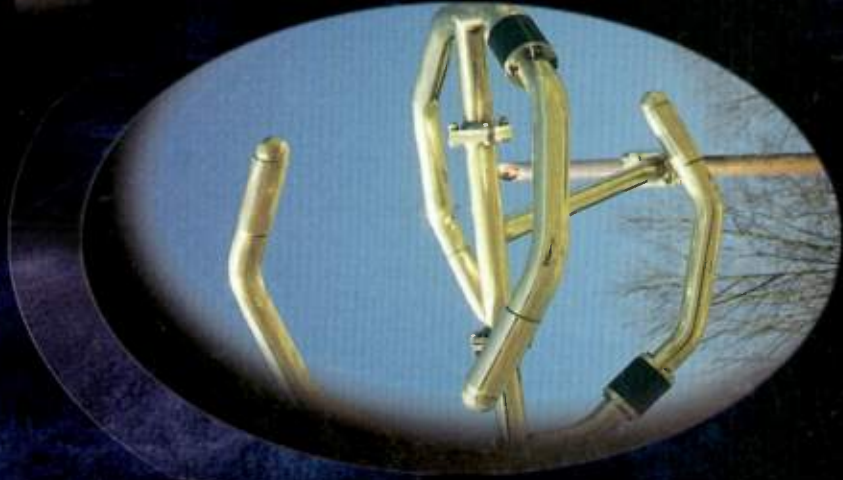
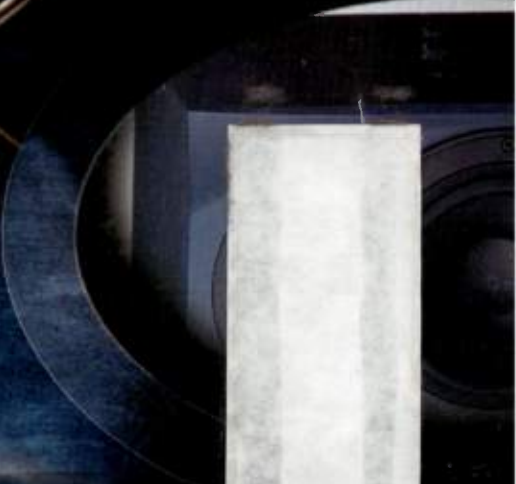


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July 1999
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Product Source



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Welcome to the fourth annual *BE Radio Product Source*, the issue dedicated exclusively to covering the products that apply to the radio industry.

As you can image, the spectrum of product offerings is expansive. This issue will serve as a broad outline of what's on the market. This particular edition should prove an invaluable guide in your equipment selection process as your station moves into the next century: Use it as a reference tool when you need to buy a mic or equip an entire facility.

Many of the products listed were unveiled at NAB99, including the *BE Radio* Pick Hit winners; some are even more recent entrants to the market.

So take a look at the following pages for the latest releases and market trends. Whatever your station's size and budget, you're sure to find something you've been looking for.

Let us know what you think of the issue. Send your comments to us at *BE Radio*, 9800 Metcalf Ave., Overland Park, KS 66212-2216 or e-mail us at beradio@intertec.com.

Dana Martin

Dana Martin, associate editor

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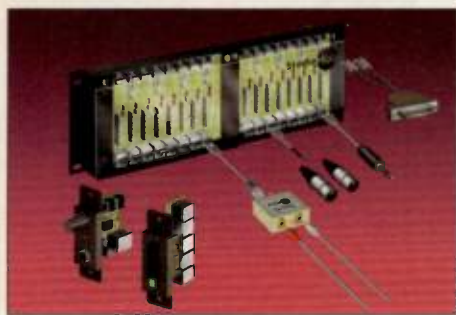
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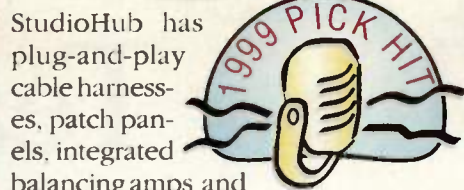


Radio Systems: StudioHub



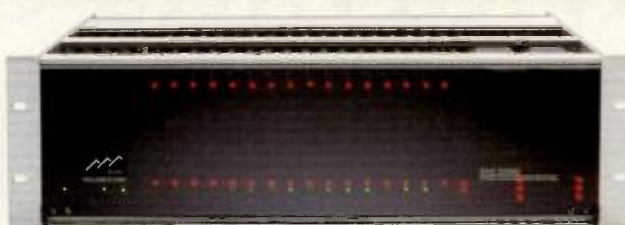
and peripheral amps to harness all studio gear together. Each system component quick connects with RJ-45 jacks, and all peripheral products are phantom powered with the built-in DC-link system.

(609) 467-8000; fax (609) 467-3044
sales@radiosystems.com; www.radiosystems.com
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StudioHub has plug-and-play cable harnesses, patch panels, integrated balancing amps and accessories. The first rewired cabling system for digital-ready operation. CAT-5 shielded twisted-pair cables efficiently route analog and digital signals throughout a facility. Features pre-made source cables for all types of studio gear and quick-connect blocks

Sierra Automated Systems (SAS): 32000



all input amplifiers, crosspoint cards, output amplifiers and power supplies as required for a complete system. Available controllers range from a single control panel per output to powerful menu-driven terminals of total system access.

(818) 840-6749; fax (818) 840-6751
sales@sasaudio.com; www.sasaudio.com
 Circle (202) on Free Info Card

The SAS 32000 audio routing switcher microprocessor-based audio switching and summing system is configurable and modular. A 32 stereo input/16 stereo output switching subsystem housed in a 3RU frame is the heart of the system. Each frame houses

Logitek: Vmix software



The Logitek Audio Engine has been expanded with the introduction of the Vmix Virtual Mixer Software for the PC. The software allows a computer to control the Digital Audio Engine without using any other control surface or to duplicate another control surface while occupying little space. For the user, the computer becomes the console, providing a space-efficient means of adding another console control point in a studio, replacing a full console in a studio or controlling a console from remote locations. The software emulates a ROC-10, ROC-5 or Numix console control surface, depending on how the Audio Engine has been programmed.

(800) 231-5870; (713) 782-7597
info@logitekaudio.com
www.logitekaudio.com
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Digram: NCX200

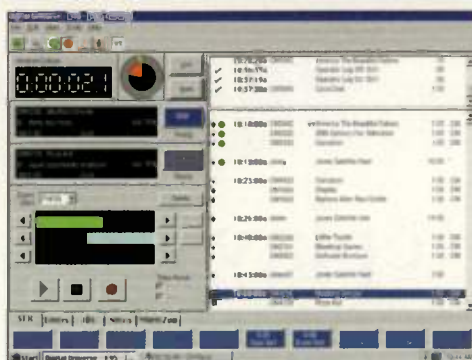
Connected to a server via Ethernet (10/100BT), the NCX200 decodes and plays a stereo audio stream. A bidirectional serial connection permits source selection, status and other communication with the server. This terminal is designed for a variety of networked audio applications, including audio-on-demand, permanent playback and public address in places. Programmed using the Digigram SDK, the NCX200 is the first in a new range of Digigram audio appliances.

(703) 875-9100; fax (703) 875-9161
glassman@digigram.com
www.digigram.com
 Circle (209) on Free Info Card

Custom Business Systems Inc. (CBSI): NetCapture

The NetCapture facility permits flexible recording of incoming satellite programming, and live audio routing allows such feeds to be played directly to air in real time. With access from any Digital Universe workstation, these new functions vastly increase the broadcaster's ability to route audio material intelligently through a facility. The NetCapture capability allows Digital Universe users to set up a schedule for prerecording of satellite inputs. Schedules can be entered by exact time or by other parameters: for instance, to begin recording upon receipt of a specific tone. As many as eight different sources can be recorded simultaneously from a single machine.

(800) 547-3930; fax (541) 271-5721; info@cbis.org; www.cbis.org
 Circle (203) on Free Info Card



Inovonics: Model 520

The Model 520 includes a built-in, tunable preselector for off-air operation with a companion antenna. The unit also accepts a direct RF input sample from the transmitter. Features preset and adjustable peak flashers as well as loss-of-carrier and loss-of-audio alarms.

(800) 733-0552
fax (831) 458-0554
www.inovon.com
 Circle (206) on Free Info Card

JK Audio: Innkeeper 1

The Innkeeper 1 is designed to get audio in and out of analog telephone lines without the transmit/receive crosstalk common to analog hybrids. A built-in wired remote control that includes a DTMF keypad is featured. Other features include real screw terminals for remote connections, a front-panel headphone jack and volume control, and switchable automatic answer.

(815) 786-2929; fax (815) 786-8502; info@jkaudio.com; www.jkaudio.com
 Circle (207) on Free Info Card



KD Kanopy: KD Majestic



(800) 432-4435; fax (303) 650-5093
askme@kdkanopy.com; www.kdkanopy.com
 Circle (208) on Free Info Card

The 10'x10' KD Majestic weighs only 48 pounds and is constructed from an aluminum frame with fiber-reinforced DYNIDIOM fittings. Call letters and logos can be printed oversized on the canopy's side panel, top and rail curtains. The canopy's polyester tops are fire-retardant, water-resistant and come in an array of colors. All units come with a free carry bag and stakes.

Sonifex: Courier software

ware adds support for AIFF recordings and extends the editing capability with multiple-cut, multiple-mark cut-and-paste editing. Modem support is included to transfer audio over a telephone line. Frequently called numbers can be stored in memory.

+44 1933 650700; fax +44 1933 650726
sales@sonifex.co.uk; www.sonifex.co.uk
 Circle (210) on Free Info Card

Version 1.5 software for the Courier adds cut-and-paste editing capability and additional Mac support. The software adds support for AIFF recordings and extends the editing capability with multiple-cut, multiple-mark cut-and-paste editing. Modem support is included to transfer audio over a telephone line. Frequently called numbers can be stored in memory.

Gorman-Redlich: EAS1

This feature-rich encoder/decoder offers a 25-pin printer port allowing an external printer to keep the EAS log, an auxiliary output through a coaxial BNC fitting to go directly into the FM exciter and a four-line, 40-character backlit LCD display for rapid interpretation of alert messages. Alert messages can be scrolled on a remote sign board, a computer screen or with a character generator on a video monitor. Other features include a 20-key keypad to construct alert messages header code, set modulation levels, or set input levels. The complete required weekly test, the end of the message code, sending a stored alert or sending a composed header can be done from the keypad on the unit or with a remote pushbutton in the on-air control room.

(740) 593-3150; fax (740) 592-3898
www.gorman-redlich.com
 Circle (211) on Free Info Card

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Email: info@comrex.com www.comrex.com

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COMREX



NAGRA: ARES-C

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+41 21 732 01 01; fax +41 21 732 01 00; mail@nagra.com; www.nagra.com

Circle (212) on Free Info Card



Satellite Export & Engineering: Patriot solid commercial antenna

ideal for digital compression. Features an all-aluminum reflector, 125 mph wind loading (survival), 16 draw die-formed petals to achieve .020" surface accuracy, a king post pedestal mount for superior steering and stability. Its petalized design provides high accuracy with low transportation costs.

(517) 629-5990; fax (517) 629-6690

sepatriot@voyager.net; www.sepatriot.com

Circle (213) on Free Info Card

The 4.5 meter solid commercial antenna is a C/Ku high-efficiency antenna ideal

Pacific Research & Engineering: Airwave Digital



The Air-wave Digital

console, the digital complement to the AirWave, is available in two mainframe sizes of 12 or 20 input modules and is fully configurable. Automatic sample-rate conversion is standard on all digital inputs.

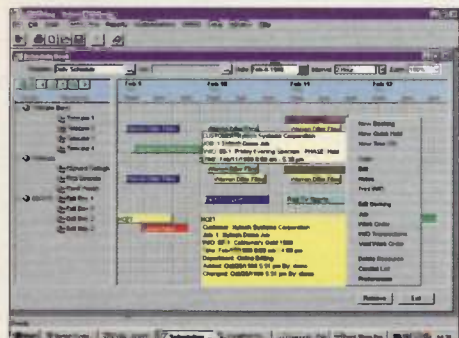
Inputs can be reconfigured from analog to digital (and back) by changing one SIMS-mounted card per module. Three stereo program buses

are standard, each with a digital and an analog output. Also standard are two automatic telephone mix-minus (clean-feed) buses and logic control with a built-in machine interface. The console combines studio and control room monitoring with integrated talkback, and its five-mic pre-amp module delivers high performance using transformerless, balanced I/O pre-amps.

(760) 438-3911; fax (760) 438-9277; info@pre.com; www.pre.com

Circle (214) on Free Info Card

Xytech: Xytech FMS 2.2



Xytech FMS 2.2 is a fully integrated application for scheduling and management of facility resources. Runs on multiple databases and is Y2K compliant. Features click-and-drag scheduling and self-learning programmability. The reporting tool allows users to track usage and income of clients and resources as well as supplying tools such as project and client schedule reports. Interfaces with existing systems within organizations and can be exported to third-party accounting systems.

(818) 767-7400; fax (818) 768-7430

www.xytechsystems.com

Circle (215) on Free Info Card

Ward-Beck Systems Ltd: R2K

The R2K features easy installation via the use of Phoenix pluggable connectors. Features a unique dual-redundancy power-supply package based on the 8200 series rackmount frame, which includes provisions for using Ward-Beck D/A converters, A/D converters and distribution amplifiers in only 2RU of space.

(800) 771-2556; fax (416) 335-5202; wbsltd@istar.ca; www.wbsltd.com

Circle (216) on Free Info Card



Comrex: Nexus

The Nexus stores up to 10 locations, including SPIDs, switch type and LDNs; all can be stored in nonvolatile memory. Two audio inputs are provided: mic/line on a three-pin XLR and a separate mini-jack tape input. There is a choice of audio outputs: 1/4-inch phone jack and line-level on XLR. The output is an externally controllable mix of local program audio and studio return. An internal peak limiter keeps the audio from clipping in case of a sudden increase in level.

(800) 237-1776; fax (978) 635-0401; info@comrex.com; www.comrex.com

Circle (217) on Free Info Card



Swager Communications: Tower structures

The company uses state-of-the-art equipment and technology to manufacture and erect thousands of towers around the world. Working closely with major telecommunications companies, government agencies, the military, the broadcast industry, and large and small businesses, the company has manufactured and installed towers of every type, including an entire range of AM/FM, TV/CATV, radar, microwave, cellular, personal communication systems (PCS) and other applications.

(800) 968-5601; fax (800) 882-3414

sales@swager.com; www.swager.com

Circle (218) on Free Info Card

Belar: CSA-1

The CSA-1 features a VGA output to drive an external CRT monitor, an RS-232 port for connection to a PC, and analog composite 150kHz inputs. Also featured are analog, 24kHz left and right inputs and an AES/EBU input with a rate converter that accepts any sample rate from 24kHz to 56kHz. Other features include a 120dB dynamic range (adjustable), amplitude resolution to 0.1dB, and linear (percent) and decibel scales. Frequency can be displayed up to 150kHz on the composite input.

(610) 687-5550; fax (610) 687-2686

sales@belar.com; www.belar.com

Circle (342) on Free Info Card

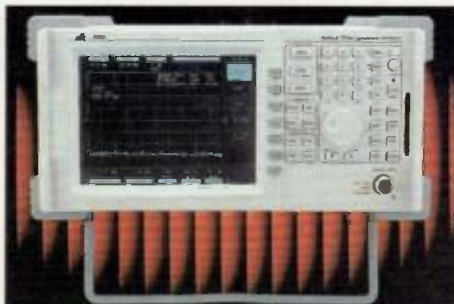
IFR Americas: 2398

The 2398 has a frequency range of 9kHz to 2.7GHz. A split-screen mode allows simultaneous viewing of two display functions. Full marker capabilities simplify signal troubleshooting. The standard RS-232 and optional GPIB allow remote control of the instrument, and the parallel printer port supports many popular printers.

(316) 522-4981; fax (316) 522-2328

info@ifrinternational.com; www.ifrinternational.com

Circle (219) on Free Info Card



RCS Sound Software: SelectorNET

song title and artist now playing. Works with most of the popular digital automation systems and allows stations to continuously post title, artist and the last 50 songs played. Easy to set up and maintain. SelectorNET also rotates graphic images such as station promos and advertising materials. Allows stations to control the look and feel of these images.

(914) 428-4600; fax (914) 428-6922

info@rcsworks.com; www.rcsworks.com

Circle (220) on Free Info Card

SelectorNET displays on your station's website the

V-Soft: FMCONT



FMCONT is a new all-Windows channel-search program that combines LPMF and commercial spacings studies with contour-to-contour studies. Hot-spot screens allow parameter changes with a click of the mouse. Create instant allocation maps with another click of the mouse. Find new low-power FM drop-ins. This program is a complete FM frequency search package.

(800) 743-DOUG; fax (319) 266-9212

dvernier@v-soft.com

www.v-soft.com

Circle (221) on Free Info Card

Switchcraft: Q-G Twist

The Q-G Twist audio connector is an XLR connector with only two pieces that require user assembly. The front shell has a preloaded insert, and the back handle has a preloaded strain relief. The user needs to complete only three steps: sliding the cable through the handle/strain relief; soldering the terminals/solder cups; and twisting the handle on.

(773) 792-2700; fax (773) 792-2129

sales@switchcraft.com

www.switchcraft.com

Circle (222) on Free Info Card

Logitek's Numix Console Control Surface Is New & Improved for '99

A new and updated Numix modular console control surface was introduced at NAB99. This updated Numix has been redesigned for greater space efficiency and expanded functionality when used with hard disk audio storage systems.

The modular design of the Numix had been modified for greater flexibility and space efficiency. The functions of the Meter Wedge have been moved to the Selector Wedge so that now there are only two type of wedges. The Fader Wedge has been updated to include six faders instead of four allowing larger fader counts without increasing required space. Motorized faders are an option which allows software to physically change mix levels.

The alphanumeric display on the Fader Wedge has also been changed to a 200 x 640 LCD panel which is half of a VGA size screen. This will allow greater integration with hard disk audio storage systems which can make use of the larger display area. Even with the expanded display, the Numix retains its low

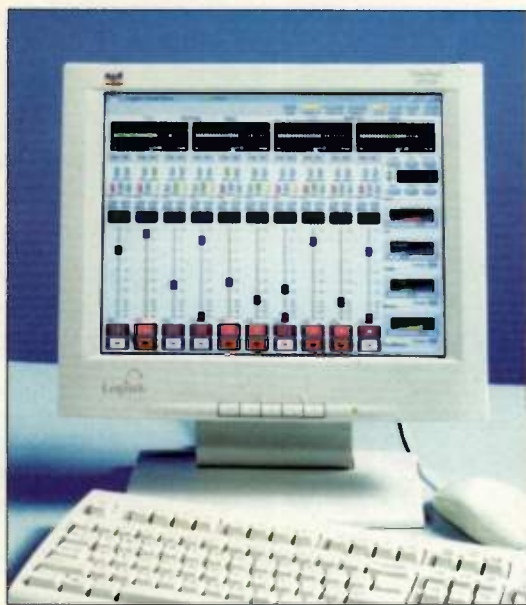


profile which contributes to open studio design.

The ergonomic shape and unmatched flexibility of design and configuration make the improved Numix a top choice for today's most demanding broadcast studios.

For more information on the Numix control surface, contact Paul Anderson at 800-231-5870 or visit Logitek on the Internet at www.logitekaudio.com.

Circle 182 on Free Info Card



Vmix Virtual Mixer Software New for '99

The usefulness of the Logitek Audio Engine has been expanded with the introduction of Vmix Virtual Mixer Software for the PC. The Vmix software allows a computer to control the Logitek Digital Audio Engine without using any other control surface or to duplicate another control surface while occupying very little space. To the user, the computer becomes the console.

Making a video display become the "console" provides a very space efficient means of adding another console control point in a studio, replacing a full console in a studio or controlling a console from remote locations. Vmix software emulates either a ROC-10, ROC-5 or Numix console control surface depending on how the Audio Engine has been programmed.

Vmix provides all of the features of a hardware control surface. With a click of a mouse or the touch of a finger, the operator can turn channels on and off, change fader levels or change input routing, as well as controlling the EQ, pan and monitor systems.

Vmix operates on a Windows 9x or NT computer using either a CRT or flat panel XGA display. Vmix, used on a computer with a modem, can connect to a remote location and have full control of the Audio Engine. Vmix allows many new operating alternatives for the Logitek Audio Engine.

For more information on Vmix software, contact Paul Anderson at 800-231-5870 or visit Logitek on the Internet at www.logitekaudio.com.

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Circle 184 on Free Info Card

Neumann: True Systems Precision 8

The True Systems Precision 8 provides eight channels of transformerless mic pre-amps, two of which can be used as direct instrument inputs. Each channel also offers five-segment level indicators with a selectable peak-hold feature. A button on channels one and two allows them to be used as an MS pair for added flexibility. Designed for use with today's modular digital multitrack units and hard-disk recording systems, the system can be connected to Tascam or Mackie digital products via a DB 25 multipin connector.

(860) 434-5220; fax (860) 434-3148

kwinkler@neumannusa.com; www.neumannusa.com

Circle (223) on Free Info Card



Henry Engineering: DigiStor-CD

DigiStor-CD is a solid-state digital audio recorder/player for utility use. Stores up to 8min of monoaural audio with CD-quality audio reproduction. Up to eight different tracks can be stored with random-access playback. Tracks can play once-only, continuously or in rotation and can be selectively erased and rerecorded. A built-in phone coupler allows the unit to automatically answer a phone line and play a message to the caller. Extended play mode doubles recording time, with 7.5kHz bandwidth. Audio I/O is balanced, line level. Shipping this summer.

(626) 355-3656; fax (626) 355-0077; www.henryeng.com

Circle (225) on Free Info Card



TC Electronic: DBMAX Mark II Version 2.02

The DBMAX Mark II Version 2.02 features 24-bit A/D and D/A converters among a comprehensive set of new hardware and software enhancements. The upgrade includes a dynamic stereo enhancer insert, the ability to handle analog I/O levels



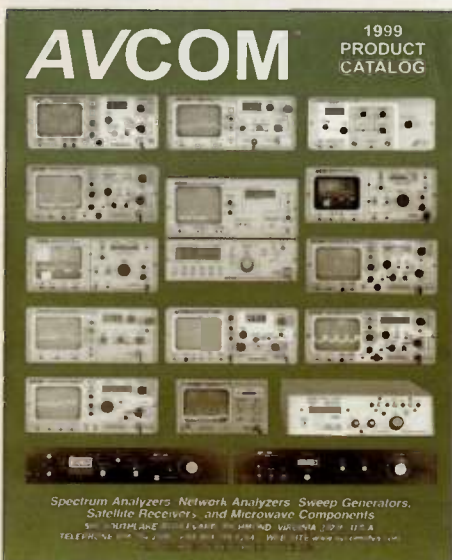
up to +26dBu (requires field-hardware modification), new presets and level setups — the presets have the ability to call level setups if desired. A 24-bit bypass mode and selectable high-cut and low-cut 20th-order filters on the inputs are also added. Two units can now work in redundancy and in bilingual configuration.

(805) 373-1828; fax (805) 379-2648

tcs@tcelectronic.com; www.tcelectronic.com

Circle (226) on Free Info Card

Avcom of Virginia: 1999 product catalog



The 1999 product catalog includes the company's spectrum analyzers, network analyzers, sweep generators, satellite receivers and microwave components.

(804) 794-2500; fax (804) 794-8284

www.avcomofva.com

Circle (230) on Free Info Card

SWR: FMU

An excellent choice for most Class-C stations, the FMU provides superior performance due to its wide VSWR bandwidth. Its durable, corrosion-resistant construction is fabricated from heavy-wall copper and naval brass. All joints are TIG welded. The entire antenna system is pressurized to the feed point of each bay, and each bay is DC grounded, thus eliminating the need for a shorting stub. Custom vertical patterns are available with center-fed arrays that have an even number of bays. Electrical deicers are also available. SWR offers the original purchaser a two-year limited warranty on defects in material and workmanship.

(814) 472-5436; fax (814) 472-5552

homepage.third-wave.com/swrweb

Circle (229) on Free Info Card



Davikom Technologies: FMPPM-01



The FMPPM-01 monitors the RF power level at the transmitter output and includes a demodulator to provide a sample of the audio signal.

(800) 465-4343

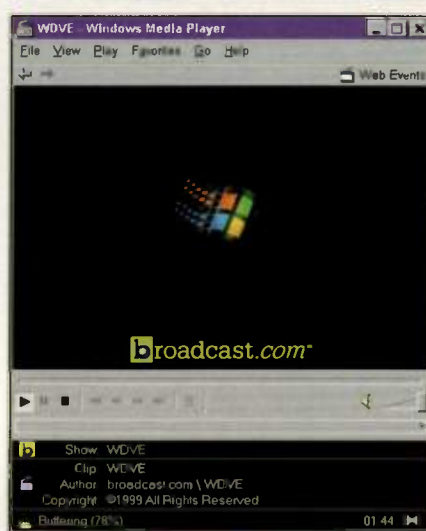
fax (819) 370-4353

infodavikom@davikom.com

www.davikom.com

Circle (231) on Free Info Card

Microsoft: MSAudio codec



(800) 227-4679; fax (425) 936-0251

saram@wagged.com; www.microsoft.com/windows/windowsmedia

Circle (224) on Free Info Card

Windows Media Technologies 4.0 provides developers with cutting-edge tools for creating and publishing live and on-demand streaming media content. Provides built-in support for the key new features in the Windows Media Technologies platform. Of greatest significance for radio is support for the new Microsoft audio codec, MSAudio, which is optimized for both voice and music and provides high-quality sound at every data rate. The files download in half the time of MP3 files and can be stored in half the space. Results in FM-stereo quality over 28.8 modems.



MusicamUSA: EditPro



The EditPro works directly on compressed MPEG Layer II and MPEG Layer III files, allowing users to edit compressed a file without uncompressing it prior to editing and recompressing it after editing. Eliminates the degradation created each time an audio file is recompressed. Operates by creating pointers to the original compressed file when each edit decision is made. When editing is completed, the original file is reconstructed with no cascading effects. Also supports BWF and raw MPEG formats.

(732) 739-5600; fax (732) 739-1818

www.musicamusa.com

Circle (227) on Free Info Card

Propagation Systems Inc: FM broadcast antennas



This new line of FM broadcast antennas, called the "rototiller" because of its shape, is available in high-power and medium-power versions and configurations, and half and full wave spacing. The arrays are usually configured to 12 bays, with inputs of either 1 5/8 inches or 3 1/8 inches. The design comprises two series-fed bent dipole elements that form a space-phased circularly polarized antenna. Because of the series feed, the antenna is fed internally and may be fully pressurized, thus minimizing weather-related VSWR problems. The elements and associated feeds are made of heavy-duty marine brass.

(814) 472-5540

fax (814) 472-5676

angelfire.com/biz/psinc

Circle (228) on Free Info Card

Broadcast Tools: MC-16 Mega-Coupler

The MC 16 Mega-Coupler offers a DTMF tone sequence decoder, DTMF to RS-232 serial converter and telephone audio hybrid. Equipped with 14 spst and two 2 pdt relays, which may be programmed to respond from one to six DTMF tone sequences. The same DTMF tone decoding may be used to trigger serial strings to RS-232 devices. The unit also provides nonvolatile storage of up to 32-ASCII strings in 16 locations.

(360) 428-6099; fax (360) 428-6719

www.broadcasttools.com

bti@broadcasttools.com

Circle (232) on Free Info Card

SAS64000 AUDIO ROUTING SYSTEM

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256 X 256 LARGE • MONO/STEREO • WIDE VARIETY OF CONTROL PANELS • 118dB ANALOG DYNAMIC RANGE • DISTRIBUTED MULTI-PROCESSOR ARCHITECTURE

If the migration to digital is in your future, then this is the route to take. Introducing the large size, big performance analog router that also speaks fluent digital. A true hybrid that allows you to scale the number of analog and digital ports as needed, now and in the future. And even better, the SAS64000 creates a forward path to AES/EBU digital audio without creating analog obsolescence.

This means you can mix your analog and digital I/O in the same router frame. Go direct analog to analog, or digital to digital. Or mix it up with 24 bit conversion analog to digital and vice versa. Either way, this unique architecture sports flawless signal integrity and non-blocking flexibility.

And it's wonderfully simple, just plug in our new digital port expander and that's it. Welcome to digital!—co-existing richly with analog in the same framework.

There's lots more to tell. Call us: 818 840 6749. Fax us: 818 840 6751. E-mail us: sales@sasaudio.com Check the Web site: sasaudio.com And of course, snail mail: 2112 North Glenoaks Blvd. Burbank, California 91504 USA



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BROADCAST & COMMUNICATIONS
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• Solid Electronic Labs: Model DCP-1A



loudness, filter overshoot control and dynamic range. The design employs an active linear amplifier as the limiting device; its filter structure is configured in two separate sections, each with its own overshoot compensation circuit. Front-panel LED indicators allow direct indication of clipping level, input level and overshoot compensator threshold levels.

(610) 353-9449; fax (610) 356-8449

Circle (233) on Free Info Card

The Model DCP-1A dynamic composite processor performs the functions of instantaneous and composite low-pass filtering in a single structure, thereby permitting maximum

• AETA Audio: Scoop Reporter II

Scoop Reporter II is a portable audio codec that is compatible with POTS and ISDN lines and supports G.711, G.722, ISO/MPEG Layer II and J.52. Includes internal battery backup and multiple AC voltages. Combines POTS and ISDN facilities with an integrated three-channel mixer. Sends and receives 20kHz audio at 128kb/s in ISDN mode and 7.5kHz audio in POTS mode. Features 99 user-programmable presets and handles two mics and one line-level input. A balanced XLR output can be used



for studio producer IFB and mix-minus feeds from the studio or to feed a local PA.

(973) 659-0555

(973) 659-9555

www.aetausa.com

Circle (234) on Free Info Card

• Tannoy: Reveal Active



Reveal Active is a distinctive playback monitor that provides sonic excellence. A 1-inch soft-dome tweeter is matched with a 6½-inch long-throw bass unit, two 50W amplifiers and electronic crossover. Designed for budget-conscious project studios and as a playback monitor for larger rooms.

(519) 745-1158

fax (519) 745-2364

mbertrand@tgin.com

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COMPARE

When you compare the all-digital Omnia.fm from Cutting Edge to other audio processors, is it apples to apples? Not quite. Unlike other audio processors, the Omnia is designed for today—and easily upgradable so you're always on top of the technology you'll need tomorrow.

Only the Omnia offers:

- **A 48kHz sampling rate.** The outdated 32kHz digital processors have a Nyquist rate that's too low for clean dynamics processing, resulting in aliasing distortion. But the Omnia solves this problem by combining 48kHz operation with 192kHz virtual-upsampling and an anti-aliasing final limiter.
- **A digital stereo generator with a built-in composite clipper and low-pass filter for subcarrier protection and added loudness.** Plus, the Omnia interfaces with D/CET™,

the world's first digital composite interface, for even more loudness and transparency.



- **Programs and presets stored on a PC Card** for convenient storage, sharing and future upgrades.

Put it all together and there's just no comparison. Only the Omnia delivers crisp, clean highs. Tight, thundering bass that really rocks. Digital precision that's as smooth and fluid as analog. Awesome loudness, with **rock-solid peak control and positively no grunge.**

Then compare the Omnia's 60-day, risk-free, money-back guarantee* and a price that's below the other processors. So is it apples to apples? No way.

Omnia. The promise of digital...*delivered!*



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- Bradley Broadcast Sales 7313G Grove Road Frederick, MD 21704 Tel: +1 (800) 732-7665 Fax: +1 (301) 682-8377 e-mail: info@bradleybroadcast.com
- Broadcast Supply Worldwide 7012 27th Street West Tacoma, WA 98466 Tel: +1 (800) 426-8434 Fax: +1 (800) 231-7055 e-mail: info@bswusa.com
- Crouse-Kimzey Company P.O. Box 155999 Fort Worth, TX 76155 Tel: +1 (800) 433-2105 Fax: +1 (972) 623-2800 e-mail: sales@proaudio.com
- Radio Communications Unlimited 5509 Barrington Ooltewah, TN 37363 Tel/Fax: +1 (423) 396-3743
- Caveco 1121 Bellamy Road, North Unit #10 Scarborough, ONT M1H 3B9 Tel: +1 (416) 438-6230 Fax: +1 (416) 438-1065 e-mail: bob@caveco.com
- Marketing Marc Vallée 1067 Chemin St. Lambert St. Sauveur de Monts, QE JOR 1R1 Tel: +1 (514) 227-1828 Fax: +1 (514) 227-8394 e-mail: marc@vallee.com
- All Electric 487 Caribou Crescent Coquitlam, BC V3C 4X7 Tel: +1 (604) 945-5651 Fax: +1 (604) 945-5652 e-mail: allelec@dowco.com

*Contact your dealer for details on this demo program. Demo requests must be accompanied by a purchase order so our dealers know you're really serious about some serious sound.

Circle (140) on Free Info Card



Forecast Consoles: Visual Radio series

The Visual Radio series is geared toward the next generation of radio environments. Choose from a completely custom design or use of pre-engineered modular components. The modular components are modified and customized around your equipment and space and to your specific finish requirements.



(800) 735-2070; fax (516) 253-0277

www.forecast-consoles.com

Circle (236) on Free Info Card

Maycom: Easyorder

The Easyorder is a second-generation, portable solid-state recorder with onboard graphic editing using both internal memory and removable PC cards. The unit is standard equipped with an internal memory facility that enables direct usability of the recorder. The battery pack lasts more than six hours in operating mode. The machine also operates using standard alkaline C batteries. Time-shift recording, which enables the machine to start recording before the record



button is actually pressed, is available. Also available is communication software that enables the user to transfer audio files back to the studio using standard ISDN lines.

+31 481 377740

fax +31 481 3777380

miranda@maycom.nl

www.maycom.nl

Circle (237) on Free Info Card

Confiability with Life Time Warranty

EDUCATIONAL CIRCULAR SERIES

Model	Bays	Power	Gain	Price
MP-1	1	600W	-3.3	\$250
MP-2	2	800W	0	\$680
MP-3	3	800W	1.4	\$980
MP-4	4	800W	3.3	\$1,280
MP-2-4	4	2,000W	3.3	\$1,820
MP-3-5	5	3,000W	4.1	\$2,270
MP-3-6	6	3,000W	5.2	\$2,740

LOW POWER CIRCULAR SERIES

Model	Bays	Power	Gain	Price
GP-1	1	2,000W	-3.1	\$350
GP-2	2	4,000W	0	\$1,350
GP-3	3	6,000W	1.5	\$1,900
GP-4	4	6,000W	3.4	\$2,600
GP-5	5	6,000W	4.3	\$3,150
GP-6	6	6,000W	5.5	\$3,700

MEDIUM POWER CIRCULAR SERIES

Model	Bays	Power	Gain	Price
SGP-1	1	4,000W	-3.3	\$690
SGP-2	2	8,000W	0	\$2,690
SGP-3	3	10,000W	1.4	\$3,595
SGP-4	4	10,000W	3.3	\$4,500
SGP-5	5	10,000W	4.1	\$5,300
SGP-6	6	10,000W	5.2	\$6,100

The antenna gain may vary with the frequency. For powers up to 30 kW please, make the request to provide the specific configuration.

OMB also Manufactures:

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Fax: 305-4770611
Toll free: 888-OMB4USA

Circle (141) on Free Info Card

AKG Acoustics: C 4000B



The C 4000B microphone's capsule has been carefully tuned to preserve the integrity of the source while offering mild complements in the high frequencies. The optimized transformerless output stage ensures the accuracy of low frequency and a nearly non-existent self-noise. The large-diaphragm transducer provides excellent response, and the microphone features selectable polar patterns. A wide dynamic range accommodates every recording situation.

(615) 360-0499

(615) 360-0275

akgusa@harman.com

www.akg-acoustics.com

Circle (238) on Free Info Card

INNOVATIONS.



*It's not just in
our name—
it's what we
are about.*

Prophet Systems Innovations
Together, let's make great radio!

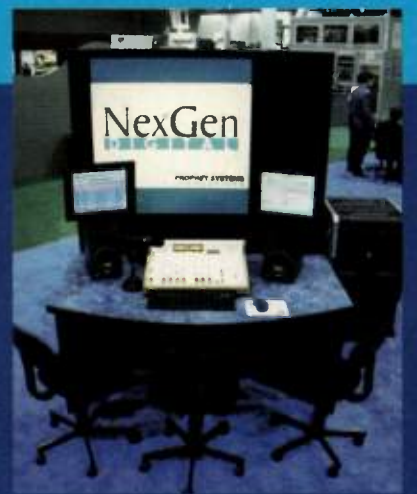


*We started this company with a single goal—to be the best! My staff likes to joke about my "speech". I stress that we can be the system of choice if we **SIMPLY** provide the best software, the best hardware, the best support, the best sales service, the best training, the best*

*installation, etc. Simple strategy? But, my message gets through loud and clear—I **don't settle for average!***

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-Kevin Lockhart, PSI President



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Web: www.prophetsys.com

Circle (142) on Free Info Card



Harris: DASW 2x1 AES3

The DASW 2x1 AES3, housed in a 1RU assembly, serves several functions in an AES digital audio path. The DASW selects one of two compatible AES3 input signals. The unit's design allows it to handle balanced



AES3 or unbalanced AES3-ID input and output signals. Possible applications include feeding two excitors simultaneously with the same digital signal or acting as a source selector for up to four digital devices, such as R-DAT or CD recorders.

(800) 622-0022; (513) 459-3890

broadcast@harris.com; www.harris.com/communications

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3dB: DELTA range

The DELTA range of products includes the DELTA420, a unique product that features a four-input, 20-output distribution amplifier with the outputs grouped in banks of five outputs. The addition of a switching matrix offers the

user the chance to route inputs to either or all of the outputs, thus enabling them to

derive mono and stereo feeds of the same stereo in the one unit. The DELTA44 and DELTA4 are, respectively, dual and single stereo unbalanced to balanced converters. The DELTA55 is a bidirectional stereo balancing unit for domestic or semipro equipment that requires a record feed. All of the units in the range have outputs with adjustable gain over a range of 30dB, and both inputs and outputs can be either

balanced or unbalanced. All come in three standard sizes. Mounting plates are available.

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Itelco: DAB 1kW L-Band transmitter



The new DAB 1kW L-Band transmitter packs 1kW of power and will broadcast radio and data signals in the L-band at 1.5GHz. The transmitter is configured as a 2 + 1 system, with two operating transmitters and one in reserve that automatically switches on if the others fail. Each transmitter is capable of broadcasting up to five program channels in addition to data services as an added program feature.

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Dalet: Dalet 5

The Dalet 5 addresses the complete range of tasks performed in radio: live or automated broadcasting, program scheduling, production, news and traffic management. Dalet's new Inter-Web for group connectivity, TeamNews for all newsroom requirements, and TeamRadio for group-wide traffic management will be showcased.

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Circle (143) on Free Info Card

NEW VLZ PRO™. THE FIRST COMPACT MIXERS WITH ESOTERIC MIC PREAMP SPECS AND SOUND QUALITY.



You won't find any other mixer manufacturer admitting this dirty little truth: For years, expensive outboard mic preamplifiers have yielded better sound than the preamps in any size mixing console including "status mega-consoles." In fact, if you happen to have numerous extra thousands in cash lying around, we urge you buy an esoteric mic preamp or two or three right now.

■ But if your equipment budget is slightly more down-to-earth, we'd like you to enjoy the benefits of the

most extensive analog engineering project in Mackie's history: The new XDR™ Extended Dynamic Range mic preamplifier.

■ Now for the first time, you can realize the full potential of the world's finest condenser microphones with an affordable compact mixer: Room ambiance so detailed you can practically hear the carpet pattern...high frequency resolution that defines cymbals, triangles and bells down to the molecular level... midrange that's as gentle and fluid as a warm bath...and tight, authoritative bass with intoxicatingly rich harmonic texture. In short, you can now achieve an aural panorama that's breathtakingly realistic, excitingly vivid and truly 3-dimensional.

■ You probably think we're laying it on a little thick—until you hear the XDR™ mic preamplifier in person. It really does have...

- The **lowest harmonic distortion** of any compact mixer mic preamp in existence (for example, ten times less THD than our previous VLZ™ series).
- **Lower Equivalent Input Noise** in the critical +20-+30dB operating range than most \$2000 preamps.
- **Over 130dB of dynamic range** to handle hot 24-bit/196kHz outputs from digital audio workstations.
- **Astonishing bandwidth** without RFI side effects. Not only are XDR™ mic

preamps flat within 1/10th of a dB across the bandwidth of any known microphone but they're only 3dB down at 1Hz and 192kHz!



Warm, natural sound
0.0007% THD

130dB dynamic range
to handle 24-bit/196k
digital input sources

Lowest E.I.N. at real
world gain settings
Impedance independent
Near DC-to-light
bandwidth

The best RFI rejection
of any compact mixers
in the world

• **Controlled Impedance Interface.** Use the XDR™ mic preamp with mic/cable impedance combinations anywhere from 50 to 600 ohms and get the same ruler-flat frequency response.

■ There are also XDR™ benefits you won't hear:

- **The best RFI** (radio frequency interference) **rejection** of any compact mixer... without attenuating high frequency response.
- Comprehensive **protection against "hot patching"** and short circuit damage — a

critical feature even some high-end mic preamps lack.

■ The mixers are pretty cool, too. XDR™ mic preamps are the latest major enhancement to our industry-standard CR1604, MS1402 and MS1202. For more information, call toll-free, log onto our web site or visit your nearest Mackie Dealer and hear the new VLZ™ PRO Series. Think of them as \$2000 mic preamps with superb mixers attached.



MS1402-VLZ™ PRO

6 XDR™ mic preamps
14x2 • 4 stereo line
inputs • 6 mono
mic/line inputs •
extra ALT 3-4 stereo bus



CR1604-VLZ™ PRO

16 XDR™ micpreamps
16x4x2 • 16 mono
mic line inputs
• 4 sub groups
• rotatable I/O pod



MS1202-VLZ™ PRO

4 XDR™ mic preamps
12x2 • 4 stereo line
inputs • 4 mono
mic/line inputs •
extra ALT 3-4 stereo bus



CYNIC'S CORNER. Did we just slap a new buzzword on our "old" VLZ mixers? **Emphatically NO!** We spent two years and a quarter of a million dollars to produce the first no-compromise mixer microphone preamplifier design. XDR™ is a quantum leap ahead of anything but the most expensive outboard mic preamps. Plug a high-quality condenser mic into a VLZ Pro compact mixer and you'll hear the difference. Run a side-by-side comparison with a \$1000-per-channel esoteric mic preamp and you'll be blown away.

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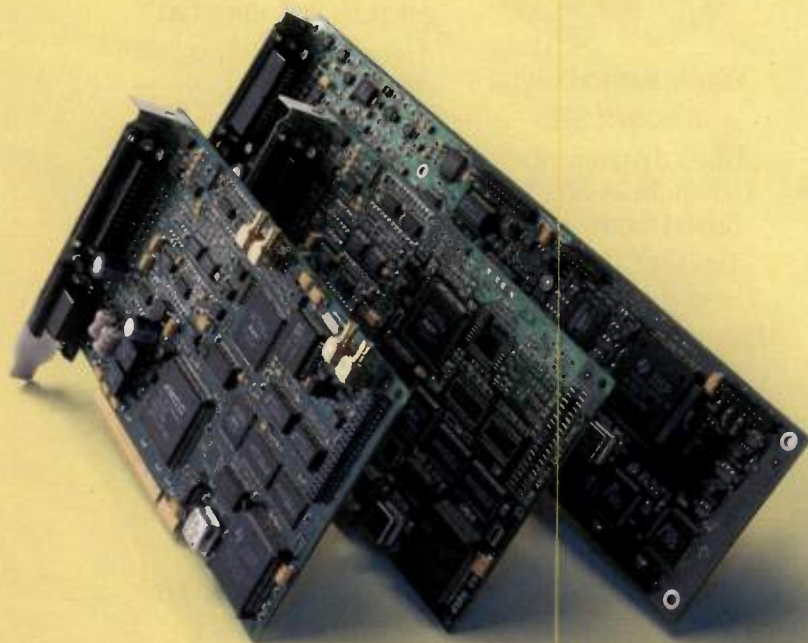


The capabilities of RBDS have been available for several years, but Geode has introduced a way to make better use of the technology. Many stations already have RBDS encoders, and their automation or music scheduling software can provide current programming information. Putting these elements together is part of what Geode is doing. Besides the basic RBDS format, Geode is working with Auto PC manufacturers to provide enhanced display features to the RBDS datastream. Different fonts and color can be used instead of basic scrolling text. The company's system is fully compatible with the existing RBDS standard. Also under development are portable radios with flip-up displays to add the Color Radio technology to receivers.

(973) 691-7420; fax (973) 691-7427

Circle (243) on Free Info Card

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Model LX-24M

- 20 bit A/D and D/A converters
- MPEG layer I/II, 8 or 16 bit PCM
- PCI bus, WIN 98/NT
- 96dB dynamic range, 0.003% THD+N
- 2 inputs/4 outputs/balanced
- 3 virtual stereo devices

Model BX-44

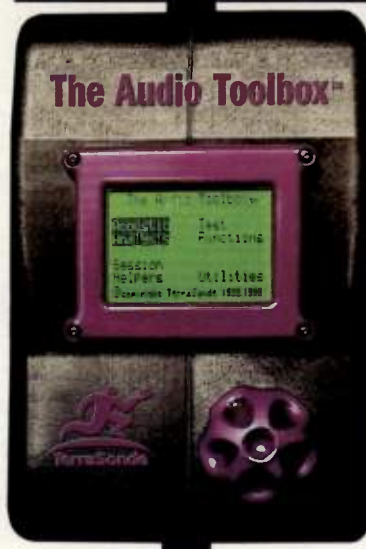
- 20 bit A/D and D/A converters
- MPEG layer I/II, 8 or 16 bit PCM
- PCI bus, WIN 98/NT
- 96dB dynamic range, 0.003% THD+N
- 4 inputs/4 outputs/balanced
- 3 virtual stereo devices
- AES/EBU/SPDIF digital I/O
- MIDI interface
- Video sync/time code

Model BX-12

- 20 bit A/D and D/A converters
- MPEG layer I/II, 8 or 16 bit PCM
- PCI bus, WIN 98/NT
- 94dB dynamic range, 0.003% THD+N
- 4 inputs/8 outputs/balanced
- 6 virtual stereo devices
- AES/EBU/SPDIF digital I/O
- Independent sample clocks
- Convertible from analog to full digital I/O
- Optional, opto-isolated digital I/O

Circle (151) on Free Info Card

TerraSonde: Audio Toolbox



The Audio Toolbox provides a comprehensive set of tools in one package. Includes a sound-pressure level computer, a reverb decay time computer, an energy time graph, a polarity tester and a real-time analyzer. Test functions include a signal generator, a stereo level meter/frequency counter, computation of S/N, a 1/3- and 1/12-octave frequency-response sweep to measure equipment response, and a sample scope. Includes a monitor amp for monitor and guitar modes; a cable tester for XLR, 1/4-inch, and RCA cables; a phantom power checker; a battery checker; and the game Ping.

(303) 545-5848; fax (303) 545-6066
sales@terrasonde.com; www.terrasonde.com

Circle (244) on Free Info Card



Neutrik USA: Minirator MR1

The Minirator MR1 provides a comprehensive set of audio test signals as required in broadcast audio environments. The instrument provides sinusoidal signals over the entire audio band, from 20Hz to 20kHz at levels as low as -76dBu up to +6dBu, including sweep capabilities at various speeds. Alternative level units are dBV and volts. A dedicated polarity test signal enables the user to unveil devices with inverse polarity. The white and pink noise signals with low crest factors and high-repetition rates act as an ideal source for room acoustic measurements, frequency response equalizations and signal evaluation.

(732) 901-9488; fax (732) 901-9608

neutrikusa@aol.com; www.neutrikusa.com

Circle (245) on Free Info Card



CartWorks: Audio formats



The new CartWorks WAV/MPEG line supports the industry-standard Microsoft WAVE format so audio files from home computers can be used without the need for conversion. MPEG Layer II and Layer III digital audio compression have been added. Features include an in-context voice tracker, multiple audio editor support, an easy audition tool, RAID hard-drive mirroring and touchscreen operation.

(800) 795-7234

fax (601) 853-9976

bes@ucmail.com; www.cartworks.com

Circle (246) on Free Info Card

Denon: DCM-5000

The DCM-5000 can be used as a stand-alone unit or as the master controller for a CD changing system of up to 600 total discs when a maximum of five DCM-5001 slave units are daisy-chained to it. The unit is equipped with two CD drives for greater operating flexibility. While a CD is being played in one drive, another CD can be loaded in the other drive and held in standby mode. This permits a seamless transition from one musical selection to the next (in Single-Zone mode). Simultaneous playback from both drives is also possible (in Multi-Zone mode), since the unit is equipped with two sets of RCA analog audio outputs. Two coaxial digital outputs are also offered for maximum compatibility with a wide range of equipment.

(973) 396-0810; fax (973) 396-7459; www.del.denon.com

Circle (247) on Free Info Card



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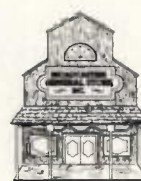
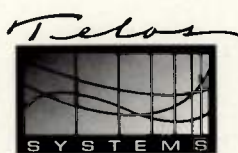
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Circle (152) on Free Info Card

HHB: Genex GX8500



The Genex GX8500 is equipped to record in linear and nonlinear modes and is designed for multichannel recording and mastering applications in which the best possible sound quality is required. Records in AES/EBU, SPDIF, SDIF 2 and DSD (Direct Stream Digital) formats, making it compatible with the new Super Audio CD standard. Options include internal A/D, D/A converters that enable recording up to 24 bit/96kHz.

+44 181-962-5000; fax +44 181-962-5050
sales@hbb.co.uk; www.hbb.co.uk
 Circle (248) on Free Info Card

Advanced Furniture Systems: AFS series



The AFS series of modular studio furniture ranges from small workstations to full-blown studios. If you plan to remodel your studio in the future, the AFS series offers the option of adding or subtracting cabinets as new situations arise. The AFS series incorporates equipment racks and access doors as standard features. Access doors fit into and cover the equipment rack and can be used as a filler panel where the equipment does not completely fill the rack. Other standard features include a clean design with no visible screws or bolts, a single-level work surface, standard 31-inch deep by 42-inch wide console table, wood trim to protect all outside edges and finished cabinet interiors.

(970) 663-4123
fax (970) 663-6338
afs@mail.omn.com
www.omn.com/afs
 Circle (249) on Free Info Card

Belden Wire & Cable Company: Brilliance



Brilliance audio snake cables feature enhanced NEC ratings features the 1408R Series CMR-rated audio snakes (UL 1666). For installations that require penetrating multiple floors, this riser-rated cable is economical, eliminating the need for metal raceways, fireproof shafts and firestops.

(765) 983-5200; fax (765) 983-5294
www.belden.com
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Prophet Systems: NexGen Digital

NexGen Digital is based on the features of the Audio Wizard and uses the multitasking capabilities of Windows for seamless sharing of audio and data between stations and features drag-and-drop capabilities as well as automatic copying of programming materials. Features real-time status of up to 128 local network workstations and redundancy using multiple file servers. A single PC runs a station, and the system runs uncompressed linear audio or MPEG compressed audio.

(800) 658-4403
(308) 284-4181
sales@prophetsystems.com
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FCC APPROVES SRPT-40E/SR-10E

MARTI is proud to announce FCC approval for the Frequency Agile VHF RPU Transmitter, the SRPT-40E and its companion receiver, the SR-10E. This combination adds another tool for making sure that remotes get through in today's crowded spectrum. This dynamic duo was introduced to the export market last year and produces more power with less weight than our non frequency agile models. Frequency Selection is at the push of a button.



SRPT-40E

FEATURES:

- Frequency agile over specified band in 12.5 kHz steps
- Front panel selection of channels
- Sixteen factory programmed channels

- LCD display indicates channel selection
- Remote channel selection
- Built-in monitor speaker with front panel head-phone jack and level control
- Subaudible tone/encoder/decoder
- Double-balanced mixers
- All controls on the front panel
- Available in 140-200, 200-300, and 300-400 MHz bands.
- 110 or 220 VAC Switchable.



SR-10E

Circle 185 on Free Info Card



STL-MAX

MARTI has done it again. Here is the new Export STL with 30 Watts of continuous duty power. We call it "THE MAX". When teamed up with the R-10 receiver, this system meets worldwide needs for higher transmission distances. The MAX is available in frequency bands from 140 MHz to 500.

STL-MAX Applications

- Intercity relay for linking two or more broadcast facilities.
- Multi-relay systems for radio network distribution
- Communications link between satellite earth station and broadcast facilities.
- STL for FM stereo broadcast (dual system)
- STL for AM stereo broadcast (dual system)
- STL for FM mono or AM broadcast

Circle 186 on Free Info Card



The GX-500

MARTI has updated the GX-440 Remote Mixer and will be shipping the GX-500 later this year. We have added an analog cellphone adapter and power cord that will enable the GX-500 to utilize popular models of analog *cellphones for remote broadcasts.

*Contact Factory for Supported phones.

GX-500 features:

- 4 Mic Channels and 2 aux. Inputs
- 4 headphone jacks
- Peak limiter
- Squelch/Mute Switch
- Tone/pulse dialing and electronic ringer
- Rechargeable batteries for up to 10 hours of use
- Second phone line capability
- Aux. Output - line or mic level
- External AC supply
- Plastic carrying case included

Circle 187 on Free Info Card



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SRPT-40
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Cellcast
RBS-400 Cellular remote
broadcast studio



GX-500
Remote mixer
Available in August

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a remote package for every station's needs - RPU, Cellular, POTS, VHF/UHF Frequency Agile, and more. And **MARTI** tackles the competition when it comes to reliability, high performance and value.

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jimgodf@flash.net

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Circle 157 on Free Info Card

Prime Image: Cash

Cash allows stations to create an additional 60sec for every 10min of programming. The system does so undetectably, without altering pitch or creating digital artifacts. It works live, in real time, on the air. The amount of time Cash creates varies from 0min to 4min and can be added to any period



of time within the range of 2min and 2 hours. The station can select and change the amount and the rate at any time.

(408) 867-6519

fax (408) 926-7294

primimageinc

@earthlink.net

www.primimageinc.com

Circle (252) on Free Info Card

Euphonix: AD-26+2

The AD 26+2 features 26 balanced analog inputs on XLR connectors (channels 1 to 24, A1, A2), four analog input-level trims (1 to 8, 9 to 16, 17 to 24, A1, A2) for 0dBFS from +27dBu to



+6dBu in 3dB steps, stereo AES/EBU input on the XLR connector with parallel S/PDIF input on the RCA jack (channels D1, D2), 24 channels EAS/EBU out on 12 XLR and 3 DB-25 connectors (Yamaha 02R, Sony PCM-800 pinout), two channels AES/EBU out on XLR with parallel S/PDIF out on the RCA jack (channels D1, D2), two balanced analog outputs on XLR connectors (channels A1, A2), analog output level trim (A1, A2) for 0dBFS from +27dBu to +6dBu in 3dB steps.

(818) 766-1666; fax (818) 766-3401

blaze@euphonix.com; www.euphonix.com

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www.digitalaudio.com 612-559-9098

*Macintosh compatibility - Q2 '99

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Computer Concepts Corp.: Maestro 2.5



Maestro 2.5, the latest version of the Windows NT-based digital audio hard-disk storage system, provides multiple record/play audio channels, an easy-to-read display with on-screen countdown, and full integration of all digital and audio operations. Enhanced graphics and user-friendly options are features in this version.

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fax (913) 541-0169

info@ccc-dcs.com; www.ccc-dcs.com

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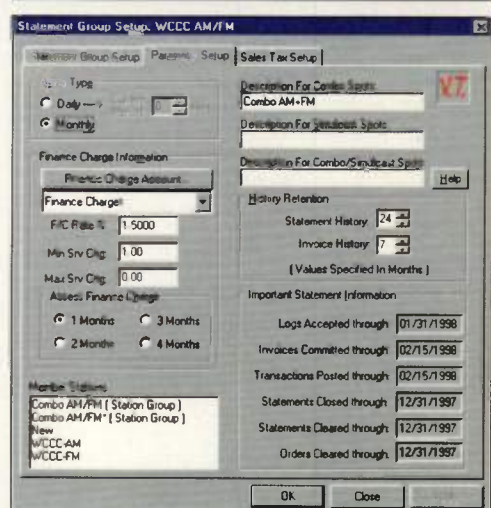
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MediaFORM: CD-3704



The CD-3704 is a four-drive, stand-alone system that delivers one-button operation and unattended duplication of up to 100 CD-Rs. Features include separate accept and reject bins; prescan, which scans the master for errors prior to burning; and a Smart Controller, which automatically identifies complex formats like ISO, Hybrid, Mix Mode, HFS and Red Book CD-Audio.

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www.mediaform.com

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Sennheiser: SK3063

The SK3063 is a miniature, tunable body-pack transmitter that provides 50mW of output power. Sixteen selectable frequencies in a 24MHz micro range operate within the UHF macro range of 450MHz to 960MHz. The micro range can be retuned within the bounds of the macro range to ensure continuous operation regardless of DTV frequency allocations.

(860) 434-9190; fax (860) 434-1759; www.sennheiserusa.com

Circle (256) on Free Info Card

Telos: Series 2101



The Series 2101 is the first large-scale multiline talk-show system that interfaces directly with digital phone lines. Its open architecture allows broadcasters to reassign numbers to different studios, thus maximizing the unit's flexibility, with multiple lines feeding multiple studios. The basic system handles up to 24 lines and can be expanded to accommodate up to 96 lines. The system connects to the phone company's network entirely in the digital domain. This allows faster call setup, better call supervision and extremely high-quality audio.

(216) 241-7225; fax (216) 241-4103

info@telos-systems.com; www.telos-systems.com

Circle (257) on Free Info Card

Aircorp: Model 500 Pro Announcer

This microphone processor was designed for application in the studio or on remote. Its input levels can be remotely controlled to correct levels between announcers. Once levels are correct, the equalization can easily be established with no further adjustment required. The unique compressor/expander combination reduces room and equipment noise while providing level control and increased loudness for the announcer. Other features include front panel selection of input level in four ranges, +4dB to -50dB, three section variable boosts and out equalization designed for easy setup without increasing room rumble and system hiss, and symmetry correction providing more talk power with less compression.

(972) 304-0455

fax (972) 304-0550

Circle (258) on Free Info Card

Orban: Audicy



The Audicy digital audio workstation has a dedicated analog-feel hardware controller, and the visual interface tells you all you need to know at a glance. Fully loaded with OPTIMOD compression, Lexicon reverb and Time-Fit time compression. A networking option lets you link multiple units to each other, to central servers or to on-air systems. The SMPTE time-code option integrates Audicy VX into video post studios. Supports TCP/IP and Novell networking.

(510) 351-3500; fax (510) 351-0500

custserv@orban.com

www.orban.com

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Leitch: Integrator



The Integrator integrates all digital and analog signal formats and allows flexible, soft-matrix partitioning of hardware matrices. This allows the user to integrate the router into present matrices. The unit is easily reconfigurable for later matrices. Multiple signal formats can be integrated into the same frame with deterministic, field-accurate switching.

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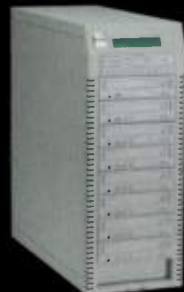
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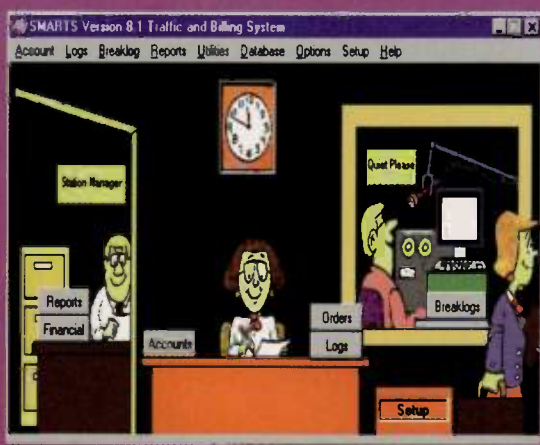
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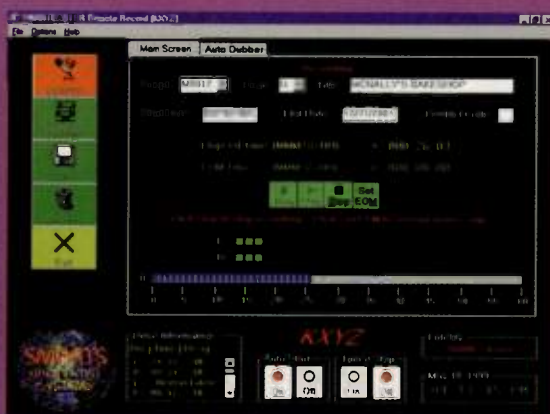
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SMARTS has developed a unique system that allows live operators to use Windows 95/98/NT screens. Announcers enjoy the ease of Windows operation and excellent graphic interfaces without the reliability problems usually found in Windows systems. Our passive backplane rack mounted systems are built by SMARTS to rigid, industrial specifications. The result is reliable equipment that stands up to the rigors of broadcast use.

Now SMARTS has added the new Smarts Dub, an auto dubbing system that automatically extracts audio from CDs and records it on the hard drive. This saves hours of recording time for your staff.

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SMARTS

Broadcast Systems

Circle (175) on Free Info CardWRH

Audio Technologies Inc: AES3 DAs



Several models of AES3 distribution amps are available in single and dual input configurations. The units detect sample rates from 27kHz to 96kHz, display standard rates, and generate low jitter outputs to drive up to 12 XLR or 24 BNC lines. They also feature adjustable input cable equalization with status and error readouts.

(215) 443-0330
fax (215) 443-0394
les@atiguys.com
www.atiguys.com

Circle (261) on Free Info Card

Discmatic: MDX7000 and MDX3000



The MDX7000 and MDX3000 tower module multidrive duplicators, featuring seven and three CD-R drives respectively, can produce up to 21 full CDs per hour. For quicker duplication, the newly designed SCSI bus allows a faster data transfer rate and copying of up to seven discs simultaneously.

Both units can copy directly from CD to CD rather than working through the hard drive. They can also save the information to the hard drive during copying, combining two steps into one. The core logic for both units is stored on an advanced flash ROM, and the internal firmware can be upgraded via a firmware CD or by downloading the firmware file from the company's website.

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Mackie Designs: CFX12

The CFX12 is a low noise, high-headroom mic/line mixer that features 32-bit digital effects and EMAC effects. Every channel has four-band active EQ, two aux sends with a pre/post switch, internal and external effects-level sends, constant loudness pan control, bus assign switches and a PFL Solo switch. Also included are a nine-band stereo program equalizer, separate tape inputs and outputs and Mackie's discrete mic pre-amps.

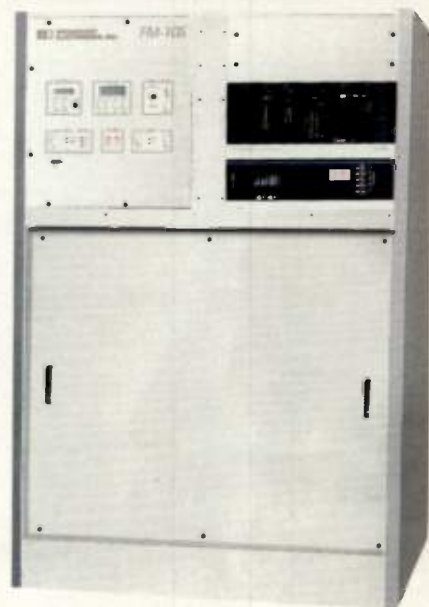
(425) 487-4333; (425) 487-4337

Mackoids@aol.com

www.mackie.com

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Broadcast Electronics: FM-10S 10kW transmitter



The FM-10S 10kW transmitter features an extensive redundancy and protection system that will keep the signal on the air even in the most extreme conditions. An available standby exciter, IPA and power supply can give you full power standby capability without the cost of an additional standby transmitter. Large, removable front and rear panels provide access to every major assembly for fast and easy repair.

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Neumann/USA to Distribute True Systems Precision 8 Microphone Preamplifier

Old Lyme, Connecticut – Neumann/USA has announced that it will begin U.S. distribution of the True Systems Precision 8 Microphone preamplifier.

"This product is a perfect compliment with the Neumann line," explains Karl Winkler, Neumann product manager. "It boasts rock-solid construction, a very transparent sound quality and extremely low noise. It also features an excellent transient response and a wide dynamic range. In short, it is of the quality of Neumann products, making it an ideal fit with our line."

The True Systems Precision 8 provides eight channels of transformerless mic pre-amps, two of which can be used as direct instrument inputs. In addition, each channel offers 5-segment level indicators with a selectable peak-hold feature. A button on channels one and two allows them to be used as an MS pair for added flexibility. Designed for use with today's modular digital multitrack units and hard disk recording systems, the Precision 8 can easily be connected to TASCAM or Mackie digital products via a DB 25 multi-pin connector.

The Precision 8 designed and built by Sunrise Engineering, a design and build manufacturer located in Tucson, Arizona. Although Sunrise has designed several high-end professional products for other manufacturers, this is the first product that they have debuted under their own name. "We're looking forward to the opportunity to work with Neumann in our marketing, distribution and product development," says Sunrise owner Tim Spencer. "We're proud to be associated with Neumann and couldn't have asked for a better partner."

The True Systems Precision 8 microphone preamplifier is available through authorized Neumann dealers at a suggested retail price of \$2,695.

Circle 194 on Free Info Card.

National Academy of Recording Arts and Sciences Honors Neumann GmbH with the 1999 Technical Grammy® Award

Berlin, Germany – The prestigious National Academy of Recording Arts and Sciences has awarded Georg Neumann GmbH the 1999 Technical Grammy® Award for innovation and advancement in the recording industry.

The Technical Grammy Award recognizes individuals or organizations that have made a significant and lasting contribution in the areas of science and technology. The honor was presented at the NARAS Nominee Reception ceremony of Tuesday, February 23, 1999, at the California Science Center.

"For engineers and artists alike, Neumann has long stood for the world's highest quality studio recording microphones," Professor Sennheiser said. "We are honored and gratified that the National Academy of Recording Arts and Sciences has recognized the company's 70 years of innovative technology and contribution in establishing a true benchmark of quality in the recording industry."

Neumann joins an elite roster of Technical Grammy recipients including Dr. Thomas G. Stockham, Jr., Raymond Dolby, Rupert Neve, George Massenburg and Sony/Phillips. The Technical Grammy was first awarded in 1994.

The award winning line of microphones from Neumann has been the standard of the industry since 1928. Since that time, the company has been driven by a commitment to provide innovative, technically refined products and engineering solutions in proven Neumann quality.

Circle 195 on Free Info Card

Neumann Unveils New Tube Microphone at AES'98

San Francisco, California – When it comes to new microphone design, Neumann has proven again that pushing the limits is what they do best. The new M 147 Tube is the latest model to join Neumann's award winning condenser studio microphone line. The M 147 Tube offers Neumann's proven high quality at a reasonable price.

At the heart of the M 147 Tube is the K47 capsule, made famous in the legendary U 47 and U 47 FET microphones. It exhibits an acoustically well-balanced frequency response (20Hz - 20kHz) and features a supercardioid polar pattern with very even attenuation of signals from the rear of the microphone. In addition, the M 147 Tube demonstrates extremely low self noise for a tube microphone (13 dB-A) and has the ability to handle acoustic signals up to 130 dB SPL without distortion.

Exceeding traditional designs, Neumann has selected a modern tube complemented by a transformerless output circuit. The result is a more controlled, uncolored audio signal from capsule to output. Bass response extends quite low while avoiding phase problems or low level signal losses typical of transformers.

Similar to all the microphones in the Neumann line, the response characteristics are achieved acoustically. By employing the K 47 capsule, this ensures the same warmth and clarity produced by the U 47 and U 47 FET microphones. The M 147 Tube also maintains excellent impulse response and faithfully reproduces transient signals found in music and speech.

"The M 147 Tube pays homage to Neumann's rich 70-year history in innovative microphone design," says Karl Winkler, product manager for Neumann/USA. "It meets the requirements of project, home and professional studio markets for a world-class microphone at a reasonable price. The M 149 Tube was instantly accepted as a new benchmark in high-end tube microphones after its introduction in the Fall of 1995. We expect similar results from the M 147 Tube in a single polar pattern tube mic."

Available in December 1998, the M 147 Tube will ship in a robust aluminum carrying case with a standard mount, power supply, and cable. Retail price will be \$1,995.

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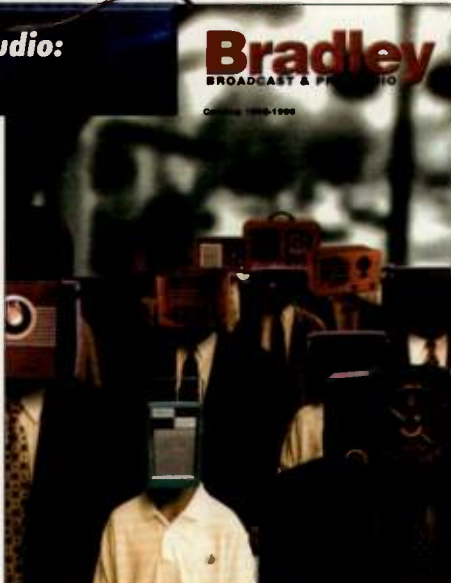
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Cutting Edge Technologies: Omnia ToolVox

The Omnia ToolVox is an all-digital mic processor specifically designed so it won't fight the on-air processor through the use of specialized AGC and compressor sections designed with ratios and time-constants that complement the on-air processor. The de-esser is built around advanced FFT



analysis techniques to prevent the on-air processor from creating harsh sibilance. Incorporates phase rotators and TrueVerb from Waves. Includes a reference-quality mic pre-amp with high-end features, such as 24-bit A/D converters and phantom power. Stereo analog and AES/EBU outputs are provided.

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Klotz Digital Audio: Spherion

The Spherion is founded on Klotz's 3d: router technology, which allows multiple control rooms to share sources, logic, control and DSP functions. Available in two sizes: a 12-fader version with a minimum of 24 input sources and a 20-fader console with a minimum of 40 input sources and DSP production features. Sources include microphone, stereo analog line and various formats of digital line inputs.

+49 89 462 3380; fax +49 89 462 3818

sales@klotz-digital.de
www.klotzdigital.com
Circle (268) on Free Info Card



Arrakis: Arrakis DL4

Several versions of Arrakis DL4 software are available. The systems run on a Windows 95 PC computer to control the DL4 workstation. The digital audio engine features Triple Play with simultaneous record (expandable up to 96/32 play/record events) and separate outputs for each playback with console start/stop, cart-like control logic.

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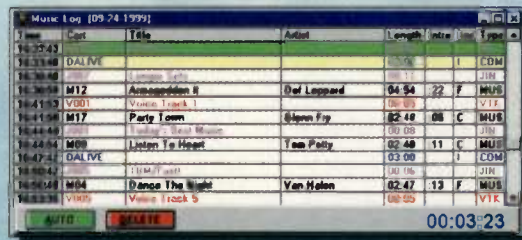
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All the features of our Live Assist workstations plus advanced Satellite Automation. Includes 8X2 stereo audio switcher and everything you need for live, local sounding satellite automation. CartWorks' powerful Script Automation provides more than just the standard features. Extended control capabilities tackle even the most demanding applications. And there's no macro language to learn. It's all controlled from a simple Windows' point and click interface.

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Designed after the original CartWorks friendly user interface, here's a professional Music-On-Hard-Drive system that's simple to operate yet powerful. Sound live 24-hours a day with pre-recorded, In-context voice tracks that match what's actually on the air.

To keep things simple, Spot sets are played from a familiar cart deck. Music log events are played from a music log. CartWorks MHD accepts logs from most any of your favorite music schedulers. Or use our included Quick Scheduler. Switching between automated and live assist modes is as simple as pressing a single button. And options are available to easily add Satellite Automation. CartWorks MHD won't drain your budget or your brain.

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Or visit us on the web: www.cartworks.com

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Pacific Research & Engineering. The Consolidation Company.

Since 1969, Pacific Research & Engineering has partnered with the radio broadcasting community as a supplier of custom studio solutions. We are the nation's most respected manufacturer of high-reliability audio consoles for on-air and production applications.

But frankly, our reputation as a great console maker has caused us a tiny problem.

Every year at NAB, people come to our booth to see the latest console offerings. They look at the beautiful furniture our consoles are displayed in. Then they ask us, "Who builds your cabinets?"

The answer is: *we do*.

In fact, we build entire radio studios. Not just the consoles, but the studio furniture, wiring and interconnections, systems integration, installation, testing & training, ongoing support... Pacific Research & Engineering isn't just a console company. PR&E is **The Consolidation Company**.

Allow us to acquaint you with the full range of services PR&E can provide to help your next studio project deploy smoothly, on time and within budget:

- **Broadcast Consoles.** PR&E's complete line of audio consoles includes mixers for radio and television on-air and production, and special applications as well. Our first console was a custom, one-of-a-kind board manufactured for KFI, Los Angeles in 1975. Today, with the recent introduction of our second digital console, **AirWave Digital**, we have shipped over 3,000 consoles to broadcasters worldwide! PR&E consoles demonstrate time-proven reliability, with many still in service after two decades of more of daily operation.

- **Studio Furniture.** PR&E's furniture design team has been producing award-winning custom designs since the early 1970's. From free-form cabinets with flowing curves and expansive work surfaces to visually stunning eye-catchers made of non-traditional materials, PR&E custom studio furniture is strikingly attractive and amazingly durable. We also offer semi-custom and economical, fully modular furniture lines to suit every need and budget.

- **Systems Integration.** PR&E audio consoles are carefully designed to bring together over 10,000 components into a single, flawlessly functioning whole. We apply the same diligence and care in assembling and wiring the hundreds of separate products that become a radio studio. In fact, we've built more than 2,000 great studios worldwide! PR&E Systems Engineers can design and facilitate almost any project, at any level of involvement. Whether a full turnkey studio installation or just a part thereof, Pacific Research & Engineering is more than equal to the task. Here are some of the services PR&E Systems Engineering encompasses:

- **Wiring and Interconnection.** PR&E technicians are experts in this vital area. We take the time to design, build and document wiring and interconnections which are easy to manage and maintain, and which will last the lifetime of your installation. Our experience includes custom design and fabrication of audio and logic cabling, computer and telephone room networks and terminal rooms. We wire through all types of wire management specifications: trenches, conduit, raised floor, overhead trays — you name it, we do it.

- **Pre-Installation Testing.** All of our studio design and integration projects are subject to a stringent quality control process, and are completely assembled, tested and documented prior to leaving our headquarters to ensure your satisfaction upon delivery.

- **On-Site Installation.** If you choose, expert PR&E Installation Teams will work with your personnel during final on-site assembly of your studios, including thorough studio checkout and systems verification. Training can also be provided.

- **Ongoing Support.** Not just one, but two independent research firms have ranked PR&E "number one" in customer satisfaction. We're completely focused on helping you find just the right

studio solution for your operational needs. And, we're committed to long-term parts and service support; our Technical Support specialists are on-call when you need them.

And now PR&E has introduced a new way to make building "turnkey" radio studios easier and more cost-efficient than ever: **StudioAdvantage Total Studio Solutions**.

StudioAdvantage studios are self-contained, acoustically isolated "modules", which can be moved and adapted to new locations. Move your stations across the hall, across town or across the state — and

take your studios with you, without having to rebuild from scratch. Once installed, however, these well-appointed modular studios are visually indistinguishable from traditional built-in rooms, and can be configured to fit almost any space imaginable.

"When we refer to StudioAdvantage as a Total Studio Solution, we mean that literally everything in the studio comes together in one package," says Pacific CEO Jack Williams. "Audio source and control components, studio furniture, sound and vibration isolation, HVAC, cabling and wiring — everything."

"Using a StudioAdvantage solution can help shave precious days or even weeks from your installation schedule. Anyone who has ever built a radio studio from scratch will instantly appreciate its benefits. Instead of having to painstakingly oversee planners, architects and

contractors who are likely unfamiliar with the skills needed to build a truly 'quiet' room, managers who choose StudioAdvantage can rest easy knowing that their new studios will be completed on time and on budget, and will be acoustically superior."

StudioAdvantage Total Studio Solutions give managers the added benefit of knowing exactly how much their studios will cost before they are built — and knowing with pinpoint accuracy when they will be delivered and installed, virtually eliminating budget overruns, emergency lease extensions and costly after-the-fact modifications to the studio design.

Call us at 760-438-3911 to find out more about the broad range of services and products that PR&E can provide.

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Airwave's flexible, too. One or two telco modules and B-side logic are among a host of available options. And unlike some digital consoles, you can reconfigure input modules from analog to digital—or vice versa—at your studio, just by changing a card.

Best of all, Airwave Digital comes with that "no-need-to-rationalize-to-anyone" PR&E quality. Want to know more? Call 760-438-3911, visit www.pre.com or email sales@pre.com.

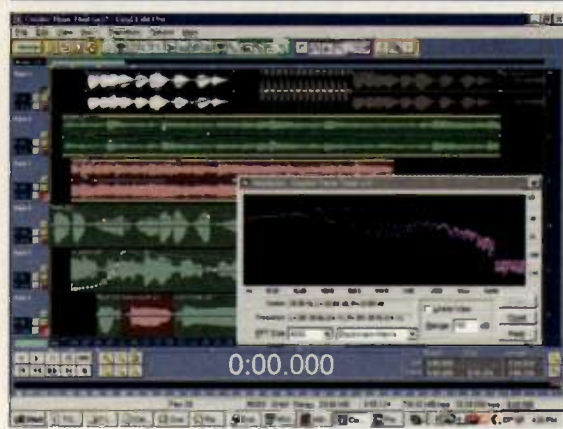


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Syntrillium: Cool Edit Pro Version 1.2



version from the company's website.

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Cool Edit Pro Version 1.2 includes full reverb, hard limiter and pitch bender effects; Real-Media G2 support; real-time preview and enhanced quality for almost all effects; and automatic silence detection and deletion. Includes video tutorials that demonstrate how to navigate in Cool Edit Pro and use its main features. The upgrade is available free of charge to licensed users of Version 1.0 and 1.1. Users can download a fully functional demonstration

Nautel: XL12

The XL12 is wideband, solid-state AM transmitter capable of 145-percent positive peak output at 12kW. The modular design has eight power modules capable of 1.6kW each. Each power module has two RF power amplifiers inside. Modulation is done with inter-phase pulse duration modulation. The overall system efficiency is 84 percent. Modules connect with D connectors and can be removed and inserted while the transmitter is in operation. A complete standby exciter with automatic change-over keeps the transmitter on the air in the event of a failure.

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Roland: V-Mixing system



The V-Mixing system features a separate console/processor design and up to 94 channels of digital mixing with 16 channels of stereo effects. The system allows you to connect the motorized-fader console up to 200 meters from the rackmount processor/audio I/O box using two standard AES/EBU cables, eliminating the need for expensive, cumbersome audio snakes between the stage and mixing console or the studio and control room. Up to 40 XLR inputs, 48 channels of ADAT/Tascam communication, 5.1 surround mixing, full automation and COSM Speaker Modeling capabilities.

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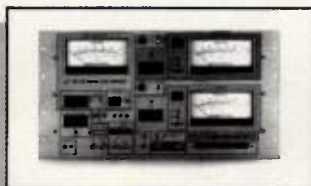
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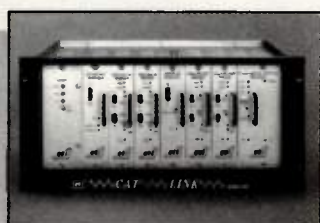
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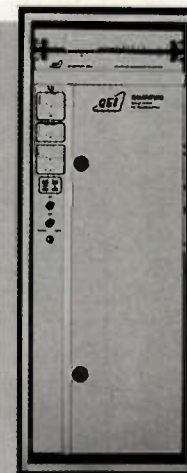


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TECHNOLOGY AT WORK

From Computer Concepts

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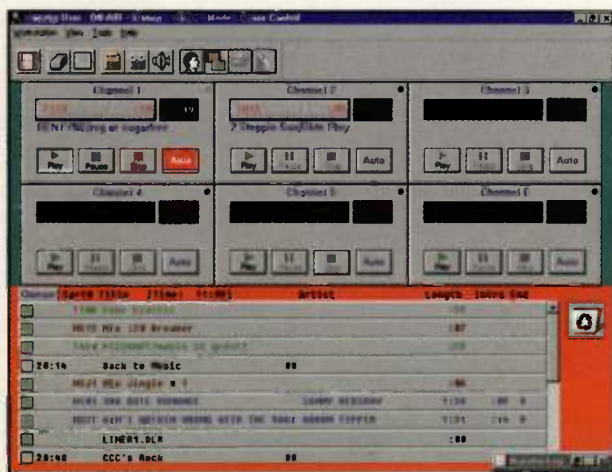


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Do you find yourself losing control of your digital radio stations because of the equipment?



With Maestro, it's you in charge, not the equipment. The most flexible and reliable audio system on the market, Maestro offers direct interface with any music and traffic scheduling systems, news operations, copy management,

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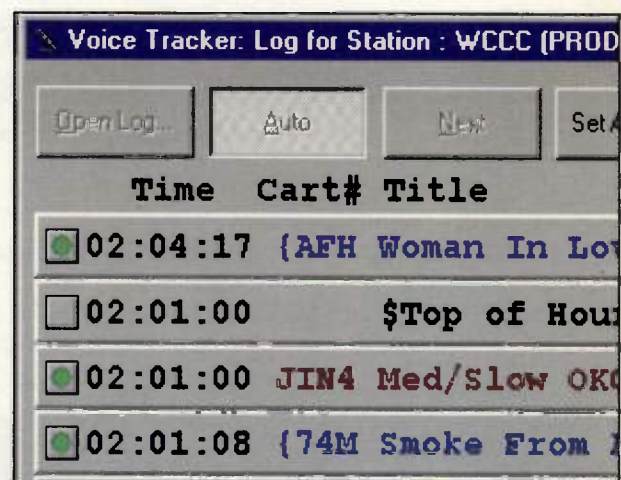
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Whether you have a single station or a full-service news operation, NewsRoom is the solution for news departments everywhere. Flexible wire handling capability and audio production/editing provide the tools to produce a completely integrated newscast. Just line-up your stories and go. It's that simple!

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Automation can play an integral role in any radio operation. With VoiceTracker, talent can prerecord voice cuts for an automated shift. Overlaps, cross-fades and audio levels can be previewed and adjusted for live sounding automation in a fraction of the time. Best of all, no one can tell the difference ... is it live radio, or a prerecording?



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Tripp Lite: Super 10



The Super 10 features 10 outlets with built-in safety covers. Two of the 10 outlets are designed to remain on even when the master power switch is off. All Super 10 models include a 10-foot cord to reach distant outlets and a space-saving right-angle plug. Colored cord stickers identify each connected device's cord.

A unique design allows transformers to be plugged in without covering adjacent outlets.

The deluxe model includes a fourth LED to alert users to dangerous low-voltage conditions that could damage connected equipment and corrupt data.

(773) 869-1111; fax (773) 869-1144
info@tripplite.com; www.tripplite.com
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TFT: 999

for stations with a fully digital signal chain, the unit allows a digital or analog signal to be inserted into a



station's EAS/EBU signal path. Intended to serve as the digital version of TFT's Model 940A program/transmit interrupt unit. Features include a digital interrupt for transparent AES/EBU operation; support for all current AES/EBU formats (including 32kHz, 44.1kHz, 44.056kHz and 48kHz); signal detect for automatic switching, control and backup; seamless interruption.

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Digital Audio Research Ltd (DAR): OMR8

audio production/post-production editing. A high level of audio networking is integral to DAR's design approach, with the inherent flexibility of the OMR8 based on DAR's Genesis software platform. Addressing the fundamental issues of file format and data handling, Genesis has adopted Microsoft .wav files as its native format, enabling easy compatibility with other products.

+44 1372 742848; fax +44 1372 743532; www.dar.uk.com; mail@dar.uk.com
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DAR's OMR8 lineup includes the high-resolution music recording and mastering OMR-8MR and the OMR8-P for

Scott Studios Corporation: Scott Linux System



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Sonic Foundry: Sound Forge XP



Version 4.5 of the Sound Forge XP, the mass-market version of the Sound Forge digital audio production system, allows professional Internet audio production with a PC and a soundcard. The upgrade includes a suite of new loop editing tools.

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Intraplex: IntraLink

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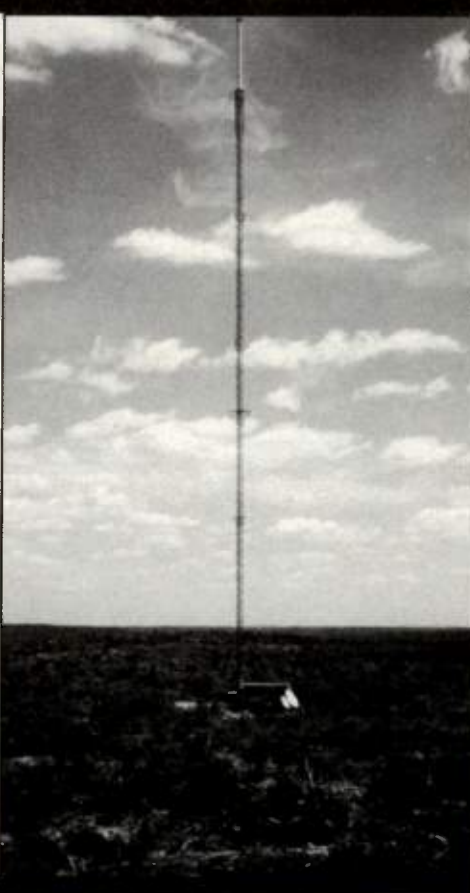
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Coaxial Dynamics: 81100-A-81600-A



The 81100-A-81600-A series of high-power directional RF wattmeters is designed to measure RF power in 50Ω coaxial transmission lines. To use, connect the wattmeter between the power source and an antenna or dummy load, plug in the appropriate measuring element(s) and read the RF power directly on the 4½-inch three-scale meter. A rugged, shockproof housing protects the meter. Several models are available.

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Gentner: Venture line

The Venture line of assisted listening system products is now available for shipment. The series comprises transmitters and receivers that use a wide area FM signal to provide maximum voice intelligibility in virtually any environment. Operates in the 216MHz frequency range and has recently been approved by the FCC for use in hearing-assistance applications that are not specifically designed for the hearing impaired. The transmitters have 19 available channels, enabling multiple transmitters to be used in one location. The receivers use a digital tuning processor to ensure that they stay locked-on to a particular frequency, despite rough handling or changes in humidity and temperature. The Venture-1 receiver can be preset to receive any of the transmitter's 19 channels; the Venture-6 enables the user to switch between up to six preset channels.



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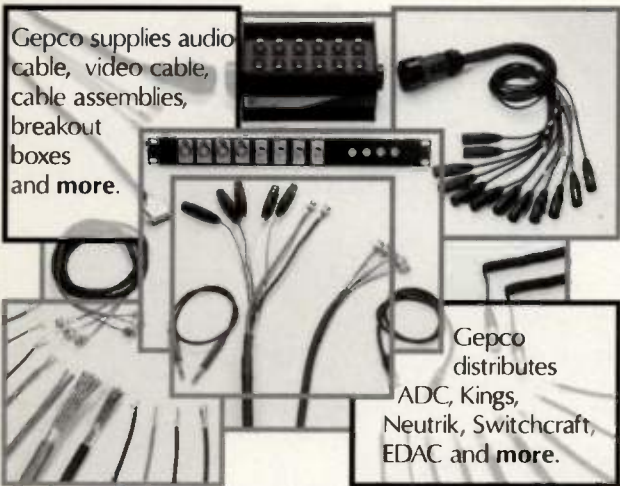
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PMI Audio Group: C2

The C2 is a 1RU stereo compressor. The unit offers a range of compression effects based on a new design that makes the compression ratio vary with the input control. Incorporates the newly developed Joemeek Sum and Difference compression system, thus improving the unit's stereo image stability and the accuracy of the left and right gains. Features auto-variable slope optical compression/limiting.

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EMTEC Pro Media: BASF ADAT Master



The BASF ADAT Master for 20-bit recorders eliminates the need for real-time formatting of ADAT masters before recording, allowing artists and engineers to go immediately to tape. With more than 110,000 ADAT systems in use worldwide, EMTEC estimates that 1 million hours of studio time can be saved by using formatted masters. Eliminating the drum-on hours of real-time formatting will also significantly extend the life of ADAT recorder heads.

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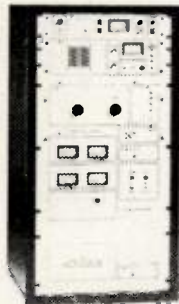
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MediaTouch Introduces QuicPix Audio Studio

All-in-one production and playback package rips CD's, plays and records MPEG-2 on any Windows sound card; priced under \$700

WINNIPEG, MB (May 18, 1999) — MediaTouch, a division of OMT Technologies, Inc., announced its new QuicPix Audio Studio software package with pricing starting at \$699.

"We received such a tremendous positive response to both our QuicPix instant-start cartwall and MediaDisk-32 production software at NAB '99," explains MediaTouch president Ron Paley, "that we decided to take the best of both products and offer it as one value-priced package."

The QuicPix Audio Studio runs on the Windows 95/98 platform and uses MediaTouch's Card Independence technology to play and record broadcast quality MPEG layer 2 audio.

In the playlist mode, users can load anything from the audio library into a seven event virtual cart player, or switch to a library view to "hot start" any of 40 items on the screen. Two items may overlap each other on a single audio card.

The QuicPix Audio Studio is packed with production power. CD's can be "ripped" — digitally converted to an audio file in less than real time without dubbing, or sources can be recorded through the sound card using the traditional tape deck-like control buttons. A professional version of the program, priced at \$995, adds cut and paste waveform editing and effects such as audio flip and pitch change.

The software will be available in the US through Broadcaster's General Store in Ocala, FL (800-636-0123) and in Canada through Oakwood Broadcast (800-665-0501).

Since 1984, MediaTouch has been designing and developing innovative audio solutions for the broadcasting industry. MediaTouch is the audio and Internet software development division of OMT Technologies Inc., a privately held company founded in 1968 and based in Winnipeg, Canada. For more information about MediaTouch, access the company's World Wide Web site at www.omt.net.

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MediaDisk-32



QuicPix Audio Studio

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Since 1984, MediaTouch has provided radio broadcasters with innovations that make radio work better. With MediaTouch by OMT Technologies, your station always has crisp, clean digital sound, without the muddiness or other problems of audiotape. Your station works together as a team, because MediaTouch connects the different departments together and allows them to easily share information. And when you have a question, our staff of radio professionals is on call toll-free, 24 hours a day, 7 days a week. MediaTouch is peace of mind.



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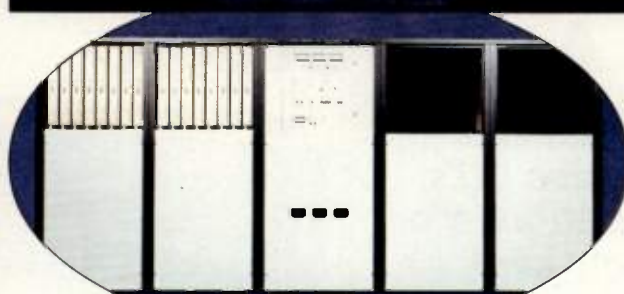
MGE UPS Systems: Pulsar EX

The rackmount versions of the Pulsar EX units, the EX 1000 VA and 1500 VA are 2U high; the 2000 VA and 3000 VA models are 3U high. The units offer optional long-duration batteries and full-time seamless voltage regulation for a variety of systems. Other features include online double conversion technology with 100-percent rated electronics, input power factor correction and an expansion slot for optional SNMP or status card. Each model is shipped with the company's exclusive Solution-Pac power management software.

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Continental Electronics Corp: 50kW AM transmitter



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NAUTEL XL60 Solid State AM Transmitter



The NAUTEL XL60 solid state 60kW AM broadcast transmitter has reserve power for the most aggressive AM signal processing and up to 155% positive peak program modulation at 50kW. Capable of up to 66kW, the transmitter is eminently suitable for simultaneous In-Band-On-Channel (IBOC) digital audio broadcasting while maintaining full power AM service. NAUTEL's Interphase Pulse Duration Modulation System provides wide band frequency response, linear phase response and fully satisfies all designated IBOC performance criteria.

The XL60 establishes a new standard for transmitter serviceability and reliability. Ten front access Power Modules are hot-pluggable and safely on-air serviceable. Full 50kW transmission is possible even with a Power Module removed for service.

Duplication of critical low level circuits is unique to NAUTEL AM transmitters. Should problems develop in the RF Drive Circuits or the Modulation Encoding or Drive Circuits, automatic changeover to the standby system will continue normal transmission without operator intervention. Overall efficiency of 84% results in low power consumption and cool reliable operation.

The NAUTEL XL series transmitters are available in 12, 30 and 60kW models. All are available with built-in AM stereo or Direct Digital Synthesizer options.

Circle 198 on Free Info Card

NAUTEL XL12 Solid State AM Transmitter

NAUTEL's XL12 100% solid state AM transmitter, approved by the FCC for 10kW operation, is an excellent choice for Expanded Band operation. It provides 20% reserve power, allowing full 10kW operation even if one power module is out for repair or maintenance.

An optional AM stereo generator is available built-in. Top operating capacity of the XL12 is 13.2 kW, so at 10kW operation the transmitter runs smoothly and reliably. A power module can be removed and replaced while the transmitter is still on-the-air. This on-air serviceability advantage is unique to Nautel.

The Nautel interphase PDM design meets all USA Digital Radio IBOC DAB

compatibility criteria, including wideband frequency response and linear phase response.

For the highest operating efficiency in a 10kW AM transmitter, the XL12 delivers with an 84% overall efficiency rating. This substantial savings in power makes the XL12 a great investment and continues Nautel's 30 year tradition of solid state leadership.

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NAUTEL FM10 Transmitter and Digital FM Exciter

The NAUTEL FM10 is a solid state modular 10kW transmitter incorporating a 50 watt exciter which employs Direct Digital Synthesis (DDS) technology to create the FM signal.

The exciter with direct digital interface accepts AES/EBU formatted input, making possible an all digital path from studio to FM modulator. Modulation created in the digital domain results in a perfectly linear system. The exciter is also available with an alternative analog interface for use with standard composite input. This may later be field upgraded to direct digital input.

Overall efficiency of the transmitter is typically 65% resulting in low power consumption and cool, reliable operation. Thirty-six RF amplifiers mounted in six Power Modules are combined using a single stage combiner to achieve 11,000 watt capability. NAUTEL's patented 60° combiner provides failure isolation without use of imbalance loads and their associated heat dissipation.

This prevents thermal stress even when operating with some amplifiers removed for service. Power amplifier repairs can be made by direct replacement of the MOSFET's without interruption in transmission.

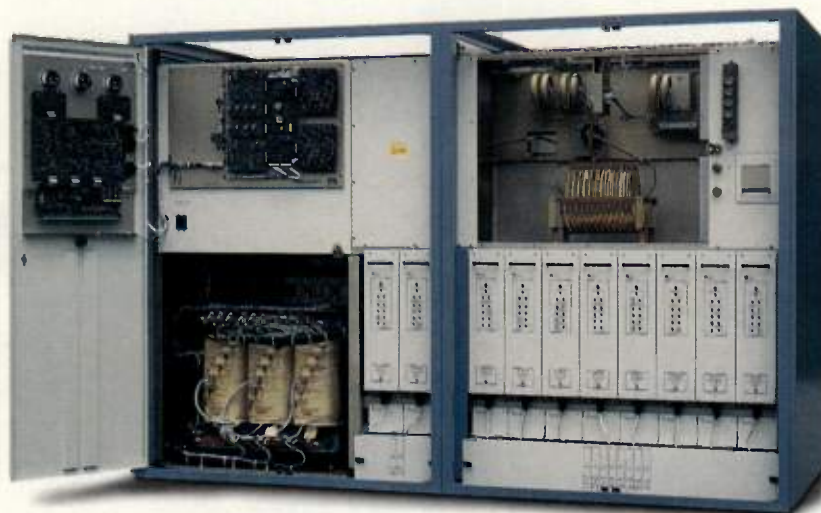
Separate Switching Regulator Modules provide redundancy of DC supplies to each Power Module and IPA. The FM10 power supply system meets stringent international standards for low line current distortion and has a near unity power factor. Current ratings of the service entrance and standby generator may thus be kept at a minimum.

NAUTEL's design is optimized to achieve maximum operating efficiency at the customer's operating frequency. A range of 20 kW transmitter configurations are also available including switching or switchless combined systems with automatically controlled main/alternate exciters.

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With this reserve power, an XL transmitter virtually has a spare module built in. They're hot-pluggable, which means you

benefit from unsurpassed system reliability and can maintain full operation even in the unlikely event that a power module requires service. Full duplication of critical low-level circuits further contributes to system reliability.

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Antex Electronics: LX-44

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WireReady provides a digital system for capturing the wire copy sent by your wire service and satellite service(s). WireReady stores the wire feeds in your computer and automatically purges out the oldest items. It's a low-cost service with 24-hour 800 number. More than a thousand radio stations throughout North America currently use WireReady. All of the WireReady products are sold: Pay once and you own the system.

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sales@wireready.com

www.wireready.com

Circle (292) on Free Info Card

SMARTS: Smart-Dub



(800) 747-6278; info@smartsbroadcast.com; www.smartsbroadcast.com

Circle (293) on Free Info Card

The Smart-Dub makes it easy to transfer CD audio to your Smartcaster Music-On-Hard-Drive-System automatically and with limited user intervention. Place a CD in the unit's CD-ROM and type in the details of the cuts you want to dub. Smart-Dub uses special software to automatically place end-of-message tones on the music being dubbed so as to facilitate great sounding overlap. Smart-Dub is an add-on product to the SMARTS Remote Record Digital Editing System.

Murphy Studio Furniture: Elite series

The Elite series, the company's top-of-the-line furniture system, features modular flexibility with the essence of a custom fit. Engineered into the design are numerous access panels, a curved bumper base for durability, a passive ventilation system, a wire management system, single level construction and total modularity. Components include console supports and wire troughs, a corner tower rack, a tower storage base, a sloped rack return, and a single turntable return.

(619) 698-4658; fax (619) 698-1268

www.murphystudiofurniture.com

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Sine Systems: Intelligent Rack Adapter



The Intelligent Rack Adapter is an upgrade for the Remote Facilities Controller model RFC-1/B. The accessory package provides data communications and printing capabilities, a battery-backed power supply, telephone-line surge suppression and new front-panel indicators in a sleek new rackmounted aluminum chassis. Available as an upgrade for existing RFC-1/B installations.

(615) 228-3500; fax (615) 227-2367; www.sinesystems.com

Circle (295) on Free Info Card

360 Systems: TCR8

The TCR8 is an eight-track hard-disk recorder that features 24-bit audio quality, high-density removable disks, massive internal hard-disk storage, complete timecode implementation and VTR emulation.

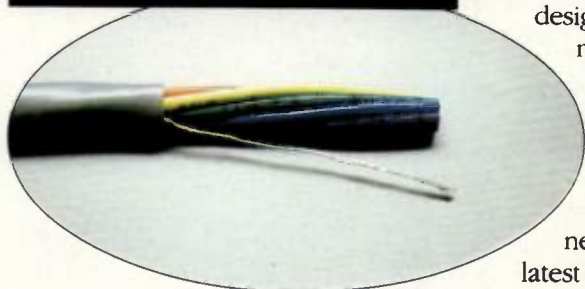
(818) 991-0360; fax (818) 991-1360 info@360systems.com

www.360systems.com

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Gepco: 552608GCF



The 552608GCF — a flexible, thin-profile, eight-pair digital cable — is designed for cable assemblies with multi-pin connectors, studio and rack interconnect, or medium-length permanent installation runs. Well-suited for terminating to the high-density multi-pin connectors found on many of the latest digital audio consoles, multi-track recorders and routers. The color-coded pair jackets follow the base-10 resistor color code. The master jacket is UL-listed, NEC-type CM. The 100V cable features two 26-gauge tinned copper conductors, a foam PE dielectric and a foil shield with 26-gauge TC drain wire.

(312) 733-9555; fax (312) 733-6416; gepco@gepco.com; www.gepco.com

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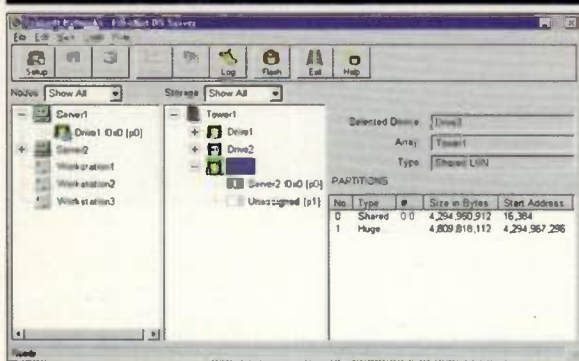
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Transoft Networks: FibreNet DS



FibreNet DS provides networked storage access without the restrictions caused by traditional network speed, bottlenecks or storage limitations. FibreNet DS presents the concept of shared data and allows heterogeneous or homogeneous hosts to concurrently access file systems. Individuals sharing data can now easily optimize their cross-platform

environments. The data-sharing features of FibreNet DS deliver unprecedented performance for distributed file systems, allowing a group of heterogeneous nodes to read and write to the same file system and even the same file using byte range locking. FibreNet DS provides a solution for high-speed digital data transfer where Mac, UNIX and NT systems access shared data in audio, video, animation, imaging, data warehousing and other storage-intensive production environments.

(805) 884-9114; fax (805) 897-3355; enarmore@transoft.net

www.transoftnetworks.com

Circle (298) on Free Info Card

Lightning Eliminators & Consultants: Sandwich Block



The Sandwich Block has been designed to withstand up to 1,280,000 amps per phase without destruction or potentially compromising the protected system. Meets UL 1449 Second Edition standards on its own. Its redundant safety mechanism ensures total protection from surges and overvoltages, and it has energy-handling capabilities of up to 50k Joules.

(800) 521-6101

fax (303) 447-8122

www.lightningeliminators.com

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Audio Broadcast Group: broadcast product distributor

Since 1960, ABG has served the broadcast industry with products from the best in the business. ABG provides the tools you need to communicate with the world, including studio furniture systems, digital and analog studio products, codecs and transmitters.

(616) 452-1596; fax (616) 452-1652

www.abg.com

Circle (300) on Free Info Card

StarGuide Digital Networks: StarGuide module

The StarGuide module is the latest option for use with the StarGuide II receiver. The unit is a high-performance, computer-on-a-chip board that provides local storage from 30min to 144min of 128Kb/s stereo audio spots. The module features state-of-the-art audio insertion technology, including external playback control, cross-fading and spot localization. Fully compatible with industry-standard audio automation systems and digital audio-receiver products, including equipment manufactured by ComStream, Wegener and IDC.

(619) 452-4920

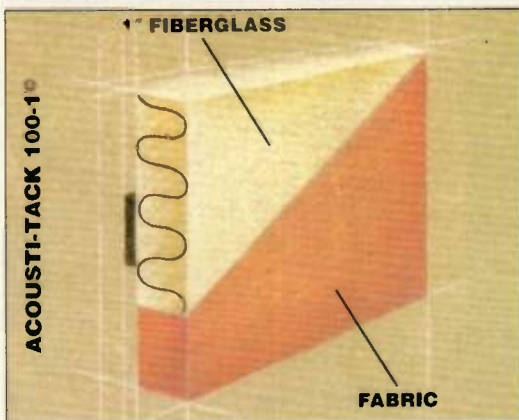
fax (619) 452-3095

sales@starguide.com

www.starguidedigital.com

Circle (302) on Free Info Card

Golterman & Sabo Inc: Acousti-Tack



Acousti-Tack wall panels are designed for economical sound absorption. The 6 pcf fiberglass core is fully tackable and dense enough to allow application with adhesive, magnetic tape or Velcro. Can be formed into custom shapes and sizes, and edges can be radiused, beveled or chemically hardened. Standard coverings are Acousti-Fabric (a 66" wide, 100-percent polyester fabric) and Acousti-Vinyl (a 54" wide, perforated vinyl). All standard finishes are Class "A" fire rated.

(314) 781-1422; fax (314) 781-3836

Circle (303) on Free Info Card

Tektronix: TSD3000



The TSD3000 family of digital phosphor oscilloscopes (DPO) provides up to 500MHz bandwidth, four-channel operation and a 5GS/s sample rate. The DPOs display, store and analyze in real time using three dimensions of signal information: amplitude, time and the distribution of amplitude over time. This information provides the intensity-graded display and responsiveness of an analog oscilloscope combined with the storage and

measurement capabilities of a digital storage oscilloscope.

(800) 426-2200; fax (503) 627-5593

www.tek.com

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The FM Series

SWR's FM antennas, ranging from educational series to multi-station antenna arrays, are highly customized to meet broadcasters' needs.

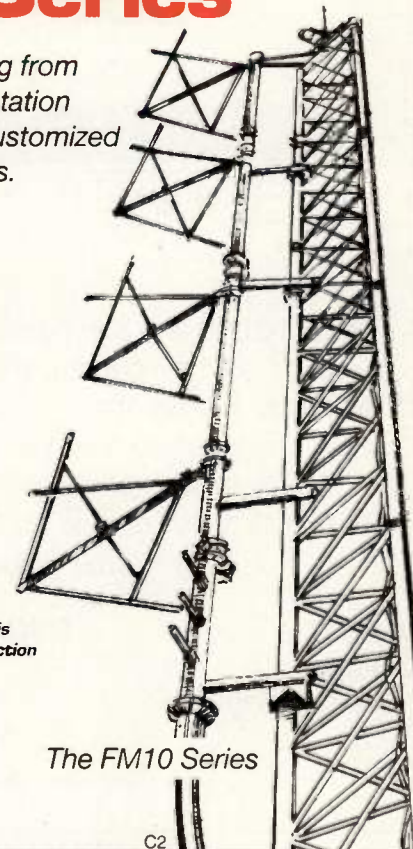
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The FM10 Series

C2

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Jensen: GPS-III Plus

GPS-III Plus improves on the detailed basemap of the GPS-III with an enhanced, highly detailed map and fast 12-parallel channel receiver. More than 100,000 additional towns, airport locations and secondary roads within metro areas have been added. A database of exit information for interstate highways has also been added. Food, lodging and service-station information is easily viewed on the moving map screen or through user hookups. Features 24-hour battery life, a resettable trip odometer and 500-user waypoints with graphic icons.

(800) 426-1194; fax (800) 366-9662; www.jensentools.com

Circle (304) on Free Info Card



ESE: ES-101

The ES-101 is an accurate GPS master clock/time code generator. Receives time and date information from Global Positioning System satellites and supplies this data to the user in the form of three different types of time code — ASCII (RS-232C), ESE-TC89 and ESE-TC90. Two one-pulse-per-second outputs and a GPS Lock output are standard. An eight-channel receiver is employed; it is capable of tracking up to eight satellites simultaneously, although reception of only one is required for time data to be output. Options include SMPTE, EBU, IRIG-B or IRIG-E time-code outputs.

(310) 322-2136; fax (310) 322-8127; ese@ese-web.com

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Altronic Research Inc: Coaxial load resistors



Altronic Research Inc. is a leader and pioneer in the design and development of coaxial load resistors. The company was the first to design and produce water-cooled coaxial load resistors, and its air-cooled coaxial loads deliver unmatched performance. Its sister company, Power Film Systems Inc., manufactures Altronic's resistors and enhances the company's ability to provide quality products. The company strives to listen to its customers and undertake specialized and custom designs to meet changing requirements.

(870) 449-4093

fax (870) 449-6000

sales@altronic.com

www.altronic.com

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Electronics Research Inc: Engineering team



ERI provides a single-source solution for projects requiring structural analysis, structural reinforcing, antenna and filter design, fabrication, and installation. The company has an independent engineering team to meet the demand for streamlined tower analysis and reinforcing. The team of structural, civil and electrical engineers can diagnose, plan and implement fast-track antenna and tower solutions.

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fax (812) 925-4030

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www.inovon.com



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Applied Research and Technology: Tube Channel



The Tube Channel features a tube mic pre-amp, an optical compressor and a four-channel, tube-based parametric EQ. Inputs and outputs are XLR and 1/4-inch. Loops are provided between each section for routing flexibility, direct inputs and outputs, and inserting other processor gear. The compressor and EQ sections are bypassable and feature detented pots. Metering includes pre-amp drive and gain reduction LED arrays and a backlit output level VU meter.

(716) 436-2720

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TC Works: Spark!



Spark!, designed for MacOS, features a unique browsing window that integrates WAVE editing, project file management and playlist all at once. The Browser View is used to edit a file or build a playlist. The Master View gives Master Faders with highly accurate PPM level meters, a phase correlation meter and built-in dithering and a real-time

FXmachine with extensive routing capabilities. Up to four stereo streams with five plug-ins each can be routed and processed simultaneously. Also includes TC Native CL, a VST-compatible single-band compressor and limiter plug-in, optimized for demanding mastering tasks. A histogram display visualizes the level distribution in recordings, for valuable feedback about the signal processing being applied, thus simplifying finding the right settings.

(800) 738-4546; fax (805) 379-2648; www.tcelectronic.com

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Wheatstone Corp: D-600

The D-600 digital on air/production console is available in mainframe sizes up to 40 positions. Inputs feature four-band EQ, dynamics processing, ducking and eight-character source displays. Four stereo buses provide digital and analog outputs. All switches, faders and displays are addressable via serial interface.

(252) 638-7000; fax (252) 637-1285

email@wheatstone.com

www.wheatstone.com

Circle (312) on Free Info Card



Miles Technology: ACT-1



ACT-1 tests all cables with XLR, RCA or phone connectors. Instantly displays cable wiring. Any shorts or opens are revealed. Can test cables from just one end. Provides an immediate and complete indication of the wiring status of any audio cable. With the flip of a switch, the unit provides a 500Hz test tone at either mic or line level for checking any signal path through an audio system. Can also be used for adjusting or calibrating levels.

(800) 280-8572

fax (616) 683-4499

info@milestech.com

www.milestech.com

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Mediatron: AirControl NT

The 1999 version of the AirControl NT hard-disk PC-based digital audio system for radio includes new plug-in tools to make it more effective in connecting with technologies like the Internet, intranet, and DAB. With the new system, it is possible to enter into the broadcast schedule of a Mediatron system anywhere and to record directly into the schedule. The recorded voice elements can be directly transmitted. Available in standard and professional versions. The standard version can be built up step-by-step to the professional version.

+49 8131 8305 0; fax +49 8131 8305 25

info@mediatron.com; www.mediatron.com

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Microprocessor Controlled, 1-1250MHz In One Sweep!

AVCOM's newest Portable Microwave Spectrum Analyzer, model PSA-65C, incorporates a microprocessor and attractive multifunction, backlit LCD, with an expanded frequency range from less than 1MHz to over 1250MHz, for the amazing price of \$2930.

AVCOM's new PSA-65C is a low cost general purpose spectrum analyzer that's loaded with standard features including FM audio demodulator, AM detector and digital frequency lock. The PSA-65C covers frequencies thru 1250 MHz in one sweep with a sensitivity greater than -95 dBm at narrow spans. The PSA-65C is ideally suited for 2-way radio, cellular, cable, satellite, LAN, surveillance, educational, production and R&D work. Options include new 1250 MHz frequency extenders, BNG-1000A tracking (noise) generator, log periodic antennas, carrying case (AVSAC), and more.



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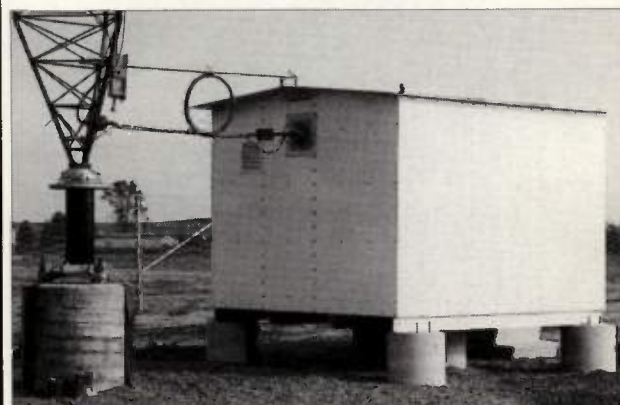
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Auditronics: COMET 4600



sales@auditronics.com; www.auditronics.com
Circle (315) on Free Info Card

The newly designed COMET 4600 series features hot-pluggable modules, differential bussing and a choice of VCA or through-the-fader level control. All indicators are LEDs, including on/off switches. Other features include four stereo buses, optional stereo aux, six mix-minus buses and stereo cue.

(901) 362-1350
fax (901) 365-8629

Audio Processing Technology: NXL384

Designed as a cost-effective solution to audio communications across permanent digital networks, the unit provides the benefits of apt-X to STLs and studio to



studio networking. apt-X technology guarantees uncompromised audio quality and lowest available coding delay to the broadcaster. The NXL384 offers features such as auxiliary data, alarm functions and integral backup circuitry to ensure program continuity.

+44 1232 371110; fax +44 1232 371137

salesuk@aptx.com; www.aptx.com
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DH Satellite: Antennas

DH antennas are manufactured using the spinning process, which allows the company to achieve a high aperture efficiency. All mandrels and antennas go through regular and extensive quality-control checks. The company has the versatility to offer special sizes, thicknesses and special edge designs.

(800) 627-9443
fax (608) 326-4233
mdoll@mhtc.net

www.dhsatellite.com
Circle (317) on Free Info Card

EVI Audio: R200

The R200's proprietary Secure-Phase diversity uses the signal from both antennas at all times to eliminate phase or polarity shifts and maximize signal strength. Operates in the range between 710.100MHz and 721.350MHz on single frequencies. The system's RCU receiver is designed to work with microphone signals and offers a three-pin, XLR-type balanced mic level and 1/4-inch unbalanced line-level output connectors and specially tuned antennas.

(616) 695-6831; fax (616) 695-1304; thriggs@eviaudio.com

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RAMKO: '98/'99 catalog



This broadcast catalog offers more than 290 broadcast audio, video and digital problem solvers. The catalog describes the ProMod and ProMax lines of miniature and compact consumer to pro interface amps, mic amps, switchers, distribution amps, mixers, audio detector/switches, alarm generators and audio filters. A history and design description is also provided, which details the attention given to RFI proofing.

(800) 678-1357
fax (530) 672-7938

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CircuitWerkes: EAS Trigger IV

The EAS Trigger IV interfaces relay closures from your automation or other control sources to trigger RWT or RMT events for single or multiple, co-located stations on the SAGE ENDEC EAS unit. Triggers for other units will soon be available.

(253) 565-8114
fax (253) 565-2301
info@bswusa

www.circuitwerkes.com
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Industrial Computer Source: NTR2000-P

The Model NTR2000 P real time clock card for IBM PC compatible computers helps manage Y2K issues by bypassing the system clock and the PC's BIOS. Provides a stability of ± 1 sec per month. Performs in harsh operating environments from 0 degrees to 50 degrees C. The heart of the card is National Semiconductor's DP8570A Real Time Clock IC, linked to a stable crystal with a known aging rate.

(800) 523-2320; fax (619) 677-0815
sales@indcompsrc.com; www.indcompsrc.com

Circle (320) on Free Info Card



Shively Labs: Model 6013 FM

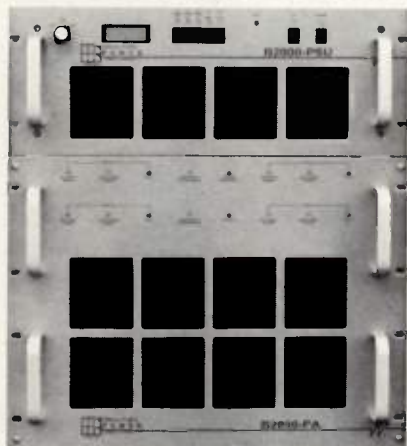


The Model 6013 FM is designed to mount on a pole and is ideally suited to top-mounted tower and rooftop installations. Available in halfwave spaced configurations for installations that have downward radiation concerns.

(207) 647-3327
fax (207) 647-8273
sales@shively.com
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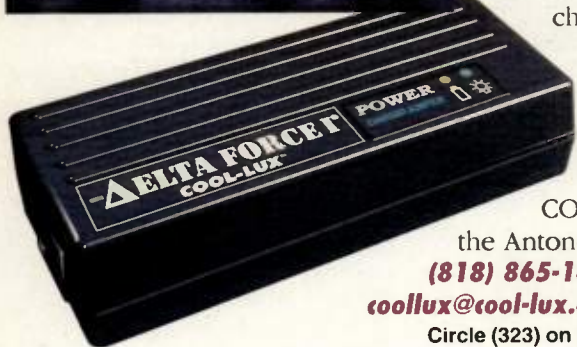
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PRODUCT SOURCE

Cool-Lux: Delta Force



The Delta Force charging system is a portable, single-port Minus Delta V charging system for Nickel Metal Hydride and Nickel Cadmium rechargeable batteries with global AC power inputs. Designed for global applications and to work with Cool-Lux's COOLBrick, the replacement for the Anton-Bauer battery pack.

(818) 865-1616; fax (818) 865-1757
coolux@cool-lux.com; www.cool-lux.com
Circle (323) on Free Info Card

Audioarts: RD12



The RD12 accepts and outputs analog and digital signals. The unit is an open-architecture design with 12 inputs, three stereo buses, multiple format A/D input converters, machine control, digital mix-minus and phone-module support for two callers.

(252) 638-7000
fax (252) 637-1285
email@wheatstone.com
www.wheatstone.com
Circle (324) on Free Info Card

Andrew: Satellite antennas



The pipe-mountable 3.7-meter earth station antenna can be securely mounted onto a customer-supplied 6-inch (6.5-in O.D.) nominal pipe instead of a pedestal. The design eliminates the equipment enclosure, enabling the antenna to be installed in areas where space is limited. If required, outdoor RF equipment can be attached to the antenna's mounting frame in close proximity to the antenna-feed system. Available with C-, X-, Ku- and K-band feed systems. Uses advanced dual reflector technology with a two-piece precision-spun aluminum reflector to provide accurate surface contour, high gain and closely controlled pattern characteristics.

(708) 349-3300; fax (708) 349-5444
robert.leonard@andrew.com
www.andrew.com
Circle (327) on Free Info Card

Broadcast Software International: WaveStation 3.0

or NT systems, requires no proprietary equipment, and uses pro or standard audio cards. Compatible with other Windows programs. Includes a built-in voice track editor, imports from and exports to most scheduling programs, and includes 24-hour technical support at no charge.

(541) 338-8588; fax (541) 338-8656; info@bsiusa.com; www.bsiusa.com
Circle (325) on Free Info Card

Tascam: CD-450



The CD-450 features Auto Cue and Auto Ready functions, Call and End of Message functions, Fader and Event Start capability, incremental play, numeric keys, and all the connectors needed to interface with other equipment.

(323) 726-0303
fax (323) 727-7635
tascamsales@tascam.com
www.tascam.com
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Autogram: Pacemaker II Model PM228

This model features a modern styling and color with wood end bells, an exclusive bimodular concept, all DC control, and screw-type plug-in connectors. Uses similar switches and the same Penny & Giles pots as the original Pacemaker. Up to 60 stereo inputs. Modular design allows you to start with the number of modules you need and expand as needed. Easy to install and change after installation.

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info@autogramcorp.com
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QEI: Prebuilt transmitter sites

QEI prebuilt systems are designed for the new generation of broadcasters. You need the flexibility that a transportable pre-engineered system can deliver. Some potential uses for a prebuilt site include group ownership emergency backup system, broadband frequency agile market backup, natural disaster preparedness, upgrade of LMA for the duration of the LMA, temporary site for major equipment upgrades, replacement with nearly zero downtime, and complete transmitter site system integration.

(800) 334-9154
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qeisales@qei-broadcast.com
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Telex: CDP 2001

The CDP 2001, designed for multimedia and audio applications, supports all standard writing modes and is easily expandable to support DVD-R and CD-R. Direct SCSI allows the duplicator to operate stand-alone as well as to connect directly to a CPU/EDAT Duplication Workstation. All CD-R or DVD-R drives in the CDP 2001 become a target writer of a PC, Mac or Workstation. A duplicate can be copied directly from the host system on the fly without burning a master CD or DVD. Copies disc-at-once to disc-at-once and multisession to multisession. Converts multisession to disc-at-once and turns incremental writing on or off when copying a master to multisession.

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Holaday: HI-4417



The HI-4417 incorporates enhanced EMF measurement and analysis functionality in a new low-cost offering. Upgraded standard accessories provide easy portability during EMF measurement tests. Fiber optic connectivity between the meter and probe allows free positioning of the probe and an unhindered view of the display. Features include onboard logging and a tight frequency response. The unit's frequency range is 10kHz to 2GHz, its dynamic range is 1V/m to 300 V/m, and its overload limit is 1000V/m (continuous).

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Digital Audio Labs: CardDeluxe



CardDeluxe is the newest member of the CardD family. The unit has a PCI interface and 24-bit/96kHz balanced analog and S/PDIF digital I/O on a single card. Analog connections are made with 1/4-inch TRS connectors. Input levels are jumper selectable for +4dB or -10dB balanced/unbalanced operation. Four-channel operation is possible using analog and digital inputs and outputs simultaneously. Multiple cards can be synchronized to a master clock for multiple audio source playback. Drivers and support are available for Windows 95/98. NT and Mac drivers are under development.

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Antenna Concepts: Ultra Tracker



The Ultra Tracker circularly polarized halfwave spaced omnidirectional FM antenna places more than 99 percent of input power in the main lobe (rather than wasted in harmful side lobes). Ultra Tracker's signal varies no more than ± 2 dB over a path comparable to a typical FM signal with variations in field strength of ± 10 dB or more. This feature eliminates a major cause of multipath problems. The antenna anticipates the stricter federal RF radiation regulations slated to go into effect later this year and also addresses FAA requirements for compatibility with aircraft communications at or near the antenna site. At multistation sites, the antenna can reduce or eliminate intermod product to within FCC limits, often with little or no external filtering. Available in standard pole-mount design as well as severe-environment versions.

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Mouser Electronics: Catalog

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Hafler: TRM6



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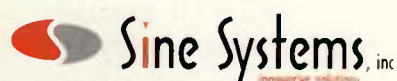
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Broadcast Technology Company: CP-4013

The CP-4013 composite processor integrates a fast-acting compressor that, besides its speed, uses a novel high-bandwidth VCA architecture which does not introduce distortion at maximum gain. With feed-forward compressor architecture and computer-optimized timing circuits, the unit permits faster attack speeds and a program-dependent release behavior, resulting in a more natural compressor sound. Uses a clipper for fastest transients, so stereo separation is 60dB or more. It is possible to add more than 3dB of perceived loudness with the unit and add presence to the stereo signal.

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Aphex: Model 1788

The Model 1788 remote-controlled mic pre-amp uses a patent-pending application of the audio DACs to reduce the step size of the amplifier and eliminate the artifacts found in other stepped-gain controllers. Contains eight pre-amps in 2RU. May be controlled by MIDI, RS-232 or RS-422. Because the control protocol is MIDI, anything producing MIDI can act as the controller. Up to 16 units (128 channels) can be controlled by one control line. Has an RS-422 output that can be used to daisy chain units. All mic pre-amp functions can be controlled on the units as well. Has 39dB of adjustable input gain and fixed gain of 26dB for a total maximum gain of 65dB. A 26dB pad allows a pre-amp to be run as a unity gain buffer stage. Also features adjustable maximum output level, separate analog outputs and a digital option.

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Digital Facilities Workshop

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THURSDAY — 9/2

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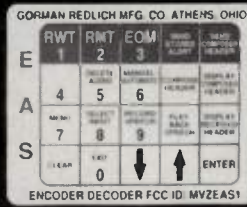
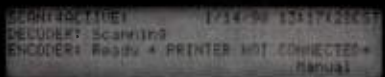
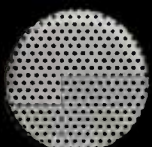
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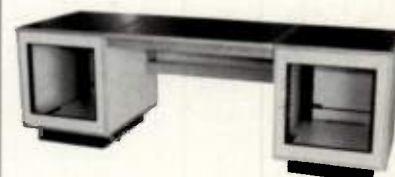
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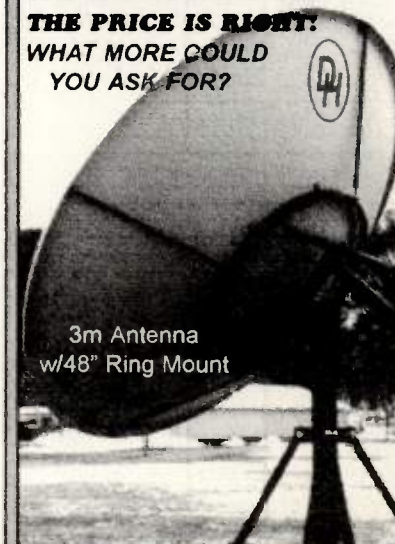
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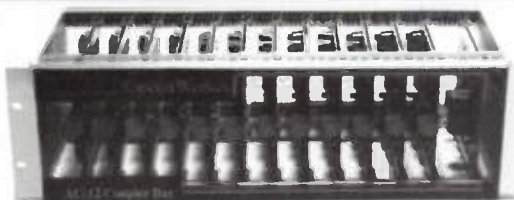
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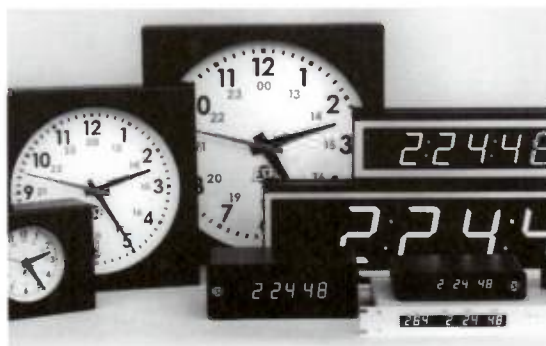
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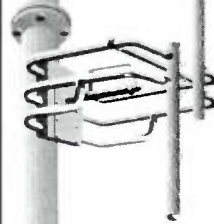


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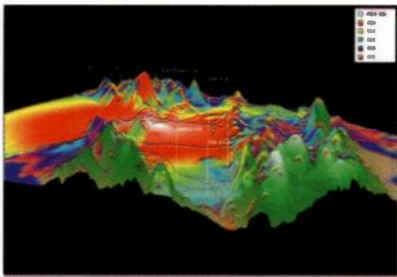
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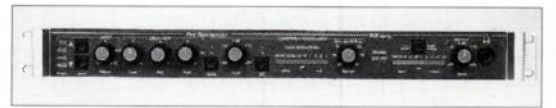


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Circuitwerkes	57	104	352-335-6555	Prime Image Inc.	12	181	408-867-6519
Coaxial Dynamics, Inc.	46	147	800-COAXIAL	Propagation Systems Inc.	57	107	814-472-5540
Computer Concepts Corp.	37	168,189-192	913-541-0900	Prophet Systems Inc.	15	142	800-658-4403
Comrex Corp.	7	118	800-237-1776	QEI Corporation	36	167	800-334-9154
Comrex Corp.	29	174	800-237-1776	Radio Soft	53	119	888-RADIO95
Crown Broadcast	20	153	800-294-8050	Satellite Export	46	146	517-629-5990
Custom Business Sys. Inc.	58	113	800-547-3930	Shively Labs	57	106	207-647-3327
Custom Business Sys. Inc.	59	115	800-547-3930	Sierra Automated Systems	11	129	818-840-6749
Cutting Edge	13	140	216-241-7225	Silicon Valley Pwr Amplifier	52	139	408-986-9700
Davicom Technologies	42	155	877-327-4832	Sine Systems	54	121	615-228-3500
D H Satellite	56	127	608-326-8406	Smarts Broadcast	30-31	175	800-747-6278
Digital Audio Labs	22	162	612-559-9098	Solid Electronics Labs	52	138	610-353-9449
DPA Mics/TGI N.A.	46	145	519-745-1158	Superior Broadcast Prod.	44	160	972-473-2577
Enco Systems Inc.	3	102	800-362-6797	Swager Communications	57	105	800-968-5601
ERI-Electronic Research	56	122	812-925-6000	S.W.R. Inc.	49	130	800-279-3326
ESE	57	109	310-322-2136	TerraSonde	49	131	888-433-2821
Forecast Consoles	54	120	516-253-9000	Transcom Corp.	56	125	800-441-8454
Gepco	44	158	847-795-9555	V-Soft Communications	58	114	319-266-8402
Gorman Redlich Mfg. Co.	56	123	740-593-3150	Ward-Beck Systems	32	176	416-438-6550
Harris Corp.	24-27	171	800-622-0022	Wheatstone Corporation	60	116	252-638-7000
Henry Engineering	51	136	626-355-3656	Wireready	22,32,50	134	800-833-4459
IFR Systems	57	108	316-522-4981	360 Systems	5	117	818-991-0360

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