



SOUND AND PROJECTION

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A Division of

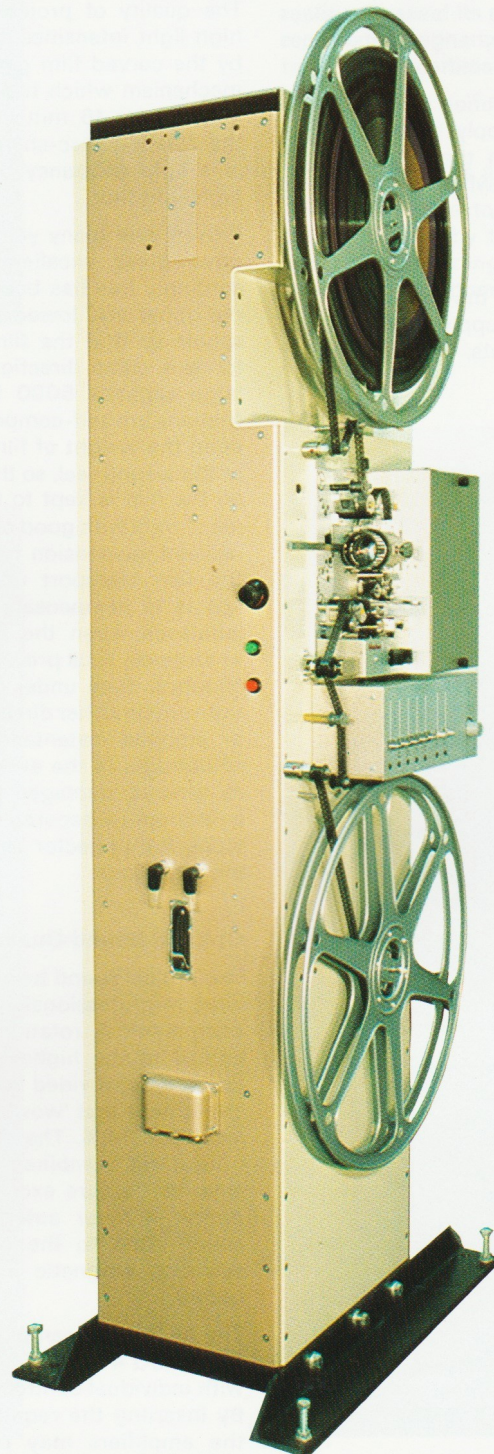
EMI Film & Theatre Corporation Ltd.

A Member of the EMI Group. International leaders in music, electronics and leisure.

16 mm Projector FP 18

The FP 18 static Projector was developed for use in all situations where the quality of picture and sound demanded for 16 mm film projection exceeds the capabilities of smaller equipments intended for the consumer market. The projector has been designed for heavy duty service in motion picture theatres, studios and general purpose auditoria. It requires virtually no maintenance.

- Professional standard
- High Precision picture stability
- Uniform picture illumination
- Extremely straight-forward installation
- Remote control of all functions
- 5000 ft Film Spools
- Weight compensating frictions
- Scanning of optical and magnetic sound tracks
- Additional equipment for 16 mm perftape
- Special version for studio and television applications



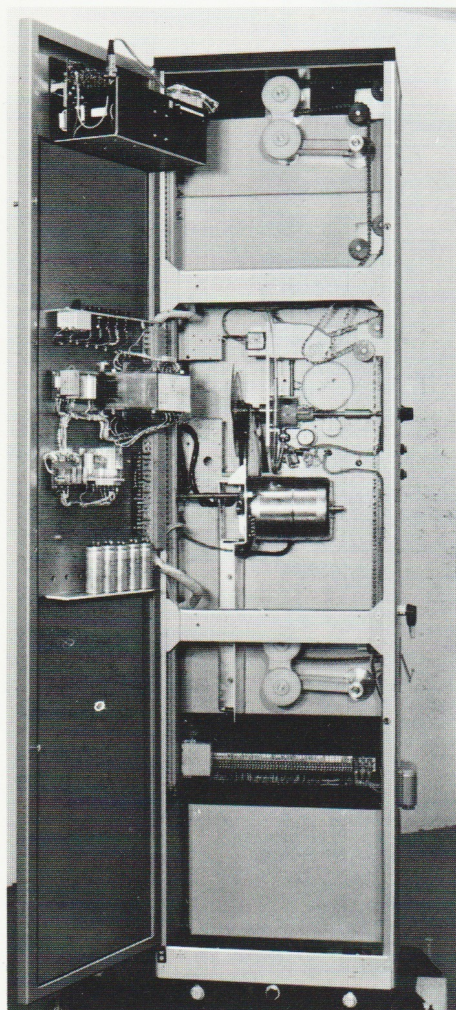
Construction

The projector housing can be angled on its two supports. The drive mechanism for the film and the frictions is mounted on separate, easily removeable panels. A recess between the transmission plate and the upper friction facilitates the subsequent incorporation of any optional drive mechanism for 16 mm perfortapes; this mechanism is engaged mechanically and enables the installation to be used as a Double-Band projector. A door in the projector allows easy access to the complete drive mechanism. The electrical unit mounted on the door is also highly accessible; the top compartment contains the 50 watt power amplifier. The pre-amplifier equipment is accommodated at the front of the projector, below the drive mechanism, and can be readily removed or replaced. The electrical unit contains all fuses, the relays controlling the motor, change-over devices and the exciter lamp rectifier.

The Xenon lamp rectifier (or the transformer for power supply to the halogen lamps) is mounted in the lower part of the projector column which is completely wired for all functions.

Installation

Simply by connecting the projector to the single-phase mains supply and the loudspeaker to the outputs, the projector is



FP 18 with opened door

immediately available for use. All push buttons governing operation and volume control are arranged on the remote control panel which plugs directly into corresponding sockets on the projector. If required, additional remote control panels can be connected to the projector in a similar fashion.

Precision Projection and Film Protection

The projector's extremely high picture stability (the vertical and horizontal deviation is less than 0.19%) is achieved by the unique Philips grooved disc mechanism which rotates in a sealed oil bath and drives a sprocket with 12 teeth, five of which are always engaged with the film. In this way, the perforation is never heavily loaded and damaged perforations need not generally interrupt the performance. The quality of projection, particularly at high light intensities, is further enhanced by the curved film gate. The intermittent mechanism which has been specially developed for 16 mm film, combined with the rotating disc-shaped shutter, results in a light efficiency of 72% and a very high light flux.

Proven over many years, the chain-wheel drive gives excellent results and accordingly this has been adopted for both the upper and lower frictions of the film spools so that the film can be made to travel in either direction. To cope with the large capacity 5000 ft. film spools, the frictions are self-compensating dependent upon the weight of film and the diameter of the wound reel, so that the drag exerted on the film is kept to the minimum commensurate with good operation. Arms with resilient suspension have rollers between the film transport mechanism and the spools to compensate for the temporary imbalance when the projector is started or stopped, thus preventing the formation of loops. Even under remote control film transport in either direction may be started or stopped instantaneously without risk of damage. In the event of the film being so severely damaged that it breaks or of a film splice separating, a safety switch stops the projector and extinguishes the projector lamp.

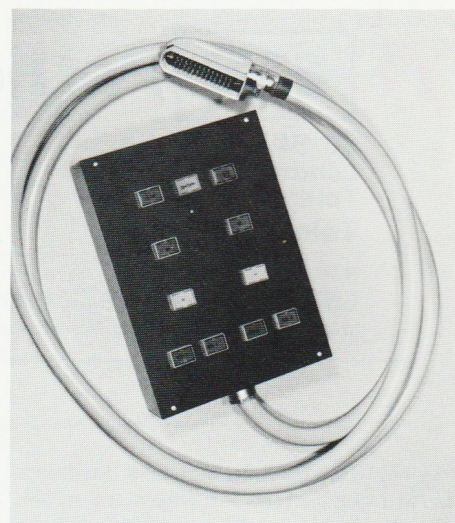
Optimal Sound Quality

The optical sound head is identical to that used in professional 35 mm and 70 mm equipment. A rotating sound drum machined to the highest standards of precision and provided with a pressure roller guarantees that 'wow' and 'flutter' remain less than 0.2%. The stringently designed optical slit combined with the use of a solar cell ensure excellent frequency response. A lever automatically shifts the sound head to the correct position for scanning magnetic sound tracks if required.

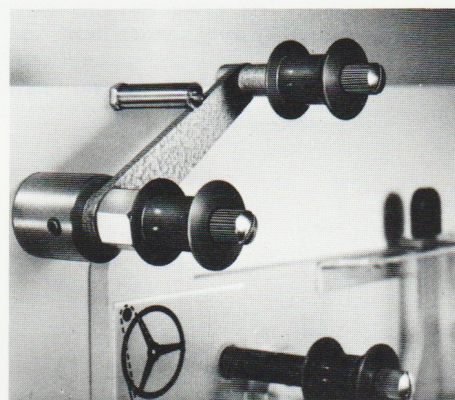
The built-in preamplifiers are from the Philips SQ 4 range. They have four inputs with individual control for output levelling. By inserting the required printed boards, the amplifiers may be used either for optical or magnetic sound tracks or for

non-sync sound reproduction. Provision is made for a line output of 8 dB.

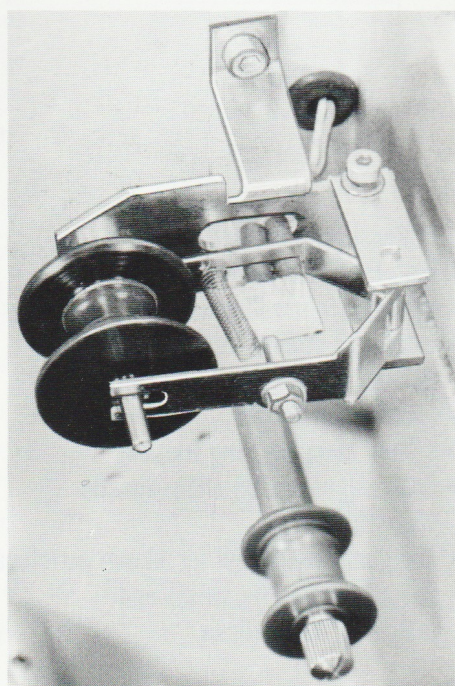
It is also possible to use common treble and bass controls to obtain a flat response characteristic. The total sound volume can



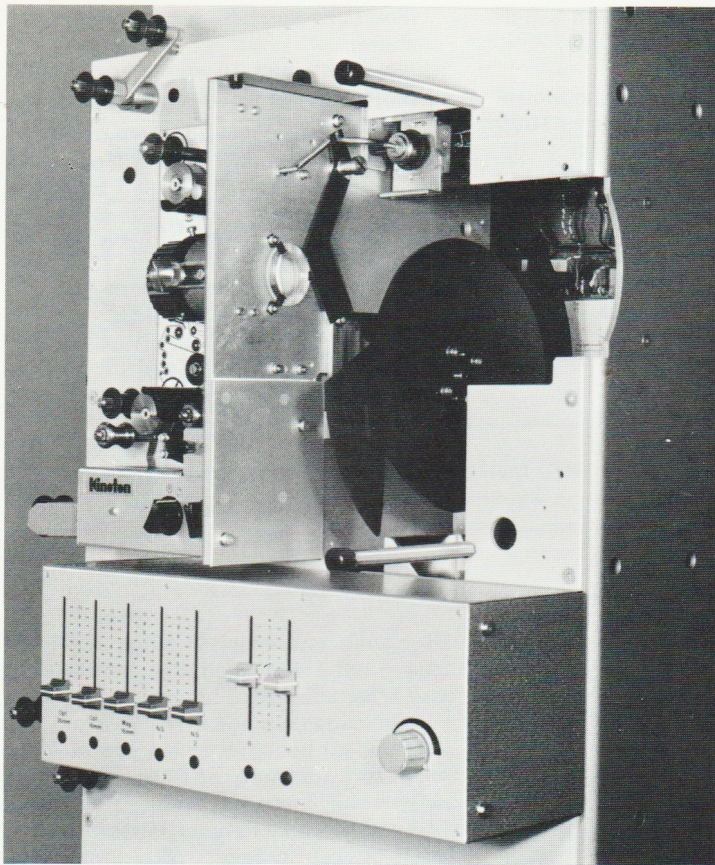
Plug-in control panel



Arm with resilient suspension for film tensioning



Film rupture protection device



Shutter and picture relay

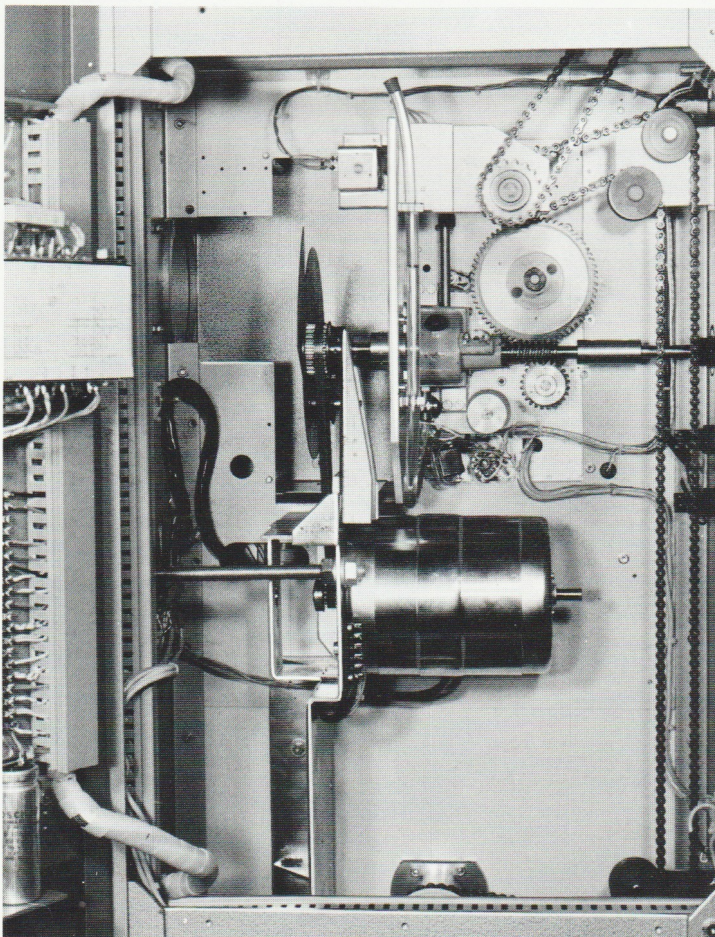
be adjusted by means of a variable potentiometer. The potentiometer is motor-controlled, facilitating adjustment from any remote control panel without introducing losses that might otherwise occur using conventional cable intercommunication. The output amplifier is fully transistorised and has an output power of 50 watts.

Operation and Maintenance

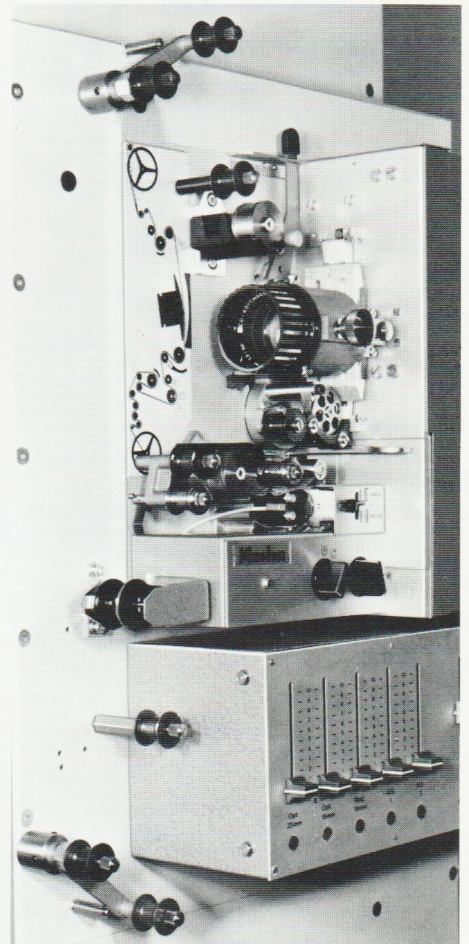
The projector film path can be opened by means of a lever. For threading the film is inserted positively; when the path is closed again by means of the lever, film loops of the correct size are formed automatically. The simplicity of this procedure greatly facilitates correct, rapid threading of the film even when operation requires the use of film loops. The film gate, pressure skate and pressure shoes can be removed without tools for cleaning or replacement. The projector requires virtually no other maintenance.

Various Versions and Assemblies

The FP 18 Projector can be equipped in the factory, or by the user after delivery with a wide range of supplementary facilities to incorporate the following operational features:



Drive mechanism



Film transport mechanism and pre-amplifier

Reproducing optically recorded sound tracks
 Reproducing optically and magnetically recorded sound tracks
 Asynchronous or synchronous motors (110 volt, 60 Hz; 220 volt 50 Hz)
 Interlock or Rotosyn motors
 Anamorphic lens holder, solenoid controlled if required.
 Remote control of focus and framing
 Bracket for other makes of lamphouses
 Two 24 volt 250 watt halogen lamps colour temperature approx. 3300 K) en-

suring a picture illumination with a uniformity in excess of 90%
 500 watt Xenon lamphouse
 700 watt to 1600 watt Xenon lamphouse
 Built-in Xenon rectifier 500 watt to 1000 watt without amplifier
 Exciter lamp rectifier, pre-amplifier and line amplifier as above, but additionally with output amplifier
 Additional 16 mm perfortape equipment
 Special version for studio and television purposes. (See special brochure)

(For light sources see separate brochure)

(For combined 16 mm and 35 mm projectors see separate brochure)

The sales and service agencies of Philips and Kinoton in more than 50 countries around the world will be glad to advise you on the most appropriate assembly for your purpose and quote the relevant prices.

Weight and measures

FP 18

Projector without rectifier and lamphouse
 Rectifier
 Xenon lamphouse 500 W
 Xenon lamphouse 700/1000 W

97,0 kg
 58,0 kg
 10,0 kg
 28,0 kg

