

PHILIPS



PROJECTION EQUIPMENT

provisional

16 MM THEATRE SOUND-FILM PROJECTOR FP 16

This stationary 16-mm sound-film projector has been specially designed for theatres where high demands are made on the life and reliability of the projector and the quality of picture and sound.

The outstanding features of the projector are its simplicity of operation and maintenance and its suitability for automation.

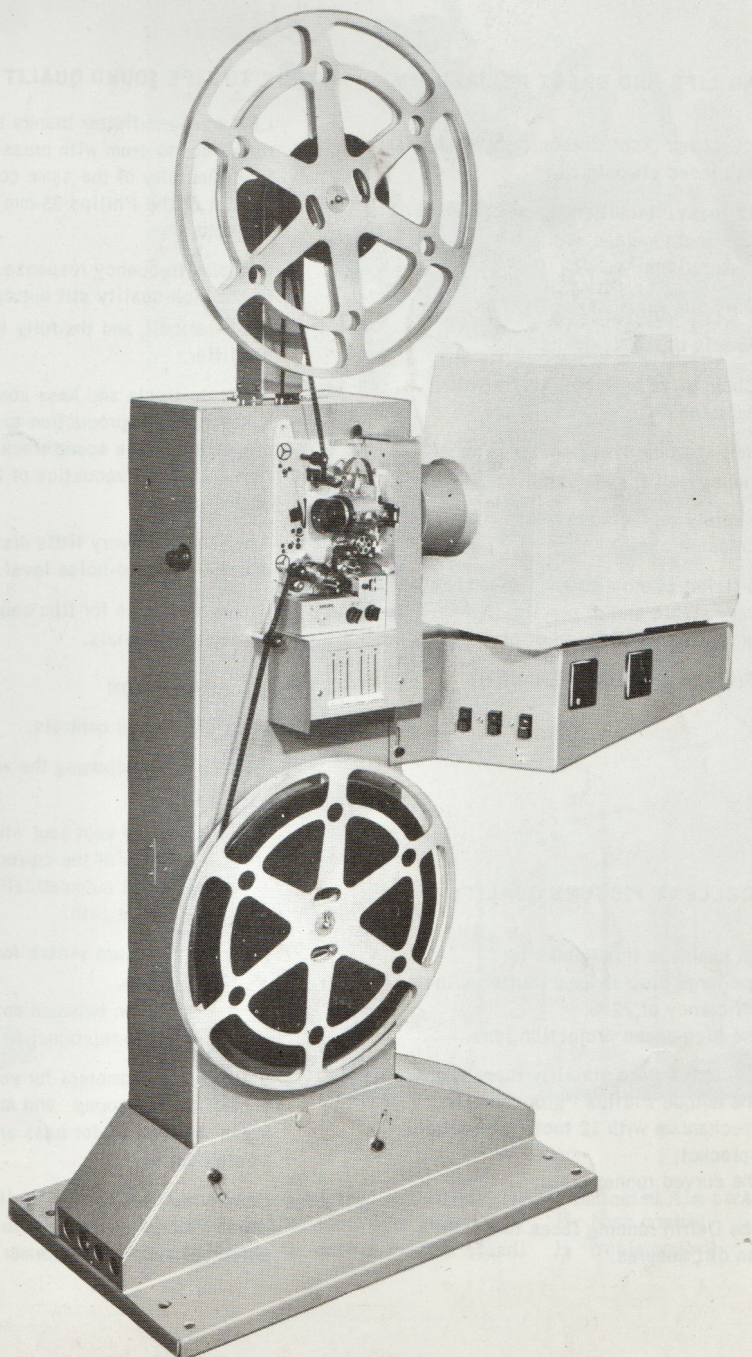
The projector can be supplied in various versions, viz: with:

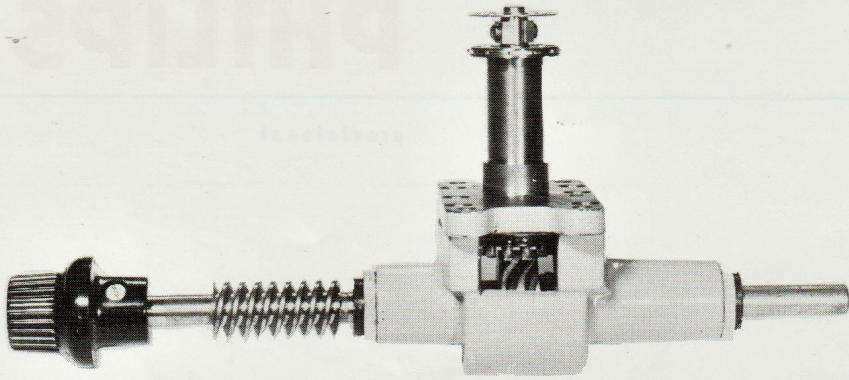
optical soundhead only, or
optical and magnetic soundheads.

built-in preamplifier and output
amplifier, or
possibility of connection to an
existing cinema amplifier equipment.

incandescent projection lamp, or
500-W Xenon gas-discharge lamp, or
900 to 2500-W Xenon gas-discharge lamp, or
800 or 1000-W SPP pulsed discharge
lamp, or
arc lamp.

Owing to its great reliability, the FP 16 projector is suitable for use not only in theatres, but also in preview rooms, film studios and television studios, as well as for permanent performances at exhibitions.





"Grooved-disc" intermittent mechanism with oil bath cut open to show the interior

LONG LIFE AND GREAT RELIABILITY

"Grooved-disc" intermittent mechanism in closed oil bath.

12 tooth intermittent sprocket of which five teeth engage in the film perforations.

Only one worm wheel and four gear wheels of durable material.

Chain drive of spool shafts with adjustable friction couplings.

Self-starting synchronous motor with timing belt transmission

Rapidly replaceable runner plate and pressure skate.

Silicium photo-element (Solar cell), very stable and of practically unlimited life, instead of photocell.

Fully transistorised amplifier.

EXCELLENT PICTURE QUALITY

High luminous flux thanks to:
the large disc-shaped shutter with an efficiency of 72 %;
the high-speed projection lens.

Excellent picture stability thanks to:
the unique Philips "grooved-disc" mechanism with 12 tooth intermittent sprocket;
the curved runner plate;

the Delrin running faces to which no dirt adheres.

TRUE TO LIFE SOUND QUALITY

Low wow-and-flutter thanks to the rotary sound drum with pressure roller, fundamentally of the same construction as that of the Philips 35-mm and 70-mm projectors.

Optimum frequency response thanks to the high-quality slit optical system, the Solar cell, and the fully transistorised amplifier.

Separate treble and bass controls for matching the reproduction to the properties of the sound track on the film and to the acoustics of the auditorium.

Amplifier with very little distortion and low hum-and-noise level.

Mixing facilities for film sound and microphone signals.

SIMPLE OPERATION

Clearly arranged controls.

One handle for opening the whole film path.

The film can be kept taut when being threaded; loops of the correct size are formed automatically upon closing the film path.

Forward/backward switch for repeating a certain scene.

Simple selection between optical and magnetic sound reproduction.

Sliding potentiometers for volume control of film sound and microphone signal as well as for bass and treble control.

Easy adjustment to the available mains voltage at the built-in universal supply transformer.

SIMPLE INSTALLATION

Despatch of the whole projector as one unit, with the exception of the separately packed mounting table.

Projector completely wired up in the factory.

Exterior connections are easily accessible, marked terminals.

If supplied with built-in amplifier external connections limited to mains and loudspeakers.

If a separate amplifier equipment is used, external connections only necessary for mains, dower,, exciter lamp, Solar cell, and magnetic head, if any.

Ample fixing facilities for any lamphouse and easy adjustment of the optical axis by means of height adjustment of the mounting table.

EASY MAINTENANCE

Runner plate, pressure skate and pad shoes removable for cleaning and replacement without the use of tools.

Exciter lamp with prefocused base; hence no adjustment.

Plug-in pre amplifier and output amplifier; hence rapid replacement.

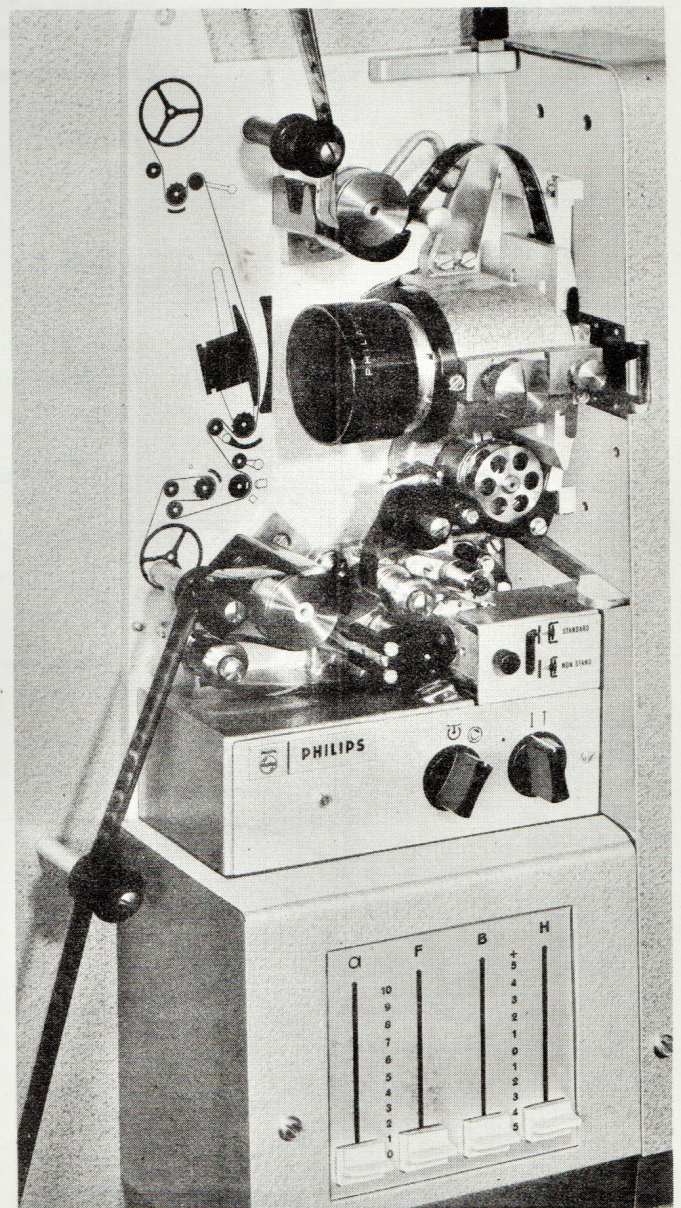
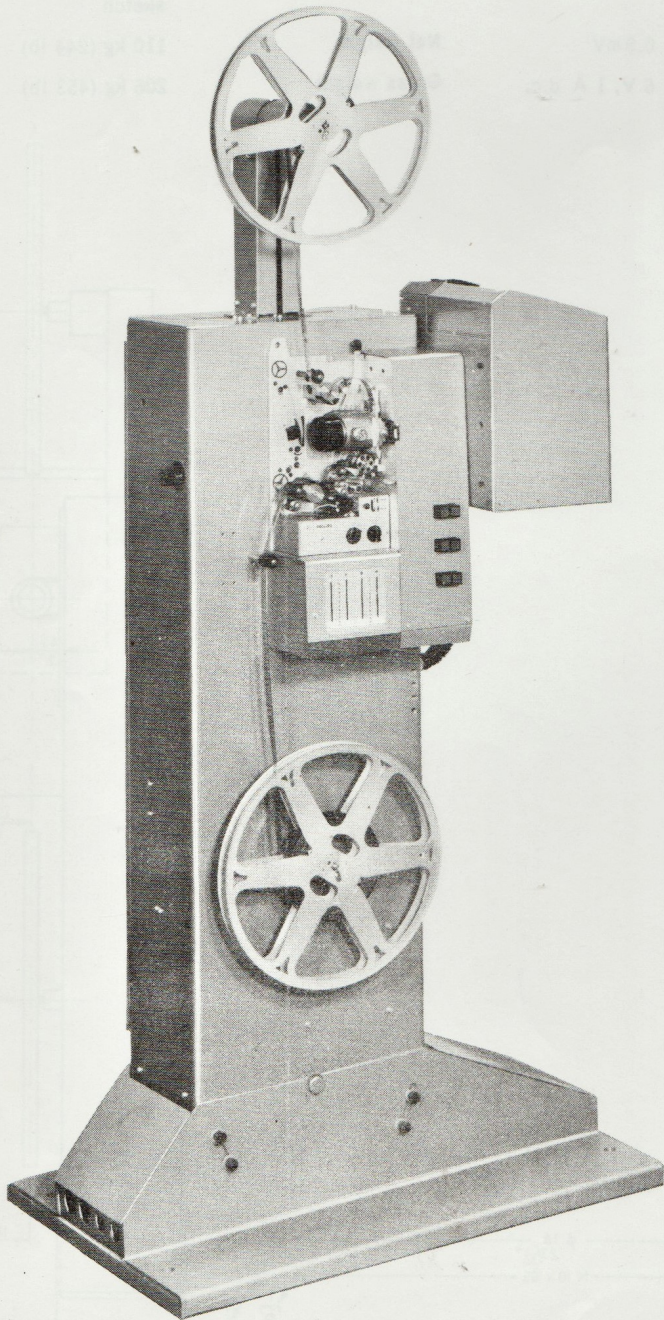
Little need of lubrication; easily accessible lubricating points.

TYPE NUMBERS OF THE PROJECTORS

LCB 0016/.. suitable for arc lamp or Xenon lamp
 LCB 0017/.. equipped with incandescent lamp 12 V, 150 W.
 LCB 0018/.. equipped with SPP lamp-house
 LCB 0019/.. equipped with 500-W Xenon-lamp-house

All projector types are equipped with optical soundhead; the further equipment is indicated by the version number:

Versions		/01	/02	/03	/04	/05	/06	/11	/12	/13	/14	/15	/16
Synchronous motor	50 Hz, 24 frames/s	yes	yes	-	-	-	-	yes	yes	-	-	-	-
	50 Hz, 25 frames/s	-	-	yes	yes	-	-	-	-	yes	yes	-	-
	60 Hz, 24 frames/s	-	-	-	-	yes	yes	-	-	-	-	yes	yes
Additional magnetic soundhead		-	yes	-	yes	-	yes	-	yes	-	yes	-	yes
Built-in amplifier		-	-	-	-	-	-	yes	yes	yes	yes	yes	yes



Projector mechanism with simple, clearly indicated film path
 A - volume control for microphone B - bass control
 F - volume control for film sound H - treble control

TECHNICAL DATA

Power consumption 375 W
Capacity of film spools 1500 m (5000 ft)
Projected image area
 9.6 x 7.2 mm (0.378" x 0.283")
Exciter lamp Type 7210 C, 6 V / 1 A; (for
 separate amplifier: Type 6218 C; 2.5 V, 3 A)
Solar cell Type C1 420 98
Wow and flutter < 2%
**Vertical and lateral
 movement of the picture** < 2%

Built-in amplifier

Power 20 W
Output voltage 100 V
Load impedance 500 Ω
Frequency response straight from 40 to
 7000 Hz
Filters continuously adjustable between
 -7.5 and +14 dB at 40 Hz and at 10.000 Hz
Hum and noise level:
 for optical reproduction < 60 dB
 for magnetic reproduction < 45 dB
Distortion at 1000 Hz < 1%
**Sensitivity of microphone
 input at 20 W output** 0.5 mV
Exciter-lamp supply 6 V, 1 A d.c.

Line amplifier EL 5490/00

Output 8 dBm
Load impedance 600 Ω

Dimensions

see dimensioned
 sketch

Net weight

110 kg (244 lb)

Gross weight

206 kg (453 lb)

