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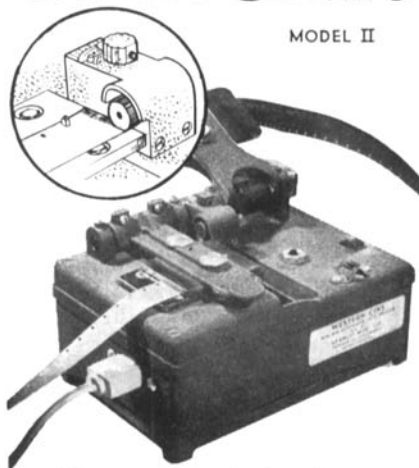
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Motion Picture Equipment Recently Developed in Japan

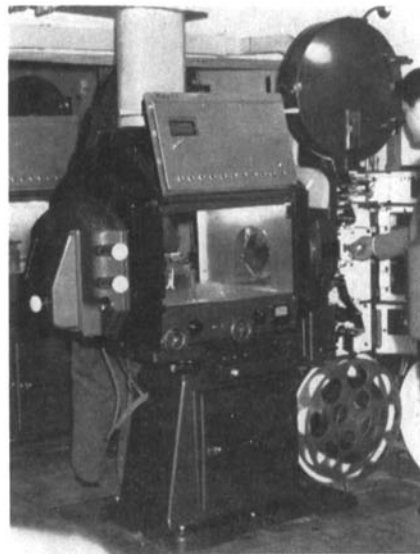
By KIYOHICO SHIMASAKI

RECENT DEVELOPMENTS in Japan in the field of motion-picture engineering include a 70/35mm projector, a device for aerial photography and a silicon rectifier for projection.

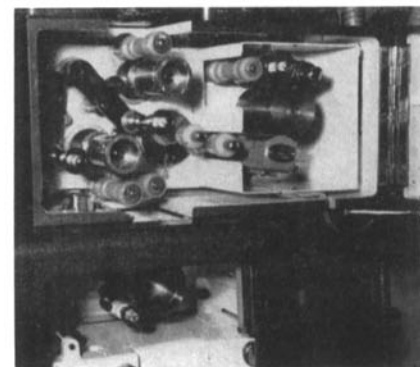
Fuji Central Type 701 70/35mm Projector

This 70/35mm all-purpose projector, now installed in the Pantheon Theatre, Shibuya, Tokyo, has a magazine diameter of 600 mm. The take-up magazine is provided with a separate take-up motor and a control-relay switch. Conversion from or to 70mm is accomplished by exchange of sprockets and magnetic heads. The projector can be run at either 24 frames/sec or 30 frames/sec. The machine is provided with a built-in water and forced-air cooling device and a 19-in. cold mirror, with crater distance of 170 mm, aperture dis-

A contribution of Kiyohiko Shimasaki, Managing Director of the Motion Picture Engineering Society of Japan, Sankei Kaikan Bldg., Rm. 721 No. 3, Otemachi-1, Chiyoda-Ku, Tokyo, Japan. These products were first described in *Motion Picture Engineering*, the journal of the Japanese society and received too late to be incorporated in the Progress Report in this issue of the *Journal*.



Fuji Central Type 701 70/35 Projector.



Exchangeable sprockets and sound heads.

tance of 1,140 mm and 6.7 magnification, installed in the rotating positive lamphouse. A conical shutter aids in keeping the temperature rise at the aperture to a maximum of 30 C. The projector is manufactured by Hiraoka Kogyosho, Ltd., and is distributed by Victor Sound Equipment, Ltd.

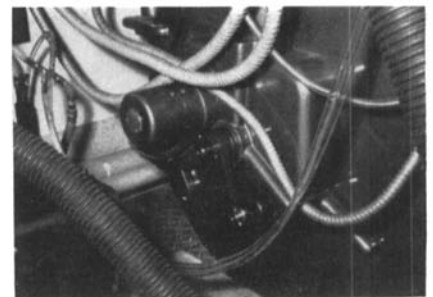
The projection lens ($f/2.1$ with a focal length of 63mm) was designed by Keihan Optical Co., Osaka, and manufactured by its subsidiary, Cornic Optical Works, Ltd., Tokyo.

The arc-rectifier newly installed in the Pantheon Theatre is the SC-12A-14 made by the Takanawa Electric Works Co. It delivers 180 amp at maximum voltage of 80 v. The Theatre, which continues to use its mercury rectifier for 35mm, has a specially designed control relay board which the projectionist operates as a remote control system.

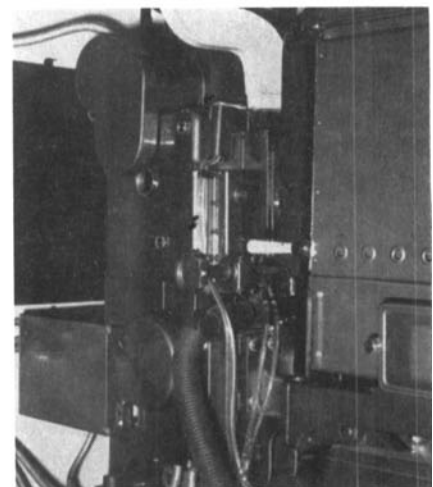
One of the accessory equipments is a power film rewinder which handles a reel of 70mm film in 5 to 6 min. The motor cuts off automatically when the rewinding is finished.

Aerial-Photographic Device for Arriflex 35

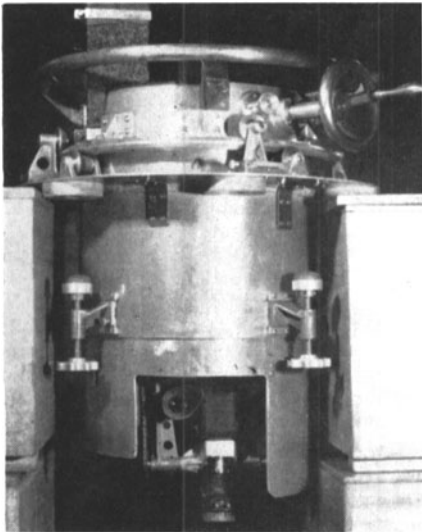
This device has been designed and manufactured especially to mount the Arriflex 35 on Cessna aircraft. The body, made of light-metal alloy, incorporates an anti-vibration system and can be fitted with any anamorphic lens. With this device the camera can tilt and pan to 90° and 360°. The fixed viewfinder changes the angle in interlock so as to assure the corresponding field without shifting the eye position. The device is made by Seiki Seisakusho Co.



Part of the cooling system.



Aperture.



Aerial-photographic device for Arriflex 35.

Silicon Rectifier for Projection

A Silicon Rectifier, a product of Tak-anawa Electric Works Co., Tokyo, especially designed for d-c output exceeding 100 v, has been installed in the Iino Hall at Uchisaiwai-cho Chiyoda-ku, Tokyo. In announcing this product it was noted that silicon was used as long ago as 1904 as a



Silicon rectifier for projection.

detector in radio receivers. Although this application was by-passed by the development of the vacuum tube, the development of the silicon transistor in 1948 and the silicon rectifier in 1956, suggested new applications. The new rectifier was constructed to be shockproof and resistant to heat, cold and humidity.

Advanced Studio Sound Facilities in India

By P. A. PESTON JAMAS

A FACT NOT ALWAYS recognized is that India is one of the largest film-producing countries in the world, and has over fifty film studios; a few of them quite modern.

One such studio is Rajkamal Kalamandir of Bombay, which has been the recipient of five awards for sound recording. The sound department, recently modernized and expanded, is of special importance because vocal and orchestral music form an important part of all full-length Indian pictures. Hardly a picture is made that does not have a generous quota of music and songs. Multichannel control of music recording was decided upon so that balance, between sections of the orchestra could be conveniently altered following the original recording, or a song replace a song in another language. Other considerations were flexibility; economy (achieved by reducing the recording time of the live orchestra); and adaptability to processes such as CinemaScope (achieved by provision for the addition of some units without making obsolete the recently installed equipment).

Multilanguage use is provided for by the "International Track" facility.

General

The modernization plan was carried out

A contribution submitted on March 20, 1961, by P. A. Peston Jamas, Westrex Co. India, Metro House, Esplanade Rd., Bombay 1, India.

by Westrex, India. Most of the equipment was manufactured in the United States except for special items designed and fabricated in India.

The new installation includes a six-track 35mm magnetic system consisting of an RA-1552-C-6 recorder, a modified RA-1565-D transmission cabinet and an RA-1551-E-6 reproducer. The multichannel mixing equipment consists of two RA-1524-G mixers, one RA-1543-A equalizer, one input selector unit, and one output mixing unit. The last two items were designed and fabricated in India. The mixing equipment is assembled in a locally made console installed in the monitoring room.

The studio also contains an 1100 series 35mm magnetic single-track system, and a 735 Deluxe 35mm photographic system, currently used as a transfer channel (Fig. 1). The re-recording mixer has six input positions, fed from four RR3S re-recorders (fitted with high-speed rewinds and looping cabinets), and two R-7 soundheads which form part of the RR-7230 sound projection equipment. The re-recording mixer is a four-position console with a two-position attachment, made in India and containing facilities for the addition of an "International Track" channel to provide re-recording in other languages, in the future (Fig. 2).

The motor system for the re-recorders as well as the six-track magnetic recorder, and the six-track magnetic reproducer is of the multipurpose type using RA-1409 and RA-1519-A motors. Wall-mounted motor control and motor starting boxes were made in Hollywood for use with the re-recorders and soundheads.

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