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**Thomas, Donn H.**, Public Relations Director, Pacific Union Conference of Seventh-Day Adventists, 1545 North Verdugo Rd., Glendale, Calif. (M)

**Thomas, William H.**, Executive, James B. Lansing Sound, Inc., 2439 Fletcher Dr., Los Angeles 39, Calif. (M)

**Vandervort, D. L.**, Physicist, Eastman Kodak Co., Kodak Park, Rochester, N.Y. (A)

**Walker, A. Prose**, Manager of Engineering, National Association of Radio & Television Broadcasters, 1771 N St., N.W., Washington 6, D.C. (M)

**Warren, Aubrey C.**, Manufacturer, 10633 Chandler Blvd., North Hollywood, Calif. (M)

**Weller, William R.**, Photographic Engineer, Eastman Kodak Co. Mail: 381 Meadow Dr., Rochester 18, N.Y. (A)

**Williams, Howdy L.**, Cameraman. Mail: 8021 Radford Ave., North Hollywood, Calif. (M)

#### DECEASED

**Weisser, Frank E.**, President, Color Laboratories, Inc., P.O. Box 637, Islip, N.Y. (M)

## New Products

Further information about these items can be obtained direct from the addresses given. As in the case of technical papers, the Society is not responsible for manufacturers' statements, and publication of these items does not constitute endorsement of the products.



A new 300-w intensity light source has been offered by Bell & Howell, to produce up to 215 ft-c at the printing aperture. In

addition to the greatly increased light output, the new unit has improved uniformity in density across the printing aper-

ture, a dowsler shutter permitting pre-heating to desired color temperature, a new design for cooling the lamp and filters, new heat-absorbing glass, a printing lamp with a 200-hr life, a suppressed scale-type ammeter and a rheostat for greater exposure range. The price is \$595.

Involving no major physical changes in existing equipment, this unit will be available as standard equipment on all new 16mm and 35mm Bell & Howell printers manufactured after the first of this year. Installation of the unit on printers now in the field can be readily accomplished without returning the printer to the factory.

Design uses a 300-w, 120-v base-up lamp with a 200-hr life. The light intensity is controlled by a 35-ohm rheostat from 1.8 to 2.66 amp shown on the ammeter of the suppressed-scale type which makes possible a closer reading of light intensity. A small additional reflector alongside the main spherical filament reflector furnishes light for the edge printing.

Automatic cooling is provided for the lamp, filters and rheostat. The gelatin color filters are further protected by a heat-absorbing glass filter. By a special switching arrangement, the cooling fan will continue to operate after the lamp is shut off, thus preventing a heat build-up at the gelatin filters.

The optical system has one cylindrical and two spherical condensers. A prism is used to bend the rays. The coated optical elements increase the light intensity to more than 10 times over the nonoptical attachment. The addition of a cylindrical condenser elongates the light spot at the aperture, giving uniform light intensity across the aperture for both 16mm and 35mm film sizes.

A ring-type spacer is used on top of the lamphouse for aligning the prism and second condenser. Realigning is not required after the original adjustment is made. Two screws tighten the ring to the lamphouse.

For normal exposure at 60 fpm using Eastman fine-grain, release positive film with a 1.5 neutral density filter, the ammeter reading is set to 1.8 amp and the shutter to stop # 8. The exposure for color printing will depend on the color filters used, in addition to lamp current and shutter stop. For checking exposure correctly,

a densichron meter with a special Bell & Howell attachment should be used. The range in foot-candles without neutral density filter is 35 to 415 with # 22 stop.



**RCA's new Color TV Camera** was demonstrated in October at Camden to a clinic of broadcast consulting engineers. RCA has announced that it will start delivering color telecasting equipment before the end of 1953. The first equipment, consisting of color monitors and terminal apparatus to be added to existing television transmission facilities, is designed to enable stations to telecast programs received over telephone circuits. Other equipment is planned for next year for transmitting in color from slides, film and live studio productions. The equipment now being produced is on a custom basis, for the standards approved by the FCC may be such that some modification will be required in commercial production to come later.

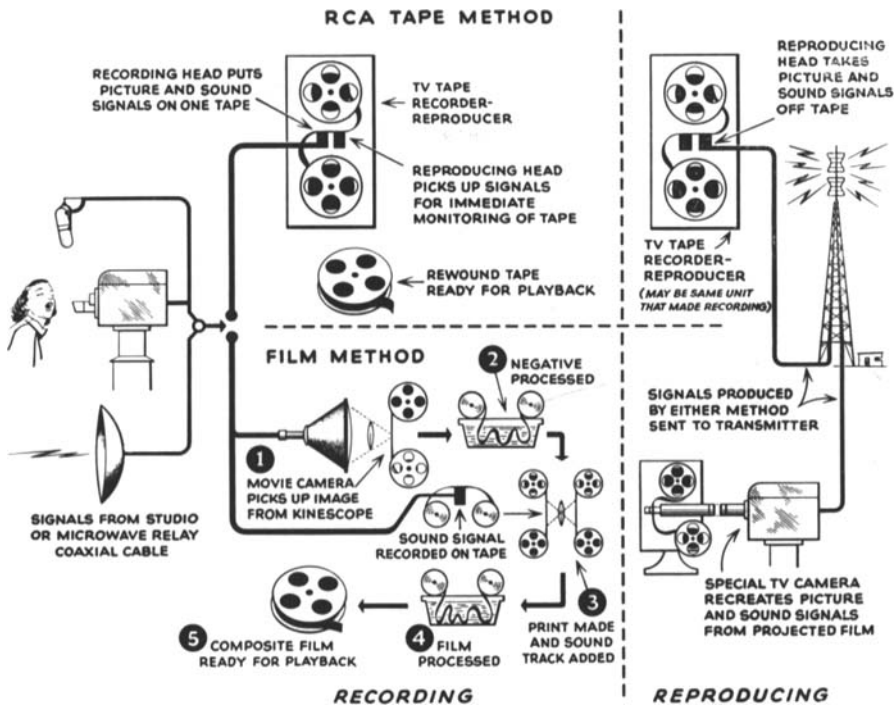


**Video recording on magnetic tape** was demonstrated for the first time by RCA on December 1, 1953. A color television program originating in NBC studios in Radio City, New York, was beamed by microwave to the David Sarnoff Research Center at Princeton, N.J., and there simultaneously shown and recorded on magnetic tape. During part of this transmission, both the live program from the microwave radio relay and an immediate playback of the magnetic tape recording were shown on two separate receivers. As soon as the tape reel was rewound, it was played back and the recorded television pictures appeared on the two color television receivers. Black-and-white reproduction was also demonstrated.

The principle of video recording resembles that of sound recording. Since video signal frequencies range up to 4 mc, however, special recording and reproducing heads had to be developed in order to bring tape speed within manageable limits. In the equipment demonstrated tape speed was 30 fps, and recording was said to reach 3 mc.

Reels used with the demonstration equipment were 17-in., capable of recording 4 min of a television program. RCA is working now for a 19-in. reel which will carry a 15-min program.

Special recording and reproducing amplifiers have been designed to take into account and compensate for the characteristics of the heads and magnetic tape ma-



materials in recording the wide bands of frequencies used in television.

Since even small variations in the speed of the tape and the pressure on the head can create noticeable effects on the picture, it was necessary to devise precision apparatus to control accurately the speed of the tape at the recording and reproducing points. Greater precision in regulating speed and pressure is the object of research which RCA has under way.

For video tape recording of color television with the RCA system, five parallel channels are recorded on  $\frac{1}{4}$ -in. tape. There is one recorded channel for each of the primary color signals (red, green and blue), for the synchronizing signal, and for the sound signal. For black-and-white recording the  $\frac{1}{4}$ -in. tape carries two recorded channels, one to carry the video signal and the synchronizing signal, and one for the sound signal.

To rebroadcast a color television program from a tape recording it would be necessary to combine the three primary

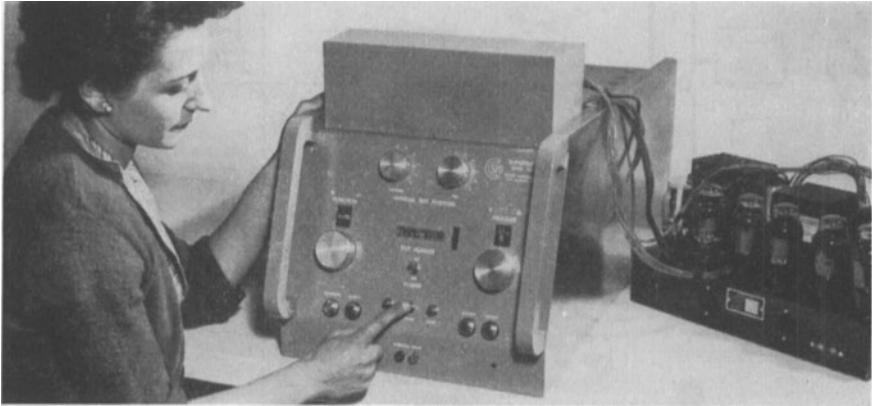
color signals with the synchronizing signal to form a composite signal to send to the transmitter. While this operation is not yet ready for demonstration, RCA says that it is the subject of current development.

RCA has released comparative estimates of operating costs which are highly favorable to tape as opposed to film recording. Although magnetic tape today costs more per minute of program time than 35mm color film, the fact that tape needs no processing before playback compensates for the expense of raw tape. Recording black-and-white programs on film is estimated by RCA engineers to be at least five times as costly as it would be on  $\frac{1}{4}$ -in. magnetic tape, assuming that the tape would be reused many times. In making copies for distribution to television stations, they say, a half-hour program could be taped for less than \$15 per copy, provided the tape is reused. Even greater economies are estimated for making the original tape recording of color television programs,

which under normal operating circumstances could be handled for only 5% of the cost entailed in color film recording. In making copies on tape that is to be reused, a tape recording of a half-hour color program would cost roughly \$20.

Despite the very visible line structure

and the slight washout of color, viewers at the demonstration appeared to be agreeably impressed with the accomplishments in developing this new technique. RCA's estimate is that equipment will be available commercially in about two years.



**The new CTI Supertester**, manufactured by Color Television Inc., 994 San Carlos Ave., San Carlos, Calif., permits testing of electronic or electrical products at the rate of several checks per second. As many as 400 individual automatic sequenced tests can be made.

The tests themselves can be distributed as required among the following six basic types: continuity, leakage, d-c voltage, a-c voltage, resistance and impedance. In addition, derivative characteristics such as gain, frequency response, phase relationships and noise levels are determined automatically through the combination of two or more of the standard tests. Circuitry is included to allow manual dialing to any one of the tests. Accessory signal generators, dropping resistors, etc., can be used with this tester to permit tests at frequencies or voltages outside its normal scope.

The master cabinet contains the basic switching units and electronic measuring circuits. No internal changes or adjustments are required for any test sequence. Adapters, which are plugged into the top of the master cabinet, are individually laid out and wired to meet the require-

ments of each particular type of production equipment under test.

In operation, the attendant attaches the adapter leads to the equipment to be tested and presses the starter button. The instrument proceeds through the sequence of tests, sounding an alarm on the discovery of a fault, on reaching a test which requires an adjustment to the product, and on reaching the end of the entire sequence. The adjustment step can be made on a go/no-go basis with the attendant not being required to measure or even understand the particular adjustment.

**A new version of the Photovolt Densitometer**, including new accessories, is announced in a new bulletin by Photovolt Corp., 95 Madison Ave., New York 16, N. Y. Following indications by R. C. Lovick of Eastman Kodak Co. in his paper "Densitometry of Silver-Sulfide Sound Tracks," published in the August 1952 *Journal*, a special search head is now supplied which permits measurement of infrared density of silver-sulfide sound tracks. The head contains a phototube with S-1 response.

**The Neuscope splicer**, specially developed for use with CinemaScope film, has been announced by Neumade Products Corp., 330 W. 42 St., New York 36. Although the new splicer resembles the conventional Griswold splicer in appearance it has the smaller-sized pins, differently located, necessitated by the smaller sprocket holes of CinemaScope film.

It has also been found that the way to get a perfect splice in true alignment was by keeping the film locked in one position throughout the splicing operation. Splic-

ing procedure on CinemaScope film has until now meant removing the film from the jaws in the middle of the splice, turning it over, scraping the soundtracks from the back and replacing it in its original position before applying the cement. The Neuscope splicer enables the user to scrape the emulsion from the top of the film in the conventional manner and then remove the soundtracks from the back of the overlap without taking the film out and turning it over—it is locked in its original position throughout the entire splicing operation.

## Employment Service

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These notices are published for the service of the membership and the field. They are inserted for three months, at no charge to the member. The Society's address cannot be used for replies.

### Positions Wanted

**Motion-Picture Television Technician:** 10 yr intensive skill and know-how related to 16-35mm cinematography, animation, recording (optical, tape, disk), editing, laboratory processing practice (black-and-white, color); also kinescope recording techniques; self-reliant; inventive; relocate if required; write: CMC, Technical Associates, 60 East 42d St., New York 17, N.Y.

**Motion-Picture Cameraman:** Retiring from Naval Service. 15 yr experience in camera operation, printing, processing, adm. and supervision of production crews. Desires position in TV, educational or industrial field, inaugurating a motion-picture program. Available after May 1954. Prefer West Coast. Write: W. W. Collier, 422 W. Jackson Ave., Warrington, Fla.

### Positions Available

**Wanted: Sound Engineer** for New York film production studio, operation and maintenance on optical and magnetic sound equipment; electronics background essential. Send résumé to R. Sherman, 858 West End Ave., New York, N.Y.

**Technical Photographer**, age 27 to 38, for senior position with large California industrial research organization. Should be conversant with contemporary techniques for recording data; acquainted with microscopy, graphic arts and color processes. Job involves application of photographic techniques as experimental tool in research projects. Administrative experience helpful. Excellent career opportunity for an ingenious and inventive person. Retirement

pension and other benefit plans. Application held in strict confidence. Write giving personal data, education and experience to Henry Helbig and Associates, Placement Consultants, Examiner Bldg., 3d and Market Sts., San Francisco 3, Calif.

**Sound Engineer:** Complete responsibility for sound control, including printing, processing, maintenance of standards, etc. Tri Art Color Corp., 245 West 55th St., New York 19, N.Y.

**Motion-Picture Supervisor, GS-8:** Duties as Chief of Motion Picture Section to include all phases of aeromedical research cinematography. Experience in planning, directing, lighting, color control, recording in single or double-system sound. Laboratory work requires experience with sensitometric control equipment, contact printers, automatic processors, Moviola, sound synchronization equipment, titlers, etc. For detailed information write: Photography Officer, USAF School of Aviation Medicine, Randolph Field, Texas.

**Motion-Picture Sound Transmission Installer and Repairer**, for the Signal Corps Pictorial Center, Long Island City, N.Y.—one at \$2.59/hr; one at \$2.29/hr (40-hr week). Applicants for \$2.29/hr position must have had 4½ yr progressively responsible experience in the construction, installation and maintenance of electronic equipment, of which at least 1½ yr must have been in the specialized field of motion-picture film, disk or magnetic sound recording or reproducing equipment. Applicants for \$2.59/hr position must have had at least 5 yr responsible experience in the design, development and installation of electronic equipment, of which at least 2 yr must have been in the specialized field of motion-