

Proceedings of the IRE vol. 44, Sept. 1956

A New Beam-Indexing Color Television Display System (p. 1108) R. G. Clapp, E. M. Creamer, S. W. Moulton, M. E. Partini and J. S. Bryan  
Directions of Improvement in NTSC Color Television Systems (p. 1125) D. Richman

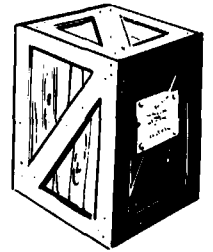
RCA Reviews vol. 17, June 1956

Recent Improvements in the 21AXP22 Color Kinescope (p. 143) R. B. James, L. B. Hradrick, and J. Evans

vol. 17, Sept. 1956

A Magnetic Tape System for Recording and Reproducing Standard FCC Color Television Signals H. F. Olson, W. D. Houghton, A. R. Morgan, M. Artzi, J. A. Zenel, and J. G. Woodward

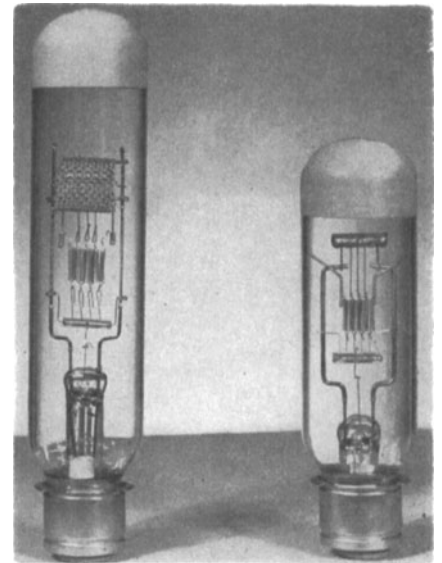
**Printed Circuits**, a bibliography covering most published and some unpublished material on the subject of printed circuits and allied techniques, has been issued by the Television Society of Great Britain. The articles, arranged in alphabetical order, are cross-referenced in eight sections. Lists of authors and periodical abbreviations are included. The bibliography is available from the Society's headquarters at 164 Shaftesbury Ave., London W.C.2, at a price of 2s. 6d. The bibliography was prepared by Mrs. K. Bourton of Ultra Electric Ltd.



# new products

(and developments)

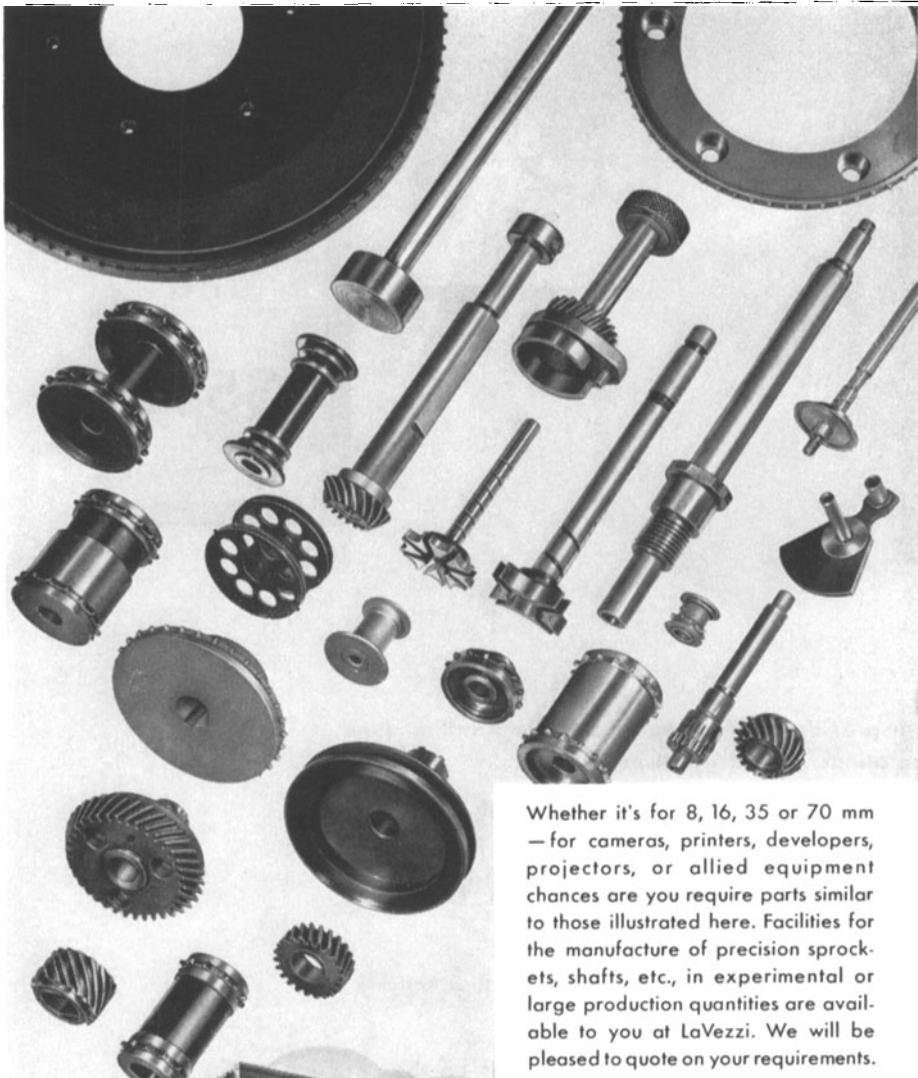
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Further information about these items can be obtained direct from the addresses given. As in the case of technical papers, the Society is not responsible for manufacturers' statements, and publication of these items does not constitute endorsement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



**The Blue Top T-12** 1200-w lamp has been developed by the Lamp Division of Westinghouse Electric Corp. to be interchangeable with 1000-w lamps. Nearly 2 in. shorter than the older type 1200-w lamp, the new light source has the same filament size as 1000-w lamps. Originally designed for use by the armed services, the new lamp is described as useful wherever the problem of insufficient screen brightness is present.

**The Dustroyer**, an air purifier for photographic darkrooms, is a product of the Miller-Trojan Co., 1083 W. Main St., Troy, Ohio. The unit, mounted between the studding in the darkroom wall, is designed to pump dust-free air into the darkroom and "pressurize" the interior to expell stale air and dust particles. The "light-tight" unit is operated by a single toggle switch and plugs into any 110-v a-c outlet.

**The new 1957 (21st) edition** of the *Radio-Electronic Master* has been published with 1546 pages and over 125,000 items of 350 manufacturers included with detailed descriptions, specifications and prices. There are about 11,250 illustrations included. The catalog may be obtained from electronic parts distributors. Names will be supplied on request by United Catalog Publishers, Inc., 110 Lafayette St., New York 13.



Whether it's for 8, 16, 35 or 70 mm — for cameras, printers, developers, projectors, or allied equipment chances are you require parts similar to those illustrated here. Facilities for the manufacture of precision sprockets, shafts, etc., in experimental or large production quantities are available to you at LaVeZZi. We will be pleased to quote on your requirements.



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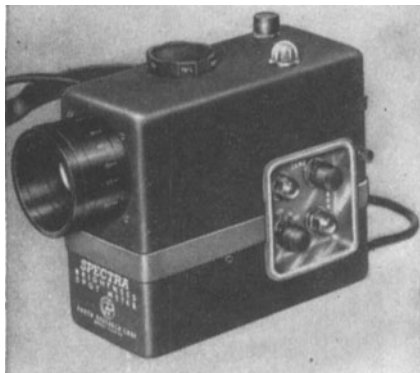


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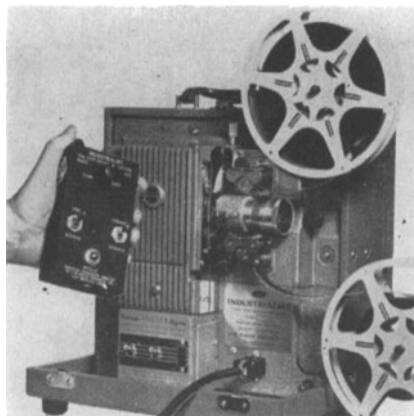
## SPECTRA Brightness Spot Meter



- Checks uniformity of blue backing for matte shots directly from camera position
- Checks brightness of selected areas on set to determine brightness range
- Checks color temperature of light sources to maintain uniform color quality
- Shows footcandle output of individual light units without interference from other sources
- Measures uniformity of illumination and discoloration of projection screens for any distance or angle
- Maintains standard brightness and COLOR TEMPERATURE of printer lights

## PHOTO RESEARCH CORP.

KARL FREUND, President  
837 North Cahuenga Blvd.  
Hollywood 38, Calif.



The **L-W Industrialist** is a projector for critical analysis of 16mm motion-picture films. A modification of an Eastman Kodak Kodascope 16mm silent Analyst Projector, the adaptations include forward and reverse projections in a range from 6 to 24 frames/sec with remote control. A single still picture can be projected for prolonged study in full illumination. The unit is portable and operates in its case and includes a daylight projection viewer. Film capacity is 400 ft. Cooling is provided by a constant-speed motor for blower service. The unit is manufactured by the L-W Photo Products Co., Los Angeles, and is being retailed by Ralke Co., 829 S. Flower St., Los Angeles 17.

The new 72-page edition of *Kodak Color Films*, published by the Eastman Kodak Co., Rochester 4, N.Y., is available from Kodak dealers for 75 cents. This is the first complete revision of the Data Book since its introduction. The new edition includes data sheets on the higher-speed, higher-definition Kodak Ektachrome Films designed for Process E-2, and the new negative films, Kodak Ektacolor, Type S. Material on color balance and speed has been expanded to form a new section on the critical use of color films. The section is illustrated in color. Subjects discussed in detail include types of film, filter data, storage before and after processing, processing, viewing transparencies, critical use, and prints and duplicates.

Another new Kodak booklet, *Kodak Chemical Preparations*, describes Kodak photographic chemicals used by amateur and professional photographers in processing black-and-white films, plates and papers. The 12-page booklet gives recommended uses, available quantities and prices for developers, fixers and stop bath materials, toners, intensifiers, reducers, lacquers, protectants, special processing and miscellaneous darkroom chemicals. It is available at no charge from Kodak dealers.

**Camera Equipment Co.**, 315 W. 43 St., New York 36, has been appointed exclusive distributor in the United States for all Maurer Cameras and recording equipment. This includes the Maurer Professional 16mm Camera which was designed with all indicators and controls directly at hand from shooting position so that the cameraman need not change position. The firm's repair department is now service headquarters for all Maurer equipment and accessories.

An auditorium-size compatible color TV projection system (TLS-50), which produces pictures up to  $4\frac{1}{2} \times 6$  ft for audiences of approximately 500 persons, has been developed by the Radio Corporation of America for closed-circuit applications. It is scheduled for commercial production in the near future and is planned to cost about \$4250. The system can also be used for projection of closed-circuit monochrome programs. Scheduled for commercial availability at the same time and at the same price is an RCA auditorium-size monochrome projection system (TLS-51), identical with the color TV system except that it utilizes black-and-white instead of color projection tubes. The black-and-white projection system produces pictures up to  $6 \times 8$  ft. The color and monochrome projection systems are intended for use with directional screens having a gain of two-and-a-half times. With such screens the useful seating area covers a total angular width of  $60^\circ$ .

**Catalog information** on Foto-Video Laboratories' Model V-6 Convergence Dot Generator may be obtained by writing to the firm at 31 W. 47 St., New York 36. The unit is used for the adjustment of the convergence of shadow mask tricolor kinescopes as used in color TV receivers or monitors. It also checks linearity of both color and monochrome monitors or receivers. The spec sheet contains descriptions of the features, applications and specifications of the unit.

The **Projection Optics Co.**, 330 Lyell Ave., Rochester 6, N.Y., has announced a high resolution test pattern especially designed for testing optics used in the projection and taking of motion pictures. Called the Hilux Motion Picture Test Chart, this glass resolution test chart was laid out along the same line as the American Standard PH 3.16-1947 (Revised 1952) except that the frames cover the various aperture plate sizes listed as follows: Academy Frame,  $0.825 \text{ in.} \times 0.600 \text{ in.}$ ; Magnetic CinemaScope,  $0.912 \times 0.715 \text{ in.}$ ; Cinerama,  $0.997 \times 1.120 \text{ in.}$ ; Horizontal VistaVision,  $1.148 \times 0.772 \text{ in.}$ ; 55mm CinemaScope,  $1.306 \times 1.065 \text{ in.}$ ; Todd-AO,  $1.948 \times 0.906 \text{ in.}$ ; M-G-M 65 mm,  $2.050 \times 0.870 \text{ in.}$

In addition to these frames, standard resolution test patterns are in the center and in the corners of each frame. A limited number of these test plates are available at a price of \$87.50 each. The size of this glass chart is  $2.500 \times 2.000 \text{ in.}$  If these test charts are used in conjunction with projection bulbs, cooling is required as the glass plates are not heat-resistant.

The **Cinema Engineering Division** of Acrovox Corp., Burbank, Calif., has issued a catalog of Cinema Encapsulated Resistors, Bulletin No. LC-1030BX. The 20-page catalog, issued yearly, includes a Military Specification tabulation. Cinema resistors include the CE 100 and CE 200 series, radial wire terminals or radial lug terminals and the PW 100 and PW 200 series for printed circuitry, axial wire terminals or radial lug terminals. The catalog may be obtained from the factory at 1100 Chestnut St., Burbank, Calif.

The Radio Corporation of America has started commercial production of its compatible color TV camera system designed for medical use, with the first units going to Walter Reed Army Medical Center, Washington, D.C. The medical camera (TK-45) is designed around three vidicon camera tubes and special electronic circuitry which makes it possible to televise surgical procedures in full-color detail under normal operating-room lighting. It measures 26 X 15 X 14 in., weighs less than 200 lb and, to eliminate interference with surgery or demonstrations, is designed for permanent installation in an overhead fixture which supports both camera and surgical lamp. The camera also can be incorporated into a microscope system for direct televising of microscopic specimens, enabling a single instructor to display full-color microscopic enlargements to an entire class or to groups of classes tied into a closed-circuit network.

An RCA ultraviolet-sensitive TV camera tube is making possible a large step forward in cancer research. This developmental tube is used in an unusual application of closed-circuit TV that involves the use of a high-power microscope and an electronic oscilloscope to obtain direct observations and oscillographic measurements of the metabolism of living cells. This new research technique is now being used on an experimental basis at the National Institutes of Health, Bethesda, Md.

The new technique enables researchers to observe and take motion pictures, simultaneously, of chemical activity within living cells; make a microscopic study and analysis of hundreds of living cells in only a fraction of the time formerly required and make direct observation and identification of certain chemical changes within the cells.

The ultraviolet television system employs a standard RCA black-and-white TV camera, type TK-21. The camera's standard monochrome vidicon tube has been replaced with the ultraviolet-sensitive vidicon camera tube. The pickup tube and its circuitry were developed originally at RCA's David Sarnoff Research Center under the supervision of Dr. V. K. Zworykin.

The Radio Corporation of America will install a television system including a complete on-the-air and closed circuit TV broadcast studio in the University of Georgia's new Center for Continuing Education. The Center will also include an off-campus 25-kw broadcast transmitting plant, live and film camera systems for studio origination of program material and 167 RCA Victor TV receivers for closed-circuit presentation of studio programs in various study and discussion rooms.

Wire-wrapping tools powered either by air or electricity have been announced by Ingersoll-Rand, 11 Broadway, New York 4. The handheld wire wrappers can be set in six different positions to make wire insertion easy from any angle. The tools are designed to make speedy electrical connections in radio, TV and other electrical, electronic and electro-mechanical assemblies.



A new series of lenses made by the English firm of Taylor Hobson Cooke especially for the Arriflex 35 has been announced by Kling Photo Corp., New York and Los Angeles, distributors of Arriflex Mirror-Reflex Motion Picture cameras. The T.H.C. Speed Panchro lenses are calibrated in *f*-stops as well as T-stops for use in professional cinematography and are fitted with follow-focus lever to permit continuous focusing through the Arriflex Reflex Finder during actual shooting of dolly shots. The following lenses are now available: 18mm *f*:1.7/T2 Extreme Wide Angle lens, \$731; 35mm *f*:2/T2.3, \$340; 50mm *f*:2/T2.3, \$340; 75mm *f*:2/T2.3, \$340.

Type 834 TV Recording Film has been introduced by E. I. du Pont de Nemours & Co., Photo Products Dept., Wilmington, Del. Reported to be approximately two and one-half times faster than Type 824, which it replaces, the film is designed for photographing either negative or positive images on TV monitor tubes. It is available in 16mm and 35mm sizes.

The Automax, a 35mm cine-interval camera, was recently tested at Edwards Air Force Base. The camera was reported to be operating efficiently at 30 g, a temperature of -65 F and an altitude of 50,000 ft. Further information about the camera, including details of test results, is available from Traid Corp., 17136 Ventura Blvd., Encino, Calif.

K. Phillips Kallman has announced the organization of Sales Meeting Equipment, Inc., 1210 N. Hoyne St., Chicago 22. The new firm will manufacture portable wide-ratio and large standard-ratio screens and special projectors designed primarily for sales organizations conducting multi-city sales and product presentation meetings. Kallman was formerly associated with the N.Y. Museum of Science and Industry and was exhibit manager of Brookhaven National Laboratories. At that time he was a member of this Society's Museum and Historical Committee.

Conrac, Inc., Glendora, Calif., has announced a new 21-inch color TV monitor, the CH21B. This is an improvement model of the company's original monitor. The new unit is a self-contained picture monitor that operates from either NTSC encoded color video signals or from simultaneous red, blue and green signals. It employs a three-gun, tricolor picture tube of the type 21AXP22A. All operating and set-up controls as well as a test point for Y, I, Q, R, G or B are accessible from the front. Schematics, engineering data and specifications may be had from the manufacturer.

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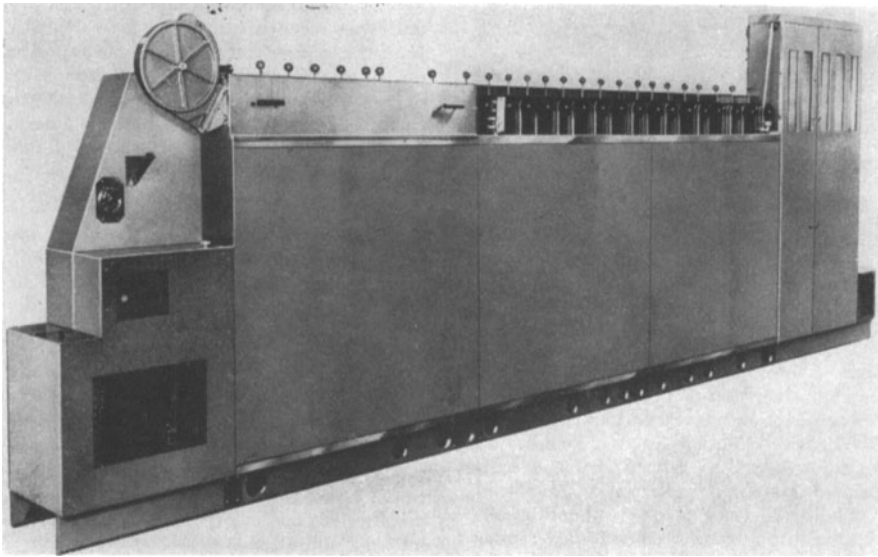
The ONLY "BUTT-WELD" splicer that satisfactorily splices CRONAR film.  
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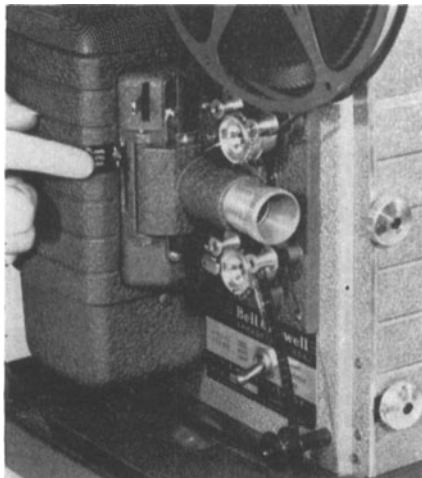
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**A Color Labmaster, Model 16ARC15**, for processing reversal color film has been introduced by Houston Fearless, 11801 West Olympic Blvd., Los Angeles 64. The new machine is an addition to the company's series of Labmaster film processors. It is straight 16mm or 16/35mm combina-

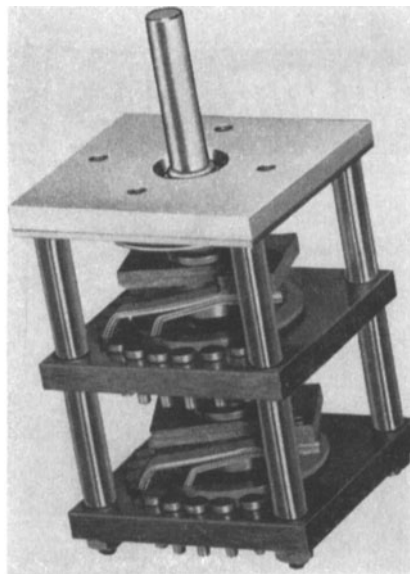
tion. Normal processing speed for 16mm Anscochrome is 15 ft/min with variable speed control to allow for processing at a higher exposure index. It is adaptable to processing other color emulsions as well as black-and-white. The unit is 217 in. X 16 in. X 60 in., and weighs 1600 lb.



**The 253-AR Monterey Deluxe projector** has been announced by Bell & Howell, 7100 McCormick Rd., Chicago 45. The new model is similar in appearance and design to the present Monterey projector, but has an added reverse and still picture control. A safety shutter protects film from heat during still picture projection. Because of the fixed axis framing feature, it is not necessary to readjust the tilt when framing. The list price is \$99.95, including Federal Excise Tax and the aluminum case.

Bell & Howell has also announced a new wide-angle attachment for their 16mm electric eye motion-picture camera which converts the camera's 20mm lens to a wide-angle focal length of 13.2 mm without affecting the ability of the lens to set itself automatically for proper exposure. The attachment is also designed for use with the 20-mm Sunomatic lens on the Bell & Howell 200-S camera and the 1 in. f/1.9 Super Comat lens without affecting exposure or setting. When used with a 1-in.

lens its focal length is 17 mm. The attachment is priced at \$59.95, complete with size 6 filter retainer and metal front and rear lens caps.



**A new series of switches** has been announced by Cinema Engineering Div., Aerovox Corp., Burbank, Calif. The new switches were developed in response to requests for CES switches with substandard mounting dimensions. All Cinema switches are now available as replacements for existing substandard mounted switches. The special mounting is designated as DES instead of CES in Catalog No. 17-S available from the company upon request. Variations in accessories include special terminal boards, dust covers, ball bearings, stainless shafting, coin silver contacts, special detent positions and high-voltage construction.

**J. G. McAlister Inc.**, 1117 N. McCadden Pl., Hollywood 38, has announced a spring-loaded, toggle-operated socket which is reported to eliminate arcing on any type of bipole lamp. The 5-kw and 10-kw McAlister lamps and skyfans are now equipped with the new socket.

## Journals Available

These notices are published as a service to expedite disposal and acquisition of out-of-print Journals. Please write direct to the persons and addresses listed.

Recent issues available. Write: F. H. Cole, 144 Via Trieste, Newport Beach, Calif.

Jan. 1930 through Dec. 1937; Journal SMPE issues; and Jan. 1930 through Dec. 1935, bound volumes of SMPE Journal; SMPE Transactions: Apr. 1919:8, May 1920:10; May 1922:13; Oct. 1922:15; May 1925:21; Oct. 1925:24; Apr. 1927:30; Sept. 1927:32; Apr. 1928:33; Sept. 1928:36; SMPE Membership Listings: 1928, 1930, 1938; SMPE Index and Authors: 1930-1935; SMPE Miscellaneous: ASA Z22-1930; Dim Stab of M.P. Films 1934; ASA Z22-1935; High Intensity Lamps-1935; Program Spring Convention Apr. 26, 1939. Write John Faber, 5 Edgewater Drive, Denville, N. J. Phone Rockaway 9-2623M.

Complete set of Transactions and Journals 1917 to date; 61 volumes beautifully bound in black library buckram with gold-stamped backs through 1952; all subsequent issues ready for binding to match; for sale as a set only. Also for sale individually: Jan.-June 1932; Aug. 1938; Feb., Mar., May-Oct., Dec. 1941; Jan.-Dec. 1942; Jan., Mar.-Dec. 1943; Jan.-July, Dec. 1944; Jan.-Mar. 1945; Apr. 1946; Mar. Pt. I 1949; Sept. 1950; Index 1936-1945, 1946-1950; Membership Directories 1952, 1954. Write: Henry M. Lester, 270 West End Ave., New York 23.

Complete set of Journals from May 1937 to June 1954, including special volumes and membership directories, excellent condition; also Mar., May 1934 and July 1935 issues. Write: Harry R. Lubcke, 2443 Creston Way, Hollywood 28, Calif. HO 9-3266.

Jan.-Dec. 1950; Jan., Feb., Apr.-Dec. 1951; Jan.-Mar. 1952. Also available are vols. 6 and 7 of the The Television Society (British) covering the period Jan. 1950 through Sept. 1955. Write: Andrew N. McClellan, 65 Hillside Drive, Toronto 6, Ont., Canada.

July Dec. 1952, Jan.-Nov. 1953, Jan.-Apr., June July, Sept.-Dec. 1954, Jan.-Mar. 1955. Write: Omar Marcus, 1925 Cadiz St., New Orleans 15, La.

Dec. 1946, Feb.-Dec. 1947, 1948-1955 complete. All copies in perfect condition; for sale as entire lot only. Write: Joseph W. MacDonald, 2414 Sullivant Ave., Columbus 4, Ohio.