

## TECHNICAL NEWS

*The items appearing in this section were submitted December 7, 1945, by members of the Technical News Committee, who welcome and will consider items of current technical interest from any member of the Society.*

*Additional information concerning these items, or the equipment and processes discussed, may be obtained by communicating with the general office of the Society, Hotel Pennsylvania, New York 1, N. Y.*

### 16-MM MAGAZINE FOR GUN CAMERAS

**Eastman Kodak Company.**—The 'Kodak 16-mm magazine as used by the Armed Forces during the recent war was designated as the *A-6*, and later the *AN-A-6* magazine. Its use in the Gun Sight Aiming Point Camera was first for gunnery training and later for the purpose of recording actual combat scoring and the criticism of combat technique.

The gun camera design was laid out around the standard commercial Kodak magazine, and when the camera was used for gunnery training only, the magazines were loaded at the factory and returned to the factory for reconditioning. It soon became very apparent that pictures taken during actual combat were also invaluable in the training program.

The Kodak magazine was designed for use in amateur cameras with spring motor drive, and for use under moderate conditions of temperature and vibration. It is loaded, unloaded, and repaired after each 50-ft run, under factory conditions by specially trained personnel. By this procedure the percentage of failure is kept to a minimum. Even when the magazine is used at high altitudes, with resulting low temperature and with the vibration of airplane motors and firing machine guns, the percentage of failures was sufficiently low to be considered satisfactory.

The expansion of the gun camera program by the Armed Forces was so extensive that it was impossible to train a sufficient number of personnel to handle the magazines properly. The Army Air Forces appealed to the Eastman Kodak Company to provide a new design of magazine which would be better suited to their facilities for loading and maintenance. The result was the later style *AN-A-6* magazine which has no sprocket film drive. The new design had

to be suitable for use in the same cameras and yet had to be made so as to be loaded and unloaded more readily and require much less critical handling.

The gun camera in normal use is subject to sufficient vibration to reduce the sharpness of the projected image far below that considered satisfactory for commercial use. This fact permitted a design of magazine with a lower standard of steadiness than the commercial magazine. The design finally used is one which is well above the level imposed by the military operating conditions but will not pass the photographic tests required of the sprocket type.

The sprocketless *AN-A-6* magazine utilizes the camera spline drive solely to actuate the take-up spool. The film is moved from the supply spool and through the gate by the action of the camera film claw. A spring element is introduced between the supply spool and the gate for the purpose of partially leveling-off the shock of the intermittent action of the claw against the inertia of the roll of supply film. Evidently it is this resistance of the supply roll which interferes slightly with obtaining pictures of sufficient steadiness for commercial use, and it is for this reason chiefly that the sprocketless type is recommended for gun camera use only.

#### TELEVISION

The most important factor in the progress of television at the present time is the Federal Communications Commission's rules for the art and the industry reaction thereto; the latter to be measured in cold dollars and cents expended in the near future. Quantity production and distribution of television receivers is a necessary part of the telecasting structure and receiver manufacturers must see hope for profit before engaging in large-scale production.

Indications are that theater television will lag broadcasting development. Apparatus is tight now, and since the movie theater is selling its regular product very successfully there appears to be little point in attempting to rush television as an added attraction.

**Television Productions, Inc. (Paramount)** has a building in construction on Mt. Wilson, destined for completion by the first of 1946. It will house their transmitter operating at a power of 4 kw peak, monitor equipment, living quarters, and other items.

A 500-megacycle sight-sound beam relay will transmit the television programs from existing studios on the Paramount lot in Holly-

wood to the mountain top. The equipment is expected to be in test operation during January 1946.

Klaus Landsberg, Director of Television for Paramount's television station, *W6XYZ*, brings forth the first post-war design of television control equipment. The Telemobile was designed along radically new lines by Mr. Landsberg, and constructed by his engineering staff in their Hollywood laboratory. It combines all control equipment necessary for the operation of 2 television cameras, in-



FIG. 1. The Telemobile, a "control room on wheels," of Paramount's Television Productions, ready for operation.

cluding the synchronizing pulse generator, sweep signal generator, power supplies, and monitoring units.

The Telemobile is a product, neither designed on the drawing board of an advertising department, nor by the research group of a manufacturer. Instead, it is a result of practical operating experience, and was evolved from DuMont's "suitcase" type of equipment, strictly out of the needs experienced by Paramount's television group during program operation. While functional design was the main consideration, and waste space was completely eliminated, the streamline design of the Telemobile establishes a new standard for eye ap-

peal. Fifteen specific advantages of this equipment are listed by Mr. Landsberg.

**Earl C. Anthony, Inc.**, is also constructing a 2-story building on Mt. Wilson. In addition to housing television equipment, living quarters and an auxiliary Diesel power room are included.

A major studio expansion has been announced by the **Don Lee Broadcasting System**. Joining "radio row" on Vine Street in Hollywood, a \$1,250,000 3-story studio building will be located on the entire block between Fountain and Homewood Avenues on Vine. A floor space of 105,000 sq ft will include 14 studios, offices and production quarters. Four theater studios with unusually large stages will be equipped for television as well as for radio broadcasting. A 150-ft tower, with elevator, will be the highest structure in Hollywood. The tower will house television and FM beam relay antennae for transmission of these programs to Mt. Wilson. Here the company has a tract of 160 acres upon which high power transmitting equipment will be located when the same is manufactured. In the meantime, operations continue on Mt. Lee overlooking Hollywood. Ground will be broken in January 1946.

#### PROGRESS IN THE 16-MM PROFESSIONAL FIELD

The Technical News Committee has given a great deal of consideration to national and international activities on the production, distribution, and use of 16-mm film during the immediate post-war period.

News stories have been released which indicate that circuits of 16-mm theaters are being planned for small towns in the United States, and that much of the distribution of film for the sparsely populated areas of foreign countries will be in 16-mm.

The policy of the major producers of entertainment film with respect to releasing current features on 16-mm is not clear to the Committee at this time. However, it is known that a number of independent producers are at present photographing on 16-mm film, particularly in color, for release on 16-mm film to the entertainment field. This would indicate that 16-mm entertainment film will be available wherever the market exists.

The activities of government departments in producing outstanding pictures for training and documentary purposes have firmly established 16-mm film in both the educational and industrial fields.

In the educational field there is evidence to support the opinion

that the availability of strictly training and historical subjects in 16-mm will revolutionize the teaching programs.

The successful use of animation in training and industrial films has created a great deal of interest among cartoon producers who may find a larger market in the educational and industrial fields than they now enjoy in the entertainment field.

In the equipment field much is being done toward the design and manufacture of professional 16-mm production equipment. Major improvements are being made in 16-mm color, sound, and projection.

An organization of 16-mm professional cinematographers has been formed.

While complete details of these activities are outside the scope of this news item, it is indicated from the information at hand that the subject is of international interest. It is the recommendation of the Technical News Committee that a symposium on professional 16-mm activities be planned at an early date.