

## OPERATING INSTRUCTIONS

### 1.0 Introduction

The editing machine is a most valuable for working out film material in connection with magnetic sound tape. The machine is also suitable to show films with optical sound. If desired, the machine can be equipped with magnetic sound heads for COMMAG film with one or four channels (35 mm) as well as with optical sound units for 16/35 mm optical sound tapes (2 tapes playback).

Standard or CinemaScope film can be worked with the "C" type machine.

Only films which are according to DIN standards or international standards should be used on this machine.

A hint to your safety: It is dangerous to work with long hairs, necklaces, shawls, ties or wide sleeves as can they caught by revolving parts of the editing table.

This machine is designed for operating in dry or airconditioned rooms without corrosive atmosphere.

For comfortable working at this table and to obtain a optimum picture presentation a adjustable chair with variable back support should be used.

The manufacturer is not held to be responsible for film damage caused by wrong handling of the machine or by using non standard films.

### 1.1 Synchronous Point

All tapes can be threaded parallel-synchronously in accordance with available threading picture to the left right of the assembly plate. It is therefore sufficient to mark only one of the tapes, if all tapes are to be cut. With differently shrunk or stretched tapes it may occur that for instance with a setting true to perforations on the left hand side considerable deviations are noticed on the right hand side.

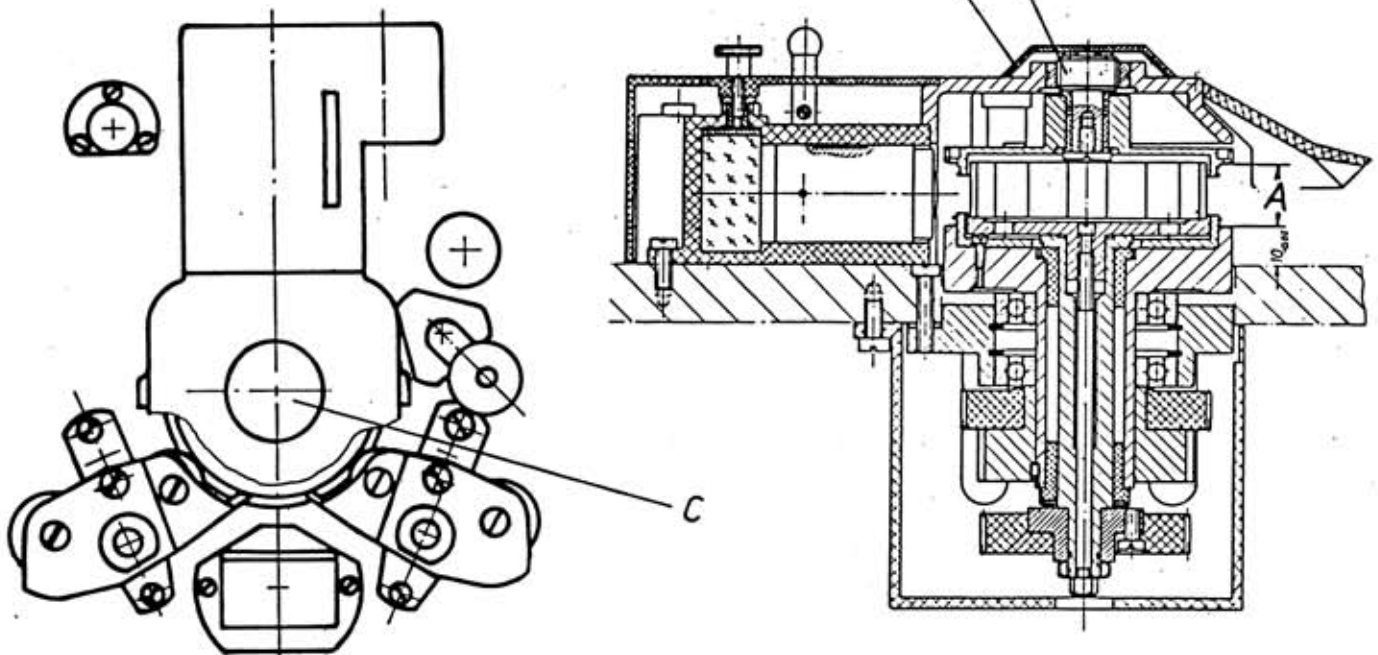
In order to avoid with such materials it is advisable to use only one synchronous point (at the right or left).

### 1.2 Filmtransport

The supplied sprocket rings are made to be used for slightly shrunk film material. If the film is in bad condition (very stretched or shrunk) it is advisable to change the sprocket ring on the polygon.

Otherwise the film can be damaged. Sprocket rings for different film conditions can be supplied.

16 mm

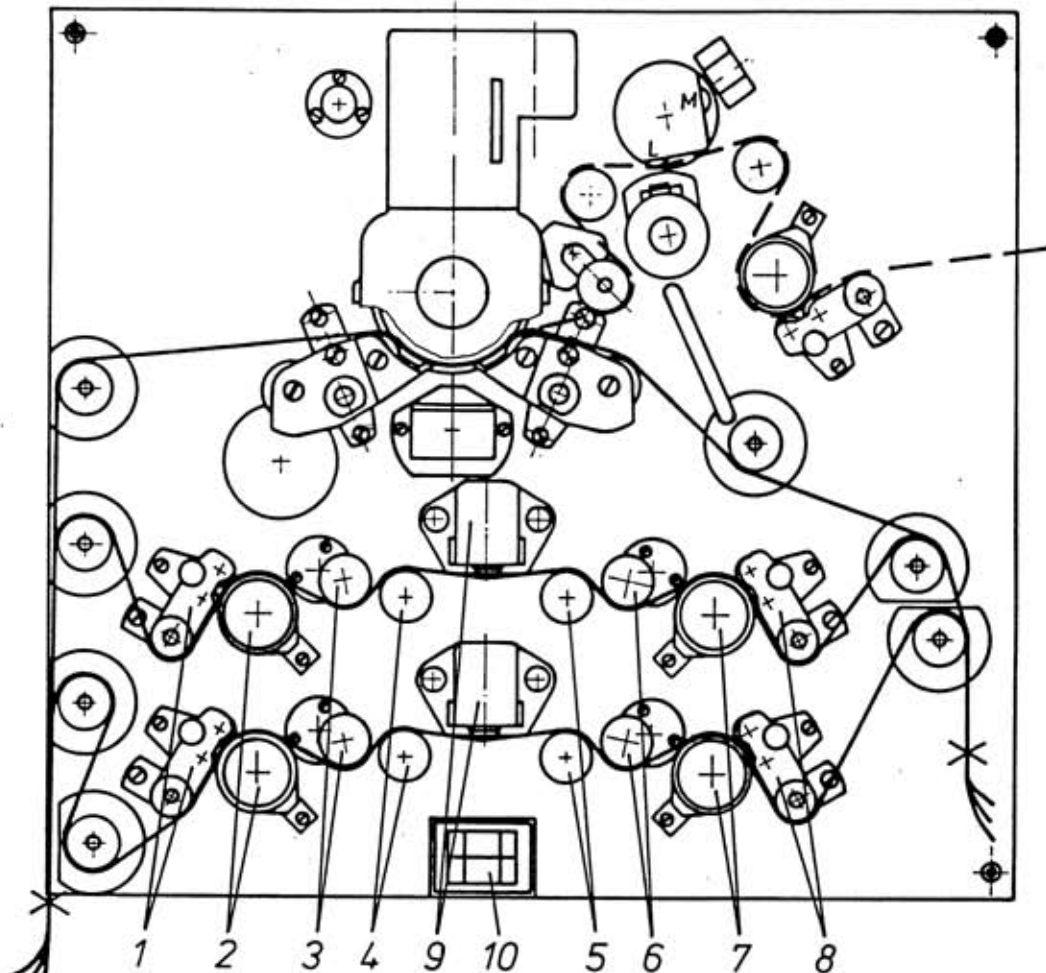


Das Maß A ist werkseitig auf 16 mm - 0,02 mm eingestellt. Beult Ihr Film am Filmfenster, so muß das Maß vergrößert werden. Kappe C mit Messer oder ähnlichem Werkzeug abheben und Schraube B mit einem Zweistift-Schlüssel etwas gegen den Uhrzeigersinn verdrehen.

Hat Ihr Film in der Höhe Spiel (schlechter waagerechter Bildstand), sollte die Schraube B etwas im Uhrzeigersinn verdreht werden.

The width "A" is normally set to 16 mm - 0,02 mm. If the film is bending on the film gate the width must be adjusted. To do this the cover "C" must be removed with a blade or anything similar. The screw "B" should be turned anticlockwise with a two pin key.

If the film is loose on the gate (horizontal picture jitter), the screw "B" should be turned clockwise.



1. Pressure arm left
2. Sound sprocket left
3. Tension roller left
4. Guide roller sound left
5. Guide roller sound right
6. Tension roller right
7. Sound sprocket right
8. Pressure arm right
9. Magnetic sound head
10. Toggle switch for advance-retard system  
(only with ST 601, 901)

Open pressure arms (1+8) at the sprockets (2+7) by pressing the buttons on the pressure arms.

First thread the sound tape at the left sprocket, so that teeth of the sprocket engage in perforation.

Close the left pressure arm (1) by pressing it against the sprocket.

Guide sound tape through tension (3+6) and guide rollers (4+5) according to diagrams.

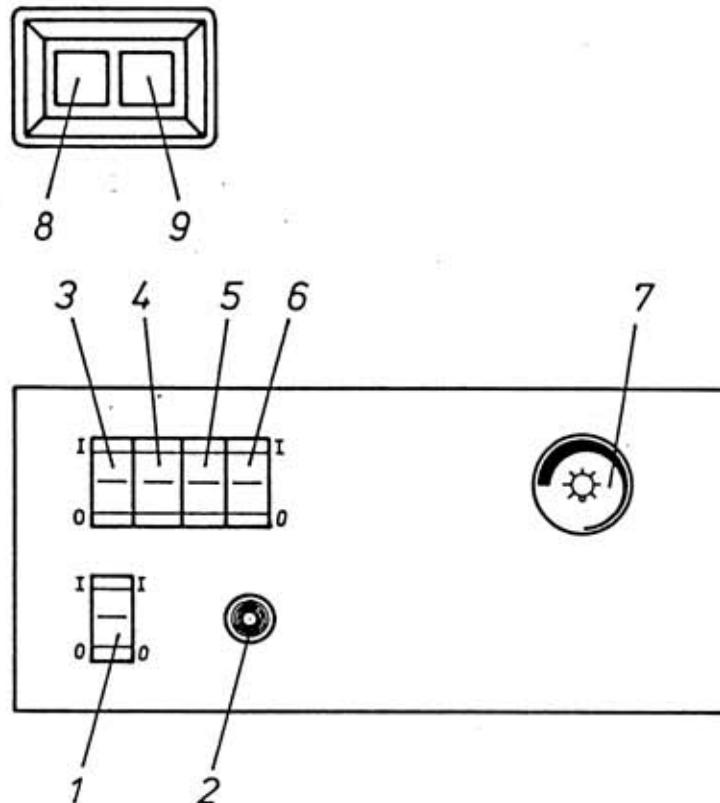
Pull sound tape around sprocket (7) while pressing the right tension roller (6) backwards to stop (towards the screen).

Make the sprocket engage in the next possible perforation and close the right pressure arm (8) as done with the left one (1).

The sound tape is threaded correctly, if both tension rollers are free floating.

2. Operating elements

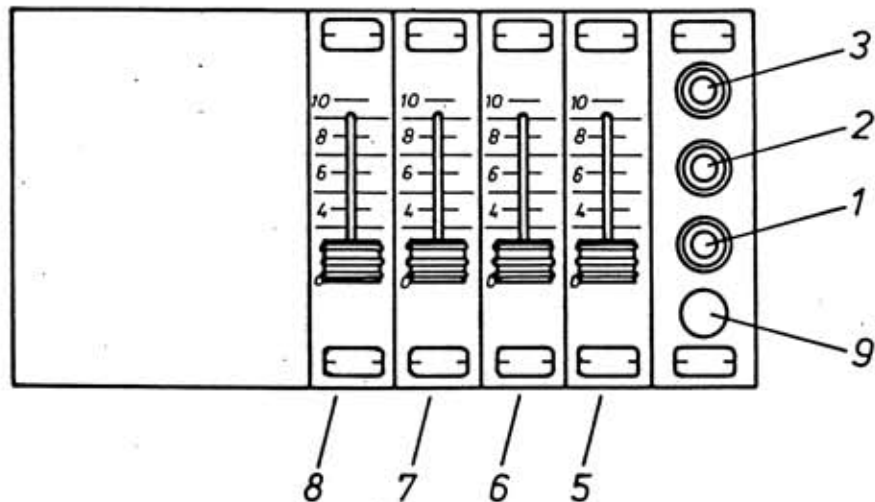
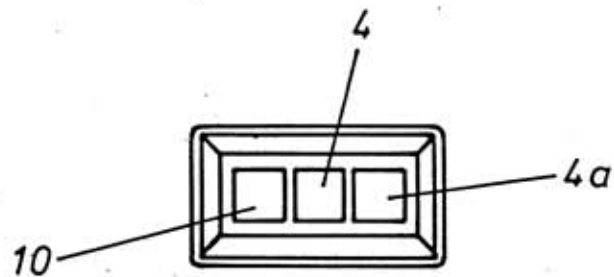
2.1. Switch board



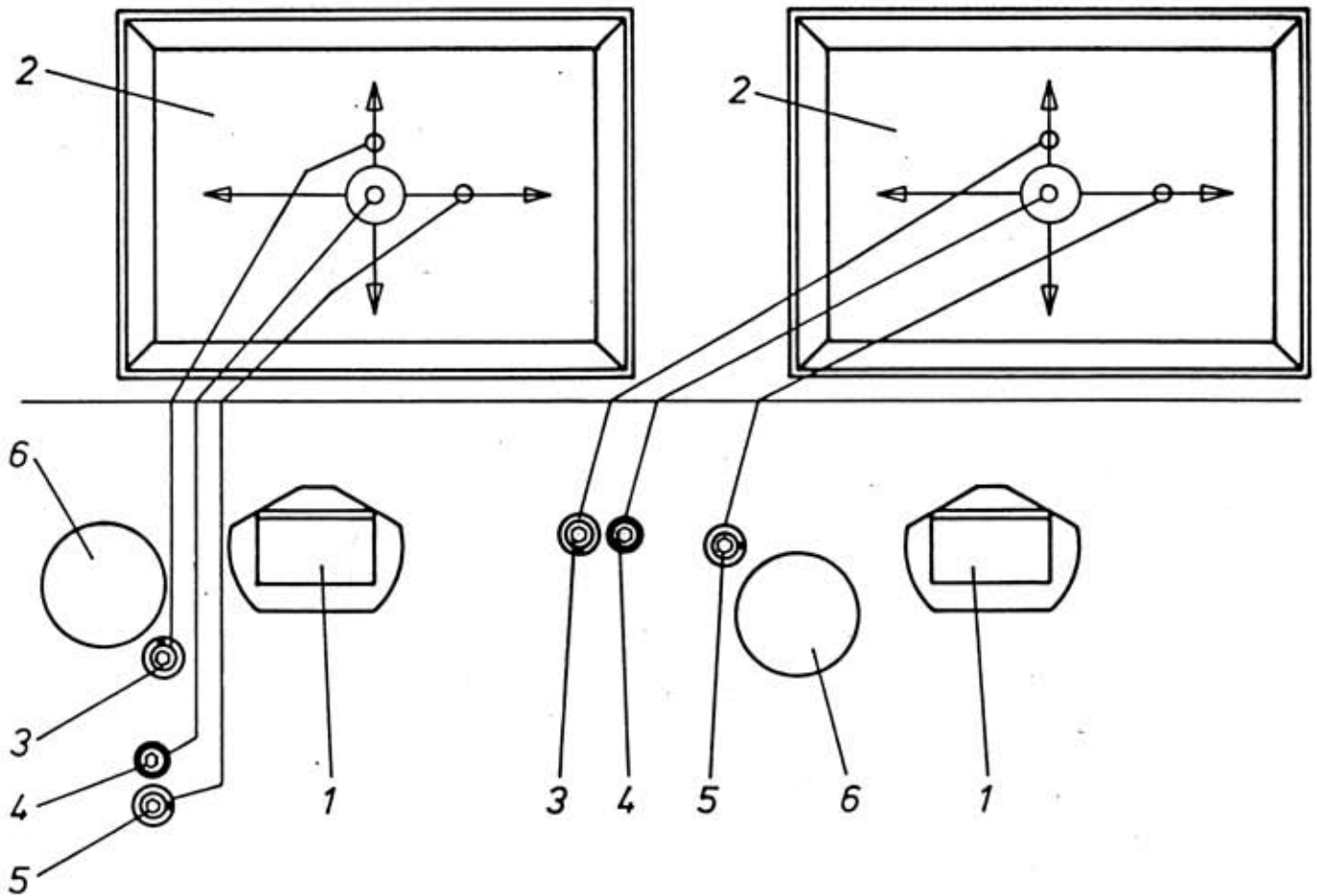
1. Main switch, On-off.
2. Signal lamp shows readiness.
3. Sound switch. Amplifier On-Off.
4. Projection lamp On-Off.
5. Projection lamp On-Off. (Only for two picture table.)
6. Illumination from underneath for viewing screen or fold-out magnifying glass (if not equipped, switch is dead).
7. Dimmer for table lamp with push button switch On-Off.
8. Pushbutton switch for interlock (equipment ST 69).
9. Selector switch for sound speed 24 or 25 f.p.s.  
The selected speed is indicated by a green LED on the counter-display.



2.2 Amplifier

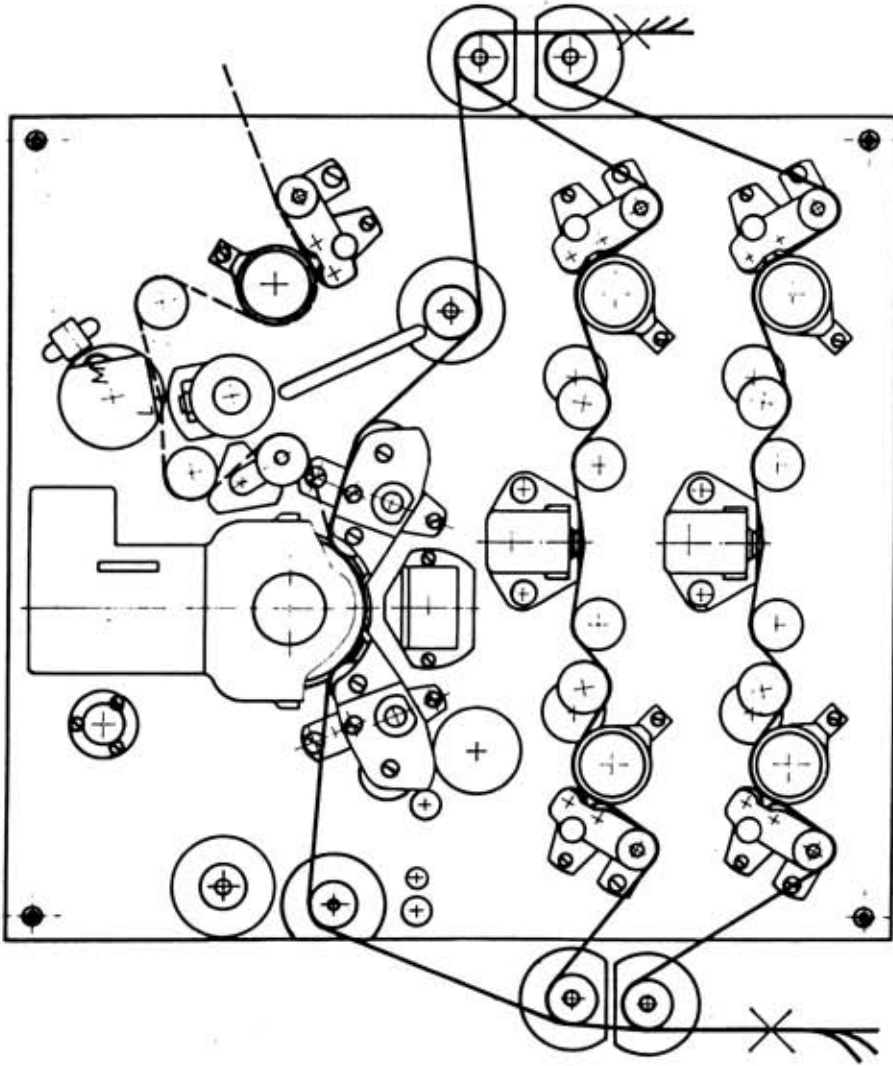


1. Main volume control for all channels.
2. Bass control for raising or lowering the low frequencies. Marking at the top = linear frequency.
3. Treble control for raising or lowering of high frequencies. Marking at the top = linear frequency.
4. Switch for exiter lamp On-Off.
- 4a. Switch for second exiter lamp, if equipped with ST 68 for 35 mm or ST 66 for 16 mm.
- 5-8. Preamplifier with controls for different sound channels.  
These amplifiers can be used in different combinations and series.
9. Socket for earphone with plug according to DIN 45327. The earphone operating in parallel to the loudspeaker.  
When turning the plug by 180° the loudspeaker is silenced. This socket can also be used as output for measuring or recording.  
Adapters are available for earphones with jack plugs. Don't use earphones with less than 600 Ohm impedance.
10. Pushbutton switch (without function).

2.4. Adjustment of picture lamp

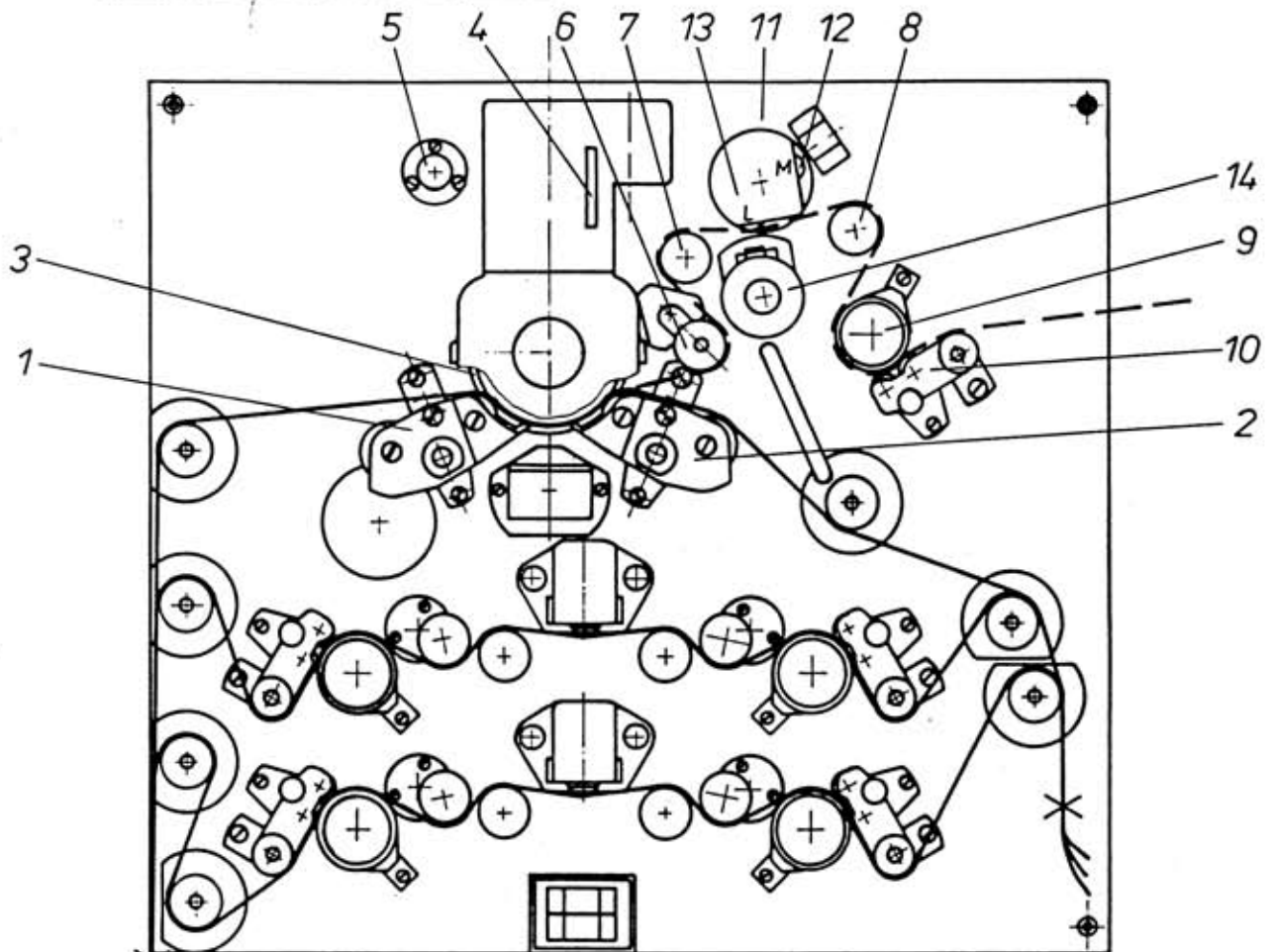
1. Lighting aperture.
2. Picture screen.
3. Adjusting screw, vertical.  
For uniform illumination at the top and bottom.
4. Adjusting screw, focus.  
Adjusting to minimal flickering.
5. Adjusting screw, horizontal.  
For uniform illumination to the left and right.
6. Coverplate for projector lamp.

The normal light-adjusting is indicated by a point.



- Bild - Ton / Picture - Sound
- - - Bild - Ton kombiniert  
Picture - Sound combined
- X Synchronpunkte  
Synchronous points

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Picture threading 16 mm

1. Pressure arm left
2. Pressure arm right
3. Film scanner
4. Lever for focus
5. Knob for framing
6. Tension roller
- 7.+8. Guide roller sound
9. Sprocket
10. Pressure arm
11. Turning head support
12. Magnetic sound head
13. Scanning for optical- sound
14. Exciter lamp

— Picture-sound  
 - - - Picture-sound combined  
 X Synchronous points

The main amplifier of this unit is equipped with a volume compressor.

The output value will be limited to 30 W to protect loudspeaker and main amplifier. The summing amplifier has a reserve of 8 dB. This facilitates listening to low sound effects.

#### Hints on optical sound

If optical sound is unused it's preamplifier attenuator lever should be set to zero position.

If using 35 mm optical sound, the 16 mm optical sound scanner should point to the exciter lamp. (Only by ST 6001)

General hints for optical sound:

Avoid direct exposure of the optical scanners by room light or table top lamp. The lightsensitive device in the scanners may be influenced by this exposure. (E.g. audible noise like mainshumm etc.)

Picture threading 16 mm

Open pressure arms (1+2) at the picture scanner by pressing the two buttons on the pressure arms and simultaneously exert a slight pressure toward the outside.

Put the film between the pressure rollers and the film scanner (3). By slightly moving the film backward and forward you will feel the engaging of the sprockets in the perforation.

Pull the film slightly at left and right against the pressure rollers (1+2). This will cause the pressure arms to close and lock.

Closing may also be achieved by pulling the outside edges of the pressure arms.

Thread the film according to diagram.

On top of the projectionssystem is the lever for focus (4).

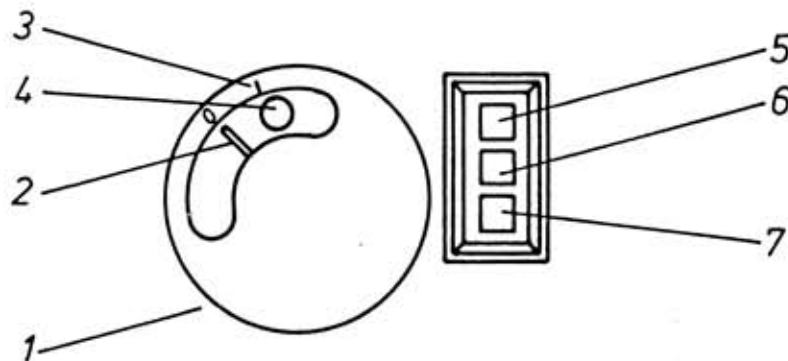
The knob (5) adjacent the projectionssystem is for framing.

For reproduction of films with optical or magnetic sound tracks proceed as indicated above. Thereafter place film over tension roller (6), the guide roller (7 and 8) as well as the sprocket (9).

To change over from optical to magnetic sound turn the sound head support (11) by 90 degrees. Automatic picture to sound advance from optical to magnetic sound is provided. Film tension for the sound head is adjusted through sprocket (9). The tension roller (6) should be free floating and not touching against the stops in either direction.

CAUTION: After viewing of prints with magnetic sound return sound head support (11) to optical sound, to prevent scratching the optical sound edge track.



2.3. Operation field table top

1. Speed selector.
2. Speed control lever.
3. Mark for synchronous sound speed forward.
4. Pushbutton for automatic start marking system (equipment ST 58).
5. Clutch and brake switch for picture track.
6. Clutch and brake switch for sound track 2 (only on ST 901, ST 1901).
7. Clutch and brake switch for sound track 1. (ST 1201 without clutch/brake switches 5-7)

The speed selector (1) is activated by the speed control lever (2) in both directions.

From zero position to the right = forward;  
to the left = reverse.

First notch = sound speed.

Second notch = fast speed approx.  $\frac{2}{3}$  maximum speed.

Final notch = maximum speed

The machine can be set manually to any desired speed between the notches.

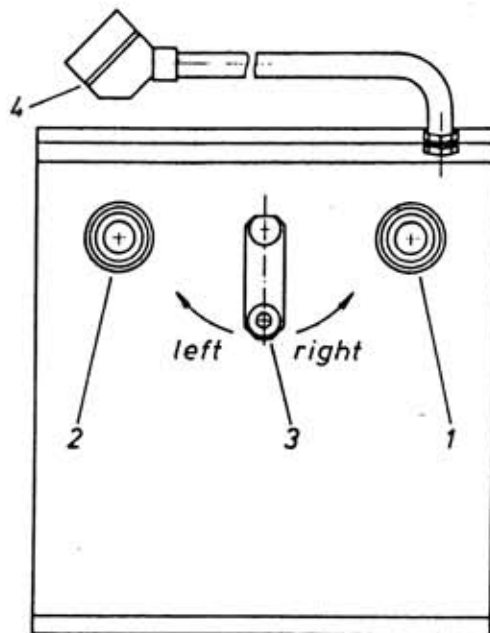
The clutch and brake switches (5-7) are used to disengage the corresponding tapes from the drive.

Push button released = red signal = tape engaged.

Push button suppressed = white signal = tape disengaged.

Now the tape can be pulled manually. While the machine running, the disengaged tapes are braked and cannot be pulled.

## Footcontrol ST 59



1. Pushbutton ahead sync.
2. Pushbutton reverse normal
3. Lever for variable control
4. Connection plug 12 p.

The footcontrol is connected with the machine by a 12 pin plug. The machine must be equipped with automatic-footcontrol board. By later addition this board must be inserted into the boardrack and adjusted (see adjustment procedure AP 1.10).

Operation instruction:

Speed control lever must be on zero position.

Pushbutton (1):	Sync. forward
Pushbutton (1) or (2):	Stop
Pushbutton (2):	Normal reverse
Pushbutton (1) or (2):	Stop

These commands can be combined with the speed selector on the table top.

Follow combinations are provided:

- 1) Start by footcontrol, button 1 or 2, stop by handlever trough short moving out of 0-position.  
By setting the lever to normal sync. speed forward or reverse, the control is by handlever.
- 2) Start by handcontrol, stop by footcontrol with button 1 or 2.  
By start again with foot- or handcontrol, the handcontrol - lever must one time moved 0-position.

Lever (3) for variable control.

This lever can control the drive in both directions and at optional speed.

Lever to right:	Forward to max. speed
Lever to left:	Reverse to max. speed

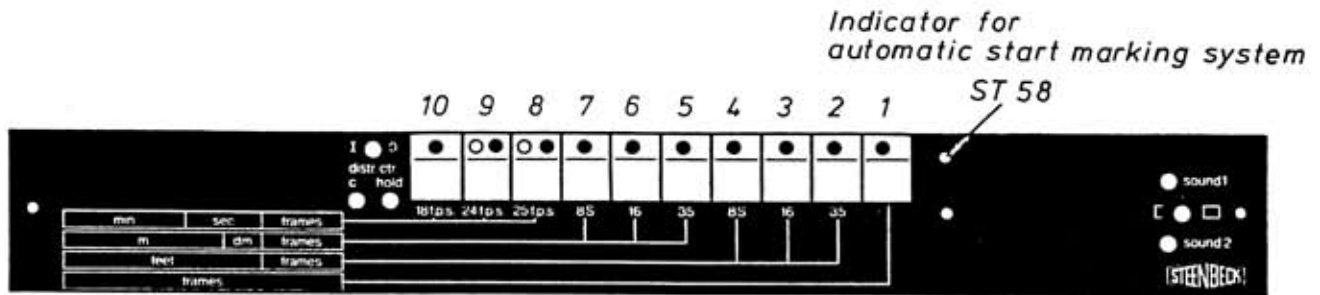
If the machine via hand- or footcontrol runs at sync. speed, the speed can be increased or reduced by foot-lever.

E.g. machine is turned on sync. ahead.

Lever to right:	Machine is increasing up to max. speed
Lever to left:	Machine is decreasing up to stand still and then reverse to double normal speed.

On zero the machine is always sync. ahead.

THE UNIVERSAL-FILMCOUNTER



With the UNIVERSALCOUNTER all usual measures of length and time, for all types of film can be measured and correctly converted, by the touch of a button, from one scale to the other. The margin of error between foot and meter is smaller than 0.05%.

Moreover the counter offers many additional functions to the use of the editing machine.

Descriptions of the keys as follows (from right to left):

Key No. 1:	frames	frame counter over 6+1 decades (maximum 1 999 999 frames)
2:	feet 35 mm	footage counter for 35 mm film (16 frames = 1 foot)
3:	feet 16 mm	footage counter for 16mm film (40 frames = 1 foot)
4:	feet 8S	footage counter for 8S film (72 frames = 1 foot)
5:	m 35mm	meter counter for 35mm film (1m = 52.630 frames)
6:	m/dm 16mm	meter counter for 16mm film (1m = 131.200 frames)
7:	m/dm 8S	meter counter for 8S film (1m = 236.200 frames)
8:	min/sec 25 fps	time counter for 25 f.p.s. (1 sec. = 25 frames)
9:	min/sec 24 fps	time counter for 24 f.p.s. (1 sec. = 24 frames)
10:	min/sec 18 fps	time counter for 18 f.p.s. (1 sec. = 18 frames)

The first two digits from the right always display the counted frames, the following figures the pre-selected dimension with corresponding decimal points.

A red light on the keys shows the selected mode of counting. The green light indicates by switch 9 ( see OI 2.1/2.8 ) the selected sync. sound speed or 24 or 25 f.p.s..

Left of the keys are a switch and two push-buttons:

Push-button C = clear	Resets the counter
Push-button Hold	Depressing this key will hold the display at the momentary value, while the counter is still operating. Intermediate counts can be noted. Depressing the button again displays the actual counting.
Switch dist.ctr. (distance counter)	This switch allows the use of an additional counter to measure one or several films. The main counter continues to work independently of this switch.
	Switch position I = dist.ctr. "on" Switch position 0 = dist.ctr. "off"
	If, after some time, dist.ctr. is switched to I (on) the following tract or time is added to the previously measured counter value.
	By pressing button C both counters can be reset independently of each other.
	All registers, counter values and modes can be stored as long as desired, by two NiCd-accumulators 501 RS (IEC KR 15/51).
	The accumulators are recharged during the operating time.
	Data in-and outputs make it possible to use the editing machine with an external computer installation. A manual input keyboard is available on request.

1.3. Frictions (winding units)

The frictions are fitted for use of film cores and reels with square holes.

It is recommended to use film cores of 100 mm diameter.

When using film reels the filmplates and film core centers should be removed.

The reel is then placed on the square pin.

By reel operation it will be necessary to readjust the film tension. (See M.I 4.0) It is not recommended to use film reels with core diameters less than 50 mm.