

PHILIPS

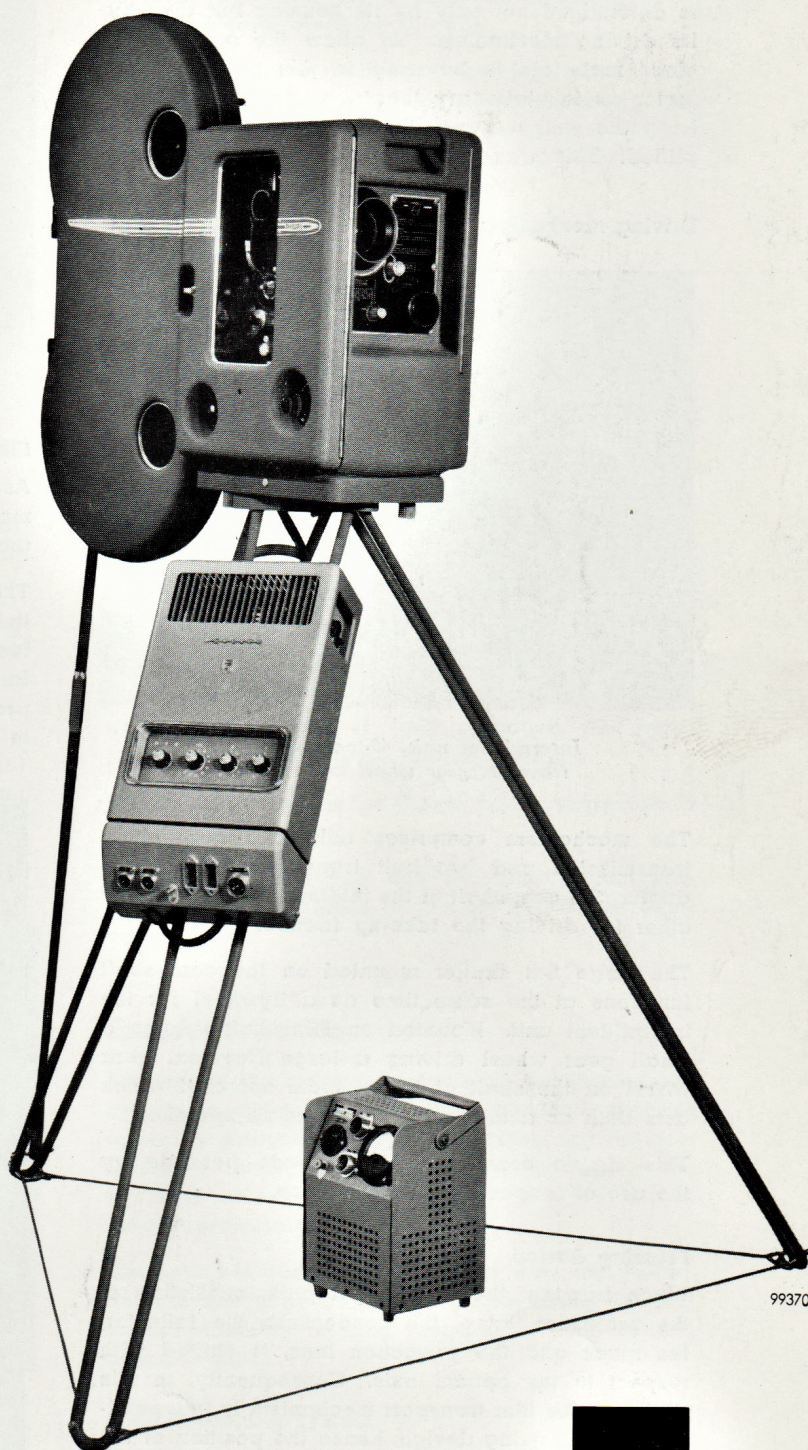
Portable 35 mm sound-film equipment

This portable 35 mm sound-film equipment has all the outstanding qualities of normal theatre equipment, thereby satisfying all demands for portable installations.

Its principal features are:

- Easy portability (weight of projector only 67 lbs, 30.5 kg).
- Professional construction.
- Compliance with stringent safety regulations.
- Brilliant pictures up to 13' x 10' (4 m x 3 m).
- Ready adaptation to CinemaScope films (1 : 2.34) with optical sound track and to Wide-Screen films (1 : 1.85).
- True-to-life sound reproduction.
- Rapid assembly.
- Simple operation.
- Great reliability.
- Easy maintenance.
- Suitable for A.C. mains of 103 - 257 V, 50 and 60 c/s.
- Available with 2000 ft, 4000 ft or 6000 ft (600 m, 1200 m or 1800 m) twin spool box.
- Stylish finish.
- Sturdy fibre cases for transport.
- Suitable for use under tropical conditions.

These features will be described in detail in the following pages.



Cinema

Portable 35 mm equipment

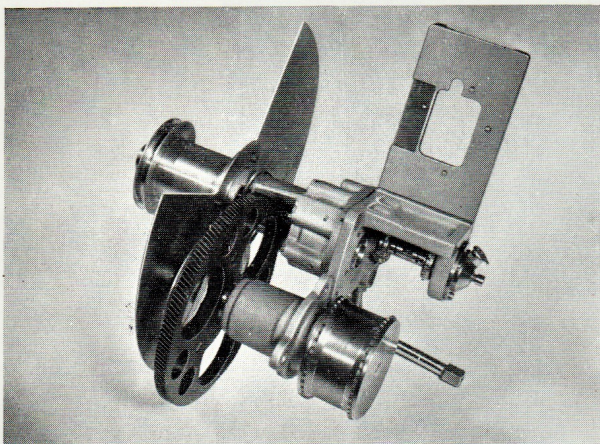
Catalogue sheet A-II-21-E



Easy portability

To keep the weight of this portable projector as low as possible, its housing consists of a strong aluminium casting. The weight of a projector, however, is determined not only by its housing but also by its driving mechanism. To allow the same high-class materials to be used in this portable projector as in stationary theatre projectors, and yet keep the weight down, the design had to be simplified. This was achieved in the following way:

Driving mechanism



*Intermittent unit, 40-tooth sprocket.
Novotext gear wheel and shutter.*

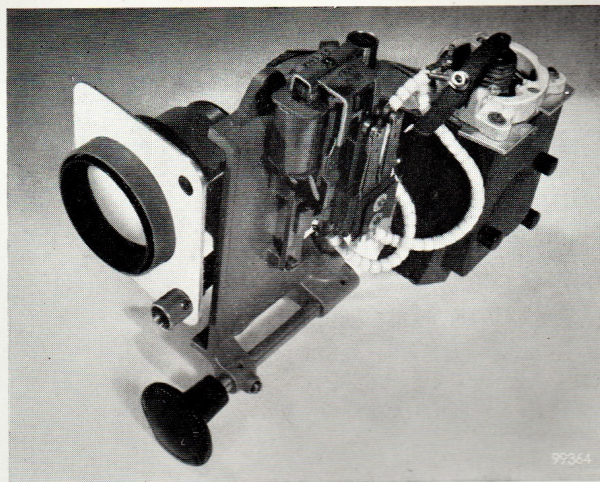
The mechanism comprises only one gear-wheel transmission and two belt transmissions, one for driving the cam shaft of the intermittent unit and the other for driving the take-up friction.

The large flat shutter mounted on the cam shaft functions at the same time as a flywheel for the intermittent unit. Mounted on this shaft is also a small gear wheel driving a large Novotext gear wheel on the shaft of the 40-tooth sprocket which acts both as a take-off and a take-up sprocket.

This simple construction was made possible by the use of a special framing device.

Framing device

When framing, the entire light path, consisting of the projection lamp, the condensers, the reflector, the mask and the projection lens, is shifted with respect to the optical axis. Consequently, in this projector the film transport mechanism is independent of the framing device, hence the position of the shutter need not be corrected during framing, and the sizes of the upper and lower film loops remain unchanged.

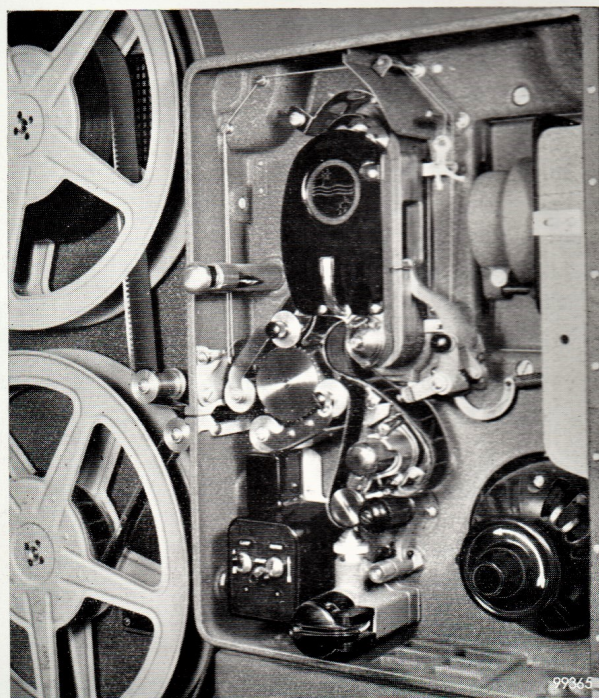


Picture-projection system with framing knob.

Film path

As a result of the special design of the driving mechanism and the framing system, the film path, too, differs from the traditional construction.

The take-off and take-up spools are located in the twin spool box at the rear of the projector. After leaving the take-off spool the film passes over a large 40-tooth sprocket, next along a bent and profiled guide plate — after which the upper loop is formed — and then through the film gate.



Film path.

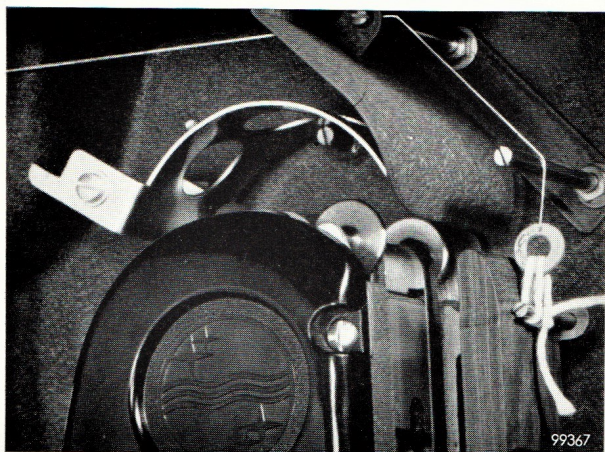
The gate door is shaped so as to act at the same time as a pressure skate, and as a pad roller of the intermittent sprocket. It is opened and closed by pushing aside a button and can be removed for cleaning without the use of tools.

After having passed the intermittent sprocket, the film is led over a second bent and profiled guide-plate towards the sound-scanning unit of the projector and thence, along the bottom of the 40-tooth sprocket, onto the take-up spool.

Utmost reliability

It need hardly be mentioned that this portable projector satisfies the most stringent safety regulations. This has been accomplished by the following precautions:

- The projector door cannot be closed: when one of the pad rollers has been left open.
- The motor cannot be switched on (or stops): when the projector door is open (or opened); when one of the driving belts has not been put on.
- The projection lamp does not burn: when the motor is not running; when the projector runs too slowly; when the door of the spool box is open.
- A film-rupture device switches off the motor and the projection lamp as soon as the upper film loop becomes too large or too small; upon the projector door being closed, the switch returns automatically to its initial position.



Film-rupture device and upper piece of gun cotton.

In the most unlikely event that, notwithstanding the above measures, the film catches fire in the

spool box or in the gate, there is not the slightest risk of explosion or propagation of the fire since:

- The spool box is equipped with four fine-meshed gauze windows which, while providing a sufficient outlet for the combustion gases, prevent flames from breaking through.
- Pieces of gun cotton at the top and at the bottom of the gate will burn immediately, thereby releasing a knife which cuts off the film between projector and spool box and hermetically closes the entrance to the latter.

Brilliant picture

The light source of this projector is a 1000 W incandescent lamp with exceptionally high light output.

The optical system has a very large aperture. It consists of an aspherical condenser lens of large diameter, a plano-convex condenser lens and a coated projection lens with a diameter of 2.781" (70.6 mm).

CinemaScope and Wide-Screen

With each projector are supplied aperture plates for CinemaScope (1 : 2.34) with optical sound track and for Wide-Screen (1 : 1.85) projection. The aperture plates can easily be interchanged.

The anamorphic lens for CinemaScope projection is supplied on request.

Both for CinemaScope and for Wide-Screen projection it is preferable to use a "Perlux" or equivalent screen.

Excellent sound

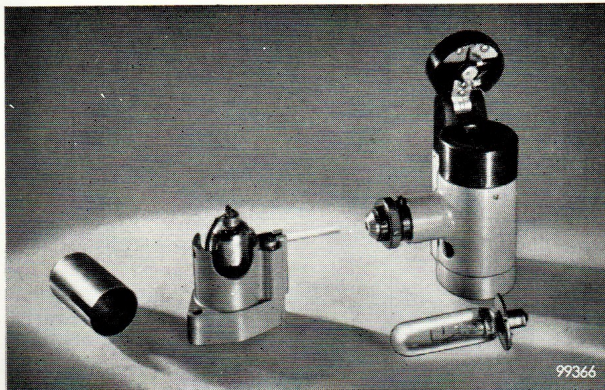
Because of the carefully calculated sound-scanning system, in conjunction with the high-class amplifier specially designed for this equipment, and the professional loudspeakers used, the quality of the sound is in no way inferior to that of permanent theatre projectors.

The sound is completely free from wow and flutter, uniform speed at the scanning spot being ensured by the smoothly rotating sound-drum with resilient pressure roller.

Sound-scanning system

The sound-scanning unit comprises the well-known optical system with slit; it is provided with separate controls for focus and azimuth adjustments.

The light passing through the sound track is thrown on to the end of a quartz rod which conducts it by total reflection—i.e. without losses—to the photocell.



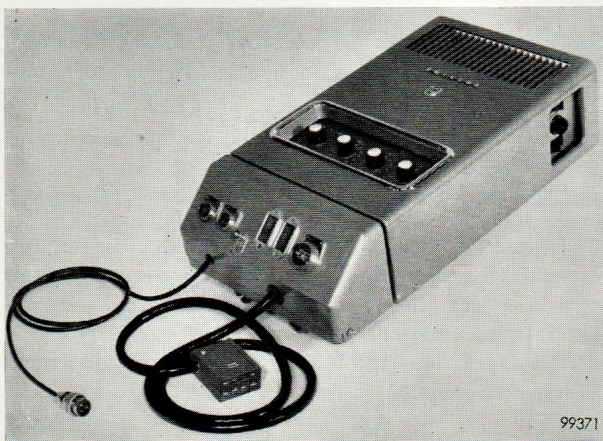
Sound-scanning system, dismantled.

Amplifier

The Type EL 5340 amplifier consists of two parts, viz.:

- a junction box which is fixed to the stand of the projector and
- the amplifier itself which is slid over the protruding guide pins of the box, the self-centring plug strips thus establishing electrical connections between junction box and amplifier.

The junction box can be supplied for one or for two projectors, as desired.



Type EL 5340 amplifier.

The amplifier excels by virtue of the following features:

Perfect reliability

Because of their inevitably limited life, valves are the weak point in every amplifier. The pre-ampli-

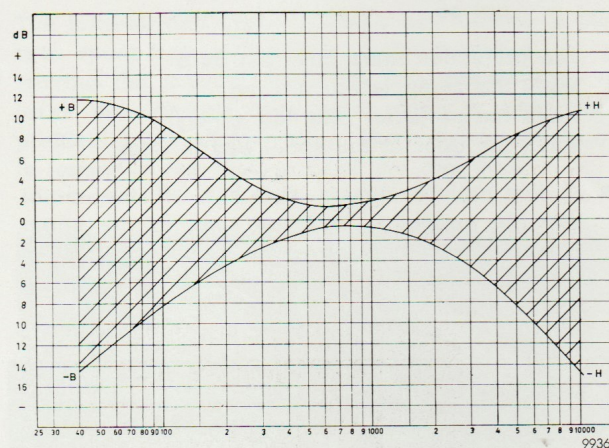
fying part of this amplifier, however, contains no valves, but only transistors whose life can best be compared to the very long life of resistors.

As, up to the present, transistors for higher powers do not offer any special advantages, the output stage of this amplifier has been, as usual, equipped with valves, for which, however, the most reliable and modern types have been chosen, i.e. an ECC 83 for the phase inverter and two PL 36 as push-pull output valves.

Printed circuits are used in the first stage and in the output stage. Needless to say, they contribute greatly to the reliability of the amplifier, obviating fully any cable rupture or insulating faults.

Continuously adjustable frequency response

The frequency response can be adapted readily to the acoustics of the hall and to the frequency response of the recording by means of the continuously adjustable treble and bass filters. The shaded area in the diagram shows the very large control range.



Control range of the treble and bass filters.

High output power - High sensitivity

Although the amplifier is very small, its output power is quite sufficient for halls with a seating capacity of up to 750.

The amplifier has a reserve of 20 dB, i.e. with normal sound tracks it already supplies its full output power when the volume control is only half turned up, and even with weakly modulated tracks it is not necessary to turn the volume control up to the full.

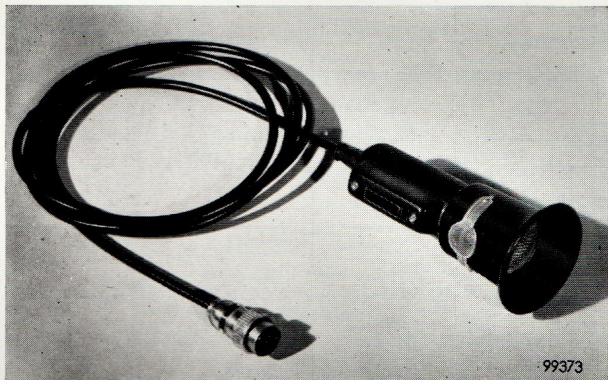
Minimum distortion, hum and noise

Even at full modulation, the average distortion does not exceed 1 %. The noise level is very low—only

- 56 dB when the volume control is in the working position. Consequently, sound reproduction is really of "Hi-Fi" quality.

Gramophone and microphone (or gong) reproduction

The amplifier is provided with a pick-up input and with an input for a Type 9564/10 hand microphone. Microphone, film or pick-up reproduction are chosen by means of the "Q - F - Ø" selector switch.



Type 9564/10 hand microphone.

Mains transformer

A Type EL 5006/00 mains transformer makes it possible to connect the complete equipment to A.C. mains of 103 - 257 V, 50 or 60 c/s. The transformer is supplied on request.



Type EL 5006/00 mains transformer.

Loudspeakers

The two 10 W Type EL 7020 professional loudspeakers supplied with this equipment are mounted on steel baffles which form an easily portable case, in which there is sufficient space for the various connecting cables. The baffles are lined on the inside with a special acoustic material, and the sound quality is much better than that obtained with normal wooden baffles.

Simple operation

The complete installation, with the exception of the screen, can be assembled by one man in less than ten minutes.

The threading of the film is very simple, since only two sprockets are used and the pad rollers and guide plates open wide. The entire film path and the gate aperture are illuminated.

The take-off and take-up friction couplings are self-adjusting.

All the controls of the projector are clearly marked; they are accessible without opening the projector door. Indications for framing, focusing and skate-pressure adjustment as well as complete instructions for lubrication and upkeep are indicated on the text plate at the front of the projector.

The selector switch "Q - F - Ø", the volume control and the treble and bass controls of the amplifier are assembled on one recessed panel.

Programme case

This case, which is supplied on request, comprises:

6 fixed 2000 ft (600 m) spools able to take a complete programme of 12,000 ft (3600 m) of film, representing a performance of 2¼ hours, or alternatively:

3 fixed 4000 ft (1200 m) spools, or
3 fixed 6000 ft (1800 m) spools,

1 film rewinder with automatic take-up friction, fixed to the lid of the case,

1 splicing device,

1 bottle of splicing cement,

1 tube of grease,

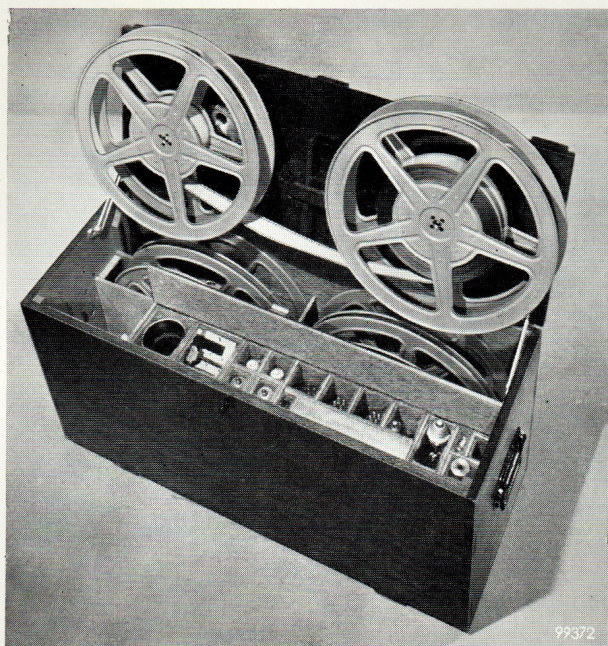
2 projection lamps, type 7240 C,

2 exciter lamps, type 3874 C,

1 photocell, type 3538,

1 complete set of valves for the amplifier,

1 set of tools.



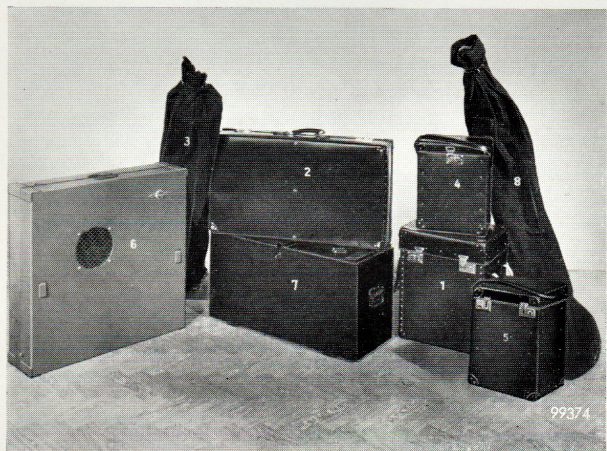
Programme case, Type 8722/08.

Transport cases

Sturdy fibre cases can be supplied for the transport of the projector, the twin spool box, the amplifier and the mains transformer. Strong canvas covers are available for the projector stand, the screen and its frame.

The complete installation with all its accessories, ready for transport, consists of:

- 1 - case with projector,
- 2 - case with twin spool box,
- 3 - collapsible stand, in cover,
- 4 - case with mains transformer,
- 5 - case with amplifier,
- 6 - loudspeaker case,
- 7 - programme case,
- 8 - projection screen 13' x 10' and frame, in cover.



Complete equipment, ready for transport.

Technical data of the amplifier

<p>Input sensitivity (at an output voltage of 100 V across 500 Ω):</p> <p>photocell pick-up microphone</p> <p>Input impedance:</p> <p>photocell pick-up microphone</p>	<p>average 0.65 mV " 16.5 mV " 3.75 mV</p> <p>about 23 kΩ } indepen- about 47 kΩ } dent of the about 400 Ω - 40 kΩ } frequency</p>
<p>Output voltage</p> <p>Output impedance ..</p> <p>Distortion at max. output power:</p> <p>at 1000 c/s at 4000 c/s at 60 c/s</p> <p>Noise level (measured with volume control on "10" and tone control in middle position):</p> <p>photocell pick-up microphone</p>	<p>max. 100 V</p> <p>500 Ω</p> <p>average 0.75 % " 1 % " 1.25 %</p> <p>average - 56 dB " - 62 dB " - 57 dB</p>
<p>Mains voltage</p> <p>Max. power consumption</p> <p>Photocell voltage ...</p> <p>Exciter-lamp supply .</p> <p>Valves, etc.</p> <p>Inspection lamps ...</p> <p>Fuses</p>	<p>110 V \sim, 50 - 100 c/s</p> <p>125 W ($\cos \varphi = 0.87$)</p> <p>50 - 97 V</p> <p>6 V/1.48 A; 50,000 c/s</p> <p>3 x OC 73 (transistor) 2 x OC 71 (transistor) 1 x ECC 83 3 x PL 36</p> <p>2 x 8008N (6.3 V/0.15 A)</p> <p>1 x 08 142 29 (500 mA) 1 x 08 142 33 (1.6 A)</p>

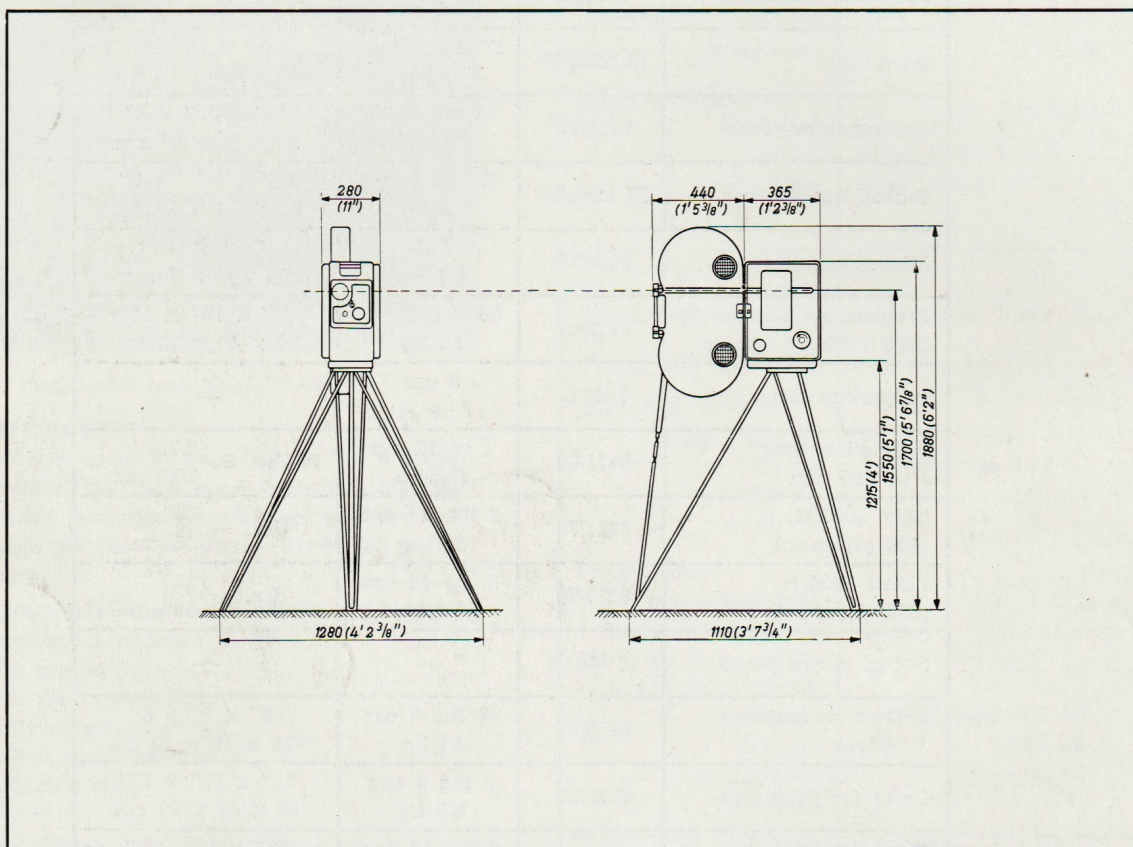
Type numbers, weights and dimensions

Description	Type No.	Net weight	Dimensions
Projector	8710/05	67 lbs 4 ozs 30.5 kg	19" x 15" x 11" 48 x 38 x 28 cm
2000 ft (600 m) spool box	8711/00	26 lbs 7 ozs 12 kg	32" x 17" x 6" 81 x 44 x 15 cm
Projector stand	8715/00	20 lbs 12 ozs 9.4 kg	55" x 13" x 8" 140 x 33 x 21 cm
Amplifier	EL 5340/00	17 lbs 10 ozs 8 kg	15½" x 10" x 5" 39 x 26 x 13 cm
Loudspeaker case	9723/12	55 lbs 2 ozs 25 kg	30" x 30" x 8" 76 x 76 x 21 cm
Mains transformer	EL 5006/00	48 lbs 8 ozs 22 kg	12" x 9½" x 7" 30 x 24 x 18 cm
Microphone	9564/10	1 lb 0.4 kg	5" x 3" x 3" 13 x 7 x 7 cm
Programme case with 2000 ft (600 m) spools	8722/08	68 lbs 4 ozs 31 kg	33" x 18" x 13" 85 x 45 x 32 cm
Projection lamp	7240 C	3 ozs 0.09 kg	—
Projection lens f = 105 mm	9411/00	1 lb 12 ozs 0.8 kg	dia. = 2.781" 70.6 mm
Split 2000 ft (600 m) spool	8221/70	2 lbs 10 ozs 1.2 kg	dia. = 15" 38 cm
Fixed 2000 ft (600 m) spool	8220/70	2 lbs 10 ozs 1.2 kg	dia. = 15" 38 cm
Set of spare parts	22 546 03	—	—
Screen + frame + cover	8750/07	46 lbs 5 ozs 21 kg	49" x 7" x 5" 125 x 18 x 13 cm
Case for projector	8723/00	7 lbs 5 ozs 3.3 kg	20" x 17" x 13" 50 x 42 x 33 cm
Case for 2000 ft (600 m) spool box	8725/00	8 lbs 13 ozs 4 kg	33" x 19" x 8" 85 x 47 x 20 cm
Case for amplifier	V3 142 05	7 lbs 12 ozs 3.5 kg	19" x 14" x 11½" 48 x 35 x 29 cm
Case for mains transformer	8719/00	2 lbs 4 ozs 1 kg	16½" x 12½" x 9" 42 x 32 x 23 cm
Cover for projector stand	8724/00	2 lbs 14 ozs 1.3 kg	—

Lamps and photocell

Projection lamp	7240 C
Exciter lamp, 6 V, 1.48 A	3874 C
Inspection lamps, 6 V, 0.5 A	8002 N
Photocell	3538

Dimensions



Data subject to change without notice

