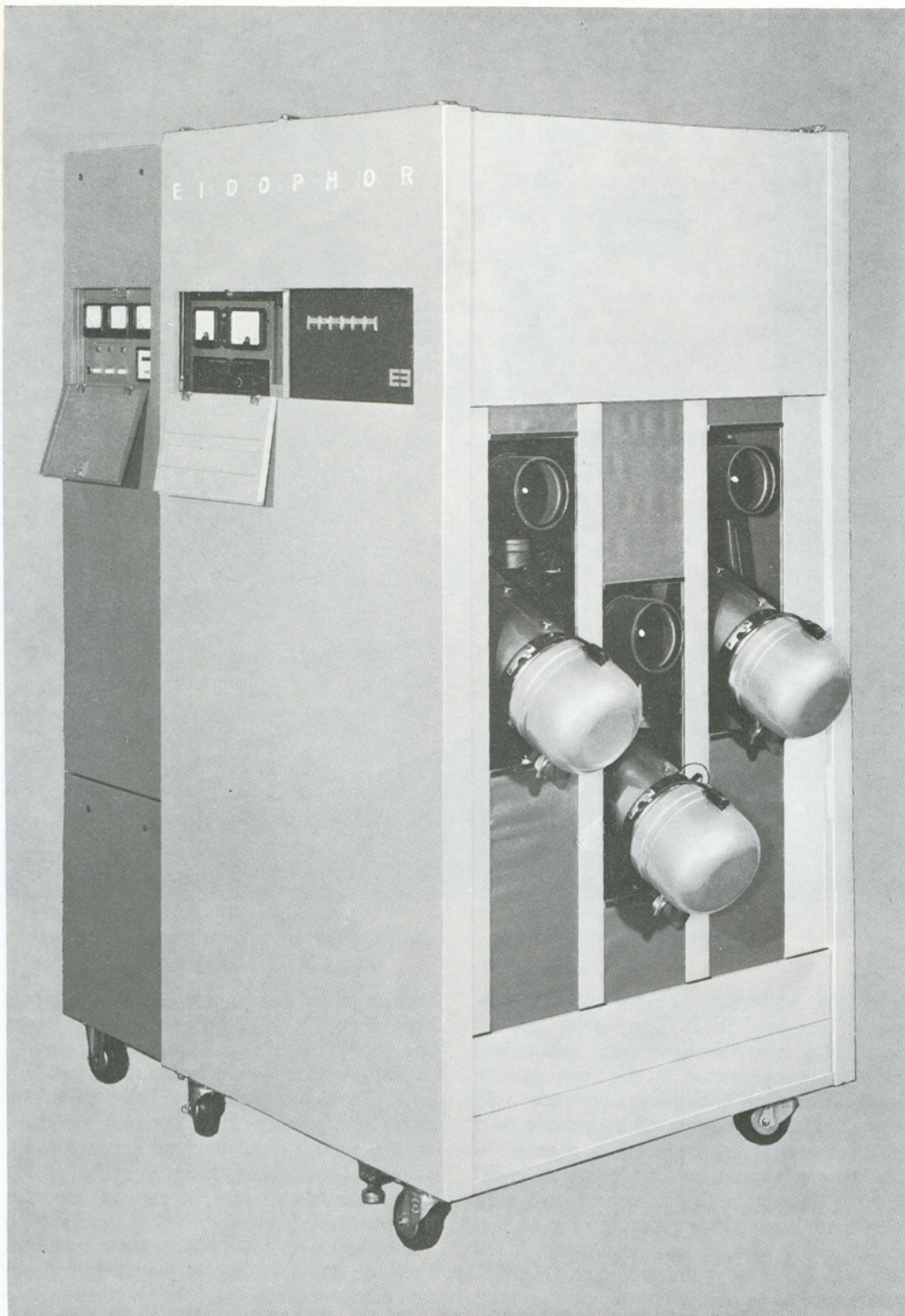




## Eidophor Colour TV Projector, Type EL 5799



**Extremely high light output**

**Choice of various projection lenses for  
variable throw and picture dimensions**

**Installation possible at the rear in  
projection booth**

**Truthful colour reproduction**

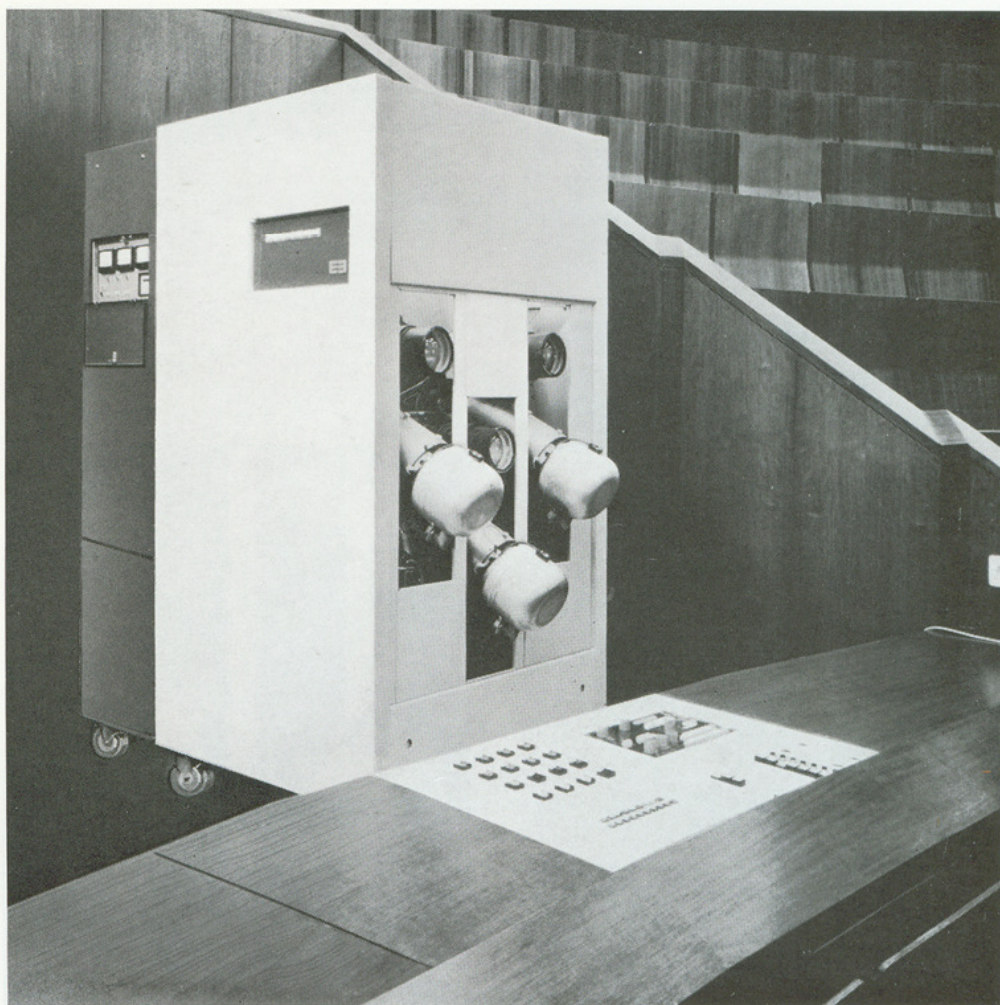
**Low running costs**

The Eidophor Colour Television Projector is an unrivalled equipment for the projection of colour television pictures upon screens as large as 40 by 30 ft and with unequalled brilliance, sharpness and colour fidelity. This achievement is the result of many years of research and development, the ingenious Eidophor optical system and, last but not least, the standard of engineering in its design and construction. This makes the projector the key to many novel applications of colour television, for instance, with huge congresses and sporting events, for instructive lectures at universities and research institutes, for background projection in TV-studios, and for data display purposes of civil or military nature.

The equipment employs three physically different techniques: the electron-optics, the light-optics and the electronics. The electron-optical system consists of three identical devices, each composed of a slowly rotating, spherical mirror housed in the so-called "cassette", and an electron gun producing a beam which, after deflection and modulation, scans a raster image on the control layer of oil covering the mirror in the cassette. The latter is vacuum-sealed with the gun, and a pump arrangement consisting of a high-vacuum oil diffusion pump and a mechanical backing-pump, permanently maintains the vacuum.

The light-optical system is designed for a powerful 2.5-kW high-pressure xenon lamp, the beam of which is split by colour selective mirrors into a red, a green and a blue component. These converging, coloured light beams illuminate via three Eidophor mirror bar systems the image rasters, which are electronically scanned as mentioned above on each of the three Eidophor control layers. The images are projected via three projection lenses in superimposition upon the screen, so that due to additive colour mixing a picture appears in natural colours.

The electronic circuitry mainly consists of three video amplifier channels for the three colour signals applied to the projector, and of the deflection circuits for the three electron beams. Because of the special manner of oblique scanning the curved mirror sur-



face, the deflection circuits include key-stone, line-sag, focus and skew corrections. All electronics, except the power supply, are positioned in two hinged units in the rear of the projector rack. By swinging out these units, all circuits and initial pre-set controls are easily accessible. The power supply, which feeds all electronics—the xenon lamp has its own supply—is mounted in a separate rack so that it can be placed in any convenient position in the vicinity of the projector. The d.c. power for the xenon lamp can be provided by any suitable rectifier (please refer to the Technical Data).

The projector has inputs for two different sets of R-, G-, B- colour signals and for a line-up test signal (e.g. a grid pattern signal). Signal selection is effected by push-buttons. These are located, together with the picture brightness and contrast controls, on the control unit, which is executed as a separate entity linked by a cable to the projector. In this way, it can be used for the remote adjustment of the picture from distances up to 160 ft (50 m), for instance, from the direct vicinity of the screen. From the colour signals, also a black-and-white picture can be projected, to agree with the compatibility requirement.

## TECHNICAL DATA

### Standard:

EL 5799/00: CCIR 625-lines system

EL 5799/10: EIA 525-lines system

**Power supply:** 190 - 235 V,  $\pm 5\%$ ,  
adjustable by voltage selector

### Mains frequency:

50 or 60 Hz, single phase

### Power consumption:

Projector 3.1 kVA

Power supply unit 2.2 kVA

### Dimensions (height x width x depth):

Projector complete

1955 x 1040 x 1400 mm (77 x 41 x 55 in)

Power supply unit

1370 x 530 x 430 mm (54 x 21 x 17 in)

Remote control unit

76 x 340 x 220 mm (3 x 13 x 8½ in)

### Weights:

Projector complete 825 kg (1830 lb)

Power supply unit 125 kg (275 lb)

Remote control unit 9 kg (20 lb)

### Length of cables:

between projector and power supply unit  
max. 10 m (33 ft)

between projector and remote control unit  
max. 50 m (165 ft)

### Projection distance:

min. 10 m (33 ft), max. 90 m (300 ft)

### Lenses available:

focal length

260, 290, 310, 380, 500 mm

(10.25, 11.4, 12.2, 15, 19.7 in)

throw ratio (= pict. width : proj. distance)

1 : 3.6, 1 : 4.0, 1 : 4.3, 1 : 5.3, 1 : 7.0

### Maximum picture area:

appr. 100 m<sup>2</sup> (1100 sq. ft.);

aspect ratio 3 : 4

### Projection angle:

between 7° upwards and 18° downwards

### Light source:

Xenon HP-lamp 2500 W nominal

### Rectifier "Xenofora" 100-UVRa:

Mains supply 3 x 220/380 V, 50 - 60 Hz

Power consumption 6.6 kVA

Dimensions (height x width x depth)

1100 x 500 x 360 mm (44 x 20 x 15 in)

Weight 200 kg (440 lb)

### Input signals:

a) one or two sets of R, G, B, signals (VB),  
positive going,  $1 V_{pp} \pm 50\%$

b) either: one or two composite sync signals,  
negative going,  $1 V_{pp} \pm 50\%$

or: H-drive pulses } negative going,  
V-drive pulses }  $1 V_{pp} \dots 4 V_{pp}$

c) monochrome test signal (e.g. grid pattern),  
positive going,  $1 V_{pp} \pm 50\%$

### Video amplifiers:

Bandwidth: — 3 dB at 8 MHz;

Black level set-up adjustable to 0, 2.5, 5, 7.5, 10 %;

Gamma compensation of 2.2, to compensate for input signals of  $\gamma = 0.45$ ; adjustable black-stretcher

## TYPICAL PERFORMANCE CHARACTERISTICS

### Light output:

3600 lumen  $\pm 10\%$  with a lamp current of 95 A, calculated from the central screen illumination with full white modulation; the illumination decreases not more than  $25 \pm 10\%$  within a circle of a diameter of 0.9 x picture height

### Maximum luminance

of white in the centre of a screen with gain = 1.8, and a surface of 20 m<sup>2</sup> (220 sq-ft):

100 cd/m<sup>2</sup> = 30 ft-Lambert = 325 asb;  
with a surface of 100 m<sup>2</sup> (1100 sq-ft):

20 cd/m<sup>2</sup> = 6 ft-Lambert = 65 asb

### Contrast ratio:

min. 100 : 1, measured as screen illumination ratio at full screen white and full screen black modulation

### Resolution:

600 lines in centre of picture

400 lines on the corners

### Geometric distortion:

less than 1 % of picture height within a circle of a diameter of 0.8 x picture height;  
less than 2 % of picture height on the corners

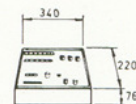
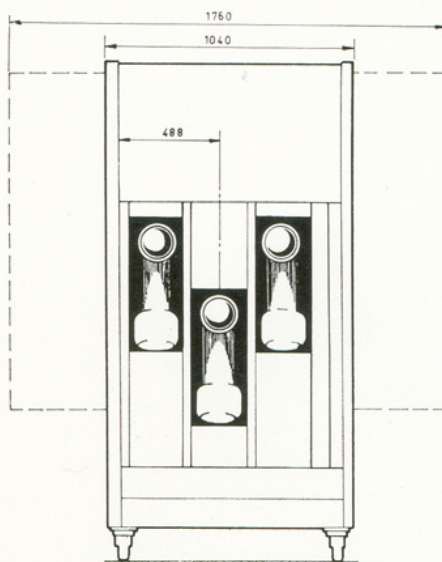
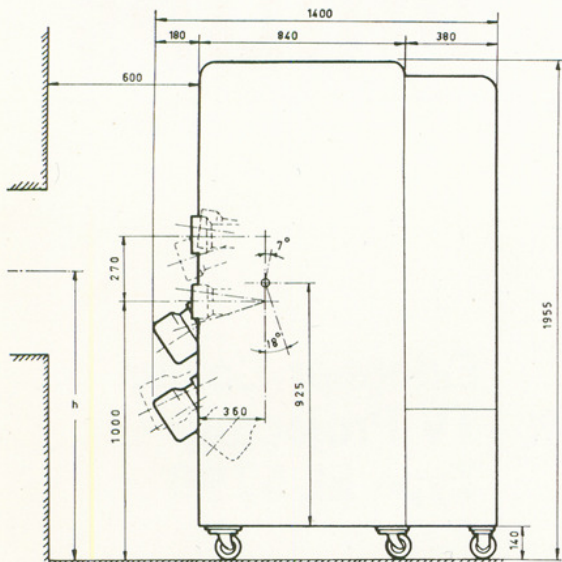
### Colour registration:

no faults within a circle having a diameter of 0.8 x picture height;

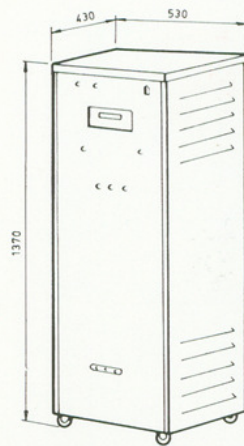
less than 0.5 % of the picture height on the corners

### Permissible ambient temperature:

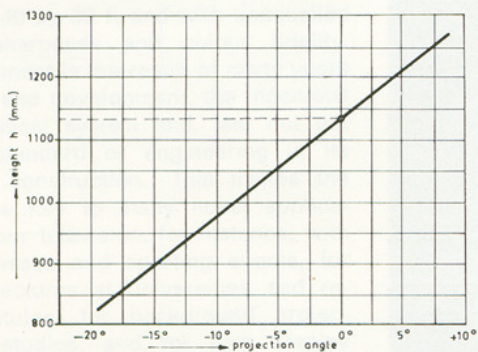
+ 10 °C to + 40 °C (50 °F to 105 °F)



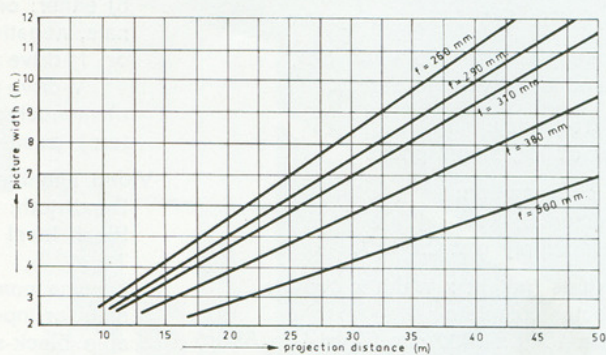
Remote control unit.



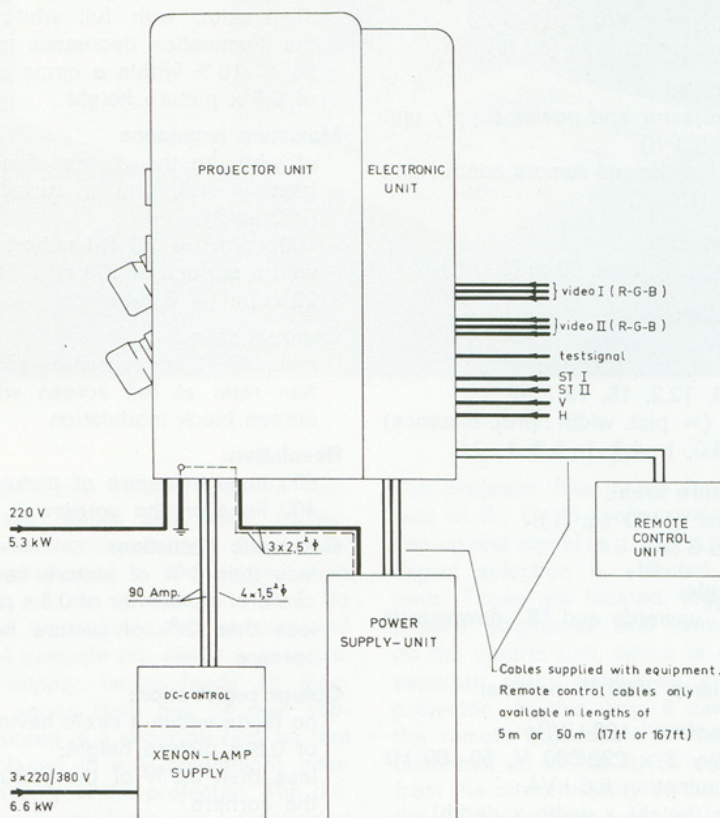
Power supply unit.



Height above floor of projection window center at different projection angles.



Relation between projection distance and picture width at various focal lengths of the projection lenses.



Cables supplied with equipment.  
Remote control cables only  
available in lengths of  
5m or 50m (17ft or 167ft)