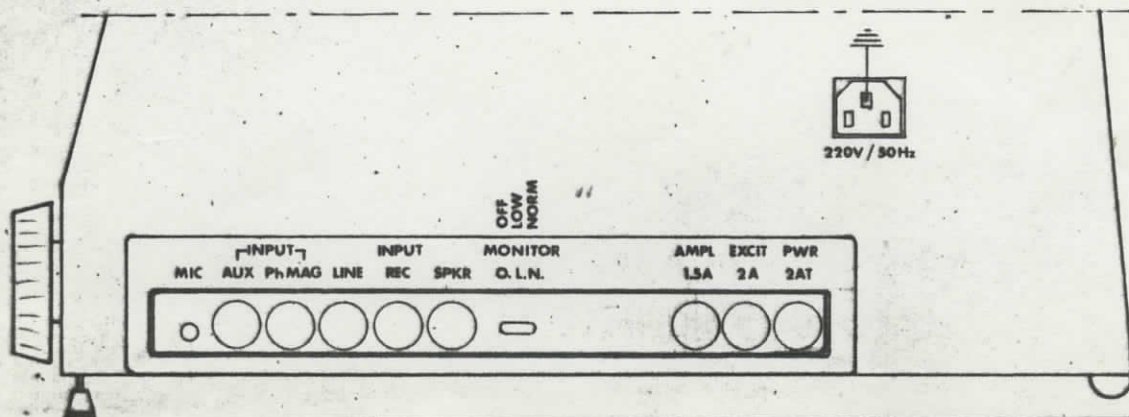
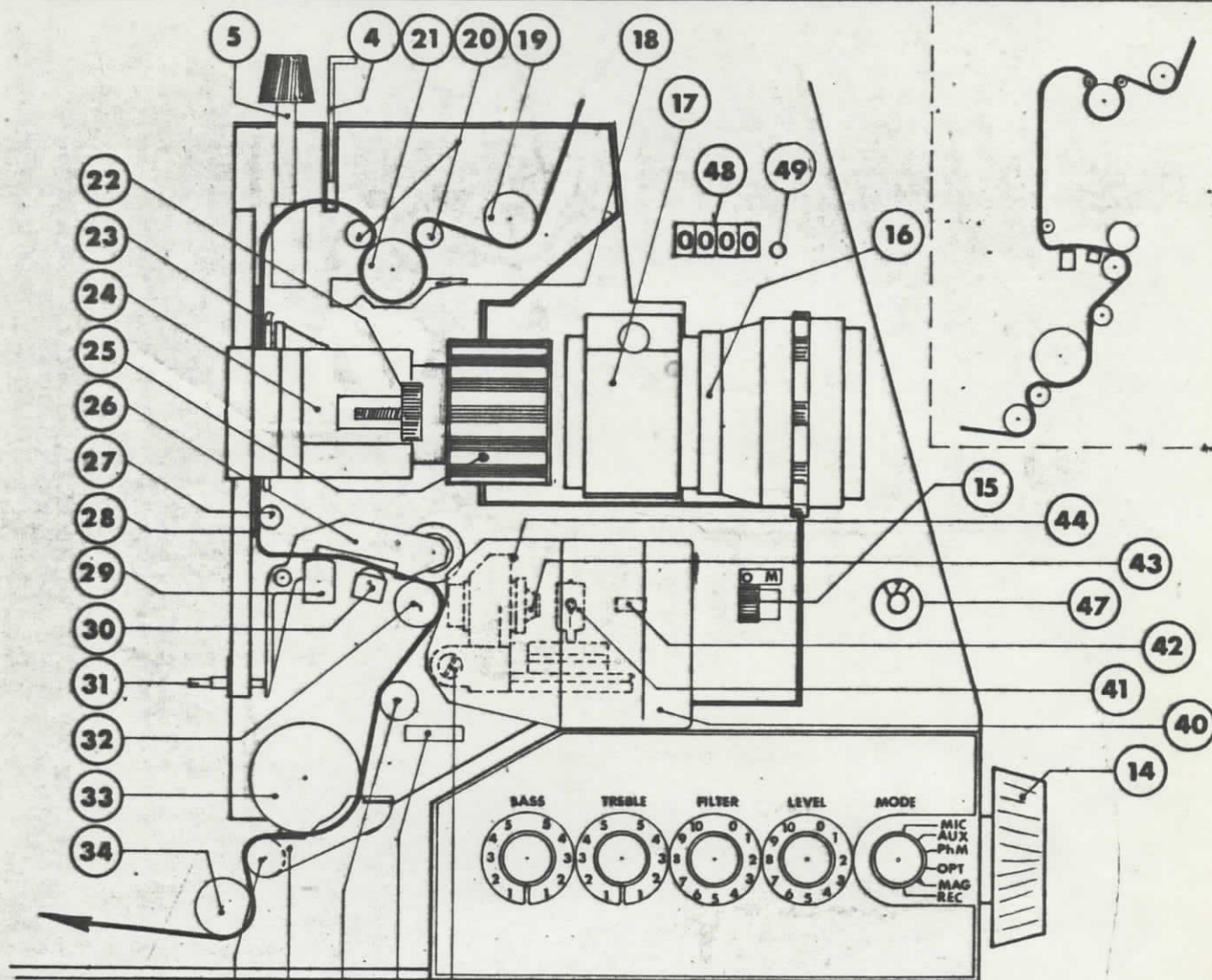


- | | | | |
|----|---------------------|------------------------------|------------------------|
| 1 | Supply arm | 12 | Main switch |
| 2 | Arm locker | 13 | Film drag lid |
| 3 | Supply pulley | 14 | Front elevation knob |
| 3a | Spindle brake | 15 | OPT/MAG switch |
| 4 | Loop reformer lever | 16 | Anamorphic lens |
| 5 | Framing knob | 17 | Anamorphic holder |
| 6 | Lamp-house screw | 34 | Damping roller |
| 7 | Arm locker | 45 | Projection lamp |
| 8 | Take-up arm | 46 | Lamp extractor |
| 9 | Take-up pulley | <u>For model 9120 RECORD</u> | |
| 9a | Spindle brake | 47 | Sound on sound control |
| 10 | Speed change | 48 | Frame counter (x 10) |
| 11 | Lamp-house cover | 49 | Reset push button |





- | | | | |
|----|-------------------------|------------------------------|------------------------|
| 4 | Loop reformer lever | 30 | Magnetic head |
| 5 | Framing knob | 31 | Pressure unit drive |
| 14 | Front elevation knob | 32 | Sound drum |
| 15 | OPT/MAG switch | 33 | Lower sprocket |
| 16 | Anamorphic lens | 34 | Damping roller |
| 17 | Anamorphic holder | 35 | Shoe roller |
| 18 | Upper sprocket shoe | 36 | Lower sprocket shoe |
| 19 | Damping roller | 37 | Sound stabilizer |
| 20 | Film guide roller | 38 | Sound unit connector |
| 21 | Upper sprocket | 39 | Sound optic adjuster |
| 22 | Focussing knob | 40 | Exciter lamp cover |
| 23 | Pressure pad | 41 | Exciter lamp |
| 24 | Lens holder | 42 | Lamp connector |
| 25 | Projection lens | 43 | Sound optic |
| 26 | Sound pressure unit | 44 | Sound optic focussing |
| 27 | Loop reformer | <u>For model 9120 RECORD</u> | |
| 28 | Projection gate pad | 47 | Sound on sound control |
| 29 | Erase head (for record) | 48 | Frame counter (x 10) |
| | | 49 | Reset push button |

INSTRUCTION MANUAL to the use of the
Super 8 mm. projector model 9119/OM

1 Introduction.

- 1a The Fumeo projector model 9119/OM is a super 8 mm professional projector for OPTICAL and MAGNETIC films, equipped with a 200 watt/24 volts projection lamp with dichroic reflector.

It is a very rugged construction, while accuracy of work and selection of components bring this projector to the same technological level of the best 16 mm. projectors.

Its arms accept reels up to 750 mt. (2500') film, equivalent to about 2 hours and 30 minutes continuous projection.

Film threading is manual and the projector can run in both forward and reverse direction.

- 1b The optical sound track is read directly on a sound drum equipped with a flywheel of more than 1.2 Kgs; furthermore the sound optic is particularly coated to give the highest performance also with sound tracks in colour.

- 1c The projector is equipped with a professional amplifier having a power output of undistorted 25 watt r.m.s.; its unique characteristic is the presence filter, adjustable in level, which acting in the range of the speech frequencies helps to improve the intelligibility of the words in halls of poor acoustic.

Bass frequencies can be increased or decreased ± 10 dB at the reference frequency of 100 Hz, while high frequencies can also be varied ± 8 dB at the reference frequency of 10 KHz.

2 Preparation of the projector.

- 2a Place the projector on a stand or on a suitable table.

- 2b Fold out arms 1 and 8 until they get locked; to close said arms back push respectively buttons 2 and 7 while pressing the arm downwards.

- 2c Turn, if the case, knob 12 to position of STOP.

- 2d By means of the cord supplied with the machine, connect the mains receptacle in the rear of the projector, to a suitable mains outlet taking care it corresponds to the operating voltage of the projector itself.

- 2e Turn knob 12 to FWD (forward) and the drive motor shall run.

Move lever 10 to make indication 24 appearing when projecting films which must run at 24 frames per second, or indication 18 for films made for 16 or 18 fps.

Said operation MUST BE performed with the drive motor running.

- 2f Turn knob 12 to LAMP to alight the projection lamp, then open lid 13. Make a first focussing of the projection gate by turning knob 22; if the projector is equipped with a zoom lens, remember that rotation of its external ring produces a variation of the size of the projected image; afterwards a new focussing is required.
For front elevation of the projector rotate knurled knob 14; remember the filament of the lamp, when is incandescent, is very delicate and can be broken very easily; therefore when the lamp is alighted, position the projector, if needed, in a gently way avoiding all rough movements. When all adjustments are made, turn knob 12 back to position STOP.
- 2g Move lever 15 towards "O" or "M" according to the sound track of the film, being "O" for OPTICAL and "M" for MAGNETIC.
Turn knob MODE of the amplifier to OPT when the sound track is optical and the exciter lamp 41 will be switched on.
For magnetic sound track, knob MODE must be turned to MAG.
- 2h If required place an external speaker near the screen and connect its plug to the socket marked SPKR on the rear of the projector. Said speaker must have an impedance of 4 ohms and accept 25 watts.
Still in the rear of the projector, the switch MONITOR drives an internal speaker through 3 positions: Normal, Low, Off.

3 Film threading.

- 3a Turn open lid 13; inside there is reported the threading diagram.
- 3b Push downwards sprocket shoes 18 and 36; swing open lens holder 24.
- 3c Place the reel of the film on arm 1, unroll about 1 metre of film and proceed to threading according to the diagram.
Take care that film perforation enters the teeth of the sprocket before pushing back the relative shoe and that pad 23 be correctly positioned.
The pressure roller of unit 26 is automatically lifted up when knob 12 is on position of STOP, or on REV, or on REV/LAMP.
- 3d Tie the leader of the film to an empty reel placed on take-up arm 8. Note that in FORWARD operation, said reel rotates in the clockwise direction.
- 3e Take care that metallic belts be well placed around the pulleys of their relative arms.
To manually check for proper threading, rotate the motor knob located beside arm 8.

4 Projection.

- 4a Turn knob 12 to FWD taking care the film runs properly and then to LAMP.
- 4b Focus the image by means of knob 22; if necessary readjust the size of the image by turning the external ring of the zoom lens, if the projector is equipped with said type of lens; thereafter a new operation of focussing has to be made.

- 4c Rotation of knob 5 in one sense or in the other, will properly position the film frameline respect to the projection gate. No displacement of the illuminated area on the screen will however occur during framing operation.
- 4d Damaged perforation or poor splices may cause excessive reduction of the lower loop; this trouble produces a high instability of the picture on the screen and loud chattering.
Rapidly push then lever 4 which acting on roller 27 will restore the lower loop.
- 4e Adjust control LEVEL to have a suitable volume of sound and controls BASS, TREBLE, FILTER to obtain the best quality of the sound.
- 4f When the projection is ended turn knob 12 back to STOP.
- 4g Projection of film with optical or magnetic sound track:

optical sound:

- push lever 15 towards letter "O" (optical)
- push lever 10 outwards to have indication 24
- turn knob MODE of the amplifier to OPT

magnetic sound:

- push lever 15 towards sign "M" (magnetic)
- push lever 10 outwards to have indication 24 for film recorded at that speed, or inwards to have sign 18 in the other case. Remember that the speed of 18 fps is usually used for silent film and anyhow the range of the reproduced frequencies is reduced.
- turn knob MODE of the amplifier to MAG (magnetic)

5 Rewinding.

- 5a Rewinding is performed without removing the reels. Just tie the end of the film to the core of the reel on the supply arm, then turn knob 12 to REVERSE.

Remember the supply reel will turn now in counter-clockwise direction. If the case, the disc of the friction 3 can be tighten a bit more in order to have better film rewinding.

- 5b Rewinding can be performed even if a certain quantity of film is still left on the reel: remove the film from the machine and proceed as explained above. It is not advisable to operate in REVERSE with the film threaded on the projector, since it will run at 18 or 24 fps and thus it will take too long.

6 Amplifier.

- 6a The projector is equipped with a high level professional amplifier which delivers a power output of 25 watt rms over 4 ohm load.

6 b The amplifier is equipped with the following controls:

- MODE rotary switch to select inputs:
- MIC low impedance microphone
- AUX auxiliary input of medium sensitivity
- PhM phono magnetic
- OPT film with optical sound track (lever 15 to "O")
- MAG film with magnetic sound track (lever 15 to "M")
- REC magnetic recording for projectors equipped accordingly
- LEVEL controls the level of signal selected through MODE
- FILTER increases a band of frequencies centred around 2 KHz in order to improve the intelligibility of the speech in halls of poor acoustic or with low quality sound film
- TREBLE controls the high frequencies giving + 8 dB at 10 KHz
- BASS controls the low frequencies giving + 10 dB at 100 Hz

6 c On the rear of the projector it is located the following:

inputs

- MIC low impedance microphone 0.2 mVolt/600 ohms
- AUX auxiliary input 63 mVolt/100 Kohms
- PhM phono magnetic 1.3 mVolt/68 Kohms
- REC connection to an external mixer for recording operation

outputs

- LINE 0.5 Volt/47 Kohms
- SPKR connection to an external speaker 4 ohm/25 watts
- MONITOR 3 position switch to drive the internal speaker at 3 different levels: N normal 2.5 watts; L low 0.75 watts; 0 off.

fuses

- AMPL 1.5 amps for the amplifier only
- EXCT 2 amps for the exciter lamp power supply
- POWER 2 AT for the mains 220 volts.

7 Anamorphic lens.

7 a The anamorphic lens is a special lens which, while keeping the height of the projected image at the same dimension, increases 2 times the width of said image; it is used for film in CINEMASCOPE.

7 b Introduce the anamorphic lens holder 17 in the guides of the relative bracket, then focus image of the film using knob 22.

7 c Introduce the anamorphic lens 16 in the holder, as inside as possible. Turn the whole anamorphic lens to give on the screen a perfect rectangle whose base is horizontal, then tighten the lens to the holder by means of the relative thumb screw.

7 d Make a fine focussing of the image, acting this time on the external ring of the anamorphic lens.

8 Reel friction and brake.

- 8a Adjustable frictions are assembled on pulleys 3 and 9 to have a correct film drag with no slackening, as function of the size of the reels. Keep the spindle firm with one hand, with the other hand screw or unscrew the large knurled nut. Remember if friction is too tighten, the dragging effect on the film might damage the film perforation.
- 8b In order to have the reel not too loosen, a braking effect can be applied on spindles by means of thumbscrews 3a and 9a. Said effect must be adjusted to a minimum to avoid excess of work of the frictions. The more said thumbscrews are tighten, the more spindles are braked, the more frictions have to be tighten as well.

9 Fuse replacement.

- 9a DISCONNECT the projector from mains any time a fuse has to be replaced. Unscrew cover of fuse receptacle and replace blown fuse with one having the same rating value. NEVER put a fuse with different characteristics since the projector might suffer more damages.
- 9b If a fuse just replaced blows again, it is strongly recommended to take the projector to a technician for proper assistance.

10 Exciter lamp replacement.

- 10a Pull off lamp cover 40 and remove lamp 41 which is glued to its socket.
- 10b Replace the lamp; run the projector with an optical film and find the best position of the lamp for the highest sound output, then put again some cement to keep the lamp in the correct position.
WARNING: do not move or touch the sound optic, since for its alignment test film and suitable instrumentation are needed.

11 Projection lamp replacement.

- 11a Remove thumb screw 6 and swing open lamp-house cover 11 together with lid 13.
- 11b Pulling up the small lever 46 below the lamp socket remove the projection lamp 45.
- 11c Replace the lamp taking care the new one enters correctly in its place. No further alignment is required since these lamps are prefocussed.

12 Lubrication.

- 12a Open lamp-house cover 11; put few drops of oil on the felt located just over the shutter, after about each 40-50 hours projection. Careful not to drop oil on the belts. The remaining components are life-lubricated and do not need any intervention; in case of periodical inspection however, few drops of oil can be put on all shafts and gears.

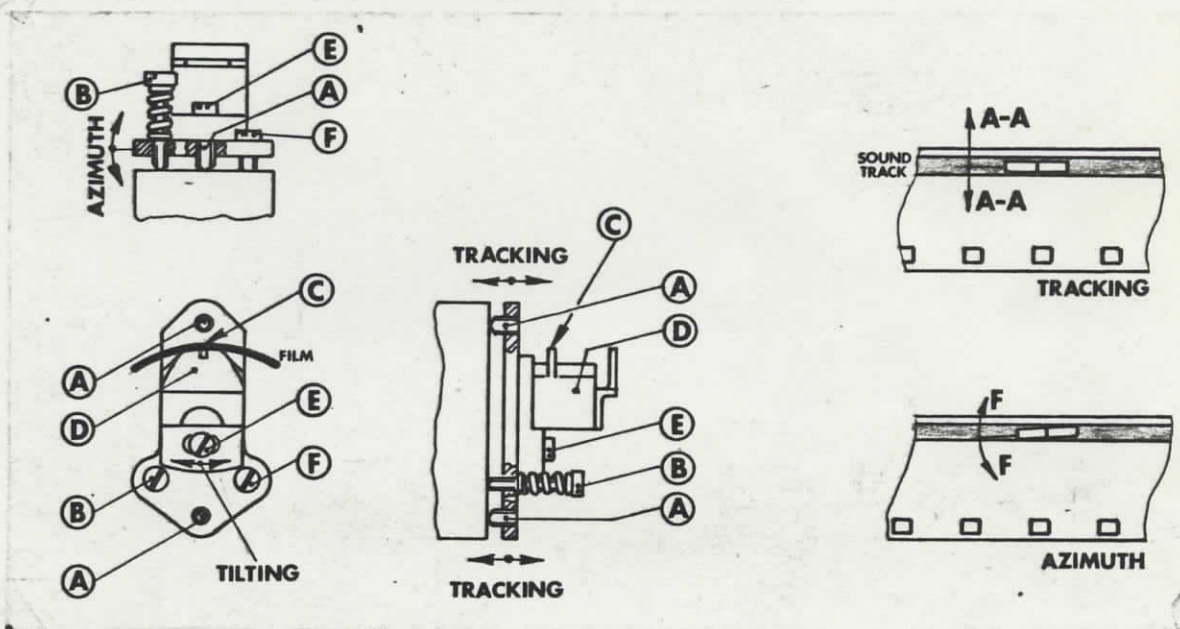
13 THE SOUND SYSTEM.

13a The sound units, both optical and magnetic, are Factory set according to SMPTE specifications, so that no further alignment is needed. However, in order to enable a skilled technician, possibly with the help of proper instrumentation, to realign or align in a different way the sound systems, a description of the adjustment controls is given here below.

Purpose of the alignment is to have the widest frequency range and the highest level output. It is then advisable the use of proper test film even if good commercial film can be utilized.

13b Magnetic sound.

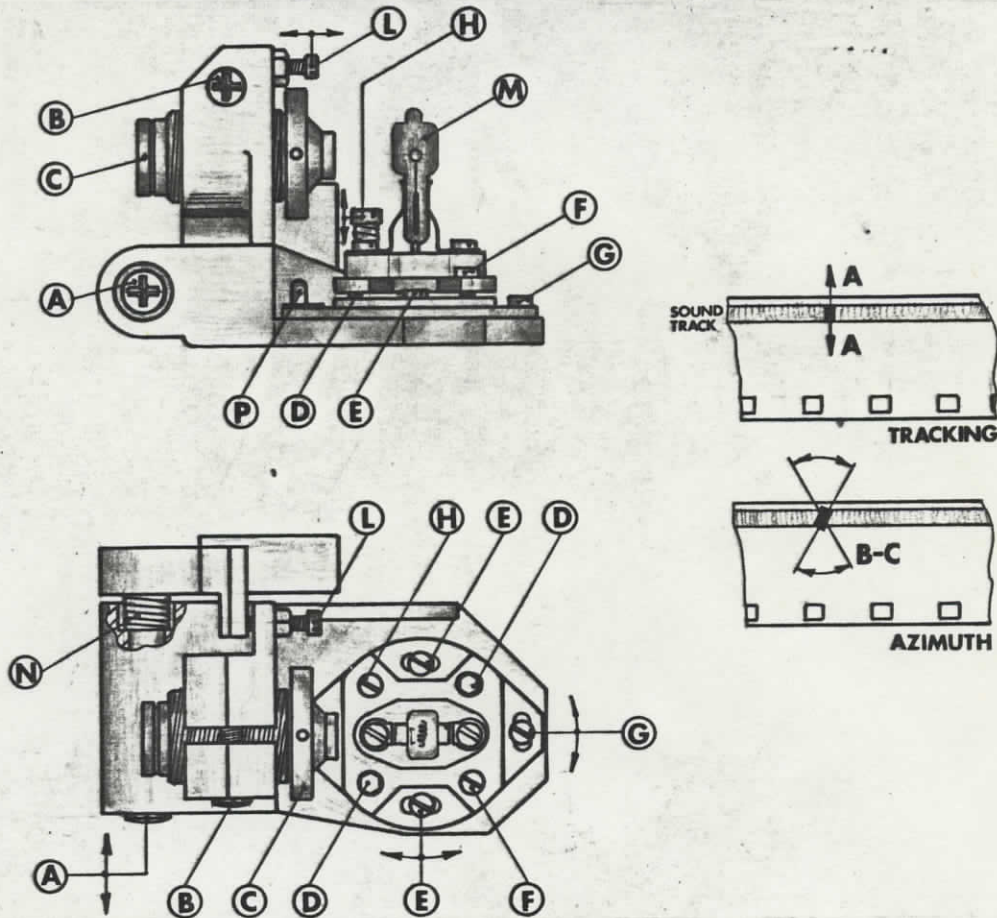
Here is a drawing of the magnetic sound unit.



- A-A: the 2 setscrews determine the "in track" position of the maghead respect to the sound track of the film. They must be turned the same quantity in order to have the whole gap surface of the maghead, parallel and therefore in full contact with the film.
- F: performs azimuth alignment pivoting the maghead base plate over setscrews A-A. It is recommended a 7 KHz test film.
- B: it keeps the maghead base plate spring loaded to facilitate azimuth alignment. The spring must exert a certain pressure on the plate to ensure stability during work.
- E: when this screw is loosen, the maghead D can be tilted right or leftwards to have the headgap C tangential to the film track.

13c Optical sound.

Two alignments can be made: one concerns the sound optic C and the other one the exciter lamp M which is 6 volt/10 watts.



Sound optic.

- Turning of screw A determines the "in track" position of the reading light beam respect to the sound track of the film.
- Azimuth of the reading beam can be adjusted by turning (just a small angle) one or the other direction the sound optic C; loosen first the locking screw B. It is recommended a 5 KHz or 7 KHz test film.
- Focussing the sound optic on film is performed by turning screw L which is tighten with its nut. The whole unit is pivoted on screw A and kept spring loaded by spring N. Use 5 KHz or 7KHz film.

Exciter lamp.

- The lamp is factory glued to its socket. After replacement, thread a good film and move the lamp with fingers until the highest level output is obtained; put few drops of any cement to keep the lamp in the correct position.
- G: the whole lamp base pivots on pin P and aligns the filament respect to the horizontal axis of the sound optic.

- E-E: loosen these screws just enough to allow the lamp base plate to turn on itself in order to put the filament parallel to the plane of the sound optic lens.
- D-D: these two screws move up or down the lamp in order to place the filament just in front of the slit of the sound optic.
- F: it tilts the lamp filament respect to the slit of the sound optic.
- H: it keeps the lamp base plate spring loaded to ensure stability during operation.

Note: all adjustments have to be repeated several times one after the other since they are interdependents.

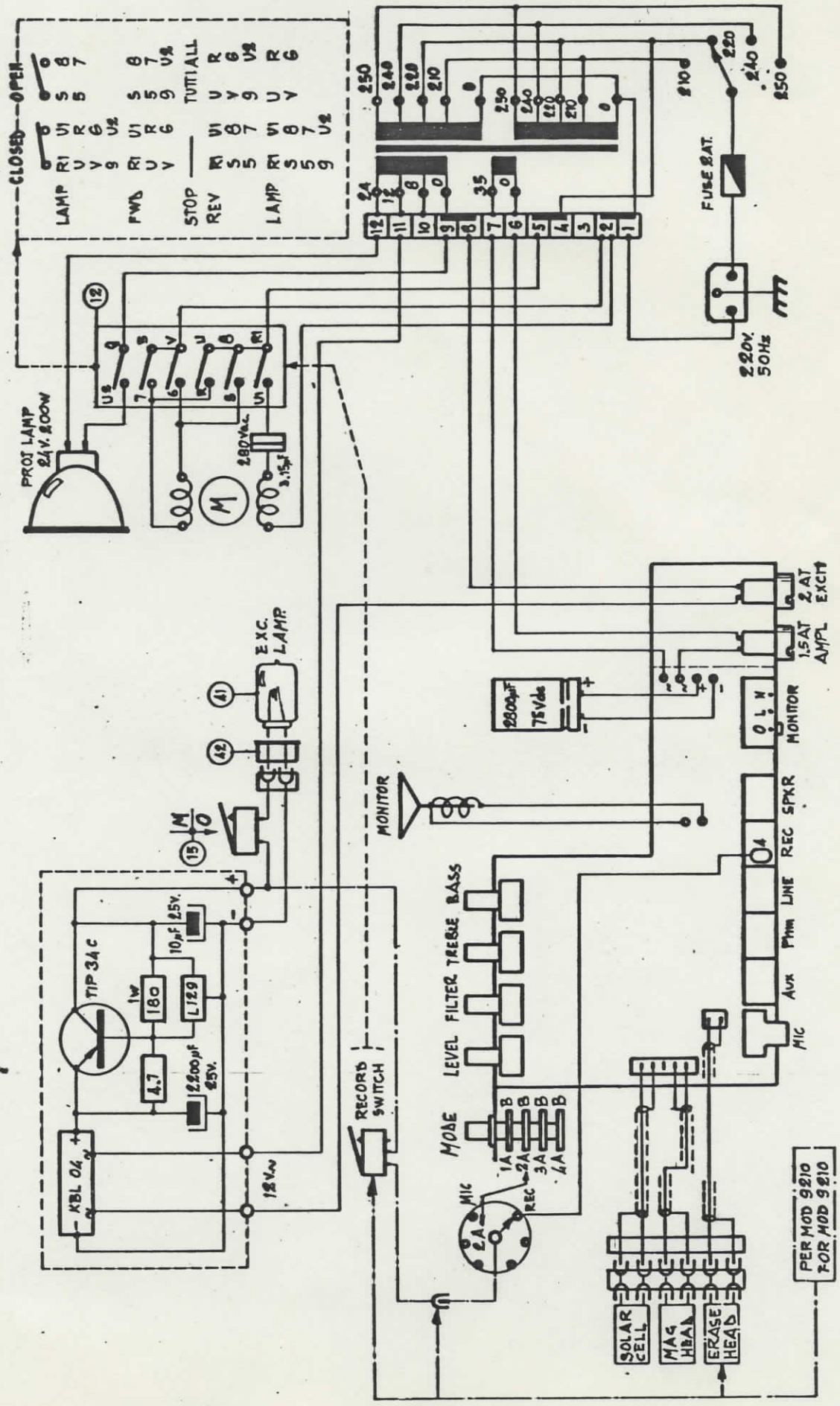
Technical specifications.

- Mod 9119/OM, super 8 mm projector for replay only of OPTICAL and MAGNETIC sound track films. It operates at 220 volt/50 cps.
- Speed: 18 and 24 fps with maintenance free asynchronous motor.
- Spools: accepts up to 750 mt (2500 ft) spools.
- Threading: all manual.
- Film transport: two-tooth hardened claw, with two sprockets of high accuracy; manual film loop reformer; framing performed by claw displacement so that no further tilting correction is needed.
- Operation: performed by one control only for: STOP, FORWARD and LAMP, REVERSE and LAMP.
- Projection lamp: 24 volt/200 watts EJL or similar.
- Projection lens: zoom 16.5 - 30 mm; other focalities on request.
- Anamorphic lens: 2 threaded holes provided; anamorphic holder and lens supplied on request.
- Electronic characteristics:
 - . amplifier fully transistorized with discrete replaceable components, output 25 watts r.m.s. undistorted over a load of 4 ohms.
 - . inputs for microphone, pick-up magnetic, auxiliary, record (for models where recording capability is provided), switch to select the different mode inputs.
 - . controls for LEVEL, PRESENCE, TREBLE, BASS.
 - . two outputs: loudspeaker 4 ohm/25 watts; line 0.5 Volt/47 Kohms.
 - . internal speaker 8 ohm/6 watts, with 3 position switch: Normal, Low, Off
 - . fuses for mains, exciter lamp, amplifier.
 - . optical sound replay: 40 Hz - 6500 Hz (at 24 fps), with sound optic specially coated for sound track in colour also.
 - . magnetic replay: 40 Hz - 12000 Hz at 24 fps.
- Weight without spools: 14.2 Kg.
- Dimensions with the arms folded: 44 x 34 x 22 cm.

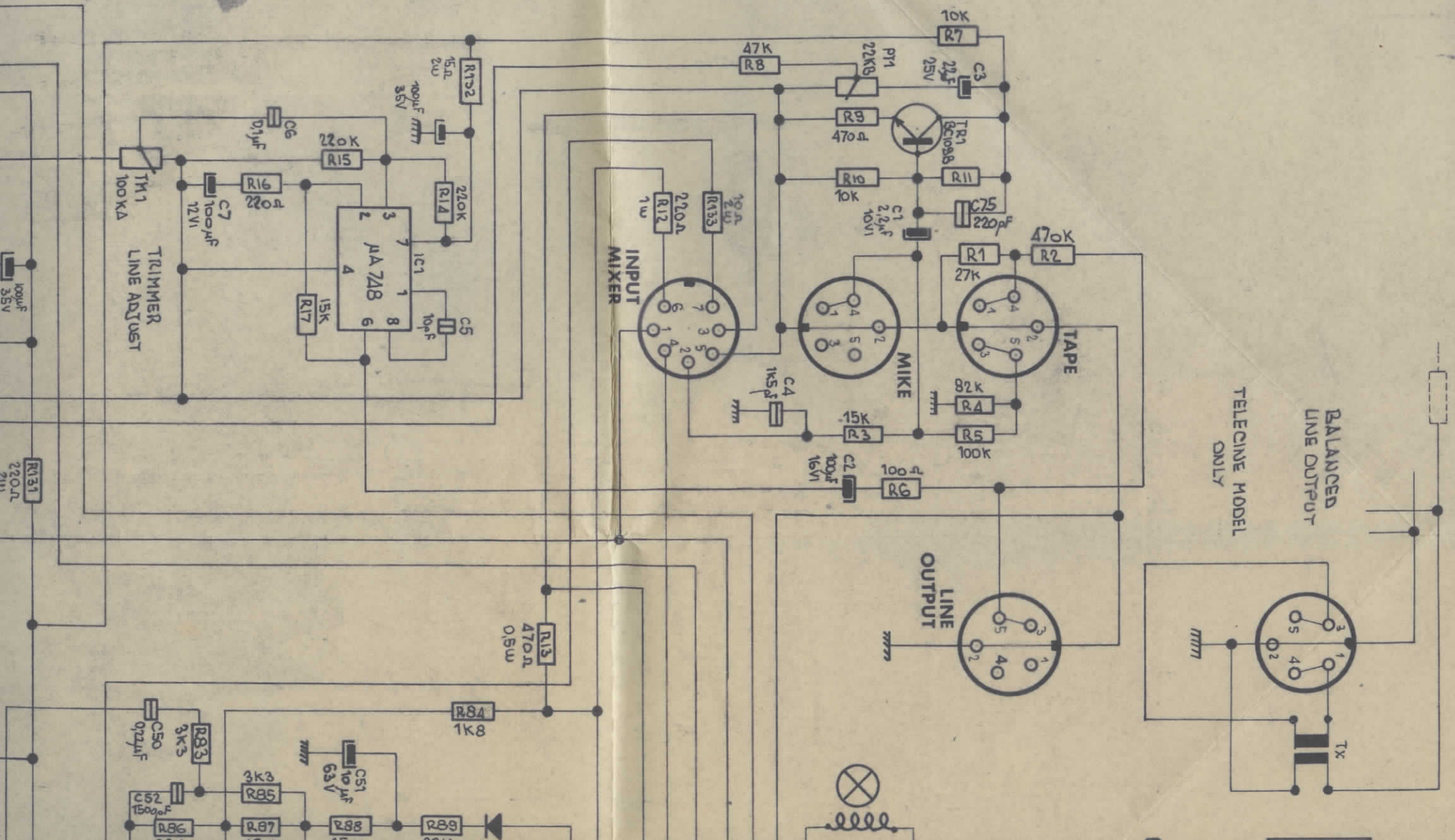
Fumeo spa reserves all rights of modification without previous notice.

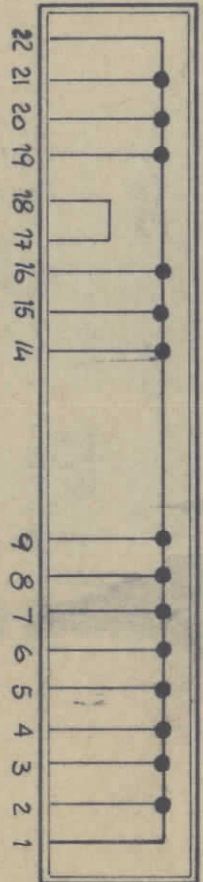
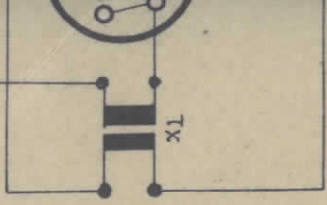
FUMEO

MILANO - ITALY

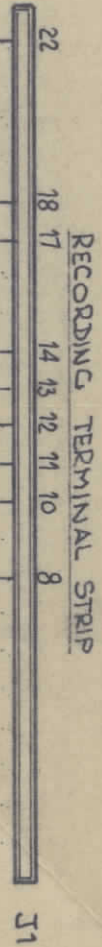


PER MOD 9210
TOR MOD 9210





J3
EXCEPT FOR MODEL 9120



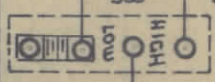
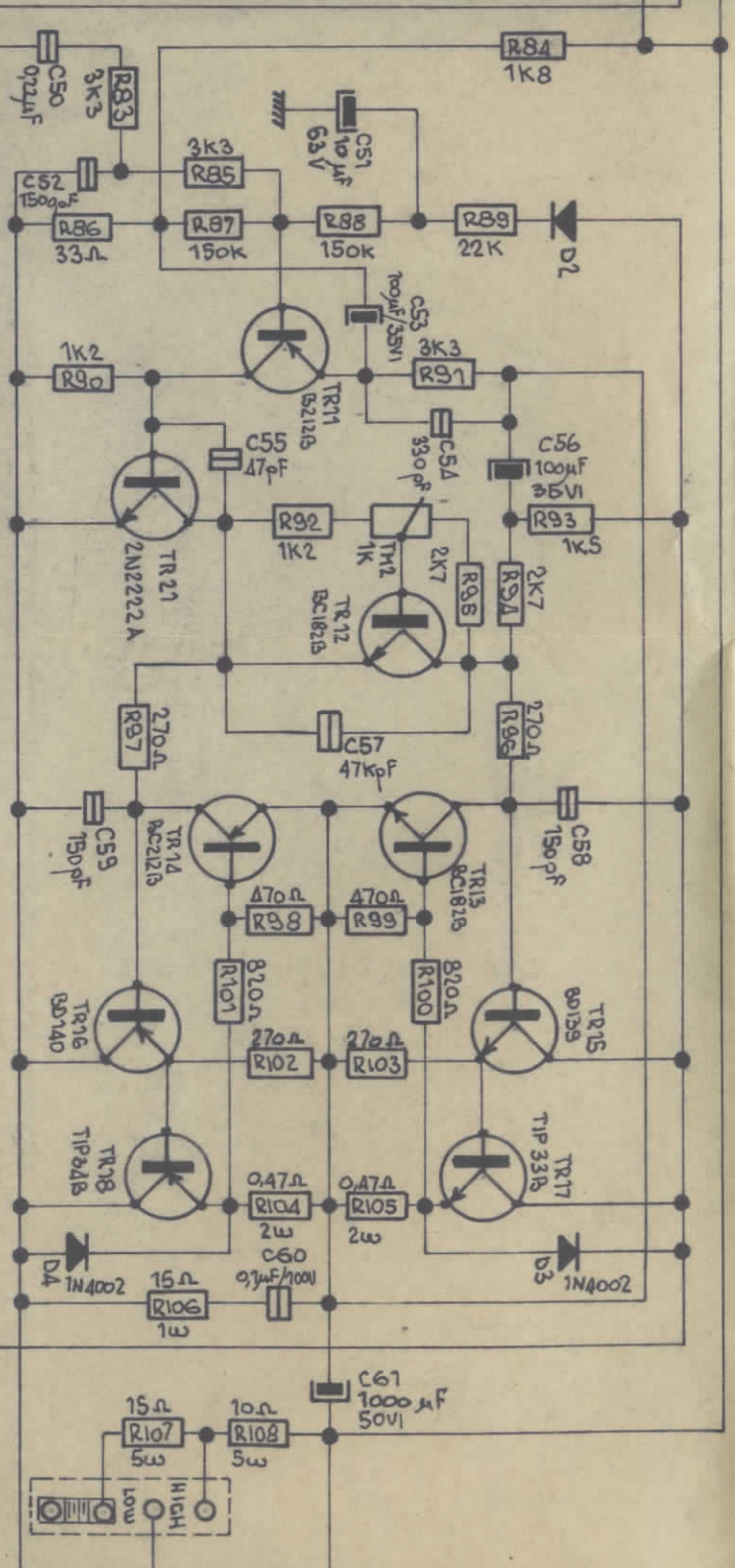
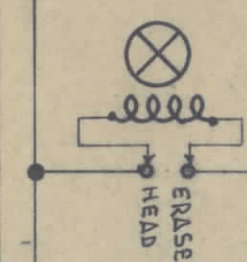
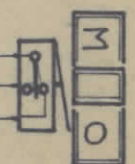
COMANDO
SOVRAIMPRES
SONORA
SOUND ON SO
SUPERIMPOSIT
CONTROL

MICROSWITCCH SU
COMUTATORE DI
AVVIAMENTO
1-3 FERMO
1-2 MOTO

MICROSWITCCH AD
BY MAIN OPERATE
1-3 STOP

MICROSWITCCH ATTUATED
BY MAG/OPT SELECTOR

MICROSWITCH
SUL SELETORE
OTTICO - MAGNETICO

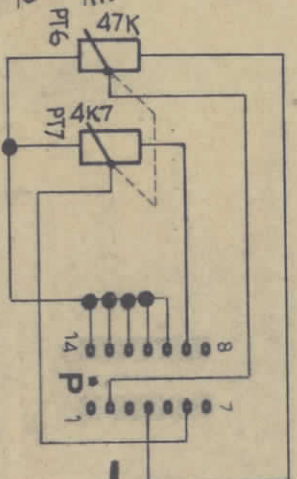


J3

EXCEPT FOR MODEL 9120

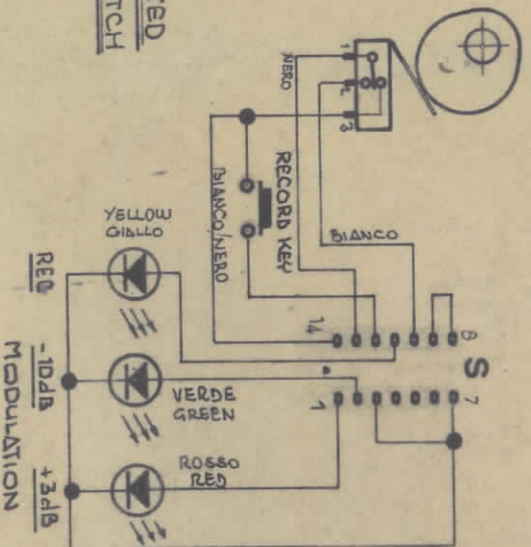
J1

COMANDO
SOVRAPPRESSIONE
SONORA
SOUND ON SOUND
SUPERIMPOSITION
CONTROL

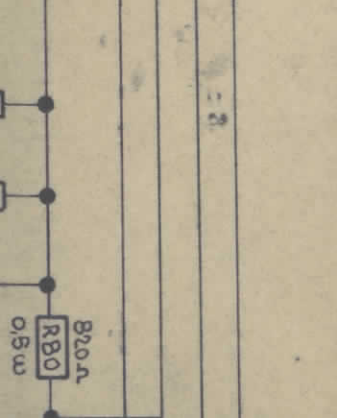
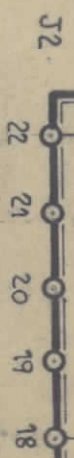
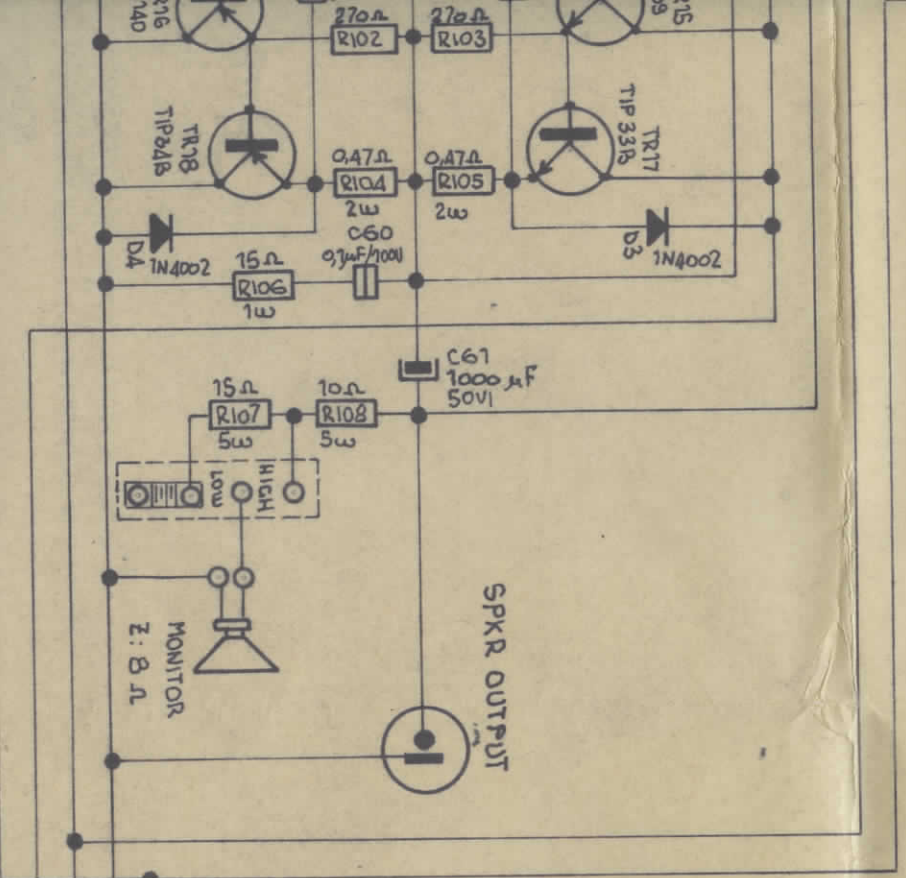


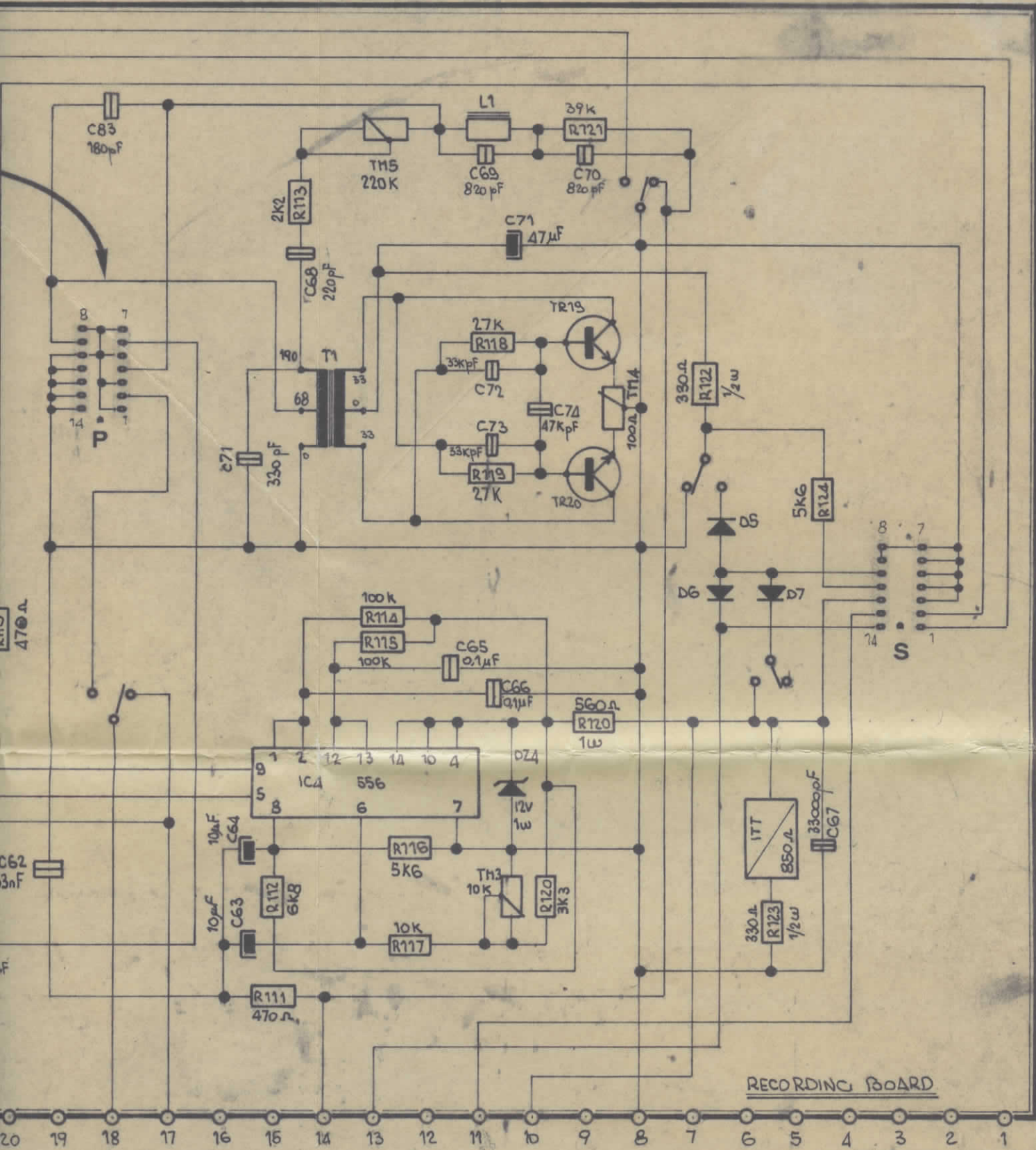
MICROSWITCCH SU
COMPIUTATORE DI
AVVIAMENTO
1-3 FERMO
1-2 MOTO

MICROSWITCCH ACTUATED
BY MAIN OPERATE SWITCH
1-3 STOP
1-2 MOTO



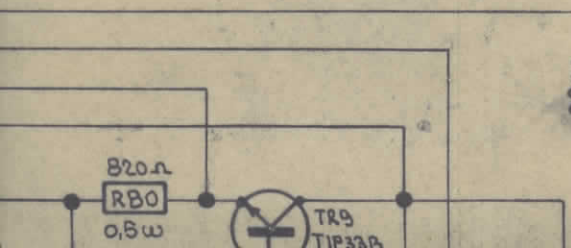
MICROSWITCCH ACTUATED
BY MAG/OPT SELECTOR



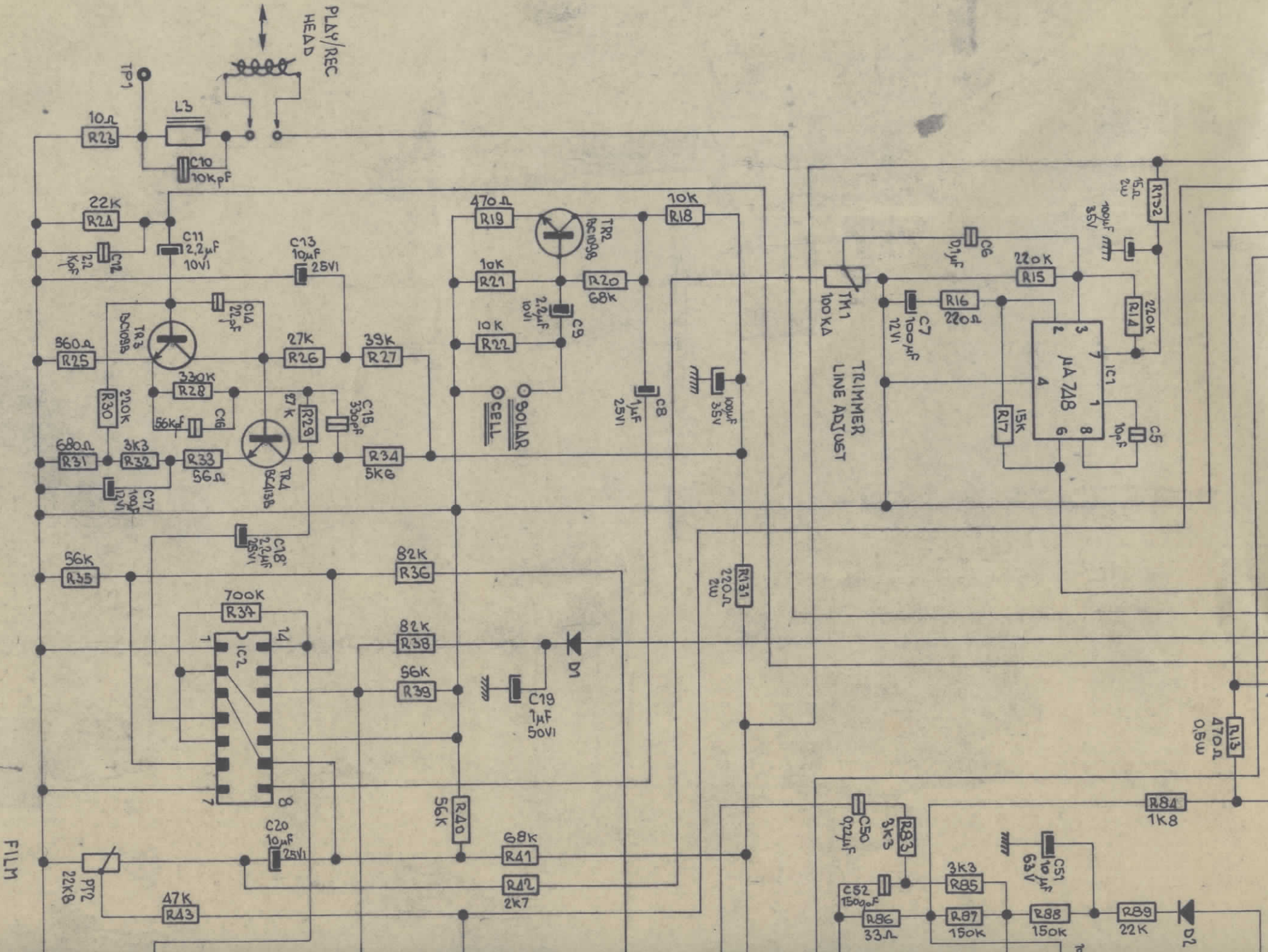


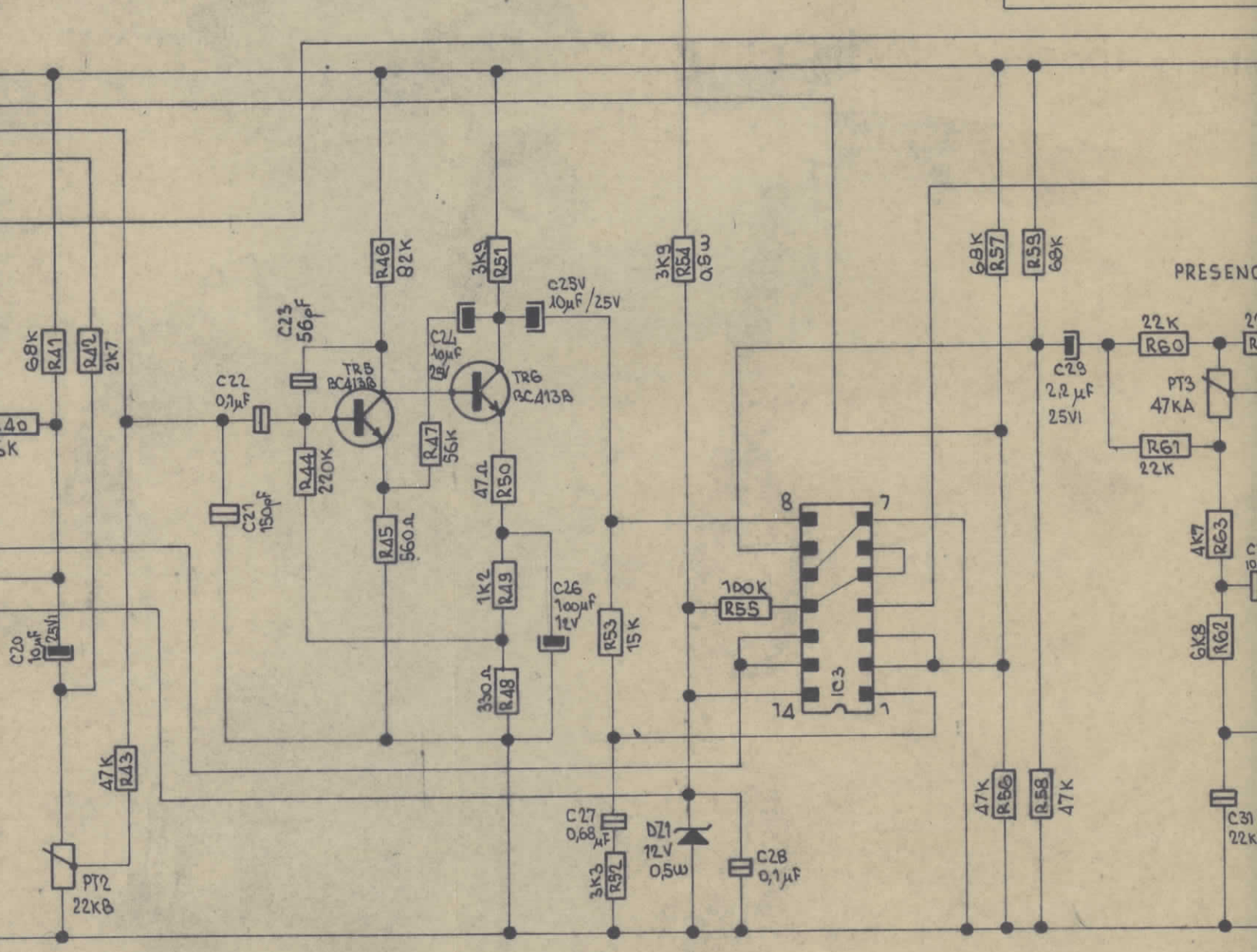
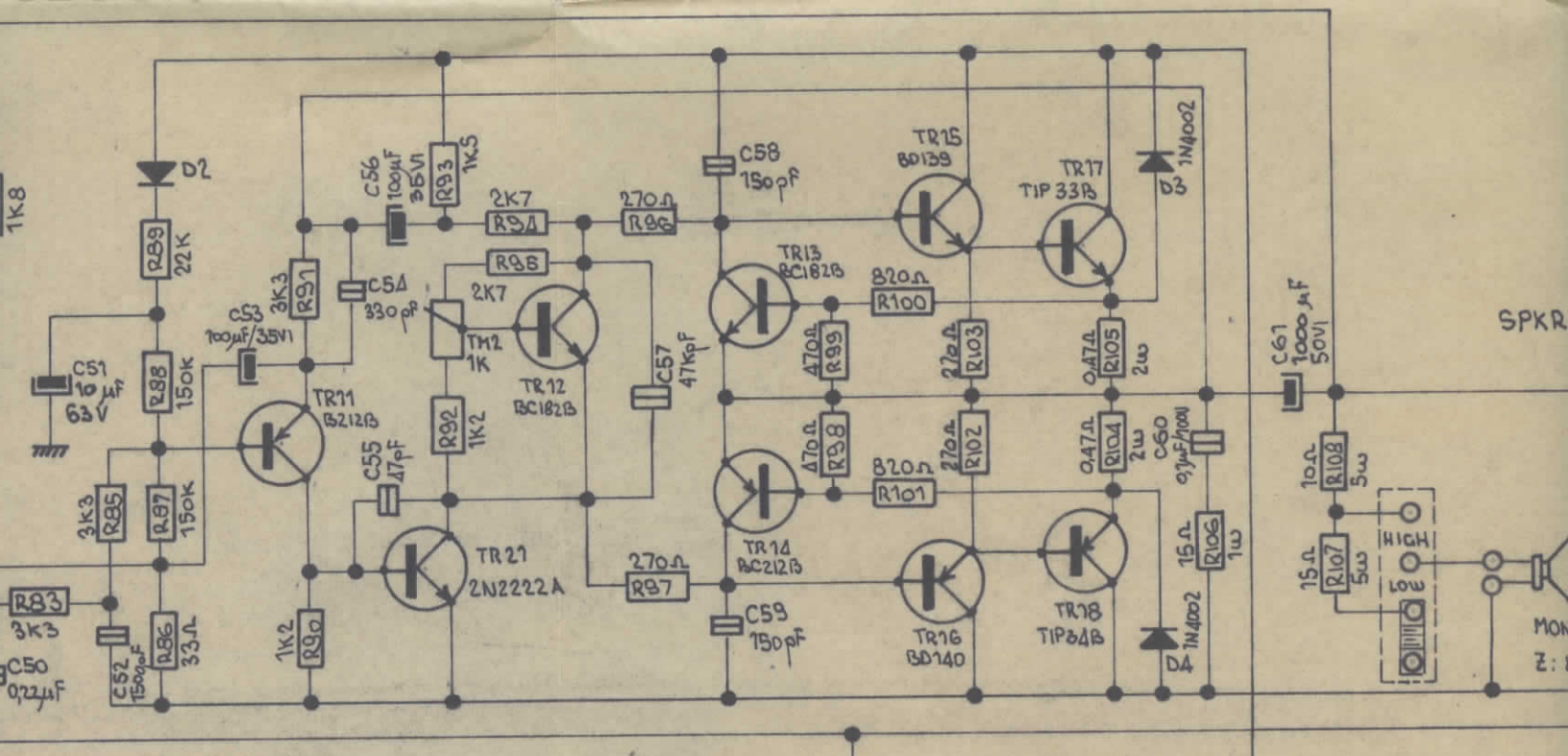
RECORDING BOARD

FOR MODEL 8120 ONLY

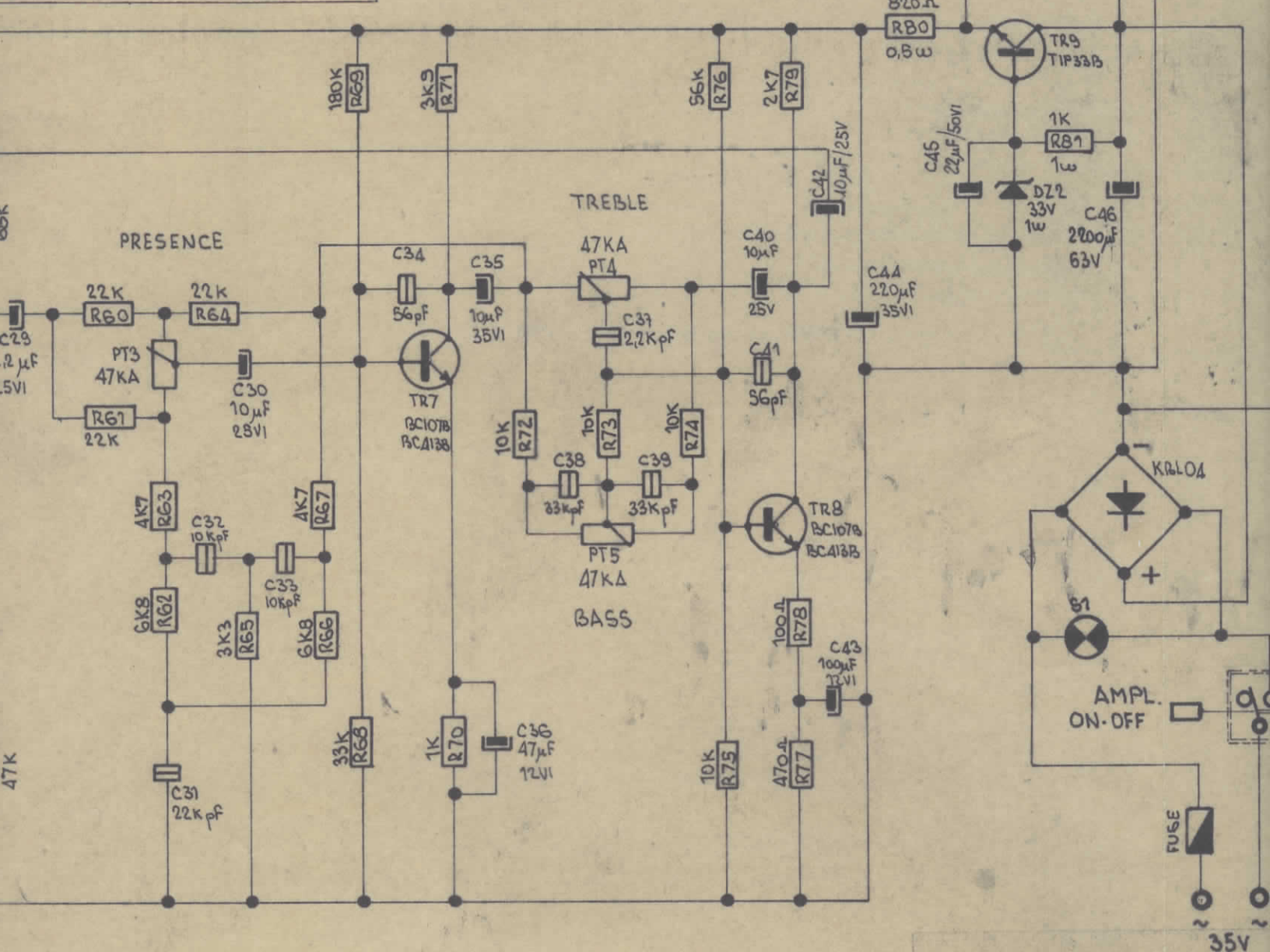
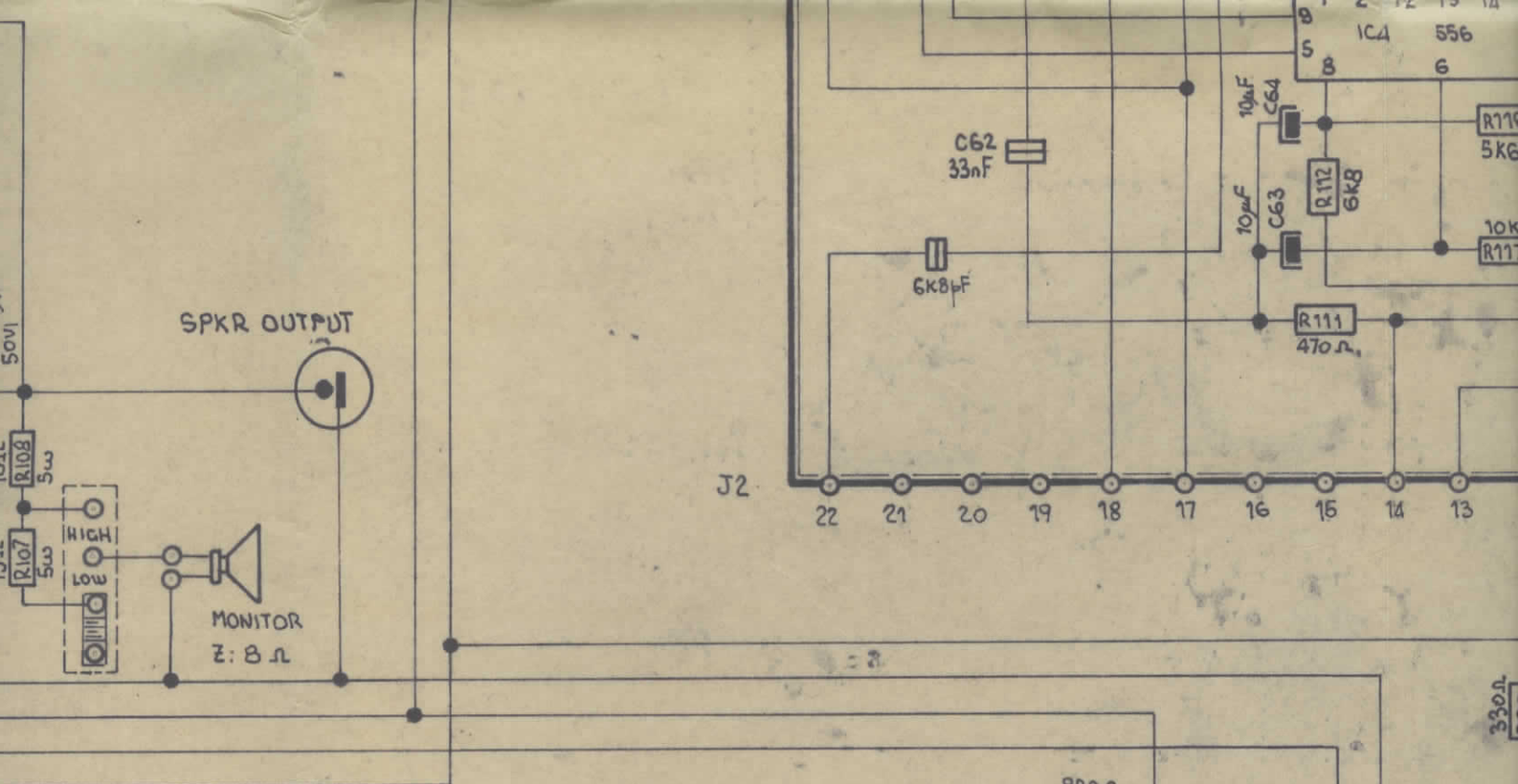


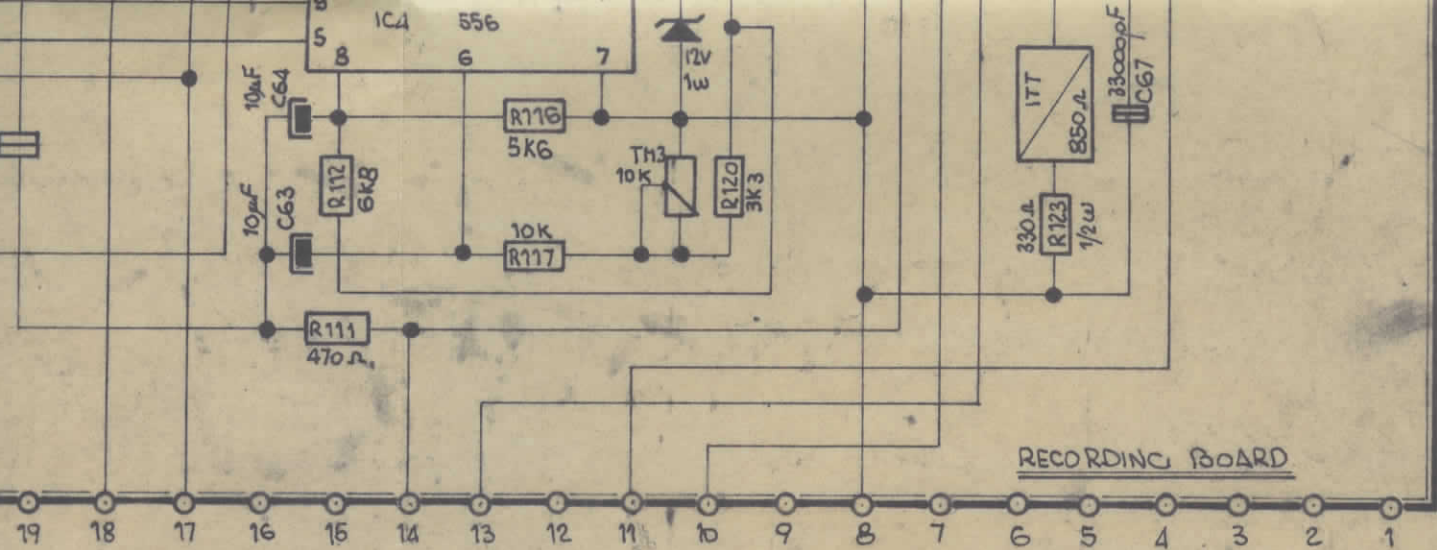
ALIMENTAZIONE LAMPADA
DI ECCITAZIONE



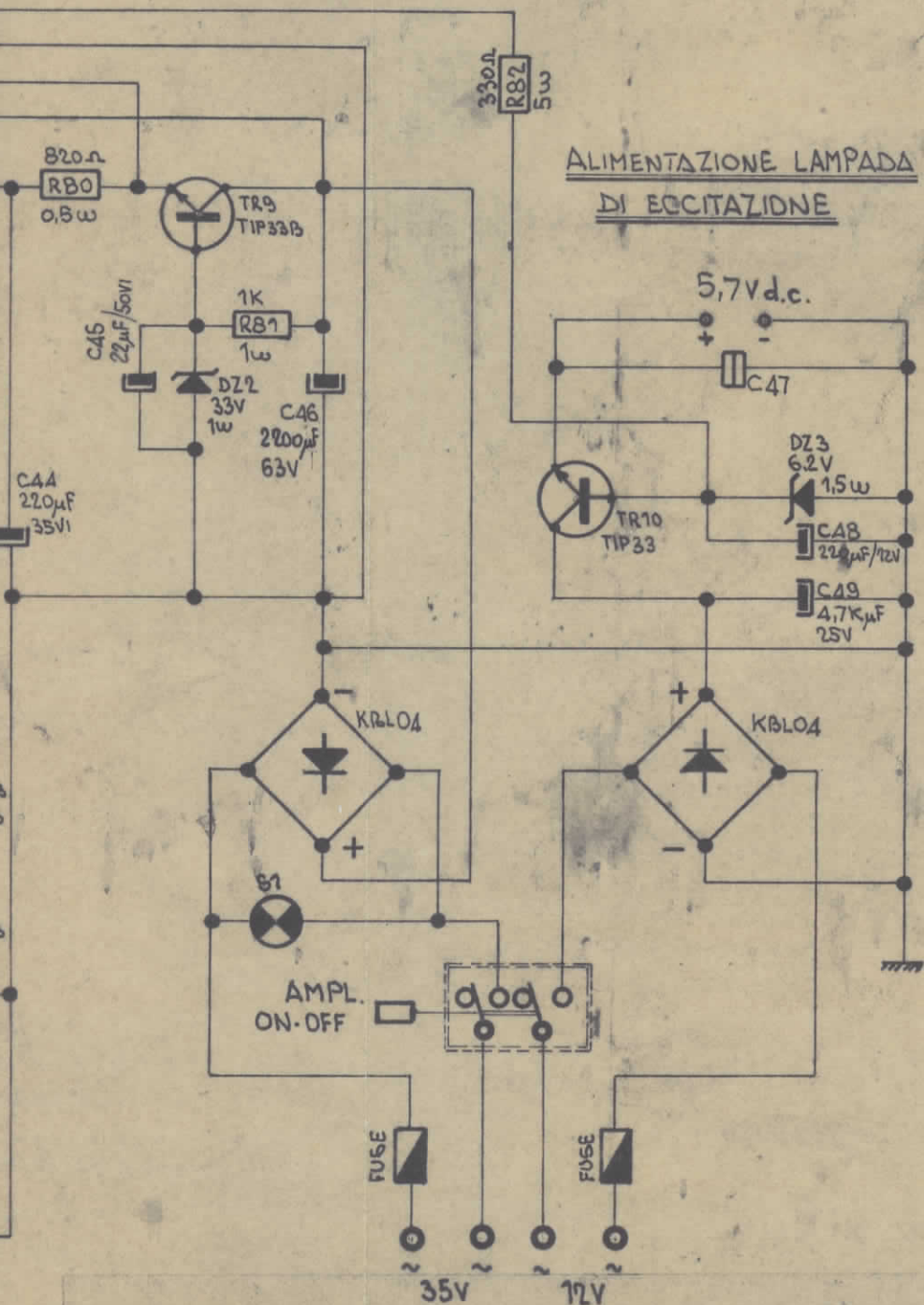


FILM





FOR MODEL 9120 ONLY



FUMEO S.p.A. - FABBRICA APPARECCHIATURE CINEMATOGRAFICHE - MILANO

Denominazione: Schema amplificatore 25w

Super 8 *Falchini*