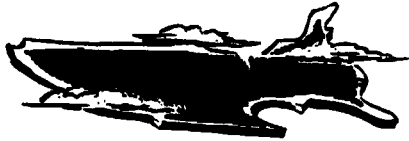


section reports



The Southeastern Section met on April 12 in the Architecture Auditorium of the Georgia Institute of Technology. The meeting was attended by 45 members and guests. Principal speaker was Hazard E. Reeves, President of Cinerama, Inc., who spoke on "The Cinerama System for Production and Exhibition of Motion Picture Films." He described the Cinerama system, giving details of the picture and sound processes involved, with amusing

reminiscences of the development of Cinerama and its early difficulties.

E. M. Stifle, SMPTE Sections Vice-President reviewed the aims and activities of Society, extending an invitation to interested visitors to become members. A question-and-answer period was held at the conclusion of Mr. Reeves' address.—*Ivan Miles*, Secretary-Treasurer, %Radio Station WGST, Atlanta, Ga.

The Central Section met on May 21 at the Western Society of Engineers, Chicago, with an attendance of 40. Speakers were Hugh E. McLachlan, Supervisor of Projection, Y & E Theatre Circuit, and James L. Lahey, General Manager, Dage Television Div., Thompson Products.

Mr. McLachlan spoke on "Problems Associated With the Projection of Recently Released Motion-Picture Film Products."

He centered his discussion on problems arising from the use of sources of high-intensity illumination in projectors, and explained that it has been found necessary to provide additional cooling at the aperture of the projectors to prevent buckling of film. He said that some out-of-focus problems had resulted from heat expansion of the projection lens, but that many field heat problems had been reduced to minimum by maintaining the projection rooms at a temperature of 80°F or below.

Mr. Lahey talked on "Putting the Vidicon and the Kinescope to Work Together," telling how and where closed circuit TV systems are aiding in education. He also described a fully integrated mobile TV unit consisting of a vidicon camera, tape recorder, kinescope recorder, slide and film projectors and rapid processor. He discussed the application of this equipment in the adult education program in Louisiana.—*H. H. Brauer*, Secretary-Treasurer, %Bell & Howell Co., 7100 McCormick Rd., Chicago 45.

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The Pacific Coast Section met on May 22 at the American Broadcasting Co., Studio A, Hollywood, with an attendance of 250. The program was a well balanced TV and motion-picture presentation and was received with great interest. Speakers were Jay E. Gordon, Berry Scripts, LaMirada; William V. Stancil, Stancil-Hoffman Corp.; Dr. C. R. Daily, Paramount Pictures Corp.; and Benjamin Berg, Benjamin Berg Agency.

Mr. Gordon spoke on "Film and Origins of the Motion Picture." He presented a film made for the U.S. Navy and described its production. The film traced the development of the motion picture from its beginnings, featuring Edison's 1889 strip-kinetograph, the first motion-picture camera to use roll film. Mr. Stancil's topic was "A Printed Circuit Transistor Amplifier for Magnetic Recording and Reproduction Equipment." He discussed and demonstrated a magnetic recorder/reproducer using an automatic gain-control recording amplifier and employing printed circuitry and transistors. The reduction in size and increase in automatic features of the magnetic recorder/reproducer were of special interest to the group.

An interesting paper on "High Efficiency Rear-Projection Screens" was presented by Dr. Daily for the benefit of the members who had not attended the SMPTE convention at New York where the paper was first presented. Data were given on the transmission and reflectance characteristics of this new screen, together with data on several other experimental screens which have wide-angle and high transmission characteristics. Eastman Color Negative film can be used to photograph this new type of high-efficiency rear-projection screen with the camera operating at $f/4$ at 24 ft/sec.

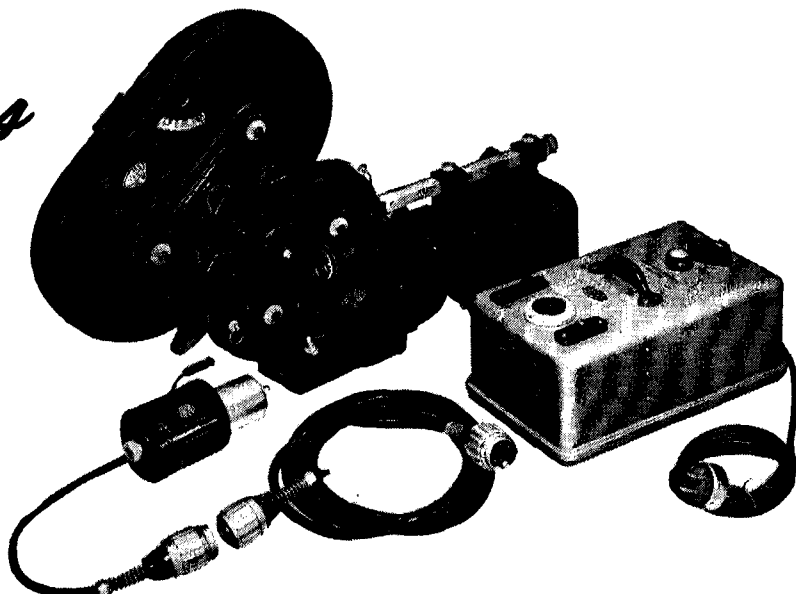
In his paper on "Mobile Kinescope Recording Setup," Mr. Berg presented facts relating to the successful arrangement required in the use of a mobile kinescope recording truck for both 35mm and 16mm picture and sound recording. He discussed in detail some of the previous problems involved and conducted a tour of the truck where the equipment is installed.—*John*

New Accessories for the **ARRIFLEX 16**

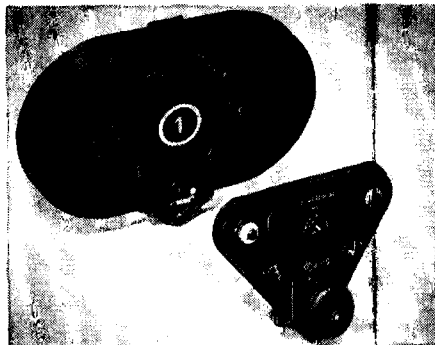
400-foot FILM MAGAZINE

SYNCHRONOUS MOTOR

ANIMATION MOTOR



Enthusiastic users everywhere have hailed the Arriflex 16 as the outstanding camera in the 16mm field. Now, with the extra convenience of the 400-foot Film Magazine, the split-second timing of the Synchronous Motor and the added utility of the Animation Motor — it is certainly the most versatile camera, capable of filling every need in the studio or on location.



400-foot FILM MAGAZINE
(shown with motor detached)

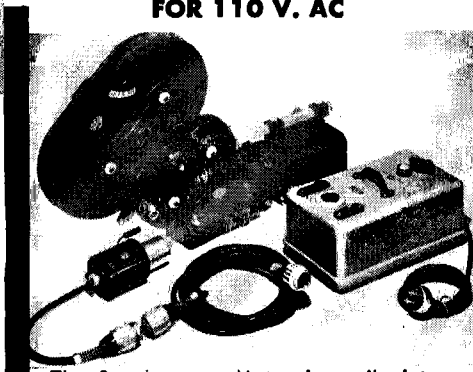
A compact, single-compartment, displacement type magazine for 400-foot darkroom loads (on cores) and 200-foot daylight spools.

No belts are employed. A Torque Motor — detachable and interchangeable for use with several magazines — drives the take-up through a gear transmission with the correct tension regardless of the amount of film on the take-up spindle.

Operates on 6-8 volts DC, from the power supply used to operate the camera. Electrical contact is made as magazine is attached to camera. The Torque Motor is equipped with a forward-reverse switch. Each magazine has a footage counter — and is numbered for identification.

400-foot FILM MAGAZINE
(less Torque Motor).....\$140⁰⁰
Interchangeable Torque Motor
only.....175⁰⁰

**SYNCHRONOUS MOTOR
FOR 110 V. AC**

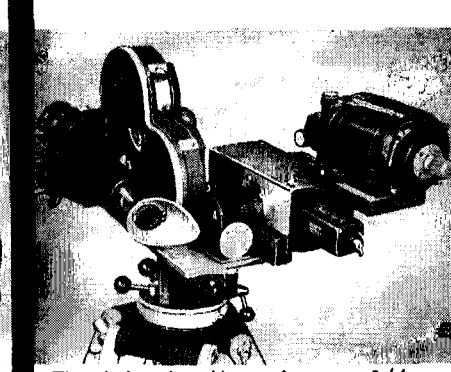


The Synchronous Motor is easily interchangeable with the Variable Speed Motor, supplied as standard equipment. Unusually light and compact, the Synchronous Motor can be used on the camera for hand-held shooting.

The motor is furnished with its own 110 volt, 60 cycle AC power supply. Output to the camera motor is 42 volts, 60 cycles AC and to the Torque Motor on the magazine (when used) 8 volts DC.

SYNCHRONOUS MOTOR (110 V. AC,
60 cycles—24 frames per second)
with power supply and cable.....\$395⁰⁰

ANIMATION MOTOR



The Animation Motor features 1/4 second exposures for either single frame, or continuous shooting at 60 frames per minute. A built-on frame counter registers up to 4 digits.

The Animation Motor can be used manually, with a foot switch, relay, or an intervalometer. The unit operates on 110 volts AC, 60 cycles, but can be supplied for operation at other voltages and frequencies on special order.

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W. DuVall, Secretary-Treasurer, 4829 Cartwright Ave., N. Hollywood.

The Atlantic Coast Section met on June 4 at the Carl Fischer Concert Hall, New York. The speakers, William Briggs and Wallace Elton, both of the J. Walter Thompson Co., addressed an audience of 50 persons on advertising subjects. Mr. Briggs spoke on "Advertising and Selling, the People's Business," and Mr. Elton spoke on "How to Build a Working Advertisement." Both speakers discussed the techniques and procedures of present-day advertising with the aim of acquainting film producers with the special problems of advertising agencies.—Victor M. Salter, Secretary-Treasurer, % E. I. du Pont de Nemours & Co., Inc., 248 W. 18 St., New York.

High-Speed Photography Congress

A pamphlet containing the program of the 3d International Congress, on High-Speed Photography is available in limited number at SMPTE headquarters, obtainable upon request to The Editor of the *Journal*. Or you can write to The Congress Secretariat, Department of Scientific and Industrial Research, Charles House, 5-11 Reagent St., London S.W.1.

This publication supplements the information contained in a pamphlet issued in February 1956. In addition to a program and time table, the brochure contains registration blanks to be filled out

and returned to the Secretariat, complete information and instructions on transportation and accommodations, and a description of the various excursions which have been planned. A few changes in the time table may be made before final arrangements are completed. Transportation and accommodations are being handled by Thos. Cook & Son Ltd.

Announcements appeared earlier in the *Journal* in March (p. 174), April (p. 229), and May (p. 290).

New Concept of Universe — Problem for Physicists

By Earl Ubell

[For this nice exposé of man's ignorance of what can really be the matter of the universe we are indebted to the *New York Herald-Tribune* (for April 10, 1956) and its Science Editor, Earl Ubell, who is reporting from a meeting at Rochester, N.Y. The gravity in the situation is already acutely in the minds of our photographic instrumentationists. Our electronics engineers have long been seeking to cope more successfully with cosmic rays. Some recent earthly radiations are the constant preoccupation of those working with film emulsions. Perhaps way over the horizon in outer space lies the answer to the problem of storing in the air (no film; no tape) color television programs for delayed broadcast. Our own limited study to date indicates only that there may be a hostile atmosphere on Mars or Jupiter or

some given nebula, that they might sabotage our programs with a wicked curve in the comeback.—Ed.]

Physicists, the men who study the nature of matter and energy, are entering a bold new era of discovery bent on finding order in the confusion before them.

At their sixth annual discussions at the University of Rochester many leaders in nuclear science gave the distinct impression that out of their puzzlement may come a new conception of the universe.

The physicists—200 of them, including three Russians—discussed the results yielded in the last few years from cosmic ray research and from their atom smashers. Cosmic rays are atomic showers from outer space.

Crashing atom upon atom, physicists are tickling the innermost nub of the atom, the nucleus, trying to identify the fundamental stuff of matter, trying to figure out what holds it together, and trying to see how its pieces fit together.

To get some idea of why confusion reigns, one must go back in the history of atomic research to about forty years ago when the atom was thought to be an extremely small mass of positive electricity in which little bits of negative electricity—electrons—were imbedded like raisins in a bun. The whole thing was believed to be only .000000000001 cm. wide.

Several years later it was proved that the atom really was composed of a dense central nucleus one thousand times smaller than the size of the atom with positive electricity. Negative electrons supposedly enveloped the nucleus like a fog.

In the next years, the nature of the fog was well elaborated: how it governed the chemical behavior of various elements; how the electrons were arranged in levels about the nucleus; how it was possible to predict the behavior of light striking the electronic fog.

But the nucleus itself remained a mystery until 1932 when Sir James Chadwick discovered the neutron, a lump of matter as heavy as the smallest atom of all, the hydrogen atom, but without electric charge. With this discovery the mystery deepened. Until then, it was believed that the nucleus was composed of hydrogen atoms sprinkled with electrons.

Physicists soon found that it was impossible for electrons to exist in the nucleus and that the core was really made up of neutrons and protons—another name for the core of the hydrogen atom. Now the puzzle was: "What held the core together?"

Protons were charged with positive electricity. By the old rule that similar charges repel each other, the protons should push away from each other causing the disintegration of any nucleus in which they were found. The neutrons couldn't help because they were without charge. Gravity was infinitely weaker than electric force and could not supply the necessary counterbalancing attraction.

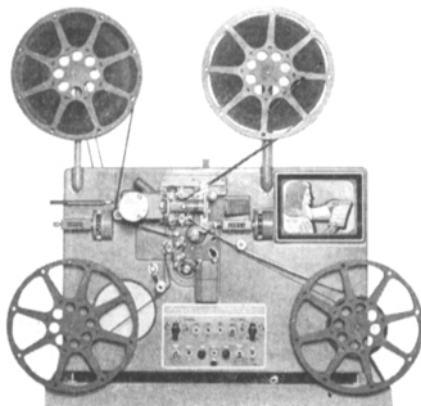
In 1935, Dr. Hideki Yukawa suggested a way out. Suppose, he said there was another atomic particle about one-sixth the size of the proton or the neutron, which are about equal in size. Suppose this intermediate sub-atom, which was called the meson, was flung back and forth between proton and neutron in the nucleus. This

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