories:

Cleaning Cassette

Optional Accessories:

P6-15/30/60/90 min. 8mm video cassette

Specifications

Video Recording System: Rotary, 2-head, helical-scan FM recording
 Video Signal System: NTSC/EIA standard
 Horizontal Resolution: More than 380 TV lines (B/W), More than 250 TV lines (color)
 Signal to Noise Ratio: More than 45 dB
 Freeze Picture: Selectable: frame, odd-field, even-field
 Recording Time: 12/24/48/96/192/760 hrs. with P6-90 tape
 Video IN/OUT: BNC, 1.0Vp-p, 75Ω unbalanced
 Fast Forward/Rewind Time: 3 min. (with P6-90 tape) (approx.)
 Power Requirements: 120V AC, 60 Hz
 Power Consumption: 27W
 Weight: 13 lbs. 14 oz. (6.3 kg.)
 Operating Temperature: 5°C to 40°C (41°F to 104°F)
 Dimensions (WHD): 355 x 86 x 340mm
 (14" x 13½" x 3½")





SVT-100

VHS Time Lapse Videorecorder

- Up to 24 hour time lapse recording capability
- Audio recording capability in 2, 12 or 24 hour modes
- Over 300 lines horizontal resolution (B/W)
- Built-in time/date generator, 3 day power backup
- Alarm Scan/Alarm Log capability
- On screen indicators for operating parameters
- Repeat/Timer/Alarm recording capabilities
- Security Lock
- Tape end output

Specifications

Video Recording System:	2 head rotary helical scanning
Television System:	EIA Standard, NTSC Color
Video Recording	
Time Modes:	2, 12, 24, with T120 VHS Videocassette
Horizontal Resolution:	B/W: over 300 lines Color: over 230 lines
Video Signal to Noise:	> 46 dB in color
Audio Recording	
Time Modes:	2, 12 and 24 hour modes
Audio Input/Output:	RCA-type X2, 316 mV, 100 k Ω
Microphone Input:	Minijack, -60 dBm, 600 Ω unbalanced
Internal Timer:	7 day, 7 event plus daily
Operating Temperature:	41°F to 104°F (5°C to 40°C)
Power Requirements:	120V AC, 60 Hz
Power Consumption:	18W
Dimensions (WHD):	420 x 100 x 340 mm (16 $\frac{1}{2}$ " x 4" x 14 $\frac{3}{8}$ ")
Weight:	15 lb. 7 oz. (7 kg.)

Connectors

Alarm Input:	Contact closure
Alarm Output:	+5V, 4.7 k Ω
Tape End Output:	+5V, 4.7 k Ω
Remote Control Input:	Minijack
Camera Switch Out:	+5V

SVT-5000

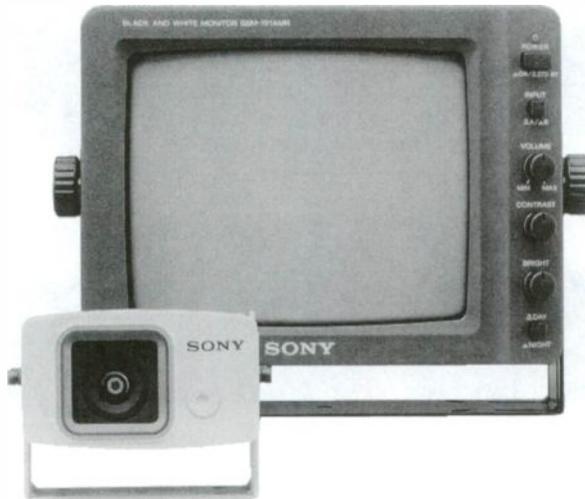
Time Lapse VHS Video Recorder

- 12 recording modes up to 960 hours on T-120 VHS tape
- Built-in time-date generator with 15-day backup
- 350-line resolution (B/W), 250-line (color)
- Audio recording up to 24 hours
- Alarm search, scan and log features
- On-screen indicators for all operating parameters
- One Shot, Serial and Repeat recording
- Tape end alarm
- Security lock

Specifications

- Video Recording System:** Dual Azimuth, 4 head rotary helical scanning
- Television System:** EIA Standard, NTSC Color
- Video Recording Time Modes:** 2, 12, 24, 48, 72, 96, 120, 168, 240, 480, 720, 960 hrs. with T-120 VHS Videocassette, and 1-shot mode
- Horizontal Resolution:** B/W: 350 lines
Color: 240 lines
- Video Signal to Noise:** More than 46 dB in color
- Audio Recording Time Modes:** 2, 12 and 24 hr. modes
- Audio Input/Output:** RCA-type x 2, 316 mV, 100 k Ω
- Microphone Input:** Minijack, -60 dBm, 600 Ω unbalanced
- Internal Timer:** 7 day, 7 event plus daily
- Operating Temperature:** 41°F to 104°F (5°C to 40°C)
- Power Requirements:** 120V AC, 60 Hz
- Power Consumption:** 18W
- Dimensions (WHD):** 420 x 100 x 340mm
(16½" x 4" x 14⅝")
- Weight:** 15 lb. 7 oz. (7 kg.)
- Connectors:** Alarm Input: Contact closure
Alarm Output: 5V, 4.7 k Ω
Alarm Reset: Contact closure
Tape End Output: 5V, 4.7 k Ω
Remote Control Input: Minijack
Audio Sensor Input: 5V
Camera Switch Out: 5V
One Shot Input: Contact closure





YM-X7RVAM/YM-RVF7AM

RVTV™ Rearvision System

RVTV™ Monitor SSM-721AMR

- Large, easy-to-see 7 inch screen
- Non-glare screen to minimize reflection
- Auto-on capability in reverse gear
- Dual camera input
- Audio capability with built-in speaker

RVTV™ Camera SSC-520AM

- Hyper HAD™ sensor for extra low-light sensitivity
- Less "Booming" distortion from the sun or headlights
- Built-in auto-iris wide-angle lens, (100° horz. viewing angle)
- All-Weather aluminum diecast housing
- Built-in microphone

2 System Packages Available

- YM-X7RVAM
- YM-RVF7AM
- Both System packages include: SSM-721AMR B/W Monitor, SSC-520AM CCD Camera

Supplied Accessories:

YM-X7RVAM: VK-318A Water Resistant, 59' cable

WV-700AM Monitor Sun Hood

YM-RVF7AM: VK-120A, 66' cable

Specifications

RVTV™ Camera (SSC-520AM)

Pick Up Device	Interline Transfer Hyper HAD CCD
Pic. Element (HxV):	510 x 492
Sensing Area:	6.2mm x 4.5mm
Lens:	3.0mm, f1.4 fixed focus, Auto Iris
Signal System:	EIA standard
Scanning System:	525 lines, 2:1 Interlace
Sync System:	Internal
Horizontal Resolution:	> 380 TV lines
Vertical Resolution:	350 lines
Min. Illumination	0.5 lux
S/N Ratio:	> 45 db
Power Requirements:	12V, DC 4-Pin Multi Connector
Power Consumption:	1.8W
Operating Temperature:	-4°F to 158°F, (-20°C to 70°C)
Storage Temperature:	-22°F to 185°F, (-30°C to 85°C)
Viewing Angle:	100° Horizontal, 80° Vertical
Impact:	70G
Weight:	1.7 lbs. (850 g)

RVTV™ Monitor (SSM-721AMR)

Video Signal System:	EIA Standard
Picture Tube:	7" B/W
Resolution:	650 TV Lines
Power Connector:	12V/24V
Speaker	
Inch:	1 3/4" x 2 5/8"
(mm):	(42mm x 66mm)
Input Connector:	4-pin Multi-connector (2)
Audio Output:	Phono Mini Jack (8Ω)
Power Requirements:	DC 12V/24V
Power Consumption:	23W Max
Operating Temperature:	5°F to 140°F (-15°C to 60°C)
Storage Temperature:	-13°F to 185°F (-25°C to 85°C)
Weight:	5 lbs. 14 oz. (2.5kg)

SPT-T200/R200

Still Picture Transmission and Telecontrol System

Sony's innovative Telepix Still Picture Transmission and Telecontrol System is a powerful security management tool which allows you to see, hear and talk to a monitored CCTV installation anytime, day or night—over a standard telephone line.

Consisting of two primary components—the SPT-T200 Transmitter and SPT-R200 Receiver—Telepix is designed to flexibly integrate with any remote CCTV installation. Perfect for small retail stores, convenience stores, and jewelry stores, Telepix adds the dimension of visual confirmation of an alarm condition to security monitoring activities.

SPT-T200

TELEPIX TRANSMITTER

- Installed at the monitored site
- Integrates with existing CCTV equipment: up to three cameras, three microphones, three alarm/sensors and one audio output to loudspeaker
- Six relay outputs for activating peripheral equipment
- Automatically dials up to three pre-programmed telephone numbers of receiver sites in sequence
- 10-second transmission time for still image from video cameras to receiver over standard analog telephone line
- Locked box design with micro-switches automatically trigger alarm if forced
- DC 12V operation (user supplied 12V DC power support)

SPT-R200

TELEPIX RECEIVER

- Compact desktop receiver with built-in 4-inch monochrome monitor installed at office, home or central station monitoring
- Hooked to a standard touchtone phone, user can activate cameras, microphones, speakers and other equipment at the monitored site via phone keypad
- On-screen displays show complete system status
- Remote output jack allows triggered operation of a video printer or Time Lapse Video Recorder
- DC 6V operation (AC Adaptor supplied)

Supplied Accessories:

SPT-T200

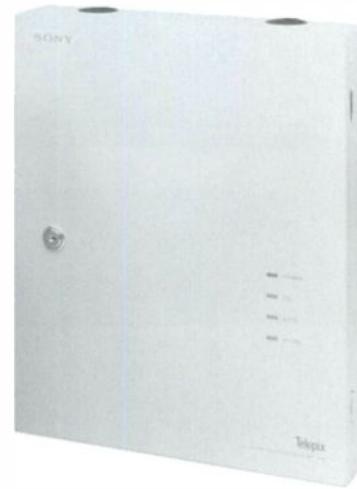
Instruction Manual
Warranty Card
Keys (2)

SPT-R200

Connecting Cord
AC Power Adaptor
Instruction Manual
Warranty Card



SPT-R200 Receiver



SPT-T200 Transmitter

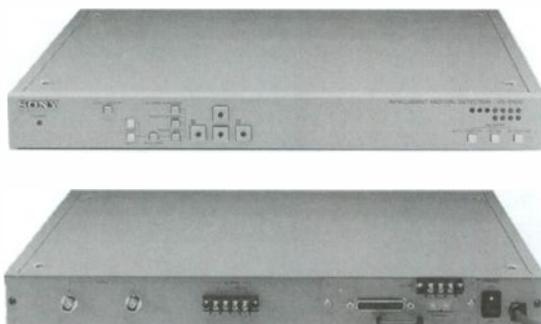
Specifications

SPT-T200

Telephone Line:	Standard analog
Resolution:	160(H) x 100(V) dot
Gradation:	64 levels
Transmission System:	Amplitude Phase Modulation (TTC Standard)
Transmission Time:	9.7 sec.
Carrier Frequency:	1747.82 Hz
Line Output Level:	0-15 dBm
Dialing:	Automatic
Answering:	Automatic
Dialing Type:	Tone/10pps/20pps
Line Interface:	Modular Connector
Camera Input:	3 Inputs, BNC connector, EIA standard interlace
Sensor Input:	3 Inputs, Make/Break
Alarm Output:	3 Outputs, Make/Break, DC 24V-1A
Telecontrol Output:	6 Outputs, Make/Break, DC 24V-1A
Video Output:	1 Output, BNC, EIA standard
Speaker Output:	1 Output, Max 2W (8Ω)
Mic Input:	3 Inputs, -60 dBm
Power Requirement:	DC 12V, 1.5A
Memory Backup:	Super Capacitor (1.0f/5.5V), about 1 hour
Power Consumption:	About 15W (DC 12V-1.2A)
Dimensions (WHD):	310 x 380 x 70mm (12 ³ / ₄ " x 15" x 2 ⁷ / ₈ ")
Weight:	10 lb. (4.5 kg.)

SPT-R200

Telephone Line:	Standard analog
Monitor:	4" B/W Flat CRT
Video Output:	EIA standard
Visual Resolution:	160(H) x 100(V) dot
Transmission System:	Amplitude Phase Modulation (TTC standard)
Calendar Backup:	NiCad Battery, about 3 months.
Power Requirement:	DC 6V, AC: 110V, 60 Hz (AC power adaptor supplied)
Power Consumption:	DC: 9W, AC: 13W
Dimension (WHD):	5 ³ / ₄ " x 11 ³ / ₈ " x 7 ⁷ / ₈ " (144 x 288 x 200mm)
Weight:	About 5 lb. (2.3 kg.)



YS-D100

Intelligent Motion Detector

- User programmable detection zones of up to 288 blocks per page
- Two "Pages" of user defined detection areas
- On-screen settings for ease of operation
- Displays intruded areas on alarm
- Five modes of detection; page 1, page 2 and 3 combinations using page 1 and page 2 memory
- Adjustable sense levels, alarm duration and sense interval
- Provides audible and visual indications on alarm
- Built-in RS232C and RS-485 communication ports

Supplied Accessories:
Rack Mounting Bracket

Specifications

Video Input:	BNC type, 1Vp-p, 75Ω, unbalanced, sync negative NTSC Standard
REV (recovery) In:	M3 screw type, DC 2-5V, impedance less than 1 kΩ
Video Out:	BNC type, 1Vp-p, 75Ω, unbalanced, sync negative
Alarm Out:	M3 screw type, open collector, 5V DC/100 mA, resistive load
Communication Interface:	RS-232 and RS-485
Sense Interval Time:	0, 3, 5, 15, 30 s, 1, 2, 4 min (adjustable)
Alarm Duration:	5, 10, 20, 30 s, 1, 3, 5 min and external (adjustable)
Sensing Area:	2 pages, each 288 blocks 24H x 12V
Operating Temp.:	32°F to 104°F (0°C to 40°C)
Storage Temp.:	-4°F to 140°F (-20°C to 60°C)
Relative Humidity:	30%-80%
Power Requirements:	120V AC, 60 Hz
Power Consumption:	80 mA
Weight:	8.4 lbs. (3.8 kg.)
Dimensions (WHD):	16 ³ / ₄ " x 1 ³ / ₄ " x 14" (424 x 44 x 355mm)

YS-S6

Vertical Interval Sequential Switcher

- Allows pictures from up to six cameras to be displayed sequentially
- Six video inputs with loop through, and one switched output
- Sequential and spot monitor modes
- Variable dwell time
- DC operation. AC adaptor included

Supplied Accessories:

AC Adaptor
Operation Manual

Specifications

General

Power Requirements: AC 120V, 60 Hz (with a supplied AC adaptor. DC 9V is supplied from the AC adaptor to the main unit)

Power Consumption: Approx. 2W (including supplied AC adaptor)

Operating Temperature: 0°C to 40°C (32°F to 104°F)

Storage Temperature: -20°C to 60°C (-4°F to 140°F)

Weight: 5.5 lbs. (2.5 kg.) (approx.) (including a supplied AC adaptor)

Inputs

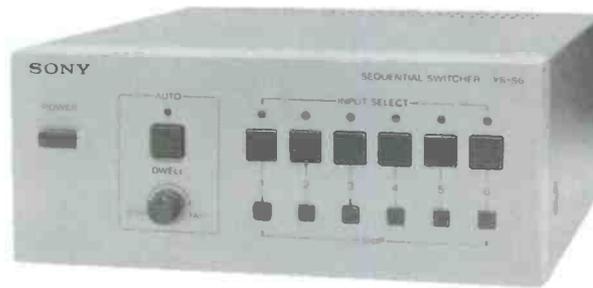
Video Input 1 to 6: BNC type, 1.0Vp-p, 75Ω, unbalanced, sync negative

DC In: DC jack type, DC 9V NOMINAL (DC 7V-15V is allowed)

Outputs

Video Output 1 to 6: BNC type, loop-through output of VIDEO INPUT. 75Ω termination ON/OFF switchable

Select Video Out: BNC type, 1.0Vp-p, 75Ω, unbalanced, sync negative





YS-S100

Intelligent Sequential Switcher

- Eight video camera inputs and one external input
- A Sequential Monitor OUTPUT allows sequential monitoring of up to eight cameras
- Dwell time (displayed time) can be set for each video camera at eight different times: 1, 2, 3, 5, 10, 20, 30, 60 sec.
- A Spot Monitor OUTPUT gives manual selection of a specific camera
- Built-in Date/Time/Character Generator for video camera identification
- Eight ALARM INPUTS, each corresponding to a CAMERA INPUT, for automatic display of the picture at the relevant location
- Alarm time can be set in 7 steps: 5, 10, 20, 30 sec. 1, 2, 5 min.
- Alarm memory recall provides an on-screen display of up to 108 alarm events including camera number, date and time information
- Cascading up to four YS-S100's via an RS-485 communication port is possible for monitoring pictures from up to 32 cameras
- External control up to 255 YS-S100's from a central computer is possible via RS-485 communication port

Supplied Accessories:

EIA Standard Rack Mounting Bracket

Optional Accessories:

D-Sub Connector for RS-232C

Specifications

General

Power Requirements: AC-120V, 60 Hz
 Power Consumption: 110 mA
 Operating Temperature: 0°C to 40°C (32°F to 104°F)
 Storage Temperature: -20°C to 60°C (-4°F to 140°F)
 Weight: Approx. 9 lb. 1 oz. (4.1 kg.)

Input Signals

CAMERA INPUT
 1 to 8: BNC type, NTSC color, 1.0Vp-p, 75Ω, unbalanced, sync negative

EXT (External) IN: BNC type, NTSC color, 1.0Vp-p, 75Ω, unbalanced, sync negative

ALARM INPUT 1 to 8: M3 screw type, alarm activated when connected to COM (Connection resistance < 600Ω)
 Maximum DC voltage on input, 5V

REV (Recovery) IN: M3 screw type, DC-5V, impedance 2.2 kΩ

EXT (External) TIMING IN: BNC type, Open circuit voltage DC-5V, impedance 5.6 kΩ

Output Signals

SPOT MON
 (Monitor) OUTPUT: BNC type, impedance 75Ω

SEQ MON (Sequential Monitor) OUTPUT: BNC type, impedance 75Ω

ALARM OUT: M3 screw type, open collector output, contact rating DC-5V/100 mA resistive load

RESET OUT: M3 screw type, DC-4V, impedance 1 kΩ

EXT (External) TIMING OUT: BNC connector, open collector output, contact rating DC-5V/100 mA resistive load

Others

Interface Unit: RS-485 and RS-232C
Dimensions (WHD): 424 x 44 x 355mm
 (16³/₄" x 1³/₄" x 14")

SSM-8000

8-inch Color Monitor

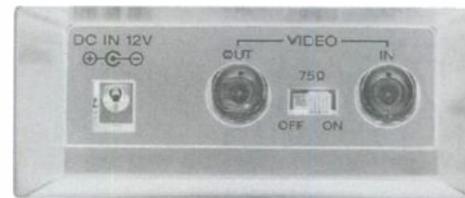
- 8-inch Microblack Trinitron picture tube
- Excellent picture quality with more than 250 TV line horizontal resolution
- Loop-through video input, with switchable 75Ω termination
- 19-inch EIA standard rack mountable for dual monitor configuration
- Front controls: Power, V-hold, Sharp, Hue, Color, Bright, Picture
- High immunity to external electrical and magnetic interference
- Suitable for many monitoring applications

Optional Accessories:

MKB-504 Rack Mount for two SS-8000 Monitors in a 19" Rack
DCC-16AW Car Battery Adaptor

Specifications

Video Signal System: EIA standard, NTSC color
 Picture Tube: 8" Microblack Trinitron measured diagonally
 70° deflection
 Video Input: Composite 1Vp-p ± 6 dB, 75Ω, sync negative
 Video Input Impedance: High impedance for loop-through; 75Ω terminated
 Video Output: Composite 1Vp-p ± 6 dB, Sync negative
 Horizontal Resolution: 250 TV lines (horizontal)
 Power Requirements: 120V AC, 60 Hz, 12V DC
 Power Consumption: 38W
 Operating Temperature: -10°C to 40°C (14°F to 104°F)
 Storage Temperature: -10°C to 65°C (14°F to 149°F)
 Weight: 13 lbs. (5.9 kg.) (approx.)
 Dimensions (WHD): 219 x 312 x 216mm,
 (8⁵/₈" x 12³/₈" x 8⁵/₈")



PVM-8040

8-Inch Portable Color Video Monitor

- Beam current feedback for stable color reproduction over a long period of time
- Heavy duty construction with metal cabinet to minimize electromagnetic interference between adjacent monitors
- Built-in speaker
- 19-inch EIA standard rack mountable

Optional Accessories:

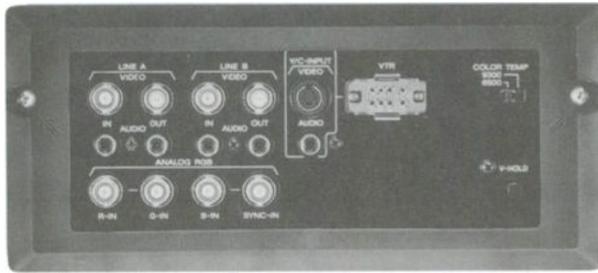
MB-504 rack mount for two PVM8040 monitors in a 19" rack

Specifications

Video Signal System: EIA Standard, NTSC Color
 Picture Tube: 8" Trinitron® measured diagonally, 70° deflection
 Video Input: BNC type, 1Vp-p ± 6 dB composite 75Ω, sync negative
 Video Output: BNC-type, 1Vp-p ± 6 dB composite, sync negative
 Horizontal Resolution: > 250 lines
 Power Requirements: AC-120V 60 Hz
 Power Consumption: AC-40W
 Operating Temperature: -10°C to 40°C (14°F to 104°F)
 Storage Temperature: -10°C to 149°C (14°F to 149°F)
 Dimensions (WHD): 216 x 217 x 351mm
 (8¹/₂" x 8¹/₂" x 13³/₄")
 Rack Mount: Optional MB-507 for two monitors, MB-509 blank panel for mounting one PVM-8040
 MAMB-507
 Weight: 16 lbs. 8 oz. (7.5 kg.)



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PVM-1340

Color Monitor for General Use

- Beam current feedback circuit for stable color reproduction
- 6500K/9300K color temperature selection switch
- Comb filter for NTSC
- Dynamic picture for high contrast picture reproduction
- Accepts an RGB video signal
- Blue only mode
- Mountable into a 19-inch EIA standard rack with optional MB-502A and SLR-102

Optional Accessories:

- VMC Monitor Connecting Cable
- MB-502A Mounting Bracket
- SLR-102 Slide Rail Kits

Specifications

Video Signals	EIA 525 lines, 60 fields
Color System	NTSC
Picture Tube	36.8cm (14-inch) Dark tint Trinitron tube, visible picture size 33.7cm (13-inch) measured diagonally, 90° deflection
Horizontal Resolution	450 TV lines at center (Video Inputs)
Audio Power Output	0.6W with built-in speaker
Power Requirements	AC-120V, 50/60 Hz
Power Consumption	99W max.
Dimensions (WHD)	346 x 340 x 412mm (13 5/8" x 13 1/2" x 16 1/4")
Weight	36 lb. 6 oz. (16.5 kg.)

Video In

- Line A: Composite 1.0Vp-p, sync negative, automatic 75Ω termination (BNC) (*2)
- Line B: Composite 1.0Vp-p, sync negative, automatic 75Ω termination (BNC) (*2)
- VTR (*1) Composite 1.0Vp-p, sync negative, 75Ω, (8-pin)
- Y/C (*1) Y (Luminance signal): 1.0Vp-p, sync negative, 75Ω, (Mini, DIN, 4-pin)
- C (Chrominance signal): 0.286Vp-p, 75Ω, (Mini, DIN, 4-pin)

RGB: 0.7Vp-p, 75Ω

Video Out

- Line A: Loop-through (BNC)
- Line B: Loop-through (BNC)

Sync In

BNC: 4Vp-p, negative, 75Ω

Audio In

- Line A: -5 dBs, high impedance (Phono)
- Line B: -5 dBs, high impedance (Phono)
- VTR: -5 dBs, high impedance (8-pin)
- Y/C: -5 dBs, high impedance (Phono)

Audio Out

- Line A: Loop-through (Phono)
- Line B: Loop-through (Phono)

*1. The Y/C input has priority over the VTR input.

*2. 75Ω termination is automatically set to OFF when connection is made to the OUT connector

PVM-1344Q

Super Fine Pitch, SMPTE C Phosphors, for Studio Use

- High resolution of 600 TV lines at center
- Adoption of SMPTE C phosphors for monitor matching
- Beam current feedback circuit for stable color reproduction
- Accepts three TV system standards: NTSC and modified 4.43 MHz NTSC; PAL; SECAM
- Component (Y/R-Y/B-Y) or RGB input facility
- 6500K/9300K color temperature selection switch
- Comb filter for NTSC
- H/V delay and Normal scan/Underscan selection
- Blue only mode
- User preset function
- Accepts an external sync and sync on Green
- Built-in speaker for Audio monitoring
- Two composite line inputs and one S-video input
- Mountable into a 19-inch EIA standard rack with optional MB-502A and SLR-102

Optional Accessories:

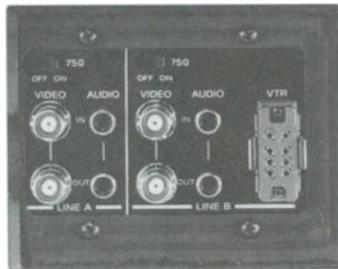
- Monitor Connecting VMC Cable
- MB-502A Mounting Bracket
- SLR-102 Slide Rail Kit

Specifications

- Video Signals: EIA 525 lines, 60 fields/CCIR 625 lines, 50 fields (switching of EIA to CCIR or vice versa is automatically done)
- Color System: NTSC/PAL/SECAM/NTSC_{4.43}^{*1} (automatically selected)
- Picture Tube: 36.8 cm (14"), Super Fine Pitch Trinitron tube, visible picture size 33.7 cm (13") measured diagonally, 90° deflection
SMPTE C phosphors
- Horizontal Resolution: 600 TV lines at center (Video Inputs)
- Audio Power Output: 0.6W with built-in speaker
- Power Requirements: AC-120V, 50/60 Hz
- Power Consumption: 99W max
- Dimensions (WHD): 346 x 340 x 412mm (13⁵/₈" x 13¹/₂" x 16¹/₄")
- Weight: 36 lb. 6 oz. (16.5 kg.) (approx.)
- VIDEO IN**
- LINE A: BNC: Non-composite 0.7Vp-p, Composite 1Vp-p, sync negative, Automatic 75Ω termination^{*4}
- LINE B: BNC: Non-composite 0.7Vp-p, Composite 1Vp-p, sync negative, Automatic 75Ω termination^{*4}
- VTR^{*2}: 8-Pin: Composite 1Vp-p, sync negative, 75Ω
- Y/C^{*2}: Mini, DIN, 4-pin:
Y (Luminance signal): 1Vp-p, Sync negative, 75Ω
C (Chrominance signal):
NTSC: 0.286Vp-p, 75Ω
PAL: 0.3Vp-p, 75Ω
- COMPONENT^{*3}: (BNC) R-Y/B-Y: 0.7Vp-p, Automatic 75Ω termination^{*4}
(BNC) Y/Sync on Green: Composite 1Vp-p, sync negative, Automatic 75Ω termination^{*4}



- RGB^{*3}: BNC: 0.7Vp-p, Automatic 75Ω termination^{*4}
- VIDEO OUT**
- LINE A: BNC: Loop-through
- LINE B: BNC: Loop-through
- COMPONENT: BNC: Loop-through
RGB: BNC: Loop-through
- SYNC IN**
- BNC: 4Vp-p, negative
Automatic 75Ω termination^{*4}
- SYNC OUT**
- BNC: Loop-through
- AUDIO IN**
- LINE A: Phono: -5 dBs; high impedance
- LINE B: Phono: -5 dBs; high impedance
- VTR: 8-pin: -5 dBs; high impedance
- Y/C: Phono: -5 dBs; high impedance
- COMPONENT: Phono: -5 dBs; high impedance
- RGB: Phono: -5 dBs; high impedance
- AUDIO OUT**
- LINE A: Phono: Loop-through
- LINE B: Phono: Loop-through
- ^{*1} The NTSC_{4.43} system refers to an NTSC color system in which the subcarrier frequency is modified to 4.43 MHz.
- ^{*2} The Y/C input has priority over the VTR input.
- ^{*3} RGB/Component is switch selectable.
- ^{*4} 75Ω termination is automatically set to OFF when connection is made to the OUT connector.



PVM-1380

Color Video Monitor

- Exclusive Sony Trinitron one-gun/one lens system for superior picture quality
- Two-line selectable audio/video inputs/outputs
- Loop-through with switchable 75Ω termination
- Built-in speaker for audio monitoring

Optional Accessories:

VMC Monitor Connecting Cable
(8-pin (male)/8-pin (male))

Specifications

Video Signals: EIA 525 lines, 60 fields

Color System: NTSC

Picture Tube: Trinitron 36.8 cm (14"), visible picture size 33.7 cm (13") measured diagonally, 100° deflection

Horizontal Resolution: 250 TV lines at center

Audio Power Output: 1.0W with built-in speaker

Power Requirements: AC-120V, 50/60 Hz

Power Consumption: 80W

Dimension (WHD): 366 x 356.5 x 408.5mm
(14 1/2" x 14 1/8" x 16 1/8")

Weight: 25 lb. 6 oz. (11.5 kg.)

Video In

Line A: Composite: 1.0Vp-p, sync negative, 75Ω and high impedance switchable (BNC)

Line B: Composite: 1.0Vp-p, sync negative, 75Ω and high impedance switchable (BNC)

8-Pin: VTR: Composite: 1.0Vp-p, sync negative, 75Ω

Video Out:

Line A: Loop-through (BNC)

Line B: Loop-through (BNC)

Audio In

Line A: -5 dBs, high impedance (Phono)

Line B: -5 dBs, high impedance (Phono)

(8-pin): VTR: -5 dBs, high impedance

Audio Out:

Line A: Loop-through (Phono)

Line B: Loop-through (Phono)

*VTR or S VIDEO can be selected via the selection switch.

PVM-2030/2530

20" /25" Color Video Monitor

■ Fine Pitch Trinitron® cubic monitors ■ High resolution: 560 TV lines ■ Touch sensitive panel controls ■ Two composite video inputs and one S-Video input plus CGA capability ■ Stereo audio inputs ■ Optional external speakers: APM-X5A or SS-X6A can be attached to monitor ■ Built-in manual degaussing ■ Supplied with RM-739 wireless remote control

Supplied Accessories:

RM-739 Remote Control Unit
Operation Manual

Optional Accessories:

APM-X5A Speakers
SS-X6A Speakers
SU-538, Tilt Swivel
SU-539, Tilt Swivel

Specifications

Video Signal: EIA 525 lines, 60 fields
Color System: NTSC
Picture Tube: 20" /25" Microblack Trinitron® measured diagonally
Horizontal Resolution: 560 TV lines
RGB: 2000 characters
(640 x 200 dots)/560 TV lines
Color Temperature: 9300°K
Video Inputs: Line A/B: Composite 1Vpp sync negative, loop through with 75Ω switchable
S-Video (Y/C) Mini DIN 4 connector
Y (Luminance): 1Vpp, sync negative, 75Ω
C (Chrominance): 0.286Vpp, 75Ω
VTR (8 pin): Composite 1Vpp sync negative, 75Ω termination *VTR or S-Video selected via rear switch
Computer Input: Analog/TTL, D-sub 25 pin
Audio Inputs: Phone (RCA) connectors, stereo for Video A/B, loop through -5 dBs, high impedance VTR (8 pin) -5 dBs, high impedance
Speaker Out: 7W max, 8 Ω/15W max, 8Ω
Operating Temperature: 32°F to 104°F (0°C to 40°C)
Power Requirements: AC 120V, 50/60 Hz
Power Consumption: 150W max/180W max
Dimensions (WHD): 516 x 409 x 481mm
(20³/₈" x 16¹/₈" x 19")/
653 x 508 x 491mm
(25³/₄" x 20" x 19³/₈")
Weight: 67 lb. 4 oz. (30.5 kg.)/
116 lb. 14 oz. (53 kg.)





CKV-20/27EXR

20" /27" Microblack™ Trinitron® Color Monitor/Receiver

- Better than 450 lines of horizontal resolution on CKV-20EXR, 500 lines on CKV-27EXR
- Two BNC (Video inputs video 1 has S-Video capability)
- Two stereo audio outputs (variable)
- Built-in stereo speakers
- Stereo external speaker connectors (5Wx2)
- Built-in TV tuner
- Remote control supplied (RM-771)

Supplied Accessories:

RM-771 Remote Control Unit
AA Battery (2)
Operation Manual

Specifications

Video Signal: EIA 525 lines, 60 fields
Color System: NTSC
TV System: American TV standard
Channel Coverage: VLF: 2 to 6 ch, VHF 7 to 13
UHF: 14 to 69 ch
CATV: 1 to 125 ch
Picture Tube: 20" Microblack Trinitron
measured diagonally
27" Microblack Trinitron
measured diagonally
Horizontal Resolution: 450 TV lines/500 TV lines
White Balance: Trinitone: Low, bright picture: 8000°K
High, bright picture: 9000°K
Video Inputs: Video 1 (composite or S video)
S Video (Y/C) Mini DIN 4 connector
Y (Luminance): 1Vpp, sync negative, 75Ω
C (Chrominance): 0.286Vpp, 75Ω
Composite Video: 1.0Vpp, sync
negative, 75Ω BNC connector
Audio Inputs: Phono (RCA) connector stereo type for Video 1/2
500mVrms, impedance 47Ω
Audio Outputs: Variable over 408mVrms at max volume,
impedance 5kΩ
Phono (RCA) connector x2
Speaker Out: 5W (x2)
Power Requirement: AC 120V, 60 Hz
Power Consumption: 130W max.
(1.5W standby)
160W max (1.5W standby)
Weight: 55 lbs. 2 oz. (25 kg.)
108 lbs. 1 oz. (49 kg.)

FDM-030

Hand-Held Flat-Display Monitor

- Hand-held video and audio monitor
- 2.7" flat monochrome display
- EIA/CCIR compatible by digital auto vertical lock
- Compact, lightweight and easily portable
- Operates on 4 AA batteries (included)
- BNC video input, mini jack audio input, external DC input
- Carrying Case with Hood, AC power adaptor, Earphone supplied

Supplied Accessories:

- AM3 Sony Alkaline Battery (N) (4)
- Earphone
- Handstrap (with the stand)
- Carrying Case

Optional Accessories:

- AC-D4M AC Power Adaptor
- AD-D4L AC Power Adaptor
- DCC-127A Car Battery Cord
- BP-310 Rechargeable Battery
- BC-310K Rechargeable Battery Kit
- EBP-6 External Battery Case

Specifications

Video Tube

- Screen Size: 2.7" (6.86 cm) measured diagonally
- Picture Tube: Flat display tube
- Horizontal Resolution: > 320 lines at center

Electrical

- Audio Input Signal: -10 dBs (0 dBs = 0.775 Vrms)
- Audio Input Impedance: 47 k Ω
- Video Input Signal: Composite 1.0Vp-p
- Video Input Impedance: 75 Ω
- Scanning System: Automatic switching system by detecting the input signal, with EIA priority. EIA, 525 lines, 30 frames/sec., CCIR, 625 lines, 25 frames/sec.
- Scanning Method: Interlace and non-interlace
- Horizontal Frequency Range: 15.234-16.234 kHz
- Vertical Frequency Range: EIA 60 Hz, CCIR 50/60 Hz, H-frequency countdown vertical auto locked IC
- Input Power: 6V DC
- Power Consumption: 2.3W (6V DC)

Control and Connectors

- Control: Power ON/OFF 2-position slide switch
- Connectors: Video input: BNC type jack, imp. 75 Ω
- Audio input: Minijack, imp. 47 k Ω
- Power: Miniature DC jack

Mechanical

- Dimensions (WHD): 76.2 x 154.6 x 48.4mm (approx.)
(3" x 6 $\frac{1}{8}$ " x 1 $\frac{9}{16}$ " including projecting parts and controls)
- Weights: 14 $\frac{1}{2}$ oz. (400 g.) (approx.) including batteries

Environmental

- Operating Temperature: -0°C to 40°C (32°F to 104°F)
- Storage Temperature: -20°C to 55°C (-4°F to 131°F)
- Humidity: 10% to 80%, noncondensing condition





FDM-402A

4" Flat-Display Monochrome Monitor

■ Unique flatdisplay design for high space efficiency
■ A/V Uniconnector output for VCR recording or multiple monitor applications
■ Quad coaxial (4-pin) cable camera connection for power, audio, video and ground
■ Built-in 1.5" speaker
■ Use with any video camera
■ Quick BNC interface with optional VK-30D cable

Optional Accessories:

IRS-10/AP-12 Infrared Sensor/Receiver

AP-110 (AP-10/AP-11) Switcher/Remote Control Kit

ECS-402 Sequential Switcher

VCM-140 Quad coaxial Adaptor Plug, A/V Uniconnector to 4-pin female

VMC-612MS A/V Uniconnector to video (RCA phono type) and audio

(RCA phono type) Connecting Cable with mini-plug adaptor

VK-120 Quad coaxial 66 ft. (20m) Camera Cable, 4-pin male to male connector

VK-110 Quad coaxial 33 ft. (10m) Camera Extension Cable, 4-pin male to female connector

VK-30D Quad coaxial to BNC 12" (0.3m) Connecting Cable, 4-pin male to BNC female connector

VT-DC2 Switcher/Tuner

DCC-40A Car Battery Adaptor Cord

AC-40A AC Power Adaptor

Specifications

TV System: EIA standards
Picture Tube: Flat black-and-white
4-inch (10cm) picture measured diagonally
Speaker: Approx. 1.5" (3.8 cm) dia.
Audio Output: 0.05W (7.2Ω)
Input: 4-pin Quad coaxial connector; 6V DC (output),
Video Input: 1.0Vp-p, 75Ω, sync negative, Ground,
Audio Input: -5 dBs (436 mVrms) > 30 kΩ
Outputs: AV OUT (AV uniconnector)
Video output: 1.0Vp-p, 75Ω, sync negative
Audio output: -5 dBs (436 mVrms), less than
10 kΩ Earphone jack (minijack)
Power Requirements: 6V DC:
DC IN 6V jack accepts: Optional AC-40A power
adaptor for use on 120V AC, 60 Hz or optional
DCC-40A car battery cord for use on 12V
Power Consumption: Approx. 3.3W
Dimensions (WHD): 110 x 210 x 46mm
(4³/₈" x 8³/₈" x 1¹³/₁₆")
Weight: 1 lb. 9 oz. (720 g.)

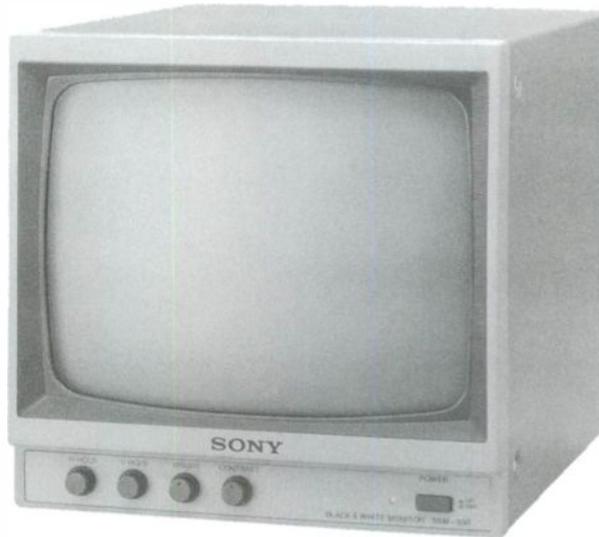
SSM-930

Black and White Monitor

- EIA standard ■ 9-inch diagonal CRT size ■ Excellent picture quality with more than 750 TV lines horizontal resolution ■ Loop-through video input with switchable 75Ω termination ■ DC clamp switch provides a stable reference for black level ■ 19-inch EIA standard rack mountable for dual monitor configuration using optional MB-930. 5 rack units high ■ Front controls: power, H-hold, V-hold, contrast and brightness

Specifications

Video Signal System: EIA standard
 Picture Tube: 9" B/W measured diagonally, 90° deflection
 Video Signal System: EIA standard
 Video Input: High impedance for loop-through; 75Ω terminated
 Composite: 0.5Vpp-2.0Vpp, sync negative, BNC-type
 Video Output: Impedance > 10 kΩ
 Composite: 0.5Vpp-2.0Vpp, sync negative, BNC-type
 Horizontal Resolution: > 750 TV lines (at center)
 Power Requirements: AC 120V, 60 Hz
 Power Consumption: 27W
 Operating Temperature: 0°C to 40°C (32°F to 104°F)
 Storage Temperature: -10°C to 65°C (14°F to 149°F)
 Weight: 13 lb. (5.8 kg.)



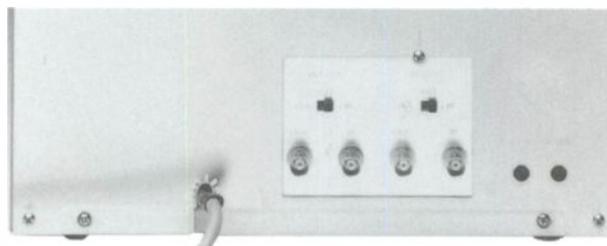
SSM-121

12-inch Monochrome Monitor

- EIA standard ■ 12-inch CRT size ■ Excellent picture quality with more than 750 TV lines horizontal resolution ■ Dual loop-through video inputs, with switchable 75Ω termination ■ Front controls: Power, INPUT select, H-hold, V-hold, Contrast and brightness ■ High immunity to external electrical and magnetic interference ■ Suitable for many monitoring applications

Specifications

Video Signal System: EIA standard
 Picture Tube: 12-inch B/W measured diagonally, 90° deflection
 Video Input: Impedance 75Ω/high switchable Level 0.5 to 2.0Vp-p/75Ω, sync negative, BNC-type (x 2)
 Video Output: Impedance > 10 kΩ, loop-through, BNC-type (x 2)
 Horizontal Resolution: > 750 TV lines (at center)
 Power Requirements: AC-120V, 60 Hz
 Power Consumption: 30W
 Operating Temperature: -10°C to 40°C (14°F to 104°F)
 Storage Temperature: -10°C to 65°C (14°F to 149°F)
 Weight: 20 lb. 5 oz. (9.2 kg.)
 Dimensions (WHD): 296 x 303 x 296mm (11 3/4" x 12" x 11 3/4")





SPT-M104

Monochrome Video Camera

- 1/3" CCD imager (510H x 492V picture elements)
- Hyper HAD™ (Hole Accumulated Diode) sensor technology
- High sensitivity (0.3 lux* at f/1.3)
- Built-in electronic CCD IRIS™ function allows use of inexpensive manual iris lenses
- Accepts C-mount and CS-mount lenses
- AC Line Lock synchronization
- Ultra-compact design: 4 1/2" length, 10 oz. weight

Supplied Accessories:

Lens Mount Cap

Specifications

Image Pickup Device:	Hyper HAD™ Interline Transfer CCD
Picture Elements (HxV):	510 x 492
Sensing Area (HxV):	4.4mm x 3.3mm
Lens Mount:	C/CS-mount (back focus adjustable)
Signal System:	EIA standard
Scanning System:	525 lines, 2:1 Interlace
Synchronization:	AC line lock (V-phase adjustable)
Horizontal Resolution:	380 TV lines
Minimum Illumination*:	0.3 lux at f/1.3 (AGC on)
Video Output:	1.0Vp-p, 75Ω, sync negative
Video S/N Ratio:	> 46 dB (AGC on)
Automatic Controls:	Electronic iris, AGC (Automatic Gain Control)
Inputs and Outputs:	AC IN: 24V terminals; VIDEO OUT: 1 BNC type
Power Requirements:	AC-24V ± 10%
Power Consumption:	2.5W (AC-24V)
Operating Temperature:	14°F to 122°F (-10°C to 50°C)
Storage Temperature:	-40°F to 140°F (-40°C to 60°C)
Humidity:	20% to 80% (operation), 20% to 95% (storage)
Dimensions (WHD):	2 3/32" x 2" x 4 1/8" (excluding projecting parts) (53 x 50 x 108mm)
Weight:	10 oz. (270 g.)
Camera Mount:	1/4" UNC-20

*Minimum Illumination: There is no industry-standardized procedure for testing minimum illumination; specifications should only be compared with models of the same manufacturer.

SSC-M254

Single Chip CCD Monochrome Video Camera

- Especially designed for surveillance applications
- 1/2-inch IT Hyper HAD CCD offers extremely high sensitivity with a minimum illumination of 0.3 lux (f1.2)
- Excellent signal-to-noise ratio of 48 dB
- Eight-step CCD IRIS control eliminates the need to use an automatic iris lens for indoor use
- Accepts C or CS-mount lenses
- 24V AC line lock for external synchronization
- Compact and lightweight

Supplied Accessories:

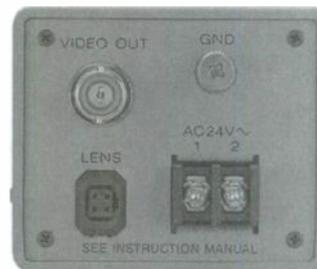
- 4-pin Plug for Lens Cable
- Lens Mount Cap
- C-Mount Adaptor
- Operating Instruction Manual

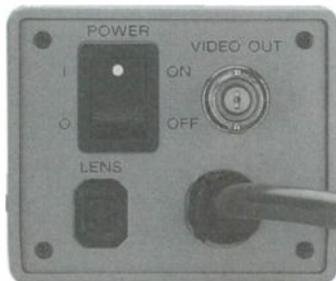
Optional Accessories:

- VCL-S03XM (3.6mm, f1.6) Manual Iris Lens
- VCL-S06XM (6.0mm, f1.2) Manual Iris Lens
- VCL-S12XM (12mm, f1.2) Manual Iris Lens

Specifications

- Image Device: 1/2" Interline Transfer CCD (x 1)
- Picture Elements (HV): 510 x 492
- Sensing Area: 6.3 x 4.7mm (1/4" x 3/16")
- Signal System: EIA standard
- Scanning System: 525 lines, 2:1 interlace
- Synchronization: Internal or AC line lock
- Horizontal Resolution: 380 TV lines
- Lens Mount: C (supplied C-mount adaptor is required) or CS mount
- Minimum Illumination: 0.3 lux at f1.2 (AGC on)
- Automatic Gain Control: ON
- Electronic Shutter Speed: Not applicable
- CCD IRIS Control: 8 steps, Initial setting (OFF)
- Phase Control: V-phase control
- Signal-to-Noise Ratio: 48 dB (AGC off)
- Video Out: 1.0Vp-p, 75Ω, sync negative
- Operating Temperature: -10°C to 50°C (14°F to 122°F)
- Storage Temperature: -40°C to 80°C (-40°F to 140°F)
- Power Requirements: AC-24V ± 10%, 60 Hz
- Power Consumption: 4.5W
- Weight: 1 lb. 12 oz. (800 g.)
- Connectors: AC-24V terminals, LENS (4-pin), GND, VIDEO OUT (BNC)
- Dimensions (WHD): 64 x 54 x 160mm (2 5/8" x 2 1/4" x 6 3/8")





SSC-M256

Single Chip CCD Monochrome Video Camera

- Especially designed for surveillance applications
- 1/2-inch IT Hyper HAD CCD offers extremely high sensitivity with a minimum illumination of 0.3 lux (f1.2)
- Excellent signal-to-noise ratio of 48 dB
- Eight-step CCD IRIS control eliminates the need to use an automatic iris lens for indoor use
- Accepts C or CS-mount lenses
- 120V AC line lock for external synchronization
- Compact and lightweight

Supplied Accessories:

- 4-pin Plug for Lens Cable
- Lens Mount Cap
- C-Mount Adaptor
- Operating Instruction Manual

Optional Accessories:

- VCL-S03XM (3.6mm, f1.6) Manual Iris Lens
- VCL-S06XM (6.0mm, f1.2) Manual Iris Lens
- VCL-S12XM (12mm, f1.2) Manual Iris Lens

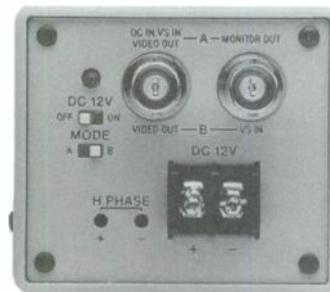
Specifications

- Image Device: 1/2" Interline Transfer CCD (x 1)
- Picture Elements (HV): 510 x 492
- Sensing Area: 6.3 x 4.7mm (1/4" x 3/16")
- Signal System: EIA standard
- Scanning System: 525 lines, 2:1 interface
- Synchronization: Internal or AC line lock
- Horizontal Resolution: 380 TV lines
- Lens Mount: C (supplied C-mount adaptor is required) or CS mount
- Minimum Illumination: 0.3 lux at f1.2 (AGC on)
- Automatic Gain Control: ON
- Electronic Shutter Speed: Not applicable
- CCD IRIS Control: 8 steps, Initial setting (OFF)
- Phase Control: V-phase control
- Signal-to-Noise Ratio: 48 dB (AGC off)
- Video Out: 1.0Vp-p, 75Ω, sync negative
- Operating Temperature: -10°C to 50°C (14°F to 122°F)
- Storage Temperature: -40°C to 60°C (-40°F to 140°F)
- Power Requirements: AC-120V, 60 Hz
- Power Consumption: 4.5W
- Weight: 2 lb. 3 oz. (990 g.)
- Connectors: LENS (4-pin), VIDEO OUT (BNC)
- Dimensions (WHD): 64 x 54 x 160mm (2 5/8" x 2 1/4" x 6 3/8")

SSC-M350

Single Chip CCD Monochrome Video Camera

- Especially designed for surveillance applications
- 1/2-inch IT Hyper HAD CCD offers extremely high sensitivity with a minimum illumination of 0.3 lux (f1.2)
- Excellent signal-to-noise ratio of 48 dB
- CCD IRIS control eliminates the need to use an automatic iris lens
- Variable speed electronic shutter
- Accepts C-mount lenses
- Compact and lightweight
- External synchronization with VS
- Single cable operation (video/sync/power triple multiplex transmission) for easy installation with the optional YS-W130/W230 Camera Adaptor (Mode A)
- Monitor out function for on-the-spot camera positioning (Mode A)
- 12V DC power supply can also be used (Mode B)



Supplied Accessories:

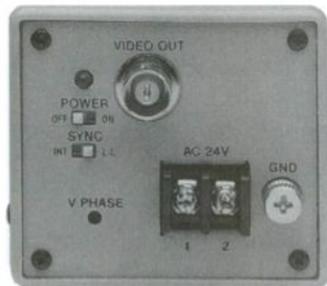
4-Pin Plug for lens cable
Lens Mount Cap
Operating Instruction Manual

Optional Accessories:

YS-W130 Camera Adaptor
VCL-S03XM (3.6mm, f1.6) Manual Iris Lens
VCL-S06XM (6.0mm, f1.2) Manual Iris Lens
VCL-S12XM (12mm, f1.2) Manual Iris Lens

Specifications

Image Device: 1/2-inch Interline Transfer CCD (x 1)
Picture Elements (HV): 510 x 492
Sensing Area: 6.3 x 4.7mm (1/4" x 3/16")
Signal System: EIA standard
Scanning System: 525 lines, 2:1 interlace
Sync System: Internal or external with VS
Horizontal Resolution: 380 TV lines
Lens Mount: C-mount
Minimum Illumination
(AGC on): 0.3 lux, f1.2
Automatic Gain Control: ON/OFF selectable
Electronic Shutter: 1/60, 1/100, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10,000 (sec.)
CCD IRIS Control: YES (ON/OFF switchable)
Initial setting, ON
Phase Control: H-phase control
Signal-to-Noise Ratio
(AGC off): 48 dB
Video Out: 1.0Vp-p, 75Ω, sync negative
Operating Temperature: -10°C to 50°C (14°F to 122°F)
Storage Temperature: -40°C to 60°C (-40°F to 140°F)
Power Requirements: DC-12V ± 10% from DC-12V supply
or DC-24V ± 5V from YS-W130
Power Consumption: With DC-12V supply, 2.3W
with YS-W130/230, 3.4W
Weight: 1 lb. 7 oz. (660 g.)
Connectors: DC-12V terminals,
LENS (4-pin),
Mode A: DC IN/VS IN/VIDEO OUT
(BNC), MONITOR OUT (BNC),
Mode B: VIDEO OUT (BNC), VS IN (BNC)
Dimensions (WHD): 64 x 57 x 164.9mm
(2 1/4" x 2 5/8" x 6 1/2")



SSC-M354

Single Chip CCD Monochrome Video Camera

■ Especially designed for surveillance applications ■ 1/2-inch IT Hyper HAD CCD offers extremely high sensitivity with a minimum illumination of 0.3 lux (f1.2) ■ Excellent signal-to-noise ratio of 48 dB ■ CCD IRIS control eliminates the need to use an automatic iris lens ■ Variable speed electronic shutter ■ Accepts C-mount lenses ■ 24V AC line lock for external synchronization ■ Compact and lightweight

Supplied Accessories:

4-pin Plug for Lens Cable
Lens Mount Cap
Operating Instruction Manual

Optional Accessories:

YS-W130, YS-W230 Camera Adaptor (for SSC-350 only)
Manual Iris Lens

VCL-S03XM (3.6mm, f1.6)
VCL-S06XM (6.0mm, f1.2)
VCL-S12XM (12mm, f1.2)

Auto Iris Lens

VCL-S03XEA (3.6mm, f1.6)
VCL-S06XEA (6.0mm, f1.2)
VCL-S12XEA (12mm, f1.2)

Remote Zoom Lens

VCL-806XR (8-48mm, f1.0)
VCL-810XR (8-80mm, f1.2)

Specifications

Image Device:	1/2-inch Interline Transfer CCD (x 1)
Picture Elements (HV):	510 x 492
Sensing Area:	6.3 x 4.7mm (1/4" x 3/16")
Signal System:	EIA standard
Scanning System:	525 lines, 2: 1 interface
Sync System:	Internal or AC line lock
Horizontal Resolution:	380 TV lines
Lens Mount:	C-mount
Minimum Illumination (AGC on):	0.3 lux f1.2
Automatic Gain Control (AGC off):	ON/OFF selectable
Electronic Shutter:	1/60, 1/100, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10,000 (sec.)
CCD IRIS Control:	YES (ON/OFF switchable) Initial setting, ON
Phase Control:	V-phase control
Signal-to-Noise-Ratio (AGC off):	48 dB
Video Out:	1.0Vp-p, 75Ω, sync negative
Operating Temperature:	-10°C to 50° (14°F to 122°F)
Storage Temperature:	-40°C to 60°C (-40°F to 140°F)
Power Requirements:	AC-24V ± 10%, 60 Hz
Power Consumption:	3.5W
Weight:	1 lb. 7 oz. (660 g.)
Connectors:	AC-24V terminals, LENS (4-pin), GND, VIDEO OUT (BNC)
Dimensions (WHD):	64 x 57 x 164.9mm (2 5/8" x 2 1/4" x 6 1/2")

SSC-M370

Single Chip CCD Monochrome Video Camera

- Especially designed for surveillance applications
- High density 1/2-inch IT Hyper HAD CCD offers extremely high resolution of 570 TV lines and high sensitivity with a minimum illumination of 0.3 lux (f1.2)
- Excellent signal-to-noise ratio of 50 dB
- CCD IRIS control eliminates the need to use an automatic iris lens
- Variable speed electronic shutter
- Accepts C-mount lenses
- Compact and lightweight
- External synchronization with VS or composite sync
- Single cable operation (video/sync/power triple multiplex transmission) for easy installation with the optional YS-W130/230 Camera Adaptor (Mode A)
- Monitor out function for on-the-spot camera positioning (Mode A)
- 12V DC power supply can also be used (Mode B)



Supplied Accessories:

4-pin Plug for Lens Cable
 Lens Mount Cap
 Operating Instruction Manual

Optional Accessories:

YS-W130, YS-W230 Camera Adaptor
 VCL-S03XM (3.6mm, f1.6) Manual Iris Lens
 VCL-S06XM (6.0mm, f1.2) Manual Iris Lens
 VCL-S12XM (12mm, f1.2) Manual Iris Lens

Specifications

Image Device: 1/2" interline transfer CCD (x1)
 Picture Elements (HV): 768 x 494
 Sensing Area: 6.3 x 4.7mm (1/4" x 3/16")
 Signal System: EIA standard
 Scanning System: 525 lines, 2:1 Interlace
 Synchronization: Internal or external with VS
 Horizontal Resolution: 570 TV lines
 Lens Mount: C-mount
 Minimum Illumination: 0.3 lux at f1.2 (AGC on)
 Automatic Gain Control: ON/OFF switchable
 Electronic Shutter Speed: 1/60, 1/100, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10,000 (sec.)
 CCD IRIS Control: Initial setting (ON)
 Phase Control: H-phase control
 Signal-to-Noise Ratio: 50 dB (AGC off)
 Video Out: 1.0Vp-p, 75Ω, sync negative
 Operating Temperature: -10°C to 50°C (14°F to 122°F)
 Storage Temperature: -40°C to 60°C (-40°F to 140°F)
 Power Requirements: DC-12V ± 10% from DC-12V supply or DC-24V ± 5 from YS-W130/230
 Power Consumption: With DC-12V supply, 28W
 With YS-W130/230 supply, 4.0W
 Weight: 1 lb. 7 oz. (660 g.)
 Connectors: DC-12V terminal, LENS (4-pin),
 Mode A: DC IN/VS IN/VIDEO OUT (BNC),
 MONITOR OUT (BNC)
 Mode B: VIDEO OUT (BNC), VS IN (BNC)
 Dimensions (WHD): 64 x 57 x 164.9mm
 (2 5/8" x 2 1/4" x 6 1/2")



SSC-M374

Single Chip CCD Monochrome Video Camera

■ Especially designed for surveillance applications ■ High density 1/2-inch IT Hyper HAD CCD offers extremely high resolution of 570 TV lines and high sensitivity with a minimum illumination of 0.3 lux (f1.2) ■ Excellent signal-to-noise ratio of 50 dB ■ CCD IRIS control eliminates the need to use an automatic iris lens ■ Variable speed electronic shutter ■ Accepts C-mount lenses ■ Compact and lightweight ■ 24V AC line lock for external synchronization

Supplied Accessories:

4-pin Plug for Lens Cable
Lens Mount Cap
Operating Instruction Manual

Optional Accessories:

VCL-S03XM (3.6mm, f1.6) Manual Iris Lens
VCL-S06XM (6.0mm, f1.2) Manual Iris Lens
VCL-S12XM (12mm, f1.2) Manual Iris Lens

Specifications

Image Device: 1/2" interline transfer CCD (x1)
Picture Elements (HV): 768 x 494
Sensing Area: 6.3 x 4.7mm (1/4" x 3/16")
Signal System: EIA standard
Scanning System: 525 lines, 2:1 interlace
Synchronization: Internal or AC line lock
Horizontal Resolution: 570 TV lines
Lens Mount: C-mount
Minimum Illumination: 0.3 lux, f1.2 (AGC on)
Automatic Gain Control: ON/OFF switchable
Electronic Shutter Speed: 1/60, 1/100, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10,000 (sec.)
Initial setting (ON)
Phase Control: V-phase control
Signal-to-Noise Ratio: 50 dB (AGC off)
Video Out: 1.0Vp-p, 75Ω, sync negative
Operating Temperature: -10°C to 50°C (14°F to 122°F)
Storage Temperature: -40°C to 60°C (-40°F to 140°F)
Power Requirements: AC-24V ± 10%, 60 Hz
Power Consumption: 3.9W
Weight: 1 lb. 7 oz. (660 g.)
Connectors: AC-24V terminals, LENS (4-pin), GND, VIDEO OUT (BNC)
Dimensions (WHD): 64 x 57 x 164.9mm (2 5/8" x 2 1/4" x 6 1/2")

HVM-352

B & W Video Camera

- 1/2" Hyper HAD™ (Hole Accumulated Diode) sensor technology
- 250,000 effective picture elements
- Built-in auto iris lens (11mm f1.8)
- Built-in electric condensor microphone
- High sensitivity (0.7 lux f1.8)
- Easy installation using a single 4-pin quad coaxial cable
- Optional wide angle lens adaptors available



Supplied Accessories:

Operating Manual

Optional Accessories:

FDM-402A 4 Inch Flat Display Monitor

- Unique flat-display design for high space efficiency
- 4-pin Multi-cable connection with the HVM-352 for power, audio and video
- Built-in 1.5 inch speaker
- A/V unconnector output for VCR recording via optional VMC-612MS cable

Specifications

Power requirements: DC 6V (Supplied from the optional Power Adaptor)

Power consumption: 3.3W

Weight: 2 lb. (720g)

Dimensions (WHD): 110 x 210 x 46mm
(4 3/8" x 8 3/8" x 1 13/16")

(AC Power Adaptor DC 6V for FDM-402A)

ECS-402 4-Channel Camera Switcher

VCL-04HS Wide Angle Lens (f1.85, f = 3.6mm, 110°)

VCL-06HS Wide Angle Lens (f1.84, f = 5.5mm, 70°)

VCL-06PH Pinhole Lens (f1.81, f = 5.5mm, 70°)

VK-110 Extension Cable (10m 4-pin multi, female ↔ male)

VK-110A/120A Connecting Cable (10/20m 4-pin multi, male ↔ male)

VK-220/5 Water-resistant Extension Cable (20/5m 4-pin multi, male ↔ female)

VK30C Adaptor Cable (30cm 4-pin multi/female ↔ male BNC)

VK30D Adaptor Cable (30cm 4-pin multi/male ↔ female BNC)

WPC-140 Water-resistant Camera Housing (to be used with a VK-220/5 cable)

Specifications

Image Device: 1/2" Hyper HAD™

Interline Transfer: CCD

Picture Elements (HxV): 510 x 492

Sensing Area: 6.4mm x 4.8mm

Signal System: EIA standard

Scanning System: 525 lines, 2:1 interlace

Synchronization: Internal

Horizontal Resolution: 380 TV lines

Built-in Lens: f = 11mm, f1.8, auto iris lens

Lens Mount: Mini bayonet mount (back focus adjustable)

Minimum Illumination: 0.7 lx at f1.8

Illumination Range: 0.7 to 100,000 lx

Power Requirements: DC 6V to 12V ± 10%

Power Consumption: 0-2A (1.2W to 2.4W)

Operating Temperature: -10°C to 50°C
(14°F to 122°F)

Weight: 7.8 oz. (220 g)

Connectors: 4-pin multi-connector

1. DC input
2. Video Output: 1.0Vp-p, 75Ω sync negative
3. Ground
4. Audio Output: -5 dBs (436 mVrms), < 10 kΩ, unbalanced
5. 0 dBs = 0.775 Vrms



SSC-520AM/S

Outdoor B/W CCD Video Camera

- 1/2" CCD imager (510H x 492V picture elements)
- Discreet, compact size (3 3/4" W x 2 1/8" H x 2 15/16" D)
- Shock and weather resistant diecast aluminum environmental housing
- Wide operating temperature (-4°F to 158°F)
- Built-in 3mm f1.4 wide angle auto-iris lens
- High sensitivity
- Built-in weather resistant microphone
- Single cable 4-pin female connector carries video, audio, power and ground (1.5m)
- Supplied with breakout box (converts Sony 4-pin to BNC video, RCA audio and DC 12V input jack)
- Extra bracket supplied with wide adjustment angle

Supplied Accessories:

Mounting Brackets (2)
Breakout Box
Allen Wrench
Instruction Manual

Optional Accessories:

AC-D468 AC Adaptor with 6/9/12-volt selectable DC output
VK-025A 8-ft. Cable with male-male 4-pin connectors
VK110A 33-ft. Cable with male-male 4-pin connectors
VK120A 66-ft. Cable with male-male 4-pin connectors
VK-1PG 12-inch Pigtail Cable with male 4-pin connector

Specifications

Image Device: 1/2" Interline Transfer CCD
Picture Elements: 510(H) x 492(V)
Sensing Area: 6.2 x 4.5mm
Lens: 3.0mm f1.4, fixed focus, auto-iris
Viewing Angle: 100° Horizontal, 80° Vertical
Signal System: EIA
Scanning System: 525 lines, 2:1 interlace
Synchronization: Internal
Horizontal Resolution: 380 lines
Vertical Resolution: 350 lines
Minimum Illumination: 5 lux
Signal-to-Noise Ratio: 45 dB

Video/Audio Output:

4-Pin Connector: 1. DC input
2. Video Output
3. Ground
4. Audio Output
Power Requirement: 12V DC
Power Consumption: 1.8W
Operating Temperature: -4°F to 158°F (-20°C to 70°C)
Storage Temperature: -22°F to 185°F (-30°C to 85°C)
Dimensions (WHD): 3 3/4" x 2 1/8" x 2 15/16"
(95 x 54 x 74mm)
Weight: 1 lb. 7 oz. (650 g.)

UP-860

Monochrome Video Graphic Printer

- Thermal video graphic printer with 256 steps of gradation
- Small size and lightweight
- Fast printing speed of less than four seconds
- High resolution printing of 896 x 508 dots (in Wide 2 scan mode)
- Wide scanning function (Normal/Wide 1/Wide 2 selectable)
- Multiple copy function
- Economy print mode offers maximum 270 prints from one paper roll (230 prints in normal print mode)
- Frame/Field memory selectable
- 4:3/1:1 aspect ratio selectable
- Positive/negative printing
- Normal/reverse direction printing

Supplied Accessories:

- AC Power Cord
- BNC Cable (1.5m)
- UPP-110HD Printing Paper Roll
- Head Cleaning Sheet
- Operation Manual

Optional Accessories:

- UPP-110S Printing Paper (Type I)
- UPP-110HD High Density Printing Paper (Type II)
- FS-20 Foot Switch
- RM-91 Remote Commander
- MB-860 Rack Adaptor for use with MB-920 for mounting one UP-860 and one SSM-920 in a 19" rack space



Specifications

- Thermal Head:** Thin-film thermal head (with built-in drive IC) of 896-dot drive
- Gradations:** 256 gray levels (quasi)
- Print Size:** EIA
- (at aspect ratio 4:3):**
- Normal: 90 x 69mm (3 $\frac{5}{8}$ " x 2 $\frac{3}{4}$ ")
 - Wide 1: 95 x 72mm (3 $\frac{3}{4}$ " x 2 $\frac{7}{8}$ ")
 - Wide 2: 100 x 74mm (4" x 3")
- CCIR**
- Normal: 90 x 68mm (3 $\frac{5}{8}$ " x 2 $\frac{3}{4}$ ")
 - Wide 1: 95 x 71mm (3 $\frac{3}{4}$ " x 2 $\frac{7}{8}$ ")
 - Wide 2: 100 x 74mm (4" x 3")
- Effective Pixels:** EIA
- Normal: 808 dots x 472 lines
 - Wide 1: 848 dots x 490 lines
 - Wide 2: 896 dots x 508 lines
- CCIR**
- Normal: 808 dots x 560 lines
 - Wide 1: 848 dots x 582 lines
 - Wide 2: 896 dots x 608 lines
- Printing Speed:** Less than four seconds/screen (at aspect ratio 4:3)
- Picture Memory:** 6 bit (3.36 Mbit)
- Input/Output:** Video IN (BNC): EIA or CCIR composite video signal 1.0Vp-p, 75 Ω , high impedance switchable
Video OUT (BNC): Loop-through or E.E. switchable
- Remote:** Stereo mini jack for the optional foot switch FS-20
- Power Requirements:** AC120V, 50/60 Hz
- Dimensions (WHD):** 154 x 106 x 300mm (6 $\frac{1}{8}$ " x 4 $\frac{1}{8}$ " x 11 $\frac{7}{8}$ ")
- Weight:** 7 lb. 15 oz. (3.6 kg.)



UP-910

Monochrome Video Graphic Printer

- Large print size (182 x 140mm in normal scan mode, 200 x 150mm in wide 2 scan mode, at aspect ratio 4:3)
- High quality printing with a horizontal resolution of 768 dots and 128 gradations of gray level
- High speed printing (approx. 20 seconds)
- Frame/Field memory selectable
- Printing direction selectable: Normal/Reverse
- Normal/Wide scan selectable
- 4:3/1:1 aspect ratio selectable
- EIA/CCIR automatic selection
- Multiple copy function by pressing the "COPY" button
- Safety regulations (UL-544, CSA C 22.2 No. 220 and No. 125 approved)

Supplied Accessories:

- AC Power Cord
- UP-216HD Paper Roll
- Paper Shaft
- Head Cleaning Sheet
- BNC-BNC Connecting Cable (1.5m)

Optional Accessories:

- FS-20 Foot Switch
- RM-81 Remote Commander
- UPP-216HD High Density Paper (Type II)
- UPP-216SE Normal Density Paper (Type II)

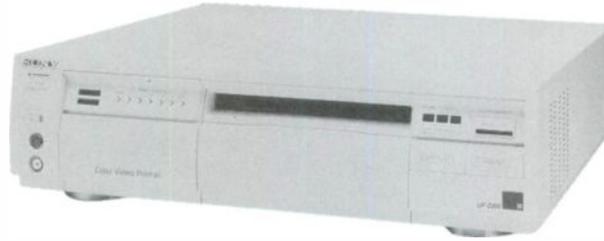
Specifications

- Printing Method: Direct thermal printing
- Thermal Head: Thin-film thermal head (with built-in drive IC)
768-dot drive
- Print Size
(at aspect ratio 4:3): EIA/CCIR
 - Normal: 182 x 140mm (7 $\frac{1}{4}$ " x 5 $\frac{5}{8}$ ")
 - Wide 1: 192 x 146mm (7 $\frac{5}{8}$ " x 5 $\frac{3}{4}$ ")
 - Wide 2: 200 x 150mm (7 $\frac{7}{8}$ " x 6")
- Picture Elements
(at aspect ratio 4:3): EIA
 - Normal: 700 dots x 472 lines
 - Wide 1: 736 dots x 490 lines
 - Wide 2: 768 dots x 508 linesCCIR
 - Normal: 700 dots x 560 lines
 - Wide 1: 736 dots x 582 lines
 - Wide 2: 768 dots x 608 lines
- Gradations: 128 (black & white)
- Picture Memory: One frame (600k x 6 bit)
- Printing Time: Approx. 20 sec./screen (at aspect ratio 4:3)
- Input/Output: Video IN (BNC)-EIA/NTSC or CCIR/PAL composite: 1.0Vp-p, sync negative, 75 Ω , high impedance (switchable)
Video OUT (BNC): Loop-through
- Remote Terminal: REMOTE (for the optional foot switch FS-20: Stereo mini jack)
- Power Requirements: AC 100-120V, 50/60 Hz
- Power Consumption: Max. 2.5A, 190W
- Dimensions (WHD): 424 x 130 x 380mm
(16 $\frac{3}{4}$ " x 5 $\frac{1}{8}$ " x 15")
- Weight: Approx. 20 lb. 1 oz. (9.1 kg.)

UP-2200

Color Video Printer

- Superb print quality using RGB full frame memory
- Input video signal digitally processed in 8-bit/256 gradations
- More than 500 TV lines of resolution
- A6 print size (5⁵/₈" x 4") can be printed out in approx. 67 seconds
- Accepts Y/C and composite input through S-video and (DIN 4-pin) BNC connectors
- Multiple print modes including: 4 or 16 Split Memory Print; 4 or 16 Multi Picture Print; Composite Print; 4 or 16 Strobe Image Print; Caption Setting
- Menu options include: print quantity, date, title or caption, print mode selection and picture adjustment
- Front access for print paper and ribbon
- Supplied wireless remote control



Supplied Accessories:

RMT-7 Remote Control Unit
 UM-3 Battery (2)
 VPM-30STA Standard Printing Pack
 Paper Tray
 AC Power Cable
 Operation Manual

Optional Accessories:

VPM-30STA Color Printing Pack
 VPM-90STA Color Printing Pack
 VPM-30WSA Sticker Printing Pack
 PAF-A6 Original Album

Specifications

Printing Method: Dye transfer sublimation printing
 (Yellow/Magenta/Cyan three channels)

Thermal Head: 512 elements (6 dots/mm)

Printing Paper Size: 102 x 75mm (4¹/₈" x 3")

Picture Elements: 708(H) x 448(V)

Gradations: 256 levels process (Yellow, Magenta, Cyan) over
 16.7 million colors per pixel

Picture Memory: One frame memory (8 bits x RGB three color
 process)

Printing Time: Approx. 67 sec.

Inputs: Y/C separate (4-pin S terminal x 2)
 Y: 1.0Vp-p, sync negative, 75Ω, unbalanced
 C: 0.286Vp-p, 75Ω, unbalanced
 Composite video (BNC x 1, Phono x 1)
 EIA/NTSC 1.0Vp-p, sync negative, 75Ω,
 unbalanced

Power Requirements: AC-120V, 60 Hz

Power Consumption: 120W (during printing)
 20W (during stand-by)

Dimensions (WHD): 430 x 109 x 375mm
 (17" x 4³/₈" x 14⁷/₈")

Weight: 18 lb. 4 oz. (8.3 kg.) (approx.)

Safety Standard: UL-1409



SSC-C350

Single Chip CCD Color Video Camera

- Especially designed for surveillance applications
- 1/2-inch IT Hyper HAD CCD offers extremely high sensitivity with a minimum illumination of 2.5 lux (f1.2)
- Excellent signal-to-noise ratio of 48 dB
- CCD IRIS control eliminates the need to use an automatic iris lens
- Two alternative automatic white balance control modes: AWB (Auto White Balance)/ATW (Auto Tracing White Balance)
- Variable speed electronic shutter
- Accepts C-mount lenses
- Compact and lightweight
- External synchronization with VS
- Single cable operation (video/sync/power triple multiplex transmission) for easy installation with the optional YS-W130/230 Camera Adaptor (Mode A)
- Monitor out function for on-the-spot camera positioning (Mode A)
- 12V DC power supply can also be used (Mode B)

Supplied Accessories:

- 4-pin Plug for Lens Cable
- Lens Mount Cap
- Operating Instruction Manual

Optional Accessories:

- YS-W130 Camera Adaptor
- VCL-S03XM (3.6mm, f1.6) Manual Iris Lens
- VCL-S06XM (6.0mm, f1.2) Manual Iris Lens
- VCL-S12XM (12mm, f1.2) Manual Iris Lens

Specifications

- Image Device: 1/2" Interline Transfer CCD (x 1)
- Picture Elements (HV): 510 x 492
- Sensing Area: 6.3 x 4.7mm (1/4" x 3/16")
- Signal System: NTSC standard
- Scanning System: 525 lines, 2:1 interlace
- Synchronization: Internal or external with VS
- Horizontal Resolution: 330 TV lines
- Lens Mount: C-mount
- Minimum Illumination: 2.5 lux at f1.2 (AGC on)
- Automatic Gain Control: ON/OFF switchable
- Electronic Shutter Speed: 1/60, 1/100, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10,000 (80C.)
- CCD IRIS Control: Yes (ON/OFF switchable)
Initial setting (OFF)
- White Balance: ATW/AWB Switchable
- Phase Control: H-phase control
- Signal-to-Noise Ratio: 46 dB (AGC off)
- Video Out: 1.0Vp-p, 75Ω, sync negative
- Operating Temperature: -10°C to 50°C (14°F to 122°F)
- Storage Temperature: -40°C to 60°C (-40°F to 140°F)
- Power Requirements: DC-12V ±10% from DC-12V supply or DC-24V ±5 from YS-W130/230
- Power Consumption: 2.4W at DC-12V, 3.5W supplied from YS-W130/230
- Weight: 1 lb. 7 oz. (660 g.)
- Connectors: DC-12V terminals, LENS (4-pin), Mode A: DC IN/VS IN/VIDEO OUT (BNC), MONITOR OUT (BNC) Mode B: VIDEO OUT (BNC), VS IN (BNC)
- Dimensions (WHD): 64 x 57 x 164.9mm (2 5/8" x 2 1/4" x 6 1/2")

SSC-C354

Single Chip CCD Color Video Camera

- Especially designed for surveillance applications
- 1/2-inch IT Hyper HAD CCD offers extremely high sensitivity with a minimum illumination of 2.5 lux (f1.2)
- Excellent signal-to-noise ratio of 48 dB ■ CCD IRIS control eliminates the need to use an automatic iris lens
- Two alternative automatic white balance control modes: AWB (Auto White Balance)/ATW (Auto Tracing White Balance) ■ Variable speed electronic shutter
- Accepts C-mount lenses ■ Compact and lightweight
- AC line lock for external synchronization



Supplied Accessories:

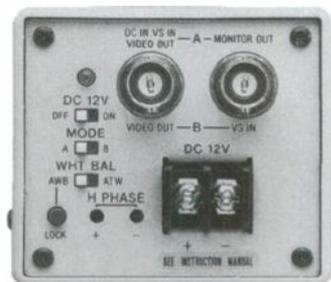
4-pin Plug for Lens Cable
 Lens Mount Cap
 Operating Instruction Manual

Optional Accessories:

VCL-S03XM (3.6mm, f1.6) Manual Iris Lens
 VCL-S06XM (6.0mm, f1.2) Manual Iris Lens
 VCL-S12XM (12mm, f1.2) Manual Iris Lens

Specifications

Image Device: 1/2" Interline Transfer CCD (x1)
 Picture Elements (HV): 510 x 492
 Sensing Area: 6.3 x 4.7mm (1/4" x 3/16")
 Signal System: NTSC standard
 Scanning System: 525 lines, 2:1 interlace
 Synchronization: Internal or AC-24V line lock
 Horizontal Resolution: 330 TV lines
 Lens Mount: C-mount
 Minimum Illumination: 2.5 lux at f1.2 (AGC on)
 Automatic Gain Control: ON/OFF switchable
 Electronic Shutter Speed: 1/60, 1/100, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10,000 (sec.)
 CCD IRIS Control: Yes (ON/OFF switchable)
 Initial setting (ON)
 White Balance: ATW/AWB Switchable
 Phase Control: V-phase control
 Signal-to-Noise Ratio: 46 dB (AGC off)
 Video Out: 1.0Vp-p, 75Ω, sync negative
 Operating Temperature: -10°C to 50°C (14°F to 122°F)
 Storage Temperature: -40°C to 60°C (-40°F to 140°F)
 Power Requirements: AC-24V
 Power Consumption: 3.5W
 Weight: 1 lb. 7 oz. (660 g.)
 Connectors: AC-24V terminals, LENS (4-pin), GND, VIDEO OUT (BNC)
 Dimensions (WHD): 64 x 57 x 164.9mm (2 5/8" x 2 1/4" x 6 1/2")



SSC-C370

Single Chip CCD Color Video Camera

- Especially designed for surveillance applications
- High density 1/2-inch IT Hyper HAD CCD offers extremely high resolution of 470 TV lines and high sensitivity with a minimum illumination of 2.5 lux (f1.2)
- Excellent signal-to-noise ratio of 48 dB
- CCD IRIS control eliminates the need to use an automatic iris lens
- Two alternative automatic white balance control modes: AWB (Auto White Balance)/ATW (Auto Tracing White Balance)
- Variable speed electronic shutter
- Accepts C-mount lenses
- 12V DC operation
- Internal or external sync (auto switching)
- Compact and lightweight

Supplied Accessories:

- 4-pin Plug for Lens Cable
- Lens Mount Cap
- Operating Instruction Manual

Optional Accessories:

- VCL-S03XM (3.6mm, f1.6) Manual Iris Lens
- VCL-S06XM (6.0mm, f1.2) Manual Iris Lens
- VCL-S12XM (12mm, f1.2) Manual Iris Lens

Specifications

- Image Device: 1/2" interline transfer CCD (x 1)
- Picture Elements (HV): 768 x 494
- Sensing Area: 6.3 x 4.7mm (1/4" x 3/16")
- Signal System: NTSC standard
- Scanning System: 525 lines, 2:1 interlace
- Synchronization: Internal or external (auto switching)
- Horizontal Resolution: 470 TV lines
- Lens Mount: C-mount
- Minimum Illumination: 2.5 lux at f1.2 (AGC on)
- Automatic Gain Control: ON/OFF switchable
- Electronic Shutter Speed: 1/60, 1/100, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10,000 (sec.)
- CCD IRIS Control: Yes (ON/OFF switchable)
Initial setting (ON)
- White Balance: ATW/AWB switchable
- Phase Control: V-phase control
- Signal-to-Noise Ratio: 48 dB (AGC off)
- Video Out: 1.0Vp-p, 75Ω, sync negative
- Operating Temperature: -10°C to 50°C (14°F to 122°F)
- Storage Temperature: -40°C to 60°C (-40°F to 140°F)
- Power Requirements: DC-12V ± 10% from DC-12V supply or DC-24V ± 5 from YS-W130/230
- Power Consumption: 3.1W at DC-12V
4.3W supplied from YS-W130/230
- Weight: 1 lb. 7 oz. (660 g.)
- Connectors: DC-12V terminals, LENS (4-pin),
Mode A: DC IN/VS IN/VIDEO OUT (BNC),
MONITOR OUT (BNC)
Mode B: VIDEO OUT (BNC), VS IN (BNC)
- Dimensions (WHD): 64 x 57 x 164.9mm
(2 5/8" x 2 1/4" x 6 1/2")

SSC-C374

Single Chip CCD Color Video Camera

■ Especially designed for surveillance applications ■ High density 1/2-inch IT Hyper HAD CCD offers extremely high resolution of 470 TV lines and high sensitivity with a minimum illumination of 2.5 lux (f1.2) ■ Excellent signal-to-noise ratio of 48 dB ■ CCD IRIS control eliminates the need to use an automatic iris lens ■ Two alternative automatic white balance control modes: AWB (Auto White Balance)/ATW (Auto Tracing White Balance) ■ Variable speed electronic shutter ■ Accepts C-mount lenses ■ AC line lock for external synchronization ■ Compact and lightweight



Supplied Accessories:

4-pin Plug for Lens Cable
 Lens Mount Cap
 Operating Instruction Manual

Optional Accessories:

VCL-S03XM (3.6mm, f1.6) Manual Iris Lens
 VCL-S06XM (6.0mm, f1.2) Manual Iris Lens
 VCL-S12XM (12mm, f1.2) Manual Iris Lens

Specifications

Image Device: 1/2" interline transfer CCD (x1)
 Picture Elements (HV): 768 x 494
 Sensing Area: 6.3 x 4.7mm (1/4" x 3/16")
 Signal System: NTSC standard
 Scanning System: 525 lines, 2:1 interlace
 Synchronization: Internal or AC-24V line lock
 Horizontal Resolution: 470 TV lines
 Lens Mount: C-mount
 Minimum Illumination: 2.5 lux at f1.2 (AGC on)
 Automatic Gain Control: ON/OFF switchable
 Electronic Shutter Speed: 1/60, 1/100, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10,000 (SEC.)
 CCD IRIS Control: Yes (ON/OFF switchable)
 Initial setting (ON)
 White Balance: ATW/AWB switchable
 Phase Control: V-phase control
 Signal-to-Noise Ratio: 48 dB (AGC off)
 Video Out: 1.0Vp-p, 75Ω, sync negative
 Operating Temperature: -10°C to 50°C (14°F to 122°F)
 Storage Temperature: -40°C to 60°C (-40°F to 140°F)
 Power Requirements: AC-24V
 Power Consumption: 4.9W
 Weight: 1 lb. 7 oz. (660 g.)
 Connectors: AC-24V terminals, LENS (4-pin), GND, VIDEO OUT (BNC)
 Dimensions (WHD): 64 x 57 x 164.9mm (2 5/8" x 2 1/4" x 6 1/2")



SSC-S20

High Resolution Color CCD Camera

- 1/2" Sony high resolution color CCD camera (768 x 494) provides over 460 lines of horizontal resolution
- Minimum illumination of 4 lux with f1.2 lens
- Accepts C-mount lenses
- Built-in camera ID (0-99) and built-in time/date generator with 4 day battery backup
- AC-24V or DC-12V operation
- Electronic shutter speeds of 1/100 to 1/10,000
- Component color capable via S-connector
- Through-the-lens auto tracking white balance with lock and 2 fixed color temperature settings for outdoor and indoor use
- AGC on/off selectable
- Internal or external sync capable (genlock with VBS or BS)
- Subcarrier and H-phase adjustable

Supplied Accessories:

- Lens Mount Cap
- Mount Adaptor
- Connector for Auto Iris Lenses

Specifications

- Pickup Device: 1/2" CCD
- Picture Elements: 768(H) x 494(V)
- Sensing Area: 6.3 x 4.7mm
- Lens Mount: C
- Signal System: EIA
- Scan System: 525/2:1
- Sync System: Internal/External
- External Sync: Genlock
- Horizontal Resolution: 460 lines
- Vertical Resolution: 350 lines
- Signal to Noise Ratio: 46 dB
- Minimum Illumination: 4 lux at f1.2
- AGC: Auto/Fixed/Off
- Shutter: Variable
- Color Temperature: Auto/Fixed/Preset
- Camera ID: 0-99
- Time/Date: yes, w/4 day backup
- Video Out: BNC x 1
- Power Requirements: AC-24V or DC-12V
- Power Consumption: 5W
- Dimensions (WHD): 2 1/2" x 3 1/4" x 6" (64 x 82 x 153mm)
- Weight: 1 lb. 7 oz.

Video Conferencing

Video Conferencing

FSR-2000A	K-2
FSR-2000	K-3

FSR-2000A

Satellite Video Distribution System

- Enables corporate video networks to control Sony recording, playback, and display devices through its network from a centralized uplink site
- Targets video information to specific areas in distant offices
- Reduces the cost of operating a satellite video network by centralizing all network control and by facilitating satellite transmission during off-peak hours
- Decreases the need for technical support staff at downlink sites
- Uses Sony's highly reliable FSR-2000A Addressable Satellite Receiver with 24 channel preset memory for tuning and subcarrier audio, a 10-key tuning system, and a two-digit LED strength indicator for precise signal quality monitoring
- A highly sensitive receiver with threshold extension as low as 7 dB (typ.) for superb picture reception
- Low DG, low DP and flat-frequency response for high-quality picture reception
- Frequency synthesized tuning memory
- One MHz-step precise tuning and memory
- 24 channel preset memory capability for the tuning frequency and subcarrier audio outputs
- CHECK button for confirming memorized information
- Two digit strength indicator for precise antenna positioning
- LED displays: Frequency (5-digit), Channel Number (2-digit), Receiving, Audio Output, Ext Video
- Easy-to-Use 10-key tuning system

Supplied Accessories:

AC Power Cord
 Rack Mount Screws

Specifications

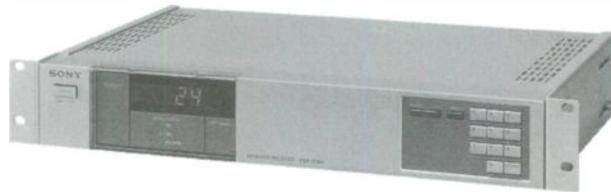
Input Frequency Band: 950 MHz–1450 MHz
 Input VSWR: 2.5 max. (F type female, 75Ω)
 Input Noise Figure: 15 dB max. at maximum gain
 Input Dynamic Range: –63 dBm to –30 dBm
 Local Oscillator Leakage in Input Frequency Band: –64 dBm max. at input port
 Image Rejection: 45 dB min.
 IF Bandwidth: 24 MHz
 Clamped Video Output: 1Vp-p ± 10% (BNC, 75Ω) at 9.0 MHz–10.5 MHz peak deviation; Factory set at 10.5 MHz peak deviation
 Composite Output: 1Vp-p ± 10% (BNC, 75Ω) at 9.0 MHz–10.5 MHz peak deviation; Factory set at 9.2 MHz peak deviation
 Aux Output: 50 Hz–8 MHz, 0.7Vp-p (BNC, 75Ω) at 9 MHz peak deviation (pre-emphasis OFF)
 Audio Outputs:
 Audio 1: 6.2 MHz subcarrier, 0 dBm at 600Ω, ± 75 kHz deviation, phono
 Audio 2: 6.8 MHz subcarrier, 0 dBm at 600Ω, ± 75 kHz deviation, phono
 Audio 3: 6.8 MHz subcarrier wide deviation, + 10 dBm at 600Ω, ± 239 kHz deviation, phono
 Audio 1/2/3: Selectable output, phono
 Audio 1/2: 0 dBs (775 mVrms) at 10 kΩ, ± 75 kHz deviation
 Audio 3: ± 10 dBs (2.45 Vrms) at 10 kΩ, ± 239 kHz deviation
 Tuning Frequency: 11.700 GHz–12.199 GHz in 1 MHz step
 Channel Presetting: Up to 24 channels
 AFC Capture Range: ± 5 MHz
 Static Threshold: C/N 7 dB typical

De-emphasis: Video: CCIR 405-1 525 lines
 Audio: 75 μs
 Differential Gain and Phase: 5%, 5° max. at APL 10%–90%
 Video Frequency Response: 50 Hz–4.2 MHz ± 1 dB
 Remodulator Output: Channel 3 or 4 selectable (F type female)
 Video/Audio Inputs: Video: 1Vp-p (BND, 75Ω)
 Audio: 0 dBs (775 mVrms) at 47 kΩ, phono
 AGC Output: Expanded offset type (speaker terminals)
 Unique Addressability: Over 16,000,000 (Factory preset)
 Group Addressability: Over 520,000 per network (Remotely preset, non-volatile)
 Home Channel: Any of 24 channels (Remotely preset, non-volatile)
 Control Data Input: RS-423/RS-232C, receive only
 Control Data Outputs: RS-232C, Cntrl. [S] (SIRCS), Cntrl. [P] (Inverted SIRCS)
 Data Carrier Detect: TTL input, 4.7 kΩ pulled up to +5V
 Reset to Default State: At Power-On, 10 Min. after loss of Data Carrier Detect signal, or on the remote command from the network control
 Power Supply Voltage: 120V AC, 60 Hz
 Power Consumption: 19W (23W with LNB)
 LNB Power Supply Output: + 18V DC ± 10%, 4W max.
 Operating Temperature: 0°C to 40°C
 Storage Temperature: –20°C to 60°C
 Dimensions (WHD): 482 x 80 x 277mm incl. projecting parts and controls
 Weight: 5.5 kg.
 Mounting: EIA standard 19" rack

FSR-2000

Satellite Receiver

- Designed for CATV, SMATV and business television applications
- Outstanding performance and high reliability at an affordable price
- Threshold extension to 7 dB (typical)
- Low DG, low DP and flat-frequency response, ensuring exceptional sensitivity and high quality picture reception
- Advanced tuning and memory system
- 24 channel preset memory capability
- 10-key tuning system
- Two-digit strength indicator for precise antenna positioning
- Three audio subcarrier demodulator outputs
- Compatible with most decoders through Composite and Auxiliary outputs
- NTSC clamped video output
- RF modulator is provided for an internal or external video signal to be processed for VHF output



Supplied Accessories:

AC Power Cord
Rack Mount Screws

Specifications

Input Frequency Band:	950 MHz–1450 MHz	Tuning Frequency:	11.700 GHz–12.199 GHz in 1 MHz step
Input VSWR:	2.5 max. (F type female, 75Ω)	Channel Presetting:	Up to 24 channels
Input Noise Figure:	15 dB max. at maximum gain	AFC Capture Range:	± 5 MHz
Input Dynamic Range:	– 63 dBm to – 30 dBm	Static Threshold:	C/N 7 dB typical
Local Oscillator Leakage in		De-emphasis:	Video: CCIR 405-1 525 lines Audio: 75 μs
Input Frequency Band:	– 65 dBm max. at input port	Differential Gain and Phase:	5%, 5° max., at APL 10%–90%
Image Rejection:	45 dB min.	Video Frequency Response:	50 Hz–4.2 MHz ± 1 dB
IF Bandwidth:	24 MHz	Remodulator Output	Channel 3 or 4 selectable (F type female)
Clamped Video Output:	1Vp-p ± 10% (BNC, 75Ω) at 9.0 MHz–10.5 MHz peak deviation; Factory set at 10.5 MHz peak deviation	Video/Audio Inputs:	Video: 1Vp-p (BNC, 75Ω) Audio: 0 dBs (775 mVrms) at 47 kΩ, phono
Composite Output:	1Vp-p ± 10% (BNC, 75Ω) at 9.0 MHz–10.5 MHz peak deviation; Factory set at 9.2 MHz peak deviation	AGC Output:	Expanded offset type (speaker terminals)
Aux Output:	50 Hz–8 MHz, 0.7Vp-p (BNC, 75Ω) at 9 MHz peak deviation (pre-emphasis OFF)	Power Supply Voltage:	120V AC, 60 Hz
Audio Outputs:	Audio 1: 6.2 MHz subcarrier, 0 dBm at 600Ω, ± 75 kHz deviation, phono	Power Consumption:	19W (23W with LNB)
	Audio 2: 6.8 MHz subcarrier, 0 dBm at 600Ω, ± 75 kHz deviation, phono	LNB Power Supply Output:	+ 18V DC ± 10%, 4W max.
	Audio 3: 6.8 MHz subcarrier wide deviation, ± 10 dBm at 600Ω, ± 239 kHz deviation, phono	Operating Temperature:	0°C to 40°C
	Audio 1/2/3: Selectable output, phono	Storage Temperature:	– 20°C to 60°C
	Audio 1/2: 0 dBs (775 mVrms) at 10 kΩ, ± 75 kHz deviation	Dimensions (WHD):	482 x 80 x 277mm incl. projecting parts and controls
	Audio 3: ± 10 dBs (2.45 Vrms) at 10 kΩ, ± 239 kHz deviation	Weight:	5.5 kg.
		Mounting:	EIA standard 19" rack

VTR

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DVR-1000

4:2:2 Component Digital VTR

■ A world-wide standard VTR: Meets the SMPTE D-1 format and the EBU Tech 3252 format; 525/60, 625/50 switch selectable; Power supply voltage selectable (100V-120V and 220V-240V) ■ Both L (max. 94 min.) and M (max. 34 min.) size cassettes are available ■ Digital Processing: Error detection and error correction capability; Sophisticated error Concealment System ■ More than 20 generations of dubbing and playback without loss in video/audio quality ■ Four digital audio channels ■ Digital interface available: Video: SMPTE 125M and EBU Tech 3246 parallel interface; SMPTE draft standard; T14.224 serial interface; Audio: AES/EBU serial interface ■ Broadcast level playback and freeze pictures at up to $\pm 1/4$ times normal speed ■ Recognizable color pictures at shuttle speeds up to ± 40 times normal speed ■ EL (Electroluminescent) display supporting the menu driven control ■ Control panel enables quick access to various menus ■ System flexibility with three RS-422 ports: Remote control by BVE-910/9000/9100 series editing controllers possible; Built-in editing facility allows the control of two machines via these ports

Supplied Accessories:

BKDV-1010 Control Panel
EX-129 Extension Board
Rack Mount Fittings
AC Power Cord
Metal Plate (attached at factory)
Operation and Maintenance Manual

Optional Accessories:

ECD-3C/10C/30C Digital Audio Cable
VCD-2D/5D/10D/30D Digital Video Cable
SMK-0032 IEEE-488 Cable
RCC-5G/10G/30G 9-pin Remote Control Cable
D1M-12/22/34 Sony Digital Video: (M-Cassette)
D1L-76/94 Sony Digital Video (L-Cassette)
D1M-5CL Cleaning Cassette

DVR-2100

4:2:2 Component Digital VTR

- A world-wide standard VTR: Meets the SMPTE D-1 format and the EBU Tech 3252 format; 525/60, 625/50 switch selectable; Power supply voltage selectable (100–120V and 220–240V) ■Component digital recording ■Broadcast quality pictures provided within the Dynamic Tracking™ (DT) range of –1 to +2 times normal playback speed ■Compact and lightweight with low power consumption: 8 units high, 143 lb. 5 oz. (65 kg.) and 400 W ■Digital video and audio interfaces as a standard: Video: SMPTE 125M and EBU Tech 3246 parallel digital interface; SMPTE T 14.224 serial digital interface; Audio: AES/EBU serial interface ■All of the information for operation provided via the large EL display (640 x 240 dots) ■Three sizes of cassettes are available; L-size (max. 94 min.), M-size (max. 34 min.) and S-size (max. 6 min.) ■Recognizable color pictures at shuttle speeds up to ± 50 times normal speed ■Component signals from acquisition to editing with the use of Betacam SPT™ Camcorder and the BVW-D75 Betacam SP VTR ■Channel condition (error rate) monitoring ■Error Message Logger ■Automatic Playback Equalization allowing automatic EQ optimization for minimum error rate ■Automatic CTL allowing tracking optimized in normal and DT playback ■Built-in test signal generator ■Easy serviceability: All of the circuitry placed on plug-in type boards; A self-diagnostics system

Supplied Accessories:

- BKDV-2010 Control Panel
- EX-244/EX-245/EX-288 Extension Board
- Rack Mount Fittings
- AC Power Cord
- Metal Plate (attached at factory)
- Operation and Maintenance Manual

Optional Accessories:

- RMM-18DV Rack Slide Kit
- VCD-2D/5D/10D/30D Digital Video Cable
- ECD-3C/10C/30C Digital Audio Cable
- RCC-5G/10G/30G 9-pin Remote Control Cable
- D1S-6 Sony Digital Video: (S-Cassette)
- D1M-12/22/34 Sony Digital Video: (M-Cassette)
- D1L-76/94 Sony Digital Video: (L-Cassette)
- D1M-5CL Cleaning Cassette





DVR-2000

4:2:2 Component Digital VTR

■ A world-wide standard VTR: Meets the SMPTE D-1 format and the EBU Tech 3252 format; 525/60, 625/50 switch selectable; Power supply voltage selectable (100–120V and 220–240V) ■ Component digital recording ■ Highly reliable playback system ■ Compact and lightweight with low power consumption: 8 units high, 143 lb. 5 oz. (65 kg.) and 400 W ■ Digital video and audio interface as a standard: Video: SMPTE 125M and EBU Tech 3246 parallel digital interface; SMPTE T 14.224 serial digital interface; Audio: AES/EBU serial interface ■ All of the information for operation provided via the large EL display (640 x 240 dots) ■ Three sizes of cassettes are available; L-size (max. 94 min.), M-size (max. 34 min.) and S-size (max. 6 min.) ■ Recognizable color pictures at shuttle speeds up to ± 50 times normal speed ■ Component signals from acquisition to editing with the use of Betacam SPT[™] Camcorder and the BVW-D75 Betacam SP VTR ■ Channel condition (error rate) monitoring ■ Error Message Logger ■ Automatic Playback Equalization and Automatic CTL allowing Adjustment-free operation ■ Automatic Playback Equalization allowing automatic EQ optimization for minimum error rate ■ Automatic CTL allowing tracking optimized in normal and DT playback ■ Easy serviceability: All of the circuitry placed on plug-in type boards; A self-diagnostics system

Supplied Accessories:

BKDV-2010 Control Panel
EX-244/EX-245/EX-288 Extension Board
Rack Mount Fittings
AC Power Cord
Metal Plate (attached at factory)
Operation and Maintenance Manual

Optional Accessories:

RMM-18DV Rack Slide Kit
VCD-2D/5D/10D/30D Digital Video Cable
ECD-3C/10C/30C Digital Audio Cable
RCC-5G/10G/30G 9-pin Remote Control Cable
D1S-6 Sony Digital Video: (S-Cassette)
D1M-12/22/34 Sony Digital Video: (M-Cassette)
D1L-76/94 Sony Digital Video: (L-Cassette)
D1M-5CL Cleaning Cassette

Specifications for Digital Videocassette Recorders

SPECIFICATIONS		MODEL	DVR-2100	DVR-2000	DVR-1000/DVPC-1000	
General	Power Requirements		AC-100V-120V ±10%, 50/60 Hz AC-220V-240V ±10%, 50/60 Hz		AC-100V-120V ±10%, 50/60 Hz AC-220V-240V ±10%, 50/60 Hz	
	Power Consumption		Max. 750 VA		DVR-1000: 350W, DVPC-1000: 850W	
	Weight		143 lb. 5 oz. (65 kg.) (approx.) (including control panel)		DVR-1000: 105 lb. 13 oz. (48 kg.) (approx.) DVPC-1000: 220 lb. 7 oz. (100 kg.) (approx.)	
	Dimensions (WHD) (Approx.)		436 x 372 X 682mm (17 ¹ / ₄ " x 14 ³ / ₄ " x 26 ⁷ / ₈ "*) (including control panel and feet)		DVR-1000: 436 x 325.5 x 635mm (17 ¹ / ₄ " x 12 ⁷ / ₈ " x 25") DVPC-1000: 424 x 650 x 650mm (16 ³ / ₄ " x 25 ⁵ / ₈ " x 25 ⁵ / ₈ "*) (including handles and feet)	
	Recording Format		SMPTE D-1/EBU Tech 3252			
	TV Standard		525/60, 625/50 switchable			
	Tracks Video		600 tracks/sec. 20 sectors/field (525/60) 24 sectors/field (625/50)			
	Digital Audio		600 tracks/sec. 40 sectors/field (525/60) 48 sectors/field (625/50)			
	Analog Cue Time Code CTL		1 track 1 track 1 track			
	Tape Speed		286.588mm/sec. (525/60) 286.875mm/sec. (625/50)			
	Writing Speed		35.63m/sec.			
	Recommended Tape		Sony high Hc (class 850 Oe) tape or equivalent			
	Cassette Type		D-1 cassette (S, M, or L type)		D-1 cassette (M or L type)	
	Recording/Playback Time		Max. 94 min. with D1L-94 Max. 76 min. with D1L-76 Max. 34 min. with D1M-34 Max. 22 min. with D1M-22 Max. 12 min. with D1M-12 Max. 6 min. with D1S-76		Max. 94 min. with D1L-94 Max. 76 min. with D1L-76 Max. 34 min. with D1M-34 Max. 22 min. with D1M-22 Max. 12 min. with D1M-12	
Fast Forward/Rewind Time		Within 160 sec. with D1L-94 Within 150 sec. with D1M-76 Within 80 sec. with D1M-34 Within 35 sec. with D1S-6		Within 240 sec. with D1L-94 Within 180 sec. with D1M-76 Within 100 sec. with D1L-34		
Video	Sampling Frequency	Y: 13.5 MHz, R-Y/B-Y: 6.75 MHz				
	Quantization	8 bits/sample				
		(With use of the BKDV-4224AD/ 422DA A/D, D/A converter)				
	Bandwidth	Y: 0 to 5.75 MHz ±0.5 dB, R-Y/B-Y: 0 to 2.75 MHz ±0.5 dB		Y: 0 to 5.75 MHz ±0.5 dB, R-Y/B-Y: 0 to 2.75 MHz ±0.5 dB		
	S/N Ratio	56 dB (unweighted)		56 dB (unweighted)		
Audio	K-factor (2T pulse)	< 1%		< 1%		
	Sampling Frequency	48 kHz (synchronized with video)				
	Quantization	16-20 bits/sample		16 bits/sample		
	Wow and Flutter	Below measureable limit				
		(With use of the DAD-A2000 AD/DA converter)				
	Frequency Response	20 Hz to 20 kHz ^{+0.5} / _{-1.0} dB		20 Hz to 20 kHz ^{+0.5} / _{-1.0} dB		
	Dynamic Range	> 90 dB (at a maximum input level)		> 90 dB (at a maximum input level)		
	Distortion	< 0.05% (at 1 kHz, emphasis ON, operating level)		< 0.05% (at 1 kHz, emphasis ON, operating level)		
	Crosstalk	< -80 dB (at 1 kHz, between any two channels)		< -80 dB (at 1 kHz, between any two channels)		
	Emphasis	50/15 μs		50/15 μs		
Cue	Frequency Response	100 Hz to 12 kHz ±3 dB		100 Hz to 12 kHz ±3 dB		
	S/N Ratio	Better than 42 dB (at 3% distortion)		Better than 42 dB 9 (at 3% distortion)		
	Distortion	< 3%		< 3%		
	Wow and Flutter	< 0.2%		< 0.2%		

Component Digital

BKDV-2010

Control Panel for the DVR-2100/2000

BKDV-1010

Control Panel for the DVR-1000



BKDV-102

Control Panel Adaptor for the BKDV-1010/101

BKDV-4224DA

D-1 Signal Converter

■ In conjunction with two D-1 VTRs, a range of recording/playback systems can be formed: 4:2:2 picture plus key channel production (4:2:2:4 mode); Full band GBR plus key channel production (4 x 4 mode); Doubled horizontal resolution of 525/60 or 625/50 signals (8:4:4 H mode); Progressive scan 525 or 625 (60 frames/sec or 50 frames/sec) system (8:4:4 V mode) ■ Regular video A/D or D/A conversion conforming to the CCIR-601 filter specifications is possible ■ One rack unit high and 19-inch rack mountable



Specifications

Power Requirements: AC-100V-120V, 50/60 Hz
AC-220V-240V, 50/60 Hz

Power Consumption: 55W (Max.)

Dimensions (WHD): 424 x 44 x 550mm

Weight: 15 lb. 7 oz. (7 kg.)

Sampling Frequency: (4:2:2:4) Y/KEY: 13.5 MHz, B-Y/R-Y: 6.75 MHz
(4 x 4) Y/KEY/B-Y/R-Y or G/B/R/KEY: 13.5 MHz
(8:4:4) Y: 27 MHz, B-Y/R-Y: 13.5 MHz
(4:2:2) Y: 13.5 MHz, B-Y/R-Y: 13.5 MHz

Frequency Response: (4:2:2:4) Y/KEY: DC to 5.75 MHz (± 0.5 dB)/
6 MHz (-3 dB)
B-Y/R-Y: DC to 2.75 MHz (± 0.5 dB)/
3 MHz (-3 dB)
(4 x 4) Y/KEY/B-Y/R-Y or G/B/R/KEY: DC to 5.75 MHz (± 0.5 dB)/6 MHz (-3 dB)
(8:4:4) Y: DC to 11.5 MHz (± 0.5 dB)/
12 MHz (-3 dB)
B-Y/R-Y: DC to 5.75 MHz (± 0.5 dB)/
6 MHz (-3 dB)
(4:2:2) Y: DC to 5.75 MHz (± 0.5 dB)/
6 MHz (-3 dB)
B-Y/R-Y: DC to 2.75 MHz (± 0.5 dB)/
3 MHz (-3 dB)

S/N Ratio (Analog Output): 56 dB

Linearity: Within 2.0%

K Factor (2T pulse): < 1.0%

Channel Delay: < ± 15 ns

Serial Input/Output: Bit Rate: 270 Mb/sec.
Transmission distance: Max. 200m

Digital Video Input: BNC: Digital Serial (270 Mb/sec.)
BKDV-4224DA: SERIAL IN 1 & 2

Analog Video Output: Y(G)/B-Y(B)/R-Y(R)/KEY/SYNC, BNC

Digital Video Output: BNC: Digital Serial (270 Mb/sec.)
BKDV-4224DA: VIDEO & KEY

Remote: D-sub 25-pin: Video Index Information



BKDV-4224AD

D-1 Signal Converter

■ In conjunction with two D-1 VTRs, a range of recording/playback systems can be formed: 4:2:2 picture plus key channel production (4:2:2:4 mode); Full band GBR plus key channel production (4 x 4 mode); Doubled horizontal resolution of 525/60 or 625/50 signals (8:4:4 H mode); Progressive scan 525 or 625 (60 frames/sec. or 50 frames/sec.) system (8:4:4 V mode) ■ Regular video A/D or D/A conversion conforming to the CCIR-601 filter specifications is possible ■ One rack unit high and 19-inch rack mountable

Specifications

Power Requirements: AC-100V-120V, 50/60 Hz
 AC-220V-240V, 50/60 Hz

Power Consumption: 55W (Max.)

Dimensions (WHD): 424 x 44 x 550mm

Weight: 15 lb. 7 oz. (7 kg.)

Sampling Frequency: (4:2:2:4) Y/KEY: 13.5 MHz, B-Y/R-Y: 6.75 MHz
 (4 x 4) Y/KEY/B-Y/R-Y or G/B/R/KEY: 13.5 MHz

(8:4:4) Y: 27 MHz, B-Y/R-Y: 13.5 MHz
 (4:2:2) Y: 13.5 MHz, B-Y/R-Y: 13.5 MHz

Frequency Response: (4:2:2:4) Y/KEY: DC to 5.75 MHz (± 0.5 dB)/
 6 MHz (-3 dB)
 B-Y/R-Y: DC to 2.75 MHz (± 0.5 dB)/
 3 MHz (-3 dB)

(4 x 4) Y/KEY/B-Y/R-Y or G/B/R/KEY: DC to 5.75 MHz (± 0.5 dB)/6 MHz (-3 dB)

(8:4:4) Y: DC to 11.5 MHz (± 0.5 dB)/
 12 MHz (-3 dB)
 B-Y/R-Y: DC to 5.75 MHz (± 0.5 dB)/
 6 MHz (-3 dB)

(4:2:2) Y: DC to 5.75 MHz (± 0.5 dB)/
 6 MHz (-3 dB)
 B-Y/R-Y: DC to 2.75 MHz (± 0.5 dB)/
 3 MHz (-3 dB)

S/N Ratio (Analog Output): 56 dB

Linearity: Within 2.0%

K Factor (2T pulse): < 1.0%

Channel Delay: < ± 15 ns

Serial Input/Output: Bit Rate: 270 Mb/sec.
 Transmission distance: Max. 200m

Analog Video Input: Y(G)/B-Y(B)/R-Y(R)/KEY/SYNC, BNC

Digital Video Input: BNC: Digital Serial (270 Mb/sec.)
 BKDV-4224AD: VIDEO & KEY

Digital Video Output: BNC: Digital Serial (270 Mb/sec.)
 BKDV-4224AD: SERIAL OUT 1 & 2

Remote: D-sub 25-pin: Video Index Information

DVPC-4224

Digital Signal Processor

- Enables recording of component or G/B/R video signals combined with a full bandwidth key signal onto a D-1 format tape, with the use of newly developed coefficient recording technology with effective data handling
- Ultra linear A/D and D/A converters maintain high picture quality, with accurate key edges when using analog video signals (Y/B-Y/R-Y/Key or G/B/R/Key)
- Accepts both 525/60 and 625/50 signals to maximize VTR usage
- To meet various application requirements, the DVPC-4224 supports the following four modes:
 - 4:2:2:4 mode—4:2:2 Y/B-Y/R-Y video signals and a key signal;
 - 4:4:4:4 (4 x 4) mode—4:4:4 G/B/R or Y/B-Y/R-Y full band video signals and a key signal;
 - Dual 4:2:2 mode—Two 4:2:2 Y/B-Y/R-Y video signals;
 - D-1 mode—4:2:2 D-1 signal
- Designed to be used exclusively with a Sony DVR-2100 or DVR-2000 VTR. The VTR requires a minor modification with an optional BKDV-2000K Update Kit
- Supplied with SDI (Serial Digital Interface) which allows simple connection with SDI equipped devices, including Sony DVR Series D-1 VTRs and DVS Series digital switchers
- The analog input and output gain of each Y(G)/B-Y (B)/R-Y (R)/Key signal can be independently adjusted
- Equipped with a built-in signal generator (Color bar 100%/75%, Black, Multi burst, Ramp)
- Equipped with two analog monitor outputs for the luminance (B/W) signal with the VTR character display superimposed



Supplied Accessories:

- AC Power Cord (1)
- 8-pin Remote Control Cable (2m) (1)
- Rack Mount Angle (3U) (1 set)
- Operation and Maintenance Manual (1 set)

Specifications

General

Power Requirements: AC 90 to 132V, 50 Hz/60 Hz
AC 198 to 264V, 50 Hz/60 Hz

Power Consumption: 190W

Weight: 37 lb. 8 oz. (17 kg.)

Dimensions (WHD): 424 x 132 x 450mm
(16³/₄" x 5¹/₄" x 17³/₄")

Video

Sampling Frequency:

4:2:2:4	}	Y/Key: 13.5 MHz B-Y/R-Y: 6.75 MHz
Dual 4:2:2,		
D-1 Mode		
4:4:4: Mode		Y(G)/B-Y(B)/R-Y(R)/Key: 13.5 MHz
Quantization:		10 bits/sample
Bandwidth:		
4:2:2:4,	}	Y/Key: 0 to 5.75MHz ± 0.5dB/6MHz -3dB B-Y/R-Y: 0 to 2.75MHz ± 0.5dB/3MHz -3dB
Dual 4:2:2,		
D-1 Mode		
4:4:4:4 Mode		Y(G)/B-Y(B)/R-Y(R)/Key: 0 to 5.75 MHz ± 0.5 dB 6 MHz -3 dB
S/N Ratio:		62 dB or more
Non-Linearity:		2% or less
Shuffling Size:		1 field
K Factor:		1% or less
Channel Delay:		Below ± 15 ns

Input/Output Video

Input

Digital: BNC, Serial digital interface, SMPTE 259M (270 Mb/s)
LINK A/LINK B(Key): 0.8Vp-p, 75Ω

Analog: BNC, Y(G)/B-Y(B)/R-Y(R)/Key/Sync
Y(G)/Key: 1.0Vp-p, 75Ω
B-Y(B)/R-Y(R): 0.7Vp-p, 75Ω
Sync: 0.3Vp-p, 75Ω

Reference: BNC with loop-through

Output

Digital: BNC, Serial digital interface, SMPTE 259M (270 Mb/s)
LINK A/LINK B (Key): 0.8Vp-p, 75Ω

Analog: BNC, Y(G)/B/Y(B)R-Y(R)/Key/Sync
Y(G)/Key: 1.0Vp-p, 75Ω
B-Y(B)R/Y(R): 0.7Vp-p, 75Ω
Sync: 0.3Vp-p, 75Ω

Monitor: BNC, LINK A/LINK B (Key)
Y(G): 1.0Vp-p, 75Ω

VTR Interface

Input: BNC, Serial digital interface, SMPTE 259M (270 Mb/s), 0.8Vp-p, 75Ω

Output: BNC, Serial digital interface, SMPTE 259M (270 Mb/s), 0.8Vp-p, 75Ω

Remote: System control: 8-pin (RS-422 format)
Control Panel: 8-pin (RS-422 format)



DVR-28 (NTSC) / 28P (PAL)

Composite Digital VTR

- Conforms to the NTSC D-2/PAL D-2 format
- Three types of optional control panels are available for various applications: Direct access to operational functions and easy mode settings via the scroll menu with the BKDV-200 and BKDV-201; Easy access to all operational settings via the 12 menu keys and 12 function keys with the BKDV-101; All of the information for operation provided via the large FL display (256 x 64 dots) with the BKDV-200/201, and EL display (640 x 200 dots) with the BKDV-101
- Highly responsive tape handling in the jog and shuttle operations with newly developed Ultrasonic (US) guides
- Three sizes of cassettes are available; L-size (max. 208 min.), M-size (max. 94 min.) and S-size (max. 32 min.)
- Digital Jog Sound allowing for full recovery of digital audio at slow speed and speedy and precise audio editing point decision
- Recognizable color pictures at shuttle speeds up to ± 100 times normal speed
- Broadcast quality pictures provided within the Dynamic Tracking™ (DT) range of -1 to $+3$ times normal playback speed
- Digital Audio Crossfade for smooth sound transition in audio editing
- Automatic Edit Tracking and Automatic Equalization allowing adjustment-free operation
- Channel condition (error rate) monitoring
- Error Message Logger
- 20 bit/sample audio A/D and D/A converters achieving a wide dynamic range of 105 dB.
- 10 bit/sample video A/D and D/A converters offering high quality picture reproduction for analog signal input/output
- Built-in test signal generators
- Multi-loop Test for precise video parameter set-up to compensate for signal degradation in analog video system
- Easy serviceability: Most of the circuitry placed on plug-in type boards; A self-diagnostics system
- Audio program play offers $\pm 15\%$ normal speed sound (option)
- System flexibility: Serial digital video/audio interface with the optional BKDV-105/106 Serial Interface Board; Parallel digital video I/O ports; Analog composite video and audio I/O ports allow easy integration into a conventional analog system; Three RS-422A and one RS-232C serial communication ports

Supplied Accessories:

- Control Panel Connection Cable
- EX-341/EX-185/EX-241 Extension Board
- AC Power Cord
- Rack Mount Angle (8U)
- Connector Plug (50-pin)
- D-sub Connector Shell
- Plug Holder
- Operation and Maintenance Manual

Optional Accessories:

- BKDV-200/BKDV-201/BKDV-101 Control Panel
- BKDV-105/106 Serial Interface Board
- BKDV-110/111 Audio Program Play Board
- RMM-18DV Rack Slide Kit
- VCD-2D/5D/10D/30D Digital Video Cable
- ECD-3C/10C/30C Digital Audio Cable
- RCC-5G/10G/30G 9-pin Remote Control Cable
- SMK-0032 IEEE-488 Cable
- D2S-6M/12M/22M/32M Sony Digital Video: (S Cassette)
- D2M-6M/12M/22M/34M/64M/94M Sony Digital Video: (M-Cassette)
- D2L-126M/156M/188M/208M Sony Digital Video: (L-Cassette)
- D2S-12CL/DCM-12CL Cleaning Cassette

DVR-20 (NTSC) /20P (PAL)

Composite Digital VTR

- Conforms to the NTSC D-2/PAL D-2 format
- Three types of optional control panels are available for various applications: Direct access to operational functions and easy mode settings via the scroll menu with the BKDV-200 and BKDV-201; Easy access to all operational settings via the 12 menu keys and 12 function keys with the BKDV-101; All of the information for operation provided via the large FL display (256 x 64 dots) with the BKDV-200/201, and EL display (640 x 200 dots) with the BKDV-101
- Highly responsive tape handling in the jog and shuttle operations with newly developed Ultrasonic (US) guides
- Both M-size (max. 94 min.) and S-size (max. 32 min.) cassettes are available
- Digital Jog Sound allowing for full recovery of digital audio at slow speed and speedy and precise audio editing point decision
- Recognizable color pictures at shuttle speeds up to ± 100 times normal speed
- Broadcast quality pictures provided within the Dynamic Tracking™ (DT) range of -1 to $+3$ times normal playback speed
- Digital Audio Crossfade for smooth sound transition in audio editing
- Automatic Edit Tracking and Automatic Equalization allowing adjustment-free operation
- Channel condition (error rate) monitoring
- Error Message Logger
- 20 bit/sample audio A/D and D/A converters achieving a wide dynamic range of 105 dB
- 10 bit/sample video A/D and D/A converters offering high quality picture reproduction for analog signal input/output
- Built-in test signal generators
- Multi-loop Test for precise analog video parameter setup to compensate for signal degradation in analog video system
- Easy serviceability; Most of the circuitry placed on plug-in type boards; A self-diagnostics system
- System flexibility: Serial digital video/audio interface with the optional BKDV-105/106 Serial Interface Board; Parallel digital video I/O ports; Analog composite video and audio I/O ports allow easy integration into a conventional analog system; Three RS-422A and one RS-232C serial communication ports



Supplied Accessories:

Control Panel Connection Cable
 EX-341/EX-185/EX-241 Extension Board
 AC Power Cord
 Rack Mount Angle (6U)
 Connector Plug (50-pin)
 D-sub Connector Shell
 Plug Holder
 Operation and Maintenance Manual

Optional Accessories:

BKDV-200/BKDV-201/BKDV-101 Control Panel
 BKDV-205/206 Serial Interface Board
 RMM-18DV Rack Slide Kit
 VCD-2D/5D/10D/30D Digital Video Cable
 ECD-3C/10C/30C Digital Audio Cable
 RCC-5G/10G/30G 9-pin Remote Control Cable
 SMK-0032 IEEE-488 Cable
 D2S-6M/12M/22M/32M Sony Digital Video: (S Cassette)
 D2M-6M/12M/22M/34M/64M/94M Sony Digital Video: (M-Cassette)
 DCS-12CL/DCM-12CL Cleaning Cassette

Composite Digital

Specifications for Digital Videocassette Recorders

MODEL		DVR-28	DVR-28P	DVR-20	DVR-20P
SPECIFICATIONS					
General	Power Requirements	AC-100V-120V ± 10%, 50/60 Hz AC-220V-240V ± 10%, 50/60 Hz		AC-100V-120V ± 10%, 50/60 Hz AC-220V-240V ± 10%, 50/60 Hz	
	Power Consumption	Max. 800 VA (100V-120V)	Max. 950 VA (220V-240V)	Max. 700 VA (100V-120V)	Max. 850 VA (220V-240V)
	Weight	132 lb. 4 oz. (60 kg.) (approx.)		110 lb. 3 oz. (50 kg.) (approx.)	
	Dimensions (WHD) (Approx.)	436 x 370 x 656mm (17 ¹ / ₄ " x 14 ⁵ / ₈ " x 25 ⁷ / ₈ ") (Including handles and feet)		436 x 282 x 656mm (17 ¹ / ₄ " x 11 ¹ / ₈ " x 25 ⁷ / ₈ ") (Including handles and feet)	
	Recording Format	NTSC D-2 format	PAL D-2 format	NTSC D-2 format	PAL D-2 format
	Tracks	6 tracks/1 field	8 tracks/1 field	6 tracks/1 field	8 tracks/1 field
	Digital Video and 4 Channel Audio				
	Analog Cue	1 track	1 track	1 track	1 track
	Time Code	1 track	1 track	1 track	1 track
	CTL	1 track	1 track	1 track	1 track
	Tape Speed	131.7mm/sec.		131.7mm/sec.	
	Writing Speed	27.387m/sec.	30.4m/sec.	27.387m/sec.	30.4m/sec.
	Cassette Type	D-2 cassette (S, M, or L type)		D-2 cassette (S or M type)	
	Recommended Tape	Sony metal (1500 Oe) tape or equivalent			
Recording/Playback Time	Max. 208 min. with D2L-208M Max. 94 min. with D2M-94M Max. 32 min. with D2S-32M		Max. 94 min. with D2M-94M Max. 32 min. with D2S-32M		
Fast Forward/Rewind Time	Within 150 sec. with D2L-208M Within 75 sec. with D2M-94M Within 40 sec. with D2S-32M		Within 75 sec. with D2M-94M Within 40 sec. with D2S-32M		
Video	Sampling Frequency	14.3 MHz	17.7 MHz	14.3 MHz	17.7 MHz
	Quantization	8 bits/I, Q axis sampling	8 bits/ ± 135° axis sampling	8 bits/I, Q axis sampling	8 bits/ ± 135° axis sampling
	Bandwidth	0-5.5 MHz ± 0.3 dB, 6 MHz ⁺⁰ / ₋₂ dB	0-6.0 MHz ± 0.3 dB, 6.5 MHz ⁺⁰ / ₋₂ dB	0-5.5 MHz ± 0.3 dB, 6 MHz ⁺⁰ / ₋₂ dB	0-6.0 MHz ± 0.3 dB, 6.5 MHz ⁺⁰ / ₋₂ dB
	S/N Ratio	54 dB			
	Differential Gain	< 2%			
	Differential Phase	< 1°			
	Moiré	0			
	Y/C Delay	< 10 ns			
	Tilt (Horizontal & Vertical)	< 1%			
	Low Frequency Linearity	< 2% (including quantization noise)			
	K-factor (2T pulse)	< 1%			
	Sampling Frequency	48 kHz			
	Quantization	20 bits/sample			
	Frequency Response	20 Hz-20KHz ^{+0.5} / _{-1.0} dB			
Dynamic Range	> 105 dB (at 1 kHz, emphasis ON)				
Distortion	< 0.02% (at 1 kHz, emphasis ON, operating level)				
Crosstalk	< -95 dB (at 1 kHz, between any two channels)				
Wow and Flutter	Below measurable limit				
Emphasis	50/15 μs				
Frequency Response	100 Hz-12 kHz ± 3 dB				
S/N Ratio	Better than 50 dB (at 3% distortion)				
Distortion	< 3% (at 1 kHz, operating level)				
Wow and Flutter	< 0.2% (0.5 Hz-200 Hz, NAB unweighted)	< 0.2% (0.5 Hz-200 Hz CCIR weighted)	< 0.2% (0.5 Hz-200 Hz, NAB unweighted)	< 0.2% (0.5 Hz-200 Hz, CCIR weighted)	

DVR-18 (NTSC) / 18P (PAL)

Composite Digital VTR

- Conforms to the NTSC D-2/PAL D-2 format
- High quality video with a bandwidth of 6 MHz (NTSC)/6.5 MHz (PAL) and a signal-to-noise ratio of 54 dB
- Powerful error correction/concealment
- Four digital audio channels
- Digital audio interface conforms to the AES/EBU format
- Compact and lightweight: 8 units high and 127 lb. 14 oz. (58 kg.)
- Longer recording/playback time using L-size (max. 208 min.), M-size (max. 94. min) and S-size (max. 32 min.) cassettes
- Broadcast quality pictures provided within the Dynamic Tracking™ (DT) range of -1 to 3 times normal playback speed
- Recognizable color pictures at shuttle speeds up to ±100 times normal speed
- Precise level control of the high quality video and audio signals in the digital domain
- Analog composite video and analog audio ports allow easy integration into the current systems
- Digital video interface
- All of the information for operation provided via the large EL display (640 x 200 dots)
- Easy operation using 12 menu keys and 12 function keys
- Easy serviceability: Most of the circuitry placed on plug-in type boards; A self-diagnostics system
- Built-in editing facility
- Three RS-422 serial communication ports and one RS-232C port available
- Audio program play offers ±15% normal speed sound (option)
- Serial video/audio interface capability (option)

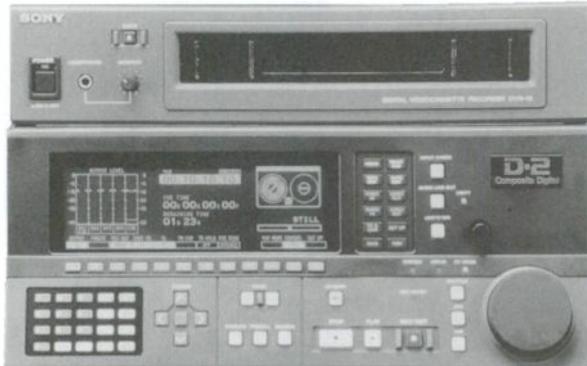


Supplied Accessories:

- BKDV-101 Control Panel
- EX-138/EX-185/EX-241 Extension Board
- Rack Mount Fittings
- Connector Plug (50-pin)
- AC Power Cord
- Plug Holder
- Operation and Maintenance Manual

Optional Accessories:

- BKDV-105/106 Serial Interface Board
- BKDV-110/111 Audio Program Play Board
- RMM-18DV Rack Slide Kit
- VCD-2D/5D/10D/30D Digital Video Cable
- ECD-3C/10C/30C Digital Audio Cable
- RCC-5G/10G/30G 9-pin Remote Control Cable
- SMK-0032 IEEE-488 Cable
- D2S-6M/12M/22M/32M Sony Digital Video: (S Cassette)
- D2M-6M/12M/22M/34M/64M/94M Sony Digital Video: (M-Cassette)
- D2L-126M/156M/188M/208M Sony Digital Video: (L-Cassette)
- DCS-12CL/DCM-12CL Cleaning Cassette



DVR-10 (NTSC) / 10P (PAL)

Composite Digital VTR

- Conforms to the NTSC D-2/PAL D-2 format
- High quality video with a bandwidth of 6 MHz (NTSC/6.5 MHz (PAL) and a single-to-noise ratio of 54 dB
- Powerful error correction/concealment
- Four digital audio channel
- Digital audio interface conforms to the AES/EBU format
- Compact and lightweight: 6 units high and 103 lb. 10 oz. (47 kg.)
- Both M-size (max. 94 min.) and S-size (max. 32 min.) cassettes are available
- Broadcast quality pictures provided within the Dynamic Tracking™ (DT) range of -1 to +3 times normal playback speed
- Precise level control of the high quality video and audio signals in the digital domain
- Analog composite video and analog audio ports allow easy integration into the current systems
- Digital video interface
- All of the information for operation provided via the large EL display (640 x 200 dots)
- Easy operation using 12 menu keys and 12 function keys
- Easy serviceability: Most of the circuitry placed on plug-in type boards; A self-diagnostics system
- Built-in editing capability
- Three RS-422 serial communication ports and one RS-232C port available

Supplied Accessories:

- BKDV-101 Control Panel
- EX-138/EX-185/EX-199 Extension Board
- Rack Mount Fittings
- Connector Plug (50-pin)
- AC Power Cord
- Plug Holder
- Operation and Maintenance Manual

Optional Accessories:

- RMM-18DV Rack Slide Kit
- VCD-2D/5D/10D/30D Digital Video Cable
- ECD-3C/10C/30C Digital Audio Cable
- RCC-5G/10G/30G 9-pin Remote Control Cable
- SMK-0032 IEEE-488 Cable
- D2S-6M/12M/22M/32M Sony Digital Video: (S-Cassette)
- D2M-6M/12M/22M/34M/64M/94M Sony Digital Video (M-Cassette)
- DCS-12CL/DCM-12CL Cleaning Cassette

DVR-2 (NTSC) / 2P (PAL)

Portable Composite Digital VTR

- Conforms to the NTSC D-2/PAL D-2 format
- High quality video with a bandwidth of 6 MHz (NTSC)/6.5 MHz (PAL) and a signal-to-noise ratio of 54 dB
- Powerful error correction/concealment
- Four digital audio channels
- Broadcast quality playback pictures offered without the need for external equipment
- DC operation with two BP-90A batteries
- Compact and lightweight: 24,000cm³ (0.85 ft.³) and 26 lb. 7 oz. (12 kg.)
- Both M-size (max. 94 min.) and S-size (max. 32 min.) cassettes are available
- Front access design
- Two LCD displays: Main display: Timer, time code, UB, audio level, video level, error rate, SCH, battery capacity, remaining tape amount; Sub display: Menus for system control/servo setup
- Video/audio confidence playback
- Fast forward and rewind modes at speeds up to ± 20 times normal speed
- When the Visible key is pushed, confidence pictures and fast forward/rewind pictures appear in color in each mode
- Recognizable color picture search at speeds ± 5 times normal playback speed
- Back space editing function
- 26-pin camera interface to allow connection to any Sony BVP camera
- External microphone power supply (DC + 48V)



Supplied Accessories:

Extension Boards
Operation and Maintenance Manual

Optional Accessories:

BVR-2 Remote Controller
Battery Charger 410 Series
BP-90A NiCd Rechargeable Battery
AC Adaptor AC-500 Series
D2S-6M/12M/22M/32M Sony Digital Video: (S-Cassette)
D2M-6M/12M/22M/34M/64M/94M Sony Digital Video: (M-Cassette)
DCS-12CL/DCM-12CL Cleaning Cassette

Specifications for Digital Videocassette Recorders

MODEL		DVR-18	DVR-18P	DVR-10	DVR-10P	DVR-2	DVR-2P	
SPECIFICATIONS								
General	Power Requirements	AC-100V-120V ± 10% /220V-240V ± 10%, 50/60 Hz		AC-100V-120V ± 10% /220V-240V ± 10%, 50/60 Hz		DC-12V		
	Power Consumption	Max. 550W		Max. 450W		Max. 65W		
	Weight	127 lb. 14 oz. (58 kg.) (approx.)		103 lb. 10 oz. (47 kg.) (approx.)		35 lb. 4 oz. (16 kg.) (approx.) including batteries, tape		
	Dimensions (WHD) (Approx.)	436 X 370 X 656mm (17 ¹ / ₄ " x 14 ⁵ / ₈ " x 25 ⁷ / ₈ ")		436 x 282 x 656mm 17 ¹ / ₄ " x 11 ¹ / ₈ " x 25 ⁷ / ₈ ")		358 x 165 x 425mm 14 ¹ / ₈ " x 6 ¹ / ₂ " x 16 ³ / ₄ ")		
	Recording Format	NTSC D-2 format	PAL D-2 format	NTSC D-2 format	PAL D-2 format	NTSC D-2 format	PAL D-2 format	
	Tracks	6 tracks/1 field	8 tracks/1 field	6 tracks/1 field	8 tracks/1 field	6 tracks/1 field	8 tracks/1 field	
	Digital Video and 4 Channel Audio							
	Analog Cue	1 track	1 track	1 track	1 track	1 track	1 track	
	Time Code	1 track	1 track	1 track	1 track	1 track	1 track	
	CTL	1 track	1 track	1 track	1 track	1 track	1 track	
	Tape Speed	131.7mm/sec/		131.7mm/sec		131.7mm/sec		
	Writing Speed	27.387m/sec.	30.4m/sec.	27.387m/sec.	30.4m/sec.	27.387m/sec.	30.4m/sec.	
	Cassette Type	D-2 cassette (S, M, or L type)		D-2 cassette (S or M type)		D-2 cassette (S or M type)		
Recommended Tape	Sony metal (1500 Oe) tape or equivalent							
Recording/Playback Time	Max. 208 min. with D2L-208M Max. 94 mi. with D2M-94M Max. 32 min. with D2S-32M		Max. 94 min. with D2M-94M Max. 32 min. with D2S-32M		Max. 94 min. with D2M-94M Max. 32 min. with D2S-32M			
Fast Forward/Rewind Time	Within 160 (NTSC)/165 (PAL) sec. with D2L-208M Within 90 sec. with D2M-94M Within 50 sec. with D2S-32M		Within 165 sec. with D2M-94M Within 70 sec. with D2S-32M		Within 360 sec. with D2M-94M Within 150 sec. with D2S-32M			
Video	Sampling Frequency	14.3 MHz	17.7 MHz	14.3 MHz	17.7 MHz	14.3 MHz	17.7 MHz	
	Quantization	8 bits/I, Q axis sampling	8 bits/ ± 135° sampling	8 bits/I, Q axis sampling	8 bits/ ± 135° sampling	8 bits/I, Q axis sampling	8 bits/ ± 135° sampling	
	Bandwidth	0-5.5 MHz ± 0.5 dB, 6 MHz +0 -3dB	0-6.0 MHz ± 0.5 dB, 6.5 MHz +0 -3dB	0-5.5 MHz ± 0.5 dB, 6 MHz +0 -3dB	0-6.0 MHz ± 0.5 dB, 6.5 MHz +0 -3dB	0-5.5 MHz ± 0.5 dB, 6 MHz +0 -3dB	0-6.0 MHz ± 0.5 dB, 6.5 MHz +0 -3dB	
	S/N Ratio	54 dB						
	Differential Gain	< 2% (NSTC)/3% (PAL)						
	Differential Phase	< 1° (NSTC)/1.5° (PAL)						
	Moiré	0						
	Y/C Delay	< 15 ns	< 20 ns	< 15 ns	< 20 ns	< 15 ns	< 20 ns	
	Tilt (Horizontal and Vertical)	< 1%						
	Low Frequency Linearity	< 2% (including quantization noise)						
	K-factor (2T pulse)	< 1%						
	AUDIO	Sampling Frequency	48 kHz					
		Quantization	16 bits/sample					
Frequency Response		20 Hz-20 kHz +0.5 -1.0dB						
Dynamic Range		> 90 dB (at 1 kHz emphasis ON)						
Distortion		< 0.05% (at 1 kHz, emphasis ON, operating level)						
Crosstalk		< -80 dB (at 1 kHz, between any two channels)						
Wow and Flutter		Below measurable limit						
Emphasis		50/15 μs						
Frequency Response		100 Hz-12 kHz ± 3 dB						
Cue	S/N Ratio	Better than 44 dB (at 3% distortion)						
	Distortion	< 3% (at 1 kHz, operating level)						
	Wow and Flutter	< 0.2% (0.5 Hz-200 Hz, NAB unweighted)	< 0.2% (CCIR weighted)	< 0.2% (0.5 Hz-200 Hz, NAB unweighted)	< 0.2% (CCIR weighted)	< 0.2% (0.5 Hz-200 Hz, NAB unweighted)	< 0.2% (CCIR weighted)	

DVR-P28

Composite Digital VTR Player

- Conforms to the NTSC D-2 format
- Direct access to operational functions and easy mode settings via the scroll menu with the BKDV-202: All of the information for operation provided via the large FL display (256 x 64 dots)
- Highly responsive tape handling in the jog and shuttle operations with newly developed Ultrasonic (US) guides
- Three sizes of cassettes are available L-size (max. 208 min.), M-size (max. 94 min.) and S-size (max. 32 min.)
- Digital Jog Sound allowing for full recovery of digital audio at slow speed and speedy and precise audio editing point decision
- Recognizable color pictures at shuttle speeds up to ± 100 times normal speed
- Broadcast quality pictures provided within the Dynamic Tracking™ (DT) range of -1 to $+3$ times normal playback speed
- Channel condition (error rate) monitoring
- Error Message Logger
- 20 bit/sample audio A/D and D/A converters achieving a wide dynamic range of 105 dB
- 10 bit/sample video A/D and D/A converters offering high quality picture reproduction for analog signal input/output
- Built-in test signal generators
- Multi-loop Test for precise video parameter set-up to compensate for signal degradation in analog video system
- Easy serviceability: Most of the circuitry placed on plug-in type boards; A self-diagnostics system
- Audio program play offers $\pm 15\%$ normal speed sound (option)
- System Flexibility: Serial digital video/audio interface with the optional BKDV-103 Serial Interface Board; Parallel digital video I/O ports; Analog composite video and audio I/O ports allow easy integration into a conventional analog system
- Three RS-422A and one RS-232C serial communication ports

Supplied Accessories:

Control Panel Connection Cable
 AC Power Cord
 Rack Mount Angle (8U)
 Connector Plug (50-pin)
 D-sub Connector Shell
 Plug Holder
 Operation and Maintenance Manual

Optional Accessories:

BKDV-202 Control Panel
 BKDV-108 Digital Video Controller
 BVR-2 Remote Controller
 DTR-3000 Dynamic Motion Controller
 DFX-2101 Digital Rate Converter (D-2-D-1 format)
 DDU-2100 Digital Audio Delay Unit
 DFX-2400 Digital Audio Sampling Rate Converter
 BVX-D10 Digital Color Corrector
 PFV-D200/D100/D50 Digital Video Interface Unit
 DMIF-2000 Digital Monitor Interface
 VCD-2D/5D/10D/30D Digital Video Cable: D-sub 25-pin (2m, 5m, 10m, 30m)



Optional Accessories (cont.):

ECD-3C/10C/30C Digital Audio Cable: XLR 3-pin (3m, 10m, 30m)
 RCC-5G/10G/30G Remote Control Cable: D-sub 9-pin (5m, 10m, 30m)
 SMK-0032, IEEE-488 Cable: 24-pin (2m)
 D2S-6M/12M/22M/32M S-size Cassette (6 min., 12 min., 22 min., 32 min.)
 D2M-6M/12M/22M/34M/64M/94M M-size Cassette (6 min., 12 min., 22 min., 34 min., 64 min., 94 min.)
 D2L-126M/156M/188M/208M L-size Cassette (126 min., 156 min., 188 min., 208 min.)
 BKDV-103 Serial Interface Board
 BKDV-110 Audio Program Play Board
 RMM-18DV Rack Slide Kit
 DCS-12CL/DCM-12CL Cleaning Cassette (12 min.)

Composite Digital

Specifications (DVR-P28, cont.)

General

Power Requirements:	AC-100V-120V \pm 10%, 50/60 Hz AC-220V-240V \pm 10%, 50/60 Hz
Power Consumption:	Max. 600 VA
Operating Temperature:	5°C to 40°C (41°F to 104°F)
Humidity:	10%–90% (non-condensing)
Weight:	132 lb. 4 oz. (60 kg.)
Dimensions (WHD):	436 x 370 x 656mm (17 $\frac{1}{4}$ " x 14 $\frac{5}{8}$ " x 25 $\frac{7}{8}$ ") (approx.) (including handles and feet)
Format:	SMPTE D-2 format
Tracks/Channels:	Digital video and audio (4 channels): 6 tracks/1 field Analog audio (cue): 1 track Time code: 1 track CTL: 1 track
Tape Speed:	131.7 mm/sec. (Normal speed)
Reading Speed	
(Relative Speed):	27.387 m/sec. (Normal speed)
Playback Time:	Max. 208 min. with L cassette Max. 94 min. with M cassette Max 32 min. with S cassette
Recommended Tape:	Sony metal (1500 Oe) tape or equivalent
Servo Lock Time:	Within 0.5 sec. (with color frame capstan servo lock mode from stand by mode)
Tape Timer Accuracy:	\pm 2 frames (with continuous CTL signal)
Error Correction:	Correction and concealment (Reed-solomon code)
Shuttle Speed	
(with color pictures):	Max. \pm 100 times normal playback speed
Fast Forward/Rewind Time:	Within 40 sec. (with 32 min. tape) Within 75 sec. (with 94 min. tape) Within 150 sec. (with 208 min. tape)
Load/Unload Time:	Within 5 sec. (with S or M cassette) Within 5.5 sec. (with L cassette)

Video

Sampling Frequency:	14.3 MHz
Quantization:	8 bits/1.Q axis sampling
Channel Coding:	Miller Square
Video Bandwidth:	0 MHz–5.5 MHz \pm 0.3 dB, 6 MHz +0 dB/–2 dB
S/N Ratio:	54 dB
Differential Gain:	< 2%
Differential Phase:	< 1°
Moiré:	0
Y/C Delay:	< 10 ns
Tilt (HV):	< 1%
Low Frequency Linearity:	< 2%
Transient Response	
"K" factor (2T pulse):	< 1%
Output SCH Phase:	Based upon RS-170A
Output Adjustable Range:	Video Gain: $-\infty$ to +3 dB (factory set) or \pm 3 dB Chroma Gain: $-\infty$ to +3 dB (factory set) or \pm 3 dB
Hue:	\pm 15°
Setup:	\pm 15 IRE
Video Phase:	\pm 560 ns (280 ns/step)
Sync Phase:	+3 μ s to –1 μ s
SC Phase:	360° (0.35°/step)

Digital Audio

(DA 1 to DA 4 channels)

Sampling Frequency:	48 kHz (synchronized to video)
Quantization:	20 bits/sample
Frequency Response:	20 Hz–20 kHz \pm 0.5 dB/–1.0 dB
Dynamic Range:	> 105 dB (at 1 kHz, emphasis ON)
Distortion:	< 0.02% (at 1 kHz, emphasis ON, operating level)
Cross Talk:	< –95 dB (at 1 kHz between any two channels)
Wow and Flutter:	Below measurable limit
Head Room:	20 dB
Operating Level:	8, 4, 0, –20 dBs adjustable (LINE OUT)
Deemphasis:	T1 = 50 μ s/T2 = 15 μ s (ON/OFF auto)
Output Gain Range:	$-\infty$ to +12 dB

Analog Audio (Cue track)

Frequency Response:	100 Hz–12 kHz \pm 3 dB
S/N Ratio:	> 50 dB (at 3% distortion)
Distortion:	< 3% (at 1 kHz, operating level)
Wow and Flutter:	< 0.2% (0.5 Hz–200 Hz, NAB unweighted)
Operating Level:	8, 4, 0, –20 dBs adjustable (LINE OUT)
Output Gain Range:	$-\infty$ to +6 dB

Input/Output Signal

Video Input

Digital:	Test: ECL balanced, D-sub 25-pin SMPTE T14.224/082A format
Reference:	Black burst signal, 0.3Vp-p, 75 Ω , BNC

Video Output

Analog (CH 1, 2):	1.0Vp-p, 75 Ω , BNC
(CH 3):	1.0Vp-p, 75 Ω , BNC
	Composite/non-composite switchable
Character:	1.0Vp-p, 75 Ω , BNC
Digital:	Parallel Interface: ECL balanced, D-sub 25-pin SMPTE T14.224/082A format
Serial Interface:	0.8Vp-p, 75 Ω , BNC (option)
SMPTE T14.224 x 2131D	
Monitor:	1.0Vp-p, 75 Ω , BNC

Audio Output

Analog (CH 1, 2, 3, 4):	Max. 28 dBs (Normal 8 dBs), low impedance, XLR 3-pin
Digital (CH1, 2, 3, 4):	AES/EBU format, XLR 3-pin
(Serial):	0.8Vp-p, 75 Ω , BNC (option) SMPTE T14.224 x 2131D (video and audio)
Cue:	Max. 18 dBs (Normal 8 dBs), low impedance, XLR 3-pin
	150 Ω /600 Ω /high impedance switchable
Monitor L/R:	Max. 28 dBs (Normal 8 dBs), low impedance, XLR 3-pin
Headphones:	Variable level control by VR

General

CF Pulse In/Out:	TTL level, BNC
WFM Out:	1.0Vp-p, 75 Ω , BNC
Video/CTL/RF ENV A, C and/or ENV B, D/LTC (selectable)	

Time Code

Output:	2.4Vp-p, low impedance, balanced, BNC
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Remote

Remote-In:	For 9-pin RS-422A interface, D-sub 9-pin
Remote-Out:	For 9-pin RS-422A interface, D-sub 9-pin
Remote-In/Out:	For 9-pin RS-422A interface, D-sub 9-pin
RS-232C:	For RS-232C interface, D-sub 25-pin
GP-IB:	For GP-IB (IEEE-488) interface
Parallel I/O:	For parallel communication, D-sub 50-pin
V/A Control:	For video remote control using BKDV-108, D-sub 15-pin
Control Panel:	For BKDV-202 (can be used as alternative to the front panel connector for control panel connection), 8-pin
Remote-In:	For BVR-2 remote controller, D-sub 15-pin 0 dBs = 0.775 Vrms

DVR-P20

Composite Digital VTR Player

- Conforms to the NTSC D-2 format
- Direct access to operational functions and easy mode settings via the scroll menu with the BKDV-202: All of the information for operation provided via the large FL display (256 x 64 dots)
- Highly responsive tape handling in the jog and shuttle operations with newly developed Ultrasonic (US) guides
- Both M-size (max. 94 min.) and S-size (max. 32 min.) cassettes are available
- Digital Jog Sound allowing for full recovery of digital audio at slow speed and speedy and precise audio editing point decision
- Recognizable color pictures at shuttle speeds up to ± 100 times normal speed
- Broadcast quality pictures provided within the Dynamic Tracking™ (DT) range of -1 to $+3$ times normal playback speed
- Automatic Equalization allowing adjustment-free operation
- Channel condition (error rate) monitoring
- Error Message Logger
- 20 bit/sample audio A/D and D/A converters achieving a wide dynamic range of 105 dB
- 10 bit/sample video A/D and D/A converters offering high quality picture reproduction for analog signal input/output
- Built-in test signal generators
- Multi-loop Test for precise analog video parameter set-up to compensate for signal degradation in analog video system
- Easy serviceability: Most of the circuitry placed on plug-in type boards; A self-diagnostics system
- System Flexibility: Serial digital video/audio interface with the optional BKDV-203 Serial Interface Board; Parallel digital video I/O ports; Analog composite video and audio I/O ports allow easy integration into a conventional analog system
- Three RS-422A and one RS-232C serial communication ports

Supplied Accessories:

Control Panel Connection Cable

AC Power Cord

Rack Mount Angle (6U)

Connector Plug (50-pin)

D-sub Connector Shell

Plug Holder

Operation and Maintenance Manual

Optional Accessories:

BKDV-202 Control Panel

BKDV-108 Digital Video Controller

BVR-2 Remote Controller

DTR-3000 Dynamic Motion Controller

DFX-2101 Digital Rate Converter (D-2 to D-1 format)

DDU-2100 Digital Audio Delay Unit

DFX-2400 Digital Audio Sampling Rate Converter

BVX-D10 Digital Color Corrector

PFV-D200/D100/D50 Digital Video Interface Unit

DMIF-2000 Digital Monitor Interface

VCD-2D/5D/10D/30D Digital Video Cable: D-sub 25-pin (2m, 5m, 10m, 30m)

ECD-3C/10C/30C Digital Audio Cable: XLR 3-pin (3m, 10m, 30m)

RCC-5G/10G/30G Remote Control Cable: D-sub 9-pin (5m, 10m, 30m)

SMK-0032, IEEE-488 Cable: 24-pin (2m)

D2S-6M/12M/22M/32M S-size Cassette (6 min., 12 min., 22 min., 32 min.)

BKDV-203 Serial Interface Board for the DVR-P20 and DVR-20 (output only)

RMM-18DV Rack Slide Kit

DCS-12CL/DCM-12CL Cleaning Cassette (12 min.)



Composite Digital

Specifications (DVR-P20, cont.)

General

Power Requirements:	AC-100V-120V \pm 10%, 50/60 Hz AC-220V-240V \pm 10%, 50/60 Hz
Power Consumption:	Max. 600 VA
Operating Temperature:	5°C to 40°C (41°F to 104°F)
Humidity:	10%–90% (non-condensing)
Weight:	110 lb. 4 oz. (50 kg.)
Dimensions (WHD):	436 x 282 x 656mm (17 $\frac{1}{4}$ " x 11 $\frac{1}{8}$ " x 25 $\frac{7}{8}$ ") (approx.) (including handles and feet)
Format:	SMPTE D-2 format
Tracks/Channels:	Digital video and audio (4 channels): 6 tracks/1 field Analog audio (cue): 1 track Time code: 1 track CTL: 1 track
Tape Speed:	131.7 mm/sec. (Normal speed)
Reading Speed	
(Relative Speed):	27.387 m/sec. (Normal speed)
Playback Time:	Max. 94 min. with M cassette Max. 32 min. with S cassette
Recommended Tape:	Sony metal (1500 Oe) tape or equivalent
Servo Lock Time:	Within 0.5 sec. (with color frame capstan servo lock mode from stand by mode)
Tape Timer Accuracy:	\pm 2 frames (with continuous CTL signal)
Error Correction:	Correction and concealment (Reed-solomon code)
Shuttle Speed	
(with color pictures):	Max. \pm 100 times normal playback speed
Fast Forward/Rewind Time:	Within 40 sec. (with 32 min. tape) Within 75 sec. (with 94 min. tape)
Load/Unload Time:	Within 5 sec.

Video

Sampling Frequency:	14.3 MHz
Quantization:	8 bits/I.Q axis sampling
Channel Coding:	Miller Square
Video Bandwidth:	0 MHz–5.5 MHz \pm 0.3 dB, 6 MHz +0 dB/–2 dB
S/N Ratio:	54 dB
Differential Gain:	< 2%
Differential Phase:	< 1°
Moiré:	0
Y/C Delay:	< 10 ns
Tilt (HV):	< 1%
Low Frequency Linearity:	< 2%
Transient Response	
"K" factor (2T pulse):	< 1%
Output SCH Phase:	Based upon RS-170A
Output Adjustable Range:	Video Gain: $-\infty$ to +3 dB (factory set) or \pm 3 dB Chroma Gain: $-\infty$ to +3 dB (factory set) or \pm 3 dB
Hue:	\pm 15°
Setup:	\pm 15 IRE
Video Phase:	\pm 560 ns (280 ns/step)
Sync Phase:	+3 to –1 μ s
SC Phase:	360° (0.35°/step)

Digital Audio

(DA 1 to DA 4 channels)

Sampling Frequency:	48 kHz (synchronized to video)
Quantization:	20 bits/sample
Frequency Response:	20 Hz–20 kHz \pm 0.5 dB/–1.0 dB
Dynamic Range:	> 105 dB (at 1 kHz, emphasis ON)
Distortion:	< 0.02% (at 1 kHz, emphasis ON, operating level)
Cross Talk:	< –95 dB (at 1 kHz between any two channels)
Wow and Flutter:	Below measurable limit
Head Room:	20 dB
Operating Level:	+8, +4, 0, –20 dBs adjustable (LINE OUT)
Deemphasis:	T1 = 50 μ s/T2 = 15 μ s (ON/OFF auto)
Output Gain Range:	$-\infty$ to +12 dB

Analog Audio (Cue track):

Frequency Response:	100 Hz–12 kHz \pm 3 dB
S/N Ratio:	> 50 dB (at 3% distortion)
Distortion:	< 3% (at 1 kHz, operating level)
Wow and Flutter:	< 0.2% (0.5 Hz–200 Hz, NAB unweighted)
Operating Level:	+8, +4, 0, –20 dBs adjustable (LINE OUT)
Output Gain Range:	$-\infty$ to +6 dB

Input/Output Signal

Video Input	
Digital:	Test: ECL balanced, D-sub 25-pin SMPTE T14.224/082A format Reference: Black burst signal, 0.3Vp-p, 75 Ω BNC
Video Output	
Analog (CH 1, 2):	1.0Vp-p, 75 Ω BNC
(CH 3):	1.0Vp-p, 75 Ω BNC Composite/non-composite switchable
Character:	1.0Vp-p, 75 Ω , BNC
Digital:	Parallel interface: ECL balanced, D-sub 25-pin SMPTE T14.224/082A format Serial interface: 0.8Vp-p, 75 Ω , BNC (option) SMPTE T14.224 x 2131D
Monitor:	1.0Vp-p, 75 Ω , BNC
Audio Output	
Analog (CH 1, 2, 3, 4):	Max. +28 dBs (Normal +8 dBs), low impedance, XLR 3-pin
Digital (CH 1, 2, 3, 4):	AES/EBU format, XLR 3-pin
(Serial):	0.8Vp-p, 75 Ω , BNC (option) SMPTE T14.224 x 2131D (video and audio)
Cue:	Max. +18 dBs (Normal +8 dBs), low impedance, XLR 3-pin 150 Ω /600 Ω /high impedance switchable
Monitor L/R:	Max. +28 dBs (Normal +8 dBs) low impedance, XLR 3-pin
Headphones:	Variable level control by VR
General	
CF Pulse In/Out:	TTL level, BNC
WFM Out:	1.0Vp-p, 75 Ω BNC Video/CTL/RF ENV A, C and/or ENV B, D/LTC (selectable)
Time Code	
Output:	2.4Vp-p, low impedance, balanced, BNC
Remote	
Remote-In:	For 9-pin RS-422A interface, D-sub 9-pin
Remote-Out:	For 9-pin RS-422A interface, D-sub 9-pin
Remote-In/Out:	For 9-pin RS-422A interface, D-sub 9-pin
RS-232C:	For RS-232C interface, D-sub 25-pin
GP-IB:	For GP-IB (IEEE-488) interface
Parallel I/O:	For parallel communication, D-sub 50-pin
V/A Control:	For video remote control using BKDV-108, D-sub 15-pin
Control Panel:	For BKDV-202 (can be used as alternative to the front panel connector for control panel connection), 8-pin
Remote-In:	For BVR-2 remote controller, D-sub 15-pin 0 dBs = 0.775 Vrms

BKDV-108

Digital Video Controller

■ Up to four D-2 VTRs can be connected via RS-422 interface port ■ Precise control of video output parameters: Video level, chrominance gain, black Level (setup level), hue (burst/chroma phase), video phase, sync phase, SC phase ■ Input video gain can be controlled ■ Unity (fix) and Variable modes for each parameter ■ Video level and SC-H phase of the incoming video are displayed with LED bargraphs ■ Fix, adjust, and free modes are available for input CF mode ■ A total of 99 settings can be stored and retrieved



Specifications

Power Requirements: AC-100V-120V $\pm 10\%$ (BKDV-108)
AC-220V-240V $\pm 10\%$ (BKDV-109)
Power Consumption: 10W
Dimensions (WHD): 424 x 43.6 x 110mm
(16 $\frac{3}{4}$ " x 1 $\frac{3}{4}$ " x 4 $\frac{3}{8}$ ")
Weight: 4 lb. 6 oz. (2 kg.)

BKDV-105/106

Serial Interface Board for the DVR-28/28P/18/
18P

BKDV-205/206

Serial Interface Board for the DVR-20/20P

BKDV-110/111

Audio Program Play Board for the DVR-28/
28P/18/18P

BKDV-201

Control Panel for the DVR-28/20/18/10 series



Composite Digital

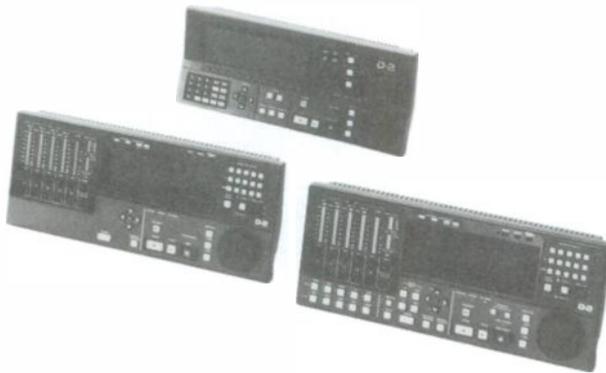


BKDV-200

Control Panel for the DVR-28/20/18/10 series

BKDV-211

Control Panel for the DVR-20/28/10/18



BKDV-101

Control Panel for the DVR-28/20/18/10 series

DFX-C2

Component Adaptor

- With the adoption of Sony's newly developed coefficient recording technology with effective data handling, the DFX-C2 enables a Sony DVR Series D-2 VTR to record a component digital signal onto a D-2 format tape
- Using a large D-2 cassette, the DFX-C2 achieves a long recording time of 208 minutes for a component digital recording
- Designed to be used exclusively with a Sony DVR Series D-2 VTR. The VTR requires a minor modification with an optional BKDV-C2 Update Kit. Even after installing this kit, conventional D-2 format recording is still possible
- Supplied with SDI (Serial Digital Interface) which allows simple connection with SDI equipped devices, including Sony DVR Series D-1 VTRs and DVS Series digital switchers
- With an optional BKDF-525 Component Analog Interface board installed, analog component signal can be directly input to the DFX-C2
- By installing an optional BKDF-21 Digital Rate Converter board, the playback signal of standard D-2 format tape can be decoded within the DFX-C2 and output through common connectors of both analog component and SDI. This allows significant flexibility to directly use existing -format archives in a component system environment
- Allows for Dynamic Tracking™ playback of the component digital signal, which provides a broadcast quality picture within the range of -1 to +3 times normal playback speed
- Parameters of a video signal including Video Gain, Chroma Gain, Black level, Chroma Phase, Sync Phase, SC Phase can be manually adjusted. These parameters can also be controlled from an optional BVR-50 Remote Controller via a video control port
- Equipped with a built-in signal generator (Color bar and Black)
- Provides monitoring of the luminance (B/W) signal with the VTR character display superimposed. With the BKDF-525 installed, a composite signal is alternatively output through a common connector and additionally, analog component signals become available.

Supplied Accessories:

AC Power Cord
 Rack Mount Angle (3U) (1 set)
 Operation and Maintenance Manual (1 set)

Specifications

General

Power Requirements: AC 90 to 132V, 50 Hz/60 Hz
 AC 198 to 264V, 50 Hz/60 Hz
 Power Consumption: 120W
 Weight: 33 lb. (15kg.)
 Dimensions (WHD): 424 x 132 x 450mm
 (16¾" x 5¼" x 17¾")

Video

Sampling Frequency: Y: 13.5 MHz
 B-Y/R-Y: 6.75 MHz
 Shuffling Size: 1 Field
 S/N Ratio: 60 dB (Unweighted)
 Bandwidth: Y: 0 to 5.75 MHz ±0.5 dB/6 MHz -3 dB
 R-Y/B-Y:
 0 to 2.75 MHz ±0.5 dB/3 MHz -3 dB



Specifications—continued

Operating Level: Y: 1.0Vp-p ±0.01
 R-Y/B-Y: 0.7Vp-p ±0.01
 K Factor: < 1%
 Skew: < 10 ns
 Output Adjustable Range: Video level: -3 dB to +3 dB
 Chroma level: -3 dB to +3 dB
 Chroma phase: ±30°
 Black level: ±30 IRE
 Sync phase: ±½H (Coarse), 148 ns/step
 SC Phase: ±1 subcarrier (fine), 0.6 ns/step

Input/Output Video

Video Input

Digital: BNC with active through out, Serial digital interface, SMPTE 259M (270 Mb/s), 0.8Vp-p, 75Ω

Analog (option): BNC, Y: 1.0Vp-p, 75Ω
 B-Y: 0.7Vp-p, 75Ω
 R-Y: 0.7Vp-p, 75Ω

Reference: BNC with loop-through, 1.0Vp-p ±0.3V, 75Ω

Output

Digital: BNC, Serial digital interface, SMPTE 259M (270 Mb/sec.), 0.8Vp-p, 75Ω

Analog (option): BNC, Y: 1.0Vp-p, 75Ω
 B-Y: 0.7Vp-p, 75Ω
 R-Y: 0.7Vp-p, 75Ω

Monitor (option): BNC, Y: 1.0Vp-p, 75Ω
 B-Y: 0.7Vp-p, 75Ω
 R-Y: 0.7Vp-p, 75Ω

Character: BNC, Y: 1.0Vp-p, 75Ω
 Composite (option): 1.0Vp-p, 75Ω

VTR Interface

Input

Video: D-sub 25-pin, Parallel Digital Interface, SMPTE 244M, ECL balanced
 Audio: XLR 3-pin, AES/EBU format, CH. 1/2, 3/4

Output

Video: D-sub 25-pin, Parallel Digital Interface, SMPTE 244M, ECL balanced
 Audio: XLR 3-pin, AES/EBU format, CH. 1/2, 3/4

Remote

System Control: AMP 24-pin (RS-422A format)
 Video Control: D-sub 15-pin

BVH-3100

1-inch VTR

- Non-sync head version of BVH-3000
- New air threading technology limits tape handling to a minimum for ease of operation and improved tape protection
- TBC function supplied as a standard to operate with an optional TBC processor (TBC processor is necessary for VTR operation)
- Selectable TBC processor: Standard TBC Processor or High Quality TBC Processor
- High Quality TBC Processor provides a steady DT playback picture
- Separate SC-H phase meters for tape SC-H phase and reference signals provided
- Field Freeze function
- New self-aligning DT system for Dynamic Tracking playback within the DT range of -1 to +3 times normal playback speed
- High quality audio noise reduction system (Dolby A/Dolby SR) offered by Audio Processor Board (option)
- Multicue function
- Serviceability improved with the one-board/one-function construction
- Full scale built-in editing capability
- Video/Audio confidence playback
- Versatile system interface
- Two hour recording and playback
- Self-diagnostics

Supplied Accessories:

EX-136 Extension Board
 R1-11VA Empty Reel
 37-pin D-sub Connector
 50-pin D-sub Connector
 Phone Plug Adaptor
 Key ID Label
 Overlay Sheet (Printed)
 Overlay Sheet (Blank)
 Maintenance Sheet
 Screw and Washers
 Operation and Maintenance Manual

Optional Accessories:

BKH-3001 Side Panel
 BKH-3002 Interface Board
 BKH-3010 Standard TBC Processor
 BKH-3050 High Quality TBC Processor
 BKH-3080 Audio Processor Board
 BKH-3090 Remote Controller
 R1-11VA Air Threading Take-up Reel

Specifications

GENERAL

Power Requirements: AC-100V-120V \pm 10%, 50/60 Hz
 Power Consumption: 500W (max)
 Operating Temperature: 5°C to 40°C (41°F to 104°F)
 Humidity: 10% - 90% (non-condensing)
 Weight: 147 lb. 11 oz. (67 kg.) (approx.)
 Dimensions (WHD) (including handle & foot): 570 x 762 x 572mm (22 $\frac{1}{2}$ " x 30 $\frac{1}{4}$ " x 22 $\frac{5}{8}$ ") (approx.)
 Recording Format: SMPTE TYPE-C, high band FM recording
 1 Head System:
 1 head for Video track
 Tracks:
 1 Video
 2 Audio
 1 Audio-3 tracks (time code and cue)
 1 Control
 Tape Speed: 24.4 cm/sec.
 Writing Speed (Relative): 25.59 ms
 Recording Time: 126 min. (with 11.75" reel)
 Time Base Stability: Within 3 μ s p-p
 Servo Lock Time: 2 sec. (with frame capstan servo mode from standby mode) (approx.)
 Tape Timer accuracy: \pm 1 frame (with continuous control signal)
 Fast Forward/Rewind Time (Transfer Time): Within 110 sec. (with 1 hour tape)



Side panels are optional

Specifications—continued

Recommended Tapes: Sony's 1" High Density Tape or equivalent
 Reel Size: NAB Standard (6.5" - 11.75" type)

VIDEO (TBC-output: using BKH-3010/3050 (NTSC) BKH-3020/3080 (PAL/SECAM))

Video Bandwidth: Flat to 4.2 MHz: \pm 0.5 dB
 4.5 MHz: -3 dB (TBC output)
 SN Ratio: > 49 dB (unweighted) self-recording (Demodulator output, with Sony V1-K tape) (peak-to-peak composite video to rms noise measured with a Rohde & Schwarz noise meter)
 Differential Gain: < 4% (TBC output)
 Differential Phase: < 4° (TBC output)
 "K" Factor (2T pulse): < 1% (TBC output)
 Tilt (H and V): < 1% (TBC output)
 Moire: < -40 dB (75% color bars)
 Chrominance/Luminance Delay: < 20 ns (TBC output)
 Low Frequency Linearity: Less than 2%
 Output SC-H Phase: Base upon RS-170A

AUDIO

Frequency Response: CH-1, CH-2 and CH-3
 50 Hz-15 kHz (+1.5/-3.0)dB
 200 Hz-7.5 kHz \pm 1.0 dB
 S/N Ratio: (at 1 kHz, 3% distortion level)
 CH-1, CH-2: > 56 dB
 CH-3: > 50 dB with BKH-3080 (Dolby on mode, available only on audio CH-1 and CH-2)
 CH-1, CH-2
 Dolby A on: > 67 dB (ARM weighted)
 Dolby SR on: > 80 dB (ARM weighted)
 Distortion (at 1 kHz, operating level): CH-1, CH-2 and CH-3 < 1%
 Wow & Flutter: < 0.1% rms (0.5 Hz-200 Hz NAB unweighted)
 Crosstalk (at 1 kHz): Between any two channels < -60 dB

1" Type C

BKH-3001

Side Panel for BVH-3000/3100 Series

BKH-3002

RS-232C Interface Board for BVH-3000/3100 series

BKH-3010

Standard TBC Processor for BVH-3000/3100 series

RMM-18DV

Rack Slide Kit

BKH-3050

High Quality TBC Processor for BVH-3000/3100 series

BKH-3080

Audio Processor Board for BVH-3000/3100

BKH-3090

Remote Controller for BVH-3000/3100 series

R1-11VA

Air Threading Take-up Reel for BVH-3000/3100 series

DVW-A500

Digital Betacam Editing Recorder with Analog Betacam SP Playback Capability

- **Superb picture quality**—Component digital recording provides superb picture quality and multi-generation capability, overcoming the limitations of analog recording. Digital BETACAM adopts newly developed coefficient recording technology within the signal process which has made possible the recording of component digital signals within a BETACAM size VTR and cassette tape.
- **High quality digital audio**—Provides the capability to record four channels of 20-bit digital audio signals which can be independently editable.
- **Long recording time**—new metal particle cassette tapes for Digital BETACAM VTRs have the same dimensions as current BETACAM cassettes. A large cassette provides a maximum recording time of 124 minutes, a small cassette supports up to 40 minutes of recording.
- **BETACAM SP playback capability**—This compatibility is highly beneficial for users to utilize existing tape archives while realizing many advantages of digital technology.
- **Compact and lightweight**—The same dimensions as current BETACAM SP studio VTRs
- **Library Management System™ (LMS), Betacart® and Flexicart™ Multicassette applications**—Because the dimensions are the same as current BETACAM SP VTRs and cassette tape, Digital BETACAM VTRs and tape can easily be installed in the BVC Series LMS and Flexicart Multi-cassette systems.
- **Serial Digital Interface**—Conforms to the SMPTE 259M
- **Digital Jog Sound**—Complete reproduction of four channels of digital audio is achieved within the range of -1 to $+1$ times normal playback speed even in the Jog mode.
- **High speed picture search**—Recognizable color pictures up to approx. ± 50 times normal playback speed
- **Dual dial operation**—To select Jog and Shuttle modes
- **Dynamic Tracking™ playback**—Provides broadcast quality pictures over the range of -1 to $+3$ times normal playback speed. Equipped with dedicated analog DT heads, the DVW-A500 can also provide DT playback of analog signals from BETACAM tapes within the same range
- **Program Play**—Allows video recordings to be reproduced within the range of $\pm 15\%$ normal speed in increments of 0.1%
- **Read before Write; pre-read editing capability**
- **Digital Audio Crossfade**
- **Automatic Equalizer**
- **Auto Edit Tracking**—For accurate tracking during editing.
- **Easy maintenance**—Most of the circuits are arranged on plug-in boards which allow quick and easy maintenance. Additionally, the DVW-A500 is equipped with a sophisticated diagnostic function. It also employs an automatic alignment system to adjust the RF equalizer and Servo system after rotary scanner replacement.



Digital Betacam

(DVW-A500, cont.)

Digital I/O

■ Serial digital video and audio—The DVW-A500 is equipped with SDI (Serial Digital Interface) which conforms to the SMPTE 259M. ■ Serial digital audio—The DVW-A500 is equipped with digital audio input and output ports conforming to AES/EBU format synchronizing video.

Analog I/O

■ Analog component video, four channels of analog audio, cue audio I/O ports and analog composite video output ports. Additionally, with the BKDW-505 optional Decoder Board, an analog composite video NTSC signal can be directly input.

Remote

■ RS-422A—Serial communication ports ■ RS-232C—A serial communication port ■ Parallel I/F ■ Video Control—15-pin video control port ■ Control panel—The control panel can be completely detached from the DVW-A500 and remote operation can be extended up to 10m with an optional BKDW-510/511 Control Panel Extension Kit.

Supplied Accessories:

AC Power Cord
RCC-5G 9-pin Remote Control Cable
PSW 4 x 16 Screws for Rack Mounting
Operation Manual
Installation Manual
Maintenance Manual

Optional Accessories:

BKDW-510/511 Control Panel Extension Kit
(for Component Digital VTRs)
BVR-50 Video Processor Controller
(for Component Digital VTRs)
DFX-2101 Digital Rate Converter
DFX-1201 Digital Rate Converter
DDU-2100 Digital Audio Delay Unit
BKDV-115 Serial Interface Unit
BVX-D10 Digital Color Corrector
PFV-D50/D100/D200 Digital Video Interface Unit
DAF-2000 Audio Converter Unit
DFX-2400 Digital Audio Sampling Rate Converter
BKM-2085 Digital 4:2:2 Input Kit
(for BVM-1910/1912/1915/1310/1315 Series)
DMIF-1000 Digital Monitor Interface
(for PVM-1344Q/1444QM/1944Q/2044QM)
ECD-3C/10C/30C Digital Audio Cable (3m, 10m, 30m)
RCC-5G/10G/30G Remote Control Cable D-sub 9-pin (5m, 10m, 30m)
BCT-D6/D12/D22/D32/D40 Small Digital Video Cassette
BCT-D34L/D64L/D94L/D124L Large Digital Video Cassette
BKDW-505 Analog Composite Decoder Board
BKDW-507 Audio Program Play Board
BCT-5CLN Cleaning Cassette
BKDW-509 Parallel (50P) Interface Kit
(for Component Digital VTRs)
RMM-110 Rack Mount Kit

Specifications

General

Power Requirements:	AC-90V to 265V 48 Hz - 64 Hz
Power Consumption:	DVW-A500: 260W
Operating Temperature:	5°C to 40°C (41°F to 104°F)
Storage Temperature:	-20°C to 60°C (-4°F to 140°F)
Humidity:	25% - 80% (relative humidity)
Weight:	: 75 lb (34 kg)
Dimensions (WHD):	427 x 237 x 520mm (16 ⁷ / ₈ " x 9 ³ / ₈ " x 20 ¹ / ₂ ") (including feet)
Recording Format:	Digital BETACAM
Tape Speed:	Digital BETACAM: 96.7mm/sec. BETACAM playback: 118.6mm/sec.
Digital Record/ Playback Time:	Max. 124 min. with large cassette
Analog Playback Time:	Max. 90 min. with large cassette
Recommended Tape:	Sony BCT-D6/D12/D22/D32/D40 BCT-D34L/D64L/D94L/D124L BETACAM SP cassette
Fast Forward	
Rewind Time:	< 3 min. with large cassette
Search Speed:	Still to Approx. ±50 times normal playback speed (Shuttle Mode)
Dynamic Tracking Range:	-1 to +3 times normal playback speed (Variable Mode)
Sevo Lock Time:	0.5 sec. or less (from standby on with color frame servo)
Load/Unload Time:	5 sec. or less with large cassette 4 sec. or less with small cassette

Input/Output Signal

Video

Input

Serial Digital Interface:	BNC (x1) with active through out, SMPTE 259M, 270 Mbits/sec.
Analog Component:	BNC (x1, Y/R-Y/B-Y) Y: 1.0Vp-p, 75Ω R-Y/B-Y: 0.7Vp-p, 75Ω
Analog Composite:	BNC (x1) with loop through (option) 1.0Vp-p, 75Ω (with use of optional BKDW-505)
Reference:	BNC (x1) with loop through 0.3Vp-p, 75Ω

Output

Serial Digital Interface:	BNC (x4), SMPTE 259M 270 Mbits/sec. (including 1 character out)
Analog Component:	BNC (x1, Y/R-Y/B-Y) Y: 1.0Vp-p, 75Ω R-Y/B-Y: 0.7VP-P, 75Ω
Analog Composite:	BNC (x3) 1.0Vp-p, 75Ω (including 1 character out)

Audio

Input

Digital:	XLR 3-pin (CH 1/2, 3/4) AES/EBU format stereo mode, balanced BNC (SDI, video & audio) SMPTE 259M, 270 Mbits/sec.
Analog:	XLR 3-pin (CH 1, 2, 3, 4, Cue) LOW OFF: -60 dBu, high impedance, balanced HIGH OFF: +4 dBu, high impedance, balanced HIGH ON: +4 dBm 600Ω termination, balanced

Specifications—continued

Output

Digital: XLR 3-pin (CH1/2, 3/4)
AES/EBU format stereo mode,
balanced
BNC (SDI, video & audio)
SMPTE 259M, 270 Mbits/sec.

Analog: XLR 3-pin (CH 1, 2, 3, 4, Cue)
+4 dBm at 600Ω load
low impedance, balanced

Monitor L/R: XLR 3-pin, +4 dBm at 600Ω
load, low impedance, balanced

Headphones: JM-60 stereo phone jack, -∞ to
-12 dBu at 8Ω load, unbalanced

Time Code

Input: XLR 3-pin, 0.5Vp-p to 18Vp-p, 10 kΩ,
balanced

Output: XLR 3-pin, 2.2Vp-p, low impedance,
balanced

Remote

Remote 1 in: D-sub 9-pin, RS-422A interface
Remote 1 out: D-sub 9-pin, RS-422A interface
RS-232C: D-sub 25-pin, RS-232C interface
Parallel I/O

(Remote 2) (option): D-sub 50-pin, (with BKDW-509 Parallel
(50P) Interface Kit)

Video Control: D-sub 15-pin, (for BVR-50 Remote
Controller)

Control Panel: 15-pin, (for optional BKDW-510/511
Control Panel Extension Kit)

Processor Adjustment Range

Video Level: ±3 dB/-∞ to +3 dB selectable
Chroma Level: ±3 dB/-∞ to +3 dB selectable
Setup/Level: ±30 IRE
Hue: ±30°
System Sync Phase: ±15 μs
System SC Phase: ±200 ns
Y/C Delay: ±100 ns (analog BETACAM playback
only)

Video/Audio Performance

Digital Video

Sampling Frequency: Y: 13.5 MHz
R-Y/B-Y: 6.75 MHz

Quantization: 10 bits/sample

Error Correction: Reed-Solomon code

Error Concealment: Adaptive three dimensional

Digital In/Analog Component Out

Bandwidth: Y: 0 to 5.75 MHz ±0.5 dB
R-Y/B-Y: 0 to 2.75 MHz ±0.5 dB

S/N Ratio: 62 dB or more

K-Factor (2T pulse): 1% or less

Digital In/Analog Composite Out

Bandwidth: Y: 0 to 5.5 MHz +0.5 dB/-3 dB

Differential Gain: 2% or less

Differential Phase: 2° or less

Y/C Delay: 20 ns or less

K-Factor (2T Pulse): 1% or less

Analog Component In/Analog Component Out

Input A/D Quantization: 8 bits/sample

Bandwidth: Y: 0 to 5.75 MHz ±0.7 dB
R-Y/B-Y: 0 to 2.75 MHz ±0.7 dB

S/N Ratio: 56 dB or more

K-Factor (2T Pulse): 1% or less

LF Non-Linearity: 2.5% or less

Digital Audio (DA 1 to DA 4 channels)

Sampling Frequency: 48 kHz (synchronized with video)

Quantization: 20 bits/sample

Analog Input to Output
A/D and D/A quantization: 18 bits/sample

Frequency Response: 20 Hz to 20 kHz
+0.5 dB/-1.0 dB (0 dB at 1 kHz)

Dynamic Range: > 95 dB (at 1 kHz, emphasis ON)

Distortion: < 0.05% (at 1 kHz, emphasis ON, reference
level)

Cross Talk: < -80 dB (at 1 kHz, between any two
channels)

Wow & Flutter: Below measureable level

Head Room: 20 dB

Emphasis: T1 = 50 μs, T2 = 15 μs
(ON/OFF selectable)

Analog Audio (Cue track)

Frequency Response: 100 Hz to 12 kHz ±3 dB

S/N Ratio: > 45 dB (at 3% distortion level)

Distortion: < 2% (T.H.D at 1 kHz reference level)

Wow & Flutter: < 0.2% rms

*Reference level: +4 dBm

Video/Audio Performance for BETACAM SP Playback

Video	Metal	Oxide
Bandwidth		
Y	30 Hz to 4.5 MHz +0.5 dB/-3.0 dB	30 Hz to 4.1 MHz +0.5 dB/-6.0 dB
R-Y/B-Y	30 Hz to 1.5 MHz +0.5 dB/-3.0 dB	30 Hz to 1.5 MHz +0.5 dB/-3.0 dB
S/N Ratio		
Y	51 dB or more	48 dB or more
R-Y/B-Y	48 dB or more	45 dB or more
K-Factor	2% or less	3% or less
LF Non-Linearity		
Y		3% or less
R-Y/B-Y		4% or less
Y/C Delay		20 ns or less
Audio	Metal	Oxide
AFM		
Frequency Response (at reference level)	20 Hz to 20 kHz +0.5 dB/-2.0 dB	—
S/N Ratio (at 3% distortion level)	> 85 dB	—
Distortion (T.H.D at 1 kHz reference level)	< 0.5%	—
Stereo Phase (at 20 kHz)	< 10°	—
Cross Talk (at 1 kHz reference level)	< -70 dB	—
Longitudinal		
Frequency Response (at 10 dB below reference level)	50 Hz to 15 kHz +1.0 dB/-2.0 dB	50 Hz to 15 kHz ±3.0 dB
S/N Ratio (at 3% distortion level)	> 72 dB	> 50 dB (Dolby NR OFF)
Distortion (T.H.D at 1 kHz reference level)	< 1%	< 2%
Cross Talk (at 1 kHz reference level)	< -85 dB	—
Stereo Phase (at 15 kHz)	< 20°	—
Wow & Flutter		< 0.1% rms

*Reference level: +4 dBm



DVW-A510

Digital Betacam and Betacam SP Player

■ **Superb picture quality**—Component digital recording provides superb picture quality and multi-generation capability, overcoming the limitations of analog recording. Digital BETACAM adopts newly developed coefficient recording technology within the signal process which has made possible the recording of component digital signals within a BETACAM size VTR and cassette tape. ■ **High quality digital audio**—Provides the capability to playback four channels of 20-bit digital audio signals which can be independently editable. ■ **BETACAM SP playback capability**—To play back tapes which are recorded in the current BETACAM SP (Metal/Oxide tape) format. This compatibility is highly beneficial for users to utilize existing tape archives while realizing many advantages of digital technology. ■ **Compact and lightweight**—The same dimensions as current BETACAM SP studio VTRs. ■ **Library Management System™ (LMS), Betacart® and Flexicart™ Multicassette applications**—Because the dimensions are the same as current BETACAM SP VTRs and cassette tape, Digital BETACAM VTRs and tape can easily be installed in the BVC Series LMS and Flexicart Multi-cassette systems. ■ **Serial Digital Interface**—Conforms to the SMPTE 259M. ■ **Digital Jog Sound**—Complete reproduction of four channels of digital audio is achieved within the range of -1 to $+1$ times normal playback speed even in the Jog mode. ■ **High speed picture search**—Recognizable color pictures up to approx. ± 50 times normal playback speed. ■ **Dual dial operation**—To select Jog and Shuttle modes. ■ **Dynamic Tracking™ playback**—Provides broadcast quality pictures over the range of -1 to $+3$ times normal playback speed. Equipped with dedicated analog DT heads, the DVW-A510 can also provide DT playback of analog signals from BETACAM tapes within the same range. ■ **Program Play**—Allows video recordings to be reproduced within the range of $\pm 15\%$ normal speed in increments of 0.1% ■ **Automatic Equalizer** ■ **Easy maintenance**—Most of the circuits are arranged on plug-in boards which allow quick and easy maintenance. Additionally, the DVW-A510 is equipped with a sophisticated diagnostic function. It also employs an automatic alignment system to adjust the RF equalizer and Servo system after rotary scanner replacement.

Digital I/O

■ **Serial digital video and audio**—The DVW-A510 is equipped with SDI (Serial Digital Interface) which conforms to the SMPTE 259M. ■ **Serial digital audio**—The DVW-A510 is equipped with digital audio input and output ports conforming to AES/EBU format synchronizing video.

Analog I/O

■ Analog component video, four channels of analog audio, cue audio I/O ports and analog composite video output ports.

Remote

■ RS-422A—Serial communication ports. ■ RS-232C—A serial communication port ■ Parallel I/F ■ Video control—15-pin video control port ■ Control panel—The control panel can be completely detached from the DVW-A510 and remote operation can be extended up to 10m with an optional BKDW-510/511 Control Panel Extension Kit.

Supplied Accessories:

AC Power Cord
RCC-5G 9-pin Remote Control Cable
PSW 4 x 16 Screws for Rack Mounting
Operation Manual
Installation Manual
Maintenance Manual

Optional Accessories:

BKDW-510/511 Control Panel Extension Kit
(for Component Digital VTRs)
BVR-50 Video Processor Controller
(for Component Digital VTRs)
DFX-2101 Digital Rate Converter
DFX-1201 Digital Rate Converter
DDU-2100 Digital Audio Delay Unit
BKDV-115 Serial Interface Unit
BVX-D10 Digital Color Corrector
PFV-D50/D100/D200 Digital Video Interface Unit
DAF-2000 Audio Converter Unit
DFX-2400 Digital Audio Sampling Rate Converter
BKM-2085 Digital 4:2:2 Input Kit
(for BVM-1910/1912/1915/1310/1315 Series)
DMIF-1000 Digital Monitor Interface
(for PVM-1344Q/1444QM/1944Q/2044QM)
ECD-3C/10C/30C Digital Audio Cable (3m, 10m, 30m)
RCC-5G/10G/30G Remote Control Cable D-sub 9-pin (5m, 10m, 30m)
BCT-D6/D12/D22/D32/D40 Small Digital Video Cassette
BCT-D34L/D64L/D94L/D124L Large Digital Video Cassette
BKDW-505 Analog Composite Decoder Board
BKDW-507 Audio Program Play Board
BCT-5CLN Cleaning Cassette
BKDW-509 Parallel (50P) Interface Kit
(for Component Digital VTRs)
RMM-110 Rack Mount Kit

Specifications

General

Power Requirements: AC-90V to 265V
48 Hz – 64 Hz

Power Consumption: : 220W

Operating Temperature: 5°C to 40°C (41°F to 104°F)

Storage Temperature: – 20°C to 60°C (– 4°F to 140°F)

Humidity: 25% – 80% (relative humidity)

Weight: : 70 lb. 8 oz. (32 kg)

Dimensions (WHD): 427 x 237 x 520mm
(16⁷/₈" x 9³/₈" x 20¹/₂" (including feet))

Tape Speed: Digital BETACAM: 96.7mm/sec.
BETACAM playback: 118.6mm/sec.

Playback Time: Max. 124 min. with large cassette

Analog Playback Time: Max. 90 min. with large cassette

Recommended Tape: Sony BCT-D6/D12/D22/D32/D40
BCT-D34L/D64L/D94L/D124L
BETACAM SP cassette

Fast Forward

Rewind Time: < 3 min. with large cassette

Search Speed: Still to Approx. ± 50 times normal
playback speed (Shuttle Mode)

Specifications—continued

Dynamic Tracking Range: – 1 to + 3 times normal
playback speed (Variable Mode)

Sevo Lock Time: 0.5 sec. or less (from standby on with
color frame servo)

Load/Unload Time: 5 sec. or less with large cassette
4 sec. or less with small cassette

Input/Output Signal

Video Input

Serial Digital Interface: BNC (x1) with active through out,
SMPTE 259M, 270 Mbits/sec.

Analog Component: BNC (x1, Y/R-Y/B-Y)
Y: 1.0Vp-p, 75Ω
R-Y/B-Y: 0.7Vp-p, 75Ω

Analog Composite: BNC (x1) with loop through
(option) 1.0Vp-p, 75Ω (with use of optional
BKDW-505)

Reference: BNC (x1) with loop through
0.3Vp-p, 75Ω

Output

Serial Digital interface: BNC (x4), SMPTE 259M
270 Mbits/sec. (including 1 character
out)

Analog Component: BNC (x1, Y/R-Y/B-Y)
Y: 1.0Vp-p, 75Ω
R-Y/B-Y: 0.7Vp-p, 75Ω

Analog Composite: BNC (x3) 1.0Vp-p, 75Ω
(including 1 character out)

Audio

Analog: XLR 3-pin (CH 1, 2, 3, 4, Cue)
LOW OFF: – 60 dBu, high
impedance, balanced
HIGH OFF: + 4 dBu, high
impedance, balanced
HIGH ON: + 4 dBm
600Ω termination, balanced

Output

Digital: XLR 3-pin (CH1/2, 3/4)
AES/EBU format stereo mode,
balanced
BNC (SDI, video & audio)
SMPTE 259M, 270 Mbits/sec.

Analog: XLR 3-pin (CH 1, 2, 3, 4, Cue)
+ 4 dBm at 600Ω load
low impedance, balanced

Monitor L/R: XLR 3-pin, + 4 dBm at 600Ω
load, low impedance, balanced

Headphones: JM-60 stereo phone jack, – ∞ to
– 12 dBu at 8Ω load, unbalanced

Time Code

Output: XLR 3-pin, 2.2Vp-p, low impedance,
balanced

Remote

Remote 1 in: D-sub 9-pin, RS-422A interface

Remote 1 out: D-sub 9-pin, RS-422A interface

RS-232C: D-sub 25-pin, RS-232C interface

Parallel I/O

(Remote 2) (option): D-sub 50-pin, (with BKDW-509 Parallel
(50P) Interface Kit)

Video Control: D-sub 15-pin, (for BVR-50 Remote
Controller)

Control Panel: 15-pin, (for optional BKDW-510/511
Control Panel Extension Kit)

Processor Adjustment Range

Video Level: ± 3 dB / – ∞ to + 3 dB selectable

Chroma Level: ± 3 dB / – ∞ to + 3 dB selectable

Setup/Level: ± 30 IRE

Hue: ± 30°

System Sync Phase: ± 15 μs

System SC Phase: ± 200 ns

Y/C Delay: ± 100 ns (analog BETACAM playback
only)

Digital Betacam

Specifications (DVW-A510, cont.)

Video/Audio Performance

Digital Video

Sampling Frequency: Y: 13.5 MHz
 R-Y/B-Y: 6.75 MHz
 Quantization: 10 bits/sample
 Error Correction: Reed-Solomon code
 Error Concealment: Adaptive three dimensional

Digital In/Analog Component Out

Bandwidth: Y: 0 to 5.75 MHz ± 0.5 dB
 R-Y/B-Y: 0 to 2.75 MHz ± 0.5 dB
 S/N Ratio: 62 dB or more
 K-Factor (2T pulse): 1% or less

Digital In/Analog Composite Out

Bandwidth: Y: 0 to 5.5 MHz + 0.5 dB/ - 3 dB
 Differential Gain: 2% or less
 Differential Phase: 2° or less
 Y/C Delay: 20 ns or less
 K-Factor (2T Pulse): 1% or less

Analog Component In/Analog Component Out

Input A/D Quantization: 8 bits/sample
 Bandwidth: Y: 0 to 5.75 MHz ± 0.7 dB
 R-Y/B-Y: 0 to 2.75 MHz ± 0.7 dB
 S/N Ratio: 56 dB or more
 K-Factor (2T Pulse): 1% or less
 LF Non-Linearity: 2.5% or less

Digital Audio (DA 1 to DA 4 channels)

Sampling Frequency: 48 kHz (synchronized with video)
 Quantization: 20 bits/sample
 Analog Input to Output
 A/D and D/A quantization: 18 bits/sample
 Frequency Response: 20 Hz to 20 kHz
 + 0.5 dB/ - 1.0 dB (0 dB at 1 kHz)
 Dynamic Range: > 95 dB (at 1 kHz, emphasis ON)
 Distortion: < 0.05% (at 1 kHz, emphasis ON, reference level)
 Cross Talk: < -80 dB (at 1 kHz, between any two channels)
 Wow & Flutter: Below measureable level
 Head Room: 20 dB
 Emphasis: T1 = 50 μ s, T2 = 15 μ s (ON/OFF selectable)

Analog Audio (Cue track)

Frequency Response: 100 Hz to 12 kHz ± 3 dB
 S/N Ratio: > 45 dB (at 3% distortion level)
 Distortion: < 2% (T.H.D at 1 kHz reference level)
 Wow & Flutter: < 0.2% rms

*Reference level: +4 dBm

Video/Audio Performance for BETACAM SP Playback

Video	Metal	Oxide
Bandwidth		
Y	30 Hz to 4.5 MHz + 0.5 dB/ - 3.0 dB	30 Hz to 4.1 MHz + 0.5 dB/ - 6.0 dB
R-Y/B-Y	30 Hz to 1.5 MHz + 0.5 dB/ - 3.0 dB	30 Hz to 1.5 MHz + 0.5 dB/ - 3.0 dB
S/N Ratio		
Y	51 dB or more	48 dB or more
R-Y/B-Y	48 dB or more	45 dB or more
K-Factor	2% or less	3% or less
LF Non-Linearity		
Y		3% or less
R-Y/B-Y		4% or less
Y/C Delay		20 ns or less
Audio	Metal	Oxide
AFM		
Frequency Response (at reference level)	20 Hz to 20 kHz + 0.5 dB/ - 2.0 dB	—
S/N Ratio (at 3% distortion level)	> 85 dB	—
Distortion (T.H.D at 1 kHz reference level)	< 0.5%	—
Stereo Phase (at 20 kHz)	< 10°	—
Cross Talk (at 1 kHz reference level)	< -70 dB	—
Longitudinal		
Frequency Response (at 10 dB below reference level)	50 Hz to 15 kHz + 1.0 dB/ - 2.0 dB	50 Hz to 15 kHz ± 3.0 dB
S/N Ratio (at 3% distortion level)	> 72 dB	> 50 dB (Dolby NR OFF)
Distortion (T.H.D at 1 kHz reference level)	< 1%	< 2%
Cross Talk (at 1 kHz reference level)	< -65 dB	—
Stereo Phase (at 15 kHz)	< 20°	—
Wow & Flutter		< 0.1% rms

*Reference level: +4 dBm

DVW-500

Digital Betacam Editing Recorder

- **Superb picture quality**—Component digital recording provides superb picture quality and multi-generation capability, overcoming the limitations of analog recording. Digital BETACAM adopts newly developed coefficient recording technology within the signal process which has made possible the recording of component digital signals within a BETACAM size VTR and cassette tape.
- **High quality digital audio**—Provides the capability to record four channels of 20-bit digital audio signals which can be independently editable.
- **Long recording time**—new metal particle cassette tapes for Digital BETACAM VTRs have the same dimensions as current BETACAM cassettes. A large cassette provides a maximum recording time of 124 minutes, a small cassette supports up to 40 minutes of recording.
- **Compact and lightweight**—The same dimensions as current BETACAM SP studio VTRs.
- **Library Management System™ (LMS), Betacart® and Flexicart™ Multicassette applications**—Because the dimensions are the same as current BETACAM SP VTRs and cassette tape, Digital BETACAM VTRs and tape can easily be installed in the BVC Series LMS and Flexicart Multi-cassette systems.
- **Serial Digital Interface**—Conforms to the SMPTE 259M.
- **Digital Jog Sound**—Complete reproduction of four channels of digital audio is achieved within the range of -1 to $+1$ times normal playback speed even in the Jog mode.
- **High speed picture search**—Recognizable color pictures up to approx. ± 50 times normal playback speed.
- **Dual dial operation**—To select Jog and Shuttle Modes
- **Dynamic Tracking™ playback**—Provides broadcast quality pictures over the range of -1 to $+3$ times normal playback speed.
- **Program Play**—Allows video recordings to be reproduced within the range of $\pm 15\%$ normal speed in increments of 0.1%
- **Read before Write; preread editing capability**
- **Digital Audio Crossfade**—
- **Automatic Equalizer**—
- **Auto Edit Tracking**—For accurate tracking during editing
- **Easy maintenance**—Most of the circuits are arranged on plug-in boards which allow quick and easy maintenance. Additionally, the DVW-500 is equipped with a sophisticated diagnostic function. It also employs an automatic alignment system to adjust the RF equalizer and Servo system after rotary scanner replacement.

Digital I/O

- **Serial digital video and audio**—The DVW-500 is equipped with SDI (Serial Digital Interface) which conforms to the SMPTE 259M.
- **Serial digital audio**—The DVW-500 is equipped with digital audio input and output ports conforming to AES/EBU format synchronizing video.



Digital Betacam

(DVW-500, cont.)

Analog I/O

■ Analog component video, four channels of analog audio, cue audio I/O ports and analog composite video output ports. Additionally, with the BKDW-505 optional Decoder Board, an analog composite video NTSC signal can be directly input.

Remote

■ RS-422A—Serial communication ports ■ RS-232C—A serial communication port ■ Parallel I/F— ■ Video control—15-pin video control port ■ Control panel—The control panel can be completely detached from the DVW-500 and remote operation can be extended up to 10m with an optional BKDW-510/511 Control Panel Extension Kit.

Supplied Accessories:

AC Power Cord
RCC-5G 9-pin Remote Control Cable
PSW 4 x 16 Screws for Rack Mounting
Operation Manual
Installation Manual
Maintenance Manual

Optional Accessories:

BKDW-510/511 Control Panel Extension Kit
(for Component Digital VTRs)
BVR-50 Video Processor Controller
(for Component Digital VTRs)
DFX-2101 Digital Rate Converter
DFX-1201 Digital Rate Converter
DDU-2100 Digital Audio Delay Unit
BKDV-115 Serial Interface Unit
BVX-D10 Digital Color Corrector
PFV-D50/D100/D200 Digital Video Interface Unit
DAF-2000 Audio Converter Unit
DFX-2400 Digital Audio Sampling Rate Converter
BKM-2085 Digital 4:2:2 Input Kit
(for BVM-1910/1912/1915/1310/1315 Series)
DMIF-1000 Digital Monitor Interface
(for PVM-1344Q/1444QM/1944Q/2044QM)
ECD-3C/10C/30C Digital Audio Cable (3m, 10m, 30m)
RCC-5G/10G/30G Remote Control Cable D-sub 9-pin (5m, 10m, 30m)
BCT-D6/D12/D22/D32/D40 Small Digital Video Cassette
BCT-D34L/D64L/D94L/D124L Large Digital Video Cassette
BKDW-505 Analog Composite Decoder Board
BKDW-507 Audio Program Play Board
BCT-5CLN Cleaning Cassette
BKDW-509 Parallel (50P) Interface Kit
(for Component Digital VTRs)
RMM-110 Rack Mount Kit

Specifications

General

Power Requirements: AC-90V to 265V
48 Hz - 64 Hz
Power Consumption: : 210W
Operating Temperature: *5°C to 40°C (41°F to 104°F)
Storage Temperature: -20°C to 60°C (-4°F to 140°F)
Humidity: 25% - 80% (relative humidity)
Weight: : 70 lb. 8oz. (32 kg)
Dimensions (WHD): 427 x 237 x 520mm
(16⁷/₈" x 9³/₈" x 20¹/₂") (including feet)

Specifications—continued

Recording Format: Digital BETACAM
Tape Speed: Digital BETACAM: 96.7mm/sec.
Digital Record/
Playback Time: Max. 124 min. with large cassette
Recommended Tape: Sony BCT-D6/D12/D22/D32/D40
BCT-D34L/D64L/D94L/D124L
Fast Forward
Rewind Time: < 3 min. with large cassette
Search Speed: Still to Approx. ± 50 times normal
playback speed (Shuttle Mode)
- 1 to + 3 times normal
playback speed (Variable Mode)
Sevo Lock Time: 0.5 sec. or less (from standby on with
color frame servo)
Load/Unload Time: 5 sec. or less with large cassette
4 sec. or less with small cassette

Input/Output Signal

Video Input

Serial Digital Interface: BNC (x1) with active through out,
SMPTE 259M, 270 Mbits/sec.
Analog Component: BNC (x1, Y/R-Y/B-Y)
Y: 1.0Vp-p, 75Ω
R-Y/B-Y: 0.7Vp-p, 75Ω
Analog Composite: BNC (x1) with loop through
(option) 1.0Vp-p, 75Ω (with use of optional
BKDW-505)
Reference: BNC (x1) with loop through
0.3Vp-p, 75Ω

Input/Output Signal—continued

Video—continued Output

Serial Digital Interface: BNC (x4), SMPTE 259M
270 Mbits/sec. (including 1 character
out)
Analog Component: BNC (x1, Y/R-Y/B-Y)
Y: 1.0Vp-p, 75Ω
R-Y/B-Y: 0.7Vp-p, 75Ω
Analog Composite: BNC (x3) 1.0Vp-p, 75Ω
(including 1 character out)

Audio Input

Digital: XLR 3-pin (CH 1/2, 3/4)
AES/EBU format stereo mode,
balanced
BNC (SDI, video & audio)
SMPTE 259M, 270 Mbits/sec.
Analog: XLR 3-pin (CH 1, 2, 3, 4, Cue)
LOW OFF: -60 dBu, high
impedance, balanced
HIGH OFF: +4 dBu, high
impedance, balanced
HIGH ON: +4 dBm
600Ω termination, balanced

Output

Digital: XLR 3-pin (CH1/2, 3/4)
AES/EBU format stereo mode,
balanced
BNC (SDI, video & audio)
SMPTE 259M, 270 Mbits/sec.
Analog: XLR 3-pin (CH 1, 2, 3, 4, Cue)
+4 dBm at 600Ω load
low impedance, balanced
Monitor L/R: XLR 3-pin, +4 dBm at 600Ω
load, low impedance, balanced
Headphones: JM-60 stereo phone jack, -∞ to
-12 dBu at 8Ω load, unbalanced

Specifications—continued

Time Code

Input: XLR 3-pin, 0.5Vp-p to 18Vp-p, 10 k Ω , balanced
 Output: XLR 3-pin, 2.2Vp-p, low impedance, balanced

Remote

Remote 1 in: D-sub 9-pin, RS-422A interface
 Remote 1 out: D-sub 9-pin, RS-422A interface
 RS-232C: D-sub 25-pin, RS-232C interface
 Parallel I/O
 (Remote 2) (option): D-sub 50-pin, (with BKDW-509 Parallel (50P) Interface Kit)
 Video Control: D-sub 15-pin, (for BVR-50 Remote Controller)
 Control Panel: 15-pin, (for optional BKDW-510/511 Control Panel Extension Kit)

Processor Adjustment Range

Video Level: ± 3 dB / $-\infty$ to $+3$ dB selectable
 Chroma Level: ± 3 dB / $-\infty$ to $+3$ dB selectable
 Setup/Level: ± 30 IRE
 Hue: $\pm 30^\circ$
 System Sync Phase: ± 15 μ s
 System SC Phase: ± 200 ns

Video/Audio Performance

Digital Video

Sampling Frequency: Y: 13.5 MHz
 R-Y/B-Y: 6.75 MHz
 Quantization: 10 bits/sample
 Error Correction: Reed-Solomon code
 Error Concealment: Adaptive three dimensional

Digital In/Analog Component Out

Bandwidth: Y: 0 to 5.75 MHz ± 0.5 dB
 R-Y/B-Y: 0 to 2.75 MHz ± 0.5 dB
 S/N Ratio: 62 dB or more
 K-Factor (2T pulse): 1% or less

Digital In/Analog Composite Out

Bandwidth: Y: 0 to 5.5 MHz $+0.5$ dB / -3 dB
 Differential Gain: 2% or less
 Differential Phase: 2° or less
 Y/C Delay: 20 ns or less
 K-Factor (2T Pulse): 1% or less

Analog Component In/Analog Component Out

Input A/D Quantization: 8 bits/sample
 Bandwidth: Y: 0 to 5.75 MHz ± 0.7 dB
 R-Y/B-Y: 0 to 2.75 MHz ± 0.7 dB
 S/N Ratio: 56 dB or more
 K-Factor (2T Pulse): 1% or less
 LF Non-Linearity: 2.5% or less

Digital Audio (DA 1 to DA 4 channels)

Sampling Frequency: 48 kHz (synchronized with video)
 Quantization: 20 bits/sample
 Analog Input to Output
 A/D and D/A quantization: 18 bits/sample
 Frequency Response: 20 Hz to 20 kHz
 $+0.5$ dB / -1.0 dB (0 dB at 1 kHz)
 Dynamic Range: > 95 dB (at 1 kHz, emphasis ON)
 Distortion: $< 0.05\%$ (at 1 kHz, emphasis ON, reference level)
 Cross Talk: < -80 dB (at 1 kHz, between any two channels)
 Wow & Flutter: Below measurable level
 Head Room: 20 dB
 Emphasis: T1 = 50 μ s, T2 = 15 μ s (ON/OFF selectable)

Analog Audio (Cue track)

Frequency Response: 100 Hz to 12 kHz ± 3 dB
 S/N Ratio: > 45 dB (at 3% distortion level)
 Distortion: $< 2\%$ (T.H.D at 1 kHz reference level)
 Wow & Flutter: $< 0.2\%$ rms
 *Reference level: $+4$ dBm



Supplied Accessories:

AC Power Cord
RCC-5G 9-pin Remote Control Cable
PSW 4 x 16 Screws for Rack Mounting
Operation Manual
Installation Manual
Maintenance Manual

Optional Accessories:

BKDW-510/511 Control Panel Extension Kit
(for Component Digital VTRs)
BVR-50 Video Processor Controller
(for Component Digital VTRs)
DFX-2101 Digital Rate Converter
DFX-1201 Digital Rate Converter
DDU-2100 Digital Audio Delay Unit
BKDV-115 Serial Interface Unit
BVX-D10 Digital Color Corrector
PFV-D50/D100/D200 Digital Video Interface Unit
DAF-2000 Audio Converter Unit
DFX-2400 Digital Audio Sampling Rate Converter
BKM-2085 Digital 4:2:2 Input Kit
(for BVM-1910/1912/1915/1310/1315 Series)
DMIF-1000 Digital Monitor Interface
(for PVM-1344Q/1444QM/1944Q/2044QM)
ECD-3C/10C/30C Digital Audio Cable (3m, 10m, 30m)
RCC-5G/10G/30G Remote Control Cable D-sub 9-pin (5m, 10m, 30m)
BCT-D6/D12/D22/D32/D40 Small Digital Video Cassette
BCT-D34L/D64L/D84L/D124L Large Digital Video Cassette
BKDW-505 Analog Composite Decoder Board
BKDW-507 Audio Program Play Board
BCT-5CLN Cleaning Cassette
BKDW-509 Parallel (50P) Interface Kit
(for Component Digital VTRs)
RMM-110 Rack Mount Kit

DVW-510

Digital Betacam Player

■ **Superb picture quality**—Component digital recording provides superb picture quality and multi-generation capability, overcoming the limitations of analog recording. Digital BETACAM adopts newly developed coefficient recording technology within the signal process which has made possible the recording of component digital signals within a BETACAM size VTR and cassette tape. ■ **High quality digital audio**—Provides the capability to playback four channels of 20-bit digital audio signals which can be independently editable. ■ **Compact and lightweight**—The same dimensions as current BETACAM SP studio VTRs. ■ **Library Management System™ (LMS), Betacart® and Flexicart™ Multicassette applications**—Because the dimensions are the same as current BETACAM SP VTRs and cassette tape, Digital BETACAM VTRs and tape can easily be installed in the BVC Series LMS and Flexicart Multi-cassette systems. ■ **Serial Digital Interface**—Conforms to the SMPTE 259M. ■ **Digital Jog Sound**—Complete reproduction of four channels of digital audio is achieved within the range of -1 to +1 times normal playback speed even in the Jog mode. ■ **High speed picture search**—Recognizable color pictures up to approx. ±50 times normal playback speed. ■ **Dual dial operation**—To select Jog and Shuttle modes ■ **Dynamic Tracking™ playback**—Provides broadcast quality pictures over the range of -1 to +3 times normal playback speed. ■ **Program Play**—Allows video recordings to be reproduced within the range of ±15% normal speed in increments of 0.1% ■ **Automatic Equalizer** ■ **Easy maintenance**—Most of the circuits are arranged on plug-in boards which allow quick and easy maintenance. Additionally, the DVW-510 is equipped with a sophisticated diagnostic function. It also employs an automatic alignment system to adjust the RF equalizer and Servo system after rotary scanner replacement.

Digital I/O

■ **Serial digital video and audio**—The DVW-510 is equipped with SDI (Serial Digital Interface) which conforms to the SMPTE 259M. ■ **Serial digital audio**—The DVW-510 is equipped with digital audio input and output ports conforming to AES/EBU format synchronizing video.

Analog I/O

■ **Analog component video, four channels of analog audio, cue audio I/O ports and analog composite video output ports.**

Remote

■ **RS-422A**—Serial communication ports ■ **RS-232C**—A serial communication port ■ **Parallel I/F**— ■ **Video control**—15-pin video control port ■ **Control panel**—The control panel can be completely detached from the DVW-510 and remote operation can be extended up to 10m with an optional BKDW-510/511 Control Panel Extension Kit.

Specifications

General

Power Requirements:	AC-90V to 265V 48 Hz – 64 Hz
Power Consumption:	: 170W
Operating Temperature:	5°C to 40°C (41°F to 104°F)
Storage Temperature:	-20°C to 60°C (-4°F to 140°F)
Humidity:	25% – 80% (relative humidity)
Weight:	: 66 lb. 3 oz. (30 kg)
Dimensions (WHD):	427 x 237 x 520mm (16 ⁷ / ₈ " x 9 ³ / ₈ " x 20 ¹ / ₂ ") (including feet)
Tape Speed:	Digital BETACAM: 96.7mm/sec.
Playback Time:	Max. 124 min. with large cassette
Recommended Tape:	Sony BCT-D6/D12/D22/D32/D40 BCT-D34L/D64L/D94L/D124L
Fast Forward	
Rewind Time:	< 3 min. with large cassette
Search Speed:	Still to Approx. ±50 times normal playback speed (Shuttle Mode)
Dynamic Tracking Range:	-1 to +3 times normal playback speed (Variable Mode)
Sevo Lock Time:	0.5 sec. or less (from standby on with color frame servo)
Load/Unload Time:	5 sec. or less with large cassette 4 sec. or less with small cassette

Input/Output Signal

Video

Analog Component:	BNC (x1, Y/R-Y/B-Y) Y: 1.0Vp-p, 75Ω R-Y/B-Y: 0.7Vp-p, 75Ω
Analog Composite:	BNC (x1) with loop through (option) 1.0Vp-p, 75Ω (with use of optional BKDW-505)
Reference:	BNC (x1) with loop through 0.3Vp-p, 75Ω

Output

Serial Digital Interface:	BNC (x4), SMPTE 259M 270 Mbits/sec. (including 1 character out)
Analog Component:	BNC (x1, Y/R-Y/B-Y) Y: 1.0Vp-p, 75Ω R-Y/B-Y: 0.7VP-P, 75Ω
Analog Composite:	BNC (x3) 1.0Vp-p, 75Ω (Including 1 character out)

Audio

Analog:	XLR 3-pin (CH 1, 2, 3, 4, Cue) LOW OFF: -60 dBu, high impedance, balanced HIGH OFF: +4 dBu, high impedance, balanced HIGH ON: +4 dBm 600Ω termination, balanced
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Output

Digital:	XLR 3-pin (CH1/2, 3/4) AES/EBU format stereo mode, balanced BNC (SDI, video & audio) SMPTE 259M, 270 Mbits/sec.
Analog:	XLR 3-pin (CH 1, 2, 3, 4, Cue) +4 dBm at 600Ω load low impedance, balanced
Monitor L/R:	XLR 3-pin, +4 dBm at 600Ω load, low impedance, balanced
Headphones:	JM-60 stereo phone jack, -∞ to -12 dBu at 8Ω load, unbalanced

Timecode

Output:	XLR 3-pin, 2.2Vp-p, low impedance, balanced
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Remote

Remote 1 In:	D-sub 9-pin, RS-422A interface
Remote 1 out:	D-sub 9-pin, RS-422A interface
RS-232C:	D-sub 25-pin, RS-232C interface
Parallel I/O	
(Remote 2) (option):	D-sub 50-pin, (with BKDW-509 Parallel (50P) Interface Kit)
Video Control:	D-sub 15-pin, (for BVR-50 Remote Controller)
Control Panel:	15-pin, (for optional BKDW-510/511 Control Panel Extension Kit)

Processor Adjustment Range

Video Level:	±3 dB/ -∞ to +3 dB selectable
Chroma Level:	±3 dB/ -∞ to +3 dB selectable
Setup/Level:	±30 IRE
Hue:	±30°
System Sync Phase:	±15 μs
System SC Phase:	±200 ns

Video/Audio Performance

Digital Video

Sampling Frequency:	Y: 13.5 MHz R-Y/B-Y: 6.75 MHz
Quantization:	10 bits/sample
Error Correction:	Reed-Solomon code
Error Concealment:	Adaptive three dimensional

Digital In/Analog Component Out

Bandwidth:	Y: 0 to 5.75 MHz ±0.5 dB R-Y/B-Y: 0 to 2.75 MHz ±0.5 dB
S/N Ratio:	62 dB or more
K-Factor (2T pulse):	1% or less

Digital In/Analog Composite Out

Bandwidth:	Y: 0 to 5.5 MHz +0.5 dB/ -3 dB
Differential Gain:	2% or less
Differential Phase:	2° or less
Y/C Delay:	20 ns or less
K-Factor (2T Pulse):	1% or less

Analog Component In/Analog Component Out

Input A/D Quantization:	8 bits/sample
Bandwidth:	Y: 0 to 5.75 MHz ±0.7 dB R-Y/B-Y: 0 to 2.75 MHz ±0.7 dB
S/N Ratio:	56 dB or more
K-Factor (2T Pulse):	1% or less
LF Non-Linearity:	2.5% or less

Digital Audio (DA 1 to DA 4 channels)

Sampling Frequency:	48 kHz (synchronized with video)
Quantization:	20 bits/sample
Analog Input to Output	18 bits/sample
A/D and D/A quantization:	20 Hz to 20 kHz
Frequency Response:	+0.5 dB/ -1.0 dB (0 dB at 1 kHz)
Dynamic Range:	> 95 dB (at 1 kHz, emphasis ON)
Distortion:	< 0.05% (at 1kHz, emphasis ON, reference level)
Cross Talk:	< -80 dB (at 1 kHz, between any two channels)
Wow & Flutter:	Below measureable level
Head Room:	20 dB
Emphasis:	T1 = 50 μs, T2 = 15 μs (ON/OFF selectable)

Analog Audio (Cue track)

Frequency Response:	100 Hz to 12 kHz ±3 dB
S/N Ratio:	> 45 dB (at 3% distortion level)
Distortion:	< 2% (T.H.D at 1 kHz reference level)
Wow & Flutter:	< 0.2% rms

*Reference level: +4 dBm



BVW-D265

Betacam SP Studio Player with 4 fsc Serial Output

- 4 fsc composite serial digital video interface (D-2): Four outputs also carry four audio channels in digitized form; Single coaxial cable provides both video and audio output interfacing; Digital audio output also through AES/EBU format via XLR connectors
- Component video analog output (Y/R-Y/B-Y) and composite
- More than 90 minutes of playback time using the L-cassette
- Two AFM audio channels in addition to two longitudinal audio channels with the Dolby C-Type NR (Noise Reduction) system
- Dynamic Tracking (DT) provides broadcast quality pictures from -1 to +3 times normal speed
- Dynamic Motion Control playback with DT variable memory
- High speed picture search provides recognizable color picture at up to 10 times normal speed in forward and reverse (35 times in monochrome)
- RS-422 9-pin remote control interface
- 36-pin parallel remote control interface capability
- Built-in sophisticated TBC with 32 line correction window and advanced, high quality, digital dropout compensator
- Built-in LTC/VITC/User Bits reader
- Built-in character generator provides "Burnt-in" time code output
- Built-in capstan override allows playback tape speed to be varied $\pm 20\%$ normal speed in 1% steps via the search dial
- Initial setup offers operational flexibility via the search dial
- Built-in self-diagnostics

Supplied Accessories:

- AC Power Cord
- RCC-5G Remote Control Cable (9-pin)
- Extension Board (2)
- Operation and Maintenance Manual

Optional Accessories:

- BVR-75A Remote Control Unit
- BVR-50 TBC Remote Controller
- BVX-D10 Digital Color Corrector
- RMM-100 Rack Mount Kit
- RCC-5G/10G/30G Remote Control Cable (5m/10m/30m)
- ECD-3C/10C/30C Digital Audio Cable (3m/10m/30m) (for AES/EBU interface)
- BCT-5M/10M/20M/30M Metal Particle Videocassette Tapes (Small Cassette)
- BCT-5ML/10ML/20ML/30ML/60ML/90ML Metal Particle Videocassette Tapes (Large Cassette)

Specifications

General

Power Requirements:	AC-90V-265V, 48 Hz-64 Hz
Power Consumption:	210W
Operating Temperature:	5°C to 40°C (41°F to 104°F)
Storage Temperature:	-20°C to 60°C (4°F to 140°F)
Humidity:	< 80% (relative humidity)
Weight:	66 lb. 3 oz. (30 kg.) (approx.)
Tape Speed:	11.86 cm/sec.
Playback Time:	> 90 min. (BCT-90ML) > 30 min. (BCT-30M)
Fast Forward/ Rewind Time:	< 3 min. with BCT-90ML
Search Speed:	SHUTTLE: 21 steps, STILL to 35 times normal speed, forward and reverse VAR: 54 steps, -1 to +3 times normal speed JOG: Frame by frame, forward and reverse
Dynamic Tracking Range:	-1 to +3 times normal speed
Lock Up Time:	< 0.6 sec. from standby mode

Signal Inputs

REF VIDEO IN (BNC): 1.0Vp-p, 75Ω

Signal Outputs

D-2 V/A Serial (BNC x 4):	0.8Vp-p, 75Ω
DIGITAL AUDIO OUT CH-1/2, CH-3/4 (XLR 3-pin male x 2):	AES/EBU format, balanced
ANALOG VIDEO OUT COMPONENT (Y/R-Y/B-Y, BNC x 3):	Y: 1.0Vp-p, 75Ω, sync negative R-Y/B-Y: 0.7Vp-p, 75Ω

COMPOSITE 1 (BNC):	1.0Vp-p, 75Ω, sync negative
COMPOSITE 2 (BNC):	1.0Vp-p, 75Ω, sync negative
	When the CHARACTER switch is set to ON, Time Code, SETUP menu, VTR operation mode or error message can be superimposed on the signal

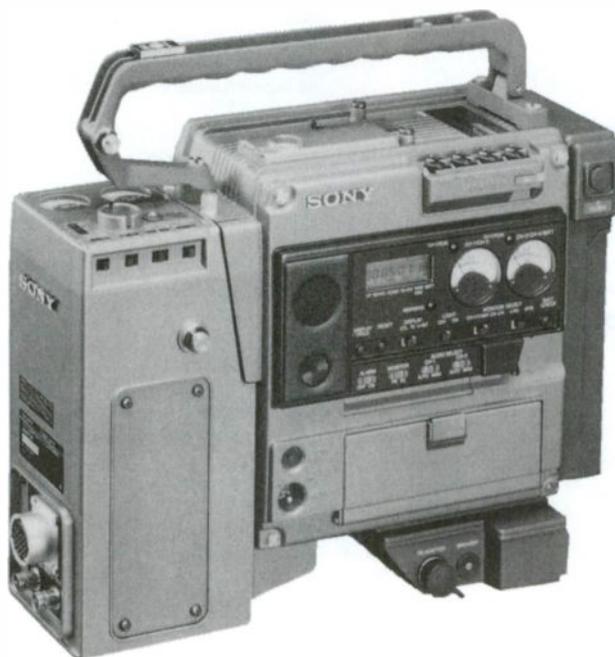
ANALOG AUDIO OUT CH-1/2/3/4 (XLR 3-pin male x4):	4 dBm, (at 600Ω load), low impedance, balanced
AUDIO SELECTED OUT CH-1/2 or CH-3/4 (XLR 3-pin male x 2):	4 dBm (at 600Ω load), low impedance, balanced
TIME CODE OUT (XLR 3-pin male):	2.2Vp-p, balanced (at 600Ω load)

Others

REMOTE 1 IN:	9-pin, female
REMOTE 1 OUT:	9-pin, female
REMOTE 2:	36-pin, female
TBC REMOTE:	15-pin, male
KY REMOTE:	15-pin, female (for a BVR-75A)

Processor Adjustment Range

Video Level:	± 3 dB
Chroma Level:	± 3 dB
Setup Level:	0-15 IRE
System Sync Phase:	-1 μs to +3 μs
Y/C Delay:	± 50 ns



BVV-5

Betacam SP Recorder Unit

- Compact, rugged, lightweight, and low power consumption
- Can be operated: directly connected to the camera as a Camcorder; standalone with the optional VA-5/5P Component/composite VTR Adaptor
- More than 30 min. of recording time using S-cassette
- Two AFM audio channels in addition to two longitudinal audio channels with the Dolby™ C-type NR (Noise Reduction) system
- Video/audio confidence playback
- Viewfinder playback (luminance or CTDM selectable)
- Color playback with the optional VA-500/500P Playback Adaptor
- Full range of machine control provided (Fast forward/Rewind/Play/Stop/Eject)
- Recording review function
- Built-in LTC/VITC/User Bit generator and LTC reader with external time code lock capability
- Frame accurate back space editing
- LCD time code display
- Built-in loudspeaker
- Phantom power supply (+48V, Ch-1)

Supplied Accessories:

- 50-pin Connector Cap
- 4-pin Connector Cap
- Shoulder Belt
- M4 Screw
- Operation and Maintenance Manual

Specifications

General

Weight:	7 lb. 12 oz. (3.5 kg.) (approx.)
Power Requirements:	DC-12V (+5.0/-1.5) V
Power Consumption:	14W
Operating Temperature:	0°C to 40°C (32°F to 104°F)
Storage Temperature:	-20°C to 60°C (-4°F to 140°F)
Humidity	< 85% (relative humidity)
Tape Speed:	11.86 cm/sec.
Recording/Playback Time	> 30 min. (with BCT-30M)
Fast Forward Time	< 4.5 min. (with BCT-30M)
Rewind Time	< 3.5 min. with BCT-30M
Continuous Operating Time:	55 min. (with NP-1B, BVP-7A/70IS and BVV-5) (approx.)

BVW-50

Betacam SP Portable Recorder/Player

- Accepts both L-size and S-size cassette
- Low power consumption—19W in Save Rec Mode
- Continuous operation for up to 180 min. on one BP-90A or up to 170 min. on two NP-1B's is possible
- Compact and light-weight (Approx. 18 lb. 12 oz. (8.5 kg.), including a BP-90A battery and an S-size videocassette)
- Longer record/playback time; More than 90 min. with the L-size cassette; More than 30 min. with the S-size cassette
- Front loading system
- Audio/Video confidence playback
- Built-in TBC allows broadcast quality pictures to be transmitted with no additional TBC
- Interface for an external TBC is also provided for user convenience
- Player VTR capability via the RS-422 9-pin serial interface of field editing
- Built-in LTC/VITC/User Bits generator and reader with external genlock capability
- Four independent audio meters, record level controls, playback level controls and XLR input/output connectors
- Frame accurate back space editing
- Recognizable picture can be monitored at full range of the speed in SEARCH mode (± 5 times normal speed, color) and FAST FORWARD/REWIND mode (± 16 times normal speed, monochrome)
- Built-in character generator
- Phantom power supply (+48V, CH-1/2/3/4)
- Large LCD display
- Simple remote control from an optional BVR-3 Remote Controller
- Audio and video phono type output connectors allow handy monitoring on a TV receiver



Supplied Accessories:

Soft Carrying Case
Operation and Maintenance Manual

Specifications

General

Weight:	14 lb. 9 oz. (6.6 kg.) (approx.)
Power Requirements:	DC-12V (+5.0/-1.0)V
Power Consumption:	Save Rec Mode: 19W, PB/EE Rec Mode: 29W
Operating Temperature:	0°C to 40°C (32°F to 104°F)
Storage Temperature:	-20°C to 60°C (-4°F to 140°F)
Humidity	25%~85% (relative humidity)
Tape Speed	11.86 cm/sec.
Recording/Playback Time	> 90 min. (with BCT-90ML) > 30 min. (with BCT-30M)
Fast Forward/Rewind Time	< 7 min. (with BCT-90ML) < 2 min. (with BCT-30M)
Fast Forward/Rewind Speed:	Max. ± 16 times normal speed (with monochrome picture)
Search Speed	Max. ± 5 times normal speed (with color picture)
Continuous Operating Time:	180 min. (with BP-90A and BVV-5) (approx.)
Dimensions (WHD):	12 $\frac{1}{2}$ " x 5 $\frac{5}{8}$ " x 13 $\frac{3}{4}$ "

Video/Audio Specifications (BVW-50, cont.)

		Metal Particle Tape	Oxide Tape
Video	Bandwidth		
	Luminance (50% modulation)	30 Hz-4.5 MHz (+0.5/-3.0) dB	30 Hz-4.1 MHz (-0.5/-6.0) dB
	Color Difference (50% modulation)	30 Hz-1.5 MHz (+0.5/-3.0) dB	30 Hz-1.5 MHz (-0.5/-3.0) dB
	S/N ratio		
	Luminance (Component IN/OUT) (Composite IN/OUT)	> 51 dB > 49 dB	> 48 dB
	Chrominance AM PM	> 53 dB > 53 dB	> 50 dB > 50 dB
	Distortion		
	Differential Gain	< 2%	< 3%
	Differential Phase	< 2°	< 3°
	K-Factor (2T pulse)	< 2%	< 3%
Y/C Delay	< 20 ns	< 20 ns	
Audio	Longitudinal		
	Frequency Response	40 Hz-15 kHz (+1.5/-3.0) dB	40 Hz-15 kHz ±3.0 dB
	S/N Ratio (at 3% distortion level)	> 72 dB	> 50 dB (Dolby NR off)
	Distortion T.H.D. (at 1 kHz reference level)	< 1.5%	< 2%
	Crosstalk (at 1 kHz)	< -55 dB	< -55 dB
	Depth of Erasure (at 1 kHz)	> 65 dB	> 65 dB
	Wow and Flutter	< 0.15% rms	< 0.15% rms
	AFM		
	Frequency Response	20 Hz-20 kHz (+1.5/-2.0) dB	—
	Dynamic Range	> 80 dB	—
Distortion T.H.D. (at 1 kHz reference level)	< 0.5%	—	
Crosstalk (at 1 kHz)	< -65 dB	—	



BVW-D75

Betacam SP Studio Recorder/Player with 4:2:2 Serial Digital Interface

- One component digital video serial input (with active loop-through) and four component digital video serial outputs, with four channels of embedded digital audio, via BNC connectors
- Four channels of ASE/EBU digital audio inputs and outputs via XLR connectors
- Component analog monitor output (Y/R-Y/B-Y, three BNC's) with character display
- Conventional analog audio input/output
- More than 90 min. of recording/playback time using the L-cassette
- Two AFM audio channels with the Dolby C-type NR (Noise Reduction System)
- Dynamic Tracking (DT) provides broadcast quality pictures from -1 to 3 times normal speed
- DT playback speed can be varied in 54 steps with the search dial
- Dynamic Motion Control edit memory function
- High speed picture search provides recognizable color pictures at up to 10 times normal speed in forward and reverse (35 times in monochrome)
- RS-422 9-pin remote control interface
- 36-pin parallel remote control interface
- Audio/Video confidence playback
- Built-in comprehensive two-machine editing
- Built-in sophisticated TBC with 32 line correction window and advanced, high quality, digital dropout compensator
- Built-in LTC/VITC/User Bits generator and reader
- Built-in character generator provides "Burnt-in" time code output
- Built-in capstan override allows playback tape speed to be varied ±20% normal speed in 1% steps
- Initial setup offers operational flexibility via the search dial
- Built-in self-diagnostics
- 19-inch rack mountable

(BVW-D75, cont.)

Supplied Accessories:

AC Power Cord
 RCC-5G Remote Control Cable (9-pin)
 Extension Boards (2)
 Operation and Maintenance Manual

Specifications

General

Weight: 66 lb. 2 oz. (30 kg.) (approx.)
 Power Requirements: AC-90V-265V, 48 Hz-64 Hz
 Power Consumption: 210W
 Operating Temperature: 5°C to 40°C (41°F to 104°F)
 Storage Temperature: -20°C to 60°C (-4°F to 140°F)
 Humidity: < 80% (relative humidity)
 Tape Speed: 11.86 cm/sec.
 Recording/Playback Time: > 90 min. with BCT-90ML
 > 30 min. with BCT-30M
 Fast Forward/Rewind Time: < 180 sec. with BCT-90ML
 Search Speed
 SHUTTLE: 21 steps, STILL to 35 times normal speed, forward and reverse
 VAR: 54 steps, -1 to +3 times normal speed
 JOG: Frame by frame, forward and reverse
 Dynamic Tracking Range: -1 to +3 times normal speed
 Lock up time: < 0.6 sec. from standby mode
 Dimensions (WHD): 16⁷/₈" x 11¹/₈" x 21⁵/₈"

Video/Audio Specifications

		Metal Particle Tape	Oxide Tape
Video	Bandwidth		
	Luminance (50% modulation)	30 Hz-4.5 MHz (+0.5/-3.0) dB	30 Hz-4.1 MHz (+0.5/-6.0) dB
	Color Difference (50% modulation)	30 Hz-1.5 MHz (+0.5/-3.0) dB	30 Hz-1.5 MHz (+0.5/-3.0) dB
	S/N Ratio		
	Luminance	> 51 dB	> 48 dB
	Color Difference	> 49 dB	> 46 dB
	K-Factor (2T pulse)	< 2%	< 3%
	Y/C Delay	< 20 nsec.	< 20 nsec.
	L.F. Non-linearity		
	Luminance	< 3%	< 3%
Color Difference	< 4%	< 4%	
Audio	Longitudinal		
	Frequency Response (at 10 dB below reference level)	40 Hz-15 kHz (+1.0/-2.0) dB	40 Hz-15 kHz ±3.0 dB
	S/N Ratio (at 3% distortion level)	> 72 dB	> 50 dB (Dolby NR off)
	Distortion T.H.D. (at 1 kHz reference level)	< 1%	< 2%
	Crosstalk (at 1 kHz)	< -65 dB	—
	Stereo Phase (at 15 kHz)	< 20°	—
	Depth of Erasure (at 1 kHz)		
	REC Mode	> 70 dB	> 70 dB
	INSERT Mode	> 65 dB	> 65 dB
	Wow and Flutter	< 0.1% rms	< 0.1% rms
	AFM		
	Frequency Response	20 Hz-20 kHz (+0.5/-2.0) dB	—
	Dynamic Range	> 85 dB	—
	Distortion T.H.D. (at 1 kHz reference level)	< 0.5%	—
	Stereo Phase (at 20 kHz)	< 10°	—
Crosstalk (at 1 kHz)	< -70 dB	—	



BVW-75

Betacam SP Studio Recorder/Player with DT

- More than 90 min. of recording/playback time using the L-cassette
- Two AFM audio channels in addition to two longitudinal audio channels with the Dolby C-Type NR (Noise Reduction) system
- Dynamic Tracking (DT) provides broadcast quality pictures from -1 to +2 times normal speed
- Dynamic Motion Control edit memory function
- High speed picture search provides recognizable color pictures at up to 5 times normal speed in forward and reverse (24 times in monochrome)
- RS-422 9-pin remote control interface
- 36-pin parallel remote control interface
- Audio/video confidence playback
- Built-in comprehensive two-machine editing
- Built-in sophisticated TBC with 32 line correction window and advanced, high quality, digital dropout compensator
- Built-in LTC/VITC/User Bits generator and reader
- SC-H indicator for composite input and output
- Built-in character generator provides "Burnt-in" time code output
- Built-in capstan override allows playback tape speed to be varied $\pm 16\%$ in 2% steps via the search dial
- Initial setup offers operational flexibility via the search dial
- Built-in self-diagnostics
- BNC component signal inputs and outputs
- 19-inch rack mountable

Supplied Accessories:

- AC Power Cord
- VDC-C5 12-pin Dubbing Cable (5m)
- RCC-5G 9-pin Remote Control Cable (5m)
- Extension Boards (3)
- Operation and Maintenance Manual

Optional Accessories:

- RMM-100 Rack Mount Kit for BVW-60/65/70/75 series

Specifications

General

- Weight: 66 lb. 2 oz. (30 kg.) (approx.)
- Power Requirements: AC-90V-265V, 48 Hz-64 Hz
- Power Consumption: 240W
- Operating Temperature: 5°C to 40°C (41°F to 104°F)
- Storage Temperature: -20°C to 60°C (-4°F to 140°F)
- Humidity: < 80% (relative humidity)
- Tape Speed: 11.86 cm/sec.
- Recording Playback Time: > 90 min. with BCT-90ML
> 30 min. with BCT-30M
- Fast Forward/Rewind Time: < 180 sec. with BCT-90ML
- Search Speed
- SHUTTLE: STILL, $\frac{1}{30}$, $\frac{1}{10}$, $\frac{1}{6}$, $\frac{1}{2}$, 1, 2, 5, and 24 times normal speed, forward and reverse
- VAR: -1, $-\frac{1}{2}$, $-\frac{1}{6}$, $-\frac{1}{10}$, $-\frac{1}{30}$, STILL, $\frac{1}{30}$, $\frac{1}{10}$, $\frac{1}{6}$, $\frac{1}{2}$, 1, and 2 times normal speed
- JOG: Frame by frame, forward and reverse
- Dynamic Tracking Range: -1 to +2 times normal speed
- Lock Up Time: < 0.6 sec. from standby mode
- Dimensions (WHD): 16 $\frac{1}{8}$ " x 11 $\frac{1}{8}$ " x 21 $\frac{1}{8}$ "

Video/Audio Specifications

		Metal Particle Tape	Oxide Tape	
Video	Bandwidth			
	Luminance (50% modulation)	30 Hz–4.5 MHz (+0.5/–3.0) dB	30 Hz–4.1 MHz (+0.5/–6.0) dB	
	Color Difference (50% modulation)	30 Hz–1.5 MHz (+0.5/–3.0) dB	30 Hz–1.5 MHz (+0.5/–3.0) dB	
	S/N Ratio			
	Luminance (Component IN/OUT) (Composite IN/OUT)	> 51 dB > 49 dB	> 48 dB	
	Chrominance AM PM	> 53 dB > 53 dB	> 50 dB > 50 dB	
	Distortion			
	Differential Gain	< 2%	< 3%	
	Differential Phase	< 2°	< 3°	
	K-Factor (2T pulse)	< 2%	< 3%	
	Y/C Delay	< 20 nsec.	< 20 nsec.	
	L.F. Linearity	< 3%	< 4%	
	Audio	Longitudinal		
		Frequency Response (at 10 dB below reference level)	50 Hz–15 kHz (+1.0/–2.0) dB	50 Hz–15 kHz ±3.0 dB
S/N Ratio (at 3% distortion level)		72 dB	50 dB (Dolby NR off)	
Distortion T.H.D. (At 1 kHz reference level)		< 1%	< 2%	
Crosstalk (at 1 kHz)		< –65 dB	—	
Stereo Phase (at 15 kHz)		< 20°	—	
Depth of Erasure (for recorders only) (at 1 kHz)				
REC Mode		> 70 dB	> 70 dB	
INSERT Mode		> 65 dB	> 65 dB	
Wow and Flutter		< 0.1% rms	< 0.1% rms	
AFM				
Frequency Response		20 Hz–20 kHz (+0.5/–2.0) dB	—	
Dynamic Range		> 85 dB	—	
Distortion T.H.D. (at 1 kHz reference level)		< 0.5%	—	
Stereo Phase (at 20 kHz)	< 10°	—		
Crosstalk (at 1 kHz)	< –70 dB	—		



BVW-70

Betacam SP Studio Recorder/Player

- More than 90 min. of recording/playback time using the L-cassette
- Two AFM audio channels in addition to two longitudinal audio channels with the Dolby C-type NR (Noise Reduction) system
- Dynamic Motion Control edit memory function
- High speed picture search provides recognizable color pictures up to 5 times the normal speed in forward and reverse (24 times in monochrome)
- RS-422 9-pin remote control interface
- 36-pin parallel remote control interface
- Audio/video confidence playback
- Built-in comprehensive two-machine editing
- Built-in sophisticated TBC with 32 line correction window and advanced, high quality, digital dropout compensator
- Built-in LTC/VITC/User Bits generator and reader
- SC-H indicator for composite input and output
- Built-in character generator provides "Burnt-in" time code output
- Built-in capstan override allows playback tape speed to be varied $\pm 16\%$ in 2% steps via the search dial
- Initial setup offers operational flexibility via the search dial
- Built-in self-diagnostics
- BNC component signal inputs and outputs
- 19-inch rack mountable

Supplied Accessories:

- AC Power Cord
- VDC-C5 12-pin Dubbing Cable (5m)
- RCC-5G 9-pin Remote Control Cable (5m)
- Extension Boards (3)
- Operation and Maintenance Manual

Optional Accessories:

- RMM-100 Rack Mount Kit for BVW-60/65/70/75 series

Specifications

General

- Weight: 66 lb. 2 oz. (30 kg.) (approx.)
- Power Requirements: AC-90V-265V, 48 Hz-64 Hz
- Power Consumption: 240W
- Operating Temperature: 5°C to 40°C (41°F to 104°F)
- Storage Temperature: -20°C to 60°C (-4°F to 140°F)
- Humidity: < 80% (relative humidity)
- Tape Speed: 11.86 cm/sec.
- Recording Playback Time: > 90 min. with BCT-90ML
> 30 min. with BCT-30M
- Fast Forward/Rewind Time: < 180 sec. with BCT-90ML
- Search speed
- SHUTTLE: STILL, $\frac{1}{30}$, $\frac{1}{10}$, $\frac{1}{6}$, $\frac{1}{2}$, 1, 2, 5, and 24 times normal speed, forward and reverse
- JOG: Frame by frame, forward and reverse
- Lock Up Time: < 0.6 sec. from standby mode
- Dimensions (WHD): 16 $\frac{7}{8}$ " x 11 $\frac{1}{4}$ " x 21 $\frac{1}{4}$ "

Video/Audio Specifications

		Metal Particle Tape	Oxide Tape
Video	Bandwidth		
	Luminance (50% modulation)	30 Hz–4.5 MHz (+ 0.5/ – 3.0) dB	30 Hz–4.1 MHz (+ 0.5/ – 6.0) dB
	Color Difference (50% modulation)	30 Hz–1.5 MHz (+ 0.5/ – 3.0) dB	30 Hz–1.5 MHz (+ 0.5/ – 3.0) dB
	S/N Ratio		
	Luminance (Component IN/OUT) (Composite IN/OUT)	> 51 dB > 49 dB	> 48 dB
	Chrominance AM PM	> 53 dB > 53 dB	> 50 dB > 50 dB
	Distortion		
	Differential Gain	< 2%	< 3%
	Differential Phase	< 2%	< 3%
	K-Factor (2T pulse)	< 2%	< 3%
Y/C Delay	< 20 ns	< 20 ns	
L.F. Linearity	< 3%	< 4%	
Audio	Longitudinal		
	Frequency Response (at 10 dB below reference level)	50 Hz–15 kHz (+ 1.0/ – 2.0) dB	50 Hz–15 kHz ± 3.0 dB
	S/N Ratio (at 3% distortion level)	72 dB	50 dB (Dolby NR off)
	Distortion T.H.D. (At 1 kHz reference level)	< 1%	< 2%
	Crosstalk (at 1 kHz)	< –65 dB	—
	Stereo Phase (at 15 kHz)	< 20°	—
	Depth of Erasure (for recorders only) (at 1 kHz)		
	REC Mode	> 70 dB	> 70 dB
	INSERT Mode	> 65 dB	> 65 dB
	Wow and Flutter	< 0.1% rms	< 0.1% rms
	AFM		
	Frequency Response	20 Hz–20 kHz (+ 0.5/ – 2.0) dB	—
	Dynamic Range	> 85 dB	—
Distortion T.H.D. (at 1 kHz reference level)	< 0.5%	—	
Stereo Phase (at 20 kHz)	< 10°	—	
Crosstalk (at 1 kHz)	< –70 dB	—	





BVW-65

Betacam SP Studio Player with DT

- More than 90 minutes of playback time using the L-cassette
- Two AFM audio channels in addition to two longitudinal audio channels with the Dolby C-type NR (Noise Reduction) system
- Dynamic Tracking (DT) provides broadcast quality pictures from -1 to +2 times normal speed
- Dynamic Motion Control playback with DT variable memory
- High speed picture search provides recognizable color pictures up to 5 times normal speed in forward and reverse (24 times in monochrome)
- RS-422 9-pin remote control interface
- 36-pin parallel remote control interface capability
- Built-in sophisticated TBC with 32 line correction window and advanced, high quality, digital dropout compensator
- Built-in LTC/VITC/User Bits reader
- Built-in character generator provides "Burnt-in" time code output
- Built-in capstan override allows playback tape speed to be varied $\pm 16\%$ in 2% steps via the search dial
- Initial setup offers operational flexibility via the search dial
- Built-in self-diagnostics
- BNC component signal outputs
- 19-inch rack mountable

Supplied Accessories:

AC Power Cord
 RCC-5G 9-pin Remote Control Cable (5m)
 Extension Boards (3)
 Operation and Maintenance Manual

Optional Accessories:

RMM-100 Rack Mount Kit for BVW-60/65/70/75 series

Specifications

General

Weight: 81 lb. 11 oz. (28 kg.) (approx.)
 Power Requirements: AC-90V-265V, 48 Hz-64 Hz
 Power Consumption: 175W
 Operating Temperature: 5°C to 40°C (41°F to 104°F)
 Storage Temperature: -20°C to 60°C (-4°F to 140°F)
 Humidity: < 80% (relative humidity)
 Tape Speed: 11.88 cm/sec.
 Recording Playback Time: > 90 min. with BCT-90ML
 > 30 Min. with BCT-30M
 Fast Forward/Rewind Time: < 180 sec. with BCT-90ML
 Search Speed
 SHUTTLE: STILL, $\frac{1}{30}$, $\frac{1}{10}$, $\frac{1}{6}$, $\frac{1}{2}$, 1, 2, 5, and 24 times normal speed, forward and reverse
 VAR: -1, $-\frac{1}{2}$, $-\frac{1}{6}$, $-\frac{1}{10}$, $-\frac{1}{30}$, STILL, $\frac{1}{30}$, $\frac{1}{10}$, $\frac{1}{6}$, $\frac{1}{2}$, 1, and 2 times normal speed
 JOG: Frame by frame, forward and reverse
 Dynamic Tracking Range: -1 to +2 times normal speed
 Lock Up Time: < 0.6 sec. from standby mode
 Dimensions (WHD): 18 $\frac{1}{8}$ " x 11 $\frac{1}{8}$ " x 21 $\frac{5}{8}$ "

Video/Audio Specifications

		Metal Particle Tape	Oxide Tape
Video	Bandwidth		
	Luminance (50% modulation)	30 Hz–4.5 MHz (+0.5/–3.0) dB	30 Hz–4.1 MHz (+0.5/–6.0) dB
	Color Difference (50% modulation)	30 Hz–1.5 MHz (+0.5/–3.0) dB	30 Hz–1.5 MHz (+0.5/–3.0) dB
	S/N Ratio		
	Luminance (Component IN/OUT) (Composite IN/OUT)	> 51 dB > 49 dB	> 48 dB
	Chrominance AM PM	> 53 dB > 53 dB	> 50 dB > 50 dB
	Distortion		
	Differential Gain	< 2%	< 3%
	Differential Phase	< 2°	< 3°
	K-Factor (2T pulse)	< 2%	< 3%
	Y/C Delay	< 20 ns	< 20 ns
	L.F. Linearity	< 3%	< 4%
Audio	Longitudinal		
	Frequency Response (at 10 dB below reference level)	50 Hz–15 kHz (+1.0/–2.0) dB	50 Hz to 15 kHz ±3.0 dB
	S/N Ratio (at 3% distortion level)	72 dB	50 dB (Dolby NR off)
	Distortion T.H.D. (at 1 kHz reference level)	< 1%	< 2%
	Crosstalk (at 1 kHz)	< –65 dB	—
	Stereo Phase (at 15 kHz)	< 20°	—
	Depth of Erasure (for recorders only) (at 1 kHz)		
	REC Mode	> 70 dB	> 70 dB
	INSERT Mode	> 65 dB	> 65 dB
	Wow and Flutter	< 0.1% rms	< 0.1% rms
	AFM		
	Frequency Response	20 Hz–20 kHz (+0.5/–2.0) dB	—
	Dynamic Range	> 85 dB	—
	Distortion T.H.D. (at 1 kHz reference level)	< 0.5%	—
	Stereo Phase (at 20 kHz)	< 10°	—
Crosstalk (at 1 kHz)	< –70 dB	—	



BVW-60

Betacam SP Studio Player

- More than 90 min. of playback time using the L-cassette
- Two AFM audio channels in addition to two longitudinal audio channels with the Dolby C-type NR (Noise Reduction) system
- High speed picture search provides recognizable color pictures up to 5 times the normal speed in forward and reverse (24 times in monochrome)
- RS-422 9-pin remote control interface
- 36-pin parallel remote control interface
- Built-in sophisticated TBC with 32 line correction window and advanced, high quality, digital dropout compensator
- Built-in LTC/VITC/User Bits reader
- SC-H indicator for composite input and output
- Built-in character generator provides "Burnt-in" time code output
- Built-in capstan override allows playback tape speed to be varied $\pm 16\%$ in 2% steps via the search dial
- Initial setup offers operational flexibility via the search dial
- Built-in self-diagnostics
- BNC component signal outputs
- 19-inch rack mountable

Supplied Accessories:

- AC Power Cord
- RCC-5G 9-pin Remote Control Cable (5m)
- Extension Boards (3)
- Operation and Maintenance Manual

Optional Accessories:

- RMM-100 Rack Mount Kit for BVW-60/65/70/75 series

Specifications

General

- Weight: 59 lb. 8 oz. (27 kg.) (approx.)
- Power Requirements: AC-90V-265V, 48 Hz-64 Hz
- Power Consumption: 160W
- Operating Temperature: 5°C to 40°C (41°F to 104°F)
- Storage Temperature: -20°C to 60°C (-4°F to 140°F)
- Humidity: < 80% (relative humidity)
- Tape Speed: 11.86 cm/sec.
- Recording Playback Time: > 90 min. with BCT-90ML
> 30 min. with BCT-30M
- Fast Forward/Rewind Time: < 180 sec. with BCT-90ML
- Search speed
- SHUTTLE: STILL, $\frac{1}{30}$, $\frac{1}{10}$, $\frac{1}{6}$, $\frac{1}{2}$, 1, 2, 5, and 24 times normal speed, forward and reverse
- JOG: Frame by frame, forward and reverse
- Lock Up Time: < 0.6 sec. from standby mode
- Dimensions (WHD): 16 $\frac{7}{8}$ " x 11 $\frac{1}{8}$ " x 21 $\frac{5}{8}$ "

Video/Audio Specifications

		Metal Particle Tape	Oxide Tape
Video	Bandwidth		
	Luminance (50% modulation)	30 Hz–4.5 MHz (+0.5/–3.0) dB	30 Hz–4.1 MHz (+0.5/–6.0) dB
	Color Difference (50% modulation)	30 Hz–1.5 MHz (+0.5/–3.0) dB	30 Hz–1.5 MHz (+0.5/–3.0) dB
	S/N Ratio		
	Luminance (Component IN/OUT) (Composite IN/OUT)	> 51 dB > 49 dB	> 48 dB
	Chrominance AM PM	> 53 dB > 53 dB	> 50 dB > 50 dB
	Distortion		
	Differential Gain	< 2%	< 3%
	Differential Phase	< 2°	< 3°
	K-Factor (2T pulse)	< 2%	< 3%
Y/C Delay	< 20 ns	< 20 ns	
L.F. Linearity	< 3%	< 4%	
Audio	Longitudinal		
	Frequency Response (at 10 dB below reference level)	50 Hz–15 kHz (+1.0/–2.0) dB	50 Hz–15 kHz ±3.0 dB
	S/N Ratio (at 3% distortion level)	72 dB	50 dB (Dolby NR off)
	Distortion T.H.D. (at 1 kHz reference level)	< 1%	< 2%
	Crosstalk (at 1 kHz)	< –65 dB	—
	Stereo Phase (at 15 kHz)	< 20°	—
	Depth of Erasure (for recorders only) (at 1 kHz)		
	REC Mode	> 70 dB	> 70 dB
	INSERT Mode	> 65 dB	> 65 dB
	Wow and Flutter	< 0.1% rms	< 0.1% rms
	AFM		
	Frequency Response	20 Hz–20 kHz (+0.5/–2.0) dB	—
	Dynamic Range	> 85 dB	—
	Distortion T.H.D. (at 1 kHz reference level)	< 0.5%	—
Stereo Phase (at 20 kHz)	< 10°	—	
Crosstalk (at 1 kHz)	< –70 dB	—	



BVW-22

Betacam SP Player

- Simple, low cost office player
- Simply designed control panel
- More than 90 min. of playback time using L-cassette
- Two AFM audio channels in addition to two longitudinal audio channels with the Dolby C-type NR (Noise Reduction) system
- Wired or wireless remote control
- Picture search capability provides a monochrome picture at +3.5 times normal speed
- Built-in RF modulator for TV receiver
- Superrimpose function for time code, CTL and User Bit
- 19-inch rack mountable with the optional RMM-507 Rack Mount Kit

Supplied Accessories:

RM-770 Remote Control Unit Including Remote Control Cable and Battery Antenna Selector
 Coaxial Cables with F-type Connector (0.5m/0.2m)
 Top Cover Panel
 Operation and Maintenance Manual

Optional Accessories:

RMM-507 Rack Mount Kit for BVW-22 series

Specifications

General

Weight: 34 lb. 7 oz. (15.6 kg.) (approx.)
 Power Requirements: AC-100V/120V, 50/60 Hz
 Power Consumption: 56W
 Operating Temperature: 5°C to 40°C (32°F to 104°F)
 Storage Temperature: -20°C to 60°C (-4°F to 140°F)
 Humidity: < 85% (relative humidity)
 Tape Speed: 11.86 cm/sec.
 Recording/Playback Time: > 90 min. (with BCT-90ML)
 > 30 min. (with BCT-30M)
 Fast Forward/Rewind Time: < 240 sec. (with BCT-90ML)
 < 100 sec. (with BCT-30M)
 Search Speed: ±3.5 times normal playback
 Dimensions (WHD): 16³/₄" x 7⁵/₈" x 17"

Video/Audio Specifications

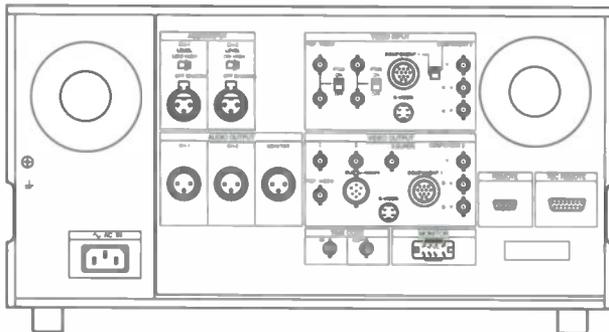
		Metal Particle Tape	Oxide Tape	
Video	Bandwidth	30 Hz-4.1 MHz (+0.5/-6.0) dB	30 Hz-to 4.1 MHz (-0.5/-6.0) dB	
	S/N Ratio	Luminance	> 49 dB	> 47 dB
		Chrominance AM PM	> 51 dB	> 50 dB
	> 51 dB		> 50 dB	
	Distortion	Differential Gain	< 3%	< 3%
		Differential Phase	< 3°	< 3°
K-Factor (2T pulse)		< 3%	< 3%	
Y/C Delay		< 20 ns	< 20 ns	
Audio	Longitudinal	Frequency Response	50 Hz-15 kHz (+3.0/-4.0) dB	50 Hz-15 kHz (+3.0/-4.0) dB
		S/N Ratio (at 3% distortion level)	> 72 dB	> 50 dB (Dolby NR off)
		Distortion T.H.D. (At 1 kHz reference level)	< 2%	< 2%
		Wow and Flutter	< 0.13% rms	< 0.13% rms
	AFM	Frequency Response	20 Hz-20 kHz (+0.5/-2.5) dB	—
		Dynamic Range	> 80 dB	—
		Distortion T.H.D. (at 1 kHz reference level)	< 0.5%	—

BK-7502

Betacam SP Component Serial Digital Interface

BK-75A

Betacam SP Component Parallel Digital Interface



CONNECTORS

REF VIDEO IN	—BNC
VIDEO IN	—BNC
COMPONENT IN 1	—12-pin
COMPONENT IN 2	—BNC x 3
S-VIDEO IN	—4-pin
AUDIO IN CH-1/2	—XLR 3-pin
TIME CODE IN	—BNC
VIDEO OUT 1	—BNC
VIDEO OUT 2	—BNC
VIDEO OUT 3	—BNC
COMPONENT OUT 1	—12-pin
COMPONENT OUT 2	—BNC x 3
AUDIO LINE OUT	—XLR 3-pin
AUDIO MONITOR OUT	—XLR 3-pin
U-matic DUB OUT	—7-pin
S-VIDEO OUT	—4-pin
TIME CODE OUT	—BNC
REMOTE IN/OUT	—9-pin
TBC REMOTE	—15-pin
MONITOR	—8-pin
HEADPHONES	JM60 headphone stereo jack

PVW-2800

Recorder/Player

- Superior picture quality, inherent in the Betacam SP format
- More than 90 minutes of recording/playback time using L-size Metal (for both recording and playback) or Oxide (for playback only) cassettes
- High speed picture search provides recognizable color pictures at up to 10 times normal speed in forward and reverse (24 times in monochrome)
- Two longitudinal audio channels with Dolby C-type NR (Noise Reduction) system
- Direct RS-422 9-pin interface with other RS-422 equipped Sony machines (ex. Betacam/Betacam SP VTRs, BVU series U-matics)
- Built-in comprehensive editing facilities
- Dynamic Motion Control with memory provides slow-motion editing capability (when used with a player VTR equipped with DT function)
- Built-in Time Base Corrector with advanced high quality digital dropout compensator
- TBC remote control from an optional BVR-50
- Built-in LTC/VITC/User Bits generator and reader
- Built-in character generator
- Enhanced serviceability with built-in self-diagnostics
- User friendly dial menu operation
- Y/R-Y/B-Y component signal inputs and outputs via BNC or 12-pin Betacam DUB connectors
- S-video (Y/C separate) input/output connectors
- 7-pin U-matic DUB output capability (option)
- Compact and lightweight (5 unit high, 19-inch rack mountable, approx. 55 lb. 2 oz., 25 kg.)
- Low power consumption (150W)

Supplied Accessories:

AC Power Cord
Remote Control Cable RCC-5G (9-pin)
PSW 4 x 16 Screws for Rack Mounting (4)
Operation Manual

Optional Accessories:

BVR-50 TBC Remote Controller
BVX-10 Component Color Corrector
BKW-2010 Control Panel Extension Kit
BKW-2020 U-Matic DUB Out Kit
BK-803 Control Panel Case
VDC-D5 12-pin Dubbing Cable (5m)
RCC-5G/10G/30G (5m/10m/30m), Remote Control Cable
RMM-110 Rack Mount Kit

PVW-2600

Player

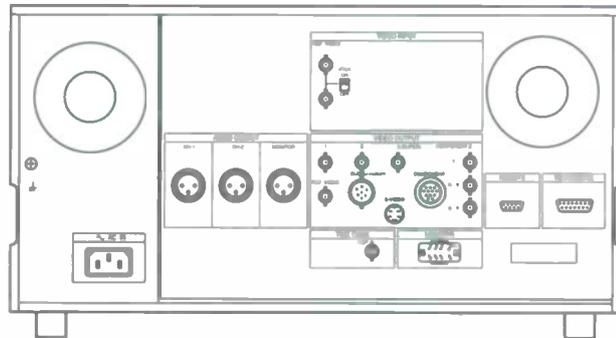
- Superior picture quality, inherent in the Betacam SP format
- More than 90 minutes of playback time using the L-size cassettes with Metal or Oxide tape
- High speed picture search provides recognizable color pictures at up to 10 times normal speed in forward and reverse (24 times in monochrome)
- Two longitudinal audio channels with the Dolby C-type NR (Noise Reduction) system
- Direct RS-422 9-pin interface with other RS-422 equipped Sony machines (ex. Betacam/Betacam SP VTRs, BVU series U-matics)
- Built-in time base corrector with advanced high quality digital dropout compensator
- TBC remote control from an optional BVR-50
- Built-in LTC/VITC/User Bits reader
- Built-in character generator
- Enhanced serviceability with built-in self-diagnostics
- User friendly dial menu operation
- Y/R-Y/B-Y component signal outputs via BNC or 12-pin Betacam DUB connectors
- S-video (Y/C separate) output connector
- 7-pin U-matic DUB output capability (option)
- Compact and lightweight (5 unit high, 19-inch rack mountable, approx. 54 lb./24.5 kg.)
- Low power consumption (130W)

Supplied Accessories:

AC Power Cord
 Remote Control Cable RCC-5G (9-pin)
 PSW 4 x 16 Screw for Rack Mounting
 Operation Manual

Optional Accessories:

BVR-50 TBC remote controller
 BVX-10 Component color corrector
 BKW-2010 Control panel extension kit
 BKW-2020 U-matic DUB out kit
 BK-803 Control panel case
 VDC-D5 (5m) 12-pin dubbing cable
 RCC-5G/10G/30G (5m/10m/30m), Remote control cable



CONNECTORS

REF VIDEO IN	—BNC
VIDEO OUT 1	—BNC
VIDEO OUT 2	—BNC
VIDEO OUT 3	—BNC
COMPONENT OUT 1	—12-pin
COMPONENT OUT 2	—BNC x 3
AUDIO LINE OUT	—XLR 3-pin
AUDIO MONITOR OUT	—XLR 3-pin
U-matic DUB OUT	—7-pin
S-VIDEO OUT	—4-pin
TIME CODE OUT	—BNC
REMOTE IN/OUT	—9-pin
TBC REMOTE	—15-pin
MONITOR	—8-pin
HEADPHONES	—JM-60 headphone stereo jack

Specifications for Betacam SP 2000 PRO VTRs

SPECIFICATIONS			PVW-2800	PVW-2600
GENERAL	Type		Recorder/Player	Recorder
	Video Recording System		Rotary 4 head helical scan Luminance: FM recording Chrominance: FM recording (CTDM recording)	
	Video Signal System		EIA monochrome/NTSC color	
	Operating Temperature		5°C–40°C (41°F–104°F)	
	Storage Temperature		–20°C–60°C (–4°F–140°F)	
	Power Requirements		AC 90V–132V, 48 Hz–64 Hz	
	Power Consumption		150W	120W
	Dimensions (WHD):		427 x 237 x 549mm (16 ⁷ / ₈ " x 9 ³ / ₈ " x 21 ⁵ / ₈ ")	
	Humidity		< 80% (relative humidity)	
	Weight		Approx. 55 lb. 2 oz. (25 kg.)	Approx. 54 lb. (24.5 kg.)
	Tape Speed		11.85 cm/s	
	REC (PVW-2800 only)/Playback time		> 90 min with BCT-90ML/SBT-90ML > 30 min with BCT-30ML/SBT-30M	
	Fast Forward/Rewind Time		< 3 min with BCT-90ML/SBT-90ML	
	Search Speed		SHUTTLE	19 steps, still to 24 times normal speed, forward and reverse
		JOG	Frame by frame, forward and reverse	
VIDEO PERFORMANCE			Metal Particle Tape	Oxide Tape
	Bandwidth	Luminance (50% modulation)	30 Hz–4.5 MHz ^{+0.5} / _{–4.0} dB	30 Hz–4.0 MHz ^{+0.5} / _{–6.0} dB
		Color difference (50% modulation)	30 Hz–1.5 MHz ^{+0.5} / _{–3.0} dB	30 Hz–1.5 MHz ^{+0.5} / _{–3.0} dB
	S/N Ratio	Luminance (COMPONENT IN/OUT)	> 51 dB	> 48 dB
		Chrominance	AM PM > 53 dB > 53 dB	> 50 dB > 50 dB
	Differential Gain		< 3%	< 3%
	Differential Phase		< 3°	< 3°
	K-factor (2T pulse)		< 2%	< 3%
	Y/C Delay		< 20 ns	< 20 ns
	AUDIO PERFORMANCE	Frequency Response (20 dB below peak level)		50 Hz–15 kHz ^{+1.5} / _{–3.0} dB
S/N Ratio (at 3% distortion level)		> 72 dB	> 50 dB (Doby NR OFF)	
Distortion T.H.D. (at 3% distortion level) Wow and Flutter		< 1% < 0.1% rms	< 2% < 0.1% rms	
SIGNAL INPUTS	REF VIDEO IN (BNC)		1.0Vp-p, 75Ω	
	VIDEO In (BNC)		Composite video, 1.0Vp-p, 75Ω sync negative	
	COMPONENT IN 1 (12-pin male)	Luminance	1.0Vp-p, 75Ω, sync negative	
		Color Difference	R-Y: 0.7Vp-p, 75Ω B-Y: 0.7Vp-p, 75Ω	
	COMPONENT IN 2 (BNC x 3)	Luminance	1.0Vp-p, 75Ω, sync negative	
		Color Difference	R-Y: 0.7Vp-p, 75Ω B-Y: 0.7Vp-p, 75Ω	
	S-VIDEO IN		Y: 1.0Vp-p, 75Ω C: 0.286Vp-p (burst), 75Ω	
	AUDIO IN CH-1/2 (XLR 3-pin female)	LOW	–60 dBu, 3 kΩ, balanced	
HIGH		+4 dBu, 600Ω/10 kΩ selectable, balanced		
TIME CODE IN (BNC)		0.5V–18Vp-p, 10 kΩ		

Specifications for Betacam SP 2000 PRO VTRs (cont.)

SPECIFICATIONS		MODEL	PVW-2800	PVW-2600
SIGNAL OUTPUTS (continued)	VIDEO OUT 1 (BNC)		Composite video, 1.0Vp-p, 75Ω, sync negative	
	VIDEO OUT 2 (BNC)		Composite video, 1.0Vp-p, 75Ω, sync negative	
	VIDEO OUT 3		Composite video, 1.0Vp-p, 75Ω, sync negative with or without character insertion	
	COMPONENT OUT 1 (12-pin male)	Luminance	1.0Vp-p, 75Ω, sync negative	
		Color Difference	R-Y: 0.7Vp-p, 75Ω, B-Y: 0.7Vp-p, 75Ω	
	COMPONENT OUT 2 (BNC x 3)	Luminance	1.0Vp-p, 75Ω, sync negative	
		Color Difference	R-Y: 0.7Vp-p, 75Ω, B-Y: 0.7Vp-p, 75Ω	
	AUDIO LINE OUT (XLR 3-pin male)	CH-1/2	+ 4 dBu, 600Ω, balanced	
	AUDIO MONITOR OUT (XLR 3-pin male)	CH-1/2	+ 4 dBu, 600Ω, balanced	
	U-matic DUB OUT (with an optional BKW-2030)		Y: 1.7Vp-p, 51Ω, C: 0.9Vp-p, 51Ω	
S-VIDEO OUT		Y: 1.0Vp-p, 75Ω, C: 0.286Vp-p (burst), 75Ω		
TIME CODE OUT (BNC)		1.2Vp-p, 75Ω		

0 dBu = 0.775 Vrms

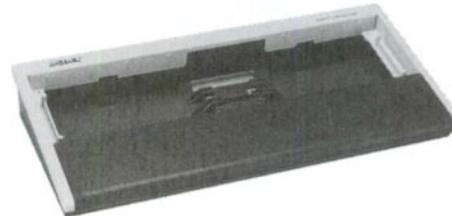
BK-803

Control Panel Case

- Mounts the control panel when removed from PVW-2800/2600
- Used with BKW-2010

Specifications

Dimension (WHD): 448 x 56.5 x 218mm
(17³/₄" x 2¹/₄" x 8⁵/₈")



PVW-2650

Betacam SP 2000 PRO Studio Player with DT

- Dynamic Tracking (DT), -1 to 3 times normal speed
- Dynamic Motion Control (DMC) with DT variable memory
- Superior picture quality, inherent in the Betacam SP format
- More than 90 minutes of playback time using the L-size cassettes with Metal or Oxide tape
- High speed picture search provides recognizable color pictures at up to 10 times normal speed in forward and reverse (24 times in monochrome)
- Two longitudinal audio channels with the Dolby C-type NR (Noise Reduction) system
- Direct RS-422 9-pin interface with other RS-422 equipped Sony machines (ex. Betacam/Betacam SP VTRs, BVU series U-matics)
- Built-in Time Base Corrector with advanced high quality digital dropout compensator
- TBC remote control from an optional BVR-50
- Built-in LTC/VITC/User Bits reader
- Built-in character generator
- Enhanced servicability with built-in self-diagnostics
- User friendly dial menu operation
- Y/R-Y/B-Y component signal outputs via BNC or 12-pin Betacam DUB connectors
- S-video (Y/C separate) output connector
- 7-pin U-matic DUB output capability (option)
- Compact and lightweight (5 unit high, 19-inch rack mountable, 54 lb. (24.5 kg.) (approx.))
- Low power consumption (130W)



CONNECTORS

REF VIDEO IN	—BNC
VIDEO OUT 1	—BNC
VIDEO OUT 2	—BNC
VIDEO OUT 3	—BNC
COMPONENT OUT 1	—12-pin
COMPONENT OUT 2	—BNC x 3
AUDIO LINE OUT	—XLR 3-pin
AUDIO MONITOR OUT	—XLR 3-pin
U-matic DUB OUT	—7-pin
S-VIDEO OUT	—4-pin
TIME CODE OUT	—BNC
REMOTE IN/OUT	—9-pin
TBC REMOTE	—15-pin
MONITOR	—8-pin
HEADPHONES	—JM-60 stereo jack

Supplied Accessories:

AC Power Cord
RCC-5G 9-pin Remote Control Cable
Operation Manual

Optional Accessories:

BVR-50 TBC Remote Controller
BVX-10 Component Color Corrector
BKW-2010 Control Panel Extension Kit
BKW-2020 U-matic DUB Output Kit
BK-803 Control Panel Case
RMM-110 Rack Mount Kit
BCT-5M/10M/20M/30M (Small Cassette)
Metal Particle Videocassette Tapes
BCT-5ML/10ML/20ML/30ML/60ML/90ML (Large Cassette)
Metal Particle Videocassette Tapes
SBT-10M/20M/30M (Small Cassette) Metal Particle Videocassette Tapes
SBT-60ML/90ML (Large Cassette) Metal Particle Videocassette Tapes
RCC-5G/10G/30G (5m, 10m, 30m) Remote Control Cable
VDC-C5 12-pin Dubbing Cable (5m)

Specifications

General

Power Requirements:	AC-90V-132V, 48 Hz-64 Hz
Power Consumption:	130W
Operating Temperature:	5°C to 40°C (41°F to 104°F)
Storage Temperature:	-20°C to 60°C (-4°F to 140°F)
Humidity:	< 80% (relative humidity)
Weight:	55 lb. 2 oz. (25 kg.) (approx.)
Tape Speed:	11.86 cm/sec.
Playback Time:	> 90 min. with BCT-90ML > 30 min. with BCT-30M
Fast Forward Time:	< 3 min. with BCT-90ML
Rewind Time:	< 3 min. with BCT-90ML
Search Speed SHUTTLE:	19 steps, still to 24 times normal speed, forward and reverse
JOG:	Frame by frame, forward and reverse
Dynamic Tracking Range:	-1 to +3 times normal speed

Signal Inputs

REF VIDEO IN (BNC): 1.0Vp-p, 75Ω

Signal Outputs

VIDEO OUT 1 (BNC):	Composite video, 1.0Vp-p, 75Ω, sync negative
VIDEO OUT 2 (BNC):	Composite video, 1.0Vp-p, 75Ω, sync negative
VIDEO OUT 3 (BNC):	Composite video, 1.0Vp-p, 75Ω, sync negative, with or without character insertion
COMPONENT OUT 1 (12-pin Male)	Luminance: 1.0Vp-p, 75Ω, sync negative Color Difference: R-Y: 0.7Vp-p, 75Ω; B-Y: 0.7Vp-p, 75Ω
COMPONENT OUT 2 (BNC x 3)	Luminance: 1.0Vp-p, 75Ω, sync negative Color Difference: R-Y: 0.7Vp-p, 75Ω; B-Y: 0.7Vp-p, 75Ω
AUDIO LINE OUT (XLR-3-pin male) CH 1/2:	4 dBu, 600Ω, balanced
AUDIO MONITOR OUT (XLR 3-pin male) CH 1/2:	4 dBu, 600Ω, balanced
U-Matic DUB OUT (with an optional BKW-2020):	Y: 1.7Vp-p, 51Ω C: 0.9Vp-p, 51Ω
S-Video Out:	Y: 1.0Vp-p, 75Ω C: 0.286Vp-p (burst), 75Ω
TIME CODE OUT (BNC):	1.2Vp-p, 75Ω

Others

REMOTE IN/OUT:	9-pin, female
TBC REMOTE:	15-pin, male
MONITOR:	8-pin, female
HEADPHONES:	JM-60 headphone stereo jack

Processor Adjustment Range

Video Level:	±3 dB
Chroma Level:	±3 dB
Setup Level:	0 to +15 IRE
Hue:	±15°
System SC Phase:	360°p-p
System Sync Phase:	+3 to -1 μs
Y/C Delay:	±50 ns

	Metal Particle Tape	Oxide Tape
Video Performance		
Bandwidth		
Luminance (50% modulation):	30 Hz-4.5 MHz (+0.5/-4.0) dB	30 Hz-4.0 MHz (+0.5/-6.0) dB
Color Difference (50% modulation):	30 Hz-1.5 MHz (+0.5/-3.0) dB	30 Hz-1.5 MHz (+0.5/-3.0) dB
S/N Ratio		
Luminance (Component IN/OUT):	> 51 dB	> 48 dB
Chrominance:	AM: > 53 dB PM: > 53 dB	PM: > 50 dB > 50 dB
Differential Gain:	< 3%	< 3%
Differential Phase:	< 3%	< 3%
K-factor (2T Pulse):	< 2%	< 2%
Y/C Delay:	< 20 ns	< 20 ns
Audio Performance		
Frequency Response:	50 Hz0-15 kHz (+1.5/-3.0) dB	50 Hz-15 kHz (+3.0/-3.0) dB
S/N Ratio (at 3% distortion level):	> 72 dB	> 50 dB (Dolby NR Off)
Distortion T.H.D. (at 3% distortion level):	< 1%	< 2%
Wow and Flutter:	< 0.1% rms	< 0.1% rms



PVV-1A

Dockable Recorder Unit

- Superior picture quality, inherent in the Betacam SP format
- Full color playback in field through optional VA-500
- A wide range of dockable cameras—Directly connectable to DXC-537A and DXC-327A 3-CCD Cameras to configure a camcorder; The CA-514 Camera Adapter enables the PVV-1A to dock with the existing BVP series Broadcast Cameras such as BVP-7A/70IS/90
- More than 30 minutes of recording time using the S-size cassette (Metal particle tape only)
- Compact and lightweight, rugged magnesium diecast body
- Two longitudinal audio channels with Dolby® C-type NR (Noise Reduction) system
- Luminance or CTDM viewfinder playback
- Record review function
- Recognizable viewfinder pictures in FF/REW
- Full range of machine control (Fast Forward/Rewind/Play/Stop/Eject)
- Built-in LTC/VITC/User Bits generator and LTC reader with external time code lock capability
- Frame accurate back space editing without time code discontinuity at the editing points
- 8-digit LCD display
- Built-in speaker
- Digital hour meter
- Built-in power supply for external microphone (+48V, CH-1/2)
- Built-in self diagnostics with character display on TV monitor
- Enhanced serviceability

Supplied Accessories:

- Shoulder Belt (1)
- Screws B4 x 12 (2), B4 x 6 (2)
- Operational Manual (1)

Optional Accessories:

- NP-1B NiCd Rechargeable Battery
- BP-90A NiCd Rechargeable Battery
- DC-210 Battery Case for BP-90A
- DC-500 Battery Case for BP-90A
- DC-520 Battery Case for NP-1B
- BC-1WB Battery Charger for four NP-1B's
- BC-410 Battery Charger for four BP-90A's and four NP-1B's
- CMA-8A AC Adaptor (used with the optional CCQX-3 cable)
- BCT-5MA/10MA/20MA/30MA Metal Particle Videocassette Tapes (Small Cassette)
- SBT-10M/20M/30M Metal Particle Videocassette Tapes (Small Cassette)
- VA-500 Playback Adaptor

Specifications

General

Power Requirements:	DC 12V +5.0V/ -1.0V
Power Consumption:	10W
Operating Temperature:	0°C to 40°C (32°F to 104°F)
Storage Temperature:	-20°C to 60°C (-4°F to 140°F)
Humidity:	< 85% Relative Humidity
Weight:	7 lb. 8 oz. (3.4 kg.) (approx.)
Tape Speed:	11.86 cm/s
Recording Time:	> 30 min with BCT-30MA/SBT-30M
Fast Forward Time:	< 4.5 min with BCT-30MA/SBT-30M
Rewind Time:	< 3.5 min with BCT-30MA/SBT-30M
Continuous Operating Time:	65 min (approx.) with NP-1B (PVV-1A and DXC-537A)

Video Performance (Metal Particle Tape)*

Bandwidth	
Luminance	
(50% modulation):	30 Hz to 4.5 MHz +0.5 db/ -4.0 db
Color Difference	
(50% modulation):	30 Hz to 1.5 MHz +0.5 db/ -3.0 db
S/N Ratio	
Luminance	
(Component IN/OUT):	> 51 dB
Chrominance	
AM:	> 53 dB
PM:	> 53 dB
K-factor (2T pulse):	< 2%
Y/C Delay:	< 20 ns

Audio Performance (Metal Particle Tape)*

Frequency response:	50 Hz to 15 kHz +1.5 dB/ -3.0 dB
SN Ratio	
(at 3% distortion level):	> 72 dB
Distortion T.H.D.	
(at 1 kHz reference level):	< 1.5%
Wow and Flutter:	
	< 0.15% rms

Signal Inputs

VIDEO (from the Camera Head, Pro 50-pin)	
Luminance:	1.0 V _{p-p} , 1 kΩ
Color Difference:	B-Y/R-Y: 0.7 V _{p-p} , 1 kΩ
GEN LOCK	
VIDEO IN (BNC):	1.0 V _{p-p} , 75 Ω
AUDIO IN CH-1/2	
(XLR 3-pin female):	-60 dBu/ +4 dBu selectable, high impedance, balanced
TIME CODE IN (BNC):	0.5V to 18 V _{p-p} , 10 kΩ

Signal Outputs

ENCODED VIDEO OUT	
(Camera Video Out, BNC):	1.0 V _{p-p} , 75 Ω
TIME CODE OUT (BNC):	1.0 V _{p-p} , 75 Ω

Others

EARPHONE OUT:	Mini jack
PLAYBACK ADAPTOR:	20-pin

*The specifications of "video/audio performance" were measured by playing back material on a standard PVW-2800/2650/2600 that had been recorded on a PVV-1A.

*0 dBu = 0.775 Vrms

BKW-2010

Control Panel Extension Kit

- Designed to remotely control the PVW-2800/2600
- Composition—Blank panel, 15-pin remote control cable, cable for the internal circuits

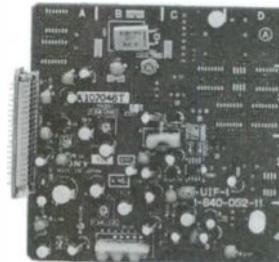
BKW-2020

U-matic DUB Output Kit

- Enables transfer of Betacam SP material from a PVW VTR to a U-matic VTR

Specifications

Dimension (WHD):	100 x 104 x 15mm
	(4" x 4 1/8" 19/32")
Weight:	2.5 oz. (70 g.)



RMM-110

Rack Mount Kit

- Designed for use in mounting PVW-2600/2800 into 19-inch rack
- Used with BKW-2020





BVU-950 (NTSC) /950P (PAL)

Superior Performance Videocassette Recorder

- Improved picture quality offered by SP technology: SP format, new Y/C separator, new noise canceller, CCD based DOC, and new DG compensation circuit
- Two modes of record/replay: SP mode or conventional mode (NTSC)/SP mode or High Band mode (PAL)
- New SP tape activates SP mode for the highest possible video and audio quality
- Dolby™ C-Type Noise Reduction System employed
- Plug-in time base corrector (optional: BKU-901A NTSC; BKU-903A PAL)
- Video S/N ratio is improved with Digital Noise Reducer (optional: BKU-902 NTSC; BKU-904 PAL, used with plug-in TBC)
- Plug-in time code generator/reader (optional: BKU-905)
- Dial Menu Operation provides maximum operational convenience
- Comprehensive built-in editing capability
- High speed picture search function: In the shuttle mode, speeds of STILL, 1/30, 1/10, 1/5, 1/2, 1, 2, 5, or 10 times normal speed in the forward and reverse directions can be selected; Jog mode provides field by field tape movement
- Versatile system interfaces: RS-422 serial interface and 24-pin parallel interface
- Compact, lightweight, and 19" rack mountable

Supplied Accessories:

AC Power Cord
 VDC-5 Dubbing Cable (5m)
 RCC-5G Remote Control Cable (9-pin, 5m)
 Extension Board (small/large)
 Operation and Maintenance Manual

Optional Accessories:

BKU-901A Time Base Corrector
 BKU-902 Digital Noise Reducer
 BKU-905 Time Code Generator/Reader
 BKU-906 Control Panel Extension Kit
 RMM-950 Rack Mount Kit
 BK-803 Control Panel Case

Specifications

General

Dimensions (WHD): 424 x 237 x 552mm
 (16 3/4" x 9 3/8" x 21 3/4") (approx.)
 Weight: 61 lb. 12 oz. (28 kg.)
 Power Requirements: AC-90V-264V, 48 Hz-66 Hz
 Power Consumption: 160W (with BKU-901A/903A/907 and BKU-905 installed)
 Operating Temperature: 5°C to 40°C (41°F to 104°F)
 Storage Temperature: -20°C to 60°C (-4°F to 140°F)
 Fast Forward Time: < 3 min. (with KSP-60)
 Rewind Time: < 2 min. 30 sec. (with KSP-60)
 Search Speed: SHUTTLE: STILL, 1/30, 1/10, 1/5, 1/2, 1, 2, 5 and 10 times normal speed in forward and reverse direction
 JOG: STILL to normal speed in forward and reverse direction
 Wow and Flutter: 0.15% rms

Video

Horizontal Resolution: SP Mode: 340 lines (color/monochrome)
 Conventional Mode: 260 lines (color/monochrome)
 S/N Ratio: SP Mode: > 47 dB (color)
 > 49 dB (monochrome)
 Conventional Mode: > 47 dB (color)

Audio

Frequency Response: SP Mode: 50 Hz-15 kHz ± 3 dB
 Conventional Mode: 50 Hz-15 kHz ± 4 dB
 S/N Ratio: SP Mode: > 52 dB (at 3% distortion level, without Dolby NR)
 Conventional Mode: > 50 dB (at 3% distortion level)
 Distortion (at 1 kHz reference level): < 2.0%

BVU-920

Superior Performance Videocassette Player

- Improved picture quality offered by SP technology
- Advanced Dynamic Tracking (DT) playback capability offers noiseless playback within -1 to +3 times normal speed
- Dynamic Motion Control (DMC) capability via RS-422 interface
- Compatibility with conventional U-matics (High Band for PAL only)
- Superior Audio System with the adoption of the Dolby™ C-Type Noise Reduction System
- Optional Plug-in time Base Corrector (BKU-901A NTSC, BKU-903A PAL)
- Video S/N ratio is improved with optional Plug-in Digital Noise Reducer (BKU-902 NTSC; BKU-904 PAL used with optional plug-in TBC)
- Built-in time code reader
- Dial Menu Operation to maximize user convenience
- High speed picture search function: In the Shuttle mode, speeds of STILL, 1/30, 1/10, 1/5, 1, 2, 5, or 10 times normal speed in the forward and reverse directions can be selected; Jog mode provides field by field tape movement
- Versatile system interfaces: RS-422 serial interface and 24-pin parallel interface
- 19-inch rack mountable



Supplied Accessories:

AC Power Cord
 RCC-5G Remote Control Cable (9-pin-9-pin)
 Extension Board (small/large)
 Operation and Maintenance Manual

Optional Accessories:

BKU-901A Time Base Corrector
 BKU-902 Digital Noise Reducer
 BKU-906 Control Panel Extension Kit
 RMM-950 Rack Mount Kit
 BK-803 Control Panel Case

Specifications

General

Dimensions (WHD): 424 x 237 x 552mm
 (16 3/4" x 9 3/8" x 21 3/4") (approx.)
 Weight: 61 lb. 12 oz. (28 kg.) (approx.)
 Power Requirements: AC-90V-264V, 48 Hz-66 Hz
 Power Consumption: 145W (with BKU-901A/903A installed)
 Operating Temperature: 5°C to 40°C (41°F to 104°F)
 Storage Temperature: -20°C to 60°C (-4°F to 140°F)
 Fast Forward Time: < 3 min. (with KSP-60)
 Rewind Time: < 2 min. 30 sec. (with KSP-60)
 Search Speed: SHUTTLE: STILL, 1/30, 1/10, 1/5, 1/2, 1, 2, 5 and 10 times normal speed in forward and reverse direction (noiseless playback is possible within DT range)
 VAR: -1, -1/2, -1/5, -1/10, -1/30, STILL, 1/30, 1/10, 1/5, 1/2, 1 and 2 times normal speed (noiseless playback)
 JOG: STILL to normal speed in forward and reverse direction (noiseless playback)
 Wow and Flutter: 0.15% rms

Video

Horizontal Resolution: SP Mode: 340 lines (color/monochrome)
 Conventional Mode: 260 lines (color/monochrome)
 S/N Ratio: SP Mode: > 47 dB (color)
 > 49 dB (monochrome)
 Conventional Mode: > 47 dB (color)

Audio

Frequency Response: SP Mode: 50 Hz-15 kHz ± 3 dB
 Conventional Mode: 50 Hz-15 kHz ± 4 dB
 S/N Ratio: SP Mode: > 52 dB (at 3% distortion level, without Dolby NR)
 Conventional Mode: > 50 dB (at 3% distortion level)
 Distortion (at 1 kHz reference level): < 2.0%

U-Matic and Accessories



BVU-900 (NTSC) /900P (PAL)

Superior Performance Videocassette Player

- Improved picture quality offered by SP technology
- Compatibility with conventional U-matics
- Superior Audio System with the adoption of the Dolby™ C-Type Noise Reduction System
- Optional Plug-in time Base Corrector (BKU-901A NTSC)
- Video S/N ratio is improved with optional Plug-in Digital Noise Reducer (BKU-902 NTSC, BKU-904 PAL used with optional plug-in TBC)
- Built-in time code reader
- Dial Menu Operation to maximize user convenience
- High speed picture search function: In the Shuttle mode, speeds of STILL, 1/30, 1/10, 1/6, 1, 2, 5 or 10 times normal speed in the forward and reverse directions can be selected; Jog mode provides field by field tape movement
- Versatile system interfaces: RS-422 serial interface and 24-pin parallel interface
- 19" rack mountable

Supplied Accessories:

- AC Power Cord
- RCC-5G Remote Control Cable (9-pin-9-pin)
- Extension Board (small/large)
- Operation and Maintenance Manual

Optional Accessories:

- BKU-901A Time Base Corrector
- BKU-902 Digital Noise Reducer
- BKU-906 Control Panel Extension Kit
- RMM-950 Rack Mount Kit
- BK-803 Control Panel Case

Specifications

General

Dimensions (WHD): 424 x 237 x 552mm
(16³/₄" x 9³/₈" x 21³/₄" (approx.)

Weight: 59 lb. 8 oz. (27 kg.) (approx.)

Power Requirements: AC-90V-264V, 48 Hz-64 Hz

Power Consumption: 130W (with BKU-901A/903A)

Operating Temperature: 5°C to 40°C (41°F to 104°F)

Storage Temperature: -20°C to 60°C (-4°F to 140°F)

Fast Forward Time: < 3 min. (with KSP-60)

Rewind Time: < 2 min. 30 sec. (with KSP-60)

Search Speed: SHUTTLE: STILL, 1/30, 1/10, 1/6, 1/2, 1, 2, 5 and 10 times normal speed in forward and reverse direction

JOG: STILL to normal speed in forward and reverse direction

Wow and Flutter: 0.15% rms

Video

Horizontal Resolution: SP Mode: 340 lines (color/monochrome)
Conventional Mode: 260 lines (color/monochrome)

S/N Ratio: SP Mode: > 47 dB (color)
> 49 dB (monochrome)
Conventional Mode: > 47 dB (color)

Audio

Frequency Response: SP Mode: 50 Hz-15 kHz ±3 dB
Conventional Mode: 50 Hz-16 kHz ±4 dB

S/N Ratio: SP Mode: > 52 dB (at 3% distortion level, without the Dolby NR)
Conventional Mode: > 50 dB (at 3% distortion level)

Distortion (at 1 kHz reference level): < 2.0%

BVU-150

Superior Performance Portable U-matic Videocassette Recorder

- Two modes of record/replay: SP U-matic mode and conventional U-matic mode
- Compact, lightweight, and rugged design
- Improved picture quality employing new Y/C separator, chroma enhancer, and noise canceller etc.
- New SP tape activates SP mode for the highest possible video and audio quality
- Integral Time Code Generator, BKU-150 (option)
- Video confidence playback
- Back space editing capability
- External Time Base Corrector capability
- Dolby™ C-Type Noise Reduction system employed
- Audio mixing for recording and playback
- Status and malfunction indicators
- Rapid point location with recognizable pictures



Supplied Accessories:

- Carrying Case
- Shoulder Strap
- Carrying Handle
- Carrying Strap
- Level Control Knob
- Operation and Maintenance Manual

Optional Accessories:

- BKU-150 Time Code Generator

Specifications

General

Dimensions (WHD): 263 x 139 x 355mm
(10 $\frac{3}{8}$ " x 5 $\frac{1}{2}$ " x 14") (approx.)

Weight: 15 lb. (6.8 kg.) (approx.)

Power Requirements: DC-11.0V-14.0V
(NiCd battery pack BP-90A used)
AC operation with AC adaptor AC-500/500CE (optional)

Power Consumption: < 23W

Operating Temperature: 0°C to 40°C (32°F to 104°F)

Storage Temperature: -20°C to 60°C (-4°F to 140°F)

Fast Forward Time: < 3 min. (with KSP-S20)

Rewind Time: < 2 min. 30 sec. (with KSP-S20)

Search Speed: 10 times normal speed in forward and reverse directions (approx.)

Tape Speed: 9.53 cm/sec. (3 $\frac{3}{4}$ ips)

Wow and Flutter: < 0.2% rms

Video

Recording System:

Luminance: FM: SP mode: 5.0 MHz-6.6 MHz
Conventional mode: 3.8 to 5.4 MHz

Chrominance: SC low-range conversion

Horizontal Resolution:

SP Mode: 340 lines (color/BW mode)

Conventional Mode: 260 lines (color/BW mode)

S/N Ratio:

SP Mode: > 46 dB (color mode)

Conventional Mode: > 46 dB (color mode)

Audio

Frequency Response:

SP Mode: 50 Hz-15 kHz \pm 3 dB

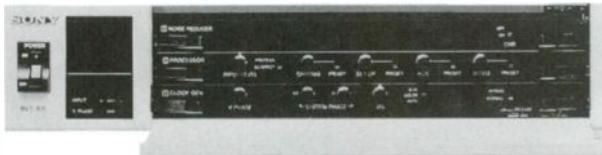
Conventional Mode: 50 Hz-15 kHz \pm 4 dB

S/N Ratio:

SP Mode (at 3% distortion level): > 52 dB, Dolby NR off

Conventional Mode (at 3% distortion level): > 50 dB, Dolby NR off

Distortion (at 1 kHz reference level): < 2.0%



BVT-810

Digital Time Base Corrector

- TBC for capstan servo color under VTRs
- Equipped with a newly developed chroma noise reduction circuit which improves the chrominance signal-to-noise ratio by 2 dB to 6 dB
- Compact and lightweight
- 15Hp-p window correction
- Connection with BVU-900/920/950 series U-matic VTRs is available
- 8-bits, 3 x fsc sampling
- Recognizable B/W picture up to ± 40 times normal speed
- Built-in digital DOC (Dropout Compensator): 1H (NTSC)/Y-1H
- Remote control capability
- Selectable vertical blanking: NSTC 10H to 21H

Supplied Accessories:

Multicore Cable
Extension Cord
Rack Mount Kit
Operation and Maintenance Manual

Specifications

Power Requirements: AC-100V-120V (90V-132V)/220V-240V (198V-264V) 50/60 Hz (48 Hz-62 Hz)
Power Consumption: 95W (NTSC)
Operating Temperature: 0°C to 40°C (32°F to 104°F)
Storage Temperature: -10°C to 60°C (14°F to 140°F)
Humidity: 10%-90%
Weight: 27 lb. 9 oz. (12.5 kg.)
Dimensions (WHD): 424 x 88 x 515mm (16 $\frac{3}{4}$ " x 3 $\frac{1}{2}$ " x 20 $\frac{3}{8}$ ")

BVR-820

Remote Control Unit

- Cue-point memory of up to 3 points for cue up, preroll, and stunt play
- Adjustable preroll time: up to 9 sec. 29 frames
- Dynamic tracking playback between two cue points for the BVU-920 series and 3000 series
- Memory expansion up to 256 points
- Fluorescent tube display: CTL/Time code, VTR operation mode, Cue points
- Up to 500m remote control capability with RS-422 interface
- Various remote control functions: Record, playback, Fast Forward, Rewind, Stop, Standby, Eject, Preroll, Search
- External command input and status output

Supplied Accessories:

AC Power Cord
Operation and Maintenance Manual

Specifications

Preroll Time: 0 sec. 00 frame to 9 sec. 29 frames
Safety Timer: 10 sec. 1/2/3/4/5/6/7/8/9 min.
Connector: REMOTE (9P): 9-pin RS-422
START SIGNAL IN: BNC
EXTERNAL I/O: 14-pin
Operating Temperature: 5°C to 40°C (41°F to 104°F)
Dimensions (WHD): 424 x 92 x 263mm (16 $\frac{3}{4}$ " x 3 $\frac{5}{8}$ " x 10 $\frac{3}{8}$ ")
Weight: 10 lb. 2 oz. (4.6 kg.)
Power Requirements: AC-100V/120V/220V/240V $\pm 10\%$ selectable, 50/60 Hz
Power Consumption: 21W

VO-9850

Editing Recorder

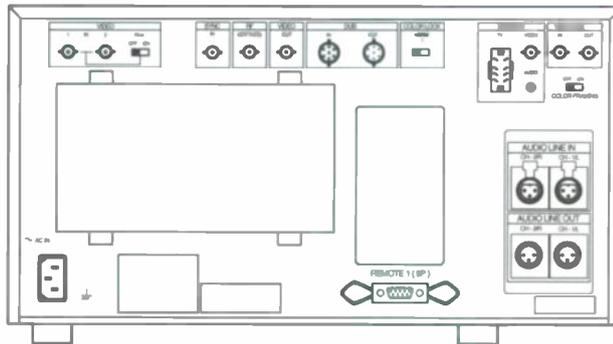
- Superior Performance (SP) Technology for excellent picture quality through multi-generation recording
- Completely interchangeable with conventional format
- Dolby® C-type Noise Reduction System for superior sound quality
- BKU-705 Time Code Generator/Reader or BKU-704 Time Code Reader (optional) for accurate time code editing
- Built-in Editing Facility allows ASSEMBLE and INSERT editing (VIDEO, AUDIO, CH-1/CH-2)
- Dial Menu Operation via search dial for user convenience: setting of time code (with the BKU-705), display of time code character on the monitor screen, setting preroll time, etc.
- Shuttle dial for high speed picture search: STILL, 1/30, 1/10, 1/6, 1/2, 1, 2, 5, 8 times normal speed in the forward and reverse directions
- Jog Dial for precise frame by frame picture search
- 9-pin REMOTE Interface (RS-422 serial): to be interfaced with the RM-450 Editing Control Unit
- BKU-703A 33-pin Editing Interface (optional): editing operation using the RM-440 Editing Control Unit or remote operation from the RM-500/580 optional Remote Control Unit via this interface
- Audio XLR connectors for connection with professional audio equipment
- Connected to an external TBC
- 19-inch rack mountable with the RMM-501 Rack Mount Kit

Supplied Accessories:

AC Power Cord
Operation Manual

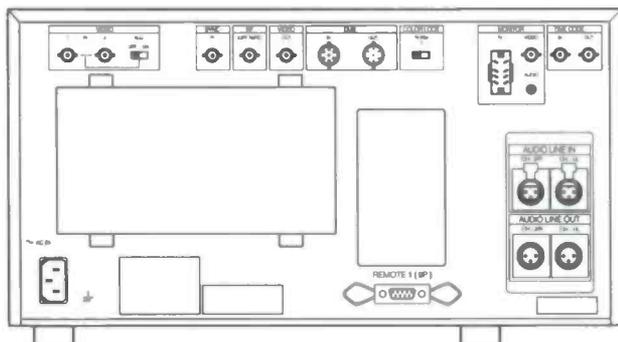
Optional Accessories:

BKU-703A 33-pin Editing Interface
BKU-704 Time Code Reader
BKU-705 Time Code Generator/Reader
RM-450 Editing Control Unit
RMM-501 Rack Mount Kit
RCC-5G/10G/30G 9-pin Remote Cable
VDC-5 Dubbing Cable (5m)
RCC-5F 33-pin Remote Cable



CONNECTORS

VIDEO IN	—BNC
SYNC IN	—BNC
SC IN	—BNC
RF (OFF TAPE)	—BNC
DUB IN	—7-pin
DUB OUT	—7-pin
VIDEO OUT	—BNC
AUDIO LINE IN	—XLR (F)
AUDIO LINE OUT	—XLR (M)
TIME CODE IN	—BNC
TIME CODE OUT	—BNC
MONITOR OUT:	
TV	—8-pin
VIDEO	—BNC
AUDIO	—Phono
HEADPHONES	—Phono
MICROPHONES	Phone
9-PIN REMOTE	RS-422 serial



CONNECTORS

VIDEO IN	—BNC
SYNC IN	—BNC
SC IN	—BNC
RF (OFF TAPE)	—BNC
DUB IN	—7-pin
DUB OUT	—7-pin
VIDEO OUT	—BNC
AUDIO LINE IN	—XLR (F)
AUDIO LINE OUT	—XLR (M)
TIME CODE IN	—BNC
S-TIME CODE OUT	—BNC
MONITOR OUT:	
TV	—8-pin
VIDEO	—BNC
AUDIO	—Phono
HEADPHONES	—Phono
MICROPHONES	Phone
9-PIN REMOTE	RS-422 serial

VO-9800

Recorder (Editing Player)

- Superior Performance (SP) Technology for excellent picture quality through multi-generation recording
- Completely interchangeable with conventional format
- Dolby* C-type Noise Reduction System for superior sound quality
- BKU-704 Time Code Reader (optional) for accurate time code editing
- Backspace editing capability or smooth transitions between scenes
- Audio dubbing on CH-1 for additional audio recording on audio CH-1
- Dual menu operation via search dial for user convenience: Display of time code character on the monitor screen, Setting preroll time, etc.
- Shuttle dial for high speed picture search; STILL, 1/30, 1/10, 1/6, 1/2, 1, 2, 5, 8 times normal speed in the forward and reverse direction
- Jog dial for precise frame by frame picture search
- 9-pin REMOTE Interface (RS-422 serial): to be interfaced with the RM-450 Editing Control Unit
- BKU-703A 33-pin Editing Interface (optional): editing operation using the RM-440 Editing Control Unit or remote operation from the RM-500/580 optional Remote control unit via this interface
- Audio XLR connectors for connection with professional audio equipment
- Connected to an external TBC
- 19-inch rack mountable with the RMM-501 Rack Mount Kit

Supplied Accessories:

AC Power Cord
Operational Manual

Optional Accessories:

BKU-703A 33-pin Editing Interface
BKU-704 Time Code Reader
RM-450 Editing Control Unit
RMM-501 Rack Mount Kit
RCC-5G/10G/30G 9-pin Remote Cable
VDC-5 Dubbing Cable (5m)
RCC-5F 33-pin Remote Cable

Specifications for U-matic Editing Videocassette Recorders

MODEL		VO-9800	VO-9850	
SPECIFICATIONS				
GENERAL	Type	Recorder (Editing player)	Editing Recorder	
	Video Recording System	Rotary 2 head helical scan Luminance: FM recording Chrominance: Converted subcarrier	Rotary 2 head helical scan Luminance: FM recording Chrominance: Converted subcarrier	
	Video Signal System	EIA monochrome/NTSC color	EIA monochrome/NTSC color	
	Operating Temperature	5°C to 40°C (41°F to 104°F)	5°C to 40°C (41°F to 104°F)	
	Power Requirements	AC-120V-50 Hz/60 Hz	AC-120V-50 Hz/60 Hz	
	Operating Voltage	AC-90V-132V	AC-90V-132V	
	Power Consumption	85W (with BKU-703, BKU-704 and RM-440)	90W (with BKU-703, BKU-705 and RM-440)	
	Dimensions (WHD):	426 x 238 x 513mm (16 ⁷ / ₈ " x 9 ³ / ₈ " x 20 ¹ / ₄ ")	426 x 238 x 513mm (16 ⁷ / ₈ " x 9 ³ / ₈ " x 20 ¹ / ₄ ")	
	Weight	47 lb. 2 oz. (21.4 kg.)	47 lb. 2 oz. (21.4 kg.)	
VIDEO SIGNAL	Recording and Playback Mode	Conventional and SP mode	Conventional and SP mode	
	Input	1.0Vp-p + 0.3V, sync negative 75Ω, unbalanced	1.0Vp-p + 0.3V, sync negative 75Ω, unbalanced	
	Output	1.0Vp-p ± 0.2V, sync negative 75Ω, unbalanced	1.0Vp-p, ± 0.2V, sync negative 75Ω, unbalanced	
	Horizontal Resolution	SP Mode	330 lines (color)	330 lines (color)
		Conventional Mode	250 lines (color)	250 lines (color)
	S/N Ratio (color)	SP Mode	> 46 dB	> 46 dB
		Conventional Mode	> 46 dB	> 46 dB
	SC Input	1.0V (0.5V-3.0Vp-p), 75Ω, unbalanced	1.0V (0.5V-3.0Vp-p), 75Ω unbalanced	
	EXT Sync Input	2.5V (1.0V-5.0Vp-p), negative, 75Ω unbalanced	2.5V (1.0V-5.0Vp-p), negative, 75Ω unbalanced	
	RF OUT (OFF TAPE)	0.5V (0.3V-1.0Vp-p), 75Ω, unbalanced	0.5V (0.3V-1.0Vp-p), 75Ω, unbalanced	
RF Output	NO	NO		
AUDIO SIGNAL	Input	Line: +4 dB, at 10 kΩ, balanced Microphone: -60 dB, 3 kΩ, unbalanced	Line: +4 dB, at 10 kΩ, balanced Microphone: -60 dB, 3 kΩ, unbalanced	
	Output	Line: +4 dB, at 600Ω, balanced Headphone: -26 dB to -46 dB, at 8Ω, unbalanced MONITOR: -5 dB, at 47 kΩ, unbalanced	Line: +4 dB, 10 kΩ balanced Headphone: -26 dB to -46 dB, at 8Ω, unbalanced MONITOR: -5 dB, at 47 kΩ, unbalanced	
	Frequency Response	50 Hz-15 kHz	50 Hz-15 kHz	
	S/N Ratio	SP Mode (Dolby off)	> 52 dB (3% distortion)	> 52 dB (3% distortion)
		Conventional Mode	> 50 dB (3% distortion)	> 50 dB (3% distortion)
TIME CODE	Input	0 dB ± 6 dB, 10 kΩ, unbalanced (0 dB = 1.55Vp-p pulse)	0 dB ± 3 dB, unbalanced (0 dB = 1.55Vp-p pulse)	
	Output	0 dB ± 3 dB, low impedance, unbalanced (0 dB = 1.55Vp-p pulse)	0 dB ± 3 dB, low impedance, unbalanced (0 dB = 1.55Vp-p pulse)	
TAPE TRANSPORT	Tape Speed	9.53 cm/s (3.8 ips)	9.53 cm/s (3.8 ips)	
	Wow and Flutter	0.18% rms	0.18% rms	
	REC or PB Time	Max. 60 min	Max. 60 min	
	Videocassette	KSP/KSP-S/KCA-BRS/KCS-BRS	KSP/KSP-S/KCA-BRS/KCS-BRS	
TECHNICAL FEATURES	Frame Code Operation	NO	NO	
	Remote Control	YES (9-pin and 33-pin)	YES (9-pin and 33-pin)	
	Electronic Editing	YES (Back space editing)	YES	
	Time Code Editing	YES (with BKU-704)	YES (with BKU-704/705)	
	Time Code Capability	YES (with BKU-704)	YES (with BKU-704/705)	
	High Speed Picture Search	YES (1/30, 1/10, 1/5, 1/2, 1, 2, 5, 8)	YES (1/30, 1/10, 1/5, 1/2, 1, 2, 5, 8)	
	Jog Search	YES	YES	
	Noiseless Pause/still	YES	YES	
	Dolby Noise Reduction	Yes (C-type)	YES (C-Type)	
	Audio Dubbing	YES (CH-1)	YES (Insert editing CH-1/CH-2)	
	EXT Sync Lock (vertical)	YES	YES	
	Programmed Operation	YES (CTL counter)	YES (CTL counter)	
	Timer Operation	NO	NO	
RF Unit Adaptable	NO	NO		



VO-5850

U-Matic® Editing Recorder/Player

- Designed for flexible editing, camera-to-VTR and VTR-to-VTR, with front-panel controls to edit audio and video simultaneously (ASSEMBLE) or separately (INSERT)
- Bidirex search dial to find edit points quickly; search at any speed from 1/30 to 5x normal, in either direction
- Sony's exclusive Phi Square Servo with digital LSI prevents picture "whipping" at edit points
- Compatible with optional Sony RM-440 Automatic Editing Control Unit; editing accuracy with RM-440 ±2 frames with one preview
- Special editing features include pre-roll; noiseless still picture; long-term pause; framing servo; and rotary erase heads
- U-Scan™ high-speed picture search with optional RM-440 and KCS tape
- Advanced video circuitry with vertical interval switching; choice of internal or external sync; luminance noise canceller, luminance dropout compensator, and differential gain compensator
- Accurate readout of elapsed tape time in minutes and seconds; Mark-In function lets you note specific tape points for fast location later
- Random access and auto play with optional RX-353 or RX-303 Auto Search Control Units
- Sony's Type-5 transport with direct-drive servo motors for head drum and capstan, DC servo reel motor
- Tracking control, skew control
- Rugged die-cast aluminum chassis
- Switching power supply to maintain stable operation
- IC logic transport controls let you go from one mode directly to another, without first pressing Stop
- Automatic or manual level controls for video, audio Ch. 1 and Ch. 2; audio and video record level meters; audio limiter
- Dub In/Dub Out connectors minimize generation loss
- End-of-tape automatic rewind
- Convenient front loading with flexible tilt-out control panel
- Mounts in standard EIA 19-inch rack

Specifications

Video Signal System: EIA standard, NTSC color
 Horizontal Resolution: Monochrome, 340 lines; color, 260 lines
 Video Signal-to-Noise Ratio: Monochrome, > 49 dB; color, > 46 dB
 Video Input: BNC x 2 with 75Ω termination switch and loopthrough output; 1.0V, +1.0Vp-p/-0.5Vp-p; 75Ω, unbalanced, sync negative; DUB IN: 7-pin connector; TV: 8-pin connector
 Video Output: BNC x 2; 1.0V, +0.2Vp-p; 75Ω, unbalanced, sync negative; DUB OUT: 7-pin connector; TV: 8-pin connector
 Subcarrier Input: BNC x 1; 0.5Vp-p-3Vp-p, 75Ω, unbalanced, sync negative
 Sync Input: BNC x 1; 2Vp-p-5Vp-p, 75Ω, unbalanced, sync negative

Audio Input: LINE: Ch. 1 and Ch. 2 phono jacks, DUB IN: 7-pin connector; TV: 8-pin connector; -10 dB, 47 kΩ; MIC: Ch. 1 and Ch. 2 phono jacks; -60 dB, 600Ω

Audio Output: LINE: Ch. 1 and Ch. 2 phono jacks -5 dB, 47 kΩ; DUB OUT: 7-pin connector; TV: 8-pin connector; stereo phone jack for 8Ω headphones

Tape Speed: 3 3/4 ips (9.53 cm/sec.)

Record/Playback Time: 60 minutes with KCA-60

Fast Forward/Rewind Time: < 4 min with KCA-60

Power Requirements: AC-100V-120V +10%, 50/60 Hz +10%

Power Consumption: 75W with RM-440

Dimensions (WHD): 9 3/8" x 17 5/8" x 20 1/2" including projecting parts and controls

Weight: 55 lb. (25 kg.)

VO-5800

U-Matic® Editing Recorder/Player

■ Designed for flexible editing, camera-to-VTR and VTR-to-VTR, with switching between sources ■ Bidirex search dial $\frac{1}{30}$ to 5x normal, in either direction ■ Sony's exclusive Phi Square Servo with digital LSI prevents picture "whipping" at edit points ■ Editing interface with optional Sony RM-440 Automatic Editing Control Unit ■ Special editing features include backspace edits; virtually noiseless still picture; long-term pause; special framing servo; and rotary erase head for cleaner edits ■ U-Scan ultra-high-speed picture search with optional RM-440 and KCS tape ■ Advanced circuitry with two video inputs; vertical interval switching; choice of internal or external sync; and luminance dropout compensator ■ Audio dubbing adds new sound to previous recordings ■ Accurate readout of elapsed tape time in minutes and seconds; Mark-In function lets you note specific tape points ■ Programmed operation repeats a selected segment of the tape ■ Random access and auto play with optional RX-353 or RX-303 Auto Search Control Units ■ Sony's type-5 transport with direct-drive servo motors head drum and capstan, DC servo reel motor ■ Tracking control, skew control ■ Rugged die-cast aluminum chassis ■ Switching power supply to maintain stable operation even during wide swings in AC line voltage and frequency ■ Dub In/Dub Out connectors minimize generation loss ■ IC logic transport controls let you go from one mode directly to another, without first pressing Stop ■ Manual audio level controls for audio Ch. 1 and 2; record level meters; switchable audio limiter ■ Playback on any TV set with optional RFK-634 RF modulator ■ Convenient front loading with flexible tilt-out control panel ■ Mounts in standard EIA 19-inch rack with optional RMM-501

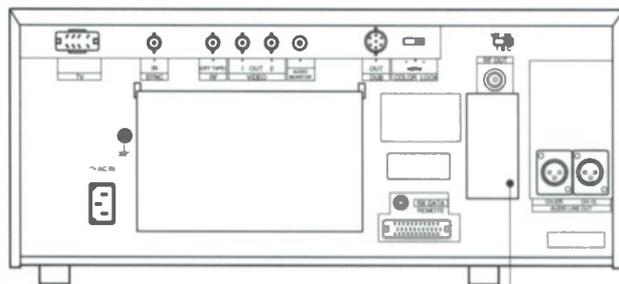


Specifications

Video Signal System:	EIA standard, NTSC color	Subcarrier Input:	BNC x 1; 0.5Vp-p-3Vp-p; 75Ω unbalanced, sync negative
Recording System:	Rotary two-head helical scan; FM luminance; converted color subcarrier, direct recording	Audio Inputs:	LINE: Ch. 1 and Ch. 2 phono jacks; DUB IN: 7-pin connector; TV: 8-pin connector; -10 dB, 47 kΩ; MIC: Ch. 1 and Ch. 2 phone jacks; -60 dB, 600Ω
Horizontal Resolution:	Monochrome, 340 lines; color, 240 lines	Audio Outputs:	LINE: Ch. 1 and Ch. 2 phono jacks -5 dB, 47 kΩ load; DUB OUT: 7-pin connector; TV: 8-pin connector, HEADPHONES: stereo phone jack for 8Ω headphones with level adjustable from -24 dB to -46 dB
Video Signal-to-Noise Ratio:	Monochrome, > 48 dB; color, > 46 dB	Tape Speed:	3 $\frac{3}{4}$ ips (9.53 cm/sec.)
Audio Signal-to-Noise Ratio:	> 48 dB (at 3% THD)	Record/Playback Time:	60 min. with KCA-60
Audio Frequency Response:	50 Hz-15,000 Hz	Fast-Forward/Rewind Time:	< 4 min. with KCA-60
Recording Level Adjustment:	Video: automatic; Audio: manual with switchable limiter	Power Requirements:	AC-120V ± 10%; 50/60 Hz ± 10%
Video Inputs:	VIDEO IN: BNC connectors x 2, 1.0V + 1.0V - 0.5Vp-p; 75Ω unbalanced, sync negative; DUB IN: 7-pin connector; TV: 8-pin connector	Power Consumption:	75W with RM-440
Video Output:	VIDEO OUT: BNC connector, 1.0V, ± 0.2Vp-p, 75Ω unbalanced, sync negative; DUB OUT: 7-pin connector; TV: 8-pin connector	Dimensions (WHD):	237 x 446 x 518mm (9 $\frac{3}{8}$ " x 17 $\frac{5}{8}$ " x 20 $\frac{1}{2}$ ")
		Weight:	53 lb. (24 kg.)

VP-9000

Player



RF modulator compartment

CONNECTORS

VIDEO OUT	—BNC
SYNC IN	—BNC
SC IN	—BNC
RF (OFF TAPE)	—BNC
AUDIO LINE OUT	—XLR (M)
AUDIO MONITOR	—Phono
HEADPHONES	—Phono
TV	—8-pin
RF OUT	—F-type
REMOTE	—33-pin/Special mini
RX DATA	—Mini

- Superior Performance (SP) Technology for excellent picture quality through multi-generation recording
- Completely interchangeable with conventional format
- Dolby* C-Type Noise Reduction System for superior sound quality
- BKU-701 Computer Interface Board (RS-232C) (optional) for external computer operation
- Frame Code Operation: random access and sophisticated program operation from the RX-707 optional Auto Search Control Unit or an external computer
- Programmed operation with MARK IN A and MARK IN B
- Timer operation for playback using an external timer
- 33-pin REMOTE connector for remote operation from the RM-500/580 optional Remote Control Unit
- Wired/wireless remote operation via the RM-770 optional remote control unit
- Search dial for high speed picture search at STILL, 1/30, 1/10, 1/6, 1/2, 1, 2, 5 times normal speed in the forward and reverse directions
- Audio XLR balanced connector for connection with professional audio equipment
- Connection to an external TBC
- Connection to a TV receiver using the RFK-634 optional RF Modulator
- 19-inch rack mountable with the RMM-507

Supplied Accessories:

Operation Manual
RF Unit Cover

Optional Accessories:

FCG-700 Frame Code Generator
BKU-701 Computer Interface Board
RK-707 Auto Search Control Unit
RM-770 Remote Control Unit
RM500/580 Remote Control Unit
RFK-634 Color RF Kit
RMM-507 Rack Mount Kit

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VO-9600

Recorder

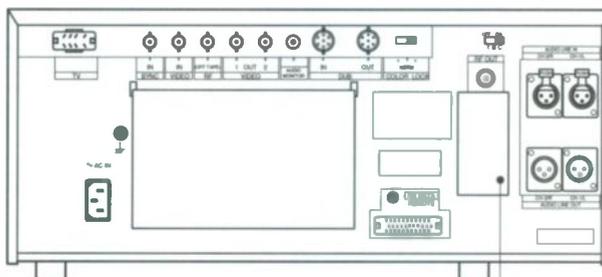
- Superior Performance (SP) Technology for excellent picture quality through multi-generation recording
- Completely interchangeable with conventional format
- Dolby® C-type Noise Reduction System for superior sound quality
- BKU-701 Computer Interface Board (RS-232C) (optional) for external computer operation
- FCG-700 Frame Code Generator (optional) for frame code recording
- Frame Code Operation: random access and sophisticated program operation from the RX-707 optional Auto Search Control Unit or an external computer
- Programmed operation with MARK IN A and MARK IN B
- Timer operation for record and playback using an external timer
- 33-pin REMOTE connector for remote operation from the RM-500/580 optional Remote Control Unit
- Wired/wireless remote operation via the RM-770 optional Remote Control Unit
- Search Dial for high speed picture search at STILL, 1/30, 1/10, 1/6, 1/2, 1, 2, 5 times normal speed in the forward and reverse directions
- Audio dubbing on CH-1 for additional audio recording on the audio CH-1
- Audio XLR balanced connector for connection with professional audio equipment
- Connection to an external TBC
- Connection to a TV receiver using the RFK-634 optional RF Modulator
- 19-inch Rack Mountable with the RMM-507

Supplied Accessories:

Operation Manual
RF Unit Cover

Optional Accessories:

FCG-700 Frame Code Generator
BKU-701 Computer Interface Board
RX-707 Auto Search Control Unit
RM-770 Remote Control Unit
RM-500/580 Remote Control Unit
RFK-634 Color RF Kit
RMM-507 Rack Mount Kit



RF modulator compartment

Connectors

VIDEO IN	—BNC
VIDEO OUT	—BNC
SYNC IN	—BNC
SC IN	—BNC
RF (OFF TAPE)	—BNC
AUDIO LINE IN	—XLR(F)
AUDIO LINE OUT	—XLR(M)
AUDIO MONITOR	—Phono
HEADPHONES	—Phono
MICROPHONES	—Phono
TV	—8-pin
RF OUT	—F-type
REMOTE	—33-pin/Special mini
RX DATA	—Mini

U-Matic and Accessories

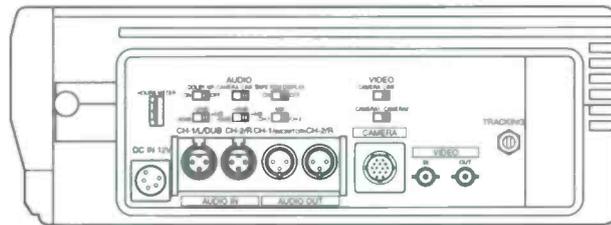
Specifications for U-matic Videocassette Recorders

SPECIFICATIONS		MODEL	VP-9000	VO-9600	
GENERAL	Type		Player	Recorder	
	Video Recording System		—	Rotary 2 head helical scan Luminance: FM recording Chrominance: Converted subcarrier	
	Video Signal System		EIA monochrome/NTSC color	EIA monochrome/NTSC color	
	Operating Temperature		5°C to 40°C (41°F to 104°F)	5°C to 40°C (41°F to 104°F)	
	Power Requirements		AC-100V-120V 50 Hz/60 Hz	AC-100V-120V 50 Hz/60 Hz	
	Operating Voltage		AC-90V-132V	AC-90V-132V	
	Power Consumption		68W (with RM-580 and RFK-634)	75W (with RM-580 and RFK-634)	
	Dimensions (WHD):		424 x 192 x 429mm (16 ³ / ₄ " x 7 ⁵ / ₈ " x 19 ³ / ₈ ")	424 x 192 x 492mm (16 ³ / ₄ " x 7 ⁵ / ₈ " x 19 ³ / ₈ ")	
	Weight		39 lb. 11 oz. (18 kg.)	39 lb. 11 oz. (18 kg.)	
VIDEO SIGNAL	Recording and Playback Mode		Conventional and SP mode (playback only)	Conventional and SP mode	
	Input		—	1.0Vp-p + 0.3V, 75Ω, unbalanced	
	Output		LINE: 1.0Vp-p ± 0.2V, 75Ω, unbalanced	LINE: 1.0Vp-p, ± 0.2V, 75Ω, unbalanced	
	Horizontal Resolution	SP Mode		330 lines (color)	330 lines (color)
		Conventional Mode		250 lines (color)	250 lines (color)
	S/N Ratio (color)	SP Mode		> 46 dB	> 46 dB
		Conventional Mode		> 46 dB	> 46 dB
	SC Input		1.0V (0.5" 3.0Vp-p), 75Ω, unbalanced	1.0V (0.5" 3.0Vp-p), 75Ω unbalanced	
	EXT Sync Input		2.5V (2.0" 3.0Vp-p), 75Ω, unbalanced, sync negative	2.5V (0.5" 3.0Vp-p), 75Ω unbalanced, sync negative	
	RF OUT (OFF TAPE)		0.5Vp-p, 75Ω, unbalanced	0.5Vp-p, 75Ω, unbalanced	
AUDIO SIGNAL	Input		—	MIC: -60 dB, at 3 kΩ load, unbalanced LINE: -4 dB, at 10 kΩ load, balanced	
	Output		LINE: +4 dBs, at 600Ω load, balanced HEADPHONE: -26 dB to -46 dB, at 8Ω load, unbalanced MONITOR: -5 dB, at 47 kΩ load, unbalanced	LINE: +4 dBs, at 600Ω load, balanced HEADPHONE: -26 dB to -46 dB, at 8Ω load, unbalanced MONITOR: -5 dB, at 47 kΩ load, unbalanced	
	Frequency Response		50 Hz-15 kHz	50 Hz-15 kHz	
	S/N Ratio	SP Mode (Dolby off)		> 52 dB (3% distortion)	> 52 dB (3% distortion)
		Conventional Mode		> 50 dB (3% distortion)	> 50 dB (3% distortion)
RF Output		With optional RF kit	With optional RF kit		
TAPE TRANSPORT	Tape Speed		9.53 cm/s (3.8 ips)	9.53 cm/s (3.8 ips)	
	Wow and Flutter		0.18% rms	0.18% rms	
	REC or PB Time		Max. 60 min	Max. 60 min	
	Videocassette		KSP/KSP-S/KCA-BRS/KCS-BRS	KSP/KSP-S/KCA-BRS/KCS-BRS	
TECHNICAL FEATURES	Frame Code Operation		YES (with BKU-701)	YES (with BKU-701)	
	Remote Control		YES (33-pln and simple)	YES (33-pln and simple)	
	Electronic Editing		NO	NO	
	Time Code Edting		NO	NO	
	Time Code Capability		NO	NO	
	High Speed Picture Search		YES (1/30, 1/10, 1/6, 1/2, 1, 2, 5)	YES (1/30, 1/10, 1/6, 1/2, 1, 2, 5)	
	Jog Search		NO	NO	
	Noiseless Pause/still		YES	YES	
	Dolby Noise Reduction		Yes (C-type)	YES (C-Type)	
	Audio Dubbing		NO	YES (CH-1)	
	EXT Sync Lock (vertical)		YES	YES	
	Programmed Operation		YES (CTL and Frame code counter with BKU-701)	YES (CTL and Frame code counter with BKU-701)	
	Timer Operation		Yes (with an optional timer)	YES (with an optional timer)	
RF Unit Adaptable		YES	YES		

VO-8800

U-Matic Portable Recorder

- Ideally suited for news gathering and outdoor recording
- Superior Performance (SP) technology for excellent picture quality
- Completely interchangeable with conventional format
- Dolby® C-type Noise Reduction System for superior sound quality
- BKU-706 Plug-in Time Code Generator (optional) for time code recording
- Y/C separate input (14-pin camera) to reduce cross color
- Back-space editing capability for smooth transitions between scenes
- Video confidence playback to verify the recorded pictures simultaneously during recording
- Three ways of warning system: warning on LCD/camera viewfinder and through audible warning alarm
- Simple remote operation by the RM-770 optional Remote Control Unit (wired only)
- High speed picture search at ± 10 times normal speed
- Headphone jack for audio monitoring
- Audio XLR connectors
- RF OUT: connected to a TV receiver
- Battery Operation: NP-1B x 2
- Compact and lightweight



Supplied Accessories:

Operation Manual
Shoulder Strap

Optional Accessories:

BKU-706 Time Code Generator

AH-8800 Carrying Handle



LC-8800 Soft Carrying Case



NP-1B Rechargeable Battery

BC-1WB Battery Charger

CMA-8A AC Adaptor

CCQX-3 Cable (CMA-8A ↔ VO-8800) 3m for AC adaptor

RM-770 Remote Control Unit

CONNECTORS

VIDEO IN	—BNC
VIDEO OUT	—BNC
AUDIO IN	—XLR (F)
AUDIO OUT	—XLR (M)
RF OUT	—F-type
HEADPHONE	—Phone
MICROPHONES	—XLR (F)
REMOTE	—Special mini
CAMERA	—14-pin
DC IN	—4-pin

U-Matic and Accessories

Specifications (VO-8800, cont.)

General

Type: SP U-matic portable recorder
Video Recording System: Rotary 4-head helical scan
Luminance: FM recording
Chrominance: Converted subcarrier
Video Signal System: EIA monochrome/NTSC color
Operating Temperature: 0°C to 40°C (32°F to 104°F)
Power Requirements: DC-12V
Operating Voltage: DC-11V-14V
Power Consumption: 18W
Dimensions (WHD): 263 x 130 x 354mm
(10³/₁₆" x 5¹/₁₆" x 14")
Weight: 13 lb. 10 oz. (6.2 kg.)

Video Signal

Recording and Playback Mode: Conventional and SP mode
Input: 1.0Vp-p ± 0.3V, sync negative 75Ω, unbalanced
Output: 1.0Vp-p ± 0.2V, sync negative 75Ω, unbalanced
Horizontal Resolution: SP mode: 330 lines (color)
Conventional Mode: 250 lines (color)
S/N Ratio (color): SP Mode: Better than 46 dB
Conventional Mode: Better than 46 dB

Audio Signal

Input: AUDIO IN CH-1/L/DUB, CH-2/R (XLR 3-pin, female) x 1 each
+ 4 dB / -20 dB / -60 dB switchable
+ 4 dB: more than 10 kΩ, balanced
-20 dB / -60 dB: more than 3 kΩ, balanced
CAMERA (microphone input) (audio channel 2)
+ 4 dB / -20 dB / -60 dB switchable
+ 4 dB: more than 10 kΩ, balanced
-20 dB / -60 dB: more than 3 kΩ, balanced
Output: AUDIO OUT CH-1/L (monitor), CH-2/R (XLR 3-pin, male) x 1 each
+ 4 dB, low impedance, balanced
HEADPHONE: -40 dB to -20 dB (at 8Ω), unbalanced
Frequency Response: 50 Hz to 15 kHz
S/N Ratio: SP mode (Dolby off): Better than 52 dB (3% distortion)
Conventional mode: Better than 50 dB (3% distortion)

Time Code

Input: 0 dB ± 6 dB, 10 kΩ, unbalanced
(0 dB = 1.55Vp-p pulse)
Output: 0 dB ± 3 dB, low impedance, unbalanced
(0 dB = 1.55Vp-p pulse)
RF Output: YES

Tape Transport

Tape Speed: 9.53mm/s (3.8 ips)
Wow and Flutter: 0.18% rms
REC or PB Time: Max. 20 min.
Videocassette: KSP-S/KCS-BRS

Technical Features

Frame Code Operation: NO
Remote Control: YES (Simple, wired only)
Electronic Editing: YES (Back space editing)
Time Code Editing: YES (with BKU-706)
Time Code Capability: YES (with BKU-706)
High Speed Picture Search: YES (x10)
Jog Search: NO
Noiseless Pause/Still: YES
Dolby Noise Reduction: YES (C-type)
Audio Dubbing: YES (CH-1)
EXT Sync Lock (Vertical): YES
Programmed Operation: NO
Timer Operation: NO
RF Unit Adaptable: RF out equipped

VO-7600

Recorder

- High quality U-matic picture and sound
- BKU-701 Computer interface board (RS-232C) (optional) for external computer operation
- FCG-700 Frame code generator (optional) for frame code recording
- Frame code operation: random access and sophisticated program operation from the RX-707 optional auto search control unit or an external computer
- Programmed operation with MARK IN A and MARK IN B
- 33-pin REMOTE connector for remote operation from the RM-500/580 optional Remote Control Unit
- Wired/wireless remote operation via the RM-770 optional Remote Control Unit
- Timer operation for record and playback using an external timer
- High speed picture search at ± 5 times normal speed
- Audio dubbing on CH-1 or additional audio recording on the audio CH-1
- External SYNC input capability
- Connection to a TV receiver using the RFK-634 optional RF Modulator
- 19-inch Rack Mountable with the RMM-507

Supplied Accessories:

Operation Manual
RF Unit Cover

Optional Accessories:

FCG-700 Frame Code Generator
BKU-701 Computer Interface Board
RX-707 Auto Search Control Unit
RM-770 Remote Control Unit
RM-500/580 Remote Control Unit
RFK-634 Color RF Kit
RMM-507 Rack Mount Kit



CONNECTORS

VIDEO IN	—BNC
VIDEO OUT	—BNC
AUDIO LINE IN	—Phono
AUDIO LINE OUT	—Phono
AUDIO MONITOR	—Phono
HEADPHONES	—Phono
MICROPHONES	—Phono
TV	—8-pin
RF OUT	—F-type
REMOTE	—33-pin/Special mini
RX DATA	—Mini

U-Matic and Accessories



CONNECTORS

VIDEO OUT	—BNC
SYNC IN	—BNC
SC IN	—BNC
AUDIO LINE OUT	—Phono
AUDIO MONITOR	—Phono
TV	—8-pin
RF OUT	—F-type
REMOTE	—Special mini

VP-7020

Player

■ High quality U-matic picture and sound ■ BKU-701 Computer Interface Board (RS-232C) (optional) for external computer operation ■ Frame Code Operation: random access and sophisticated program operation from the RX-707 optional Auto Search Control Unit or an external computer ■ Programmed operation with MARK IN A and MARK IN B ■ 33-pin REMOTE connector for remote operation from the RM-500/580 optional Remote Control Unit ■ Wired/wireless remote operation via the RM-770 operational Remote Control Unit ■ Timer operation for playback using an external timer ■ High speed picture search at ± 5 times normal speed ■ External SYNC input capability ■ Connection to a TV receiver using the RFK-634 optional RF Modulator ■ 19-inch Rack Mountable with the RMM-507

Supplied Accessories:

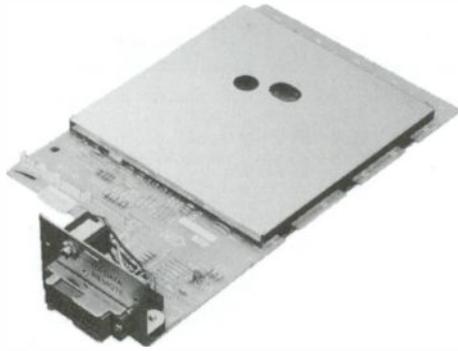
Operation Manual
RF Unit Cover

Optional Accessories:

FCG-700 Frame Code Generator
BKU-701 Computer Interface Board
RX-707 Auto Search Control Unit
BKU-702 33-pin Interface Board
RM-770 Remote Control Unit
RM-500/580 Remote Control Unit
RFK-634 Color RF Kit
RMM-507 Rack Mount Kit

Specifications for U-matic Videocassette Recorders

SPECIFICATIONS		MODEL	VP-7020	VO-7600
GENERAL	Type		Player	Recorder
	Video Recording System		—	Rotary 2-head helical scan Luminance: FM recording Chrominance: Converted subcarrier
	Video Signal System		EIA monochrome/NTSC color	EIA monochrome/NTSC color
	Operating Temperature		5°C to 40°C (41°F to 104°F)	5°C to 40°C (41°F to 104°F)
	Power Requirements		AC-100V-120V 50 Hz/60 Hz	AC-100V-120V 50 Hz/60 Hz
	Operating Voltage		AC-90V-132V	AC-90V-132V
	Power Consumption		58W (with RM-580 and RFK-634)	70W (with RM-580 and RFK-634)
	Dimensions (WHD):		424 x 192 x 429mm (16 ³ / ₄ " x 7 ⁵ / ₈ " x 19 ³ / ₈ ")	424 x 192 x 492mm (16 ³ / ₄ " x 7 ⁵ / ₈ " x 19 ³ / ₈ ")
Weight		35 lb. 4 oz. (16 kg.)	37 lb. 8 oz. (17 kg.)	
VIDEO SIGNAL	Recording and Playback Mode		Conventional mode (playback only)	Conventional mode
	Input		—	1.0Vp-p + 0.3V, 75Ω, unbalanced
	Output		LINE: 1.0Vp-p ± 0.2V, 75Ω, unbalanced	LINE: 1.0Vp-p, ± 0.2V, 75Ω, unbalanced
	Horizontal Resolution		250 lines (color)	250 lines (color)
	S/N Ratio (color)		> 45 dB	> 46 dB
	SC Input		—	—
	EXT Sync Input		2.5V (2.0V to 3.0Vp-p), 75Ω, unbalanced, sync negative	—
RF OUT (OFF TAPE)		—	—	
AUDIO SIGNAL	Input		—	MIC: -60 dB, at 3 kΩ load, unbalanced LINE: -5 dB, at 10 kΩ load, balanced
	Output		LINE/MONITOR: -5 dB, at 47Ω load, unbalanced	LINE/MONITOR: -10 dB, at 47 kΩ, unbalanced
	Frequency Response		50 Hz-15 kHz	50 Hz-15 kHz
	S/N Ratio		> 50 dB (3% distortion)	> 50 dB (3% distortion)
	RF Output		With optional RF kit	With optional RF kit
TAPE TRANSPORT	Tape Speed		9.53 cm/s (3.8 ips)	9.53 cm/s (3.8 ips)
	Wow and Flutter		0.18% rms	0.18% rms
	REC or PB Time		Max. 60 min	Max. 60 min
	Videocassette		KCA-BRS/KCS-BRS/KCA-XBR/KCS-XBR	KCA-BRS/KCS-BRS/KCA-XBR/KCS-XBR
TECHNICAL FEATURES	Frame Code Operation		YES (with BKU-701)	YES (with BKU-701)
	Remote Control		33-pin: YES (WITH BKU-702), Simple: YES	YES (33-pin and simple)
	Electronic Editing		NO	NO
	Time Code Editing		NO	NO
	Time Code Capability		NO	NO
	High Speed Picture Search		YES (x5)	YES (x5)
	Jog Search		NO	NO
	Noiseless Pause/still		YES	YES
	Dolby Noise Reduction		NO	NO
	Audio Dubbing		NO	YES (CH-1)
	EXT Sync Lock (vertical)		YES	YES
	Programmed Operation		YES (CTL and Frame code counter with BKU-701)	YES (CTL and Frame code counter with BKU-701)
	Timer Operation		Yes (with an optional timer)	YES (with an optional timer)
RF Unit Adaptable		YES	YES	



BKU-702

33-pin Interface Board

■ When the BKU-702 is installed into the VP-7020, the VP-7020 can be controlled remotely by a current 33-pin remote control unit such as the RM-500/580 or RX-303/353

Supplied Accessory:
Installation Manual

Specifications

Dimensions (WHD): 125 x 52 x 223mm
(5" x 2¹/₈" x 8⁷/₈")
Weight: Approx. 9 oz. (260 g.)
Recommended VTR: VP-7020



BKU-703A

33-pin Editing Interface

■ The BKU-703A 33-pin (parallel) editing interface can be installed into the VO-9850/9800 or EVO-9800 for connection with the RM-440 Editing Control Unit and current 33-pin remote control units such as the RM-500, RM-580 and RM-555

Supplied Accessory:
Installation Manual

Specifications

Dimensions (WHD): 63 x 109 x 64mm
(2¹/₂" x 4³/₈" x 2⁵/₈")
Weight: 8 oz. (230 g.)
Recommended VTR: VO-9850/VO-9800/EVO-9800



BKU-704

Time Code Reader

■ When the BKU-704 is installed into the VO-9850/9800, this board allows to read SMPTE time codes ■ Time code or user bits can be superimposed on the video signal (monitor output) via the Dial Menu Operation of VO-9850/9800 ■ Easy installation

Supplied Accessory:
Installation Manual

Specifications

Time Code: SMPTE
Dimensions (WHD): 199 x 41 x 145mm
(7⁷/₈" x 1⁵/₈" x 5³/₄")
Weight: 7 oz. (190 g.)
Recommended VTR: VO-9850 and VO-9800

BKU-705

Time Code Generator/Reader

- When the BKU-705 is installed into the VO-9850, this board allows to read and generate SMPTE time codes
- Time code can be set easily via the Dial Menu Operation of VO-9850
- User bits, drop/non-drop frame code, phase correction bit and binary group flag bit can be set via the Dial Menu Operation of VO-9850
- Free-run/rec-run mode can be selected via a switch
- Time code or user bits can be superimposed on the video signal (monitor output) via the Dial Menu Operation of VO-9850
- Regeneration capability to an external time code or the one previously recorded on the tape
- Easy installation



Supplied Accessory:
Installation Manual

Specifications

Time Code: SMPTE
 Drop/Non-drop Frame: Selectable
 Dimensions (WHD): 199 x 41 x 145mm
 (7⁷/₈" x 1⁵/₈" x 5³/₄")
 Weight: 7 oz. (200 g.)
 Recommended VTR: VO-9850

BKU-706

Plug-in Time Code Generator

- Generates and sets SMPTE time code and user bits
- Reads SMPTE time code
- Provides time code input and output connectors
- Automatic regeneration locked to an external time code and the time code previously recorded on tape
- User bits can be locked to external user bits
- Generate mode or read mode is selected via the GENERATE/READ switch
- Free run/Rec run is selectable
- Drop frame/Non-drop frame is selectable
- Time code data is memorized and generated for more than 12 hours after the power is turned off when NP-1B batteries are installed



Supplied Accessory:
Installation Manual

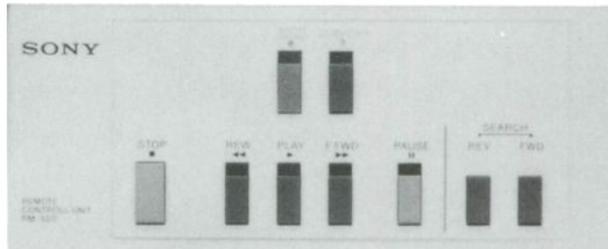
Specifications

Time Code: SMPTE
 Drop Frame/Non-Drop Frame: Selectable
 Dimensions (WHD): 28 x 86 x 81mm
 (1¹/₈" x 3³/₈" x 3¹/₈")
 Weight: 5 oz. (130 g.)
 Recommended VTR: VO-8800

RM-500

Remote Control Unit

- Basic functions of a VTR can be controlled remotely
- SEARCH buttons for picture search in both forward and reverse directions
- Can be mounted into 19-inch EIA standard rack or console using optional RMM-502 rack mount metal or optional RMM-505 rack mount metal (in case of attaching two RM-500s)



Specifications

- Power Requirements: DC-6.8V (+0.7V/-0.3V) (supplied from the VTR)
- Power Consumption: 1.2W
- Operating Temperature: 0°C to 40°C (32°F to 104°F)
- Operating Position: Any position
- Dimensions (WHD): 212 x 87 x 38mm (8³/₈" x 3¹/₂" x 1¹/₂") (approx.)
- Cable Length: 3m (10 ft.) (approx.) with 33-pin connector
Extendable up to 18m (60 ft.) (approx.)
- Weight: 2 lb. (0.9 kg.) (approx.) incl. cable
- Recommend VTR: VO-5600/9600, VP-5000/7000/9000

RM-580

Remote Control Unit

- Bidirectional search dial for finding desired portion easily and quickly
- PREROLL button is suitable for preroll editing and preroll playback
- FRAME switch for 30/25 frames selection
- START SIGN to trigger the preroll start externally
- Digital tape time counter
- Can be mounted into 19-inch EIA standard rack or console using optional RMM-503 rack mount metal



Specifications

- Power Requirements: DC-6.8V (+0.7V/-0.3V) (supplied from the VTR)
- Power Consumption: 2.0W
- Digital Time Counter: -9 hours 59 min. 59 sec. 29/24 frames to 9 hours 59 min. 59 sec. 29/24 frames
- Operating Temperature: 0°C to 40°C (32°F to 104°F)
- Operating Position: Any position
- Dimensions (WHD): Approx. 424 x 60 x 124mm (16³/₈" x 2³/₈" x 5¹/₈")
- Cable Length: Approx. 3m (10 ft.) with 33-pin connector
Extendable up to approx. 18m (60 ft.)
- Weight: Approx. 4 lb. 7 oz. (2.0 kg.) incl. cable
- Recommended VTR: VO-5850/5800/9600, VP-7000/9000, SLO-385

RM-770

Remote Control Unit

■ Wireless/wired remote control capability for the VO-8800/6800/7600/9600, VP-7020/9000 ■ Controls advanced functions such as SEARCH-FWD/SEARCH-REW, in addition to the basic functions of STOP/REC/PAUSE/F FWD/PLAY

Supplied Accessories:

Receiver
5m Cable
R6 (AA size) Battery (2)

Specifications

Power Requirements: DC-5V (wireless: supplied from two R6 (AA size) batteries; wired: supplied from the VTR)

Power Consumption: 2 mW

Connector: Special mini

Dimensions (WHD): Approx. 65 x 18 x 150mm
(2⁵/₈" x 2³/₃₂" x 6")

Weight: Approx. 4 oz. (105 g.) (excluding batteries)

Recommended VTR: VO-8800/6800/7600/9600
VP-5040/7000/7020/9000



FCG-700

Frame Code Generator

■ Generates frame codes sequentially from 000,000 to 299,999 (2 hours 46 minutes) ■ Frame Code is inserted into the seventeenth and eighteenth lines of the vertical blanking intervals of the video signal ■ Start point can be set from 000,000 to 299,999 ■ Three start triggers, an external pulse, a cue tone and the manual mode can be set ■ The Frame Code and the status of the Frame Code Generator can be superimposed on the picture output from the VIDEO OUT-2 connector while recording ■ 19-inch rack mountable

Supplied Accessories:

Rack Mount Brackets
Operation Manual
AC Cord

Specifications

Power Requirements: AC-120V, 50/60Hz

Power Consumption: 10W

Video In: BNC, 1.0Vp-p (75Ω on/off selectable)

Video Out 1: BNC, 1.0Vp-p (at 75Ω load)

Video Out 2: BNC, 1.0Vp-p (at 75Ω load)

Audio In: XLR, +4 dB; Phono, -5 dB

Audio Out: XLR, +4 dBm; Phono, -5 dB

External Pulse In: BNC, TTL level

Dimensions (WHD): Approx. 424 x 49 x 256mm
(16³/₄" x 1⁹/₁₆" x 10¹/₈")

Weight: Approx. 7 lb. 4 oz. (3.3 kg.)





RX-707

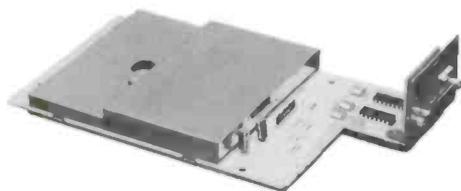
Auto Search Control Unit

- By setting a frame code number on the control unit, the desired picture can be easily retrieved
- 15 program (PGM) segments can be memorized
- Sequential playback of all of the program segments can be set at one to nine times or for continuous repeat

Supplied Accessories:
Operation Manual

Specifications

Dimensions (WHD): Approx. 62 x 18 x 215mm
(2½" x 2¾" x 8½")
Cable Length: 5m
Weight: Approx. 14 oz. (400 g.)



BKU-701

Computer Interface Board

- Reads the Frame Codes that have been recorded on the videocassette tape
- Provides an RS-232C interface and allows the VTRs to be controlled from an external computer or the RX-707
- Video/audio signals can be output or muted by setting the BKU-701 dip switches to ON or OFF
- The baud rate can be selected from 1200, 2400, 4800, or 9600 bits per second (bps)

Supplied Accessories:
Operation Manual

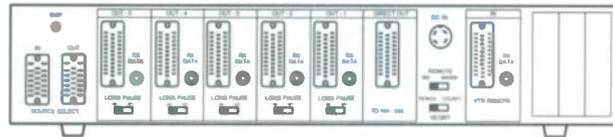
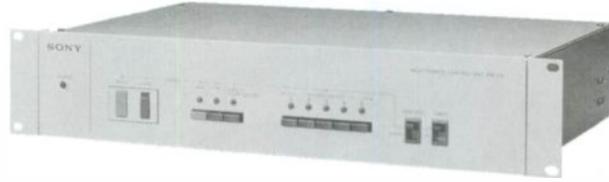
Specifications

Signal: RS-232C
Connector: D-sub, 25-pin
Dimensions (WHD): Approx. 125 x 52 x 223mm
(5" x 2¼" x 8¾")
Weight: Approx. 9 oz. (260 g.)
Recommended VTR: VO-7600/9600, VP-7000/7020/9000

RM-555

Multi-Remote Control Unit

- Can simultaneously control up to 5 VTRs, and up to 20 VTRs can be controlled by using 4 RM-555s. Suitable for multi-dubbing system
- Sequential recording or playback on up to 5 VTRs
- An auto search control unit can be connected to the RM-555 for searching after any recorded point on the tape of any of up to 5 VTRs
- Suitable for an editing system using two or more players when the optional VCS-500 and the RM-V5 are connected to the RM-555
- SKIP function to skip the VTR engaged and start recording or playback on the next VTR during sequential recording or playback
- DC IN connector for supplement to insufficient power from the VTR
- Can be mounted into 19-inch EIA standard rack or console



Supplied Accessories:

Rack Mounting Screws (4)
Washers (4)

Specifications

Power Requirements: DC 6.8V (when the power is supplied from a VTR)
DC 12V (when the power is supplied from the DC IN connector)

Power Consumption: 6W (with DC 6.8V input)

Remote Control

Signal Inputs: VTR REMOTE IN (33-pin) x 1
SOURCE SELECT IN (20-pin) x 1

Remote Control

Signal Outputs: OUT (33-pin) x 5
SOURCE SELECT OUT (20-pin) x 1
DIRECT OUT TO RM-555 (33-pin) x 1

Skip Signal Input: SKIP (Phono) x 1, active low

Operating Temperature: 0°C to 40°C (32°F to 104°F)

Operating Position: Horizontal

Weight: Approx. 12 lb. 13 oz. (5.8 kg.)

Recommended VTR: ALL TYPE-5/7/9 VTRS, SLO-383

RFK-634

Color RF Kit

- Plugs into the RF compartment for the VO-5800/5600/6800/7600/9600 and VP-5000/5020/7000/7020/9000

Supplied Accessories:

75Ω Coaxial Cables (0.5m, 1.5m) with F-type Connectors
ANS-32 Antenna Selector
EAC-24 Antenna Connector

Specifications

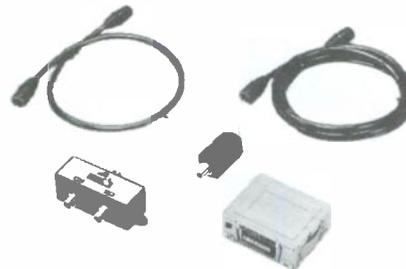
Channel: American TV standard VHF Ch. 3 and 4 (switchable)

Output Level: RF signal, < 75 dB, 75Ω

Power Requirements: DC 9V, 20 mA, supplied from VTR

Dimensions (WHD): 69 x 23 x 54mm, RF unit only
(2¾" x 29/32" x 2¼")

Weight: 3 oz. (90 g.), RF unit only



U-Matic and Accessories



RMM-501

Rack Mount Kit

■ Rack mount kit for use in mounting VO-9850/9800 and Type 5 VTR into 19-inch rack



RMM-507

Rack Mount Kit

■ Rack mount kit for use in mounting VO-9600/7600 and VP-9000/7020 into 19-inch rack



RCC-5F

Remote Control Cable

■ 33-pin/33-pin, 5m (16.4 ft.) ■ RM-440/450 ↔ VO-5850/5800 series, SLO-383, RM-555 ■ RM-555 ↔ All Type-5/7/9 VTRs



RCC-15FT

Remote Control Extension Cable

■ 33-pin/33-pin, 15m (49.2 ft.) ■ RM-500/580 ↔ All Type-5/7/9 VTRs, RM-555



RCC-G

Remote Control Cable

■ 9-pin/9-pin ■ RM-450 ↔ VO-9850/9800/ EVO-9800/ BVU/BVW/BVH series VTR ■ RCC-5G: 5m (16 ft.), RCC-10G: 10m (33 ft.), RCC-30G: 30m (98 ft.)

BVR-800

Remote Control Unit

■ Fluorescent tube display: CTL/Time code, VTR operation mode ■ Up to 500m remote control capability with RS-422 interface ■ Various remote control functions: Record, Playback, Fast Forward, Rewind, Stop, Standby, Eject, Preroll, Search ■ Adjustable preroll time: up to 9 sec. 29 frames ■ External command input and status output

Supplied Accessories:

AC Power Cord
Rack Mount kit
Operation and Maintenance Manual

Specifications

Preroll Time: 0 sec. 00 frame to 9 sec. 29 frames
Safety Timer: 10 sec. 1/2/3/4/5/6/7/8/9 min.
Connector: REMOTE (9P): 9-pin RS-422
START SIGNAL IN: BNC
EXTERNAL I/O: 14-pin
Operating Temperature: 5°C to 40°C (41°F to 104°F)
Dimensions (WHD): 424 x 92 x 177mm
(16³/₄" x 3⁵/₈" x 7")
Weight: 7 lb. 11 oz. (3.5 kg.)
Power Requirements: AC-100V/120V/220V/240V ± 10%
(selectable), 50/60 Hz
Power Consumption: 17W

LVR-5000A/LVS-5000A

Laser VideoDisc Recorder



- Writable disc media, LVM-3AA0, with the storage capacity of 43,500 still frames or 24 minutes of moving pictures
- Capable of long-term storage
- Adopts the component time division multiplex video recording format for the high quality picture performance
- PCM audio recording
- Black and white mode
- Quick random access within 0.5 sec. or less
- NTSC/PAL* signal processing capability
- Provided with RS-232C remote interface and 9-pin REMOTE interface (RS-422)
- Noiseless picture playback at variable speeds
- Genlock capability
- Multiple video input/output facility
- Wired/wireless remote operation via the RM-W5000 supplied Remote Commander
- The optional RM-9000PR Programmable Remote Controller is available for programming customized playback operation

* With the optional DB-W5000AP PAL board installed in the LVS-5000A

Supplied Accessories:

- LVR-5000A: Operation Manual
- AC Power Cord
- 36-pin System Control Cable
- BNC Cables (2)
- RM-W5000 Remote Commander
- LDM-5000 RS-232C Interface Manual
- LDM-5422 9-pin REMOTE Interface Manual
- LVS-5000A: Operation Manual
- AC Power Cord

Optional Accessories:

- LVM-3AA0 Laser VideoDisc Media
- RM-9000PR Programmable Remote Controller
- DB-W5000AP PAL Board for LVS-5000A
- RMM-5000 Rack Mount Kit
- RCC-5000 36-pin Control Cable (1.5m)

LVA-7000

Laser VideoDisc Player



- High quality picture performance with the component time division multiplex video recording format
- Black and white mode
- Quick random access within 0.5 sec. or less
- Frame memory function
- NTSC/PAL* signal processing capability
- Provided with RS-232C remote interface and 9-pin REMOTE interface (RS-422)
- Noiseless picture playback at variable speeds
- Genlock capability
- Multiple video input/output facility
- Wired/wireless remote operation via the RM-W7000 optional Remote Commander
- The optional RM-9000PR Programmable Remote Controller is available for creating customized operational program

*With the optional DB-W7000P PAL board installed

Supplied Accessories:

- Operation Manual
- AC Power Cord

Optional Accessories:

- LVM-3AA0 Laser VideoDisc Media
- RM-W7000 Remote Commander
- RM-9000PR Programmable Remote Controller
- DB-W7000P PAL Board
- LDM-5000 RS-232C Interface Manual
- LDM-5422 9-pin REMOTE Interface Manual
- RMM-7000 Rack Mount Kit

LVA-3500

Laser VideoDisc Player

- High quality picture performance with the component time division multiplex video recording format
- Black and white mode
- Quick random access within 0.5 sec. or less*
- Provided with RS-232C remote interface
- Noiseless picture playback at variable speeds*
- Multiple video output facility
- Wired/wireless remote operation via the RM-W7000 optional Remote Commander
- The optional RM-9000PR Programmable Remote Controller is available for creating customized operational program

*For these operations, either an RM-W7000 or RM-9000PR is required.

Supplied Accessories:

Operation Manual
AC Power Cord

Optional Accessories:

LVM-3AA0 Laser VideoDisc Media
RM-W7000 Remote Commander
RM-9000PR Programmable Remote Controller
LDM-5000 RS-232C Interface Manual
RMM-7000 Rack Mount Kit





LVR-3000N

Laser VideoDisc Recorder

■ **High Quality Picture and Audio Performance**—Component time division multiplex video recording and a unique alloy format technique are combined in the LVR-3000N to provide high quality image recording. For audio, PCM (Pulse Code Modulation) recording is used for super sound fidelity. During playback, its non-contact optical laser pick-up system allows the LVR-3000N to continuously reproduce optimum picture and audio signals without any long term deterioration in their quality. ■ **Writable Disc Medium, Capable of Long-term Storage**—The Laser VideoDisc Recording system makes it possible to record 24 minutes of video or 43,500 still images, together with associated sound, onto each side of an LVM-3AA0 optical disc. Using the LVR-3000N, even complex interactive video programs can be created with in-house facilities, saving time and reducing production costs. Accelerated aging tests conducted by Sony indicate that the drop out ratio will not exceed twice its initial level, even after 100 years of storage (In a normal office environment (20°C, 65% relative humidity). This assures long-term retention of valuable information without any quality deterioration.

■ **Frame Picture Recording Capability**—In addition to recording and replaying continuous video and audio, the LVR-3000N has a single frame image recording capability. This makes it particularly effective in computer graphics animation and similar recording applications. A maximum of 43,500 frames can be stored on each side of a disc. Furthermore, the stored images can be viewed immediately after recording, which enables quality to be checked at any stage. ■ **Quick Random Access**—Any image recorded onto a disc can be accessed within 0.5 second or less (average). ■ **Frame Memory Function**—The Frame Memory incorporated in the LVR-3000N facilitates recording and playback operation. ■ **Non-TBC Operation**—With its built-in frame memory, the LVR-3000N can accept signals directly from U-matic, VHS, Hi8 and similar VTRs. System sync/phase can also be adjusted. ■ **Picture Freezing**—In the FRAME RECORDING mode, one frame can be stored in frame memory for confirmation before recording. ■ **Random Search Operation**—Immediately before the search operation starts, frame memory retains the current picture and outputs it while the head is moving. When the required image is located, the video output is switched from the frame memory back to the head, giving continuity to the video signal.

■ **Slow/Still Playback**—Since a disc is played back frame by frame due to the recording format, fast moving objects are sometimes blurred—particularly in slow motion or still modes. A frame memory enables the LVR-3000N to provide field by field slow and still playback, which minimizes picture blurring. In slow motion or still playback, motion analysis can then be easily carried out.

■ **Noiseless Picture Playback at Variable Speeds**—Noiseless images can be played back at still and slow motion from 1/255 to normal speed, or fast motion at three times normal speed in either forward or reverse direction. This enables any sequence of pictures to be played back at a viewer's preferred speed. ■ **Repeat Function**—The repeat function enables either the entire disc or a specified portion of the program to be played back continuously. Selection of the playback sequence and the number of repetitions is made on the LVR-3000N front panel. ■ **Operation Indicating Panel**—In addition to frame or time code display, the status of operating modes, such as Recording, Picture Search and Repeat Function, are shown on the display panel so that viewing is not disturbed (Index indication switch should be set to off). ■ **Search Dial**—During picture search, the Jog/Shuttle dial adds the operational convenience of controlling playback speed from 1/30 to 30 times normal speed in the Shuttle mode and frame by frame to normal playback in the Jog mode. This allows the desired image to be easily found. ■ **User Data**—A 64 K byte area is reserved on each side of the disc for user data, such as the disc ID, contents and picture index. This data can be recorded with the assistance of an external computer. User data makes it easy to recognize a disc without actually replaying its entire contents. ■ **Remote Control Units**—The supplied wired/wireless remote commander RM-W3000 provides full operational control of an LVR-3000N. When the optional foot switch FS-20 is connected to the RM-W3000, recording can be initiated without IN and OUT points designated. In addition, the optional programmable remote controller RM-9000PR allows customized playback operations to be easily programmed and carried out. ■ **19-inch EIA Standard Rack**—With the optional rack mount kit RMM-7000A, the LVR-3000N can be mounted into a 19-inch EIA standard rack. ■ **RS-232C Interface**—An RS-232C remote interface enables the LVR-3000N to communicate with an external computer, facilitating computer controlled recording and playback operation. The supplied LDM-5000 RS-232C interface manual provides detailed protocol information. ■ **9-pin Remote Interface**—Via the RS-422 9-pin remote interface, the LVR-3000N can be controlled by Sony Editing Control Units (BVE-3000 and BVE-5000 cannot control the LVR-3000N). Together with VTRs, the LVR-3000N can be used in an editing system. The supplied LDM-5422 remote interface manual provides detailed protocol information. ■ **A Choice of Input/Output Facility**—For convenient use of the LVR-3000N, various input/output facilities, such as Component Video (Y/R-Y/B-Y), RGB, Y/C separate video as well as composite video, are provided for flexible connection to other equipment. Monitor video output connection is also available.

Supplied Accessories:

Operation Manual
AC Power Cord
RM-W3000 Remote Commander
LDM-5000 RS-232C Interface Manual
LDM-5422 9-pin Remote Interface Manual

Optional Accessories:

LVM-3AA0 Laser VideoDisc Medium
RM-9000PR Programmable Remote Controller
RMM-7000A Rack Mount Kit
RS-20 Foot Switch
WOA-D11 VideoDisc Cleaning Kit

Specifications

General

Power Requirements: AC-120V, 60 Hz
Power Consumption: 115W
Operating Temperature: 5°C to 35°C (41°F to 95°F)
Storage Temperature: -20°C to 60°C (-4°F to 140°F)
Humidity: 20% - 80%
Weight: 52 lb. 15 oz. (24 kg)
Dimensions (WHD): 439 x 214 x 568mm
(17 1/4" x 8 1/2" x 22 3/8")
User Data Area: 64 Byte x 1024 tracks per side

Recording/Playback System

Recording Mechanism: Alloy mode
Laser: Semiconductor diode laser (λ:780nm)
Laser Output: 17 mW
(This output is the value measured at a distance of approximately 1.6mm from the objective lens surface on the Optical Block Assembly during recording).
Videodisc: 12" (300mm) (CAV mode only)
Maximum playback/Recording Time and Frames: 24 minutes 10 sec./side
43,500 frames/side
Spindle Speed: 1800r/min
Access Time: 0.5s (full stroke average)
Variable Speed Playback: 1/255 to 3 times normal speed in forward and reverse directions plus still

Video

Signal: EIA standard, NTSC color
Input: Composite: 1Vp-p, 75Ω switchable, unbalanced, sync negative (BNC)
Y/C: Y: 1Vp-p, 75Ω, unbalanced, sync negative
C: 0.286Vp-p, 75Ω, unbalanced (Mini DIN 4-pin)
Component: Y: 1Vp-p, 75Ω, unbalanced, sync negative (BNC)
R-Y/B-Y: 0.7Vp-p, 75Ω, unbalanced (BNC)
REF. Video: RGB: 0.7Vp-p, 75Ω, unbalanced (BNC)
1Vp-p, 75Ω switchable, sync negative (BNC)
EXT. Sync: 0.2Vp-p-5Vp-p, 75Ω, negative (BNC)
Output: Composite: 1Vp-p, 75Ω, unbalanced, sync negative (BNC)
Y/C: Y: 1Vp-p, 75Ω, unbalanced, sync negative
C: 0.286Vp-p, 75Ω, unbalanced (Mini DIN 4-pin)
Component: Y: 1Vp-p, 75Ω, unbalanced, sync negative (BNC)
R-Y/B-Y: 0.7Vp-p, 75Ω, unbalanced (BNC)
RGB: 0.7Vp-p, 75Ω, unbalanced (BNC)
SYNC: 4Vp-p, 75Ω, unbalanced, negative (BNC)
MONITOR: 1Vp-p, 75Ω switchable, sync negative (BNC)
Bandwidth (Luminance): 4.5 MHz (Component video out)
Signal to Noise Ratio: 48 dB (typical)

Audio

Input CH-1/2: -5 dBs, 47 kΩ, unbalanced (phono)
Output CH-1/2: -5 dBs, 47 kΩ, unbalanced (phono)
Headphone: -46 dBs to -26 dBs, 8Ω, unbalanced
Dynamic Range: 88 dB
Frequency Response: 20 Hz - 15 kHz
External Control Interface
Interface: RS-232C: 25-pin
REMOTE 9-pin (RS-422 serial)
Protocol: RS-232C: Compatible with the Sony LVA and LDP series
REMOTE: 9-pin (RS-422 serial):
Conforming to Sony 9-pin Protocol

Specifications for Laser VideoDisc Recorder/Player

SPECIFICATIONS		MODEL	LVR-5000A/LVS-5000A	LVA-7000	LVA-3500
GENERAL	Power requirements		AC-120V, 60 Hz		
	Power consumption		LVR-5000A: 70W LVS-5000A: 96W	105W	85W
	Weight		LVR-5000A: 39 lb. 11 oz. (18 kg.) LVS-5000A: 28 lb. 11 oz. (13 kg.)	48 lb. 8 oz. (22 kg.)	46 lb. 5 oz. (21 kg.)
	User data area		64 Byte x 1024 tracks per side		
	Dimensions (WHD)		LVR-5000A: 375 x 180 x 530mm (14 ⁷ / ₈ " x 7 ¹ / ₈ " x 20 ⁷ / ₈ ") LVS-5000A: 375 x 180 x 490mm (14 ⁷ / ₈ " x 7 ¹ / ₈ " x 19 ³ / ₈ ")	424 x 213 x 530mm (16 ³ / ₄ " x 8 ¹ / ₂ " x 20 ⁷ / ₈ ")	
RECORDING/PLAYBACK SYSTEM	Recording mechanism		Alloy mode		
	Laser		Semiconductor diode laser (λ: 780nm)		
	Videodisc		12-inch, (300mm) (CAV mode only)		
	Maximum playback/recording time and frames		24 minutes/side, 43, 500 frames/side		
	Spindle revolution		1,800 rpm		
	Access time		0.5 sec. (full stroke average)		
	Variable speed playback		1/255 to 3 times normal speed in the forward/reverse direction and still		
VIDEO	Signal		EIA standard, NTSC color		
	Input		Composite: 1Vp-p, 75Ω, unbalanced, sync negative, BNC		Not applicable
			Y/C: Y: 1Vp-p, 75Ω, unbalanced, sync negative C: 0.286Vp-p, 75Ω, unbalanced, DIN 4-pin		Not applicable
			Component: Y: 1Vp-p, 75Ω, unbalanced, sync negative, BNC R-Y/B-Y: 0.7Vp-p, 75Ω, unbalanced, BNC		Not applicable
			RGB: 0.7Vp-p, 75Ω, unbalanced, sync negative, BNC		Not applicable
	Output		Composite: 1Vp-p, 75Ω, unbalanced, sync negative, BNC		
			Y/C: Y: 1Vp-p, 75Ω, unbalanced, sync negative C: 0.286Vp-p, 75Ω, unbalanced, DIN 4-pin		
			Component: Y: 1Vp-p, 75Ω, unbalanced, sync negative, BNC R-Y/B-Y: 0.7Vp-p, 75Ω, unbalanced, BNC		
			RGB: 0.7Vp-p, 75Ω, unbalanced, BNC		
	Bandwidth (Luminance)		4.5 MHz (color mode), 6.7 MHz (black and white mode)		
Signal to noise ratio		48 dB (typical)			
Reference Video In		1Vp-p, 75Ω switchable, sync negative, loop-through BNC		1Vp-p, 75Ω, sync negative BNC	
External Sync In		0.2Vp-p to 5V p-p, 75Ω switchable, negative, loop-through BNC	0.2Vp-p to 5Vp-p, 75Ω switchable, negative, BNC	Not applicable	
AUDIO	Input CH-1/2		+ 4 dBm, 600Ω/10 kΩ selectable, balanced, XLR (x 2)		Not applicable
	Output CH-1/2		+ 4 dBm, 600Ω, balanced, XLR (x 2)		-5 dBs, 47 kΩ, unbalanced, Phono (x 2)
	Headphone		- 46 dBs to -26 dBs, 8Ω load, binaural, unbalanced, Phone		
	Dynamic range		88 dB		
	Frequency response		20 Hz to 15 kHz		
EXTERNAL CONTROL INTERFACE					
	Interface		RS-232C: 25-pin		
			REMOTE: 9-pin (RS-422)		—
OPTIONAL ACCESSORIES		LVM-3AA0 Laser VideoDisc media	LVM-3AA0 Laser VideoDisc media		
		RM-9000PR Programmable remote controller	RM-W7000 Remote commander		
	DB-W5000AP PAL board	RM-9000PR Programmable remote controller	DB-W7000P PAL board (Effective only for LVA-7000)		
	RMM-5000 Rack mount kit	LDM-5000 RS-232C interface manual	LDM-5422 9-pin remote interface manual		
	RCC-5000 36-pin control cable (1.5m)	RMM-7000 Rack mount kit			

RM-9000PR

Programmable Remote Controller

- Controls playback operation of LVR/LVA/LDP series Laser VideoDisc products via the RS-232C interface
- Creates up to eight customized operational programs
- Requires neither special skills nor computer knowledge for programming
- Auto Repeat/Auto Play capability
- Removeable RMI-9000 memory card to store up to eight operation programs created on the RM-9000PR
- D-sub 25-pin interface connector for connection to custom made control device

When used with the LDP series, the RM-9000PR can create operational programs effective for frame operation in the CAV mode

Supplied Accessories:

Operation Manual
RMI-9000 IC Memory Card
SMF-3036C RS-232C Cross Cable (D-sub 9-pin/D-sub 25-pin)
CR-2016 Lithium Battery

Optional Accessories:

RMI-9000 IC Memory Card

Specifications

Power Requirements: AC-120V, 60 Hz
Power Consumption: 4.5W
Dimensions (WHD): 280 x 88 x 210mm (approx.)
(1¹/₈" x 3¹/₄" x 8³/₈")
Weight: 4 lb. 13 oz. (2.2 kg.)
Interface: RS-232C (D-sub 9-pin), compatible with Sony
LVR, LVA and LDP series
External input terminal (D-sub 25-pin)



RM-W7000

Wired/Wireless Remote Control Unit for LVA-7000 and LVA-3500

- Remote Control Method: Wireless (Infrared Pulse Method), wired (when supplied cable is connected)

Supplied Accessories:

R6 (AA size) battery (3)
Connection Cord (2m)

Specifications

Power Requirements: DC-4.5V (wireless: supplied from three R6 (AA size) batteries; wired: supplied from the player)
Dimensions (WHD): 70 x 20 x 210mm
Weight: 7 oz. (185 g.) (approx.) with batteries installed

LVM-3AA0

Writable Laser VideoDisc Media

- Write-once optical disc media for Laser VideoDisc recording
- Long-term storage
- Large storage capacity; 43,500 still frames or 24 min. of moving pictures per side in NTSC, 37,250 still frames or 24 min. of moving pictures per side in PAL

Specifications

Dimensions (WHD): 325 x 345 x 16mm
(12⁷/₈" x 13⁵/₈" x 2¹/₃₂")
Weight: 2 lb. 3 oz. (980 g.)

DB-W5000AP

PAL Signal Processing Board

- PAL signal processing board for LVS-5000A

Specifications

Dimensions (WHD): 300 x 342 x 23mm (approx.)
(11⁷/₈" x 13¹/₂" x 2⁹/₃₂")

Weight: 2 lb. 10 oz. (1200 g.)

DB-W7000P

PAL Signal Processing Board

- PAL signal processing board for LVA-7000

Specifications

Dimensions (WHD): 150 x 351 x 23mm (approx.)
(6" x 13⁷/₈" x 2⁹/₃₂")

Weight: 1 lb. 5 oz. (600 g.)

EVO-9650

Hi8 Videocassette Record/Player

- Single frame recording capability: ± 0 frame accuracy
- Sony Institutional RS-232C interface for computer control applications
- Video Hi8™ format for excellent picture quality: over 400 TV line resolution
- Insert capability: Video/PCM audio/Time Code
- Built-in frame buffer for high quality computer graphics recording
- Digital NR (chrominance and luminance noise reducer) for high quality playback picture
- Digital special effects: Frame/field (selectable), 3 x 3 matrix display, Zoom, Variable noiseless slow motion by the digital frame memory
- Built-in 8mm time code generator/reader
- Preset Menu for VTR mode setting: digital CNR/YNR level, Time code display position, Still timer, etc.
- JOG/SHUTTLE dial for quick and precise tape control: with supplied wired remote commander RM-9650
- PCM digital stereo and AFM monaural audio recording systems
- S-VIDEO IN/OUT connectors – 4-pin DIN
- Supplied wired remote commander RM-9650



Supplied Accessories:

RM-9650 Wired Remote Commander
 Cleaning Cassette
 Operation Manual
 RS-232C Protocol Manual

Specifications

General

Weight: 17 lb. 10 oz. (8.0 kg)
 Dimensions (WHD): 355 x 116 x 387mm
 (14" x 4 $\frac{5}{8}$ " x 15 $\frac{1}{4}$ ")
 Power Requirements: AC-100V-120V 60 Hz
 Power Consumption: 32W
 Operating Temperature: 5°C to 40°C (42°F to 104°F)
 Videocassette: SONY P6-HMPX series
 REC and PB Time: 120 min. (with P6-120)
 FF/REW Time: < 3 min. (with P6-90)
 Search Speed: SHUTTLE mode: STILL
 FORWARD: $\frac{1}{30}$, $\frac{1}{10}$, $\frac{1}{6}$, $\frac{1}{5}$, 1, 2, 9, 19 times
 normal speed
 REVERSE: $\frac{1}{30}$, $\frac{1}{10}$, $\frac{1}{5}$, 1, 3, 7, 17 times normal
 speed

Video

Input: NTSC composite:
 1.0Vp-p, 75 Ω , sync negative
 Y/C (S connector: 4-pin DIN)
 Y: 1.0Vp-p, 75 Ω , sync negative
 C: 0.288Vp-p, at burst level,
 75 Ω , sync negative
 Output: NTSC composite:
 1.0Vp-p, 75 Ω , sync negative
 Y/C (S connector: 4-pin DIN)
 Y: 1.0Vp-p, 75 Ω , sync negative
 C: 0.288Vp-p, at burst level,
 75 Ω , sync negative

Horizontal Resolution: Hi8 mode: 400 TV lines
 S/N Ratio: Hi8 mode: ≥ 45 dB

Audio

Input: Phono: -7.5 dB, 47 k Ω , unbalanced
 0 dB = 0.775Vrms) Mic: -60 dB, 4.3 k Ω , unbalanced
 Output: Phono -7.5 dB, 2.2 k Ω , unbalanced
 (0 dB = 0.775Vrms) Headphones: -26 dB to -46 dB
 (at 8 Ω , unbalanced)
 Frequency Response: PCM: 20 Hz-15 kHz
 Dynamic Range: PCM: > 85 dB

Connectors

Video: In x 1 (BNC)
 Out x 1 (BNC)
 Monitor out x 1 (BNC)
 Audio: In x 2 (Phono-stereo)
 Out x 2 (Phono-stereo)
 Monitor out x 1 (Phono-stereo)
 S Connector: In x 1 (4-pin DIN)
 Out x 1 (4-pin DIN)
 GPI: Out x 1 (BNC)
 Remote: VISCA IN x 1
 VISCA OUT x 1
 RS-232C x 1

EVO-9800A

Video Hi8 Recorder/Player (Editing Player)



CONNECTORS

VIDEO IN	—BNC
SYNC IN	—BNC
VIDEO OUT	—BNC
DUB OUT (U-matic)	—7-pin
AUDIO LINE IN	—XLR (F)
AUDIO LINE OUT	—XLR (M)
MONITOR OUT:	
TV	—8-pin
VIDEO	—BNC
AUDIO	—Phono
HEADPHONES	—Phone
MICROPHONES	—Phone
9-PIN REMOTE	—RS-422 serial

- Video Hi8 format for improved picture quality: over 400 TV lines
- Video Hi8 and Standard 8mm format recording/playback capability
- Video Hi8 tape for Hi8 recording and high picture quality
- Built-in Digital Chrominance Noise Reducer (Digital CNR) for improving chrominance S/N ratio and providing minimum jitter
- PCM (Pulse Code Modulation) digital stereo and AFM (Audio Frequency Modulation) recording systems
- S VIDEO IN/OUT connectors
- U-matic DUB OUT connector for direct connection to the U-matic VTR via the VDC-5 dubbing cable to minimize picture degradation
- 8mm time code capability for accurate editing
- 8mm time code insertion or after recording capability
- Dial Menu Operation via search dial for user convenience: Display of time code character on the monitor screen, Setting preroll time, etc.
- Shuttle dial for high speed picture search: STILL, $\frac{1}{30}$, $\frac{1}{10}$, $\frac{1}{5}$, $\frac{1}{3}$, 1, 2, 9, 17, 19 times normal speed in the forward and $\frac{1}{30}$, $\frac{1}{10}$, $\frac{1}{5}$, $\frac{1}{3}$, 1, 3, 10, 17 times normal speed in the reverse direction
- Jog Dial for precise frame by frame picture search
- 9-pin REMOTE interface for connection with the RM-450 Editing Control Unit
- BKU-703A 33-pin Editing Interface (optional) for editing operation with the RM-440
- Audio XLR connectors
- Compact size and 19-inch rack mountable: with RMM-980 Rack Mount Kit (3 Unit)

Supplied Accessories:

AC Power Cord
Operational Manual

Optional Accessories:

RM-450 Editing Control Unit
BKU-730A 33-pin Editing Interface
RMM-980 Rack Mount Kit
RCC-5G/10G/30G 9-pin Remote Cable
RCC-5F 33-pin Remote Cable
VDC-5 U-matic Dubbing Cable

EVO-9850

Video Hi8 Videocassette Recorder

■ **Superior Editing Picture Quality**—The EVO-9850 realizes improved picture quality with a high luminance FM carrier of 7.0 MHz and a wide deviation level of 2.0 MHz. This allows for more than 400 TV lines of resolution and a high single-to-noise ratio

■ **Built-In Digital Noise Reducer**—The EVO-9850 is equipped with a built-in digital noise reducer, for both chrominance and luminance signals, to provide superior picture quality. In the CNR (Chrominance Noise Reducer) mode, noise reduction level of either LOW or HIGH can be selected according to picture conditions

■ **Four Channel Audio**—The EVO-9850 incorporates both PCM (Pulse Code Modulation) digital stereo and AFM (Audio Frequency Modulated) analog stereo recording systems for superb quality sound reproduction and for wide audio system versatility. Four channels of input and output XLR connectors and individual level volumes for PCM and AFM are provided

■ **Video Hi8 and Video 8 Recording/Playback Capability**—The EVO-9850 can record or playback both the video Hi8 and Video 8 formats. In the Hi8 recording, the professional Hi8 tape series provides excellent performance. The VTR automatically identifies cassette type and recording mode.

■ **Assemble and Insert Capability**—Both assemble and insert editing modes are available in the EVO-9850. Independent editing of video, PCM-1, PCM-2 and time code is possible in the INSERT mode

■ **Built-in Time Base Corrector**—The EVO-9850 is equipped with a built-in Time Base Corrector. The EVO-9850 outputs highly stable video signals by 4 fsc sampling with 8-bit digital quantization. A digital drop-out compensator is also incorporated. The EVO-9850 can be installed into an A/B roll editing system. The TBC can be remotely controlled using the optional BVR-55 TBC Remote Control Unit

■ **Sound Monitoring in the Jog Mode**—To assure edit point locations, the EVO-9850 provides sound monitoring capability in the JOG search mode. The sound data are once stored in the memory and output according to the searching speed

■ **Built-in 8mm Time Code**—For recording absolute address on tape, the EVO-9850 is equipped with a built-in 8mm time code generator. Time code is absolutely required for frame accurate editing. Since the 8mm time code is recorded between the video and the PCM audio tracks in a separate and dedicated location, 8mm time code insertion or overwrite is possible without losing a generation

■ **Frame Accurate Editing**—The EVO-9850 ensures precise video editing of ± 0 frame accuracy. This has been achieved by an advanced servo system, newly developed quick response mechanism and built-in 8mm time code capability.



(EVO-9850, cont.)

- **SMPTE Time code IN/OUT Interface (optional)**—By installing the optional SMPTE Time Code IN/OUT Board EVBK-100, the EVO-9850 inputs and outputs SMPTE time code data via BNC connectors for more flexible versatility. Accordingly, the EVO-9850 can feed time code to another VTR or can lock to an external time code.
- **Quick Response Mechanism**—To provide smooth, fast editing operations, the EVO-9850 incorporates a newly developed quick response mechanism. Mode transitions, such as STOP to PLAY, REW to PLAY, FAST FWD to PLAY are instantaneous. This mechanism also provides smooth picture search in the JOG/SHUTTLE mode
- **High Speed Picture Search**—The JOG/SHUTTLE mode provides high speed picture search from -17 to 17 times normal speed. Frame accurate picture search is available in the JOG mode to precisely locate edit points
- **9-pin REMOTE Interface (RS-422A serial)**—The 9-pin REMOTE Interface (RS-422A serial) is incorporated in the EVO-9850 for configuration into 9-pin based editing systems. The 9-pin connector is utilized for communicating edit command and time code data. The 8mm time code data in the EVO-9850 is converted into SMPTE standard time code data and then output to an editing controller through this connection
- **33-pin Editing Interface (BKU-703A-optional)**—The BKU-703A 33-pin Editing Interface can be installed into the EVO-9850 for operation with the RM-440 Editing Control Unit
- **DUB Connectors**—To minimize picture deterioration during the editing process, the EVO-9850 incorporates DUB IN/OUT (7-pin) connectors, enabling direct transmission of separate luminance and chrominance signals to another EVO-9850 or to Sony's U-matic editing recorders. The DUB OUT connector offers selectability between Hi8 and U-matic
- **S-VIDEO IN/OUT Connector**. The EVO-9850 is equipped with S-VIDEO IN/OUT connectors. The connector carries separate Y (luminance) and C (chromi-

nance) signals. This minimizes picture deterioration due to cross color and dot interference, during signal transmission. For a secure connection, Sony employed a locking connector compatible with current S-VIDEO connectors and cables- **TBC Remote Connector**—In addition to the built-in TBC adjustment capability in the EVO-9850, remote control adjustments are possible from the optional TBC Remote Control Unit BVR-55 via the TBC REMOTE connector (D-sub 15-pin)
- **REF VIDEO IN Connectors**—The EVO-9850 can lock to an external reference video signal fed from the REF VIDEO IN connector. As a result, the EVO-9850 can be operated to be synchronized with other video equipment and can be easily configured into an A/B roll editing system.

User Friendly Design

- **Dial Menu Operation**—For customized usage, the Dial Menu Operation is incorporated in the EVO-9850, allowing an operator to set various VTR operation modes with the search dial. Time code preset, time code superimpose, self-diagnostics display, digital hour meter, are a few examples
- **Adjustable Front Panel**—The EVO-9850's control panel can be slanted at 30 degrees, 60 degrees or 90 degrees for operational convenience
- **Compact Unit Size**—The EVO-9850 is designed to be compact. Full editing capability and a TBC, and EVO-9850 is just 3-units high
- **19-inch EIA Standard Rack Mountable**—With the optional Rack Mount Kit RMM-980, the EVO-9850 can be installed into a 19-inch EIA standard rack.

Supplied Accessories:
V8-25CLH Cleaning Videocassette
Operation Manual

Optional Accessories:
BKU-703A 33-Pin Editing Interface
BVR-55 TBC Remote Control Unit
RMM-980 Rack Mount Kit
RCC-5G/10G/30G 9-Pin Remote Cable
RCC-5F 33-Pin Remote Cable
VDC-5 Dubbing Cable
EVBK-100 SMPTE Time Code IN/OUT Board

Specifications

General

Weight:	31 lb. (14.0 kg)
Dimensions (WHD):	424 x 147 x 452mm (16 ³ / ₄ " x 5 ⁷ / ₈ " x 17 ³ / ₄ ")
Power Requirements:	AC-100V - 120V, 60 Hz
Power Consumption:	60W
Operating Temperature:	5°C to 40°C (41°F to 104°F)
Videocassette:	SONY E6-HMEX, P6-HMPX series
Max. REC and PB Time:	120 min (E-120)
FF/REW Time:	< 3 min. (with E-120)
Search Speed:	SHUTTLE mode: FORWARD: 1/20, 1/10, 1/5, 1/2, 1, 2, 9, 17 times normal speed REVERSE: 1/20, 1/10, 1/5, 1/2, 1, 3, 7, 17 times normal speed

Video

Recording System:	Rotary 2-head helical scan system Chrominance: SC low range conversion recording Luminance: FM recording
Input:	NTSC composite: 1.0Vp-p ± 0.3V, 75Ω, sync negative Y/C (S-VIDEO: 4-pin DIN): Y: 1.0Vp-p ± 0.3V, 75Ω, sync negative C: 0.286 Vp-p, at burst level, 75Ω, sync negative
Output:	NTSC composite: 1.0Vp-p ± 0.2V, 75Ω, sync negative Y/C (S-VIDEO: 4-pin DIN): Y: 1.0Vp-p ± 0.2V, 75Ω sync negative C: 0.286Vp-p, at burst level, 75Ω sync negative

Horizontal Resolution:	Hi8 mode: 400 TV lines
S/N Ratio:	Hi8 mode > 45 dB

Audio

Recording System:	Rotary 2-head helical scan system PCM: Stereo, AFM: stereo
Input (0 dB = 0.775 Vrms):	Line: + 4 dB, 600Ω, balanced Mic: -60 dB, 3 kΩ, balanced
Output (0 dB = 0.775 Vrms):	Line: + 4 dB, 600Ω, balanced Headphones: -26 dB to - 46 dB (at 8Ω), unbalanced
Frequency Response:	PCM: 20 Hz-15 kHz AFM: 30 Hz-15 kHz
Dynamic Range:	PCM: > 80 dB

Connectors

Video:	IN x 1 (BNC) OUT x 1 (BNC) REF VIDEO IN x 1 (BNC with loophrough) Monitor out x 1 (BNC)
Audio:	IN x 2 (XLR 3-pin) (MIC/LINE selectable) IN x 2 (XLR 3-pin) PCM OUT x 2 (XLR 3-pin) AFM OUT x 2 (XLR 3-pin) Monitor OUT x 1 (Phono)
S-VIDEO:	IN x 1 (4-pin DIN) OUT x 1 (4-pin DIN)
TV Connector:	OUT x 1 (8-pin)
DUB Connector:	8mm DUB IN x 1 (7-pin) 8mm/U-matic OUT x 1 (7-pin) - selectable
Remote:	9-pin REMOTE x 1 (RS-422A) TBC REMOTE x 1 (D-sub 15-pin)

EVO-9700

Video Hi8 Desk-Top Editing Machine

- Compact configuration: a player and a recorder are integrated in a compact unit
- Easy operation with RM-E9700 supplied Remote Control Unit
- Video Hi8 and Standard 8mm format recording/playback capability
- Superior quality editing thanks to Y/C separate signal processing from a player to recorder
- Built-in Digital Chrominance Noise Reducer (Digital CNR) for player portion to improve chrominance S/N ratio and providing minimum jitter for high quality editing
- Video Hi8 tape for Hi8 recording and high picture quality
- PCM (Pulse Code Modulation) digital stereo and AFM (Audio Frequency Modulation) recording systems
- Various editing functions: Quick Edit, Program Edit, Video Insertion, PCM Audio Insertion, Slow Motion Edit, Freeze Picture Edit
- Built-in 8mm time code capability: edit accuracy is guaranteed ± 0 frame
- 8mm time code insertion and after recording capability
- One monitor editing capability by picture-in-picture function
- PREVIEW and REVIEW functions



CONNECTORS

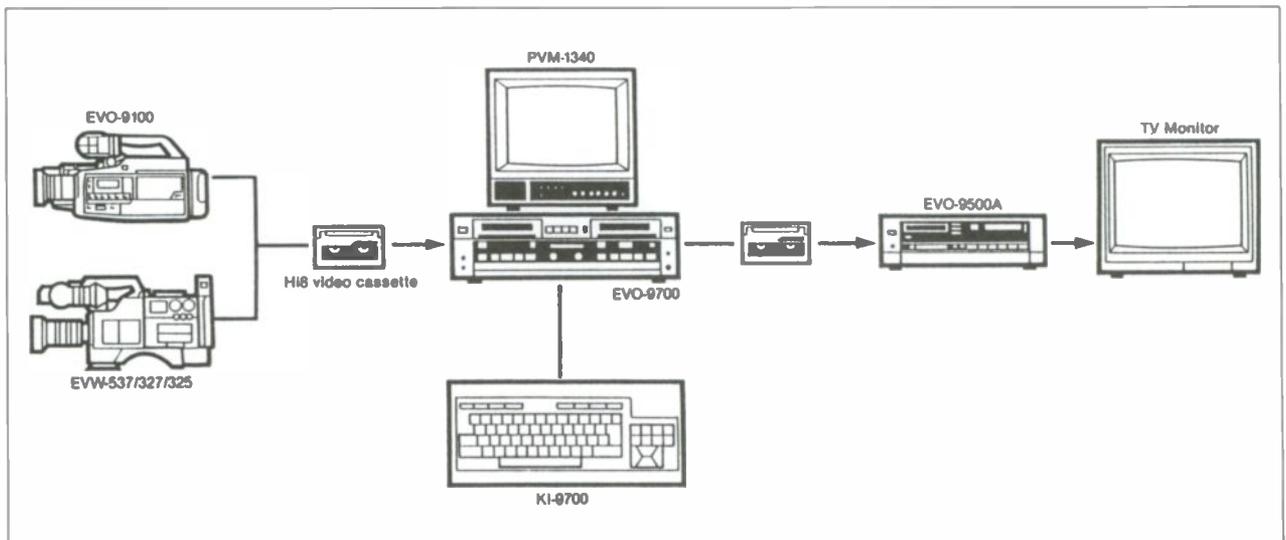
VIDEO IN	—BNC
VIDEO OUT	—BNC
AUDIO IN	—Phono
AUDIO OUT	—Phono
S VIDEO IN	—4-pin DIN
S VIDEO OUT	—4-pin DIN
MONITOR OUT:	
VIDEO	—BNC
VIDEO	—Phono
AUDIO	—Phono
RF DC OUT	—5V 50 mA
AC OUTLET	—3 wired grounded

Supplied Accessories:

- RM-E9700 Editing Controller
- KI-9700 Title Keyboard
- V8-25CLH Cleaning Videocassette
- VMC-710M Video/Audio Cable
- BNC to Pin Plug Adaptor
- Mini Plug to Extra Mini Plug Adaptor
- Connecting cord
- PAUSE/CONTROL Adaptor
- Operation Manual

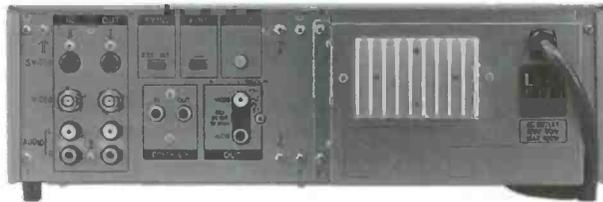
Optional Accessories:

- 14-inch Color Monitor PVM Series
- EVO-9100 1-chip CCD Hi8 Camcorder
- EVW-537/EVW-325/EVW-327 3-chip CCD Hi8 Camcorder
- EVO-9500A Hi8 Videocassette Recorder



Specifications for Hi8 8mm Videocassette Recorder

MODEL		EVO-9800	EVO-9700
SPECIFICATIONS			
GENERAL	Type	Video Hi8 Recorder/Player (Editing Player)	Video Hi8 Desk-top Editor
	Video Recording System	Two rotary heads and a flying erase head helical scanning FM system	Two rotary heads and a flying erase head helical scanning FM system
	Video Signal System	EIA monochrome/NTSC color	EIA monochrome/NTSC color
	Operating Temperature	5°C to 40°C (41°F to 104°F)	0°C to 40°C (-4°F to 140°F)
	Power Requirements	AC-100V-120V, 50 Hz/60 Hz	AC-100V-120V, 50 Hz/60 Hz
	Power Consumption	44W	49W
	Dimensions (WHD):	424 x 146.5 x 452mm (16 ³ / ₈ " x 5 ⁷ / ₈ " x 17 ³ / ₈ ")	430 x 120 x 408mm (17" x 4 ³ / ₈ " x 16 ¹ / ₈ ")
	Weight	30 lb. 14 oz. (14.0 kg.)	26 lb. 7 oz. (12.0 kg.)
Recording and Playback Format	Video Hi8 and Standard 8mm format	Video Hi8 and Standard 8mm format	
VIDEO SIGNAL	Input	1.0Vp-p, sync negative, 750Ω, unbalanced S connector (4-pin DIN): Y: 1.0Vp-p ± 0.1V, 75Ω, unbalanced, sync negative C: 0.286Vp-p, at burst level, 75Ω, unbalanced	
	Output	1.0Vp-p, sync negative, 750Ω, unbalanced S connector (4-pin DIN): Y: 1.0Vp-p ± 0.1V, 75Ω, unbalanced, sync negative C: 0.286Vp-p, at burst level, 75Ω, unbalanced	
	Horizontal Resolution	Video Hi8 mode: > 400 TV lines (color)	Video Hi8 mode: > 400 TV lines
	S/N Ratio	Video Hi8 mode: > 45 dB	Video Hi8 mode: > 45 dB
AUDIO SIGNAL	Input	Line: +4 dBs, 19 kΩ, balanced Microphone: -60 dBs to 3 kΩ, unbalanced	Microphone: -60 dBs, 4.3 kΩ, unbalanced Phono: -7.5 dBs, 47 kΩ, unbalanced
	Output	Line: +4 dBs, (at 600Ω), balanced Headphone: -26 dBs to -46 dBs (at 8Ω), unbalanced	Phono: -7.5 dBs, 2.2 kΩ, unbalanced
	Frequency Response	AFM: 30 Hz-15 kHz PCM: 20 Hz-15 kHz	20 Hz-15 kHz
	Dynamic Range	AFM: > 60 dB PCM: > 80 dB	PCM: > 85 dB
TAPE TRANSPORT	Tape Speed	14.3mm/s	14.3mm/s
	REC or PB Time	120 min with P6-120 tape	120 min with P6-120 tape
	Videocassette	Sony E6-HMEX, P6-HMPX videocassette	Sony E6-HMEX, P6-HMPX videocassette



CONNECTORS

VIDEO IN	—BNC
VIDEO OUT	—BNC
AUDIO IN	—Phono
AUDIO OUT	—Phono
S VIDEO IN	—4-pin mini DIN
S VIDEO OUT	—4-pin mini DIN
AC OUTLET	—3 wired grounded
Control P IN	—Phono
Control P OUT	—Phono
MONITOR OUT:	
VIDEO	—Phono
AUDIO	—Phono
RF DC OUT	—5V 50 mA

EVO-9500A

Video Hi8 Recorder/Player

- Video Hi8 format for improved picture quality: over 400 TV lines
- Video Hi8 and Standard 8mm format recording/playback capability
- Video Hi8 tape for Hi8 recording and high picture quality
- PCM (Pulse Code Modulation) digital stereo and AFM (Audio Frequency Modulation) recording system
- Auto repeat function
- Clear still and slow motion pictures thanks to Dual Azimuth 4-head design
- Control P terminals for multiple VTR operation
- Additional audio recording on the PCM sound track
- 8mm Time code insertion/overwrite capability
- Wireless and wired remote control using optional remote control unit
- Timer REC or PLAY operation from an external AC timer
- S video IN/OUT connectors (4-pin DIN) to reduce cross color and dot interference

Supplied Accessories:

V8-25CLH Cleaning Videocassette
Operation Manual

Optional Accessories:

RM-S52A Wired/Wireless Remote Control Unit

EVV-9000

Video Hi8 Recorder Unit

- Compact and lightweight camcorder by connecting to Sony DXC-537A/327A/325 3-CCD color video camera
- Video Hi8 format for improved picture quality: over 400 TV lines
- Video Hi8 and Standard 8mm format recording/playback capability
- Video Hi8 tape for Hi8 recording and high picture quality
- Y/C separate input via 50-pin DIN to reduce cross color
- PCM (Pulse Code Modulation) digital stereo and AFM (Audio Frequency Modulation) recording systems
- XLR balanced audio connectors for stable signal transmission
- MIC/LINE input selectable
- Built-in 8mm time code generator (DF/NDF selectable)
- Warning indications for reliable operation
- REC REVIEW function convenient for confirmation of recording
- Low power consumption of 7.5W
- More than 85 min. of continuous operation with DXC-537A/327A/325 from a single NP-1B battery
- LCD window: indication of time code, warnings, etc.
- Built-in ear speaker for audio monitoring
- RF out

Supplied Accessories:

Shoulder Strap
 Guide for Attaching Shoulder Strap
 Metal Mount for Attaching Shoulder Strap
 V8-25CLH Cleaning Cassette
 Operation Manual

Optional Accessories:

DXC-537A 3-chip CCD Color Video Camera
 DXC-327A 3-chip CCD Color Video Camera
 DXC-325 3-chip CCD Color Video Camera
 NP-1B Rechargeable Battery
 BC-1WB Battery Charger
 CMA-8A AC Adaptor
 CCQX-3 AC Power Cable



CONNECTORS

VIDEO IN	—BNC
VIDEO OUT	—Phono
AUDIO IN	—3-pin XLR
AUDIO OUT	—Phono
RF DC OUT	—5V 50 mA
DC IN	—4-pin XLR
EARPHONE	—Mini jack

Specifications for Hi8 8mm Videocassette Recorder

MODEL		EVO-9500A	EVV-9000
SPECIFICATIONS			
GENERAL	Type	Video Hi8 Recorder/Player	Video Hi8 Recorder Unit
	Video Recording System	Two rotary heads and a flying erase head helical scanning FM system	Two rotary heads and a flying erase head helical scanning FM system
	Video Signal System	EIA monochrome/NTSC color	EIA monochrome/NTSC color
	Operating Temperature	0°C to 40°C (-4°F to 140°F)	0°C to 40°C (-4°F to 140°F)
	Power Requirements	AC-100V-120V, 50 Hz/60 Hz	DC-12V
	Power Consumption	25W	25W
	Dimensions (WHD):	355 x 116 x 387mm (14" x 4 ⁵ / ₈ " x 15 ¹ / ₄ ")	189 x 243 x 115mm (7 ¹ / ₂ " x 9 ⁵ / ₈ " x 4 ⁵ / ₈ ")
	Weight	14 lb. 5 oz. (6.5 kg.)	4 lb. (1.8 kg.)
Recording and Playback Format		Video Hi8 and Standard 8mm format	Video Hi8 and Standard 8mm format
VIDEO SIGNAL	Input	1.0Vp-p, sync negative, 75Ω, unbalanced S connector (4-pin DIN): Y: 1.0Vp-p ±0.1V, 75Ω, unbalanced, sync negative C: 0.286Vp-p, at burst level, 75Ω, unbalanced	1.0Vp-p, sync negative, 75Ω, unbalanced
	Output	1.0Vp-p, sync negative, 75Ω, unbalanced S connector (4-pin DIN): Y: 1.0Vp-p ±0.1V, 75Ω, unbalanced, sync negative C: 0.286Vp-p, at burst level, 75Ω, unbalanced	1.0Vp-p, sync negative, 75Ω, unbalanced
	Horizontal Resolution	Video Hi8 mode: > 400 TV lines (color)	Video Hi8 mode: > 400 TV lines
	S/N Ratio	Video Hi8 mode: > 45 dB	Video Hi8 mode: > 45 dB
AUDIO SIGNAL	Input	Microphone: -60 dBs, 3 kΩ, unbalanced Phono: -7.5 dBs to 47 kΩ, unbalanced	Microphone: -60 dBs, 3 kΩ, balanced Line: +4 dBs, 10 kΩ, balanced
	Output	Phono: -7.5 dBs, 22 kΩ, unbalanced	Phono: -10 dBs, 47 kΩ, unbalanced
	Frequency Response	20 Hz-15 kHz	20 Hz-15 kHz
	Dynamic Range	PCM: > 85 dB	PCM: > 80 dB
TAPE TRANSPORT	Tape Speed	14.3mm/s	14.3mm/s
	REC or PB Time	120 min with P6-120 tape	120 min with P6-120 tape
	Videocassette	Sony E6-HMEX, P6-HMPX videocassette	Sony E6-HMEX, P6-HMPX videocassette



RMM-980

Rack Mount Kit

- Rack mount kit for use in mounting EVO-9800 into 19-inch rack

EVO-520

8mm Videocassette Recorder/Player

- Compact and lightweight by taking advantage of standard 8mm format
- Auto repeat function, present program playback, and auto play functions
- Capable of both AC and DC operation
- Recognizable color picture obtained at -7 and 9 times normal speed
- Clean, noise-free picture can be obtained in the STILL, FRAME-BY-FRAME, and -1 times normal speed modes
- Wireless/wired remote control is possible
- External sync capability
- Function lock capability
- The CUE IN connector and PREROLL button allows simple feeding capability to a VTR which can be connected to the RM-440, RM-450, and the RM-E50
- Microphone input

Supplied Accessories:

AC Cord
 75 Ω Coaxial Cable with Two F-Type Connectors (1m)
 EAC-24 Antenna Connector
 Operation Manual
 Mounting Brackets (2)

Optional Accessories:

RMT-412 Wireless Remote Control Unit
 NP-4000 Rechargeable Battery Pack
 DCC-2600 Car Battery Cord

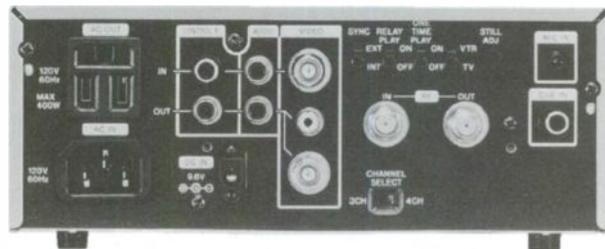
Specifications

General

Type: Recorder
 Video Recording System: Two rotary heads and a flying erase head, helical scanning FM system
 Video Signal System: EIA monochrome/NTSC color
 Operating Temperature: 5°C to 40°C (41°F to 104°F)
 Power Requirements: AC-120V \pm 10%, 50/60 Hz
 DC-9.6V
 Power Consumption: AC-14W, DC-10W
 Dimensions (WHD): 213 x 85 x 260mm
 (8 $\frac{1}{2}$ " x 3 $\frac{3}{8}$ " x 10 $\frac{1}{4}$ ")
 Weight: 6 lb. 3 oz. (2.8 kg.)
 Recording and Playback Mode: SP/LP playback
 SP recording
 Recording and Playback Format: 8mm Standard

Video Signal

Input: BNC connector
 Video: 1Vp-p, 75 Ω unbalanced, sync negative
 Ext. sync: 4Vp-p, 75 Ω , sync signal or composite video signal
 Output: BNC connector
 1Vp-p, 75 Ω , unbalanced, sync negative
 Phone jack
 1Vp-p, 75 Ω , unbalanced, sync negative
 Horizontal Resolution: 230 lines (SP, color)
 S/N Ratio: 44 dB (SP, color)



Audio Signal

Input: Line: Phono jack -10 dBs, > 47 k Ω
 Microphone: Mini jack (monaural) -70 dBs, low impedance
 Output: Phono jack
 -10 dBs (250 mV, at load impedance 47 k Ω)
 < 10 k Ω
 Frequency Response: AFM: 30 Hz -15 kHz (SP/LP)
 S/N Ratio: AFM: > 60 dB (SP/LP)

Tape Transport

Tape Speed: SP: 14.3mm/sec.
 LP: 7.2mm/sec.
 REC or PB Time
 SP: 120 min. with P6-120
 LP: 240 min. with PD-120
 Videocassette: 8mm format videocassette
 VHF Connectors: VHF OUT: American TV standard ch. 3 or ch. 4 selectable, F type
 VHF IN: F type
 Remote Connectors: CONTROL P: IN and OUT, phono
 Cue Signal Input: Phono jack, active low



EVO-540

8mm Videocassette Recorder/Player

The EVO-540 is a standard 8mm videocassette recorder/player which provides Quasi Hi8 video playback and PCM digital/AFM Hi-Fi stereo audio recording. Its compact design contains many features for enhanced operation; Auto Repeat function, Timer Playback, clean still and slow motion, 8mm time code/RC time code reader and much more. The EVO-540 can be a convenient workhorse for both video 8 and Hi8 users, for various applications

- **Quasi Hi8 Playback Capability**—Until now, tapes recorded in Hi8 mode could not be played back by standard 8mm VTRs due to the high luminance carrier frequency of video Hi8. The EVO-540 introduces a Quasi Hi8 Playback capability which is designed to playback Hi8 recorded tapes. When Hi8 recorded tapes are inserted, the EVO-540 automatically adjusts the de-emphasis circuit for the Hi8 format. Thus, Hi8 and standard 8mm video tapes will be played back without noise allowing easy video playback regardless of format. Since the EVO-540 uses the standard 8mm carrier frequency, the picture is reproduced with standard 8mm carrier frequency, the picture is reproduced with standard 8mm picture resolution
- **Audio System**—PCM Stereo and AFM Hi-Fi Stereo Audio Playback/Recording—The EVO-540 provides PCM (Pulse Code Modulation) digital stereo audio and AFM (Audio Frequency Modulated) Hi-Fi stereo recording systems (PCM audio cannot be inserted after recording)
- **Bilingual Function**—the EVO-540 has secondary audio playback capability. Since two different sound sources are recorded on separate audio channels, such as in bilingual audio system, either Main, Sub, or Mixed sound monitoring can be selected. The sound monitoring mode is selected by pressing the AUDIO MONITOR button on the supplied remote control
- **Dual Mode Shuttle Ring**—The dual mode shuttle ring offers quick and easy picture search. Fast Forward/Rewind, Still, 1/5 and 1 times normal speed in either forward or reverse as well as Play and Stop can be controlled. Double speed playback is also available
- **Auto Repeat Function**—By switching on the AUTO REPEAT function, the EVO-540 will automatically playback one segment of the videocassette repeatedly.
- **Timer Playback Function**—With the TIMER PB ON, the EVO-540 automatically goes into playback mode when the power is turned on. Thus the playback operation can be controlled by an external AC timer
- **Clear Still/Slow Motion Function**—The 3-head system provides a noiseless still picture. Clear slow motion pictures can also be obtained affording easy picture search
- **8mm Time Code/RC* Timer Code Reader**—For accurately determining tape location, the EVO-540 can read both 8mm time code and RC time code. By reading the time code recorded on the tape, the desired point on the tape can be quickly and easily located. (RC time code: Rewritable Consumer time code) Control

■ **L IN and Control P IN/OUT Terminal**—The EVO-540 is equipped with Control L IN terminal which allows the VTR to be remotely controlled by other Sony equipment. The Control P IN/OUT terminals are used for Sony's wired remote controller RM-S52A which enables simultaneous recording for VTRs connected through the terminal

■ **Linear Time Counter/Time Code Display**—The linear time counter shows tape position in hours, minutes, and seconds to indicate accurate tape running time. By pressing the TC/COUNTER button on the EVO-540, either the time code or counter display can be selected

■ **Supplied Wireless Remote Control**—RMT-540, controls most of the VTR functions including picture search, frame-by-frame picture advance, slow motion playback, double speed playback, tape return and audio monitoring select.

Supplied Accessories:

RMT-540 Wireless Remote Commander
Size AA (R6) Batteries for Remote Commander (2)
Cleaning Tape
Operation Manual
AC Cable

Optional Accessories:

RM-S52A Wireless Remote Control Unit

Specifications

General

Weight: 4 lb. 14 oz. (2.2kg) (approx.)
Dimensions (WHD): 225 x 75 x 252mm
(8⁷/₁₆" x 3" x 10")
Power Requirements: AC-100V-120V, 50/60 Hz
Power Consumption: 14W
Operating Temperature: 5°C to 40°C (41°F to 104°F)
Storage Temperature: -20°C to 60°C (-4°F to 140°F)

Specifications—continued

Videocassette: Playback/Recording P6-MP Series
Playback only P6-HME/HMEX,
P6-HMP/HMPX
Tape Speed: SP: 1.43cm/s (Rec mode)
Head Configuration: VX3-head and 1 flying erase head
Loading: Front loading
Recording Speed: SP mode only
Playback Speed: SP/LP mode
Fast Forward Time: 3 min (Sony P6-90)
Rewind Time: 3 min (Sony P6-90)
Search Speed: -1/6, -1, Still, 1/6, x1, x2, Cue/Review,
Locked Cue/Review, FR search

Video

Video Signal: EIA standard, NTSC color
Video Recording System: Rotary 2 head helical scanning FM system
Recording Mode: Standard 8mm
Playback Mode: Standard 8mm, Quasi Hi8 play back
Horizontal Resolution: Standard mode: 230TV lines
S/N Ratio: Standard mode: 42 dB
Input: Composite video: BNC connector
1Vp-p, 75Ω, unbalanced, sync negative
Output: Composite video: BNC connector/Phono
connector
1Vp-p, 75Ω, unbalanced, sync negative

Audio

Recording System: Rotary 2-head
AFM Audio: Stereo
PCM Audio: Stereo
Frequency Response: AFM: 30 Hz-14 kHz
PCM: 20 Hz-15 kHz
Dynamic Range: AFM: > 60 dB
PCM: > 75 dB
Input: Phono connector
(0 dB = 0.775Vrms) -7.5 dBs, input impedance: > 47 kΩ
Output: Phono connector
(0 dB = 0.775Vrms) -7.5 dBs, load impedance 47 kΩ,
Output impedance: < 2.2 kΩ

Connectors

Video: Line input: BNC (1)
Line output: BNC (1), Phono (1)
Audio: Line input: Phono (stereo) 1 set
Line output: Phono (stereo) 1 set
Others: Control P IN/OUT: Phono connector
Control L IN: Stereo mini—mini connector
AC Inlet: Un-switched



EVO-210

Video 8 Handy Recorder/Player

■ A highly versatile handy video deck weighing only 1.1 kg. and operating on three power sources (AC/Rechargeable battery (NP-22)/Car battery) ■ Instant playback on any TV set using RF adapter (RFU-80UC) ■ No manual tracking adjustment necessary due to ATF (Automatic Track Following) ■ Continuous playback of more than 150 min. possible with a single battery (NP-22)

Supplied Accessories:

RFU-80UC RF Adapter with ANS-34 Antenna Selector
EAC-24 Antenna Matching Unit
75Ω Coaxial Cable with F-type connectors (1.5m x 2)

Optional Accessories:

NP-22 Rechargeable Battery Pack
ACP-88 AC Pack Battery Charger
BCA-80 Battery Charger Adaptor for ACP-80UC
LC-V803 Carrying Case for EVO-110/210, plus RFU-80, ACP-88, BCA-80 and two NP-22s

Specifications

System

Video Recording System: Rotary two-head helical scanning, FM system
Audio Recording System: Rotary head, FM system (Monaural)
Video Signal: NTSC color, EIA standards
Usable Cassettes: 8mm video format cassette
Tape Speed: SP: 1.43 cm/sec. (approx.)
LP: 0.72 cm/sec. (approx.) (playback only)
Recording Time: 120 min. (P6-120)
Fast Forward/Rewind Time: 3 min. (approx.) (with P6-90)

Inputs and Outputs (with RU-80UC)

Video Input: 1Vp-p, 75Ω unbalanced sync negative
Video Output: 1Vp-p, 75Ω unbalanced sync negative
Audio Input: -10 dBs, input impedance > 47 kΩ
Audio Output: -10 dBs, output impedance < 2.2 kΩ
VHF Output: American TV standard Ch. 3 or Ch. 4 selectable (F type)

Connectors

Video and Audio: Phono } with RFU-80UC
VHF Output: F-Type }
Earphone Jack: Mini jack (8Ω)
Remote Jack: 5-pin (control L)
MULTI Connector: 24-pin

General

Power Requirements: DC-6V (with NP-22 Battery Pack)
DC-8.5V (with ACP-88 Battery Charger)
DC-8.5V MULTI Connector
Power Consumption: 2.6W (battery operation)
Installation: Horizontally, vertically (battery operation)
Operating Temperature: 0°C to 40°C (32°F to 104°F)
Dimensions (WHD): 180 x 72 x 171mm
(7.1" x 2.8" x 6.7") (approx.)
Excluding carrying handle and projections
Weight: 2 lb. 7 oz. (1.1 kg.) (approx.)
Excluding the battery and cassette
3 lb. 5 oz. (1.5 kg.) (approx.)
Including the battery and cassette

EVM-8010R

- Portable 8-inch monitor combined with an 8mm VTR
- 3 power source operation with AC power cord, two optional NP-1As or NP-1Bs, car battery using the optional DCC-16AW car battery cord
- Built-in battery charger for two packs of NP-1A*
- Optional remote control unit RM-749
- Equipped with Video/Audio in/out and monitor out connectors
- Control 8mm VTR section of EVM-8010R at distance of up to 5m with RM-749 wireless remote control

*NP-1B cannot be charged.

Supplied Accessories:

AC Power Cord
Instruction Manual
Sony SUM-3 (NS) Batteries (2)

Optional Accessories:

RM-749 Wireless Remote Control Unit
NP-1A Rechargeable Battery
DCC-16AW Car Battery Cord

Specifications

Monitor

Video Signals: 525 lines, 60 fields
Color System: NTSC
Picture Tube: 9-inch Trinitron tube, visible picture size
8-inch measured diagonally, 70° deflection

8mm VTR

Video Recording System: Two rotary heads and flying erase head
helical scanning FM system
Audio Recording System: Rotary head, FM system
Usable Cassettes: 8mm format videocassettes
Tape Speed:
SP mode: 1.43 cm/sec.
LP mode: 0.72 cm/sec. (Playback only)
Recording or Playback Time: 120 min. (P6-120)
Fast Forward Time: Approx. 3 min. (P6-90)
Resolution: 230 TV lines in SP mode

General

Power Requirements: AC-120V, 50/60 Hz
DC-12V, with the optional Sony NP-1A
battery pack or 12V DC car battery using
the optional DCC-16AW car battery cord
Power Consumption: AC-40W, DC-35W
Dimensions (WHD): 242 x 274 x 327mm
(9⁵/₈" x 10⁷/₈" x 12⁷/₈")
Weight: 17 lb. 10 oz. (8 kg.) (without battery)
Audio Power Output: 0.8W
Video Input: Composite: 1Vp-p, sync negative, 75Ω and
high impedance switchable, loop-through
BNC connector
Audio Input: -5 dBs, high impedance, monaural, loop-
through phono connector
Monitor Output (Video 8): Video: Composite 1Vp-p, sync negative,
75Ω, BNC connector
Audio: -5 dBs, low impedance, monaural
phono connector
Headphone Output: 8Ω, monaural, mini
Operating Temperature: 0°C to 40°C (32°F to 104°F)





VA-90

VTR Adaptor

- Can be directly attached to the EVV-9000 video Hi8 recorder to be operated as a portable VTR
- CCQ type (14-pin) connector for high quality video/audio recording
- S-VIDEO IN for high quality video recording
- Digital Y/C separator to achieve high quality video recording for composite video signals
- Audio input level selectable –20 dB/ –60 dB

SVO-1410

VHS Recorder/Player

- HQ circuitry for high quality picture
- Dual Azimuth (DA) 4-Head Design for clear slow and freeze pictures
- Tape stabilizer for smooth tape transportation
- Rapid Access Tape Transport System for quicker image access
- High Speed Rewind to cut down 4 min. rewind time to 2 and a half min. (with T-120 tape)
- Dual-mode shuttle control
- Auto repeat function
- Auto head cleaner
- Auto tracking function to eliminate the need for manual adjustment
- On-screen Menus for convenient operation
- Index search
- Linear time counter
- Control S IN terminal to be operated from RM-V100 optional remote controller
- BNC video IN/OUT connectors
- 8-pin AV connector
- Camcorder friendly design of audio/video connectors on the front panel
- Burglar-proof Hook
- Supplied Wireless remote commander RMT-V373A for remote operation

Supplied Accessories:

RMT-V373A Wireless Remote Commander
 Size AA Batteries (IEC designation R6) (2)
 Operation Manual
 AC Power Cord

Optional Accessories:

RM-V200 Wired Remote Control Unit

Specifications

General

Weight: 14 lb. 5 oz. (6.5 kg.)
 Dimensions (WHD): 430 x 87 x 358mm
 (17" x 3³/₈" x 14¹/₄")
 Power Requirements: AC-120V, 60 Hz, 3-wire grounded receptacle
 Power Consumption: 28W
 REC and PB Mode: SP/EP Recording
 SP/LP/EP Playback
 REC and PB Time: 160 min. in SP mode (T-160)
 8 hours in EP mode (T-160)
 F FWD and REW Time: < 4 min. (T-120)
 High Speed Rewind Time: < 2 min. 30 sec. (T-120)
 Frequency Response: 70 Hz-10 kHz (SP)

Video

Video Recording System: Rotary two-head helical scanning FM system
 Input: BNC (rear)/Phono (front): 1.0Vp-p, 75 Ω , unbalanced, sync negative
 Output: BNC type (rear): 1.0Vp-p, 75 Ω , unbalanced, sync negative

Audio

Input: Phono type (2): -7.5 dBs, 47 k Ω
 Output: Phono (1): -7.5 dBs, 22 k Ω



Tuner

Tuner System (audio): Split inter-carrier system
 Channel Coverage: VHF channels 2-13
 UHF Channels 14-69
 CATV channels 1-125
 (A-8 to A-1, A to W, W + 1 to W + 84)
 Antenna: 75 Ω F-type connector antenna terminal for VHF/UHF

Timer

Clock: Quartz locked
 Time Indication: 12-hour cycle
 Timer Setting: Only for recording
 8 events/1 month
 Power Backup: Backup duration: Up to 1 hour at one time

Connectors

Video: Line in x 2 (BNC/Phono)
 Line out x 1 (BNC)
 Audio: Line in x 2 (Phono)
 Line out x 1 (Phono)
 AV Connector: 8-pin x 1
 Control S: Input x 1 (Mini-jack)
 RF: Input x 1 (F-type)
 Output x 1 (F-type)



SVP-1210

VHS Hi-Fi Player

- HQ circuitry for high quality picture
- Dual Azimuth (DA) 4-Head Design for clear slow and freeze pictures
- Tape stabilizer for smooth tape transportation
- VHS Hi-Fi stereo sound
- Rapid Access Tape Transport System for quicker image access
- High Speed Rewind to cut down 4 min. rewind time to 2 and a half min. (with T-120 tape)
- Auto repeat function
- Auto tracking function to eliminate the need for manual adjustment
- SP/EP/LP playback capability
- Control S terminal to be operated from RM-V100 optional remote controller
- BNC video OUT connector
- Supplied Wireless remote commander RMT-V33C for remote operation

Supplied Accessories:

RMT-V33C Wireless Remote Commander
Size AA Batteries (IEC designation R6) (2)
Operation Manual

Optional Accessories:

RM-V200 Wired Remote Control Unit

Specifications

General

Weight: 12 lb. 9 oz. (5.7 kg.)
Dimensions (WHD): 355 x 94 x 345mm
(14" x 3³/₈" x 13⁵/₈")
Power Requirements: AC-120V, 60 Hz, 3-wire grounded receptacle
Power Consumption: 29W
Operating Temperature: 5°C to 40°C (41°F to 104°F)
Videocassette: SONY T-120PRO-XB, T-120ESX-HFB,
T-120/160ES-HGB or equivalent
PB Mode: SP/LP/EP playback
Maximum PB Time: 8 hours in EP mode (T-160)
F FWD and REW Time: Approx. 4 min. (T-120)
High Speed Rewind Time: Approx. 2 min. 30 sec. (T-120)

Video

Video Recording System: Rotary two-head helical scanning FM system
Output (LINE 1 and 2): BNC/Phono: 1.0Vp-p, 75Ω, unbalanced,
sync negative
S/N Ratio: Better than 45 dB

Audio

Audio System: Rotary two-head hi-fi system, stationary head
Output (LINE 1 and 2): Phono: -7.5 dB (0 dB = 0.775 Vrms), 47 kΩ,
unbalanced
Frequency Response: 20 Hz-20 kHz
Dynamic Range: > 90 dB
Wow and Flutter: < 0.005%

Connectors

Video: Line out x 2 (BNC/Phono)
Audio: Line out x 2 (Phono)
Headphone jack x 1 (stereo mini jack)
Control S: Input x 1 (mini jack)
RF: Input x 1 (F-type)
Output x 1 (F-type)

Wireless Remote

Commander:

RMT-V33C
Remote Control System: Infrared control
Power Requirements: DC-3V, size AA batteries x 2
(IEC designation R6)
Dimensions (WHD): 43 x 20 x 174mm
(1³/₄" x 1³/₁₆" x 7")
Weight: 2.3 oz. (65 g.) excluding batteries

SVO-1610

VHS Hi-Fi Videocassette Recorder

■ **High Picture Quality**—The SVO-1610 is designed to reproduce consistently high quality pictures. HQ circuitry ensures clear edged pictures and the Double Azimuth (DA) PRO 4-Head design provides superb resolution and high color reproduction in a choice of three speeds: SP, EP and LP mode. In addition, a variety of playback modes, including noiseless clear still pictures, slow motion, x2 normal speed, are possible thanks to this head design

■ **Hi-Fi Stereo Audio System**—The SVO-1610 incorporates a VHS Hi-Fi stereo audio system for a wide dynamic range of 90 dB and frequency response from 20 Hz–20,000 Hz

■ **High Speed FF/Rewind Time**—The Fast Forward and Rewind time of the SVO-1610 is a quick 2½ minutes with a T-120 videocassette

■ **Auto Tracking**—Digital Auto Tracking automatically adjusts tracking for tapes recorded on other machines. It eliminates the need for manual adjustment of tracking variances while providing clear pictures

■ **Tape Stabilizer**—Sony's unique tape stabilizer minimizes picture jitter. The result is consistently stable, sharp pictures

■ **Auto Head Cleaner**—Every time a tape is loaded or ejected from the VTR, a cleaning element automatically passes over the video heads removing tape residue. This helps prevent head clogging and deterioration of picture quality.

■ **Endless Auto Repeat Function**—When the Auto Repeat switch is set to ON, the SVO-1610 will playback the program repeatedly. The VTR detects the end of the program and automatically rewinds the tape to restart the playback from the beginning

■ **Sensor Recording**—By using the Sensor Recording function, unattended automatic recording can be performed. When the Sensor Rec mode is set to ON, the VTR automatically starts recording when it receives the video signal through the VIDEO IN connector. When the video signal stops, the SVO-1610 stops recording and automatically enters the STANDBY mode. In the event the tape ends during recording, the VTR will stop recording and turn itself off

■ **Sequential Playback**—When the Sequential Play mode is set to ON, more than two VTRs connected via the control S connectors can playback their tapes sequentially and repeatedly. In two unit operation, when the tape of the first VTR reaches the end of its program, the second VTR starts to play while the first VTR rewinds its tape to the beginning. When the second VTR finishes its program, the first VTR starts to play. Thus, various programs can be continuously played back sequentially as often as desired

■ **One-Time Playback**—When only one VTR is used in the Sequential Play ON mode, One-Time playback can be performed. When the PLAY button is pressed, the VTR starts to play to the end of program. The VTR, then, rewinds the tape to the beginning and stops to wait for next press of PLAY button. Thus, the SVO-1610 is always ready to play the program when de-



(SVO-1610, cont.)

sired ■ **Power On and Recording/Playback Capability**—This function allows the VTR to automatically start either recording or playback when the power is turned on ■ **LP Mode Recording Capability**—The SVO-1610 has three recording modes of SP, LP and EP. The recording playback mode can be selected on the remote commander.

■ **On-Screen Advanced Menu**—The SVO-1610 incorporates on-screen display for easy set up of the Tuner, Clock and Timer programming. In addition, Auto Menu provides eight automatic playback mode settings for convenient operation. Each setting can be easily performed by following the menus on the monitor screen using the supplied remote commander ■ **Index Search**—Specific programs on the tape can be located by using the Index Search Function. The index point is automatically recorded on the tape each time a recording starts. The Index Search automatically accesses the next index point in either forward or reverse by using the supplied wireless remote commander ■ **Key Inhibit Function**—In the Key Inhibit mode, all function keys are deactivated to prevent accidental operation ■ **Linear Time Counter**—The linear time counter shows tape position in hours, minutes, and seconds. When the DISPLAY button on the remote commander is pressed, the time counter, along with playback mode and remaining tape length are superimposed on the monitor screen ■ **Dual Mode Shuttle Control**—The Dual Mode Shuttle Ring is on both the SVO-1610 and the supplied remote commander. Its single, easy-to-use shuttle ring provides quick operation of Fast Forward/Rewind, Picture Search, Still Picture and x2 play in either forward or reverse. x $\frac{1}{5}$ and x1 play can also be performed in forward playback ■ **Control S Terminal**—The SVO-1610 is equipped with Control S In/Out terminals to allow the VTR to be remotely controlled by other Sony equipment such as the optional RM-V200 remote control unit ■ **8-pin TV connector**—An 8-pin video/audio connector is incorporated in to the SVO-1610. Video and audio signals are transmitted via this connector ■ **BNC Connectors**—The SVO-1610 is equipped with VIDEO IN and OUT BNC connectors for assured wiring connections ■ **Supplied Remote Commander**—Using the supplied remote commander, all the VTR functions such as Shuttle control and On-screen Menu can be remotely operated.

Supplied Accessories:

Wireless Remote Commander
Size AA Batteries (2)
AC Power Cord
Instruction Manual

Optional Accessories:

RM-V200 Wired/Wireless Remote Control Unit
V-25CL Video Head Cleaning Cassette
T-120PRO-XB/T-120ESX-HFB/T-120/160-ES-HGB

Specifications

General

Weight: 13 lb. 7 oz. (6.1 kg)
Dimensions (WHD): 430 x 95 x 350mm
(17" x 3 $\frac{3}{4}$ " x 13 $\frac{3}{8}$ ")
Power Requirements: AC-120V, 60 Hz, 3 wire grounded receptacle
Power Consumption: 26W
Operating Temperature: 5°C to 40°C (41°F to 104°F)
Tape Speed: SP: 33.35mm/s (1 $\frac{1}{8}$ ")
LP: 16.67mm/s (1 $\frac{1}{8}$ ")
EP: 11.12mm/s (1 $\frac{1}{32}$ ")
REC and PB mode: SP/LP/EP
Recording/Playback
F FWD and REW Time: Approx. 2.5 min (T-120)

Video

Color System: EIA standard (monochrome)/NTSC (color)
Video Recording System: Rotary two-head helical scanning system
Input Composite: BNC connector
1Vp-p, 75Ω, unbalanced, sync negative
Output Composite: BNC connector
1Vp-p, 75Ω, unbalanced, sync negative
Monitor OUT: 8-pin connector
1Vp-p, 75Ω, unbalanced, sync negative

Audio

Audio Recording System: Rotary two-head Hi-Fi system
(Recording on the conventional audio track is monaural)
Input (0 dB = 0.775 mVrms): Phono: -8 dBs, 47 kΩ
Output (0 dB = 0.775 mVrms): Phono: -8 dBs at 47 kΩ, 10 kΩ
Frequency Response: 20 Hz-20 kHz (Hi-Fi mode)
Distortion: < 0.5% (Hi-Fi mode)
Wow/Flutter: < 0.35% (Normal mode)

Tuner

Tuner System: 181-channel, frequency synthesizer tuning system
Channel Coverage: VHF channels: 2-13
UHF channels: 14-69
CATV channels:
Low band: A-8
Mid band: A-5 through A1, A through 1
Superband: J through W
Hyperband: (W + 1) through W + 84)
Antenna: 75Ω F type connector antenna terminal for VHF/UHF

Timer

Clock: Quartz locked
Timer Indication: 12-hour cycle
Time Setting: 6 programs for 1 year max.
Power Back-up: Back-up Duration: 60 min
Tape Counter: Linear time counter

Connectors

Video: Input x 1 (BNC)
Output x 1 (BNC)
Audio: Input x 1 (Phono)
Output x 1 (Phono)
Monitor Out: 8-pin connector x 1
Control S: Input x 1 (Mini jack)
Output x 1 (Mini jack)
VHF/UHF: Input x 1 (F type)
Output x 1 (F type)

Wireless Remote Control Unit

Remote Control System: Infrared control
Command Mode: VTR 3
Power Requirements: DC 3V, 2 size AA batteries
Dimensions: 68 x 31 x 200mm
(2 $\frac{1}{16}$ " x 1 $\frac{15}{64}$ " x 7 $\frac{7}{8}$ ")
Weight: 148 g (5 oz. excluding batteries)

RM-V200

Wired/Wireless Remote Control Unit

■ VTR operation: STOP / PLAY / REC / PAUSE / FWD SEARCH / REW SEARCH / FF / REW / EJECT / POWER ON AND OFF ■ High speed rewind button/2x speed playback/Frame advance operations for SVO-1410/160, SVP-1210 ■ Either Control-S or Control P control signal selectable

Supplied Accessories:

Size AA Battery (2)
Control S Cable (3m)
Control P Cable (1.5m)
Operation Manual



Specifications

Weight: 3 oz. (105 g.) excluding batteries
Dimensions (WHD): 65 x 18 x 150mm
(2⁵/₈" x 2³/₃₂" x 6")
Power Requirements: DC-3V
Operating Temperature: -5°C to 45°C
Control Signal: Control S (SIRCS)
Control P (Inverted SIRCS)

RM-450

Editing Control Unit

The RM-450 Editing Control Unit is designed to make two-machine editing operation easy and effective. ■ The RM-450 has 33-pin remote control interface connectors and can be connected to 33-pin equipped editing VTRs directly. Also, 9-pin remote control interface (RS-422 serial interface) connectors are provided to allow the RM-450 to be connected to 9-pin equipped VTRs. Furthermore, mixed operation of 33-pin and 9-pin equipped VTR can be executed. The RM-450 has many features which allow easy editing, a keyboard layout which minimizes key strokes, a JOG/SHUTTLE DIAL on both the player side and recorder side for convenient picture search operations, the Time Code/CTL/Relative Time Code editing modes for easy and accurate editing, the in-point auto counter reset function for convenient editing, and much more ■ 33-pin Interface and 9-pin Interface—The RM-450 provides 33-pin remote control interface connectors and 9-pin remote control interface (RS-422 serial interface) connectors on both the player side and recorder side. The RM-450 can be connected to various VTRs, such as the VO-5850/5800, which has a 33-pin interface, as well as VO-9850 series U-matics and other 9-pin equipped VTRs. ■ Each player VTR and recorder VTR can be selected via the 9-pin/33-pin switches on the front panel. Therefore, the RM-450 can edit using any combination of 33-pin and 9-pin equipped VTRs. ■ Time Code/CTL/Relative Time Code Editing—When a 9-pin equipped VTR is connected, the RM-450 not only allows CTL based editing but also makes Time Code based editing possible. Furthermore, the RM-450 provides the Relative Time code (RTC) editing mode, in which time code is used as an edit reference and time



(RM-450, cont.)

code progress is counted like CTL on the LED counter. It has the feel of CTL editing with the precision of time code editing. The AUTO COUNTER RESET function, in which the editing point first designated is automatically reset to "0:00:00:00", is also provided. ■ **Editing Functions**—The RM-450 can use the Assemble and Insert (V/A1/A2) edit modes, and provides editing functions such as editing IN-POINT/OUT-POINT ENTRY, PREVIEW, TRIM, AUTO EDIT/END, REVIEW/JUMP, GO TO, AUDIO SPLIT, and LAST EDIT. The function keys are laid out to enable easy operation. ■ **Easy Operation**—The RM-450 provides JOG/SHUTTLE dials on both the player side and recorder side and the function keys are laid out for easy operation to meet user demands. The RM-450 JOG/SHUTTLE dial operation adds a new dimension to the VO-5850/5800 by providing a JOG function. The RM-450 can remotely control basic functions of VTRs such as PLAY, STILL, FF, REW, STAND BY, EJECT, REC, and EDIT. (The EJECT function can be executed only on 9-pin equipped VTRs. The REC and the EDIT keys are only on the recorder side.) ■ **Synchronized Capability**—The RM-450 accepts REF. VIDEO IN (reference video input) for synchronized operation. Therefore, when a reference video signal is input, the RM-450 can perform absolutely precise synchronized editing. The synchronization precision can be selected via the SYNCHRONIZE GRADE switch. ■ **Pinch on Delay Time Learning Capability**—The RM-450 detects differences between the pinch on delay times of the player and recorder and stores them in the memory using the LEARN function. The RM-450 can change the play command timing of one of the VTRs to adjust the timing of the edit in-points automatically. ■ **Audio Split Editing**—The RM-450 provides the AUDIO SPLIT function, which allows the audio edit in-point to be set differently from the video edit in-point to be set differently from the video edit in-point. Therefore, the RM-450 can effectively edit sound or music. ■ **Easy Mode Setting**—Mode setting is very easy and convenient when using the preset switches

on the front panel. ■ 33-PIN/9-PIN ■ CTL/RTC/TC ■ PREROLL TIME: 3/5/7/10 ■ EDIT TIMING: AUTO/ -1F ~ -7F ■ SIGNAL STANDARD: 30F/25F ■ CUE OUT SIGNAL TIMING: -7 SEC ~ 7 SEC FROM IN-POINT ■ BEEP SOUND: ON/OFF ■ SYNCHRONIZED VTR: PLAYER/RECORDER ■ SYNCHRONIZE GRADE: 0F/±1F ~ ■ EDIT ENABLE WITHOUT SERVO LOCK: ON/OFF ■ CTL DISPLAY: 24H/±12H ■ SLO-420 USE: ON/OFF ■ AUTO COUNTER RESET: ON/OFF ■ **Error Message**—The RM-450 indicates the "Error" and error number on the LED counter along with a warning sound to point out misoperation. The error number is explained on the error message chart. ■ **Cue Signal Out**—A cue pulse out from the RM-450 is provided for external equipment on which an external start trigger capability is equipped. ■ **Self-Diagnostics**—The RM-450 has a built-in self-diagnostic function to improve serviceability and make maintenance easy.

Supplied Accessories:

AC Power Cord
Error Message Chart
Operation Manual

Optional Accessories:

RCC-5F 33-pin Remote Control Cable
RCC-15FT 33-pin Remote Control Extension Cable
RCC-5G/10G/30G 9-pin Remote Control Cable
RMM-450 Rack Mount Kit
(for 19" EIA and SONY SU-512 rack)
SU-450 Double size table (for SONY SU rack)

Specifications

Power Requirements:	AC-108V-132V, 48V-63 Hz (RM-450) AC-198V-264V, 48V-63 Hz (RM-450CE)
Power Consumption:	11W
Weight:	6 lb. 13 oz. (3.1 kg) (approx.)
Dimensions (WHD):	390 x 93 x 265mm (15 ³ / ₈ " x 3 ³ / ₈ " x 10 ¹ / ₂ ")
Operating Temperature:	0°C to 40°C (32°F to 104°F)
Storage Temperature:	-20°C to 60°C (-4°F to 140°F)
Edit Reference:	Control track signal, SMPTE/EBU LTC (Longitudinal Time Code), VITC (Vertical Interval Time Code)
REF VIDEO IN	
Reference Video Input:	0.5Vp-p - 2.0Vp-p, negative, 75Ω, unbalanced
External Sync Input:	0.5Vp-p - 5.0Vp-p, negative, 75Ω, unbalanced
CUE OUT	
Cue Pulse Signal:	Active low: low level 0V - 0.5V high level 3.5V - 5.0V

SVAC-901

Audio Meter for SVO-960

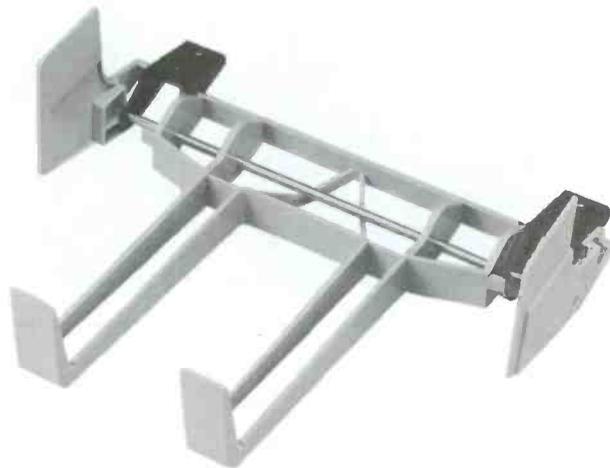
- For monitoring audio recording level



SVAC-902

Cassette Holder

- To hold cassettes ejected by the SVCC-960



SVAC-903

Audio Head Cleaner

- For cleaning a stationary audio head in the SVO-960

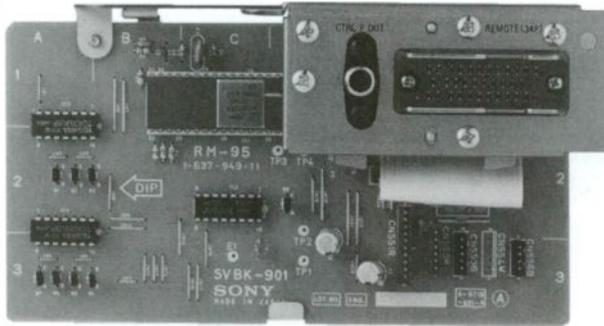


SVAC-904

Bi-Directional Remote Control Panel

- To operate a duplications system with the SVRM-960
Bi-Directional Remote Control Unit

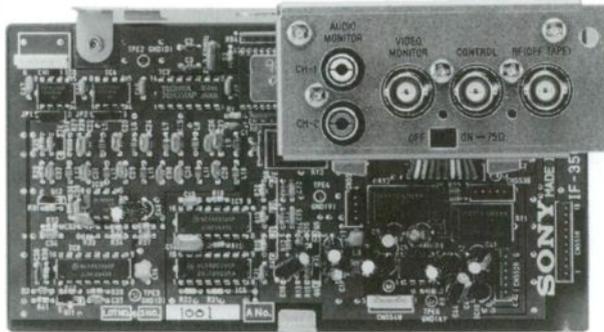
Duplication - Real Time



SVBK-901

34-Pin Parallel Interface Board

- To meet 34-pin based control system
- Control P serial control signal output connector



SVBK-902

Bi-Directional Interface Board

- To enable two way communication between duplication VTRs and the SVRM-960



SVCC-960

Automatic Cassette Changer for SVO-960

- Automatic cassette loading and ejecting for efficient duplication operation: Up to 5 cassettes

SVO-960

VHS Hi-Fi Duplicator

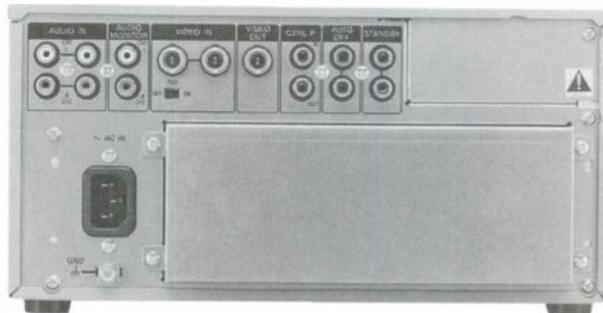
- High quality picture and sound by wide video/audio track design
- Quality construction and durable mechanism for highly reliable operation
- Low power consumption of 25W
- Compact size and lightweight
- Control P IN/OUT connectors for loopthrough connection
- Loopthrough audio/video connectors for simpler system connection
- Control S IN connector for VTR operation checking
- Automatic check function for reliable recording results (operated from SVRM-901/SVRM-960)
- Data set function: VTR ID SET, ID code REC ON/OFF, ID code display ON/OFF, video AGC ON/OFF, audio limiter ON/OFF, Hi-Fi auto ON/OFF etc.
- Auto off function for technical difficulties
- Convenient front test terminals for easy technical testing
- Operation status indicator: TAPE RUN, REC, EJECT/AUTO OFF

Supplied Accessories:

AC Power Cord
Instruction Manual

Optional Accessories:

RM-V200 Remote Control Unit
SVAC-901 Audio Meter
SVAC-902 Cassette Holder
SVAC-903 Audio Head Cleaner
SVAC-904 Bi-Directional Remote Control Panel
SVBK-901 34-Pin Parallel Interface Board
SVBK-902 Bi-Directional Interface Board
SVCC-960 Automatic Cassette Changer
SVRM-901 Serial Remote Control Board
SVRM-960 Bi-Directional Remote Control Unit



Specifications

General

Type: VHS Hi-Fi duplicator
Video Recording System: Two rotary heads helical scanning system
Video Signal System: EIA monochrome/NTSC color
Operating Temperature: 5°C to 40°C (-41°F to 104°F)
Power Requirements: AC-100V
Power Consumption: 25W
Dimensions (WHD): 270 x 132 x 370mm (10³/₄" x 5¹/₄" x 14⁵/₈")
Weight: 16 lb. 9 oz. (7.5 kg.)

Video Signal

Input: 1.0Vp-p, 75Ω (with termination switch), sync negative (with loopthrough output)
Output: 1.0Vp-p, 75Ω, sync negative
Horizontal Resolution: > 240 TV lines
S/N Ratio: > 45 dB

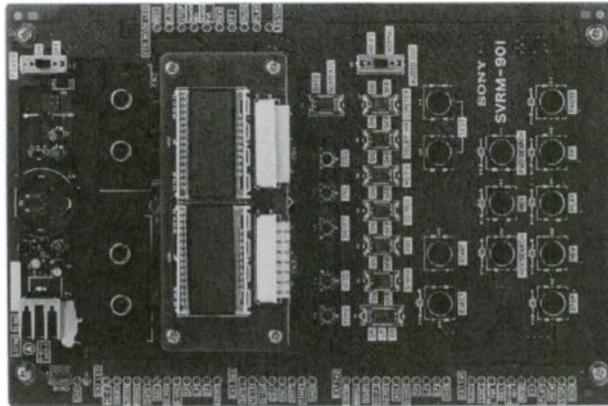
Audio Signal

Input (0 dBs = 0.775Vrms): CH-1/CH-2: -10 dBs, 47 kΩ, unbalanced (with loopthrough)
Output (0 dBs = 0.775Vrms): -10 dBs, 47 kΩ, unbalanced
S/N Ratio: 43 dB (standard)
Dynamic Range: > 90 dB (Hi-Fi)
Frequency Response: 50 Hz-10 kHz (standard)
20 Hz-20 kHz (Hi-Fi)

Tape Transport

Tape Speed: 33.35mm/sec.
F FWD and REW Time: 2.5 min. (E-120)
Videocassette: VHS standards cassette tapes

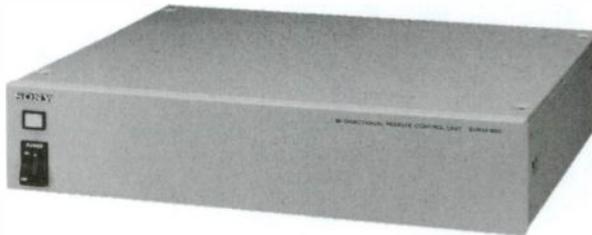
Duplication - Real Time



SVRM-901

Serial Remote Control Board for SVO-960

- Control P out connectors for controlling entire duplication VTRs: Up to 2,000 VTRs
- VTR mode set up capability: VTR ID code REC ON/OFF, video AGC ON/OFF, Hi-Fi Audio ON/OFF, audio limiter ON/OFF, etc.
- Auto Check function for examining secure video/audio recording



SVRM-960

Bi-Directional Remote Control Unit for SVO-960

- Duplication VTR control capability: up to 1,000 VTRs
- Individual VTR status monitoring capability
- System management capability
- VTR mode set up capability: VTR ID code REC ON/OFF, video AGC ON/OFF, Hi-Fi Audio ON/OFF, audio limiter ON/OFF, etc.
- Auto check function for examining secure video/audio recording
- RS-232C interface for computer control operation
- Centronics compatible printer interface

ECD-3C/10C/30C

Digital Audio Cable (3M, 10M, 30M—XLR 3-PIN)

VDC-5

Dubbing Cable

■ 7-pin/7-pin, 5m (16.4 ft.)



VCD-2D/5D/10D/30D

Digital Video Cable (2m, 5m, 10m, 30m—D-sub 25-pin)

RCC-1502D/1505D/1510D/1530D

(2m, 5m, 10m, 30m—D-sub 15-pin)

Digital Video Controller Cable



DDU-2100

Digital Audio Delay Unit

■ Capable of delaying a maximum of 8 channels (4 inputs of AES/EBU digital audio signals and SMPTE/EBU time code (LTC) simultaneously) ■ Delay time can be adjusted by field, msec., samples: Field: 8.5 fields (0.1 field/step); M sec: 170m sec. (2.0m sec./step); Sample: 8100 samples (100 samples/step) ■ Accepts 48 kHz, 44.1 kHz, 44.056 kHz and 32 kHz sampling frequencies ■ One rack unit high and 19-inch rack mountable

Specifications

Power Requirements: AC-100V–120V ± 10%,
AC-220V–240V ± 10% selectable, 50/60 Hz
Power Consumption: 15W
Dimensions (WHD): 424 x 44 x 330mm
(16³/₄" x 1³/₄" x 13")
Weight: 7 lb. 11 oz. (3.5 kg.)
Audio Input: AES/EBU x 4 (XLR 3-pin)
Audio Output: AES/EBU x 4 (XLR 3-pin)
LTC Input: SMPTE/EBU x 1 (XLR 3-pin)
LTC Output: SMPTE/EBU x 1 (XLR 3-pin)
Sampling Frequency: 48 kHz/44.1 kHz/44.056 kHz/32 kHz
selectable
Maximum Delay Range: 8.5 fields/170 ms/8100 samples



DTR-3000

Dynamic Motion Controller

■ Provides speedy control of DT equipped VTRs in STILL, JOG, VARIABLE, and SHUTTLE modes ■ Five current cues can be entered and accessed for search to the desired event ■ Additional five memory cues are provided to store current cues ■ Each cue point is easily accessed using the cue scroll or memory cue scroll keys ■ Up to two VTRs can be controlled by one DTR-3000 ■ Up to four DTR-3000s can be interconnected for parallel operation, thus a maximum of eight VTRs can be controlled at the same time ■ Both dial and lever operation are available ■ Playback speed from -100%–300% in 50 steps (normal speed = 100%) ■ Preroll times can be set within the range of 0 sec. 00 frames to 9 sec. 24 (NTSC)/29 (PAL) frames

Specifications

Power Requirements: AC-100V–240V, 50/60 Hz
Power Consumption: 35W
Dimensions (WHD): 212 x 257 x 271mm
(8³/₈" x 10¹/₈" x 10³/₄")
Weight: 10 lb. 2 oz. (4.6 kg.)

Input/Output Connectors:

RS-232C: D-sub 25-pin
VTR-1: D-sub 9-pin, RS-422
VTR-2: D-sub 9-pin, RS-422
GP-IB: GP-IB 24-pin
TALLY: D-sub 9-pin, AC/DC-24V
VIDEO IN: BNC, 1.0Vp-p, 75Ω
MONITOR OUT: BNC, 1.0Vp-p, 75Ω

Tapes

D1S-6, D1M-12/22/34, D1L-76/94

Component Digital VTR Cassette Tape

D2S-6M/12M/22M/32M, D2M-6M/12M/22M/34M/64M/94M, D2L-126M/156M/188M/208M

Composite Digital VTR Cassette Tape

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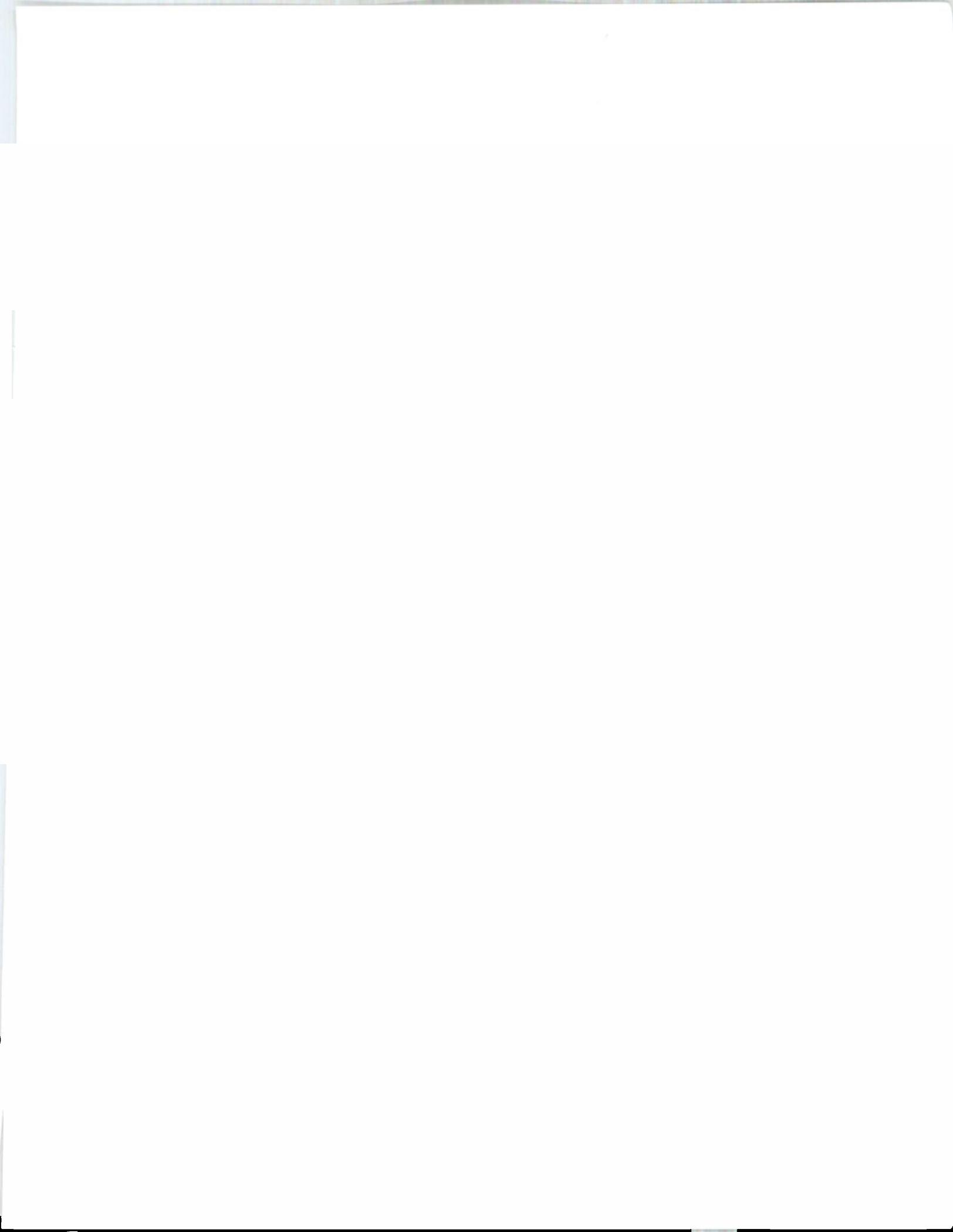
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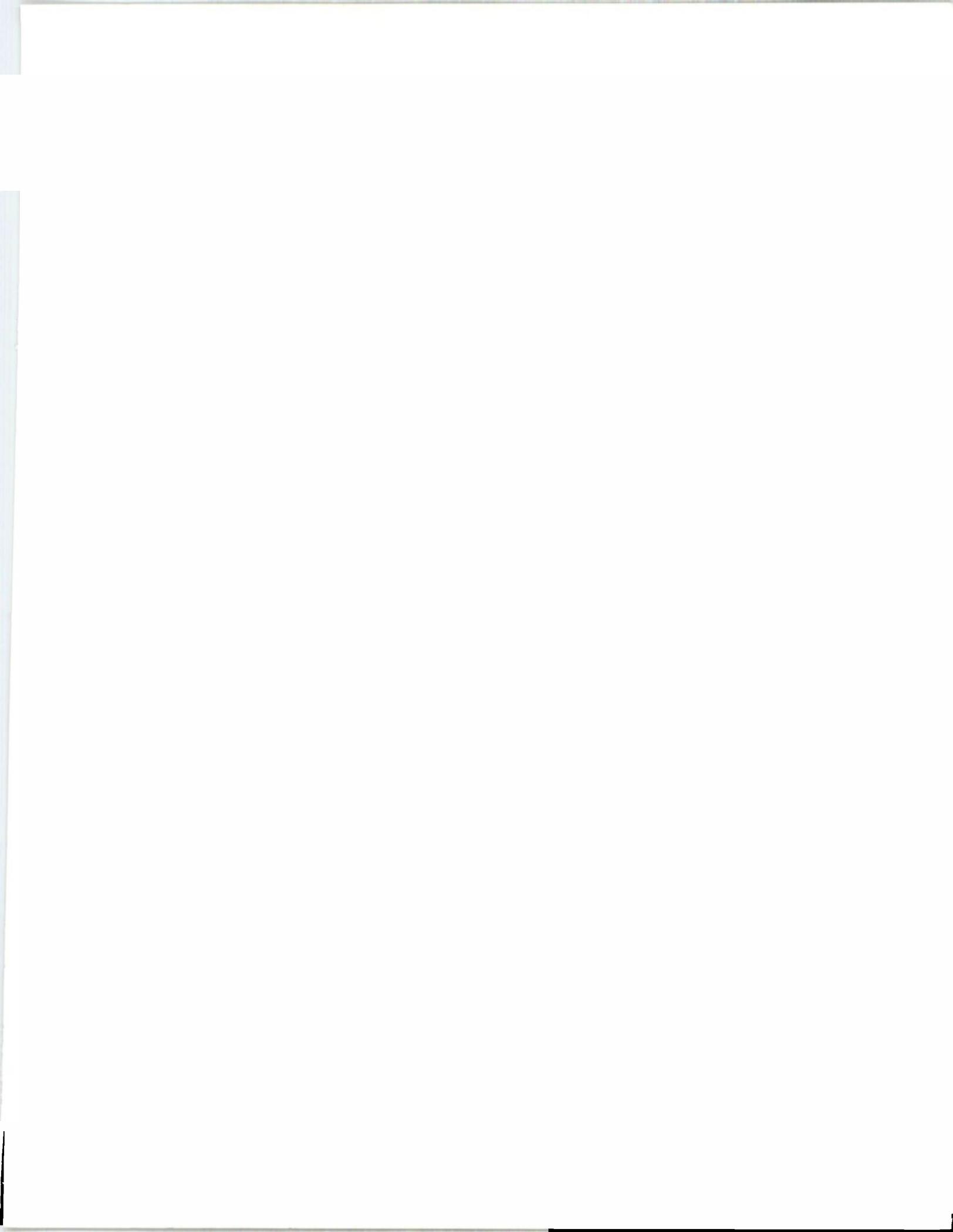
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