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Color Television Standards

By Donald G. Fink. Published (1955) McGraw-Hill Book Co. 330 W. 42 St., New York 36, 520 pp. Illus. (4 in color) Graphs. 6 X 9 in. Price \$8.50.

It was, I suppose, inevitable that to Mr. Fink would fall the task of recording in book form the deliberations of the National Television System Committee, which led to the formulation of the compatible color standards adopted by the Federal Communications Commission.

One of the stalwarts of the television industry, Mr. Fink was, for many years, editor of "Electronics," before joining the Philco Corporation as Director of Research. He served as Vice-Chairman of the NTSC during the period 1950-1952 and was exceedingly active during an earlier period of the industry's history when the NTSC was first formed to develop standards for monochrome television. He subsequently compiled a book based on the findings of the Committee called *Television Standards and Practice*.

Mr. Fink's new book, *Color Television Standards*, brings home very forcibly the extent and the rapidity of the expansion of the boundaries of the television industry's technical knowledge and its contribution to the science of color. The logical procession of information is covered in 10 chapters and 2 appendices in 520 pages, and includes the following:

The development of color television; the NTSC color television standards; subjective aspects of color; the color video signal; the color synchronizing signal; field tests of

compatibility, color performance and networks and transmitters; color films, processes and transmission equipment; and definitions of color television terms and symbols.

The compilation from the records of the NTSC covers essentially all the technical information evolved during the NTSC proceedings. As an example of its completeness, Chapter 4 — "The Color Video Signal," the most important chapter in the book — encompasses over 25% of the total pages.

Mr. Fink's editorial skill has achieved an excellent technical documentation of the factors underlying the choice of the compatible color telecasting standards adopted by the Federal Communications Commission. Because of its source material, this book represents a most authoritative and comprehensive statement on the basic problems of compatible color television engineering and the technical parameters involved in their solution.

The book, *Color Television Standards*, is written for the professional engineer and, as such, merits a high place in every engineering library. It accomplishes several purposes. It is a virtually complete technical record of the work of the NTSC. It is a tremendously important statement of the various considerations underlying the United States color television system, and it is a tribute to the genius and skill of the American television industry and its continuing contribution to the science of communication.—G. R. Tingley, Manager—Color Dept., Allen B. Du Mont Laboratories, Inc., Circuit Research Laboratories, 2 Main Ave., Passaic, N.J.



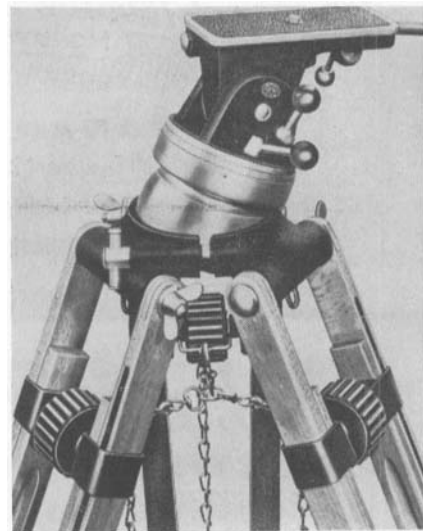
**new
products**

(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.

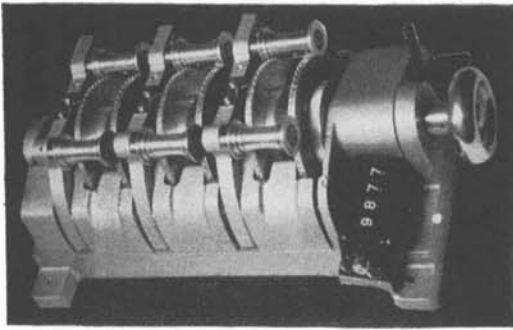
A hemispherical ball-joint head is a feature of the Arri 16 Tripod, now being manufactured by Arnold & Richter and distributed by Kling Photo Corp., 257 Fourth Ave., New York 10; and 7303 Melrose Ave., Los Angeles 26. The ball-joint head permits leveling the camera without touching the tripod legs. A built-in spirit level indicates when the camera is set. This portable tripod provides individually controlled pan and tilt movements; calibrated leg scales for quick settings of all legs to the same extension; adjustable anti-

slip chains to restrict leg spread; a single lock collar to secure legs automatically with equal pressure on both shanks; and a patented universal tripod screw to fit both American and foreign tripod sockets. The Arri 16 Tripod weighs 13½ lb, has a working height range of 15 to 65 in. and, with the hemispherical ball-joint head, costs \$175. A shorter version, without the head, with a working height range of 9 to 21 in., costs \$90. The ball-joint head is interchangeable on both models.

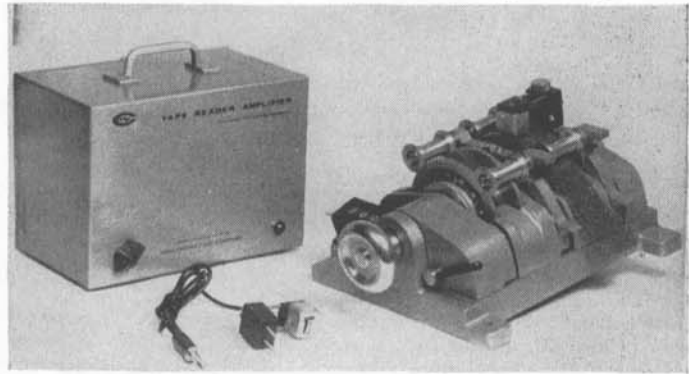




SYNCHRONIZER HEAVEN



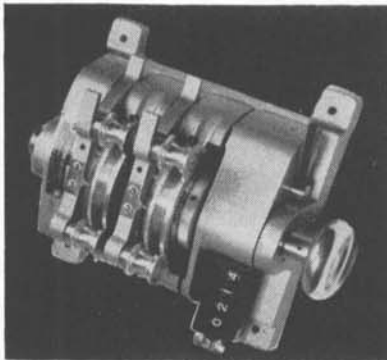
35mm 3-Way Synchronizer \$165.00



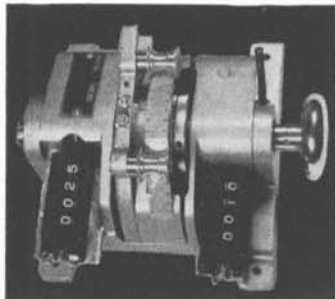
1. Fastens to roller arm of synchronizer.
2. Sync dailies quickly without using editing machine.
3. Ideal for checking sound track for words or effects to be replaced.
4. Fastest and most accurate in locating beginning and ending of words.
5. Tape head can be slid up and back to read a track in any position of fullcoat or magnastripe.

Selling Price:

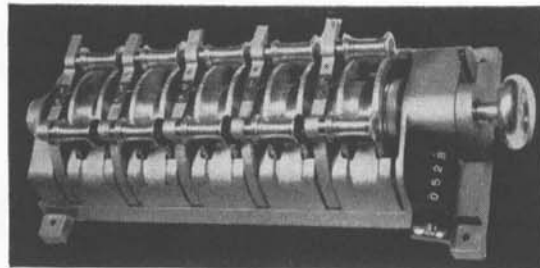
HFC Magnetic Tape Reader Synchronizer attachment	\$34.50
HFC Magnetic Tape Reader Amplifier.....	55.00
Complete Unit.....	89.50



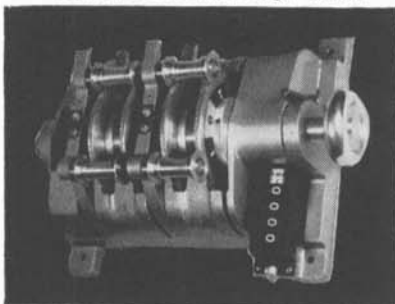
16mm 2-Way Synchronizer \$125.00



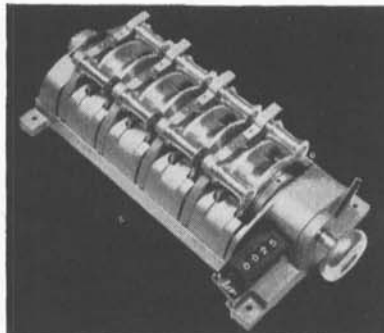
16mm Special Measuring Machine. Counts in 16 & 35mm Footage. \$160.00



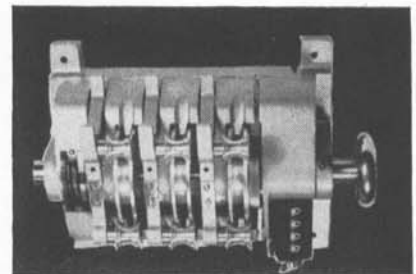
35mm 5-Way Synchronizer \$225.00



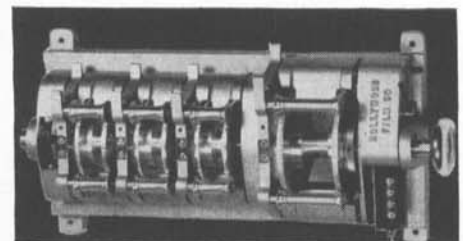
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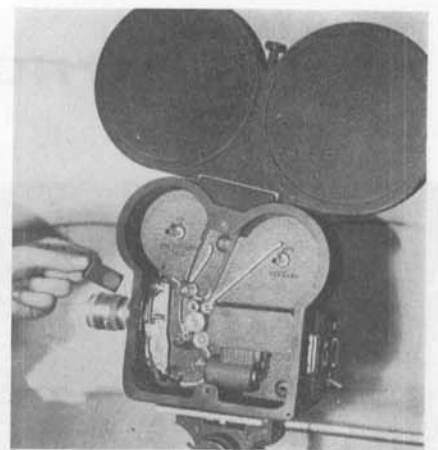


A new remote-control Zoomar lens with a zoom range of 6 to 1 and a focal length of 20mm to 120mm is being offered by Zoomar, Inc., Glen Cove, N.Y. The new lens has a speed of $f/3.9$ and is constant over the entire zoom range. It weighs about $1\frac{1}{2}$ lb, making it easy to mount with the standard "C" mount with which it is equipped. Resolution is reported better than 600 TV lines, and contrast rendition is adequately balanced over the entire spectral range of the vidicon tube. Accessories include a motor drive unit, approximately $6 \times 5 \times 2$ in., which works with miniature d-c motors and is energized from a power control unit which can be located in a remote spot. The power-control unit, approximately $6 \times 4 \times 2\frac{1}{2}$ in., consists of the necessary electrical components and spring-returned toggle switches for distance setting and zooming. A remote iris control with an additional switch is available. Basic price for the lens without the power-control unit is \$700.

The Giraffe Camera Crane has been announced by S.O.S. Cinema Supply Corp., 602 W. 52 St., New York 19; and

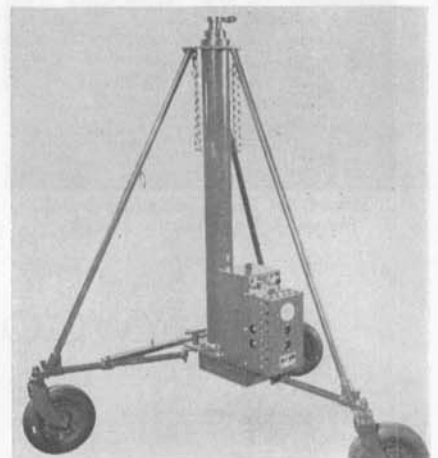


6331 Hollywood Blvd., Hollywood 28. Hydraulically powered and operating independently of the truck or chassis on which it is mounted, the platform may be raised to a height of 40 ft. It supports a load up to 450 lb. The platform may be rotated continuously or intermittently through 360° . Dual controls permit operation from the ground or the platform. Four foot pedals and a knee-operated lever allow the cameraman aloft to control all boom movements.



A Conversion of the Cinevoice 400 has been announced by Florman & Babb, 68 W. 45 St., New York 36. The conversion does not cut the head off the camera or use auxiliary motors. A special needle-bearing takeup system and ball-bearing shafts fitted to the 400-ft magazines make this possible. Other special features of the conversion are: silenced Veeder footage counter; built-in behind-the-lens filter slot, with two filter holders; headphone jack built into the camera; tripod socket re-bushed with brass insert; adaptation of either Bell & Howell or Mitchell 400-ft magazines; provision of lid for covering magazine slot in order also to continue use as 100-ft camera. The conversion, including complete overhaul and surface finishing, takes two weeks to complete and costs \$345, not including the magazine.

The "Molevator" Electric Stand is a power-driven stand for large lamps recently developed by Mole-Richardson Co., 937 N. Sycamore Ave., Hollywood 38. Designed especially for use with Types 90, 170 and 450 Molars and Type 416 Teners, it has a maximum load-carrying capacity of 250 lb. A mechanical jack screw provides positive support, and it can be stopped immediately upon release of up or down push-button controls. A slip clutch protects the mechanism at travel limits, and the casters lock in extended position for stability. Power to the junction box supplies both the motor and the lamp through pin plug connections. The enameled steel and bronze stand folds flat for storage or transportation. Stand height range is 5 ft 1 in. to 11 ft 1 in., and full elevation is attained in 21 sec. The total weight of the stand is 188 lb.



Tripod Perfection! IMPROVED PROFESSIONAL JUNIOR TRIPOD

ALWAYS A GREAT TRIPOD, the new improved PROFESSIONAL JUNIOR Tripod with the removable head, announces new exclusive patented features that no other tripod can approach.

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blimp and
synchronous
motor . . .**

For little more than the usual rental charges for equipment, you can own a complete Arriflex 35 Model IIA sound outfit, including the variable speed motor, Synchronous Motor and Soundproof Blimp. As a result, more and more studios and cameramen are recognizing this fact and are buying Arriflex.

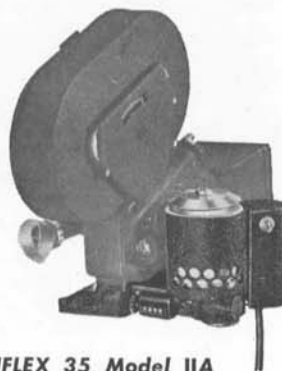
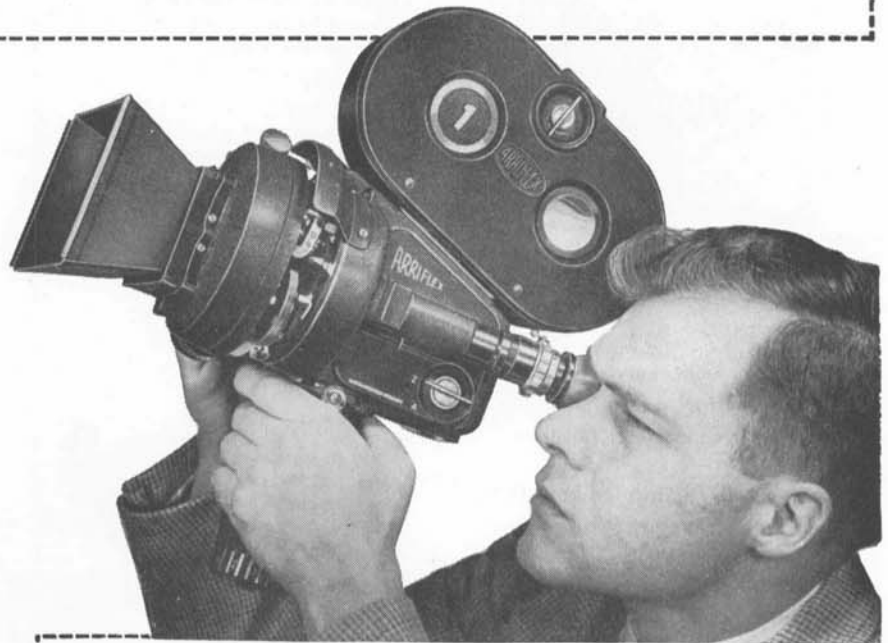
The Arriflex 35 Model IIA offers many advantages over other 35mm cine cameras. For example, without the Blimp and with battery-operated variable-speed motor, the Arriflex is an unusually light and easy camera to handle — ideal for location shots under the most difficult conditions — even for handheld filming. With the Soundproof Blimp and Synchronous Motor, it becomes the perfect camera for lip-synched sound — both in the studio and out.

The Arriflex 35 IIA features a 180° Mirror Reflex Shutter for through-the-lens viewing and follow focus. A new type of intermittent mechanism with registration pin action assure absolutely rock-steady pictures in perfect register.

Many other improvements have made the Model IIA the most desirable camera in the field. In fact, every important feature you would expect in a camera designed for first rate filming has been incorporated in the Arriflex 35 Model IIA.

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7303 MELROSE AVE., HOLLYWOOD 46, CAL.

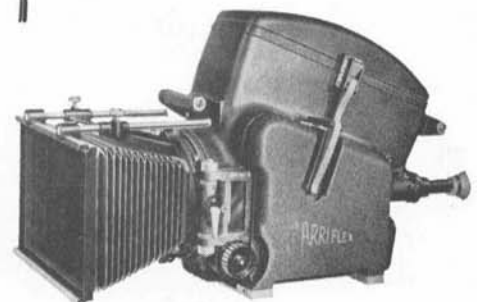


ARRIFLEX 35 Model IIA with SYNCHRONOUS MOTOR UNIT

Provides absolutely uniform and constant speed. Motor is mounted on base-plate housing containing gear mechanism which connects directly to main drive shaft of camera. Motor unit has built-in footage counter and tripod socket. Safety clutch automatically disengages motor should film 'jam'. Designed for 115-volt, 60-cycle AC operation.

ARRIFLEX 35 Model IIA in SOUND-PROOF BLIMP

Blimp housing is cast magnesium alloy, finished crackle black. Accommodates Camera, Synchronous Motor Unit and 400-foot Magazine. Internal walls are lined with corduroy velvet over six alternate layers of foam plastic and lead. Doors are sealed with foam-rubber gaskets, and close by means of heavy, 'knee-action' clamp locks. Camera is cushion-mounted.





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

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TV35 Test Film
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TV16 Test Film
Alignment and Resolution Section
TV35 Color Test Film
TV16 Color Test Film
Slides—TV Color
L35 Leader
L16 Leader

CinemaScope—35mm Test Films (10 items)

Visual 35mm—Picture Only
Focus-and-Alignment Section
Travel-Ghost Target Section
Jump-and-Weave Target Section

Magnetic—16mm Sound Only

Azimuth Alignment Test Film
Multifrequency Test Film

Picture and Sound—16mm

Sound-Service Test Film
"Jiffy" Test Film

Sound only—16mm

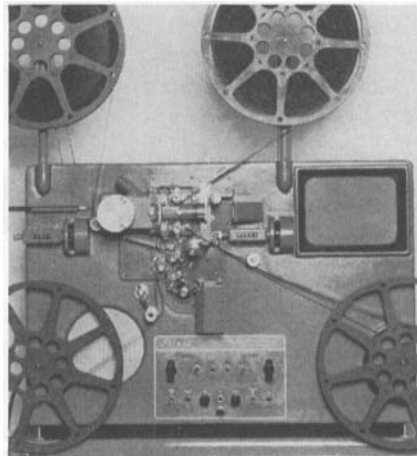
3000-Cycle Flutter Test Film
Multifrequency Test Film
Scanning-Beam Illumination Test Film
Buzz-Track Test Film
Sound-Focusing Test Film
400-Cycle Signal-Level Test Film

Picture Only—16mm

Steadiness Test Film
Travel-Ghost Test Film

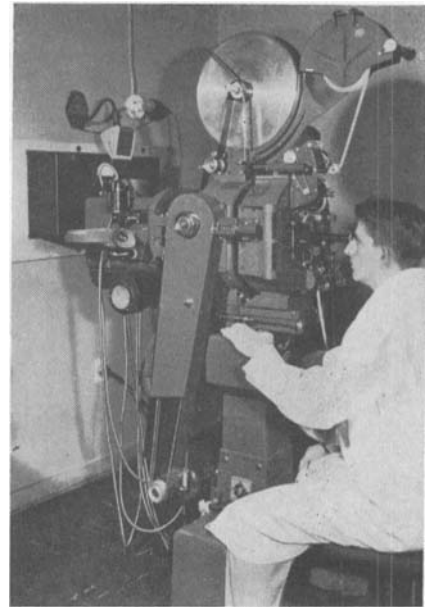
Glass Slide—16mm

Projector Lens Resolution Target



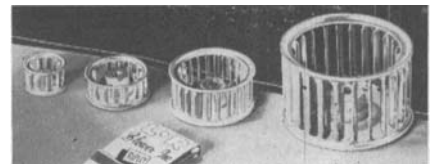
The Palmer 16mm Editing Machine is a 3-channel machine manufactured by R. Funk & Co. and distributed by M. W. Palmer, 468 Riverside Dr., New York 27. The editor has a composite film channel for sound and picture on one film, a picture channel with 5 × 6½-in. picture, and a soundtrack channel with stabilizer, sound drum and amplifier for optical soundtracks.

An additional soundhead for recording and reproducing magnetic sound on sprocketed 16mm film is available. Sound and picture channels can be operated separately or both can be locked in synchronism. Finger-tip controls and a color-coded panel are designed to facilitate selection of functions. Means are provided for ready film marking, and the marks show on the screen as they are made. Standardized components are used.

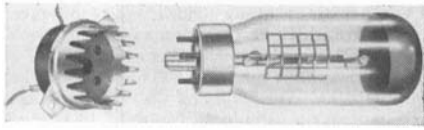


A new Arri Printer is part of the equipment supplied by Arnold & Richter of Munich, Germany, for a new negative-positive color processing laboratory now being put into operation by Byron, Inc., 1226 Wisconsin Ave., N.W., Washington, D.C. Designed to provide automatic fading and scene-to-scene color balancing, this printer is 35mm to 16mm and vice versa as well as 35mm to 35mm and 16mm to 16mm. This and other new equipment will be described in a technical paper at the Society's Spring Convention. Byron, Inc., has completely remodeled an additional building adjacent to the main plant to accommodate the new color processing laboratory which includes a chemical analysis section, chemical mixing room, silver reclaiming plant, and the rooms for developing, washing and drying.

Academy Films, 800 North Seward St., Hollywood, producers of educational films for schools and motion pictures for business and industry, is building a 60 × 100 ft sound stage at the Seward St. address. The studio will be of sufficient size for the construction of almost any type of set. New grids set into concrete floor slabs will provide a new method of tying down sets.

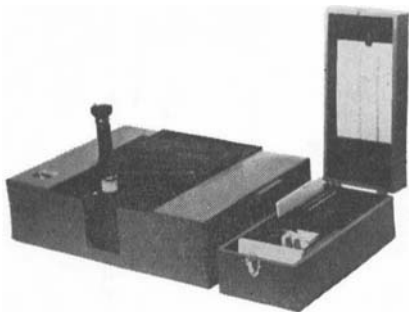


Ripley L-R Whirlwind Blower Wheels are announced as inexpensive wheels of simplified, rugged four-piece construction, available in stock sizes of 1-in., 1½-in., 2-in., 3-in., and 3²⁸/₃₂-in. diameters. Special sizes can be engineered to specific requirements. Standard wheels are cadmium-plated or plain steel, or anodized or plain aluminum, while wheel hubs are supplied in standard bore sizes with one or two set screws, available in CW or CCW rotation. The L-R Whirlwind Blower Wheels are manufactured by the Ripley Company Inc., Middletown, Conn.



Sylvania Electric Products Inc. has on the market a new lamp for motion-picture and slide film projectors. Called Tru-Focus, it is only 4 in. high including socket and burns any position including horizontal or base down, thus permitting radical new design in projectors. The socket has been designed to make it possible for the lamp to snap automatically into prefocused alignment with the projector's optical system. A new grid screen has been inserted to direct air flow inside the lamp and prevent blackening in the horizontal position.

Permanently marking and coating stainless steel by a new photo-chemical process has been announced by Ateenate, Inc., 15 Chardon St., Boston 14, Mass. The integral marking, effective on metals with a minimum chromium content of 11%, is reported to produce a hard, ductile, non-crystalline structure resistant to chemical and physical damage and impervious, for instance, to heat up to 1700 F in air as well as to acids, alkalis and abrasives. It has been tested for blackening of steels, such as in guns and instrument parts and for reproducing markings and schematics on dials, gauges and panels. Markings are jet black on stainless steel or the reverse. Lines as fine as 0.001 in. can be obtained, with scales of 200 legible lines to the inch reproduced. Photographs of up to 150-screen can be made for identification badges or passports. Stainless steel sheets from 0.003 in. to plate gauges as well as rounds and shapes are used with the Ateenate process because the metal is not deeply etched.



The measurement of color with color using the Lovibond Color Scale is described in a brochure available from Curry & Paxton Inc., 230 Park Ave., New York 17, representatives for The Tintometer Ltd. In addition to the new Lovibond Tintometer illustrated above, there are Lovibond Permanent Glass Colour Standards and the Lovibond Schofield Tintometer which enables the user to link the visual Lovibond color measuring system to the official color specifications frequently expressed in the x, y and z nomenclature of the C.I.E. There are a great many Lovibond Tintometer models for the vegetable and lubricating oil industries but also some general laboratory models, including one for use where deep colors are tested. The Schofield Tintometer is adaptable to study of color emitted by cathode-ray tubes and is reported in use in England.

An Advanced Development Laboratory is being opened in April by the Radio Corp. of America at the New England Industrial Center, Needham, Mass., where Dr. Francis E. Vinal will direct advanced development work on ferrites. Ferrites, inorganic chemical compounds formed from metallic oxides, are widely used in components for television receivers, in computers, and in high-frequency applications. Product design using ferrites will continue to be done at Camden, N.J., and Findlay, Ohio.

Dr. Vinal holds a doctorate in science from M.I.T., where he majored in chemistry and where he served as an assistant professor of ceramics. During World War II, he was associated with several projects of the National Defense Research Committee. In 1952, he joined M.I.T.'s Lincoln

Laboratories, and in December 1955 he went to RCA as manager of the Advanced Development Ferrites Laboratory.

A 3,000-watt slide projector, Model SP.1, has been announced by Genarco, Inc., 97-04 Sutphin Blvd., Jamaica 35, N.Y. Equipped with a 3,000-w tungsten bulb, it has a heat-reflecting filter, a 280 cu ft/min double blower, an automatic slide changer for 18 standard $3\frac{1}{2} \times 4$ in. slides, and a variety of objective lenses for rear projection of a translucent screen or front projection in large auditoriums. It is electrically tripped by the operator or by remote control with a fading effect between each projected image. With a wide-angle lens, 4,000 lm are projected on the screen, to make the projector suitable for studio backgrounds and ballroom sales presentations.

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