

# **Bauer B14 Studio 35mm Projectors for Film and TV Studios.**

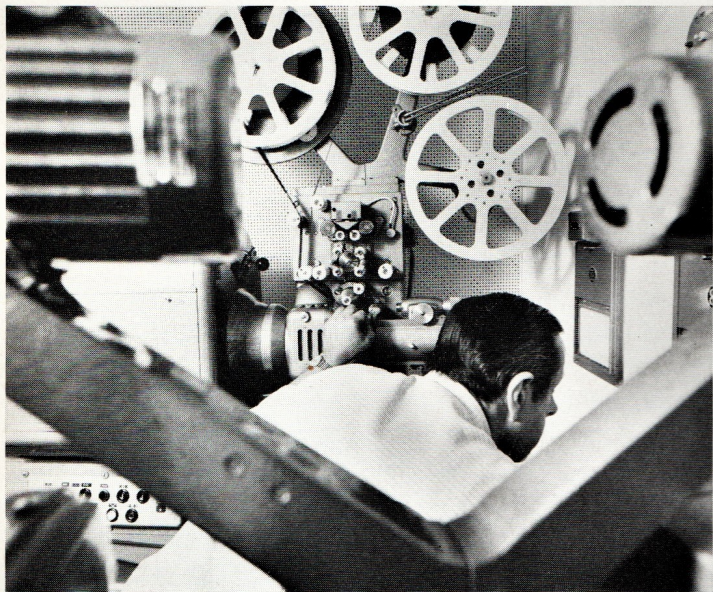






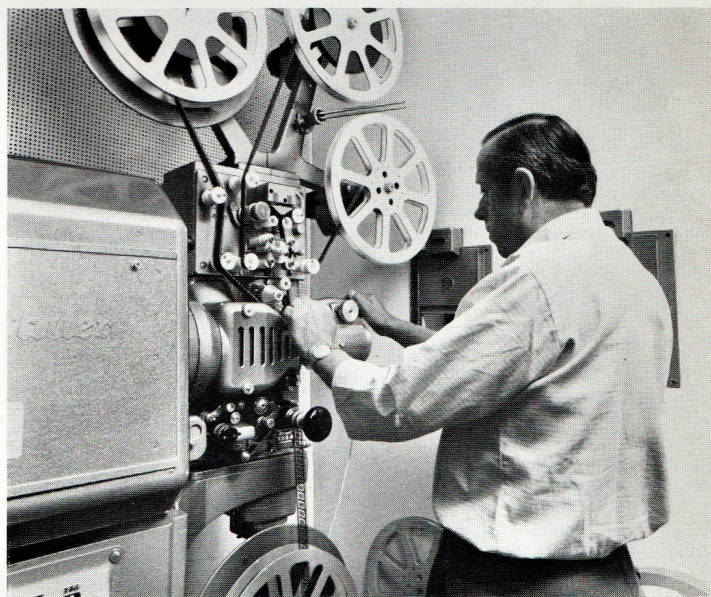
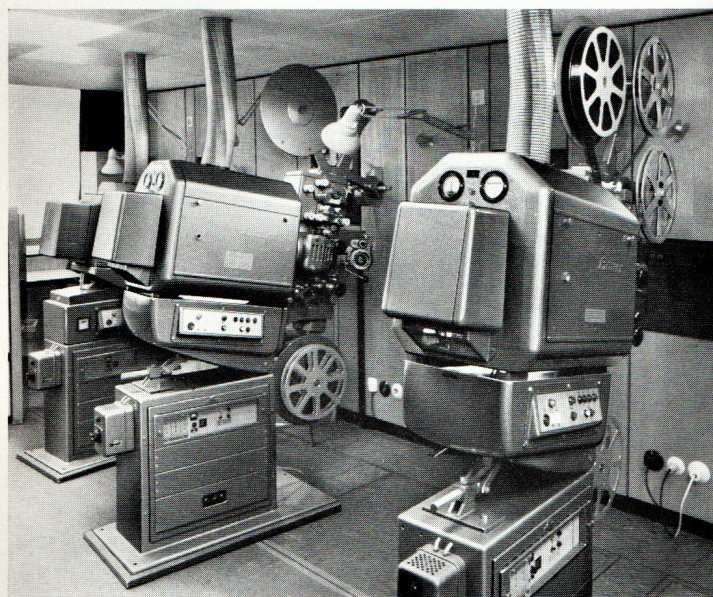


# Bauer B14 Studio, the proven 35 mm studio projector for film production and dubbing.

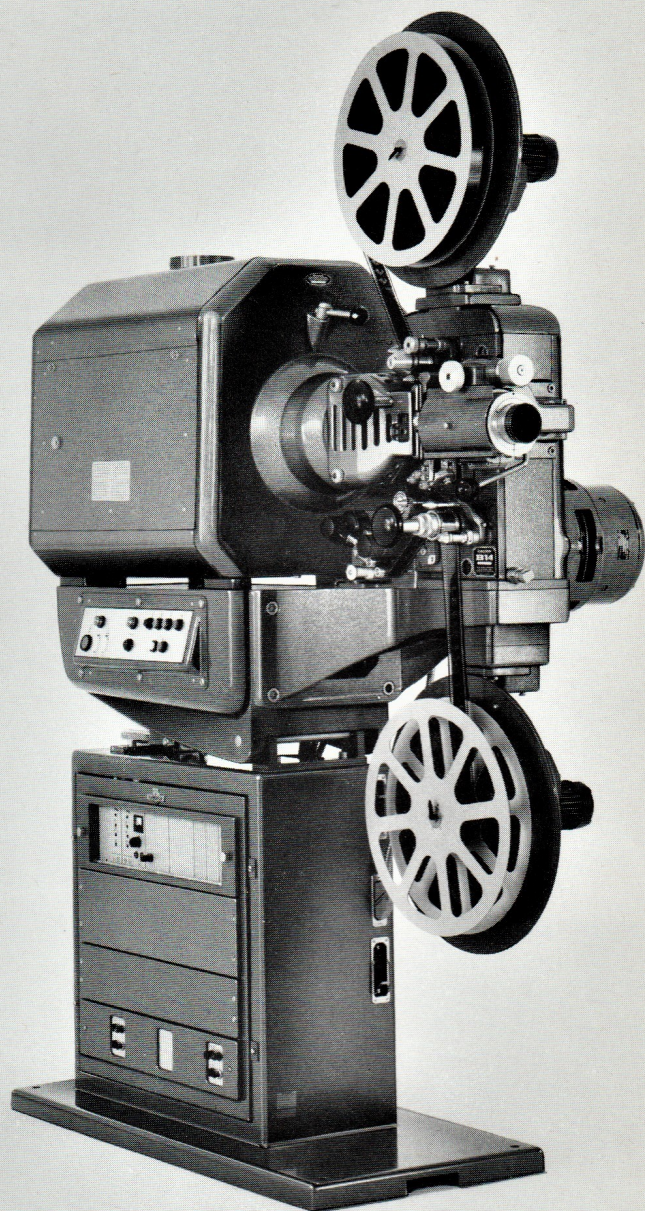
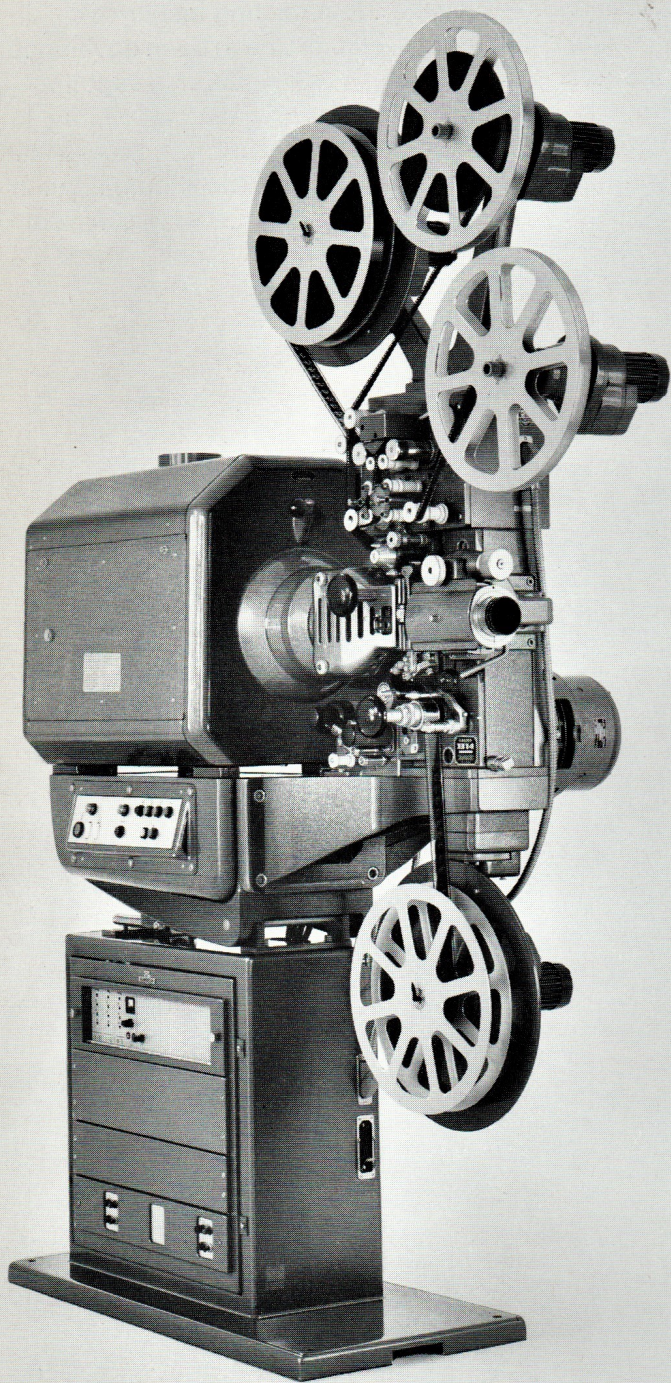


Bauer B 14 studio projectors meet all the exacting requirements of film and television studios regarding picture and sound quality. B 14 studio projectors also meet the related DIN standards, in particular the ARD standards (Arbeitsgemeinschaft der Rundfunkanstalten Deutschlands — German Broadcasting Institutes).

Bauer B 14 studio projectors have been developed in cooperation with Siemens AG, Karlsruhe, enabling operation together with the Duocord magnetic film system as well as with Rotosyn synchronizing equipment. Synchronous operation is also possible in combination with other synchronizing systems (such as Interlock or Selsyn).









# **Bauer B14 Double-band Studio Projector 35/17,5 or 35/35 mm**

The ideal projector for model projection of separate picture and sound film, for dubbing in conjunction with separate magnetic film units as well as for the projection of finished optical or magnetic sound film copies.

This projector features the following modes of operation:

1. Projection of 35 mm picture film, normal, wide-screen or CinemaScope format (silent)
2. Replay of 35 mm picture film, normal, widescreen or CinemaScope format, with optical sound track according to DIN 15 503 (comopt 35)
3. Replay of 35 mm picture film, normal, widescreen or CinemaScope format, with magnetic edge track according to DIN 15 582 (commag)
4. Replay of magnetic sound track 1 on 17.5 mm magnetic sound film (split film) according to DIN 15 552 (sepmag 17.5)
5. Replay of magnetic sound track 1 on separate 35 mm magnetic film according to DIN 15 552 (sepmag 35)
6. Replay of four-track magnetic sound (theatre recording CinemaScope) according to DIN 15 555 (which is an extension to point 3 above)
7. Synchronous operation in conjunction with separate magnetic film units (such as Siemens Duocord) on the power supply of a Rotosyn system.

The projector also features reverse projection.

# **Bauer B 14 Single-band Studio Projector 35mm**

The studio projector for model projection and for dubbing with separate magnetic film units as well as for the showing of finished optical sound film copies. This projector offers the following technical features:

1. Projection of 35 mm picture film, normal, wide-screen or CinemaScope format (silent)
2. Replay of 35 mm picture film, normal, widescreen or CinemaScope format, with optical sound track according to DIN 15 503 (comopt 35)
3. Synchronous operation in conjunction with separate magnetic sound film units (such as Siemens Duo-cord) on the power supply of a Rotosyn system
4. Subsequent conversion for double-band operation allowing all the operating modes described in the left hand column.

This projector also features reverse projection.



# Projector mechanism, take-up, drive, operation.

The projector mechanism advances the film with the utmost precision. The Maltese Cross intermittent gear system runs in an oil bath. The 1 to 4 pull-down ensures optimum film handling. The projector guarantees outstanding picture steadiness: the tolerance is as low as  $\pm 0.1\%$  vertically; horizontal weave is  $\pm 0.08\%$ . The projector run-up is automatically controlled; the run-up time is 7 seconds for optical sound and less than 5 seconds for magnetic sound operation.

The cone shutter interrupts the light beam very close to the film gate allowing the maximum amount of light to pass through the film gate.

A built-in electro-mechanical light cut-off within the shutter housing closes automatically when the projector running speed drops below a certain limit or when the film breaks. A special film break switch cuts off the power supply to the motor and the projection lamp when the film breaks or is at its end.

The take-up is fitted with a special, automatically controlled take-up motor on each reel arm. This arrangement is another technical feature of the high engineering standard of Bauer B 14 studio projectors. Load-controlled friction drives ensure even as well as optimum film supply and take-up. The projector has square reel shafts for use with standard solid or split reels with a core diameter of 100 mm. The reel capacity is 600 metres (2000 feet).

The drive motor is a three-phase synchronous motor. Motors are available for 24 or 25 f.p.s. and supply voltages of 3 x 220 V, 50 Hz or 3 x 380 V, 50 Hz. If required, the projectors can also be equipped for both running speeds, 24 and 25 f. p. s. A 60 Hz motor (for 24 f. p. s.) is also available. For Rotosyn operation the projector is equipped with a 3 x 220 V, 50 Hz drive motor. All synchronous motors are fitted with an extended shaft for operation in conjunction with mechanical synchronizing systems, or for attachment of generators for electronic synchronizing systems.

The operation of the Bauer B 14 studio is in keeping with the requirements of studio work. For convenient threading, all lay-on roller assemblies are movable. The film gate swings wide open and can be easily removed. The take-up sprocket is fitted with a loop former which permits changing of the loop size even during operation.

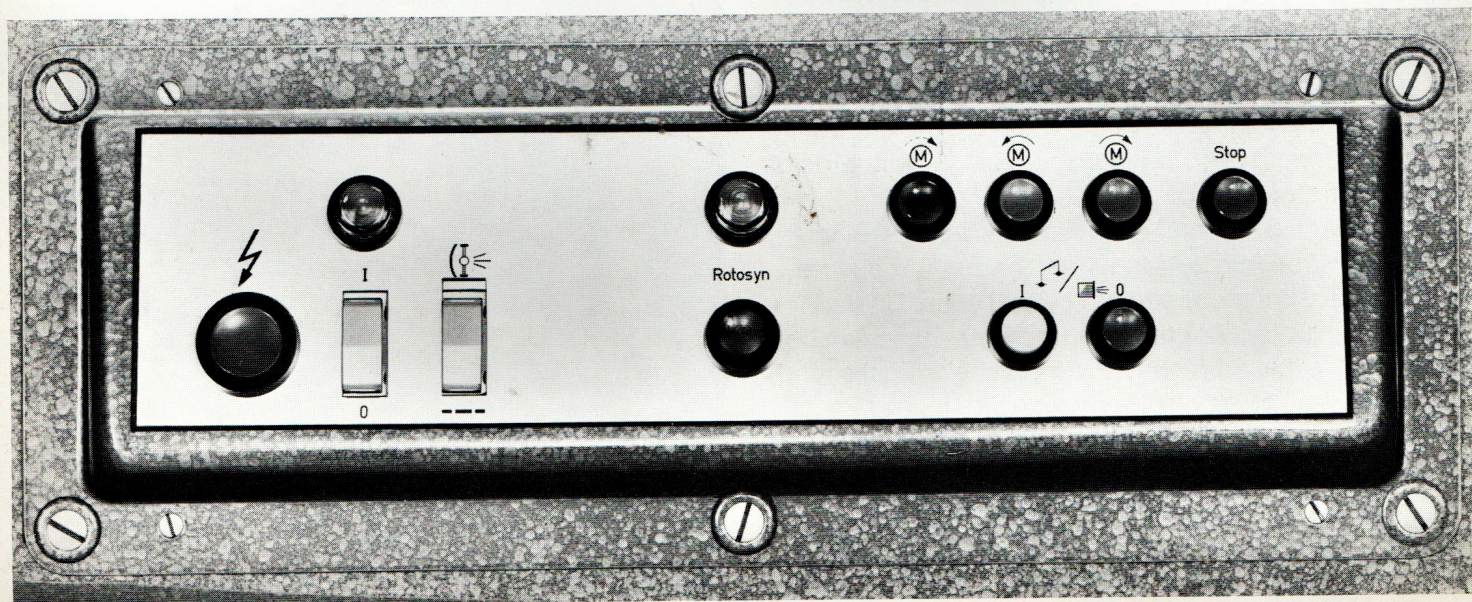
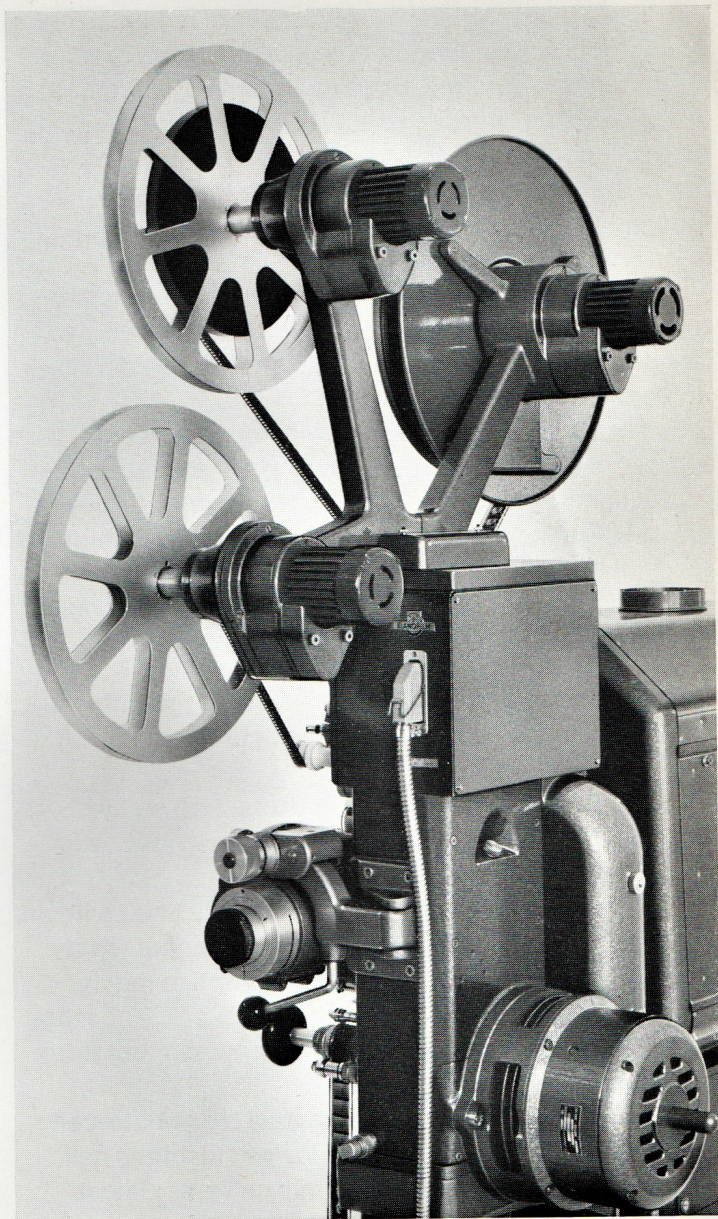
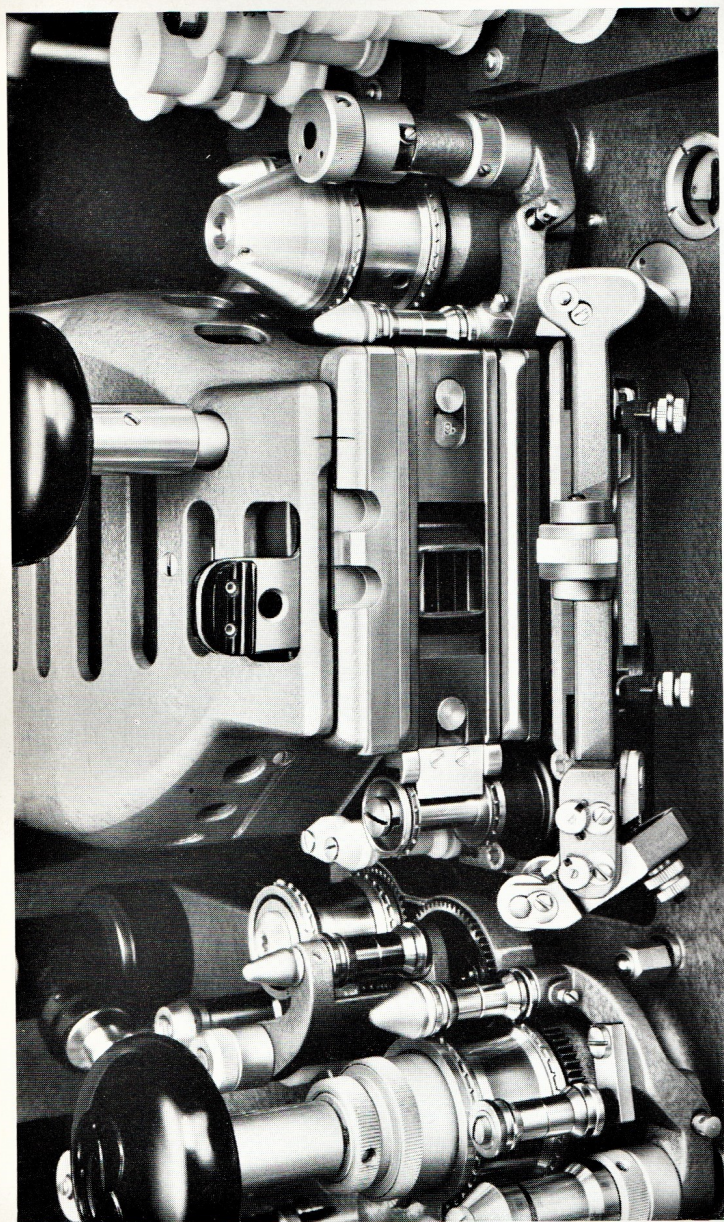
Film run and projector controls are clear and fool-proof. The operating mode is selected on the switch panel which is fitted with push-buttons and toggle

switches. Pilot lights facilitate operation. The switch panel comprises the following controls:

- Power on/off
- Lamp on/off
- Inching
- Forward run
- Reverse run
- Stop
- Change-over on/off
- Switch-over to Rotosyn operation

In case of emergency the complete system can be shut off with a single push button. An operating hours counter indicates the operating time of the xenon lamp. The electrical system of the projector is supplied by a built-in 24 V D. C. power supply unit.







# Light, sound, amplifier, rectifier.

The projection lamp of the standard B 14 studio projector is a 900 W xenon lamp which throws a white light similar to daylight. Even during voltage fluctuations its color temperature remains around 6000° Kelvin. This type of lamp ensures even illumination of the picture area. The xenon lamp is always ready for operation. It is automatically ignited, has a long service life and is interference suppressed for studio operation.

In case of higher light requirements it is possible to use 1,600 or 2,500 W xenon lamps. The necessary lamphouse is fitted with an additional blower for the auxiliary mirror.

The lamphouses are fitted with dichroic coldlight mirrors to separate the heat rays from the optically useful light rays. The invisible heat rays pass through the coldlight mirror and are conducted away through the lamphouse air vent. The coldlight mirrors reflect about 15% more light than any normal conventional mirror system.

The sound system meets the exacting requirements of studio work. The various operating modes are listed on page 5.

The two sound systems are characterized by short run-up times, low wow and flutter and wide frequency response.

The SIEMENS magnetic sound unit is fitted with an automatic starting capacitor. The two-channel replay head permits the scanning of sepomag and commag recordings without changing the head block. The magnetic sound heads are pre-adjusted and can therefore easily be exchanged.

The optical sound is not scanned by a photo-cell but with the aid of a modern silicon photovoltaic cell. The advantages of the photovoltaic cell are: almost unlimited service life, wide frequency response, and high signal-to-noise ratio owing to low-impedance amplifier matching.

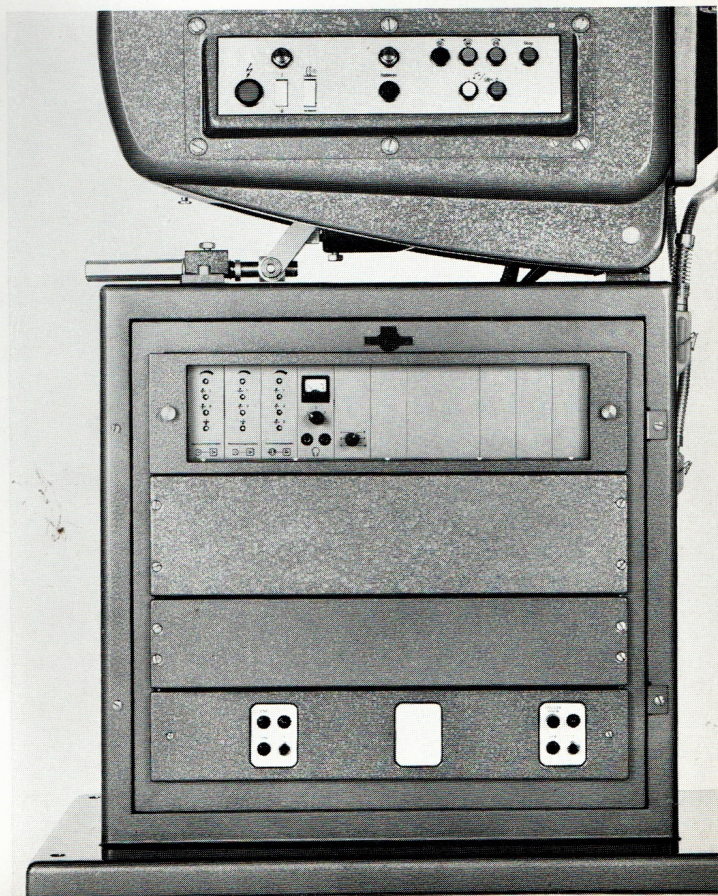
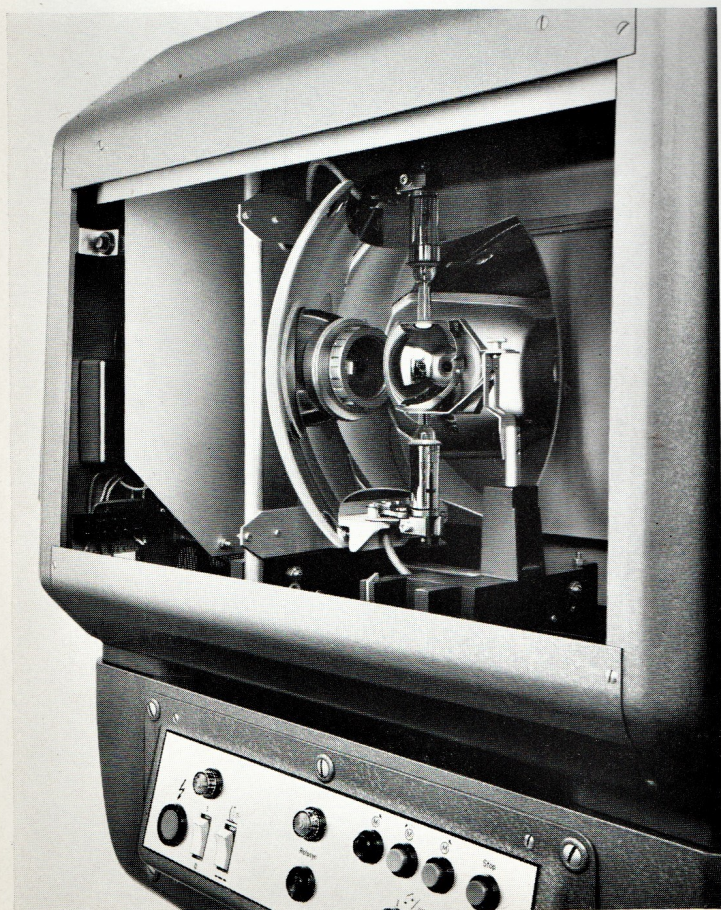
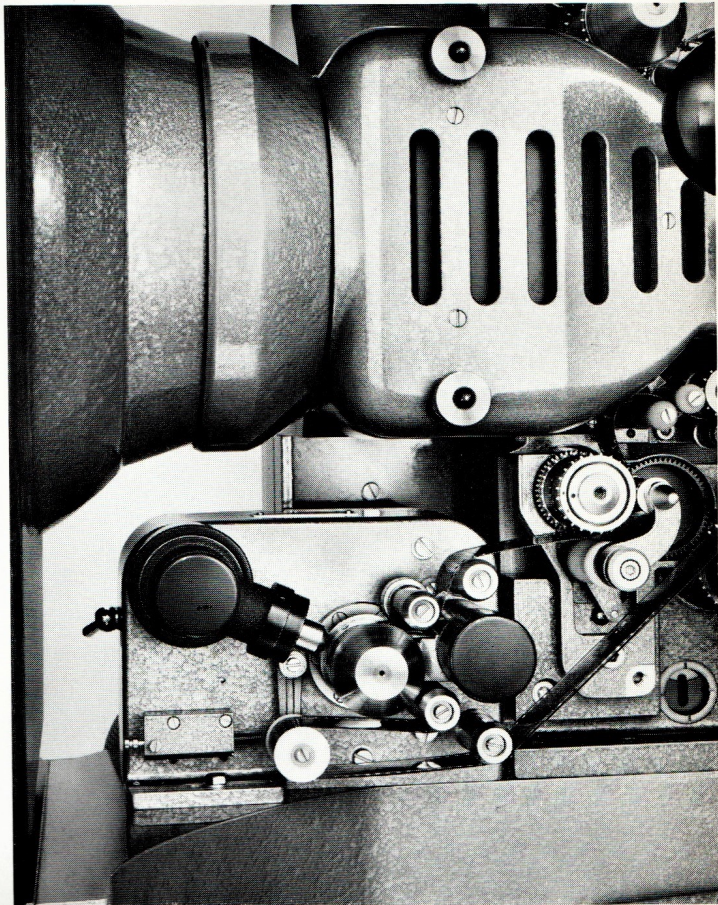
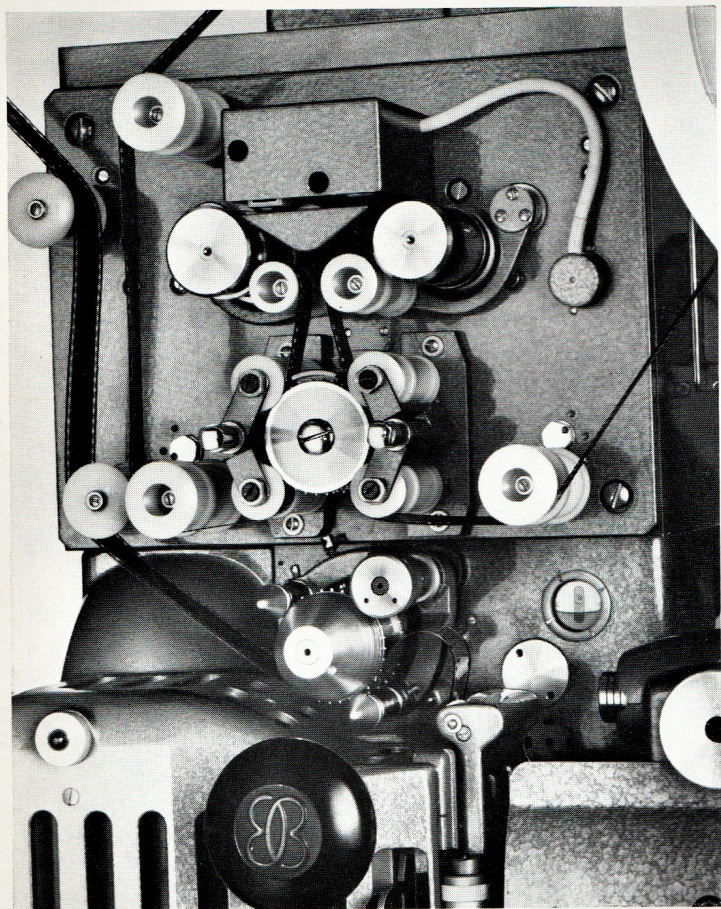
The pre-amplifiers built into the pivoting frame of the projector pedestal are of the Sitral type (silicon transistor printed circuits) to meet the high standards of studio operation.

The magnetic sound amplifiers are fitted with frequency-controlled adjustment elements which ensure an absolutely balanced frequency response. On the optical sound amplifier the frequency response can be generously adjusted for adaptation to the optical sound recording, particularly in the range of the higher frequencies.

The exciter lamp rectifier is also located within the amplifier frame. This rectifier supplies a well stabilized and ripple-free D. C. voltage. The frame leaves space enough for a 25 W output amplifier.

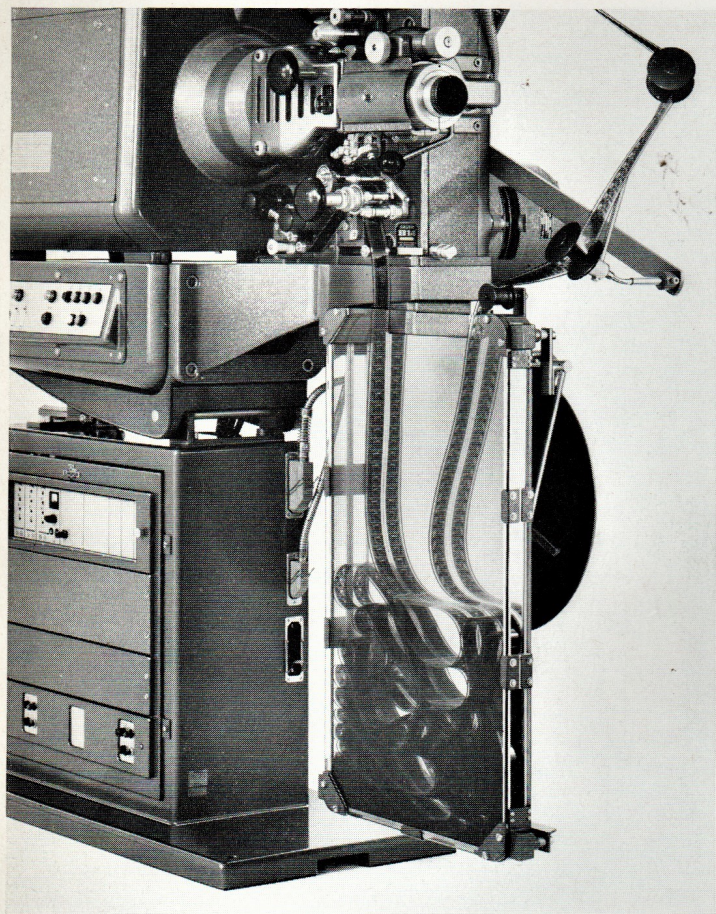
The rectifier for the operation of the xenon lamp is not included in the standard equipment but can be ordered together with the projector. Depending on the model, it may be fitted with a transistor regulator for stabilizing the lamp current, within a tolerance of  $\pm 0.5\%$ . The lamp current can be remotely controlled and set to any required level.







# Lenses, loop box, and other accessories.

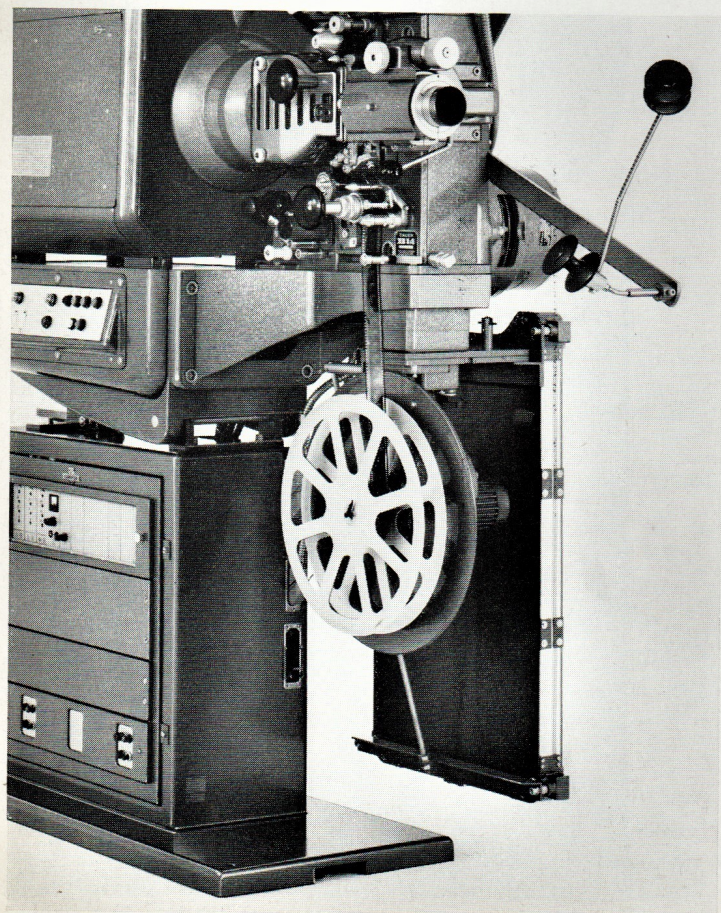


The projection lenses are distinguished by outstanding definition and color rendition. The choice of focal length depends on the screen size and the projector-to-screen distance. The focal lengths of the lenses available range from 45 to 225 mm. Anamorphic lens attachments are also available.

The loop box (see also folded color picture) for endless film projection takes approx. 40 metres (140 feet) of film. It is pivot-mounted on the projector so that the use of reel or loop box is possible without any modification to the projector. The pictures on this page show the Bauer B 14 studio with the loop box in operating position as well as with the loop box swung out for reel-to-reel operation.

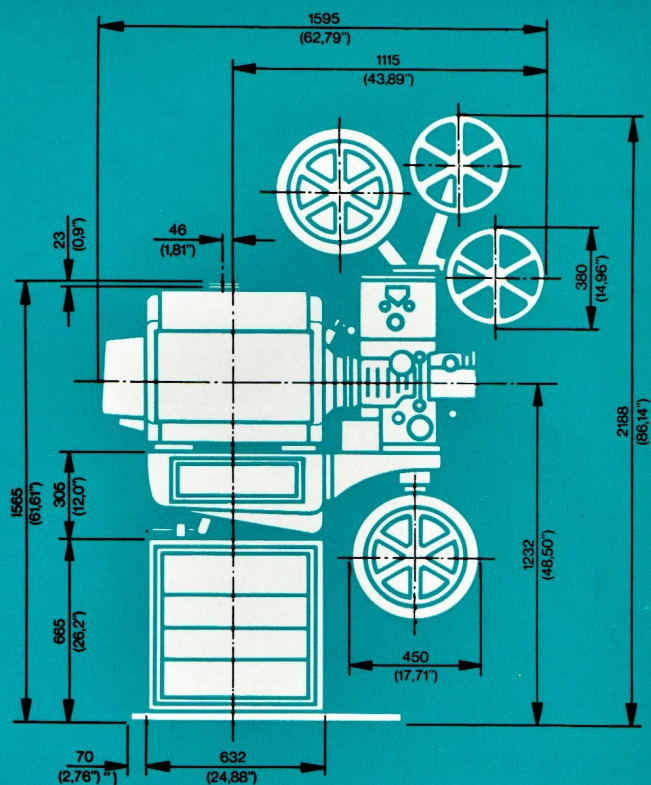
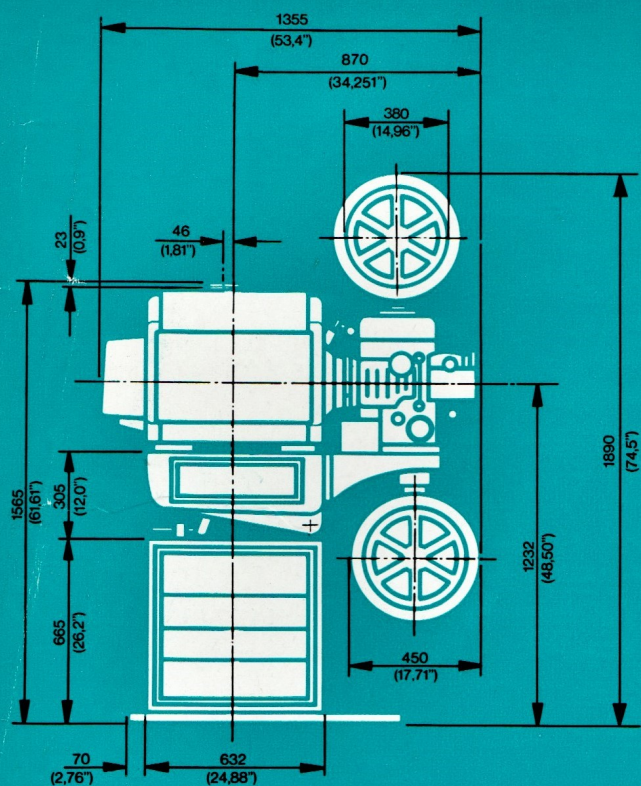
For operation with xenon lamps Bauer B 14 studio projectors must be connected to an exhaust duct. If there is no air duct, it is necessary to use an ozone filter with an exhaust fan.

Special accessories: Remote control unit for focusing, Bauer rewinder for film reels up to 2,000 metres (7,000 feet), Bauer cabin windows, solid or split film reels 17.5 mm/2,000 feet and 35 mm/2,000 feet. There are further accessories about which we will gladly inform you upon request.

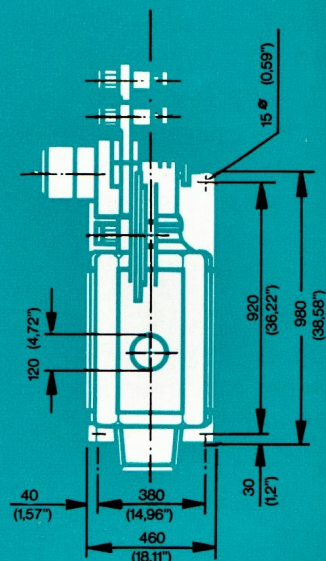
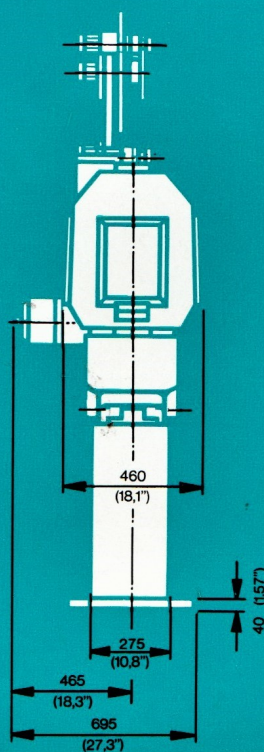
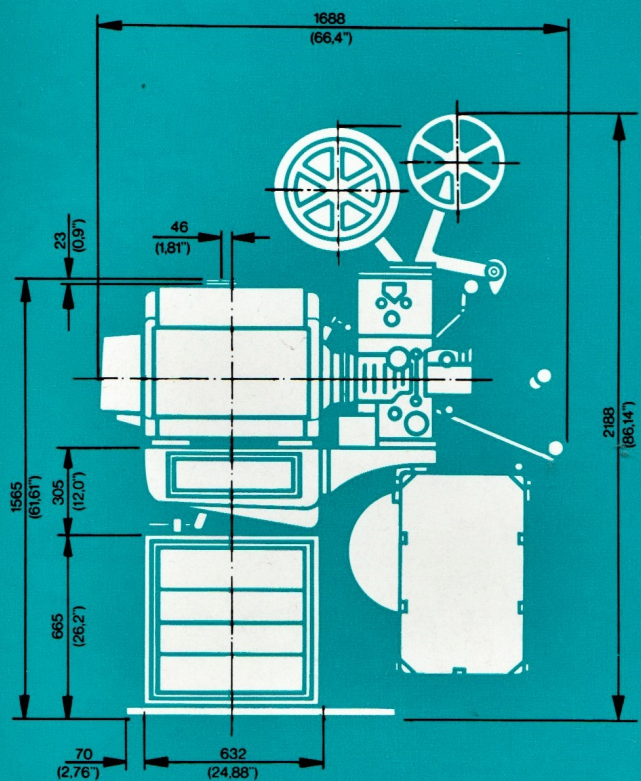




# Dimensions.

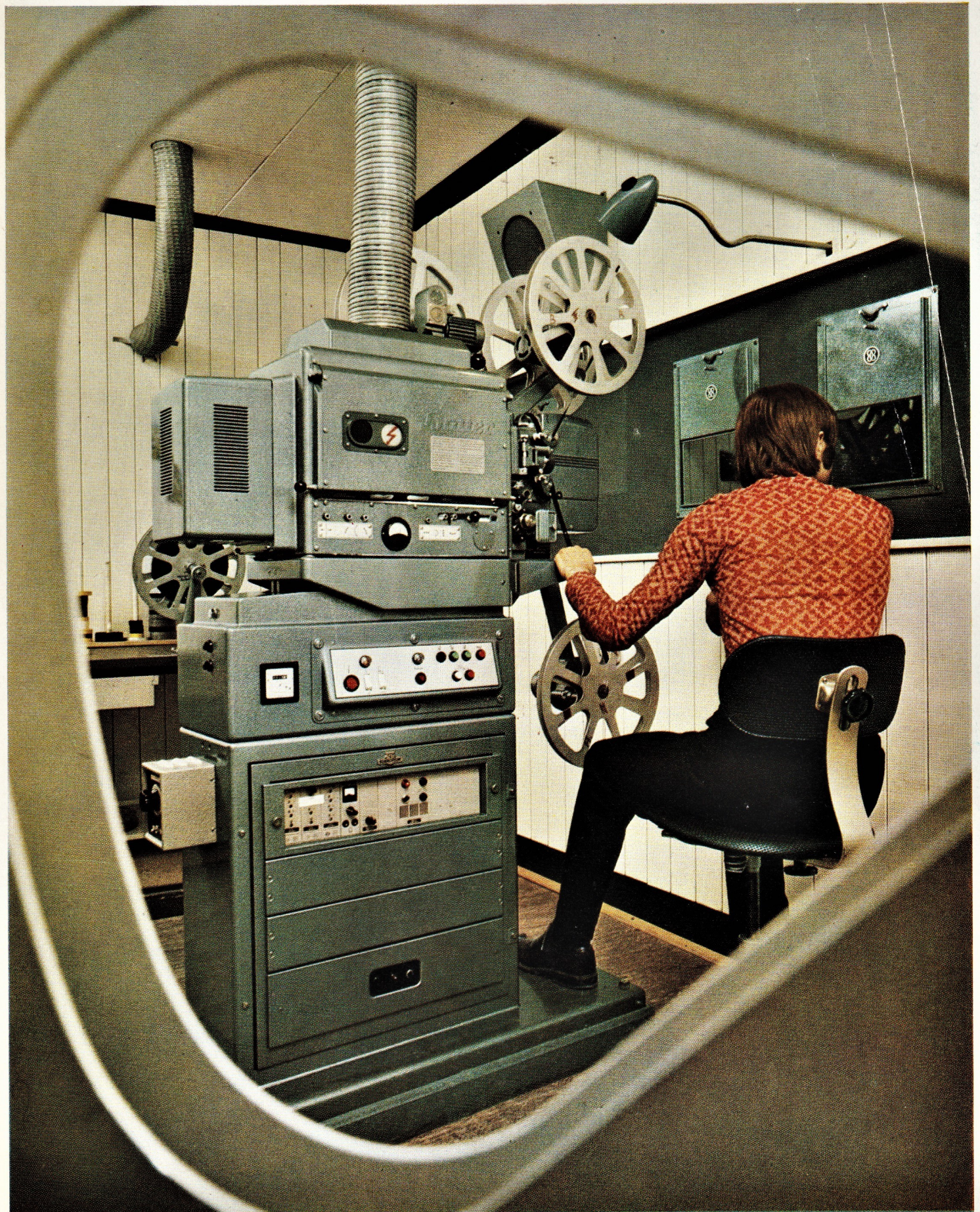


Dimensions in mm (inches)

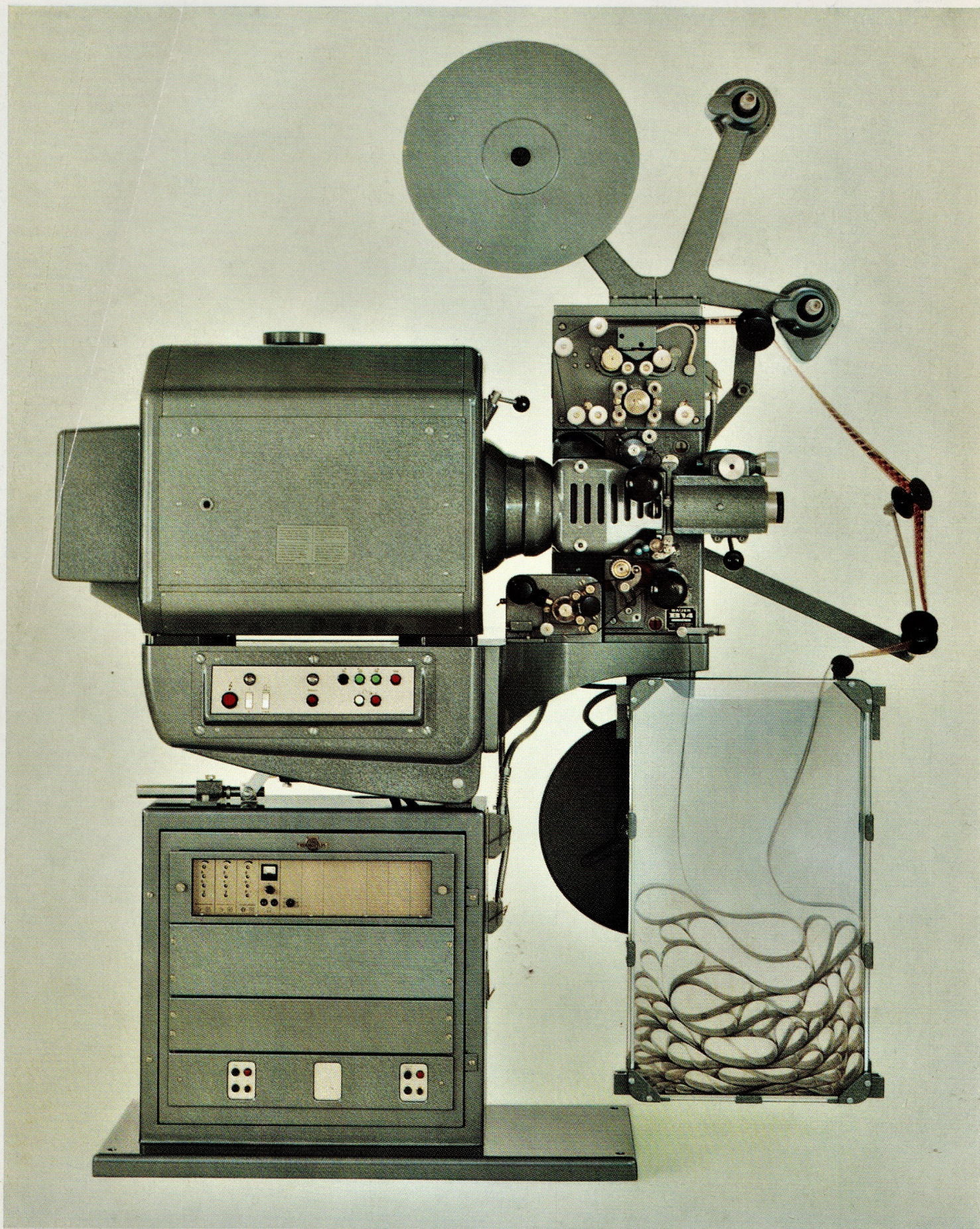




**And for working with 16mm film:  
Bauer Selecton single-band and double-  
band studio projectors.**









# Technical specifications.

**Weight** (net) double-band: 285 kg (616 lbs.)  
single-band: 250 kg (550 lbs.)

**Dimensions** see page 11

## Drive motor

Three-phase synchronous motors, optionally available as follows:

Voltage	Hz	f. p. s.
220/127	50	25
220/127	50	24
380/220	50	25
380/220	50	24
203/117	60	24

A 220/127 V motor is required for Rotosyn operation.  
The local power supply must be 3 x 220 V.

## Power requirements

For controls, take-up motors, ignition device, xenon lamphouse, amplifier pedestal:

Single-phase A.C. 220 V, 50–60 Hz

## Projector intermittent

Four-bar Maltese Cross drive unit in oil bath with 16-tooth intermittent sprocket. Pull-down 1:4

## Film take-up and reel capacity

Load-controlled frictions for all studio-type film reels (diameter of reel core 100 mm), square reel shafts reel capacity of picture and magnetic film up to 600 metres (2,000 feet).

## Film gate runners

Easily exchangeable; runner pressure 350 grams

## Rotating shutter

two-blade cone shutter

## Picture steadiness

Vertical  $\pm 0.1\%$

Horizontal  $\pm 0.08\%$

## Projection lenses

Barrel diameter: 62.5 or 70.6 mm

focal length range from 45 to 225 mm

## Projector tilt

Upward  $3^\circ$

Downward  $6^\circ$

## Run-up

Automatic  $< 7$  seconds for optical sound

Automatic  $< 5$  seconds for magnetic sound

## Optical sound

Level: +6 dB on 200 Ohm

Frequency response: 50 up to 8,000 Hz

linear (adjustable)  $\pm 1.5$  dB

Signal-to-noise ratio:  $> 50$  dB

Wow and flutter characteristics according to

DIN 45 507:  $< \pm 0.2\%$

## Magnetic sound (commag and sepmag)\*

Level: +6 dB on 200 Ohm

Frequency response: 40 up to 15,000 Hz

linear (adjustable):  $\pm 1.5$  dB

Signal-to-noise ratio:  $> 55$  dB

Wow and flutter characteristics according to

DIN standard 45 507:  $0.2\%$

## Magnetic sound head for picture film\*

Replay 70 mH

## Magnetic sound head for center track\*

Replay 70 mH

Output impedance of preamplifier  $< 50$  Ohm

## Change-over

Light cut-off: Electro-magnetic

Sound: Operating contact for relay change-over

## Light source:

900W xenon lamp: 2,000 lumen

evenness of illumination:

80% according to DIN standard 15 748

1,600 W xenon lamp: 4,000 lumen,

evenness of illumination:

80% according to DIN standard 15 748

## Color temperature

approx. 6,000° Kelvin

## Connected loads

Drive motor approx. 250 W

Controls approx. 200 W

900 W xenon lamp rectifier approx. 3,000 W

1,600 W xenon lamp rectifier approx. 5,000 W

\* double-band version only

Subject to modification without notice

# BAUER

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