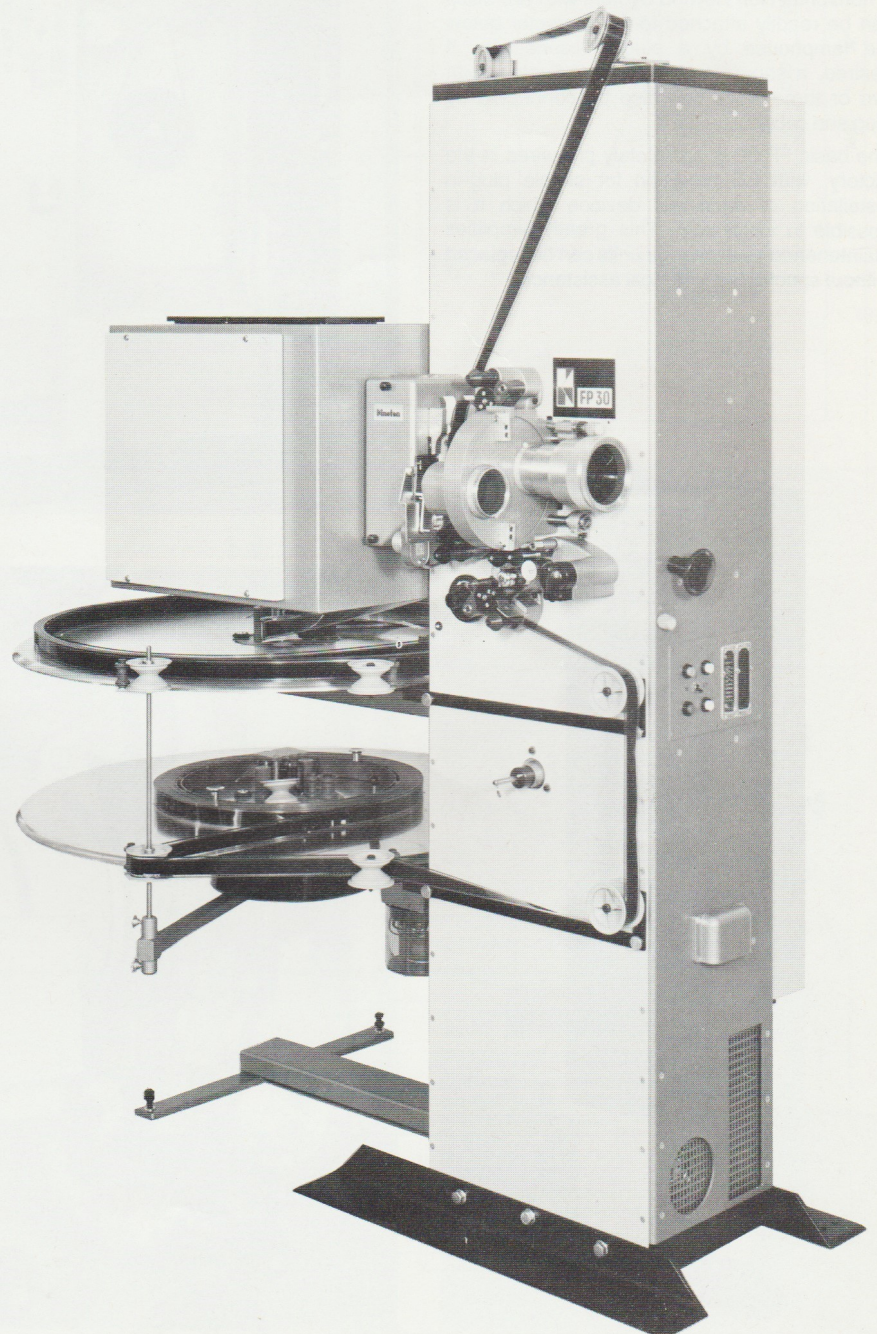




Projector FP 30

The 35 mm Projector FP 30 is equipped with the thoroughly-proven film run -mechanism and optical sound device of the internationally renowned FP 20 Projector. In common with the FP 20, it permits excellent quality reproduction of picture and sound. Due to its modular construction, the FP 30 is a self-contained unit ready for immediate operation and also ideal for automation and remote control.



Special features of the FP 30 Projector:

- Universal application due to the range of automation capabilities
- Possibility of updating equipment at anytime using comprehensive, fully compatible accessories.
- Extremely straightforward installation
- Complete factory pre-wiring
- Simple replacement of modules
- Minimal maintenance
- Ease of operation
- Attractive price
- Robust reliability
- Compact floor area, suits even small projection booths

Construction

The FP 30 Projector is of a 'rack mounting' design. The projector mechanism with optical sound head, film spool frictions, rollers for a Non Rewind System or an additional 4-channel magnetic sound head are mounted on replaceable plates at the front of the unit.

At the rear of the rack, a door with a 90 degree opening contains the projector's electrical unit. If specified, a Matrix Programmer, control unit for a Non Rewind System, a cassette recorder and a panel with monitor loudspeaker and motorized volume control can also be fitted into the door. Incorporated in the upper part of the rack are one or two 50 W amplifiers on mounting plates and protected by a plexiglass panel.

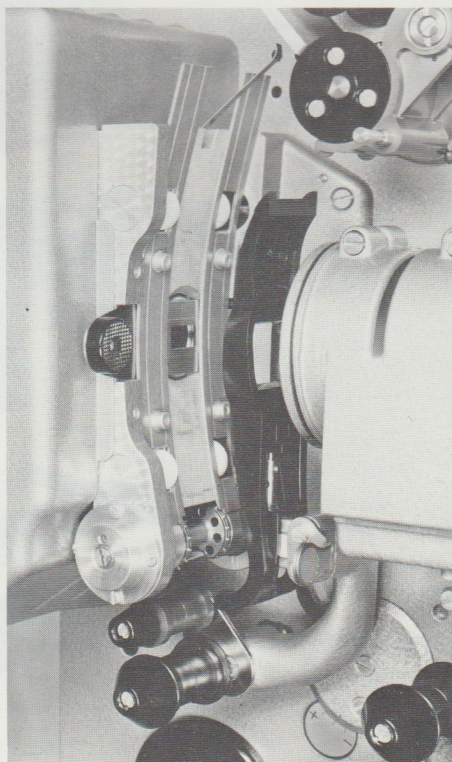
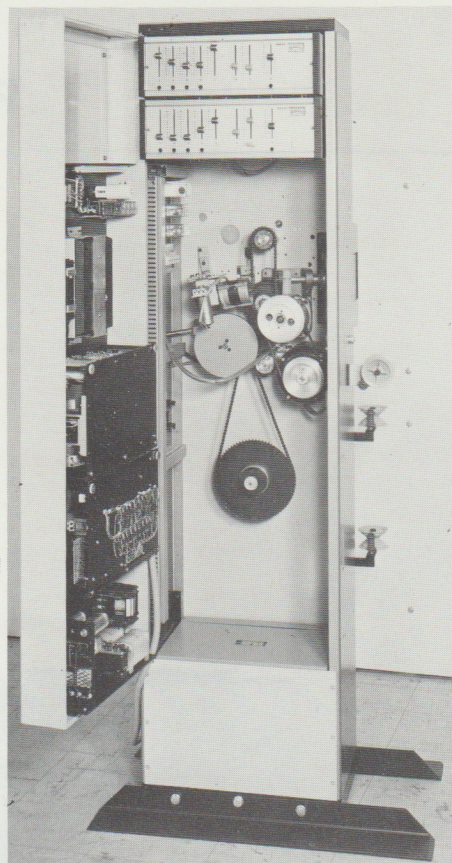
A rectifier for 500 W, 700 W or 1000 W Xenon Lamps can also be fitted at the foot of the rack.

Lamphouses for 500 W or 700 W – 1600 W Xenon Lamps can be attached directly to the rack. These lamphouses are extremely compact. The FP 30 Projector can also be supplied with halogen equipment installed within the shutter housing.

A horizontal Non Rewind System with two discs can be readily attached to the projector below the lamphouse by a plug-in connection. If desired, a separate Non Rewind System with two or three discs can also be connected by plug and cable.

The basic FP 30 is completely pre-wired in the factory, with full provision for simple plug-in installation of additional devices which it is possible to instal later. This greatly simplifies maintenance as exchange units can be replaced without specialised technical assistance.

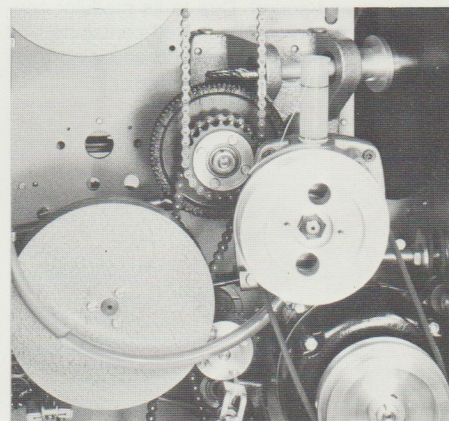
Straightforward installation is another feature. Once positioned it merely requires connection to the loudspeaker and single-phase mains supply. No control panel is necessary for the projection equipment in the booth. At the front of the projector, in addition to the control knobs, there are two plugs for the connection of a single or a number of control panels operating the circuits for curtains, auditorium lighting, stage lighting etc. These are connected directly to the automatic projection system by plug-in cables.



Film run mechanism

The intermittent movement, manufactured to exceptional standards of precision, runs in an oil bath with all spindles and shafts running in maintenance free, sealed ball bearings.

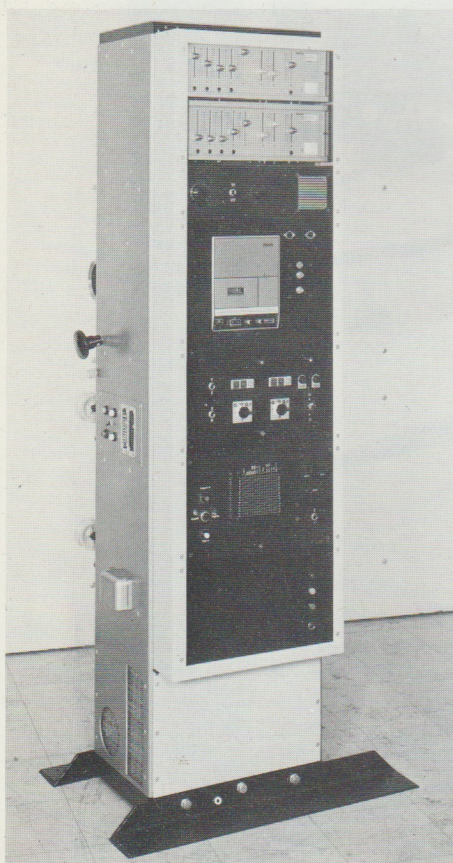
The feed and holdback sprockets, plus the lower friction are chain driven ensuring silent operation and virtually no maintenance. The intermittent sprocket, with shaft supported at both ends, together with a curved film gate, ensure perfect projection quality, even when distorted film stock has to be used. All guide rollers are made of self-lubricating plastic, and the sprockets enclosed by pad shoes. The Optical Sound Head with rotating sound drum has a maximum starting time of only three seconds. The high quality slit lens of the optical system, rapidly replaceable pre-adjusted exciter lamp and wear resistant solar cell equipment, fully accord with the demands of modern cinema operation. The disc-shaped single blade shutter in its optimum position ensures a very high light intensity. The electromagnetically actuated dowser situated in the shutter housing permits shadow-free change-over between two projectors. The projector can be driven either by an asynchronous or a synchronous motor.



Spool shafts and Non Rewind Systems

The projector can be equipped with spool shafts and frictions for 600 m, 1800 m, 3200 m and 4000 m European or American type film spools. For additional security, 12 mm diameter shafts are used for the 3200 m and 4000 m film spools which can also be equipped with a motor-driven rewind system with variable speed and a film rupture device. Spools boxes are not required with the different versions of the FP 30 Projector.

To avoid rewinding and for 6000 m film capacity, the use of an integral or separate Non Rewind System is recommended. The control unit for the Non Rewind System is incorporated in the door of the projector (please refer to the leaflet describing the Non Rewind System).

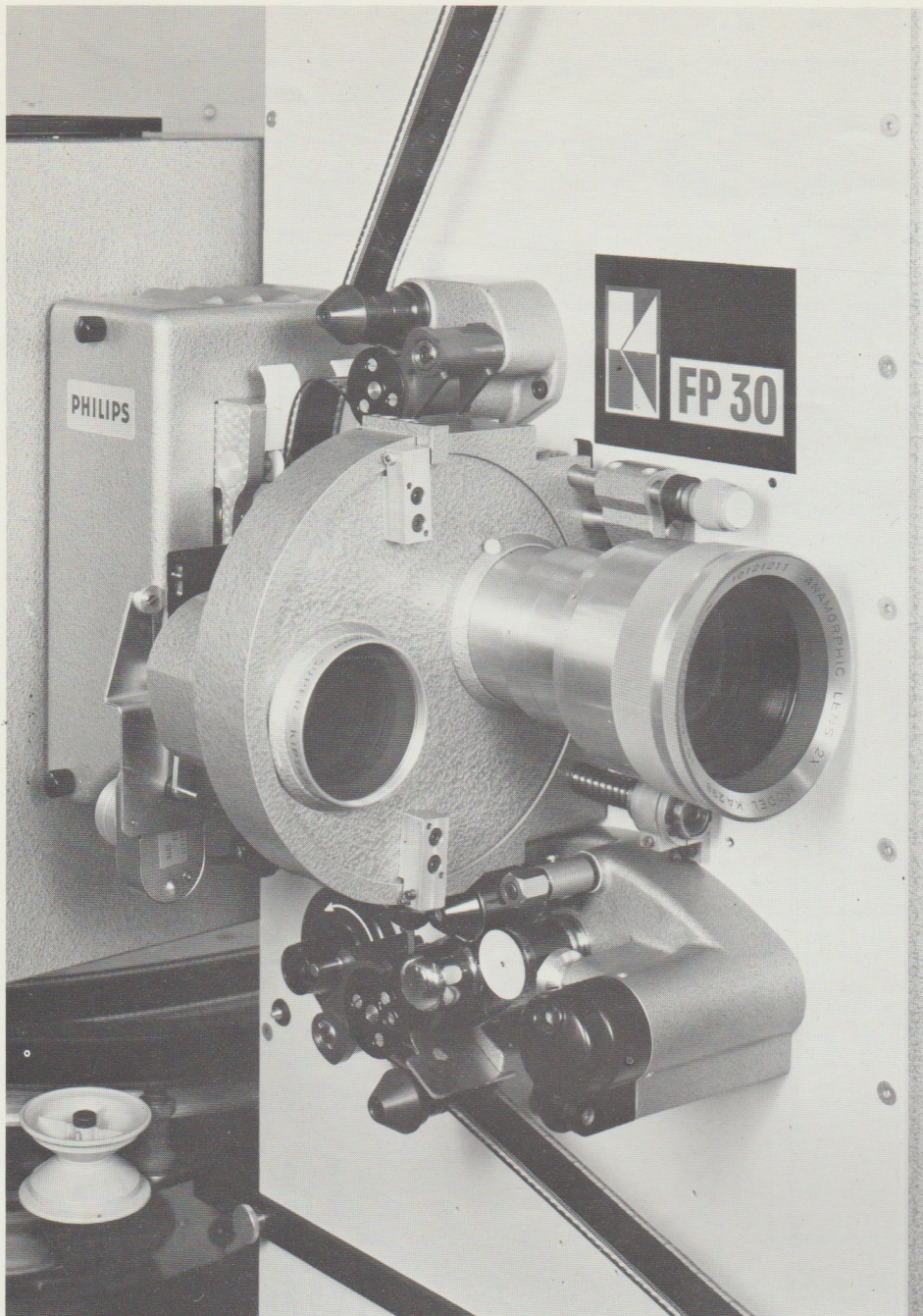


Rear Side of the Projector

Projector opened

Film Gate and Film Path

Intermittent Movement with Motor



Matrix programmer and sensor

The Matrix Programmer is pre-programmed using diode plugs. When a control pulse is received, a step-by-step mechanism switches to the next set of diodes and carries out the programmed instructions. Pulses can be initiated manually from a remote control panel. The starting pulse can also be produced by a cassette recorder with slide equipment, or by a timer. During projection, the cue marks, which are affixed to the frame line, are scanned as a pulse by a sensor. An electronic pulse unit can generate a second pulse after five or ten seconds so that a time delay can be achieved automatically for change-over or other functions. In the event of film rupture, a safety device operates and the projector and light source are shut down, the curtains closed, the auditorium light dimmer operated and intermission music brought up to replace the optical sound. The Matrix Programmer is available in two versions — for single projector or twin projector change-over operation. It controls all projection functions, including the operation of the power-driven lens turret and mask plate when change of picture format is demanded, as well as the control of background music before and after the performance and during the intermission. The Matrix Programme can also control the auditorium lighting, stage lighting, curtains and screen masking. For any impromptu interruption of the normal sequence of operation of the theatre, all the functions of the Matrix Programmer can immediately be manually over-ridden.

Lens Turret

Matrix Programmer opened

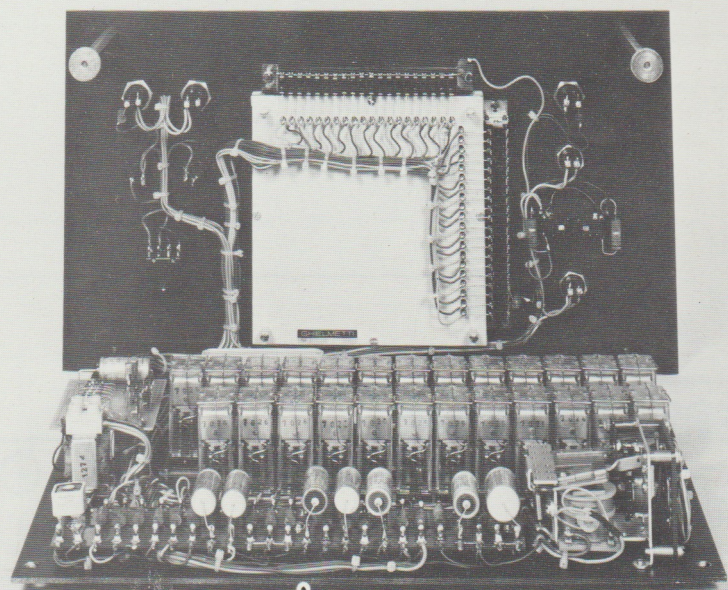
Aperture plates and lens holder

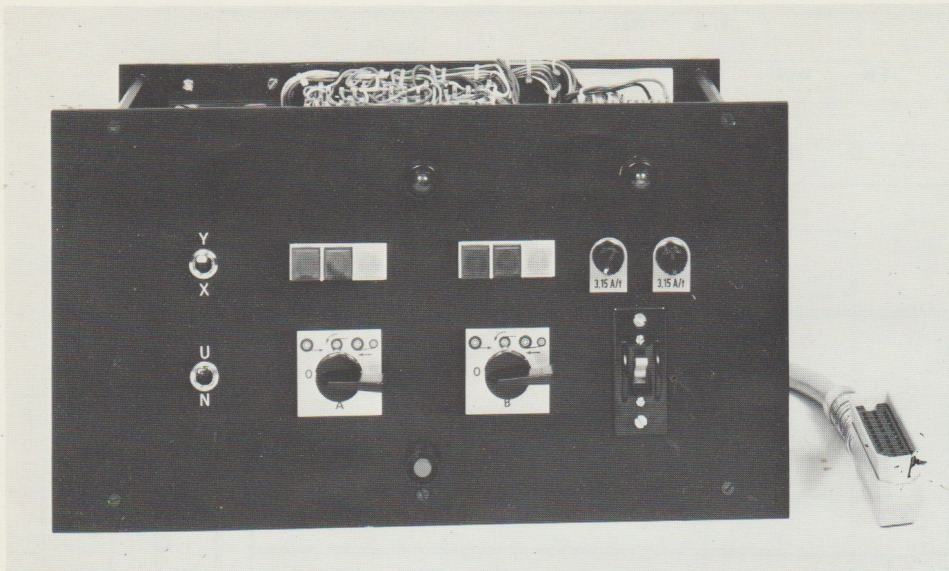
The aperture plates are interchangeable even during projection. They are situated directly behind the film gate and consequently permit a sharply defined picture. The lens holder for 70.6 mm diameter and 62.5 mm diameter lenses with intermediate rings can be quickly replaced with another holder with a different focal length lens, and a positive positioning device is incorporated. For this purpose, the projector can also be equipped with a turret for two lenses, either manual or motor-driven. The manual version can be fitted with a motor-drive and remote control at a later date if required, and in this case changing of the aperture plates would also be motor-actuated.

Focussing and framing under remote control are other facilities available with this highly versatile equipment.

Electrical unit

The projector is equipped with a mains contactor, an exciter lamp rectifier for 6.5 V., 1.48 V., a commutator for A.C. operation of the exciter lamp, and a 24 V unit complete with relays for motor and change-over operation.





Control desk

When using a Non Rewind System with two or three discs, the control unit is incorporated in the door of the FP 30 Projector. The programming, by means of selector switches, is straightforward, pilot lamps indicating the various functions.

Cassette recorder

A standard cassette recorder, either Mono or Stereo, for the opening or intermission music can be incorporated on a mounting plate. A pulse generator supplies the starting pulse for the equipment and can control a slide projector.

Control unit

The monitor loudspeaker with volume control is fitted to a mounting plate. To avoid long connecting leads, the motor driven volume control is also incorporated in this module. Control from the auditorium is effected by a push-button or toggle switch. The control unit also includes relays for the inversion of the sound and an electronic unit for slow fading in and out of the intermission music. Conversion from Mono to Stereo is also available as well as switching from one amplifier to another should the occasion arise.

Amplifier

One or two amplifiers can be fixed by screws to mounting plates with rapid interchange by plug-in connections. The amplifier Type LBB1142 is identical with the K 5 amplifier, and with that used in the Portable FP 23 Projector. This amplifier has two inputs for solar cells and three inputs for non-sync, balancing is effected by separate volume controls. The frequency response is flat from 40 Hz – 16 000 Hz and can be modified in both treble and base by ± 20 dB. The fully transistorized amplifiers have a power output of 50 W which can be adjusted to 100 V, 70 V, 50 V or 15 V according to the loudspeaker equipment used.

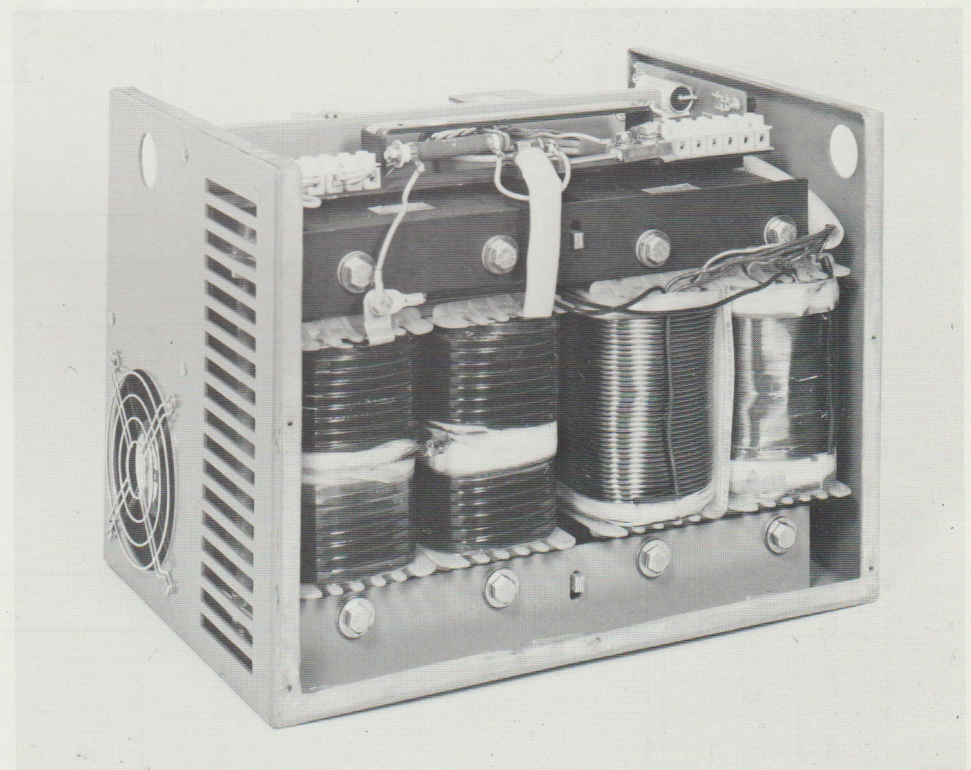
Light source

A Halogen unit with two 36 V 400 W lamps can be installed in the shutter housing, this is sufficient for a light output of up to 1700 lumens with the projector running. In the case of lamp failure, the second lamp automatically cuts in.

For picture sizes which approximate 30 square metres on a screen with a reflection factor of 1.8., we recommend the 500 W Xenon lamp-house which measures front to back only 22 cm.

Where a higher light intensity is required, a lamphouse designed for horizontal operation of 700 W, 1000 W and 1600 W Xenon bulbs can be mounted on the projector. This lamphouse is fitted with a 280 mm diameter elliptical mirror. The cable for the lamphouse is a ready provided in the projector cable loom and can easily be connected.

All lamphouses have an excellent cooling system, a fitted ammeter, hour counter, and automatic ignition unit for the Xenon lamp. During the ignition period, the loudspeakers are momentarily short-circuited to prevent unnecessary noise interference in the auditorium. Precise adjustment controls of the lamphouse are easily accessible.



Rectifiers

A 220 V/36 V transformer is fitted in the lower part of the projector for the Halogen unit. For Xenon lamps the required rectifiers can also be located in the lower part of the projector and connected through the pre-formed and coded cable loom. This applies equally to horizontal

Control Desk for Non-Rewind System

Rectifier without Cover

500 W, 700 W and 1000 W lamps. A single phase rectifier can be connected to 198–253 V or to 100–127 V supplies. The lamp current is adjustable from 20–55 A. When using Xenon lamps of 1600 W or more, the rectifier should be positioned as near to the projector as possible, and in accordance with the maker's instructions.

General

The FP 30 Projector is ideally suited to both single operation and also dual operation with two projectors and a change-over system. In the latter case, the Matrix Programmer, cassette recorder, control unit and amplifier would be fitted in one projector only.

FP 30 RR

This system calls for two Projectors. While one projector is running in the forward mode, the film is being rewound in the second projector to the start position. Control of the complete system is carried out automatically. The projectors are equipped with reverse running systems and an additional motor for an accelerated reverse running speed of up to 30 frames/second. A special Matrix RR Programmer is installed in one of the projectors in lieu of the standard model, the pulses being supplied by a double sensor.

Where a faster rewind speed is needed, the projector can be equipped with the 'Kinoton Cross'. In this unit the sprocket is driven continuously during reverse running and speeds of up to 120 frames/second can be achieved without damage to the film, in the forward mode,

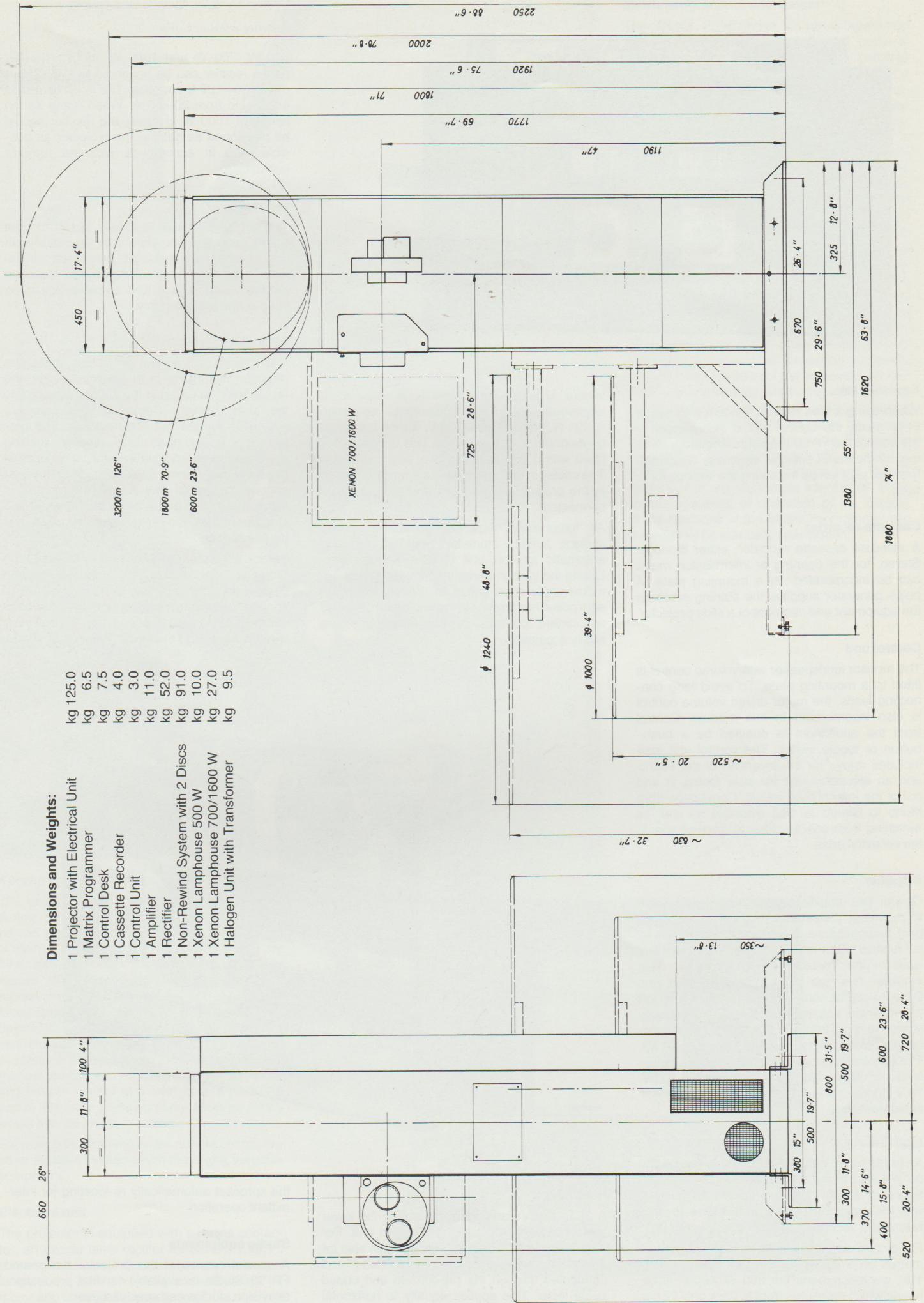
the sprocket automatically re-locating for intermittent operation.

Studio equipments

A special version of this projector designated FP 30 Studio is available for film production, television studios and specialist users.

Dimensions and Weights:

1 Projector with Electrical Unit	kg 125.0
1 Matrix Programmer	kg 6.5
1 Control Desk	kg 7.5
1 Cassette Recorder	kg 4.0
1 Control Unit	kg 3.0
1 Amplifier	kg 11.0
1 Rectifier	kg 52.0
1 Non-Rewind System with 2 Discs	kg 91.0
1 Xenon Lamphouse 500 W	kg 10.0
1 Xenon Lamphouse 700/1600 W	kg 27.0
1 Halogen Unit with Transformer	kg 9.5



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