



DU MONT®

6-18-56

FEATURES

VITASCAN

*For LIVE Color
Programming*

Mobile Vitascan Camera Equipment

SIMPLIFIED SERVICE

NO LENGTHY WARM-UP

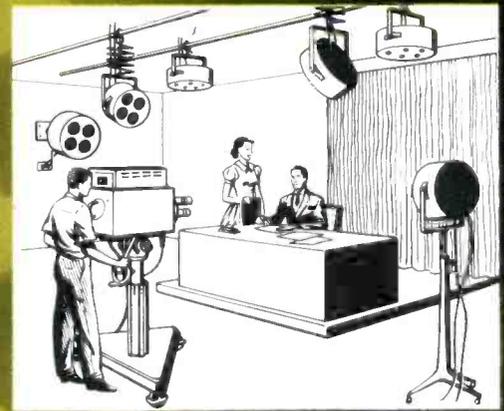
ELIMINATES AIR CONDITIONING

NO BURN-IN

NO SPECIAL MAKE-UP

PERFECT CAMERA MATCH

COMPACT CAMERA



*Mobile Vitascan
Camera
provides the finest
method for live
color pickup
at extremely
low cost.*

NO REGISTRATION PROBLEMS

CUTS MANPOWER IN HALF

NO HOT LIGHTS

TUBE COST a few cents per hour

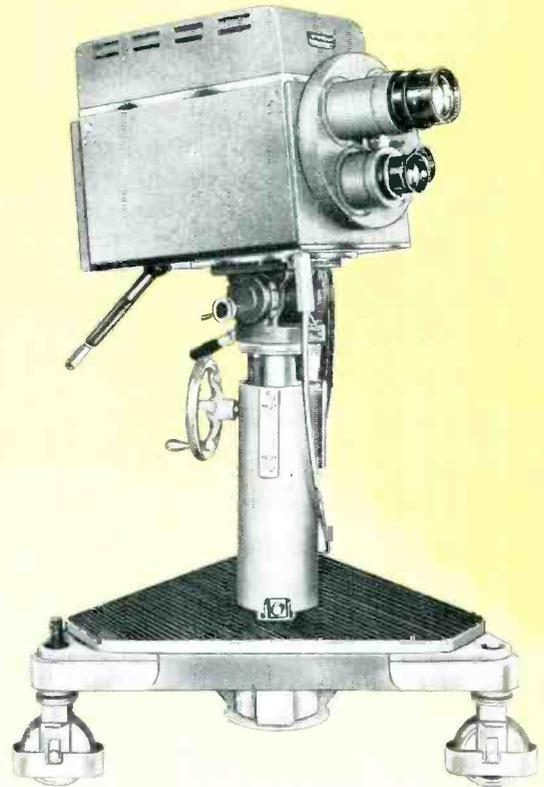
COLOR AT MONOCHROME COST

**PROVIDING
THE FINEST,
MOST ECONOMICAL
METHOD OF
ORIGINATING
LOCAL
LIVE COLOR
PROGRAMMING**

The Du Mont Vitascan is a low-cost, extremely simple television system offering beautiful, full-color pictures. It represents an entirely new concept in television pickup principles proved superior in both broadcasting and industrial applications. In addition to full-color reproduction, the Vitascan is equally well-adapted to black-and-white picture use. The Vitascan answers the need for a versatile color/monochrome television system limited only by the fact that it is operated in a light-tight studio, under special lights supplied as part of the system.

The Du Mont Vitascan utilizes the principle of the flying spot scanner. Operating as a mobile light source, the Vitascan camera houses a cathode-ray tube which provides a very bright raster. The raster is projected through an objective lens and scans the desired scene.

Multiplier phototubes mounted in pickup scoops which are grouped like studio floodlights pick up the reflected light. Red, green, and blue filters mounted in front of the multiplier phototubes filter the reflected light from the scene into the three primary color components required by the television system and each phototube converts the light energy into an electrical signal. The three separate

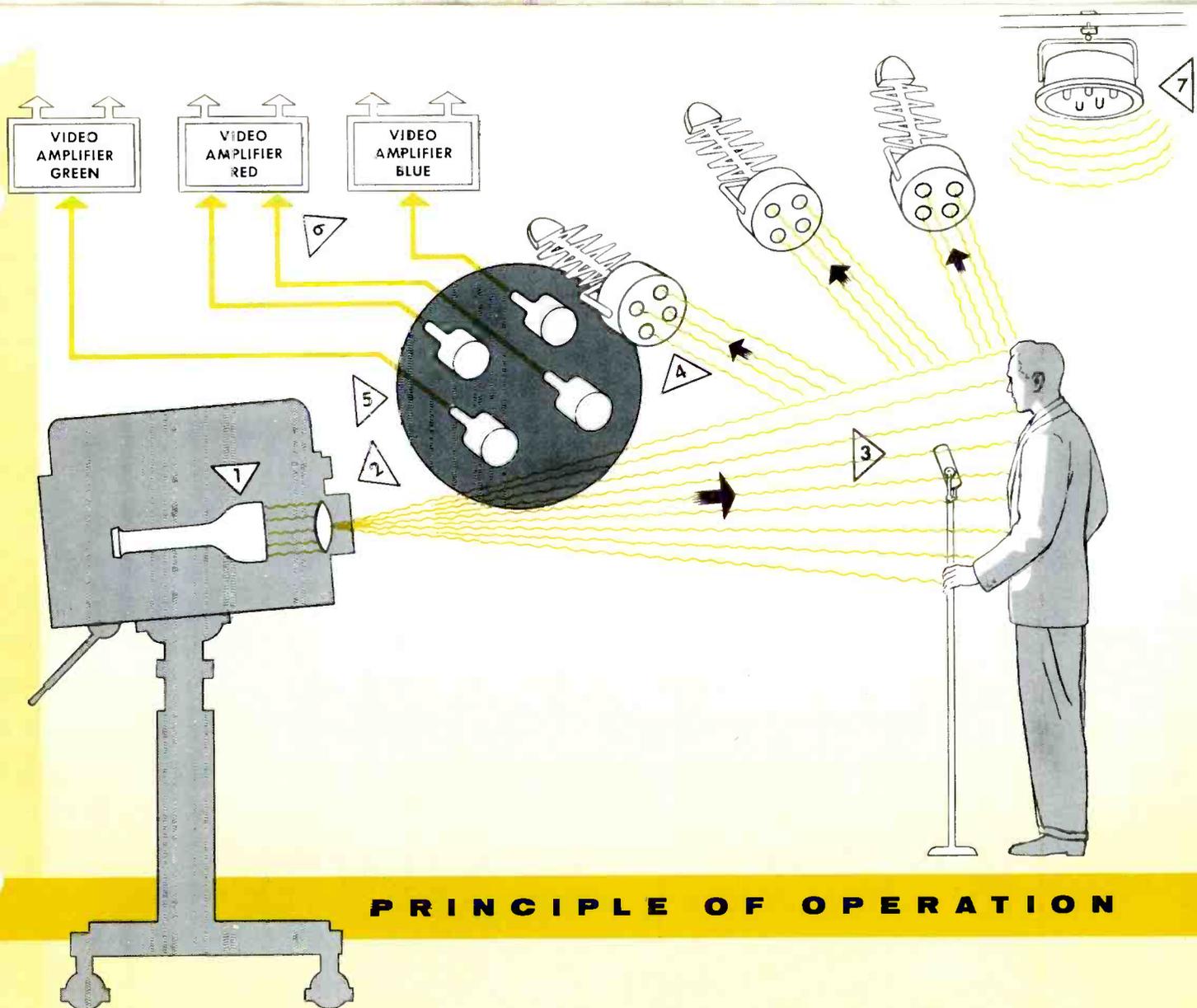


signals from the pickup scoops are amplified to form standard red, green, and blue video for feed to any standard encoder.

The pickup scoops used in the light-tight studio are physically positioned for desired "lighting" effects and controlled by a dimmer panel.

Since the bright raster produced by the Vitascan camera does not provide enough illumination for the convenience of performers, sync-lites are provided. These fixtures are pulsed into illumination during the vertical blanking period of the television signal, so that they do not interfere with the video produced by the Vitascan raster.

The Vitascan is the simplest, most economical method for achieving local live color programming, and when combined with the Du Mont Color Multi-Scanner, provides *complete* color programming facilities.



PRINCIPLE OF OPERATION

1 Within the mobile Vitascan camera, an extremely small spot traces an unmodulated raster of high light intensity on the face of a special cathode-ray tube. This is known as the "flying spot".

2 The raster is directed through the camera objective lens.

3 The light passes from the lens to scan the subject where it is modulated by varying degrees of reflection from the subject.

4 Modulated reflected light is picked up by the pickup scoops. Blue, green, and two red filters within the pickup scoop pass their respective light components into multiplier phototubes.

5 The multiplier phototubes (see detail), transform the light into electrical signals which are multiplied in strength within the tube.

6 From the multiplier phototubes the electrical signals are fed into their respective video amplifiers which gamma- and phosphor- correct the signals for optimum reproduction of both gray and chromatic scales. Each video amplifier adds blanking and provides two identical outputs—one for monitoring and one for programming.

7 Overhead sync-lites provide studio illumination during vertical blanking periods of scanning operation.

VITASCAN MOBILE LIGHT SOURCE

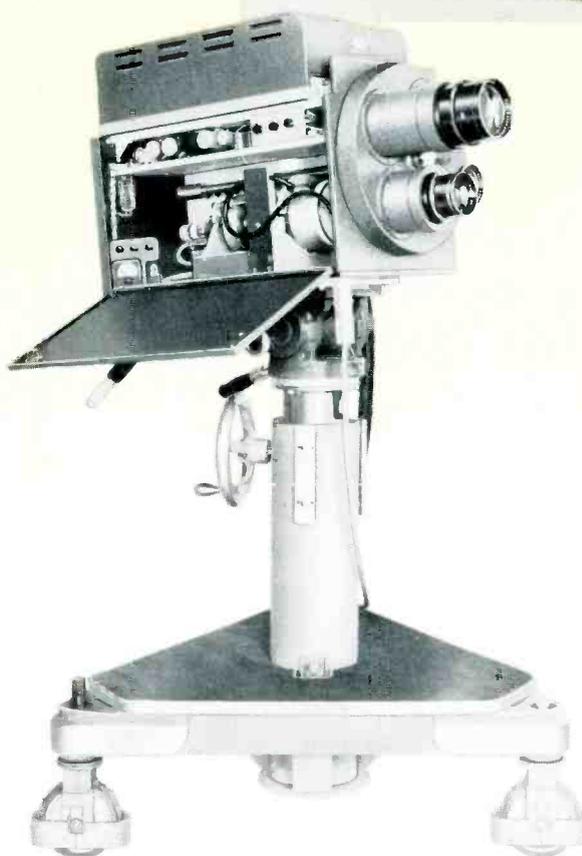
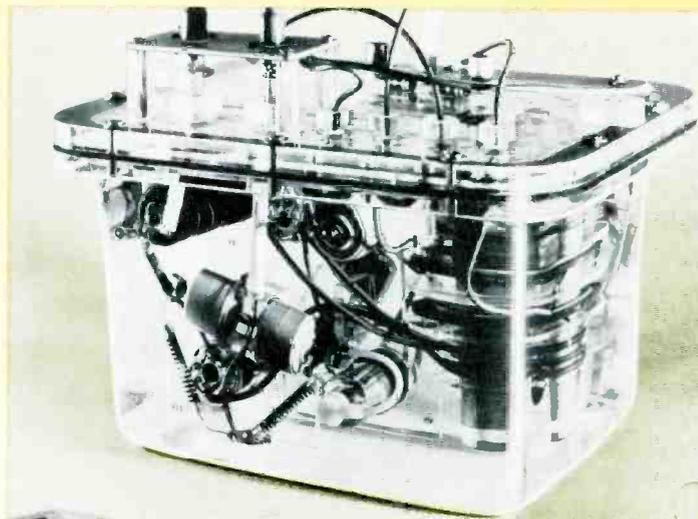
TYPE 5454-A

The Vitascan Mobile Light Source contains the 5AUP24 flying spot scanner tube and the sweep chassis which develops the raster for it. Using a 25 kv accelerating potential from the special high voltage supply, the cathode-ray tube provides a high intensity, high resolution raster. The 5AUP24 is mounted in a rack assembly at the bottom of the camera. This assembly can be moved back and forth by rotating the focusing arm at the rear of the camera.

The camera is mounted on a standard panning head and standard dolly for ease of operation. It is equipped with a lens turret containing three lenses. A monochrome, electronic viewfinder is mounted on top of the camera so the camera operator can focus on the subject.

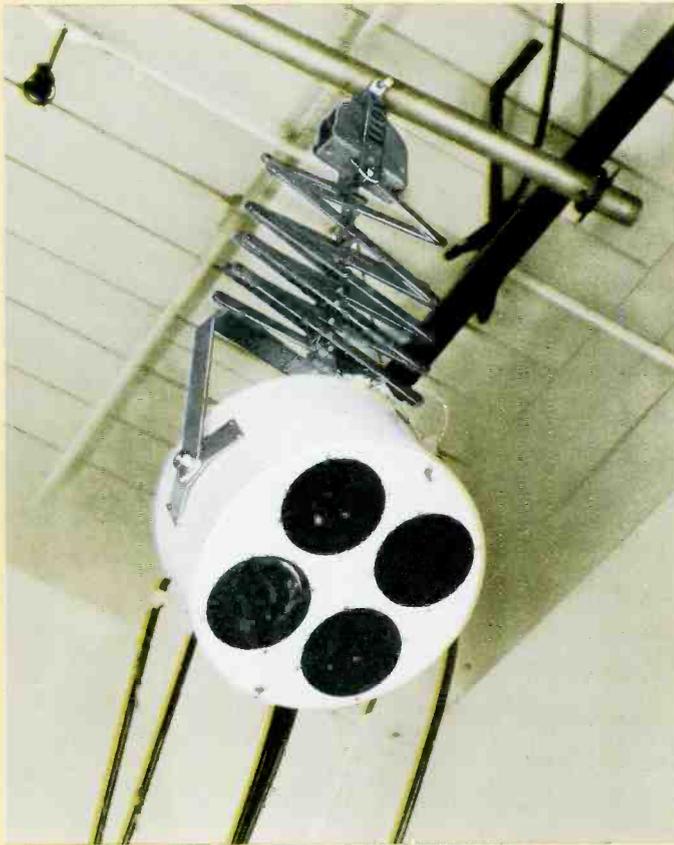
Mounted external to the studio are the high and low voltage supplies, and three video amplifiers.

Compact Type 5313-A High Voltage Supply, which provides the accelerating potential for the special cathode-ray tube, has all high voltage components contained and immersed in an insulated lucite compartment filled with silicone fluid. The silicone fluid absolutely prevents high voltage corona and arcing.



All components and circuits in the mobile Vitascan camera are easily and quickly accessible for maintenance. All selcom-used control adjustments are in easy reach with side-panel swung open.

Vitascan Color Pickup Equipment



EQUIPMENT COMPLEMENT

TA-204-A Vitascan Color Pickup Equipment including:

| | | | |
|---|-----------------------------|-----------------------------|---------------------------|
| 8 | 5440-A Scanner Pickup Scoop | 1 | 5019-A Low Voltage Supply |
| 1 | 5439-A Video Junction Box | 1 | PR77-C Cabinet Assembly |
| 1 | 5438-A Dimmer Panel | | |
| 3 | 5310-C Video Amplifier | Photocell complement | |
| 4 | 5314-A High Voltage Supply | 16 | Type K1416 (red) |
| 1 | 5315-A Regulator Unit | 16 | Type K1420 (blue, green) |

ELECTRICAL SPECIFICATIONS

Resolution Capable of 550 lines

Inputs

| | |
|---|-------------------------------|
| Composite sync, negative (if desired) | 3.5 v to 4.5 v p-p (bridging) |
| Blanking, negative | 3.5 v to 4.5 v p-p (bridging) |
| Horizontal drive, negative | 3.5 v to 4.5 v p-p (bridging) |
| Optional (used for setup purposes) | |
| Stepwave, black negative, linear | 1 v p-p at 75 ohms |

Outputs

| | |
|--|--|
| 5310-C Video Amplifier (green channel): two identical video signals | 1 v p-p source-terminated in 75 ohms (one for camera viewfinder) |
| 5310-C Video Amplifier (red channel): two identical video signals | 1 v p-p source-terminated in 75 ohms |
| 5310-C Video Amplifier (blue channel): two identical video signals | 1 v p-p source-terminated in 75 ohms |

PHYSICAL DIMENSIONS

Type 5440-A Scanner Pickup Scoop

| | |
|----------|-----------|
| Diameter | 14 inches |
| Height | 12 inches |
| Weight | 25 pounds |

ASSOCIATED EQUIPMENT FOR

Vitascan Sync-Lite Equipment

EQUIPMENT COMPLEMENT

TA-203-A Vitascan Sync-Lite Equipment including:

| | |
|---|-------------------------------|
| 4 | 5452-A Sync-Lite Fixture |
| 1 | 545C-A Sync-Lite Trigger Unit |
| 1 | 5451-A Sync-Lite Power Panel |
| 2 | 5019-A Low Voltage Supply |

ELECTRICAL SPECIFICATIONS

Input

Negative vertical drive 3.5 v to 4.5 v p-p at 75 ohms

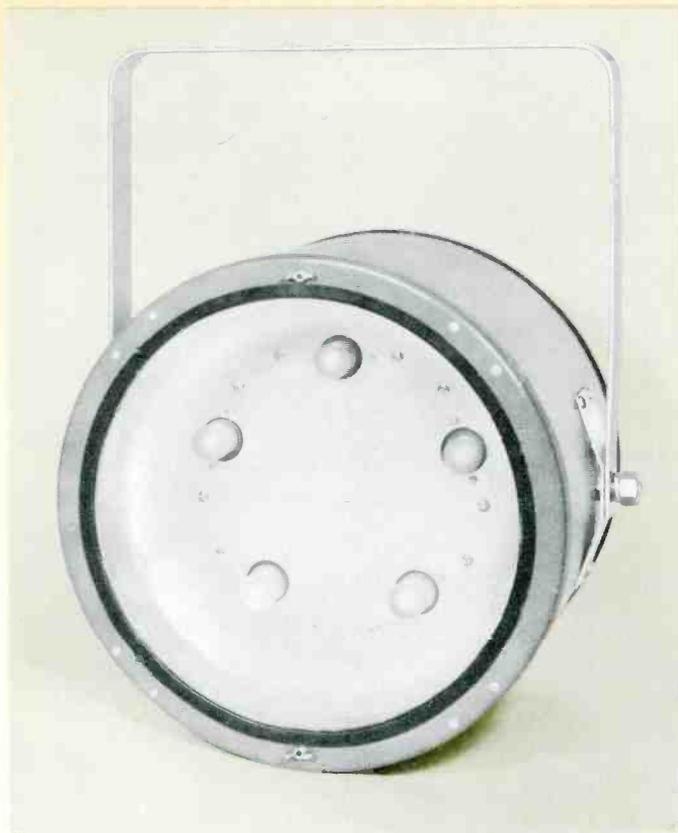
Output

Pulsed white light, 10C ps. duration, synchronized with vertical drive

PHYSICAL DIMENSIONS

Type 5452-A Sync-Lite Fixture

| | |
|----------|-----------|
| Diameter | 14 inches |
| Height | 10 inches |
| Weight | 15 pounds |



VERTICAL RACK-MOUNTING DIMENSIONS

All panels of standard 19" width

| Unit | Vertical Space | Weight |
|-----------------------------|----------------|---------|
| 5439-A Video Junction Box | 6-13/16" | 5 lbs. |
| 5438-A Scanner Dimmer Panel | 5" | 12 lbs. |
| 5310-C Video Amplifier | 8-3/16" | 8 lbs. |
| 5314-A High Voltage Supply | 5-1/16" | 11 lbs. |
| 5315-A Regulator Unit | 5-1/16" | 35 lbs. |
| 5019-A Low Voltage Supply | 14" | 60 lbs. |

POWER REQUIREMENTS (Overall)

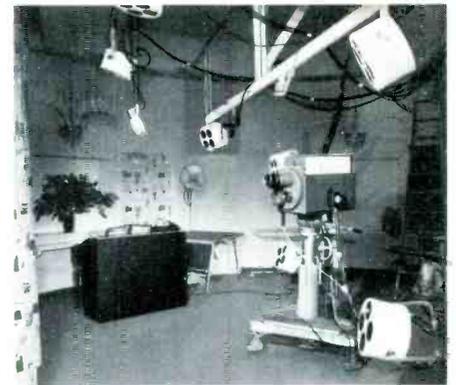
TA-204-A Vitascan Color Pickup Equipment
117 v ac, 8.9 amp.

POWER REQUIREMENTS (Internal)

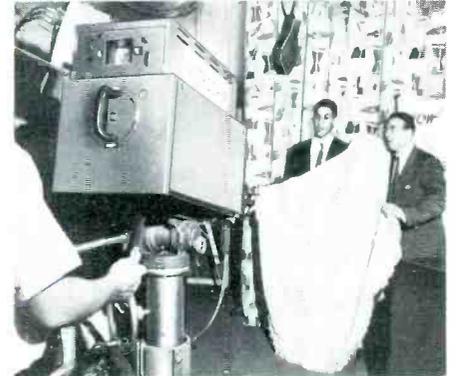
| | |
|--|--|
| 5440-A Scanner Pickup Scoop | 5310-C Video Amplifier |
| +250 v, 16 ma. from Low Voltage Supply | 115 v ac (regulated), 0.3 amp. from Regulator Unit |
| -1000 v, 6 ma. from Dimmer Panel | +250 v, 130 ma. from Low Voltage Supply |
| 5438-A Scanner Dimmer Panel | 5315-A Regulator Unit |
| -1000 v, 64 ma. from High Voltage Supply | 117 v ac, 2.0 amp. from Line or Control Panel |
| 5314-A High Voltage Supply | 5019-A Low Voltage Supply |
| 115 v ac (regulated), 0.3 amp. from Regulator Unit | 117 v ac, 4.6 amp. from Line or Control Panel |

TUBE COMPLEMENT

| 5440-A Scanner Pickup Scoop | | 5310-C Video Amplifier | | 5019-A Low Voltage Supply | |
|-----------------------------|-------|------------------------|-------|---------------------------|---------|
| Qty. | Type | Qty. | Type | Qty. | Type |
| 2 (red) | K1416 | 4 | 6AH6V | 2 | 0A3 |
| 2 (blue, green) | K1420 | 1 | 6AK5 | 3 | 003 |
| | | 1 | 6AL5 | 2 | 5R4-GY |
| | | 1 | 12AT7 | 2 | 6AS7-G |
| | | 1 | 12AU7 | 7 | 63-G |
| | | 1 | 12AV7 | 1 | 6H5 |
| | | 2 | 5687 | 2 | 6SL7-GT |



Typical studio scene ready for programming. Note positioning of pickup scoops arranged to achieve back-lighting, highlighting and other dramatic effects.



Program in progress. Vitascan mobile camera is used in exactly the same manner as an ordinary camera. Operator focuses and views through electronic viewfinder.

MOBILE VITASCAN SYSTEM

VERTICAL RACK-MOUNTING DIMENSIONS

All panels of standard 19" width

| Unit | Vertical Space | Weight |
|-------------------------------|----------------|---------|
| 5450-A Sync-Lite Trigger Unit | 3-5/16" | 6 lbs. |
| 5451-A Sync-Lite Power Panel | 5-7/32" | 5 lbs. |
| 5019-A Low Voltage Supply | 14" | 70 lbs. |

POWER REQUIREMENTS (Overall)

TA-203-A Vitascan Sync-Lite Equipment
117 v ac, 9.4 amp.

POWER REQUIREMENTS (Internal)

| | |
|---|---|
| 5452-A Sync-Lite Fixture | 5019-A Low Voltage Supply |
| +350 v, 200 ma. from Low Voltage Supply | 117 v ac, 4.6 amp. from Sync-Lite Power Panel |
| 5450-A Sync-Lite Trigger Unit | 5451-A Sync-Lite Power Panel |
| 117 v ac, 0.2 amp. from Sync-Lite Power Panel | 117 v ac, 9.4 amp. from Line |
| +350 v, 21 ma. from Low Voltage Supply | +350 v, 800 ma. from Low Voltage Supply |

TUBE COMPLEMENT

| 5452-A Sync-Lite Fixture | | 5019-A Low Voltage Supply | | 5450-A Sync-Lite Trigger Unit | |
|--------------------------|------|---------------------------|--------|-------------------------------|---------|
| Qty. | Type | Qty. | Type | Qty. | Type |
| 5 | U35A | 2 | 0A3 | 7 | 6B4-G |
| | | 3 | 003 | 1 | 6H6 |
| | | 2 | 5R4-GY | 2 | 6SL7-GT |
| | | 2 | 6AS7-G | | |



As a merchandising tool the Vitascan has proved a traffic stopper. Monitors or standard color receivers may be located throughout a store.



Stopping traffic outside the store! This photo was taken at a recent demonstration by Gimbels Brothers in New York City.



SUGGESTED MINIMUM STUDIO SPECIFICATIONS

DEPTH 20' WIDTH 15' HEIGHT 12'
WALLS AND CEILING PAINTED WHITE FOR MAXIMUM
LIGHT REFLECTION.

DU MONT®

**TELEVISION TRANSMITTER DEPARTMENT
ALLEN B. DU MONT LABORATORIES, INC.
CLIFTON, NEW JERSEY**