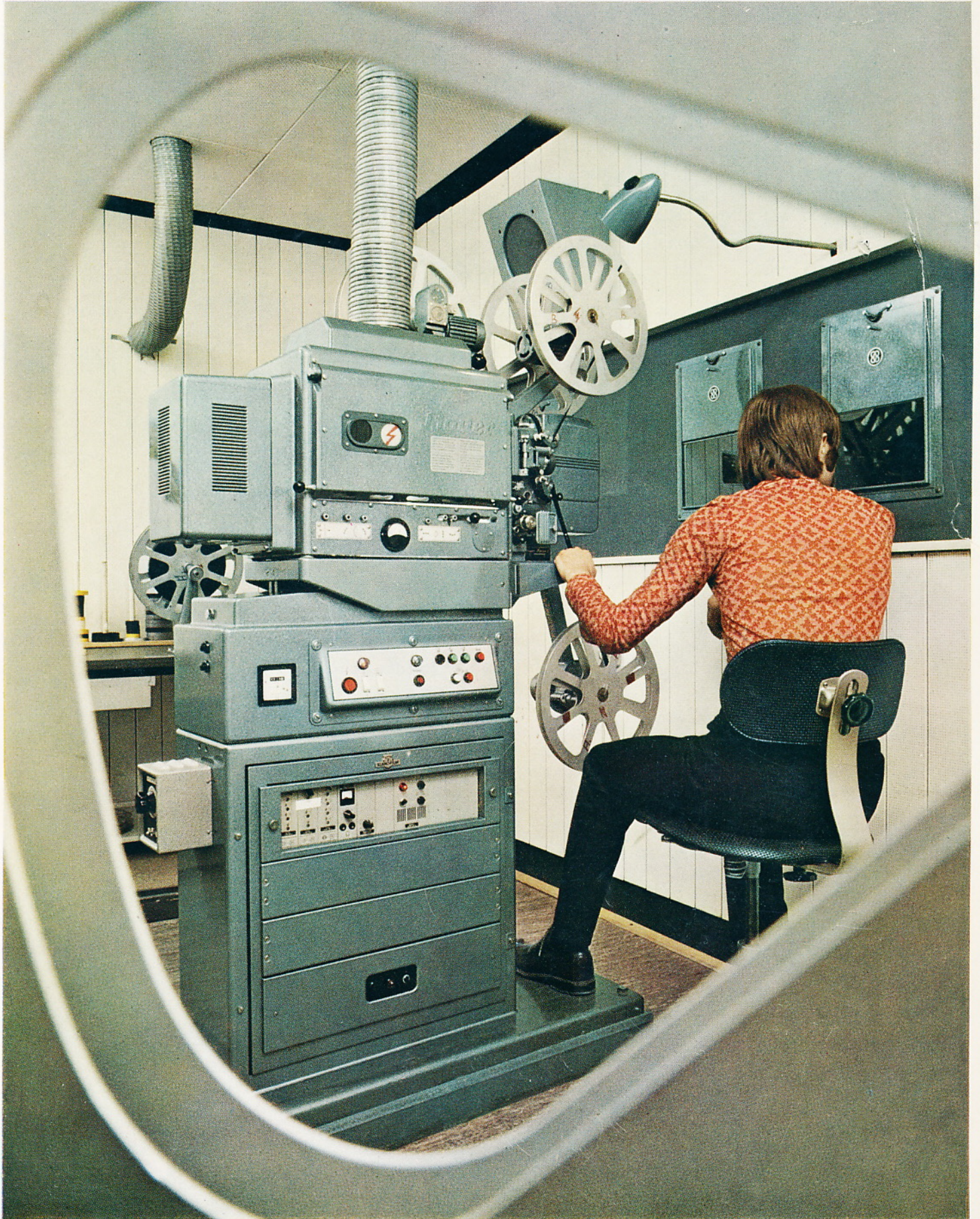


**For film and TV studios:
Bauer Selecton Studio
for 16 mm projection.**

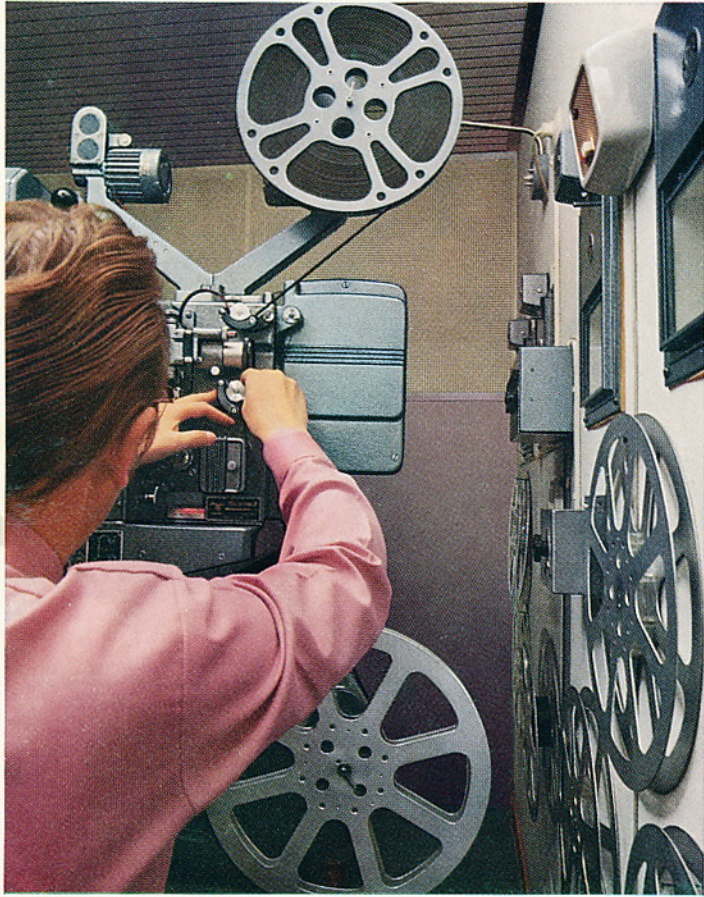




Bauer Selecton Studio

the proven 16 mm studio projector

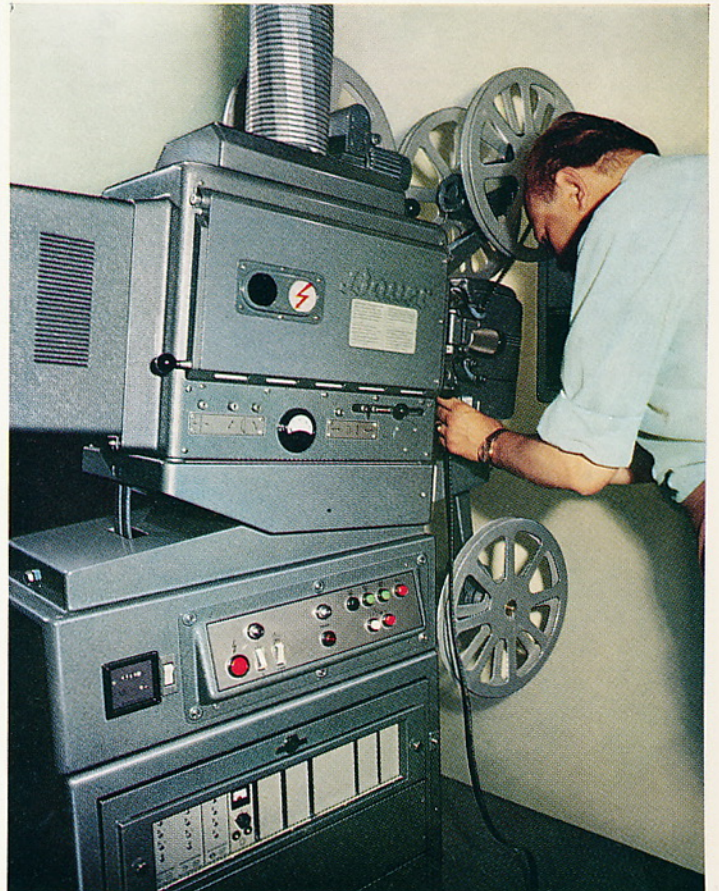
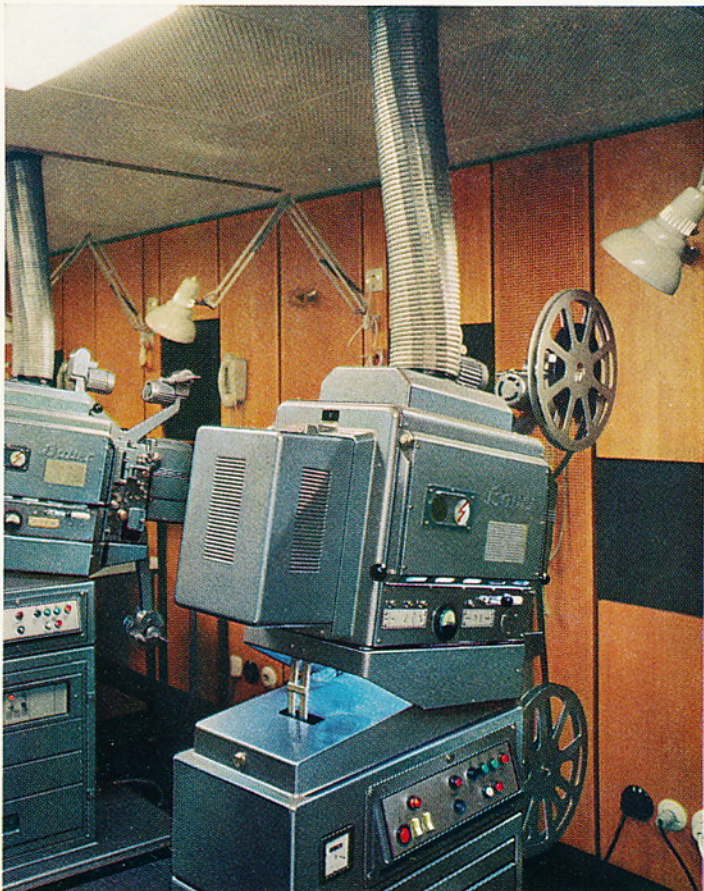
for film production and synchronization

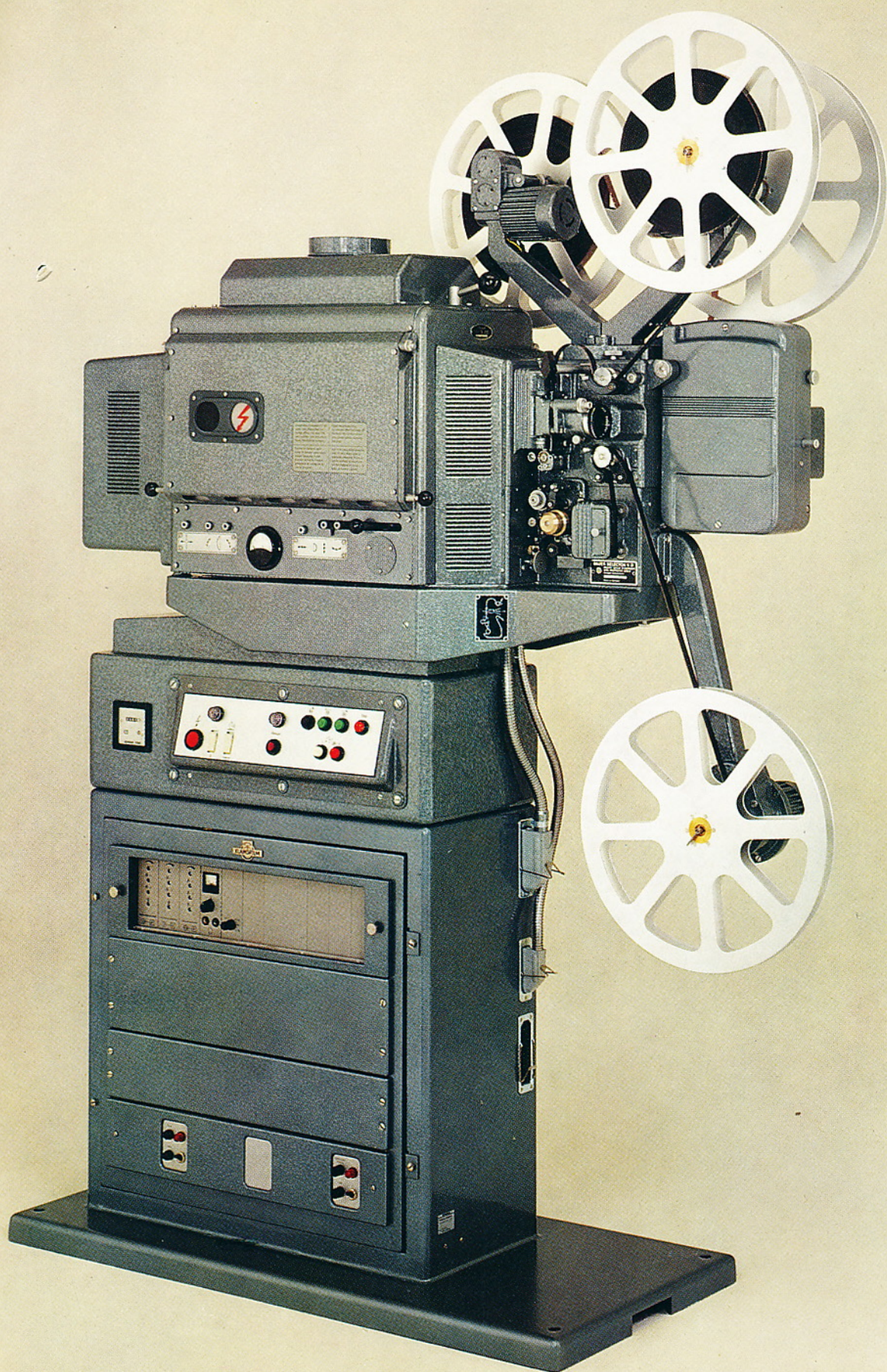


A studio projector is expected to be sturdy and rugged like a locomotive and precise like a fine watch. These are exactly the characteristics of the projectors which BAUER have manufactured in six decades. It is for this reason that BAUER projectors meet all the exacting requirements of film and television studios regarding the quality of picture and sound reproduction.

BAUER Selecton studio projectors also meet the requirements of all DIN standards as well as the standards of the ARD, the "Arbeitsgemeinschaften der Rundfunkanstalten Deutschlands" (German Radio Corporation)

BAUER Selecton Studio projectors have been developed in cooperation with „SIEMENS AG, Bild- und Tontechnik“, Karlsruhe, Germany. This means they can be operated in connection with equipment of the DUOCORD magnetic film system as well as with Rotosyn synchronizing equipment. Synchronous operation is also possible in connection with other systems (such as Interlock or Selsyn)





Bauer Selecton Double-Band 16/16 mm Studio Projector

This is the most perfect projector for sample presentations of separate picture and sound films, for synchronous operation with separate magnetic film units and for the showing of finished optical sound as well as magnetic sound film copies.

The Selecton Double-Band Studio Projector is available in two versions.

The BAUER Selecton Studio Projector for sound recording and reproduction features:

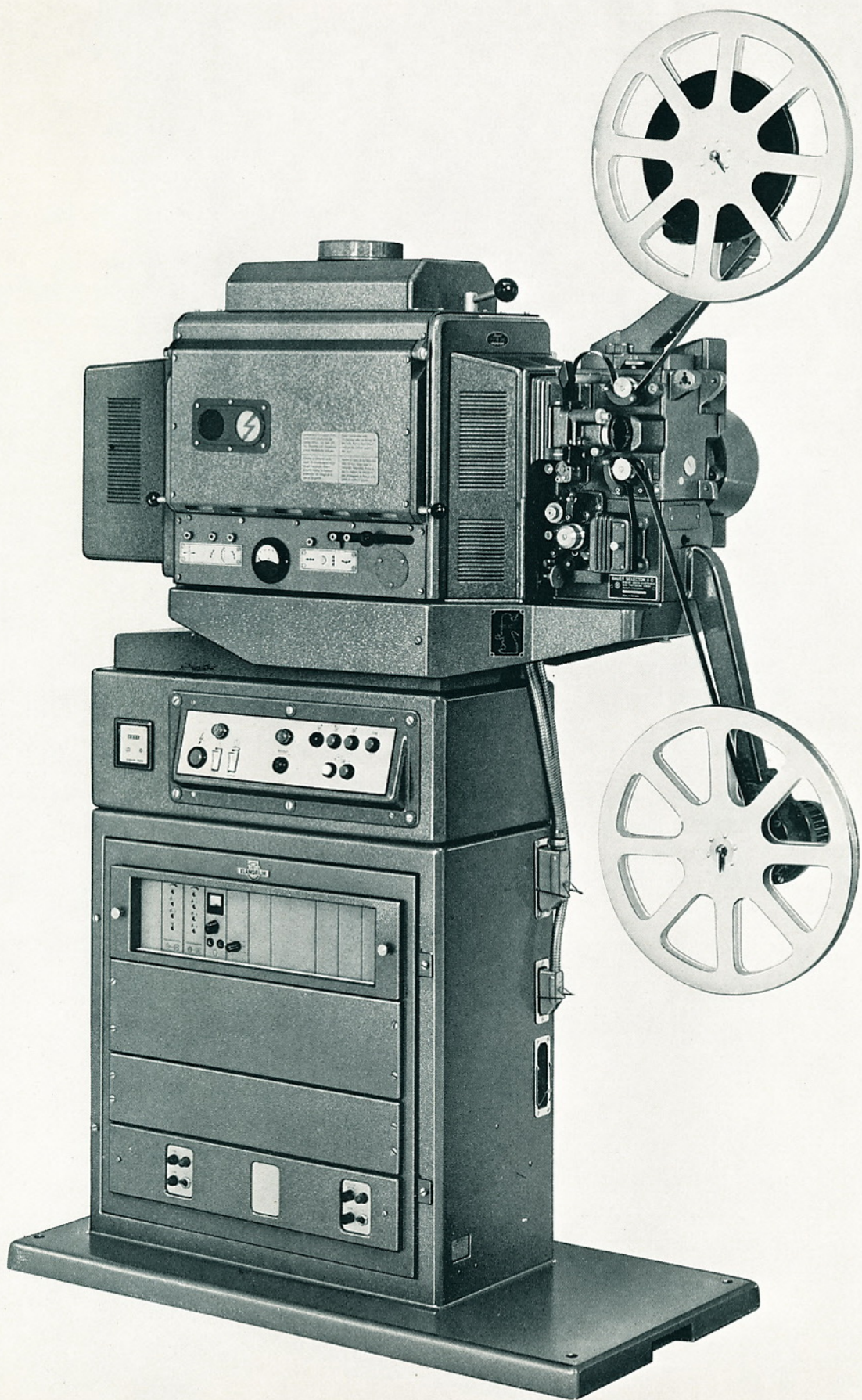
1. Reproduction of single-perforated 16 mm picture film according to DIN 15 602 (seppic)
2. Reproduction of 16 mm picture film with optical edge track according to DIN 15 603 (comopt)
3. Reproduction of 16 mm picture film with magnetic edge track according to DIN 15 681 (commag)
4. Reproduction of magnetic sound center track on separate 16 mm magnetic film according to DIN 15 655 (sepmag)
5. Optional – reproduction of other standardized sound tracks on separate magnetic 16 mm film (special version)
6. Recording on 16 mm picture film with magnetic edge track according to DIN 15 681 (commag)
7. Recording on separate 16 mm magnetic film according to DIN 15 655 (sepmag)
8. Re-recording on the projector
 - from sepmag to commag
 - from commag to sepmag
 - from comopt to sepmag
9. Synchronous operation together with other magnetic film units (such as SIEMENS Duocord) on the power supply of a Rotosyn system

The film can run through the projector forward and backward, with or without light.

The BAUER Selecton Studio Projector only for reproduction features:

1. Reproduction of single-perforated 16 mm picture film (silent) according to DIN 15 602 (seppic)
2. Reproduction of 16 mm picture film with optical sound edge track according to DIN 15 603 (comopt)
3. Reproduction of 16 mm picture film with magnetic sound edge track according to DIN 15 681 (commag)
4. Reproduction of magnetic sound center track on separate 16 mm magnetic film according to DIN 15 655 (sepmag)
5. Optional – reproduction of other standardized sound tracks on separate 16 mm magnetic film (special version).
6. Synchronous operation with separate magnetic film units (such as SIEMENS Duocord) on the power supply of a Rotosyn system

Also on this projector version the film can run through backward and forward, with or without light.

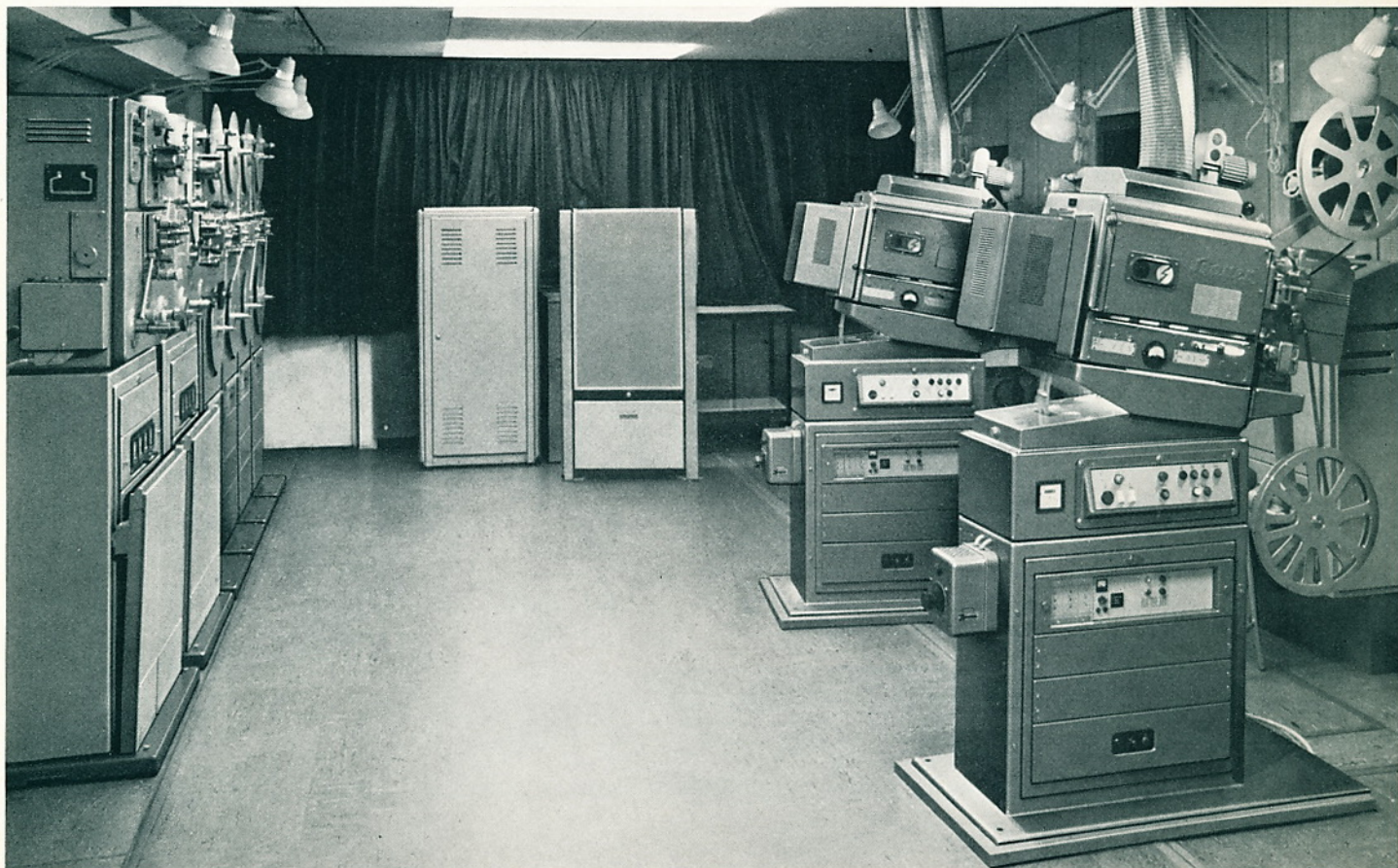


Bauer Selecton 16 mm Single-Band Studio Projector

This studio projector for sample showing and synchronization with separate magnetic film equipment as well as for the presentation of finished optical and magnetic sound copies — features:

1. Reproduction of single-perforated 16 mm picture film according to DIN 15 602 (seppic)
2. Reproduction of 16 mm picture film with optical sound edge track according to DIN 15 603 (comopt)
3. Reproduction of 16 mm picture film with magnetic sound edge track according to DIN 15 681 (commag)
4. Synchronous operation with separate magnetic film equipment (such as SIEMENS Duocord) on the power supply of a Rotosyn system (see illustration below)
5. Subsequent conversion is possible for full-fledged double-band operation according to the description of the double-band modes of reproduction

The film can be run backward through the projector with or without light.



Projector Mechanism, Take-up, Drive, Operation

The projector mechanism advances the film with utmost precision. The picture steadiness is outstanding; picture weave remains within the narrow tolerance limits of $\pm 0.1\%$ vertically and $\pm 0.08\%$ horizontally.

The Maltese cross intermittent drive runs in an oil bath. It permits central frameline adjustment without shifting of the optical axis. The shutter ratio is 4 : 1; the surface-hardened film gate, a saphir-coated runner surface and the side rails made of hardened steel ensure an exact film run and gentle film handling.

The run-up of the projector is automatically controlled; the run-up time is less than four seconds.

The electro-magnetically controlled fire emergency shutter within the shutter housing closes automatically when the running speed drops below standard. The same light cut-off is used for changeover.

The take-up is fitted with separate and automatically controlled take-up motors on each spool arm. This feature proves on a detail the high technical standard of BAUER Selecton studio projectors. The load-controlled take-up frictions ensure even and smooth film supply as well as take-up. The projector uses separable spools (core diameter 100 mm) for standard square spool shafts. The spool capacity is 600 m (2,000 feet). On the picture film side it is even possible to use spools with a capacity of 1,500 m (5,000 feet).

The drive is powered by a three-phase synchronous motor. The projector can also be equipped with motors for such power requirements as 3 x 220 v/50 cycles or 3 x 380 v/50 cycles for both 24 or 25 frames per second. Upon request the projector can be built to permit optional operation at 24 and 25 f. p. s. There is also a drive motor (24 f. p. s.) for a frequency of 60 cycles (Hz). For Rotosyn operation the projector is equipped with a 3 x 220 v/50 cycle motor. All available synchronous motors feature an extended shaft for connection with synchronizing motors.

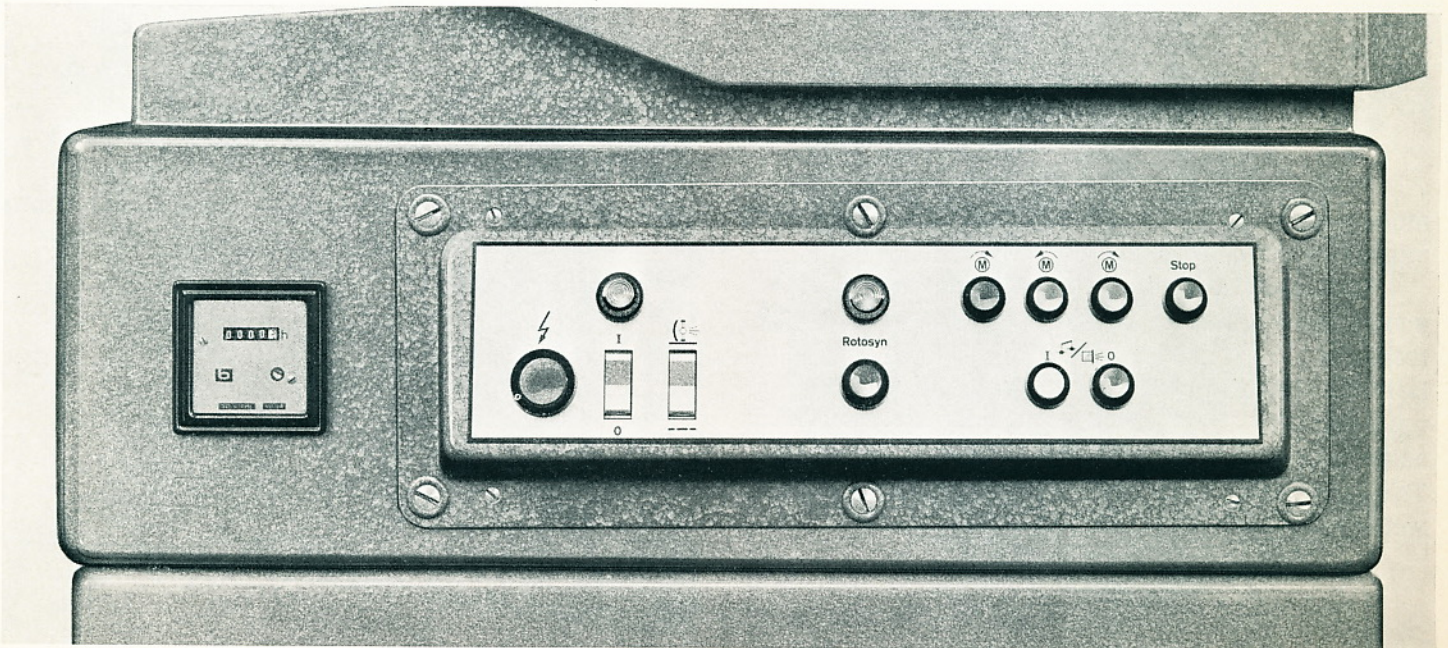
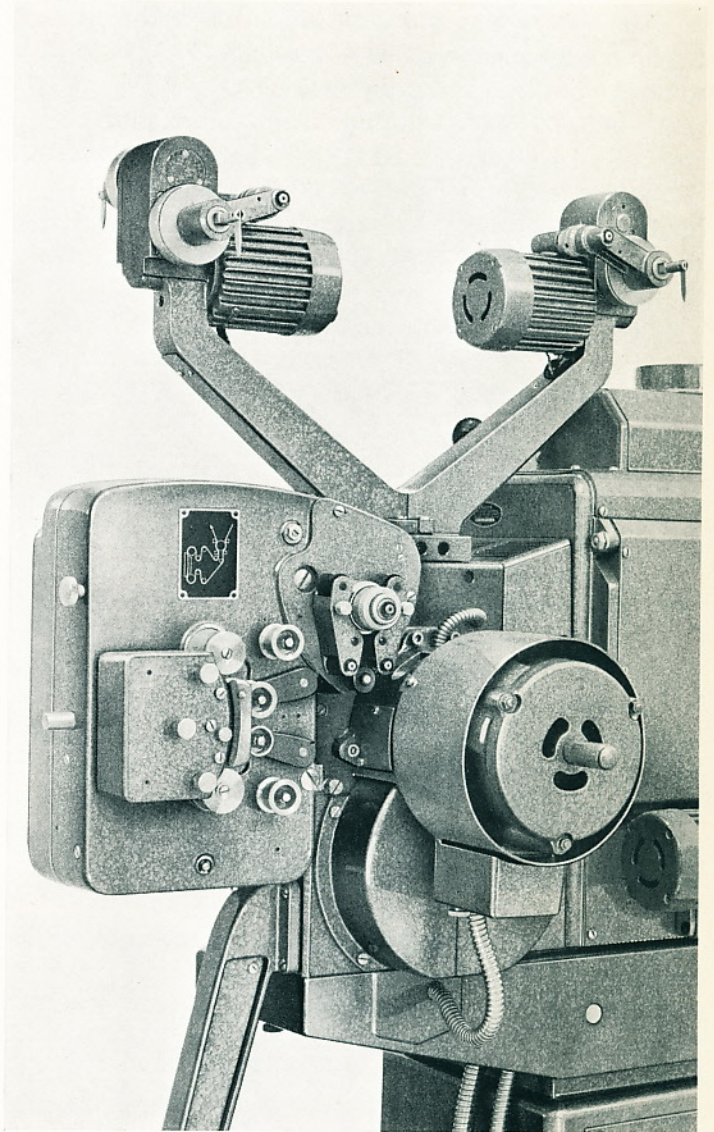
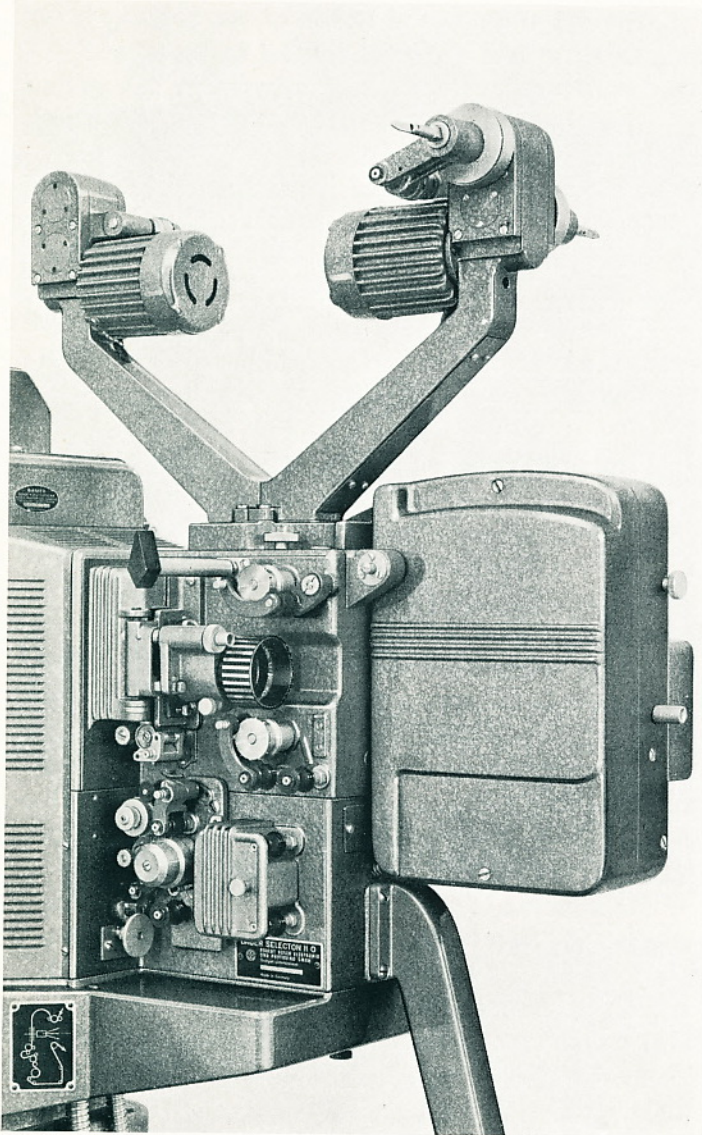
The operation of the BAUER Selecton Studio projector meets the requirements of studio operation. For convenient lacing all lay-on roller assemblies can be lifted and engage in their operating positions. The film gate swings wide open. This facilitates lacing as well as cleaning of the film gate.

Film run and projector controls are clearly arranged and practical. The operating mode is selected with the aid of push buttons and toggle switches;

control lamps facilitate the operation. The following functional are located on the switch panel: controls

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

In case of emergency the whole equipment can be switched off instantly with the aid of a single push button. An operating hours counter indicates the service time of the xenon lamp. The control voltage (24 v) is supplied by a built-in power unit. Upon request the projector can be fitted with remote frameline and focusing control.



Light, Sound, Amplifier, Rectifier

The light source of standard BAUER Selecton Studio projectors is a 900 w xenon lamp. Its light is white like daylight and even retains its colour temperature of 5,600° Kelvin during current fluctuations. The optical system ensures an even screen illumination. The xenon bulb is instantly ready for operation; it is ignited automatically and has a long service life. Its degree of neutralization meets all standards of studio requirements.

If more light is required it is also possible to use a 1,600-w xenon lamp. The necessary lamphouse is fitted with an additional blower and an auxiliary mirror.

Both types of xenon lamphouses (see illustration at top left) are equipped with dichroic coldlight mirrors to separate the heat rays from the optically useful light. The invisible heat rays pass through the mirror. The heat is exhausted through the lamp house air vent. The coldlight mirror system reflects about 15% more light than any traditional mirror system.

Another variety is the halogen lamphouse for BAUER Selecton studio projectors (see illustration at top right). If less light is perfectly sufficient (the light requirements depend on the screen size) it is recommendable to use a halogen lamp. This can be operated at a low voltage (24 volts) and its light output can be adjusted to 100% or 75% light flux. The lamp life at full brightness is about 50 hours, at reduced brightness about 70 to 100 hours.

Beside the necessary electrical equipment, such as power supply unit and control unit, the halogen lamphouse also incorporates a blower cooling and an automatic lamp interchange for cases of filament break. The built-in power supply unit (220 v) can be operated on 50 or 60 cycles. The colour temperature of the halogen lamp is about 3,200° Kelvin.

The sound scanning system meets the exacting requirements of any studio work. The various operating modes are listed on pages 5 and 7.

Both sound units feature short run-up time, a minimum of wow and flutter and a broad frequency response.

Both the optical and the magnetic sound unit are equipped with automatic starting aids, which work as an automatic brake when the projector is stopped. This arrangement prevents scratching of the film as well other mechanical damage.

The magnetic sound heads of the sepomag magnetic film unit are pre-adjusted on the sound head carrier. Therefore they can be easily exchanged.

The optical sound track is scanned by a modern silicon solar cell. The distinct advantage of this cell is its high operational safety and its almost unlimited service life. In addition it ensures an improved frequency response as well as a high signal-to-noise ratio owing to low-impedance amplifier connections.

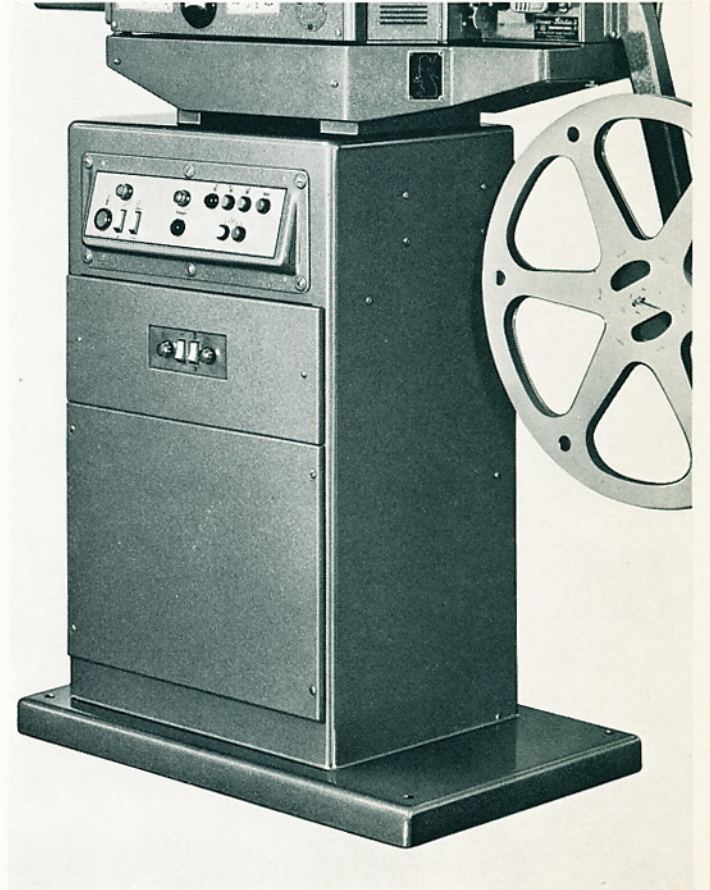
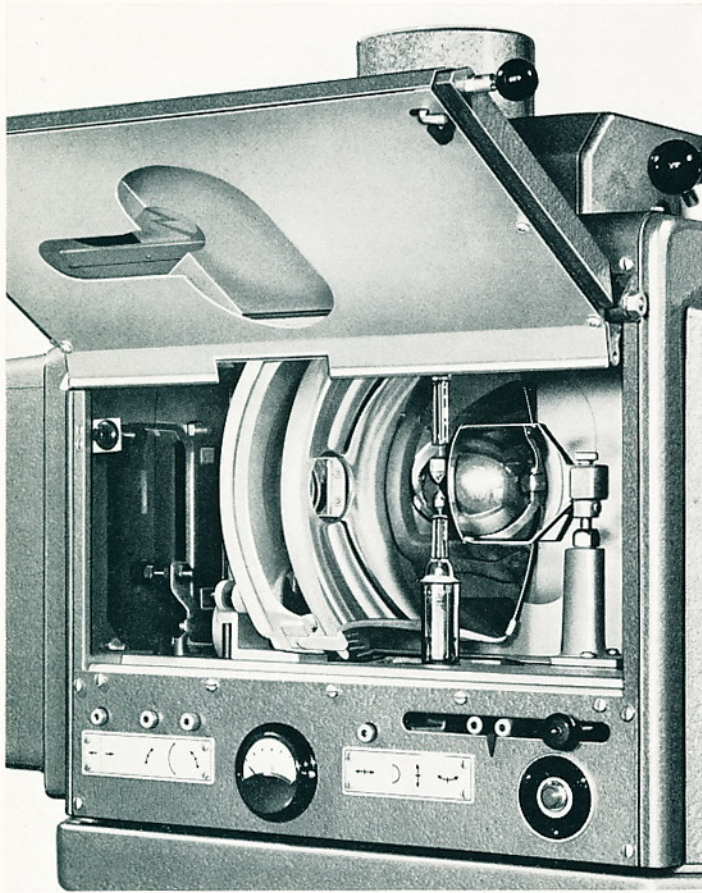
The extremely great depth of field of the slit optics ensures perfect sound scanning on both sides of the film base.

The pre-amplifier in the pivoting frame of the projector pedestal is designed as a Sitral amplifier (Silicon transistors on printed circuit plates). It meets the requirements of any studio work. The magnetic sound amplifiers are fitted with treble and bass control systems which guarantee a practically 'straight frequency response'. On the optical sound amplifier it is possible to make adjustments within generous limits for the high frequencies.

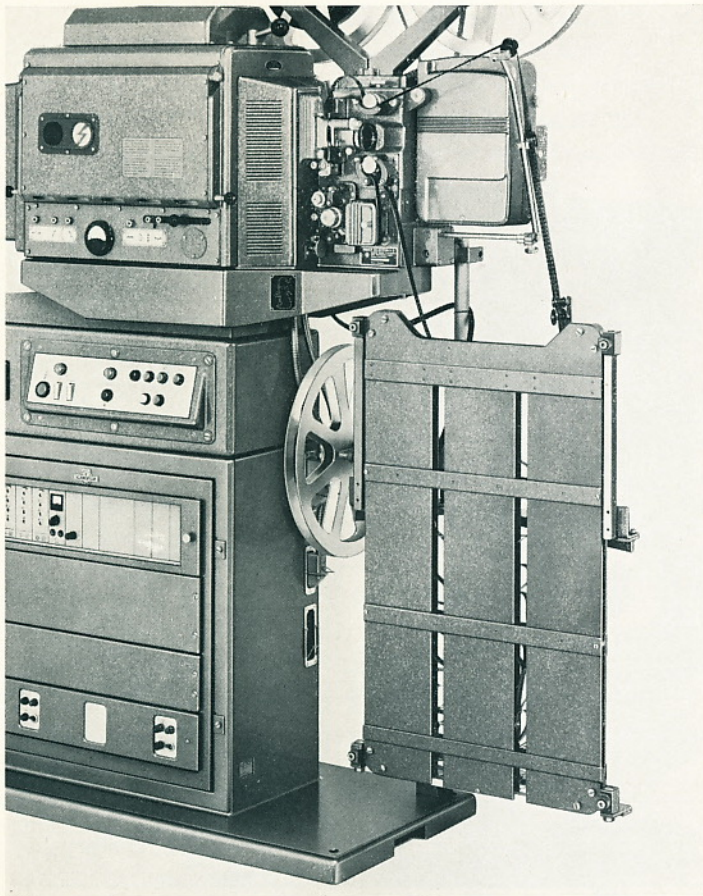
The exiter lamp rectifier is also located in the amplifier frame. This rectifier supplies a well stabilized, ripple-free D. C. current. There is also space in the frame for a 25-w final amplifier stage.

In addition to the SIEMENS amplifier base (illustration at bottom left) the BAUER Selecton Studio projector is also available with a projector column for 19" inserts (see illustration at bottom right). This column houses the control insert and permits the installation of any type of optical and magnetic sound amplifiers.

The rectifier for the operation of the xenon lamp is not included in the general scope of delivery, but can be ordered together with the projector. This rectifier is fitted with a transistorized control for stabilization of the lamp current. The exactness of the control is $\pm 0.5\%$. The lamp current can be continuously remote-controlled.



Lenses, Continuous Film Loop Box, and other accessories

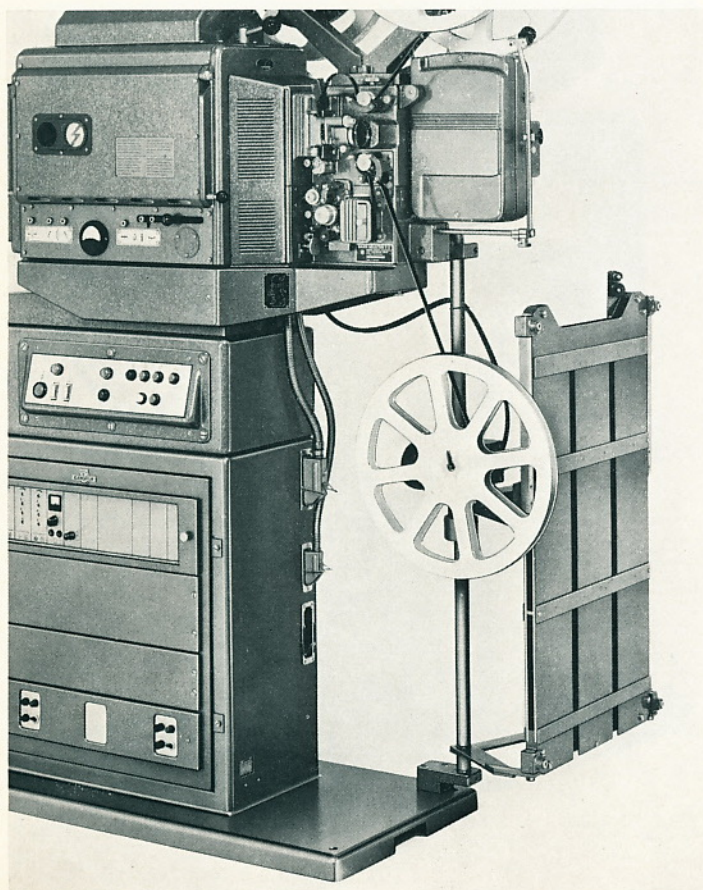


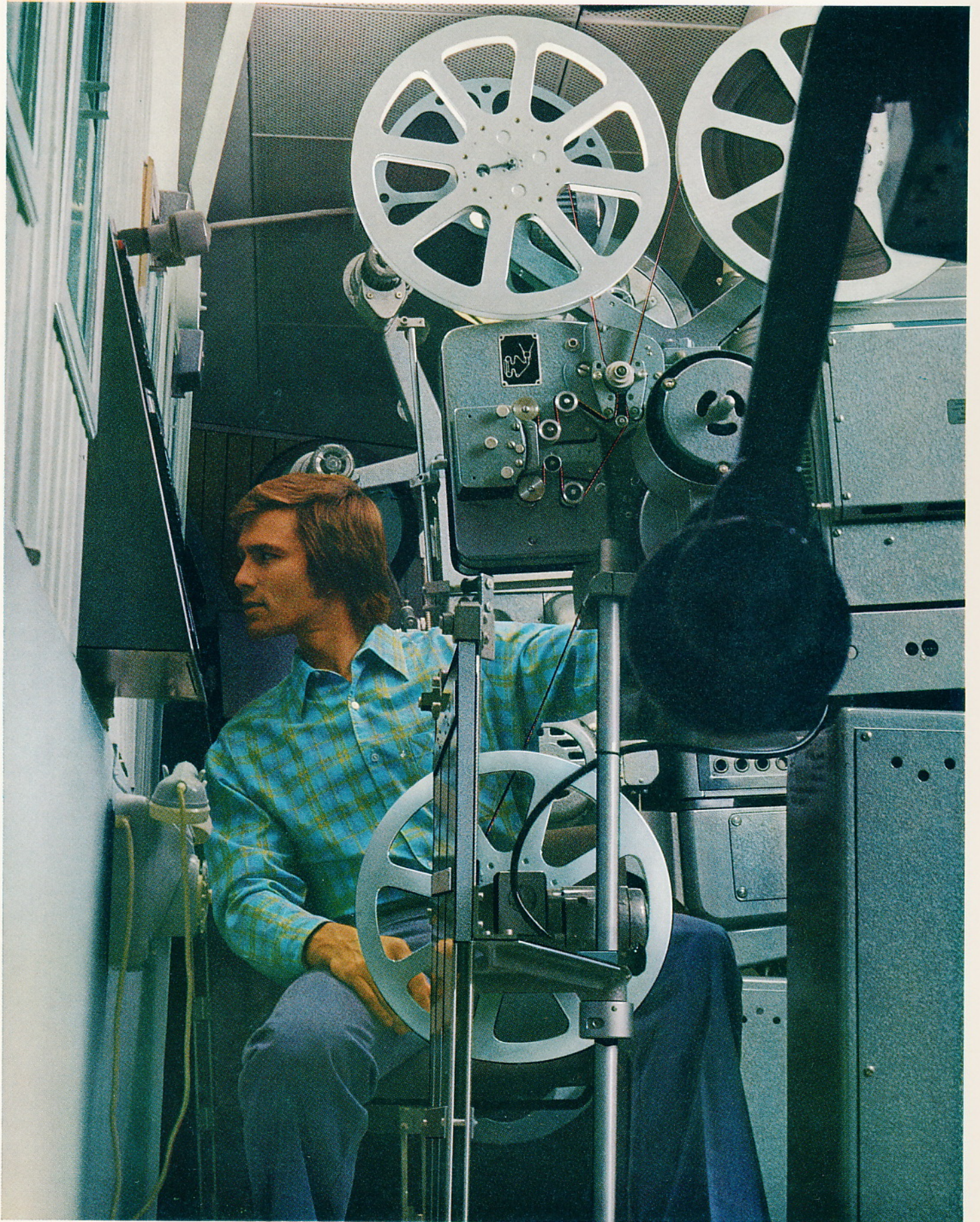
The projection lenses ensure excellent sharpness and colour rendition. The proper focal length depends upon the projector-to-screen distance. Various lenses from 25 mm to 75 mm focal length as well as a 35/65 mm zoom projection lens are available.

The loop box takes continuous film loops of about 140 feet. It is pivot-mounted to the projector so that without any conversion the machine can be used with standard spools or with the loop box. The pictures on this page show the BAUER Selecton with the continuous film loop arrangement in operation as well with the box swung out for spool-to-spool operation.

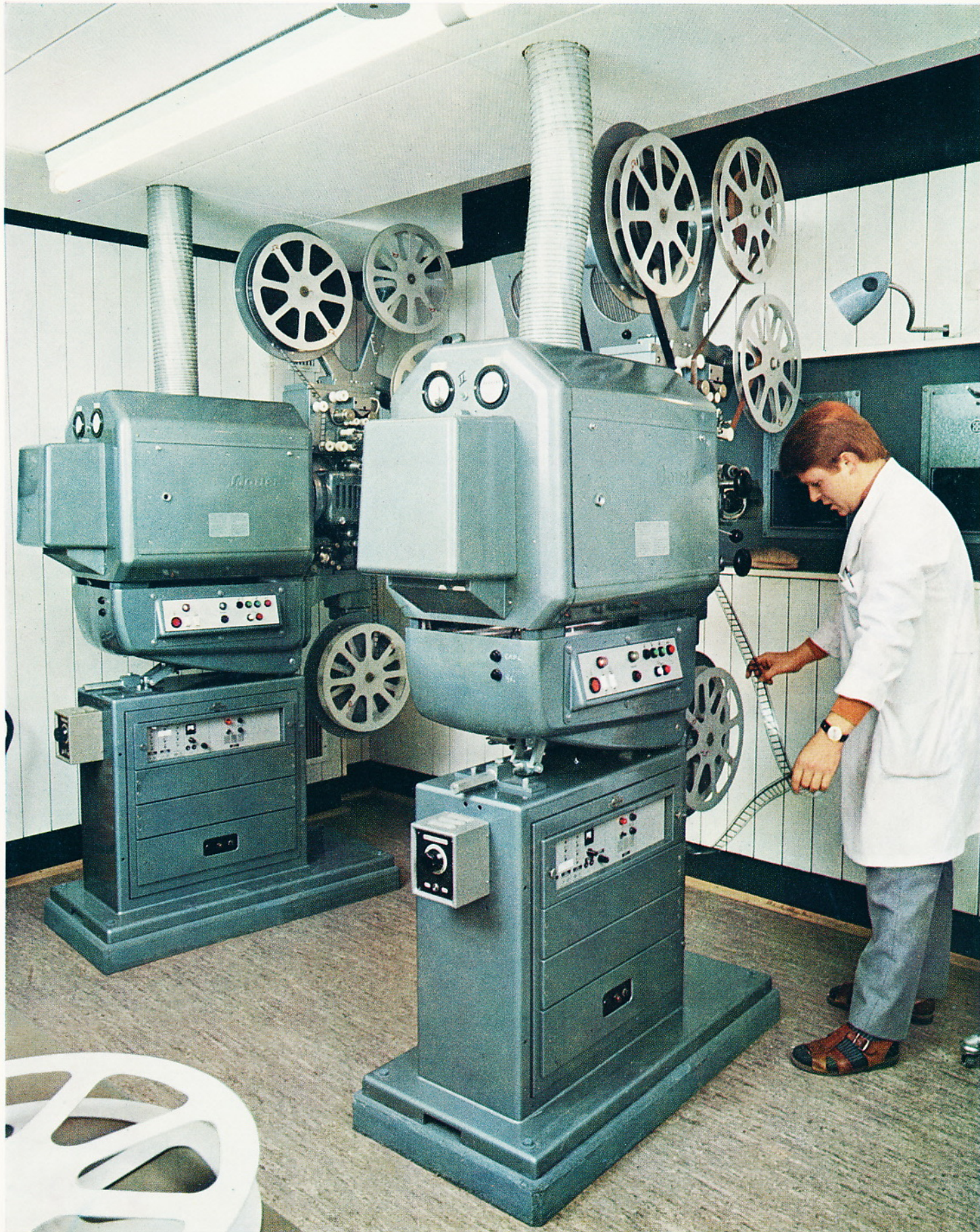
For xenon lamp operation the BAUER Selecton studio projector must be connected to an air exhaust system. In case an air vent is not available, it is imperative to use an ozone filter with exhaust.

Special accessories: Remote focusing and frame-line adjustment; BAUER rewriter for spools up to 5,000 feet; BAUER projection cabin window, 16 mm film spools (separable) for 1,000 feet of film and 16 mm spools (rigid) for 5,000 feet of film; BAUER 16 mm film splicer and many other accessories upon inquiry.

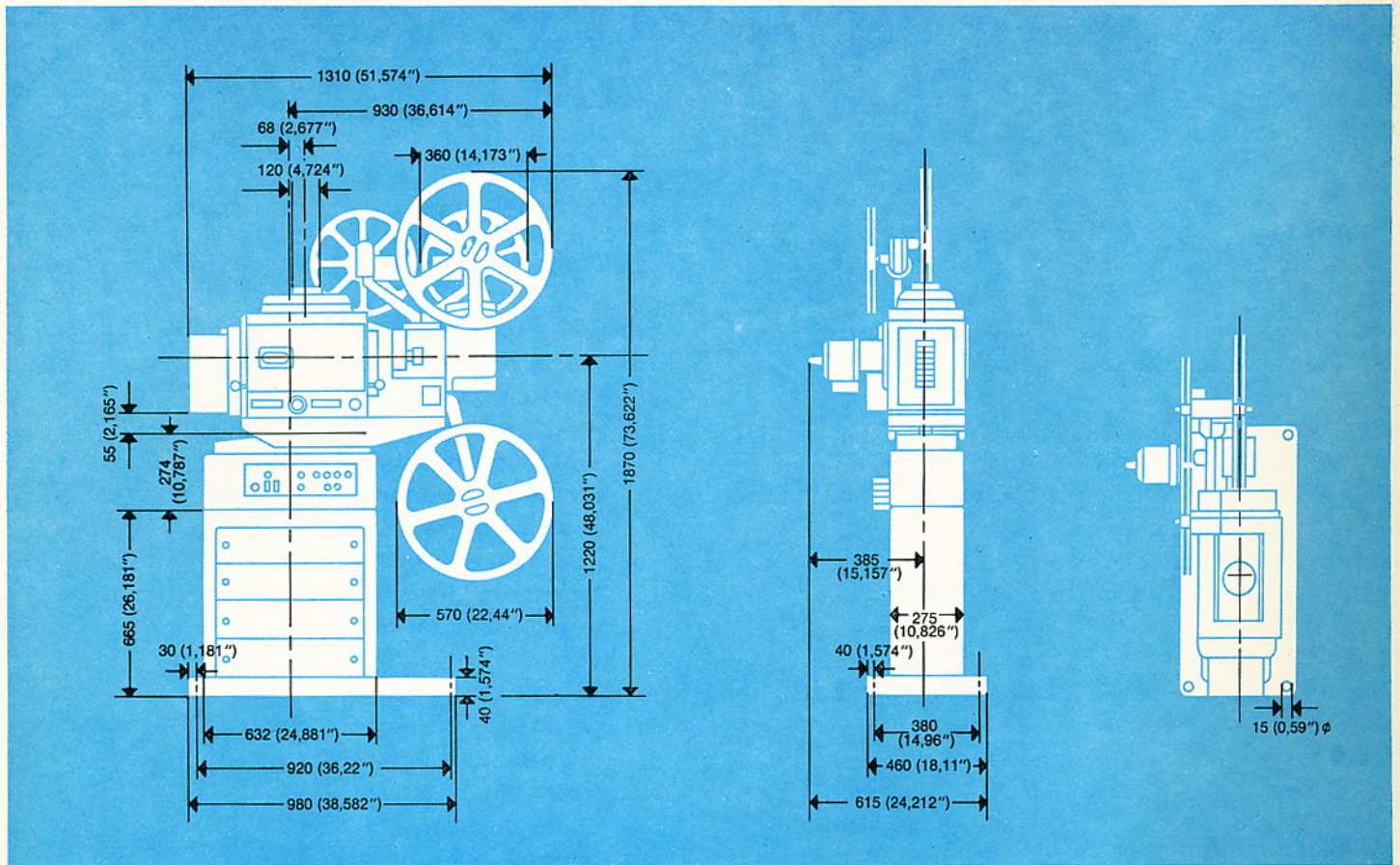




**And for the presentation
of 35 mm film:
Bauer B14 Studio Projectors**



Dimensions and Technical Specifications.



Weight (depends upon projector version)

Single-band projector about 130–150 kg
 Double-band projector about 160–190 kg

Dimensions

see drawing above

Drive motor

Three-phase synchronous motor according to your choice

Voltage	Frequency (Hz)	f. p. s.
220/127	50	25
220/127	50	24
380/220	50	25
380/220	50	24
208/120	60	24

A 220/127 v motor is required for Rotosyn operation; the local power supply must be 3 x 220 v.

Power requirements:

Control insert, take-up motors, ignition device or halogen lamphouse, amplifier frame: single-phase A. C. 220 v/50–60 cycles (Hz)

Film advance

Four-bar Maltese cross intermittent drive in oil bath with 8-tooth sprocket
 Shutter ratio 4 : 1

Film take-up and spool capacity

Load-controlled frictions for studio film spools (core diameter 100 mm)
 picture film up to 5,000 feet, film diameter 560 mm;
 magnetic film up to 1,000 feet, film diameter 380 mm;
 up to 2,000 feet upon request

Film gate and pressure rails

Specially hardened and easily exchangeable.
 Runner pressure 45–60 g

Rotary shutter

Two blades

Picture weave

vertical $\cong \pm 0.1 \%$
 horizontal $\cong \pm 0.08 \%$

Projection lenses

Barrel diameter 42.5 mm
 focal lengths from 25–75 mm

Tilt

upward 3°
 downward 10°

Run-up

automatically controlled < 4 seconds

Edge track sound scanning unit

Solar cell, exciter lamp 6 v/5 amps, swing-in, dual-purpose magnetic head for recording and reproduction as well as erasing**, electro-magnetic starting aid/braking arrangement

Optical sound

Level 6 dB on 200 ohms
Frequency response from 50 cycles (Hz) up to 6,000 cycles linear (adjustable) ± 1.5 dB
Signal-to-noise ratio ≥ 50 dB
Wow and flutter according to DIN 45 507
 $\leq \pm 0.25\%$

Magnetic film scanning unit (sepmag)

for separate magnetic film
carrier with recording head**, playback head* and erase head** for center track. Electro-magnetic starting aid/braking arrangement

Magnetic sound (commag and sepmag)

Level 6 dB on 200 ohms
Frequency response 40 cycles (Hz) up to 10,000 cycles linear (adjustable) ± 1.5 dB
Signal-to-noise ratio ≥ 55 dB
Wow and flutter according to DIN 45 507
 $\leq \pm 0.25\%$

Magnetic sound heads for picture film (edge track)

Recording head**	70 mH
Playback head*	70 mH
Erase head	1.4 mH

dual-purpose head

Amplifier

Input impedance	$\leq 10,000$ ohms
Output impedance	≤ 50 ohms

Sound optics

Without any change on the slit focusing the sound optics permits the presentation of films with the emulsion toward the lens or away from the lens

Change-over

Light-cut-off: electro-magnetic
Sound: operating contact for relay change-over

Light sources

Xenon lamphouse 900 w:
Dichroic coldlight mirror 300 mm ϕ
Auxiliary mirror 100 mm ϕ
Ammeter, ignition device
or
Xenon lamphouse for 1,600 w lamp:
with additional blower for the cooling of the auxiliary mirror
or
Halogen lamphouse 24 v, 250 w:
Condensor lamp, automatic lamp interchange, supply current transformer

Light output according to DIN 15 748

Evenness of light distribution	80%
900-w xenon bulb	about 800 lumens
1600-w xenon bulb	about 1,200 lumens
250-w halogen lamp	about 200 lumens

Colour temperature

Xenon bulbs	about 5,600° Kelvin
Halogen lamp	about 3,200° Kelvin

Power consumption

Drive motor	about 250 w
Controls	about 200 w
Halogen lamphouse	about 350 w
Xenon lamp rectifier 900 w	about 3,000 w
1600 w	about 5,000 w

Projector base contains

SIEMENS pivoting amplifier frame with preamplifiers in transistor version for

reproduction of optical edge track 'comopt'
reproduction of magnetic edge track 'commag'
reproduction of magnetic center track 'sepmag'
and switch-over unit with level instrument
power supply unit, stabilized 24 v, 1 amp
monitoring amplifier 2 w/4 w
exciter lamp rectifier 6 v, 5 amps, transistor controlled
as well as
recording of magnetic edge track 'commag'**
recording of magnetic center track 'sepmag'**
recording selector unit**
erase stage, second channel**
power supply unit, stabilized 24 v, 1 amp**

Control insert

with power supply unit for 24 v D. C. and push button controls for relay drive control

Special equipment

Projector with running speeds of 24 or 25 f. p. s.
Projector with running speeds of 25 or 50 f. p. s.
Reinote control for frameline adjustment and focusing.
Continuous film loop box, pivoting, for 140 feet of film
Magnetic sound heads for sepmag magnetic film unit to scan other standardized sound tracks
* only on double-band version for reproduction
** only on double-band version for recording/reproduction

Right of technical modifications reserved

BAUER

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