CASSETTE TAPE DECK

CT-F6262
CT-F6060

SERVICE MANUAL

PIONEER®

CONTENTS

Both Model CT-F6262 and Model CT-F6060 have the same basic mechanism and performance. CT-F6262 is housed in a wooden cabinet, and CT-F6060 has a metal top cover. The following table is displayed on the CT-F6262 and the CT-F6060.

	Voltage	Remarks
CT-F6262/KCU	120V only	CSA (Canada) and UL (U.S.A) approved
CT-F6060/HG	220V and 240V (Switchable)	SEMKO (Sweden), NEMKO (Norway), DEMKO (Denmark) and EI (Finland) approved
CT-F6060/D	120V, 220V and 240V (Switchable)	General export model

This service manual is applicable to the CT-F6262/KCU. When repairing the CT-F6060/HG or D, please see the manual on pages 73 – 82.

1. SPECIFICATIONS 5
2. CONNECTION DIAGRAM 6
3. FRONT PANEL FACILITIES 7
4. BLOCK DIAGRAM 9
5. LEVEL DIAGRAM 11
6. CIRCUIT DESCRIPTIONS
   - 6.1 Signal Path 12
   - 6.2 Recording/Playback Circuits 12
   - 6.3 Control Circuit 15
   - 6.4 Power Supply Circuit 18
7. DISASSEMBLY 19
8. PARTS LOCATION
   - 8.1 Front Panel View 22
   - 8.2 Rear Panel View 23
   - 8.3 Front View 24
   - 8.4 Top View 25
9. MECHANICAL ADJUSTMENTS
   - 9.1 Pinch Roller Contact Pressure 26
   - 9.2 Reel Driving Shaft Torque 26
   - 9.3 Tape Transport Speed 27
   - 9.4 Play Timing 27

9.5 Pause Timing 27
9.6 Motor (Play) Switch Operation 28
9.7 Muting Switch Operation 28

10. ALIGNMENT OF THE REC/PB CIRCUITS

10.1 Head Azimuth 30
10.2 Playback Equalizer 30
10.3 Playback Level 30
10.4 Level Meter Calibration 30
10.5 Rough Recording Current 30
10.6 Rough Recording Bias 31
10.7 Bias Trap Tuning 31
10.8 Record/Playback Response 32
10.9 Recording Sensitivity 32
10.10 Dolby Circuit 33

11. SCHEMATIC DIAGRAMS, P.C. BOARD PATTERNS AND PARTS LIST

11.1 Miscellanea 34
11.2 Schematic Diagram 35
11.3 REC/PB Amplifier Assembly (RWF-061) 37
11.4 Indicator Assembly (RWX-130) 47
11.5 Dolby Assembly (RWX-138) 48
11.6 Switch Assembly (RWS-046) 50
11.7 Jack Assembly (RWX-128) 52
11.8 Control Assembly (RWG-057) 54
11.9 Power Supply Assembly (RWR-045) 56

12. EXPLODED VIEWS 58

13. PACKING 72

CT-F6060 Additional Service Manual ..... Enclosed Herewith

1. SPECIFICATIONS

Systems	Compact cassette, 2-channel stereo
Motor	Electronically controlled DC motor (built-in generator)
Heads	Permalloy Solid record/playback head; ferrite erase head
Fast Winding Time	Approx. 85 seconds (with C-60)
Wow and Flutter	No more than 0.08% (JIS), No more than ±0.20% (DIN)
Frequency Response	
Standard & LH Tape	30Hz ~ 14,000Hz (40Hz ~ 13,000Hz ±3dB), (30Hz ~ 12,000Hz, DIN)
Chrome Tape	30Hz ~ 16,000Hz (40Hz ~ 15,000Hz ±3dB), (30Hz ~ 13,500Hz, DIN)
Ferri-chrome Tape	30Hz ~ 16,000Hz (40Hz ~ 15,000Hz ±3dB)
Signal-to-Noise Ratio	Dolby OFF: more than 52dB Dolby ON: more than 62dB (over 5kHz, standard & LH tapes) Further improvement of 4.5dB when using chrome tape (over 5kHz) More than 57dB (DIN)
Total Distortion	No more than 1.7%
Inputs (reference level/maximum allowable input/impedance)	
	MIC x 2; 0.23mV/80mV/23kΩ 6φmm jack (reference to MIC impedance: 250Ω ~ 30kΩ) LINE x 2 (2-channel stereo); 64mV/25V/100kΩ pin jack DIN (REC/PLAY) x 1; 10mV/3.6V/2.2kΩ, 5p jack (DIN standard)
Outputs (reference level/maximum level/load impedance)	
	LINE x 2; 450mV/800mV/50kΩ pin jack DIN x 1; 450mV/800mV/50kΩ 5p jack (DIN standard) HEADPHONE x 1; 60mV/107mV/8Ω,6φmm stereo jack Output level control
Semiconductors	48 transistors (includes 4 FETs), 34 diodes (includes 3 zener diodes 2 LEDs) plus 3 transistors and 1 diode for motor electronic control
Subfunctions	• Dolby system (ON-OFF) with indicator lamp • Tape selector (STD/FeCr/CrO_2) with auto-switching mechanism for CrO_2 • FeCr & CrO_2 indicator lamps • Cassette compartment illumination
Power Requirements	AC 120V, 60Hz
Power Consumption	18 watts, maximum
Dimensions	413(W) x 177(H) x 315(D) mm. Max. 16-1/4 x 6-15/16 x 12-7/16 in.
Weight (without package)	8.4kg (18 lb 8oz)
Furnished Parts	Stereo connecting cord: 2 Head cleaning kit: 1 Operating instructions: 1

NOTES:

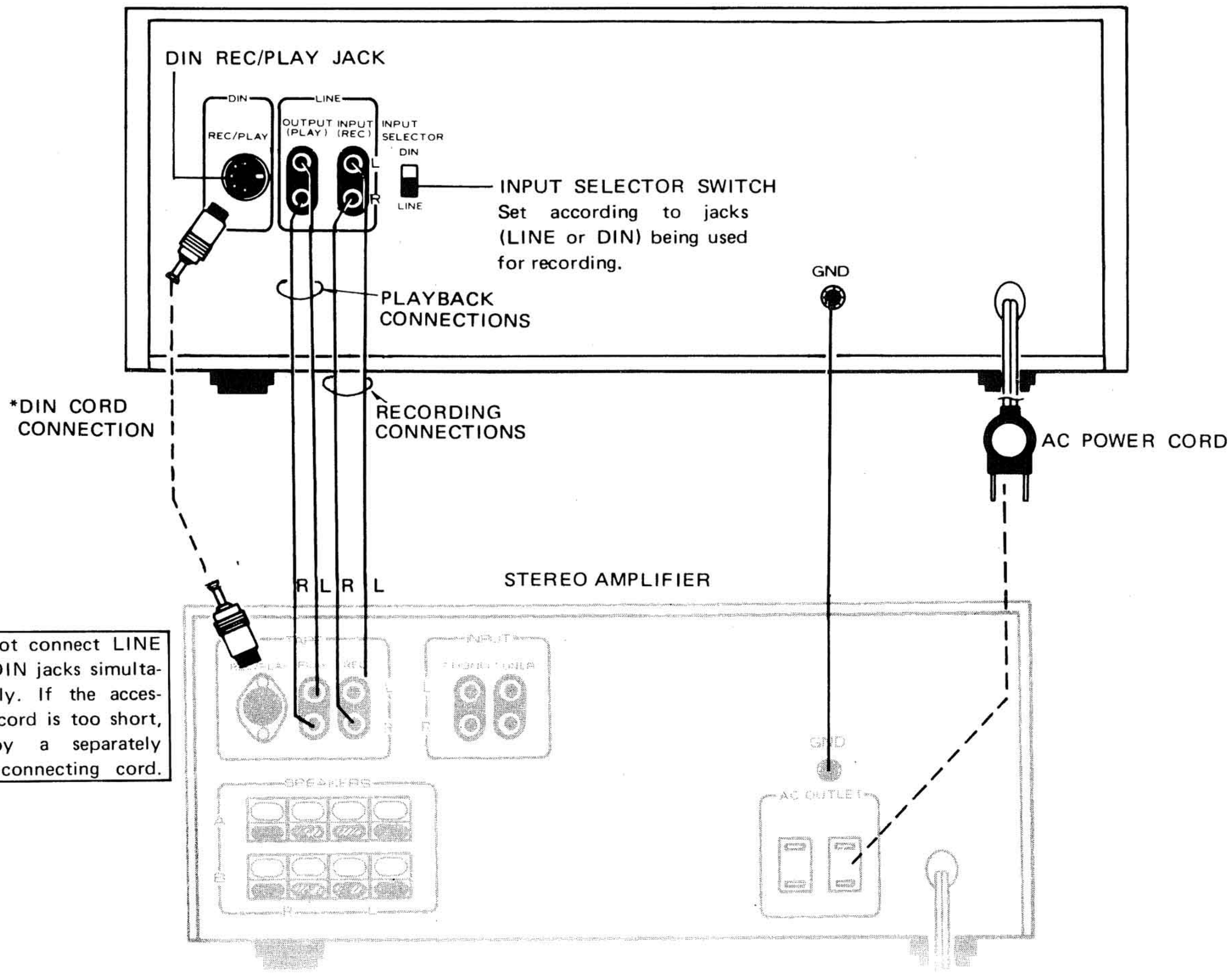
1. Reference Tapes: Standard & LH: DIN 45513/BLATT6 or equiv.
   : CrO_2: DIN 45513/BLATT7 (CrO_2) or equiv.
2. Reference Recording Level: Meter 0dB indicating level (160 nwb/m magnetic level = Philips cassette reference level)
3. Reference Signal: 333Hz
4. Wow & Flutter: • JIS [3kHz, with acoustic compensation (weighted), rms value] • DIN [3150Hz, with acoustic compensation (weighted) PEAK value]; DIN 45507
5. Frequency Response: • Measured at −20dB level, DOLBY OFF, level deviation is ±6dB without indication • DIN is DIN 45500
6. Signal-to-Noise Ratio: • Measured at +4dB level (250nwb/m magnetic level = DIN 45513 specified reference level), IEC A curve with acoustic compensation (weighted) • DIN is DIN 45500
7. Sensitivity: Input level (mV) required for reference recording level with input (REC) controls set to maximum.
8. Maximum Allowable Input: While decreasing settings of input (REC) level controls and increasing level at input jacks, this is the maximum input level (mV) at the point where recording amplifier output waveform becomes clipped.
9. Reference Output Level: Playback output level when meter indicates 0dB.
10. Maximum Output Level: Playback output level with respect to reference recording level when output (PLAY) level controls are set to maximum.

NOTE: Specifications and the design subject to possible modification without notice due to improvements.

*Dolby and DD are trademarks of Dolby Laboratories Incorporated.

2. CONNECTION DIAGRAM

CT-F6262



Do not connect LINE and DIN jacks simultaneously. If the accessory cord is too short, employ a separately sold connecting cord.

3. FRONT PANEL FACILITIES

POWER SWITCH

Press to turn power ON. Level meters and internal illuminating lamp will light. To turn power OFF, again press the button to release it.

CASSETTE DOOR

Open and close door gently by hand. To protect tape and transport from dust, keep door closed whenever possible.

CrO_2 INDICATOR LAMP

Lights when chrome tape is being used. Also lights when there is no cassette in the cassette compartment.

RESET BUTTON

Press to reset tape counter digits to "000"

Fe-Cr INDICATOR LAMP

Lights when TAPE selector switch is set to Fe-Cr (for ferri-chrome tape).

LEVEL METERS

Display input level during recording and output level during playback.

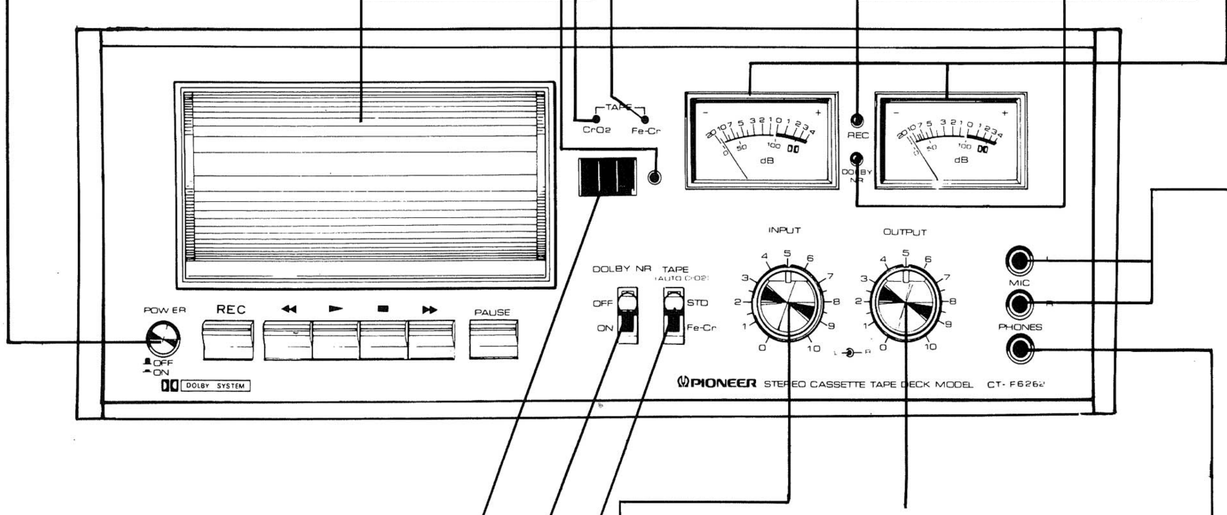
REC INDICATOR

Lights red during recording.

NOTE:
Be sure to confirm REC indicator lighting before proceeding to record.

DOLBY INDICATOR LAMP

Lights to indicate Dolby recording or Dolby playback.



TAPE COUNTER

Indicates tape running position.

DOLBY NR SWITCH

Set to ON position to use the built-in Dolby system to perform Dolby recording or to playback Dolby recorded tape.

TAPE SELECTOR SWITCH

Employ according to the type of tape.
STD: When using standard and LH tape
Fe-Cr: When using ferri-chrome tape
An automatic selecting mechanism is provided in the case of chrome tape and manual switching is not required. Be sure to use chrome tape that is provided with extra detecting holes.Chrome tape which is not provided with these hole cannot be employed since the automatic selecting mechanism will not function.

OUTPUT LEVEL CONTROLS

Adjust the output signal level during playback. The outer knob controls the right (R) channel, while the inner knob controls the left (L) channel.

INPUT LEVEL CONTROLS

Adjust recording signal input level from LINE INPUT (REC), DIN REC/PLAY and MIC jacks. The outer knob controls the right (R) channel, while the inner knob controls the left (L) channel. Observe level meters when adjusting.

PHONES JACK

Output jack for stereo headphones. These can be used for monitoring recording conditions or private listening.

CAUTION:
Do not connect a microphone to this jack, as the microphone may be damaged.

OPERATING LEVERS

RECORD (REC)

Press simultaneously with Play (▶) lever to perform recording.

PLAY (▶)

Press to play tape. To record, press simultaneously with REC lever (Tape travels from left to right).

REWIND (◀◀)

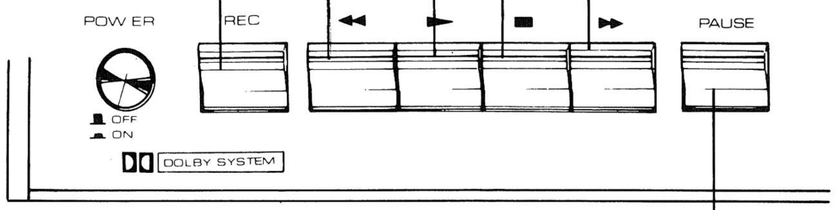
Press to rewind tape (tape travels from right to left).

STOP (■)

Press to stop tape and release other operating levers.

FAST FORWARD (▶▶)

Press for tape fast forward (tape travels from left to right).



MIC JACKS

To employ microphones for recording, connect them to these jacks. Connect the left channel microphone to the L jack and the right channel microphone to the R jack.

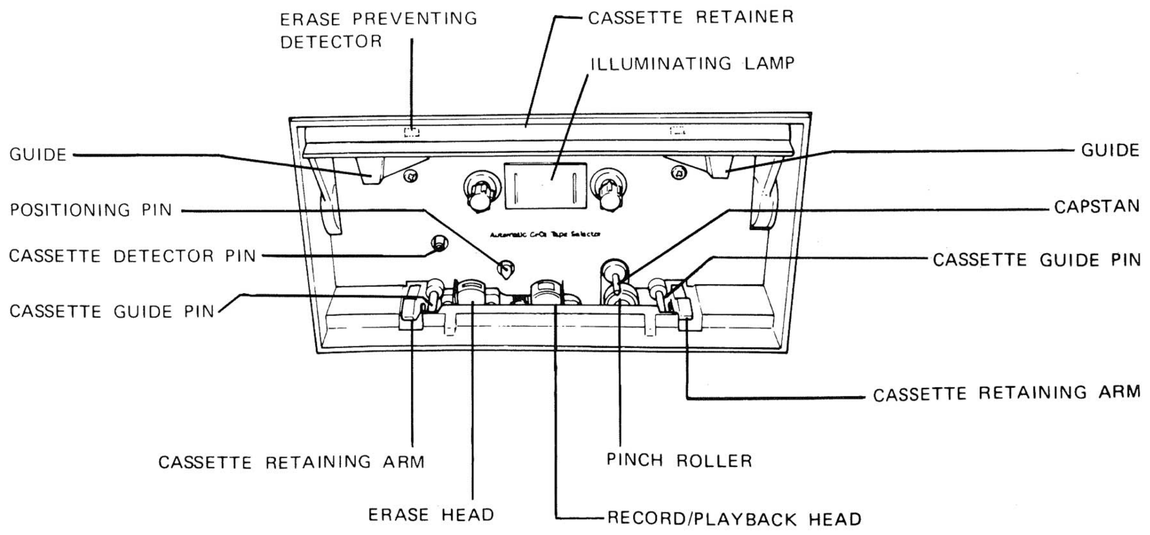
NOTE:
Be sure to disconnect microphones when not employing them. If they remain connected, recording cannot be performed from a source connected to the LINE (INPUT) or DIN jacks.

PAUSE LEVER

Depress this lever during recording or playback to temporarily stop tape motion. Press and release the lever to resume tape motion.

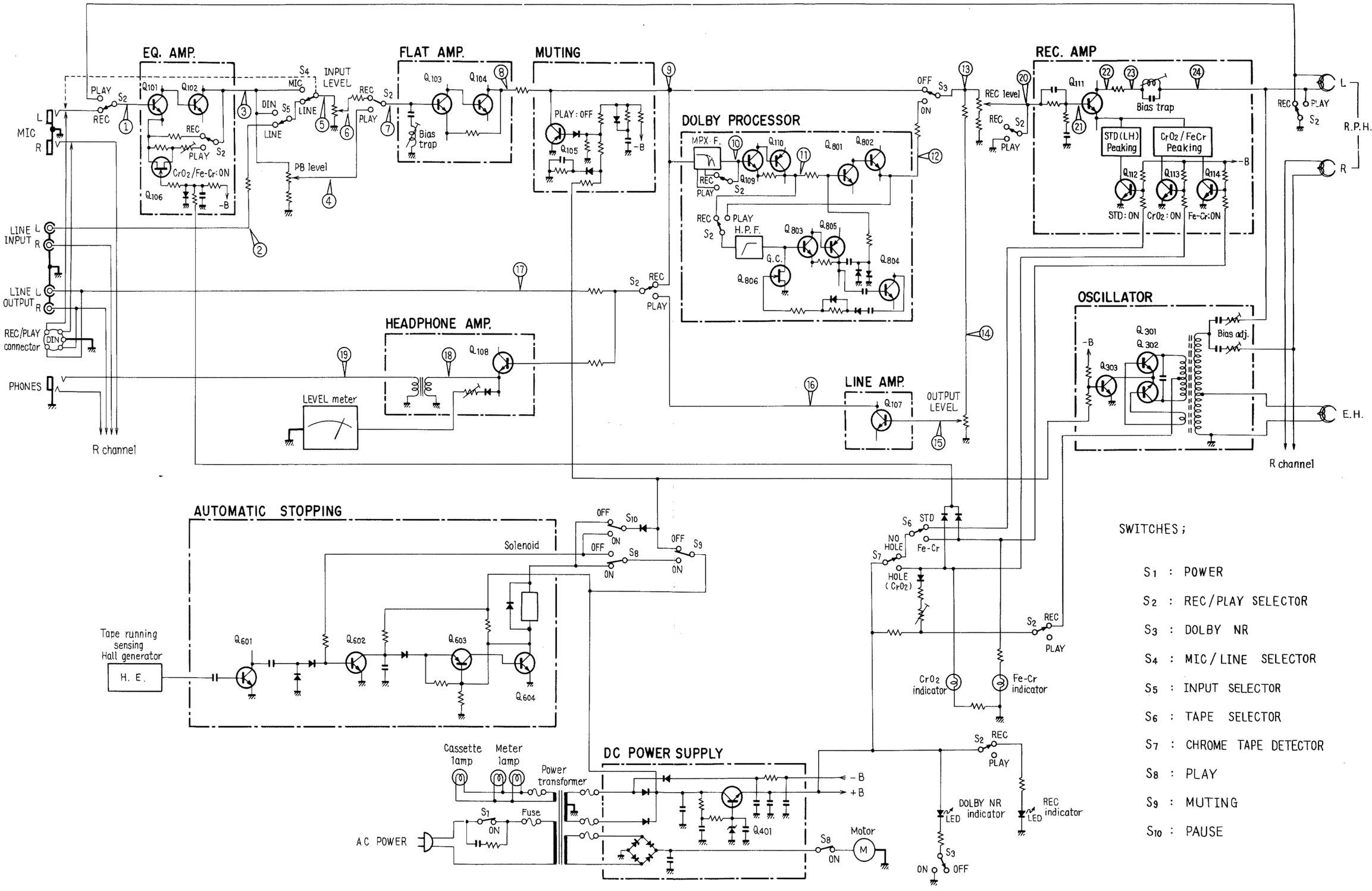
NOTES:
1. *Do not press two or more levers simultaneously, except for the play and REC levers during recording.*
2. *It is not necessary to first press the stop lever when switching between modes.*

MAIN SECTIONS OF TAPE TRANSPORT



4. BLOCK DIAGRAM

NOTE:
The numbers which are circled in the Block Diagram indicate the points which are to be measured in the level diagram.

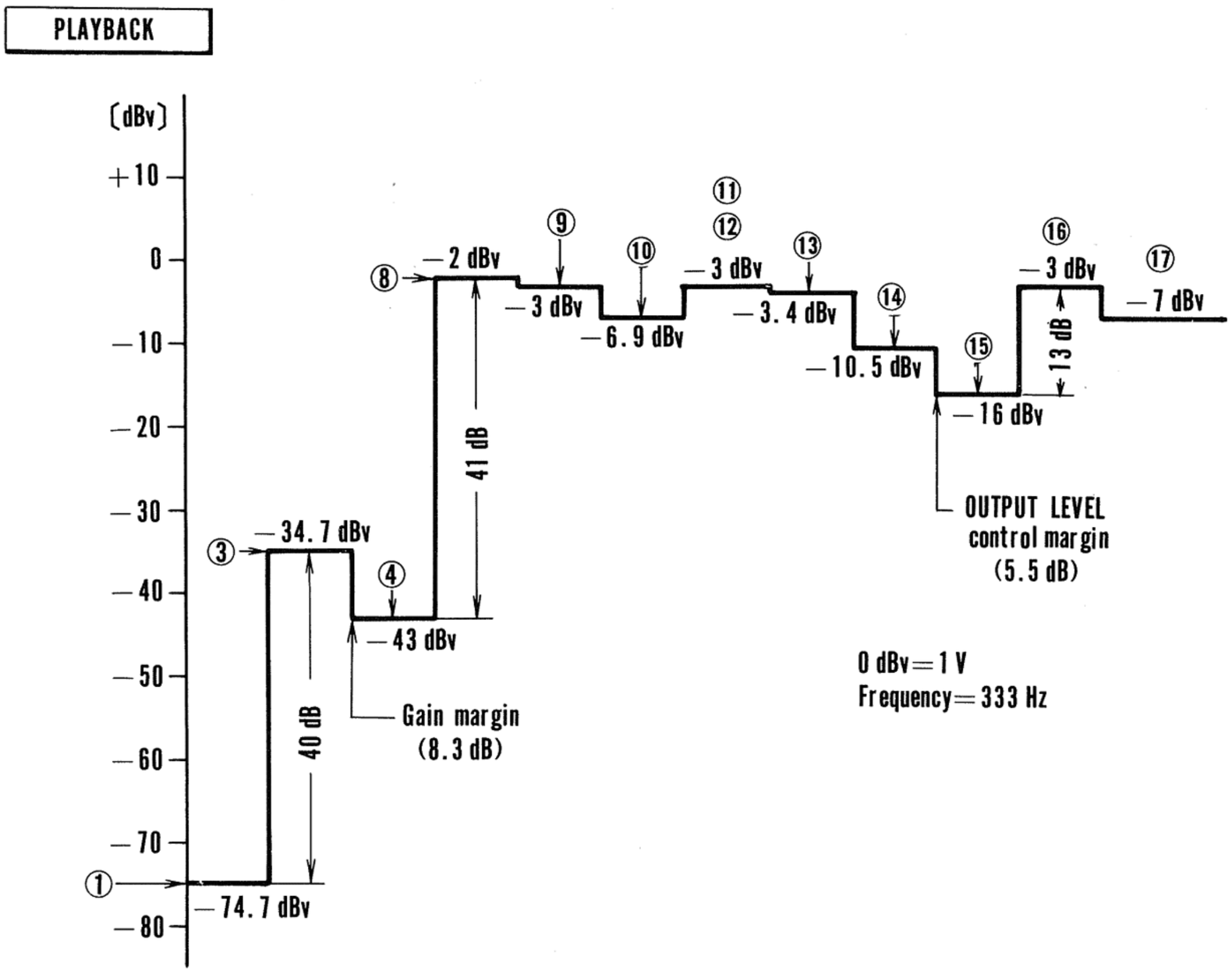


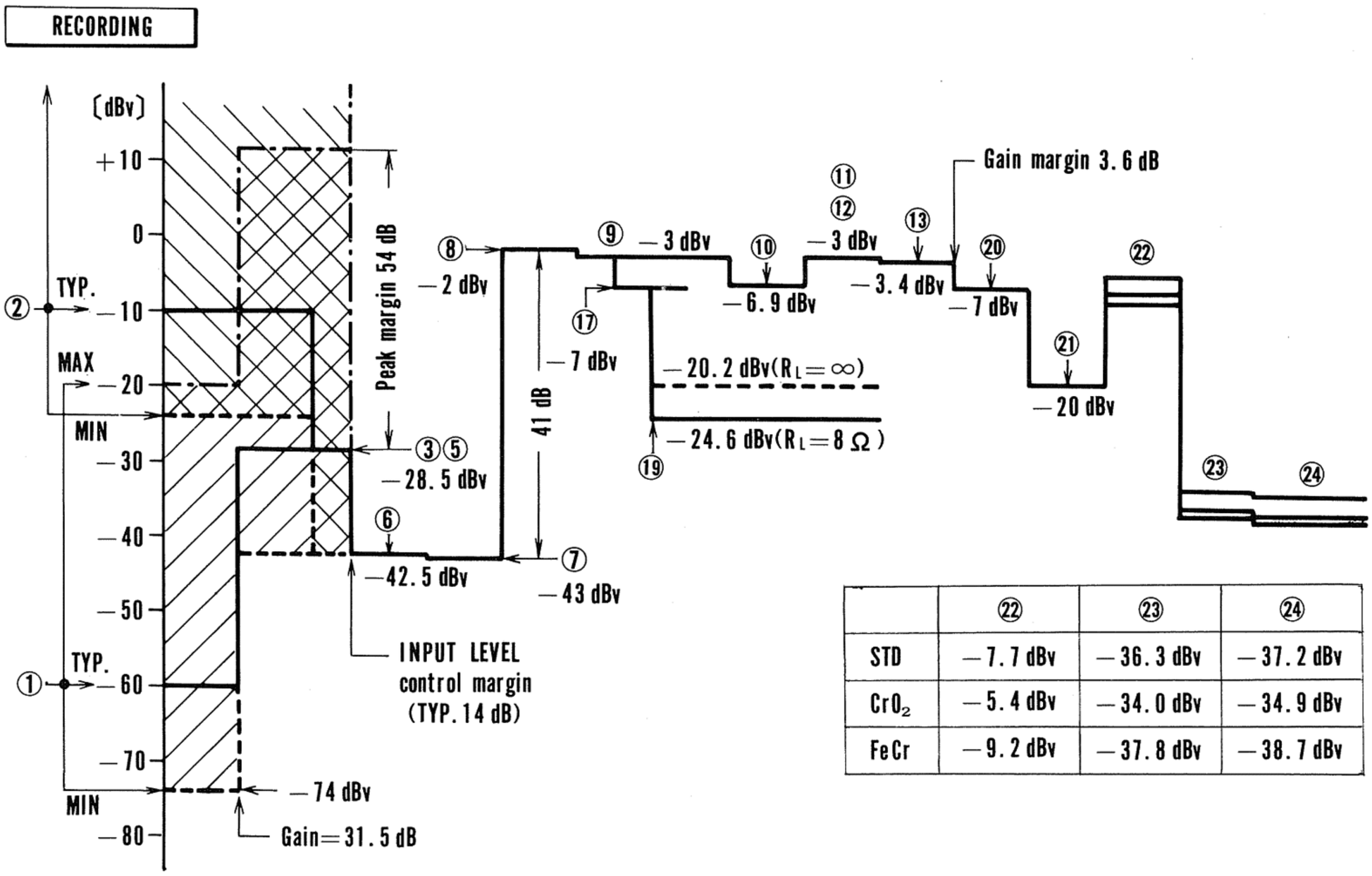
SWITCHES;

- S_1 : POWER
- S_2 : REC/PLAY SELECTOR
- S_3 : DOLBY NR
- S_4 : MIC/LINE SELECTOR
- S_5 : INPUT SELECTOR
- S_6 : TAPE SELECTOR
- S_7 : CHROME TAPE DETECTOR
- S_8 : PLAY
- S_9 : MUTING
- S_{10} : PAUSE

5. LEVEL DIAGRAM

NOTE:
The level measurement positions are indicated on the Block Diagram.





	㉒	㉓	㉔
STD	−7.7 dBv	−36.3 dBv	−37.2 dBv
CrO_2	−5.4 dBv	−34.0 dBv	−34.9 dBv
FeCr	−9.2 dBv	−37.8 dBv	−38.7 dBv

6. CIRCUIT DESCRIPTIONS

The circuit configuration adopted in this machine should be studied with reference to the block diagram on pages 9—10.
The following abbreviations are used in the text: $Cr0_2$ for chrome tape, Fe-Cr for ferri-chrome tape, and STD for standard (LH) tape.

6.1 SIGNAL PATH

During Playback

Figure 1 shows the signal path during playback. In the diagram S2 is the recording-playback switch, and S3 is the DOLBY ON-OFF switch.

During Recording

The signal path during recording is shown in Fig. 2. In the diagram S2 is the recording-playback switch, and S3 is the DOLBY ON-OFF switch. S4 is the MIC/LINE changeover switch which operates to switch in the EQ amplifier when a plug is inserted into the microphone jack. The recording input from the REC/PB connector is connected to the EQ amplifier input when there is no plug in the mic jack. S5 is the DIN/LINE changeover switch, which, when the REC/PB connector is being used, connects it to the EQ amplifier when switched to DIN.

6.2 RECORDING/PLAYBACK CIRCUITS

EQ Amplifier (Q101, Q102)

This is a direct-coupled two stage NFB amplifier consisting of two NPN transistors.
During recording, the NFB circuit is switched to give a flat frequency response characteristic to amplify the microphone (or DIN input) signals.
During playback, the time constants of the NFB circuit are switched to form the playback equalizer amplifier. An electronic switch using an FET (Q106) is used to changeover the time constants to give the different responses and operates that are required for equivalent characteristics from $Cr0_2$ (Fe-Cr) and STD tapes. (For the correct operation of this switch, you are referred to page 15 in the section on the tape selector.)

Flat Amplifier (Q103, Q104)

This also is a two stage direct coupled NFB amplifier, consisting of two NPN transistors.
This is a line amplifier with flat frequency response characteristics. A series-resonance LC circuit is built into the input circuit, preventing leakage of the recording bias signal.

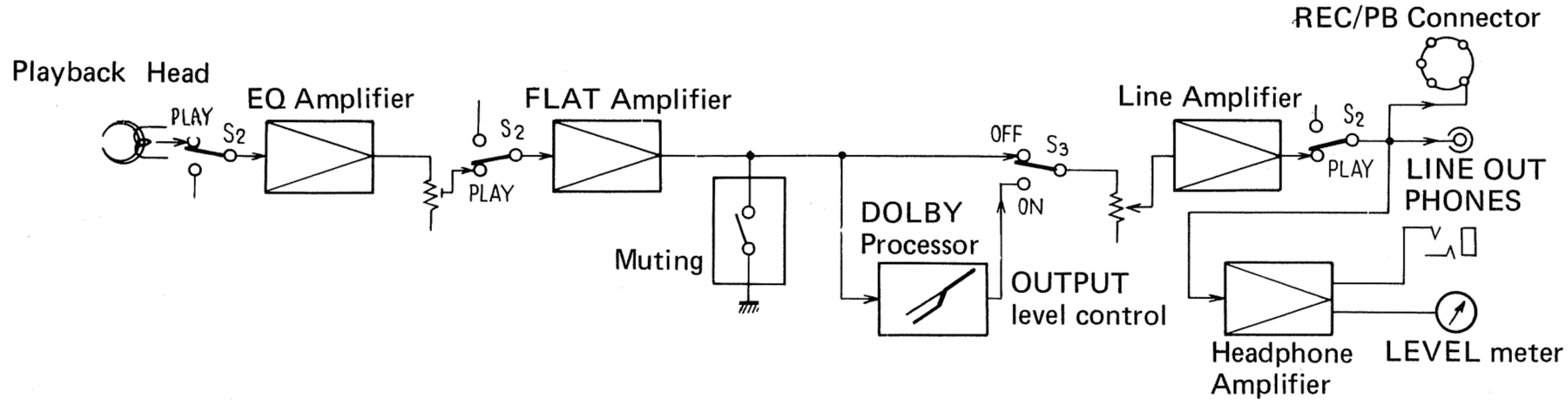


Fig. 1 Signal Path during Playback

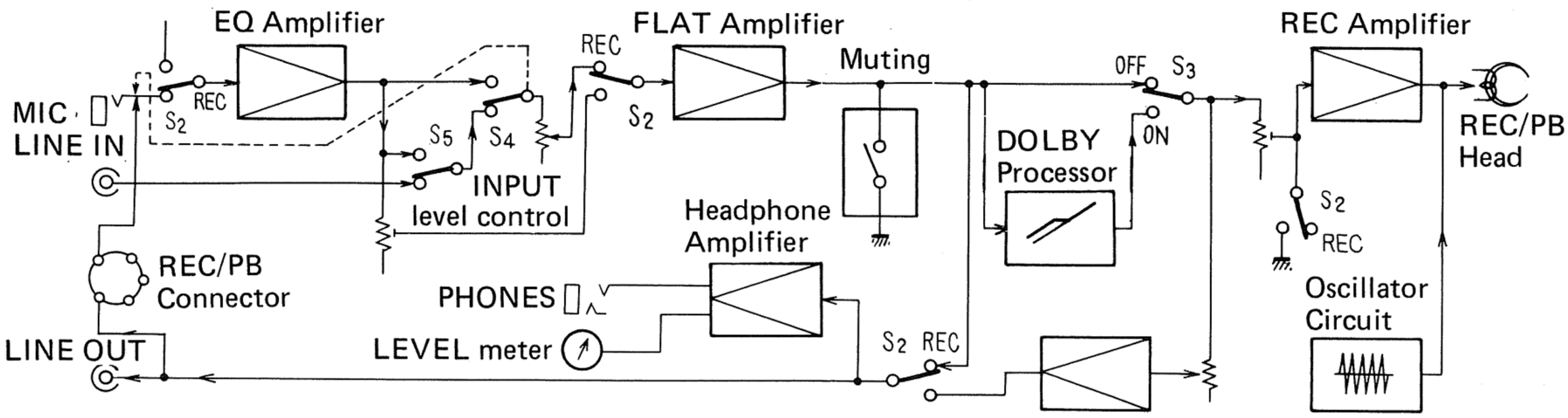


Fig. 2 Signal Path during Recording

Muting (Q105)

The PNP transistor which is connected between the output circuit of the flat amplifier and ground, shorts out unwanted noise (switching clicks, etc.), and remains open only during playback or recording. Further, the attenuation of this circuit is better than 35dB (for the operational control of this circuit, refer to muting control section on page 16.).

REC Amplifier (Q111– Q114)

This amplifier uses a single NPN transistor and has a low frequency equalization circuit in the input circuit, and a high frequency peaking circuit in the emitter, and a trap in the output circuit to prevent leakage of the recording bias signal.
The peaking response of the high frequency equalization circuit can be changed to give three different responses, by means of an electronic switch, for CrO_2, Fe-Cr and STD tape. (for the operational control of this switch please refer to tape selector section on page 15.).
Further, during playback, both the input and output circuits of this amplifier are grounded.

Line Amplifier (Q107)

This flat amplifier, consisting of one NPN transistor, is operative only during playback.

Headphone Amplifier (Q108)

This is an emitter-follower amplifier consisting of a single NPN transistor, used for headphones and to operate the level meter. The output for the headphones is derived via a matching transformer.

DOLBY Processor

The CT-F6262 has a built-in DOLBY-B type noise reduction system. The type B DOLBY system has a noise reduction effect only in the mid and high frequency ranges. It gives a reduction in hiss noise during tape playback. The improvement in S/N at high frequency (above 5kHz) reaches a maximum of 10dB.
Figure 3 shows the configuration for the CT-F6262 DOLBY processor. During recording and playback, the same circuits are used, with appropriate changeover switching.

Operation during Recording

The input signal passes through the MPX filter (I) and is fed to amplifier (A). The MPX filter (I) removes the multiplex signal from FM broadcasts, preventing malfunction of the system due to this signal.
The output from amplifier (A) is divided into two parts. One, being the main signal, is fed to the additive amplifier (D). The other, the sub-signal, is fed to the high pass filter (H), the variable attenuator (E), the amplifier (B), the clipper (G), from whence it is fed to the additive amplifier (D) where it is combined again with the main signal.
The output of amplifier (B) is, at the same time as it is fed to clipper (G), also fed to amplifier (C). The output from amplifier (C) is converted to DC by the rectifier (F), and then fed back to the variable attenuator (E).
When the signal which passes through the high pass filter (H) is at a low level, the DC potential from the rectifier (F) is almost zero, and under these

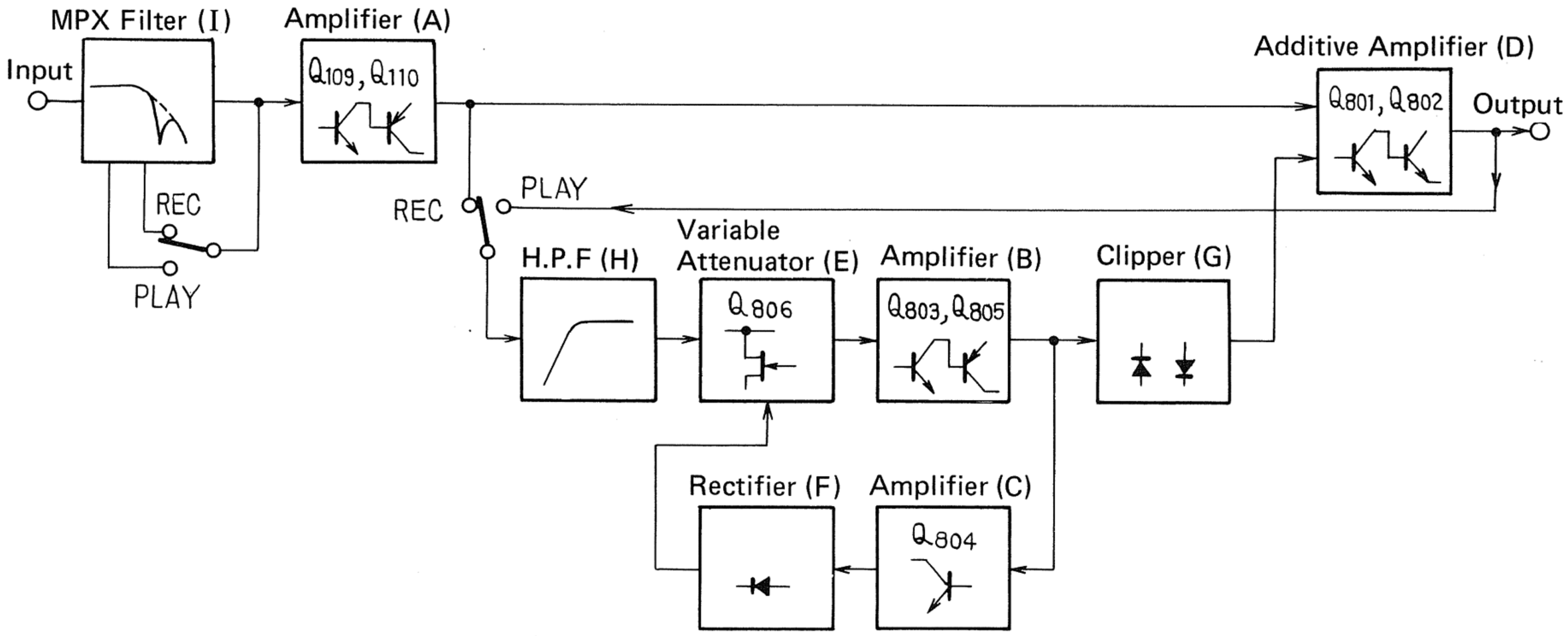


Fig. 3 Configuration of the DOLBY Processor

conditions the variable attenuator (E) provides its minimum attenuation. In this state, the additive amplifier (D) has an output which has a level some 10dB above the main signal (above 5kHz). The variation in attenuation in the variable attenuator (E) is effected by having an FET between the signal line and ground. The gate bias potential of the FET controls the impedance between the drain and the source. The clipper (G) prevents defective operation due to over-shoot.
The latter necessity arises from the fact that the rectifier (F) has a time constant which makes it incapable of following extremely rapid changes in level, giving rise to over-shoot, which without the clipper would cause the system as a whole to operate defectively.
When the signal which passes the high pass filter (H) is at a high level, the DC potential from rectifier (F) will be high, and the attenuation of the variable attenuator (E) reaches its maximum. Therefore, the sub-signal becomes almost zero, and the main signal level is not raised.

Operation During Playback

The MPX filter (I) becomes a low pass filter without the 19kHz attenuation peak. The operation of each of the other blocks is the same as it was during recording, with the exception that the sub-signal is derived from the output side of the additive amplifier (D). The additive amplifier (D) is a inverting amplifier (that is the phases of input and output are reversed), so that the sub-signal has the opposite phase, forming an NFB loop, that effectively performs subtraction. The operation for the sub-signal path is exactly the same as during recording. The only difference is the 180 degree phase reversal, so that playback and recording are perfectly complementary operations.
The B type DOLBY system compresses and expands signals below a certain level over a frequency band which is determined by the high pass filter (H). For this operation to be perfectly complementary, the standard level at the operating point must be determined. This critical level is known as the "DOLBY level," and this level is the limit beyond which the processor does not operate. In other words, for signals above this level, neither compression nor expansion takes place.

Oscillatór Circuit

The oscillator circuit of the CT-F6262 is of the push-pull type (Q301, Q302). It provides the recording head with recording bias current, and the erase head with the erase current (frequency: approximately 85kHz). The use of a push-pull oscillator circuit enables the even harmonics to be reduced, so that there is virtually no permanent magnetization of the tape (when even harmonics are included in the oscillator waveform the positive and negative cycles are not completely symmetrical, and permanent magnetization occurs). This reduces the even harmonic distortion.
When the REC lever is depressed, S3 (the recording playback changeover switch) goes into the REC position, and +B1 is applied to the oscillator circuit (see Figure 4). However, in this condition, S9 (the muting switch) is ON, so that −B is applied to the base of Q303, Q303 goes OFF, and Q301, Q302 do not oscillate (only the amplifier section is used in recording). At the same time if the PLAY lever is depressed S9 goes to the OFF position, Q303 goes ON, and oscillation begins. Further, the switching of the bias for CrO_2 and STD (Fe-Cr) recording, is effected by changing the supply voltage to the oscillator circuit, and so changing the amplitude of the oscillation. (please refer to tape selector section on page 15.).

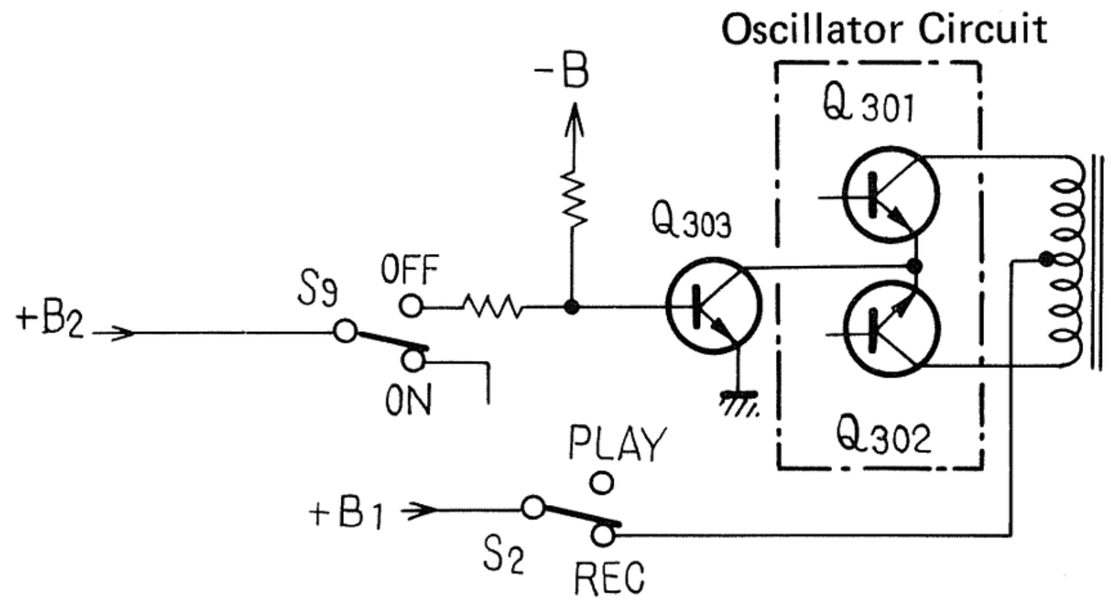


Fig. 4 Operational Control of the Oscillator Circuit

6.3 CONTROL CIRCUIT

Tape Selector

Suitable equalizer and bias settings are selected for CrO_2, Fe-Cr, and STD tapes, according to the kind of tape which is being used. Selection is performed by the chrome tape detector switch (S7) and the tape selector switch (S6) on the front panel.

It will be evident from Figures 5 through 7, that with no cassette loaded into position, the switch S7 will be in the position corresponding to the CrO_2 HOLE, so that independent of the position of S6, the tape deck will be set for CrO_2 tapes, and the CrO_2 indicator lamp will be illuminated.

If a chrome tape cassette fitted with the automatic chrome tape detector HOLE according to IEC standards is loaded, S7 will remain in the same, unchanged, HOLE position, and the tape deck will continue to be set for CrO_2 operation.

If a cassette is loaded which does not have the HOLE, S7 goes to the NO HOLE position, the CrO_2 display lamp goes out, and either Fe-Cr or STD are selected by S6. (In the Fe-Cr position, the Fe-Cr display lamp goes on.)

The Recording Bias Changeover Circuit (Figure 5)

The recording bias switch has two positions, one for use with CrO_2 and the other for both Fe-Cr and STD. The bias current is changed over by changing the supply voltage to the bias oscillator circuit which alters the amplitude of the bias oscillation output.

When a cassette without the chrome detector HOLE is loaded, (S7 is in the NO HOLE position), the +B potential which is applied to the oscillator circuit during recording, is applied via R317. With a cassette which is provided with the detection HOLE (CrO_2), the switch S7 goes into the HOLE position, and the circuit consisting of D308, R316, and VR301 in series, is connected in parallel with R317. This increases the supply voltage +B to the oscillator circuit. Therefore, the recording bias for CrO_2 tapes is deeper than the recording bias for STD (Fe-Cr) tapes (an increase of some 20 to 30%).

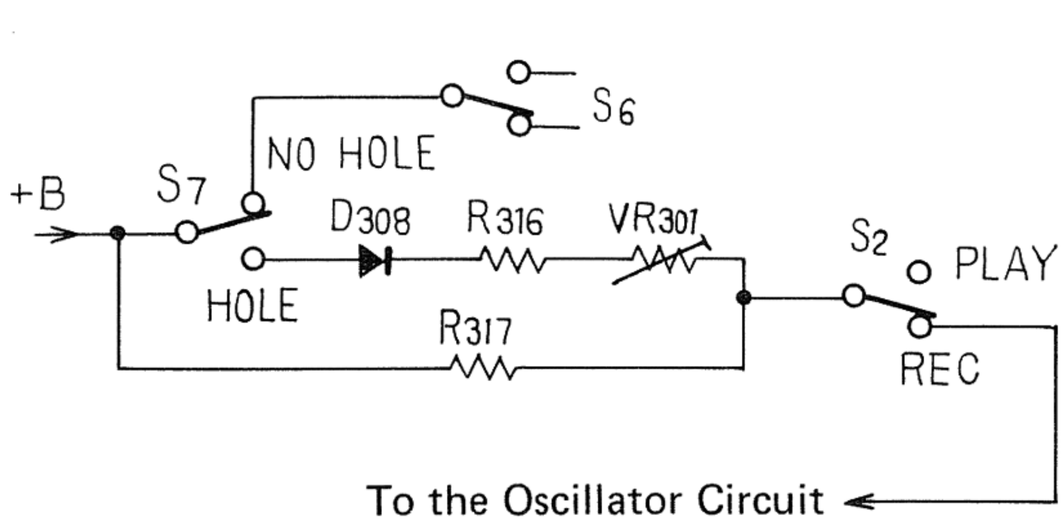


Fig. 5 Recording Bias Changeover Circuit

Playback Equalizer Changeover Circuit (Figure 6)

The playback equalizer changeover between CrO_2, Fe-Cr and STD, has two positions. An FET switch effects the changeover between the time constants for the playback equalization of the EQ amplifier.

A cassette which lacks the chrome detector HOLE, when loaded, has S7 in the NO HOLE position. When S6 is in the STD position, no +B voltage is fed to the gate of Q106, so that −B causes Q106 to go OFF.

With S7 in the HOLE position (when a cassette with the detector HOLE is loaded) or S6 is put in the Fe-Cr position, +B is supplied either via D306 or D307, −B is cancelled out, Q106 goes ON, R118 is shorted, and the equalizer is set for CrO_2 (Fe-Cr) tapes.

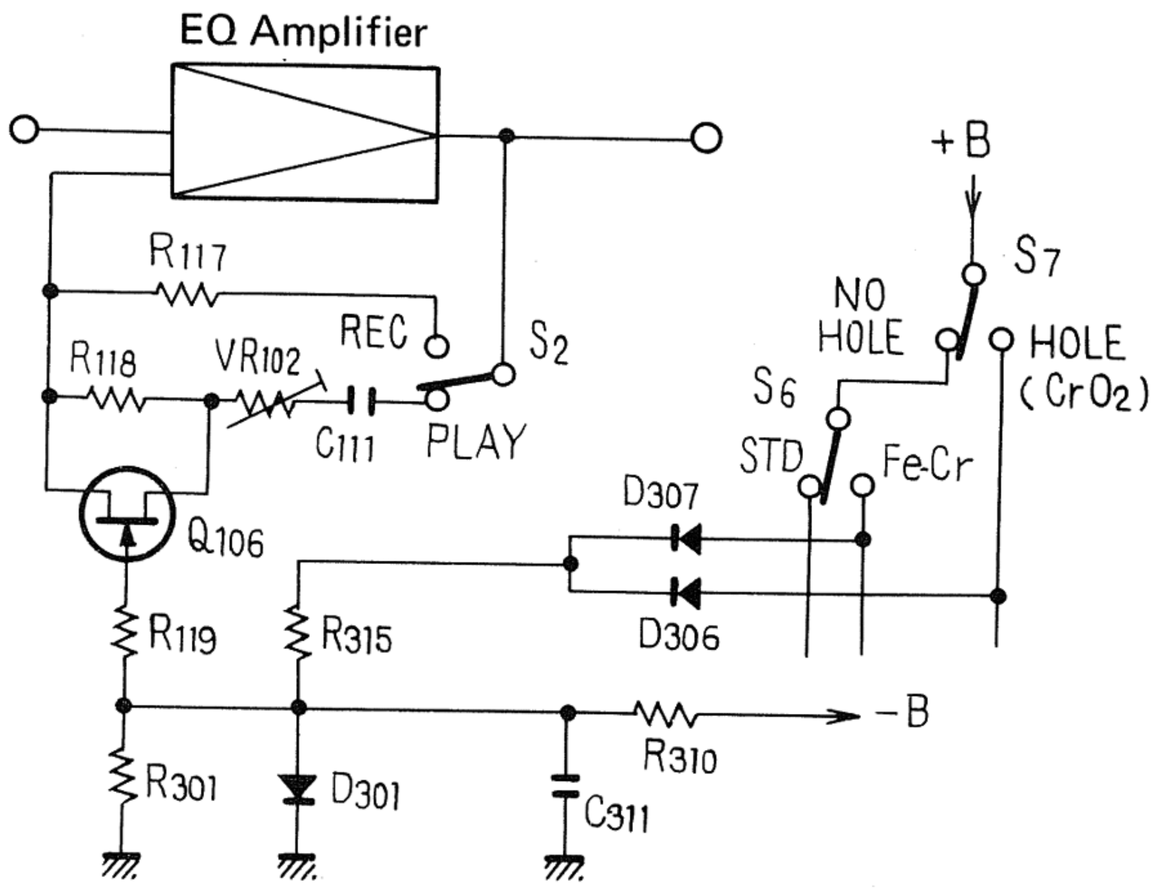


Fig. 6 Playback Equalizer Changeover Circuit

Recording Equalizer (Peaking) Changeover Circuit (Figure 7)

The REC amplifier is a single transistor common emitter amplifier (Q111). The insertion of a series resonant circuit with the emitter, gives the required high frequency equalization (peaking).

There are three peaking characteristics, for STD, CrO_2, and Fe-Cr, which may be selected. The peaking element is switched by transistors Q112 (ON for STD), Q113 (ON for CrO_2), and Q114 (ON for Fe-Cr). The tape selector switch (S6) and chrome tape detector switch (S7) determine the tape position which selects one of the transistors Q112 to Q114, and applies the potential +B to its base, causing −B to be cancelled out. In the ON state, the appropriate peaking circuit goes into operation.

Further, note that the peaking frequency for STD tape is approximately 13.5kHz, and for CrO_2 and Fe-Cr tape, it is approximately 15kHz.

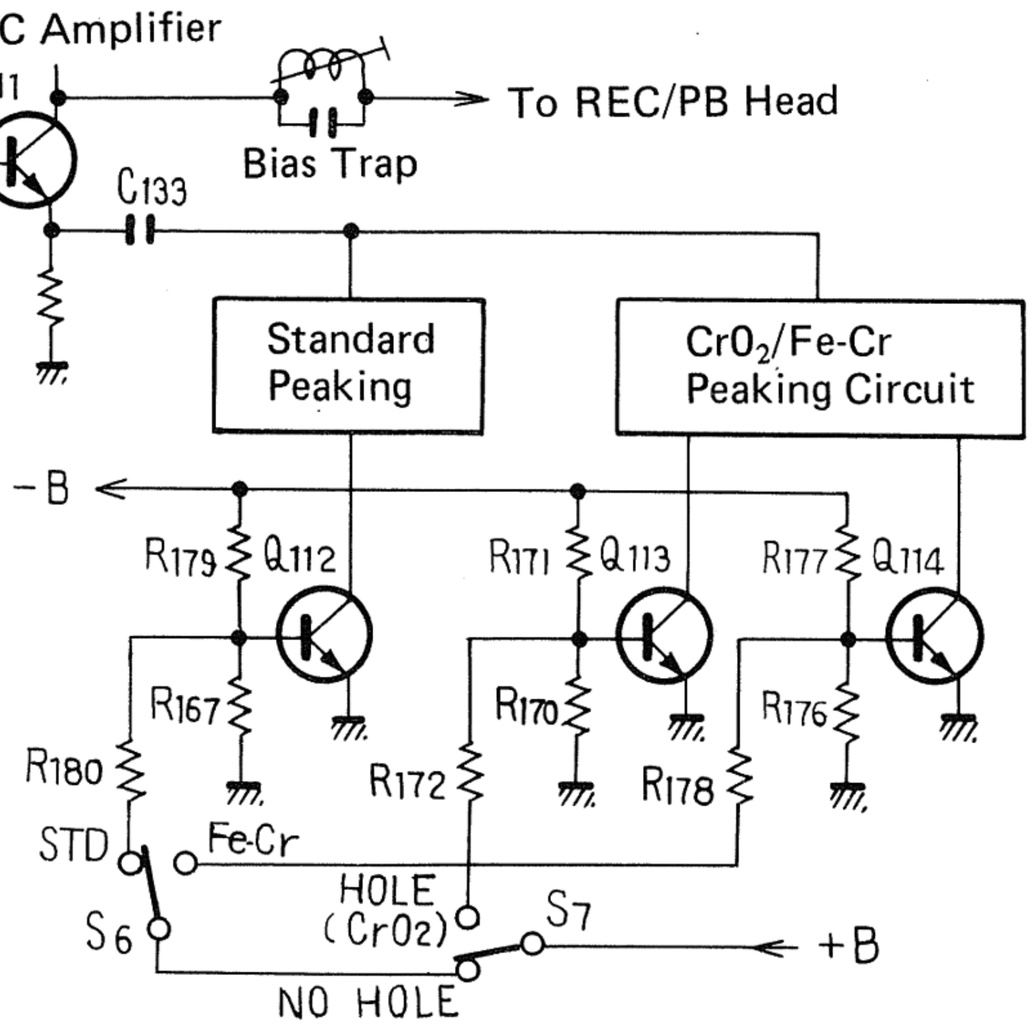


Fig. 7 Recording Equalizer Changeover Circuit

Muting Control (Figure 8)

Muting operations are effected by a PNP transistor (Q105) which effectively shorts the output of the FLAT amplifier to ground.

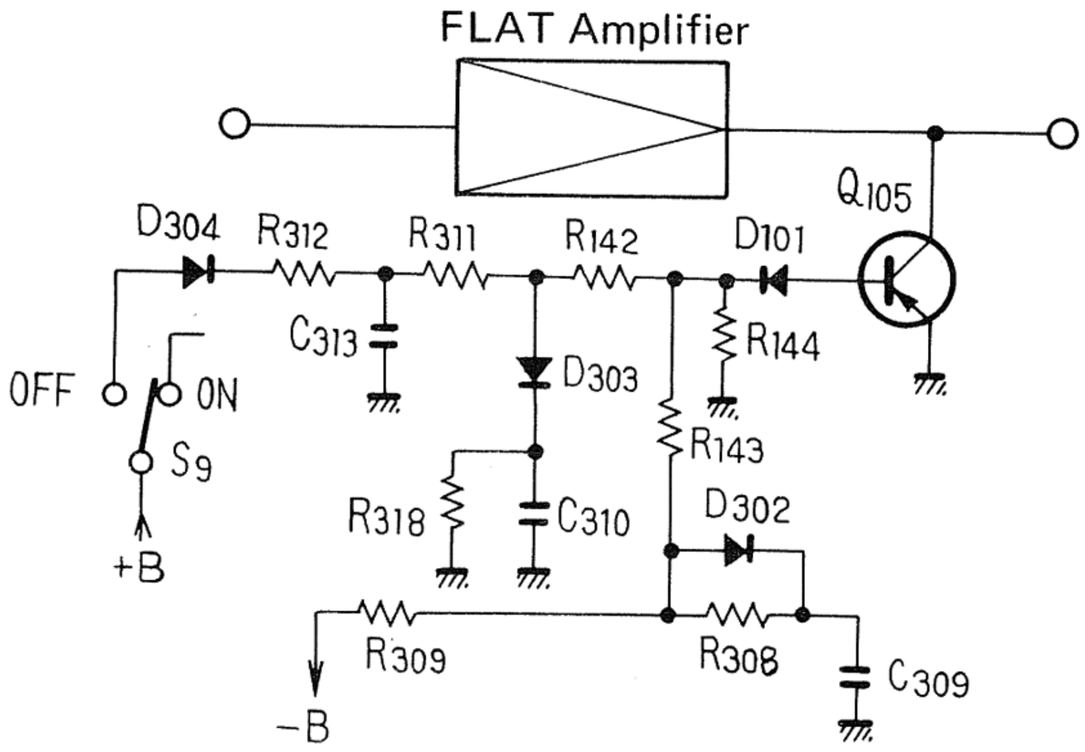


Fig. 8 Muting Control Circuit

The muting switch S9 goes OFF when the PLAY lever is depressed. Therefore, when the PLAY lever is not depressed the supply voltage −B causes Q105 to be ON, and the FLAT amplifier output circuit will be grounded, causing muting to be effective.

When the PLAY lever is depressed, +B voltage is supplied, −B is cancelled out, Q105 goes OFF, and the muting effect is released. Further, even when the PLAY lever is depressed, until it is fully charged C310, prevents Q105 from going OFF. This ensures the appropriate timing delay after operating the switch before playback or recording is commenced. Again, in order to reduce interference noise when the power supply is switched OFF, C309 is charged by the −B voltage, so that when the power supply is switched OFF the charge which was carried by C309 turns Q105 ON, and once again the tape deck enters the muting condition.

The Auto Stop Circuit (Figure 11)

This circuit operates when the mechanism is in the fast forward, rewind, and playback or recording conditions, ensuring that if tape transport stops, the mechanism is automatically released by solenoid operation.

The letters H.E. in Figure 11 indicate the tape transport detector, which uses a Hall effect element. The principle of detection is as follows. A disk magnet is linked by a belt to the supply reel drive shaft (the axis of the reel on the left hand side), and when the tape transport is in motion, it revolves. When a current flows through a Hall effect element, it develops a potential which depends upon the magnetic field. Therefore, the motion of the tape is revealed in the form of a varying electrical potential.

During Tape Motion

With the PLAY lever depressed (during recording or playback), S9 is OFF, and S8 is ON. When the FF or REW lever is depressed (during fast forward or rewind), S9 and S8 are both ON. While the tape is in motion the changes in the voltage from the H.E. element are amplified by Q601, and detected by D601, D602, and applied to the base of Q602. This repeatedly switches Q602 OFF and ON. C605 is charged via R609, but this is discharged via R608 and Q602 when Q602 is ON, so that the potential at point A is kept low (Figure 9).

+B voltage is applied to the cathode of D603 via R615, R613, and R611. It goes OFF, and therefore Q603 goes OFF, as does Q604.

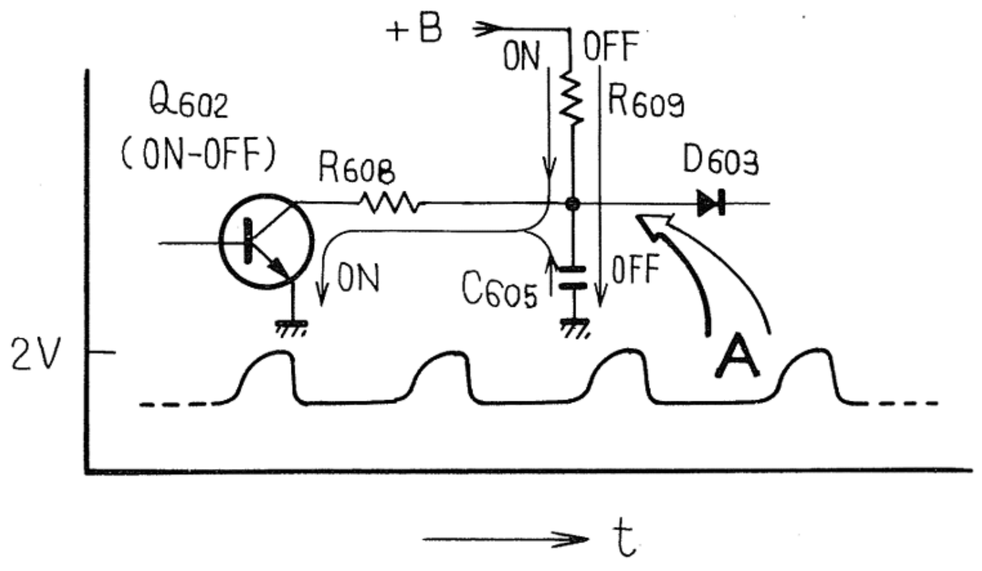


Fig. 9 The Potential at Point A

With Tape Transport Stopped

When the tape transport motion stops, the potential from the H.E. element becomes fixed. Therefore, no input signal is applied to the base of Q602, and Q602 goes OFF. For this reason, C605 continues uninterruptedly to be charged, and the potential at point A rises (Figure 10). Eventually Q603 is turned ON via D603, and Q604 goes ON. Therefore, a current flows either via the route +B — S9 — D604 — S10 — SOL — Q604 — to ground (during PLAY) or via +B — S9 — S8 — SOL — Q604 — to ground (during FF or REW), so that the solenoid (SOL) is activated and the mechanism is released (enters the STOP condition).

Further, in order to check the operation of the solenoid, Q603 and Q604 are linked (the collector of Q604 is connected to the base of Q603 through R613). The effect of this is to ensure that after Q604 goes ON and the base potential of Q603 drops, Q603 and Q604 are maintained in the ON state until the potential of point A has dropped to a fairly low value.

When the mechanism has been released, S9 goes ON, and S8 goes OFF. At this, bias is applied to the base of Q602 via +B — S9 — S8 — R605 — R606 — and Q602, so that Q602 goes ON. This prevents the rise in potential of point A.

If the PAUSE lever is depressed during playback, S9 is OFF, S8 is ON, and S10 goes ON. This means that the electrical supply route to the solenoid is open circuited. Again, via the route +B — S9 — D604 — S10 — R605 — R606 — Q602, Q602 is biased, and goes ON, preventing the potential of point A from rising. Therefore, the auto stop circuit will not operate.

During fast forward (or rewind), S8 is ON, and so is S9. For this reason, even if operation of the PAUSE lever causes S10 to go ON and OFF, it will not effect on the auto stop circuit.

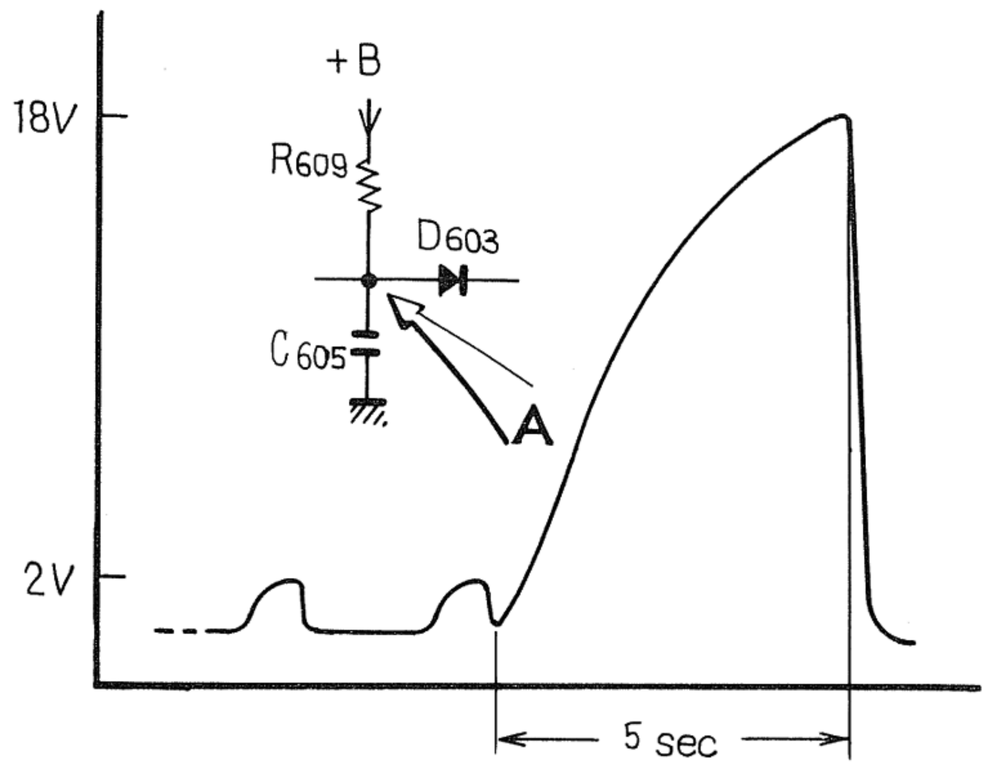


Fig. 10 The Potential at Point A

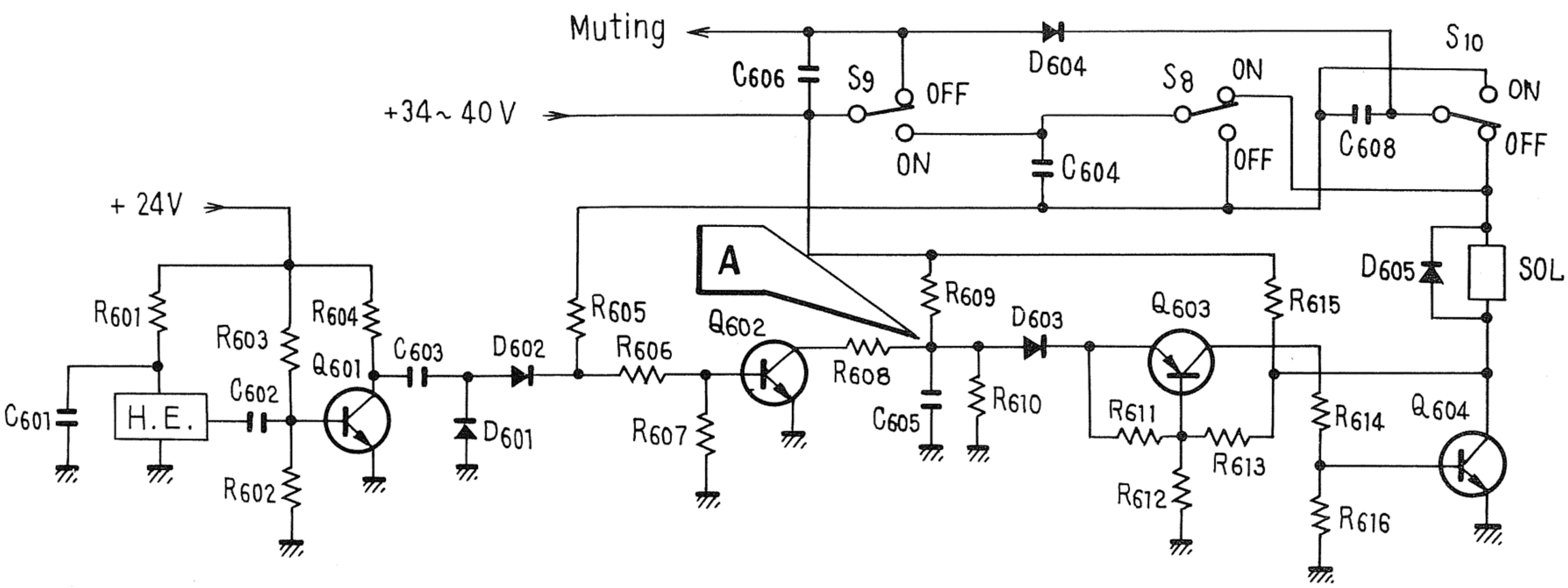


Fig. 11 Schematic Diagram of Auto Stop Circuit

6.4 POWER SUPPLY CIRCUIT

There are three secondary windings on the power transformer: for the amplifier section, the motor, and the lamps.

For the amplifier section and the sensing section (with the Hall sensing switch and detector transistor), this supplies stabilized DC voltage (+B = 24V) by means of a voltage stabilization circuit with one transistor and one zener diode after center tapped full-wave rectification. All control circuits with the exception of the sensing section, are supplied with DC (34 to 40V) which is not voltage stabilized. In addition, the same winding supplies the negative DC voltage (−B) via half-wave rectification.

The tape transport drive in this machine use a DC motor. The power supply for the motor is derived via S8 from a bridge rectifier and a separate transformer winding. The switch S8 goes ON whether PLAY, FF, or REW levers are depressed. Light emitting diodes (LED) are used for the DOLBY NR and REC indicators. The electrical supply is the stabilized DC voltage (+B). The CrO_2 and Fe-Cr indicator are filament lamps supplied by the stabilized DC voltage (+B). The cassette and meter lamps are supplied with AC from a separate transformer winding.

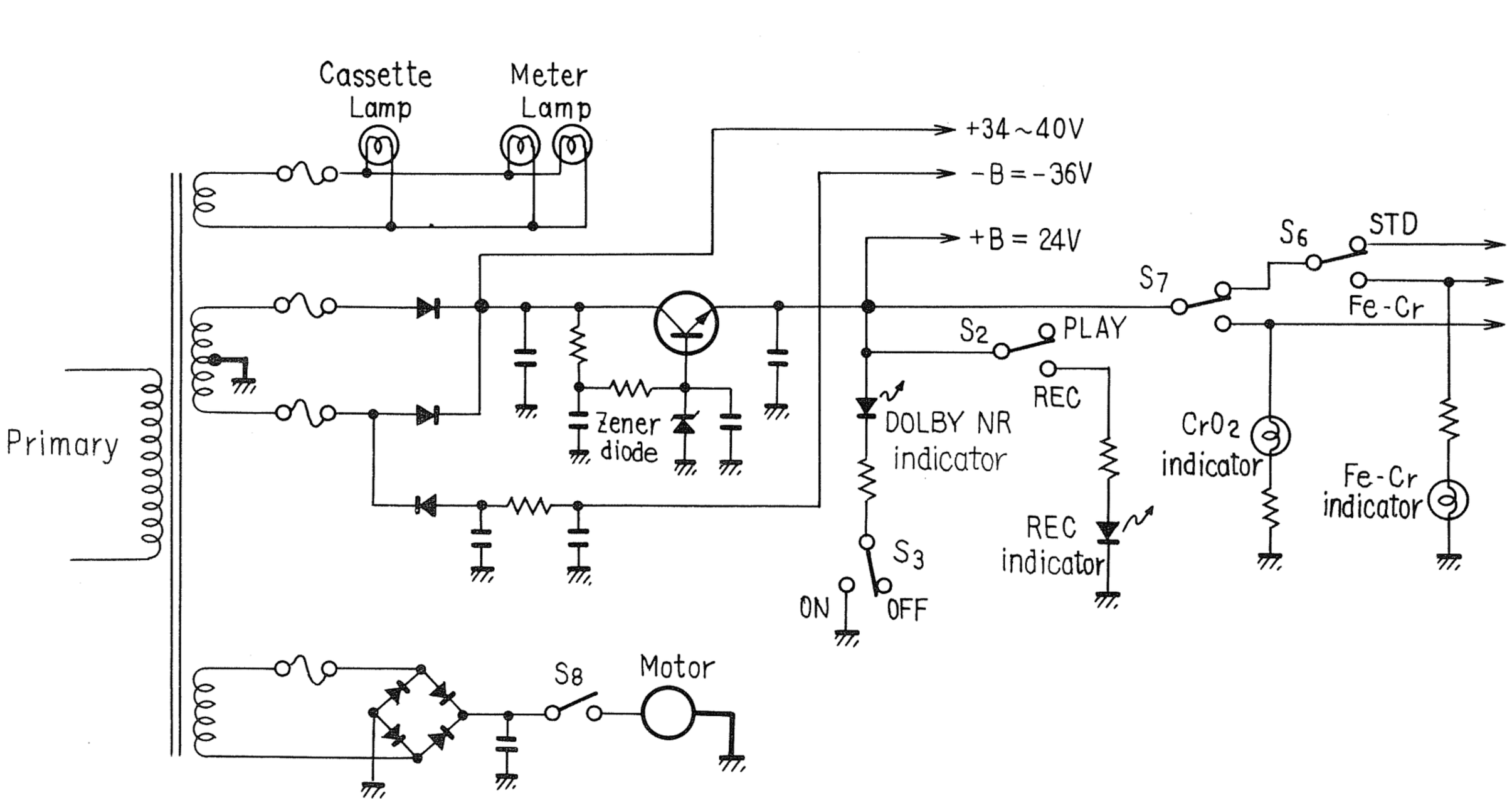


Fig. 12 Power Supply Circuit

7. DISASSEMBLY

Wooden Case (Figure 13)

Slacken and remove the four screws A on the bottom, and remove the feet.
Remove the four screws B on the left and right hand sides, and slide the unit forwards and out.

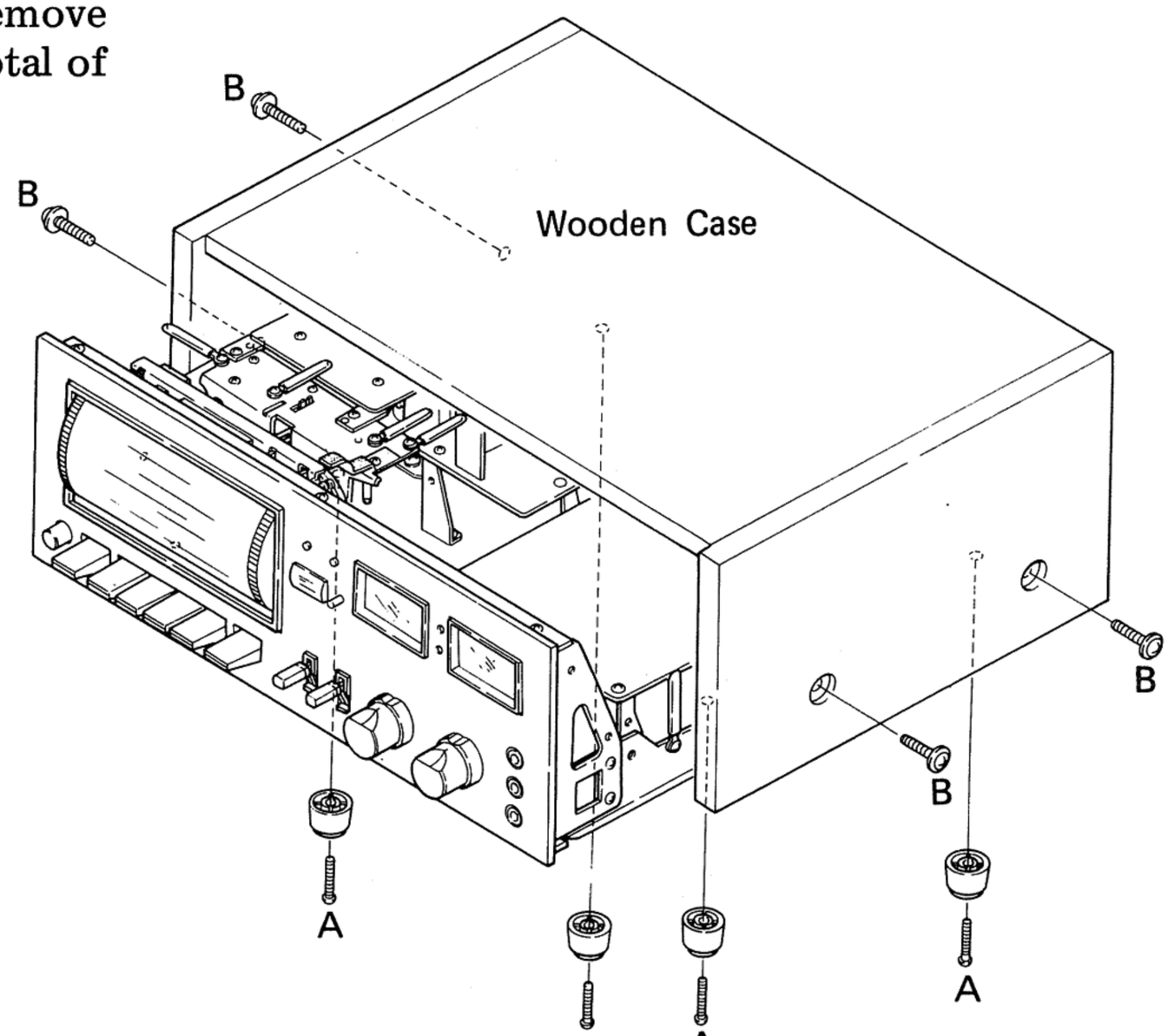


Fig. 13

Front Panel (Figure 14)

Pull off knobs A, B, C, D, E, and F, and remove the upper and lower retaining screws G (a total of six screws).

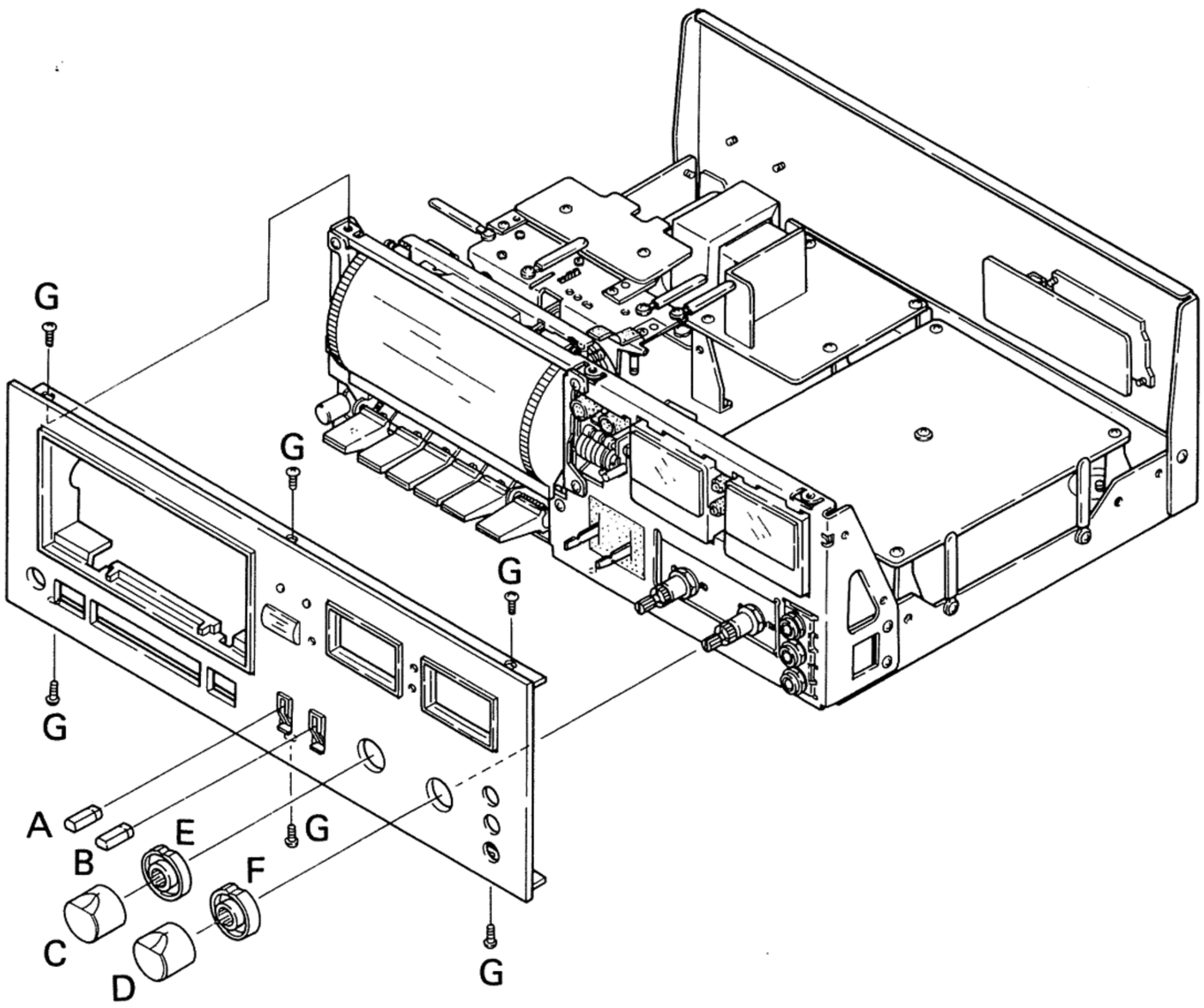


Fig. 14

Operating Lever Knobs (Figure 15)

Decide the order in which you wish to remove the operating lever knobs, and heat the knob you wish to remove, with a heat gun or some other device, and pull strongly to remove (by heating the knob you will release the adhesive which retains the knob).

When attaching the knobs, apply a little synthetic rubber adhesive to the tip of the lever and then push the knob fully home.

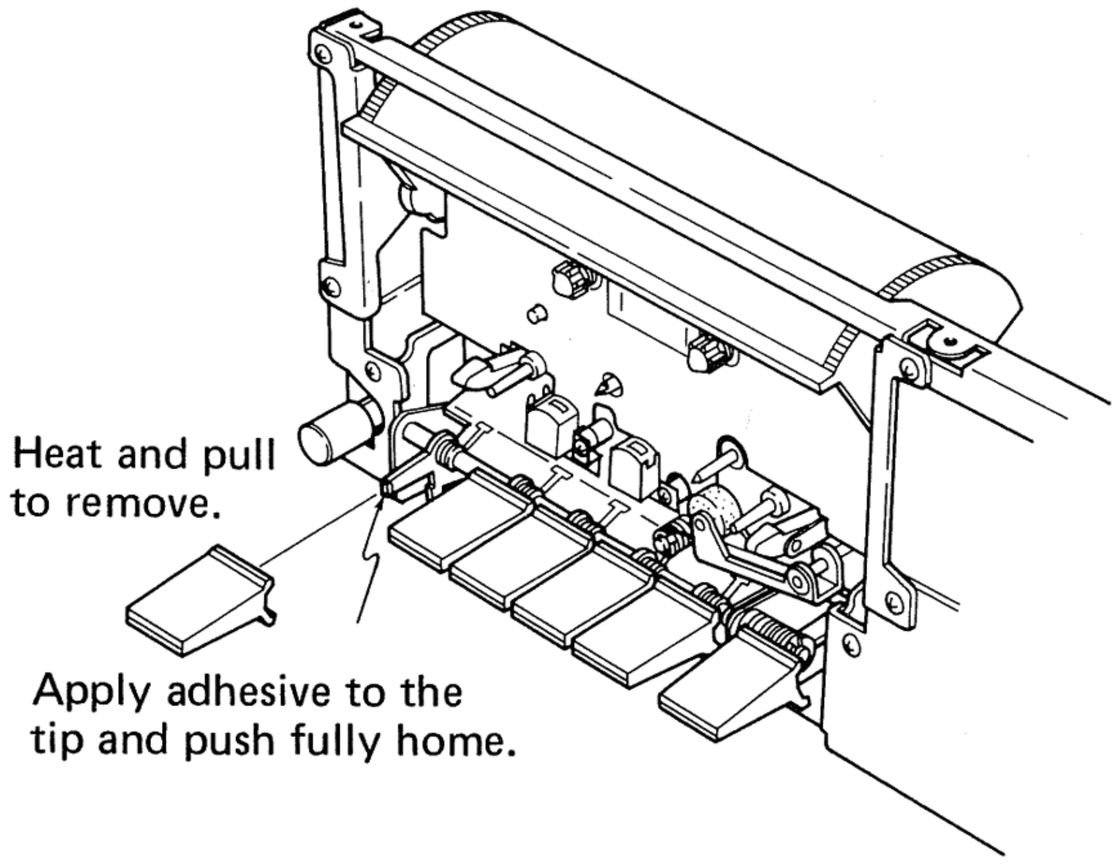


Fig. 15

The Mechanism (Figure 16)

Unscrew the front side retaining screws A (three in all) and the top side retaining screws B (four in all).

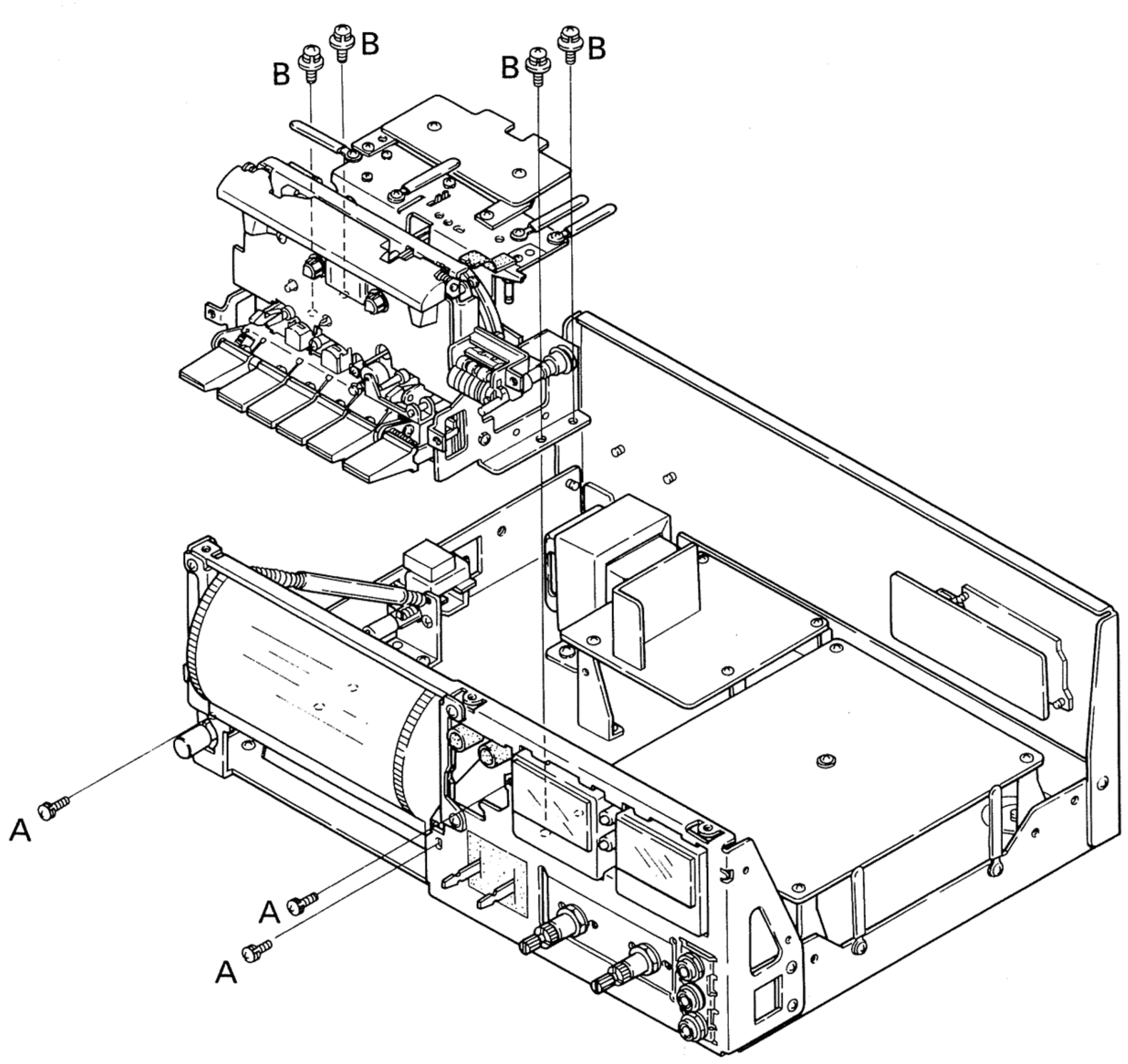


Fig. 16

Disassembly of the Mechanism

Please refer to Figures 17 and 18.

Driving unit . . . . . Remove all four screws A.
Motor . . . . . Remove all three screws B.
Cassette panel . . . . . Remove both screws C.
Reel base (supply) . . Remove all three screws D.
Reel base (take-up) . . Remove all three screws E.
Tape counter . . . . . Remove both screws F.

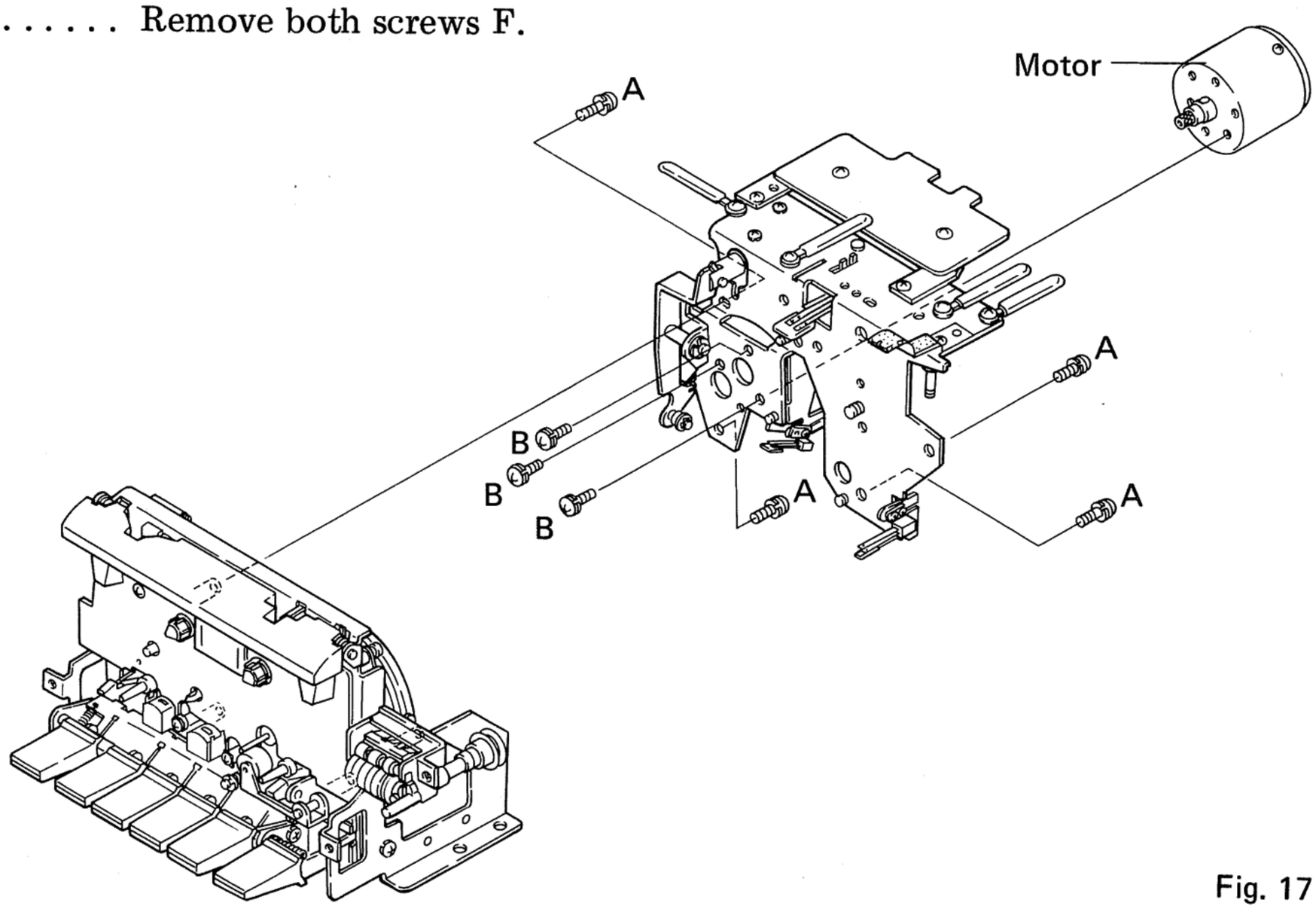


Fig. 17

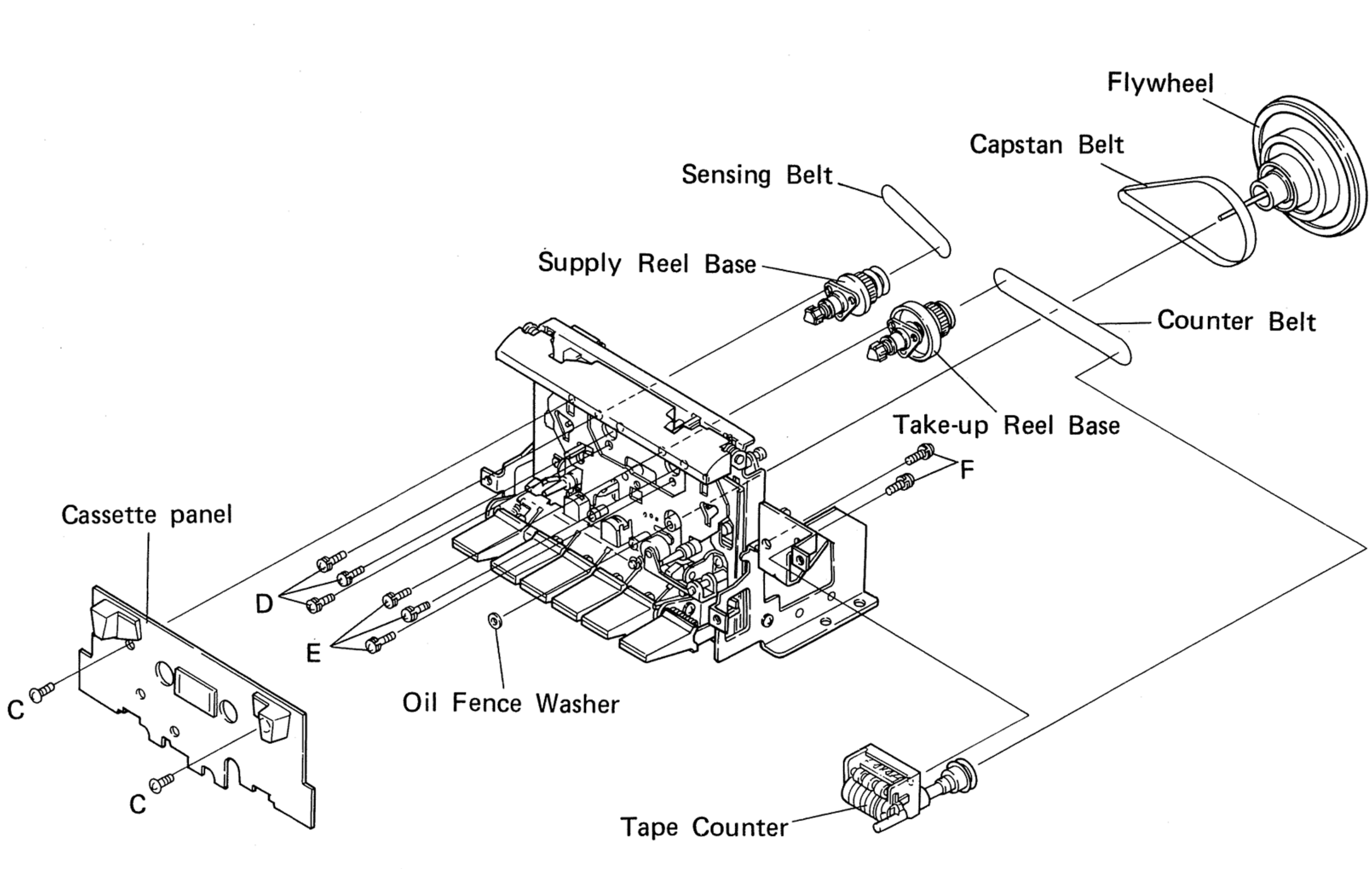
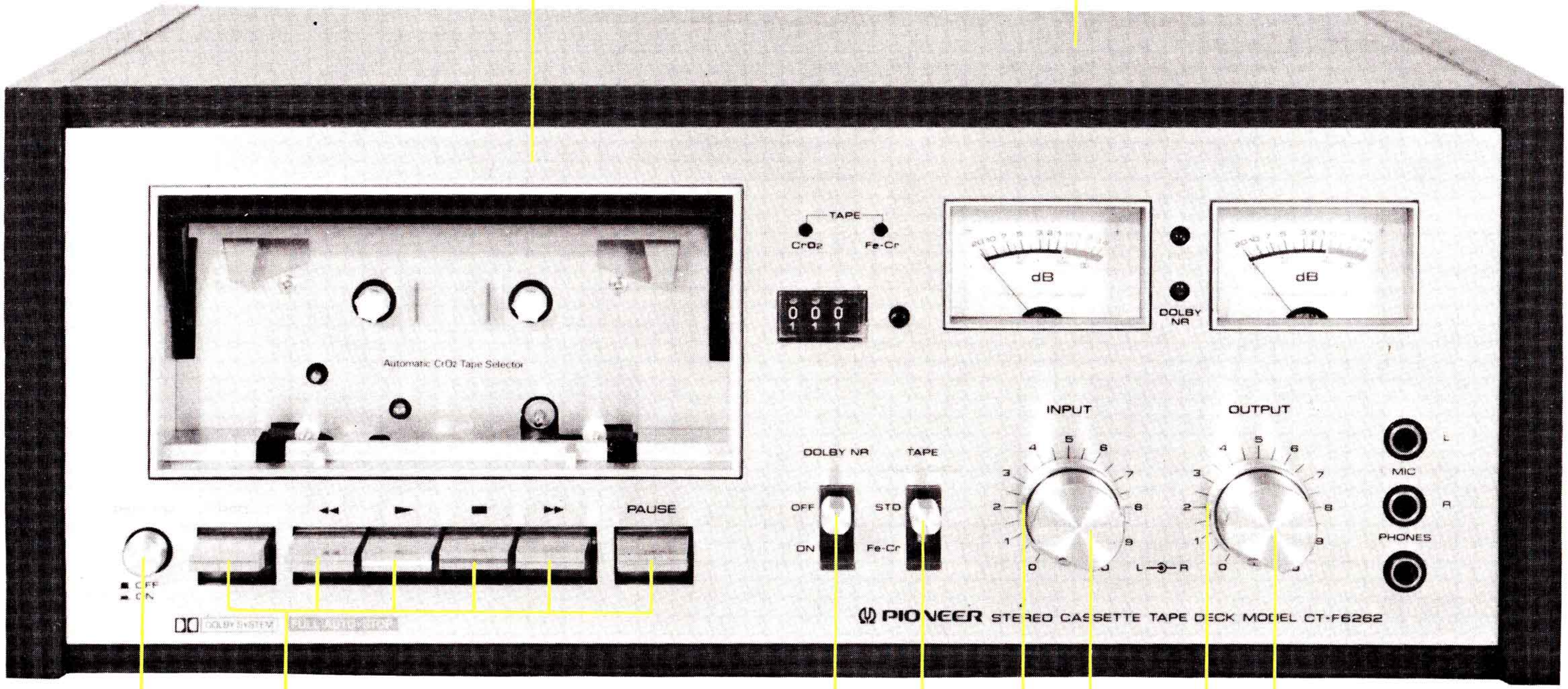


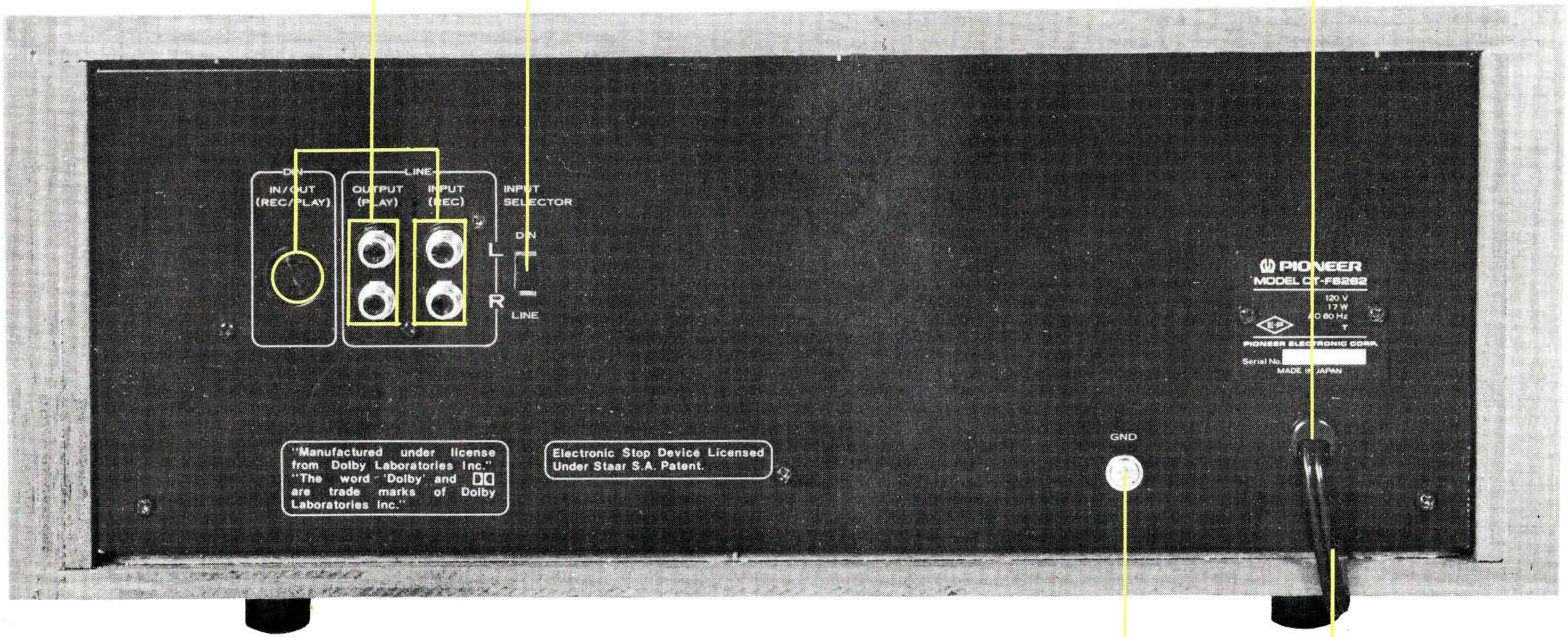
Fig. 18

8. PARTS LOCATION

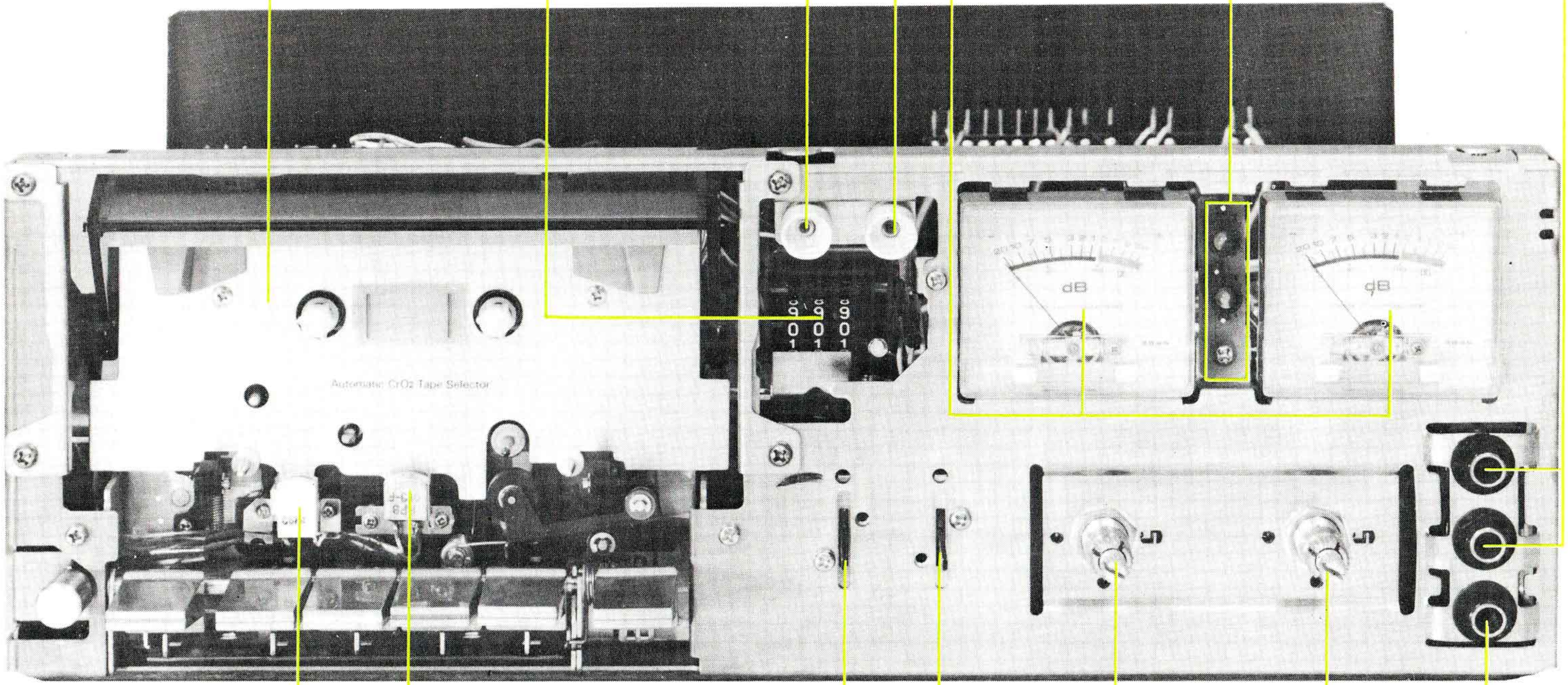
8.1 FRONT PANEL VIEW



8.2 REAR PANEL VIEW



8.3 FRONT VIEW



Cassette panel
RAH-154

Tape counter
RAW-046

Lamp with leads 8V, 55mA
REL-026

Level meter
RAW-049

Indicator assembly
RWX-130

Phone jack (MIC)
RKN-031

Erase head
RPB-038

REC/PB head
RPB-013

Lever switch (DOLBY NR)
RSK-031

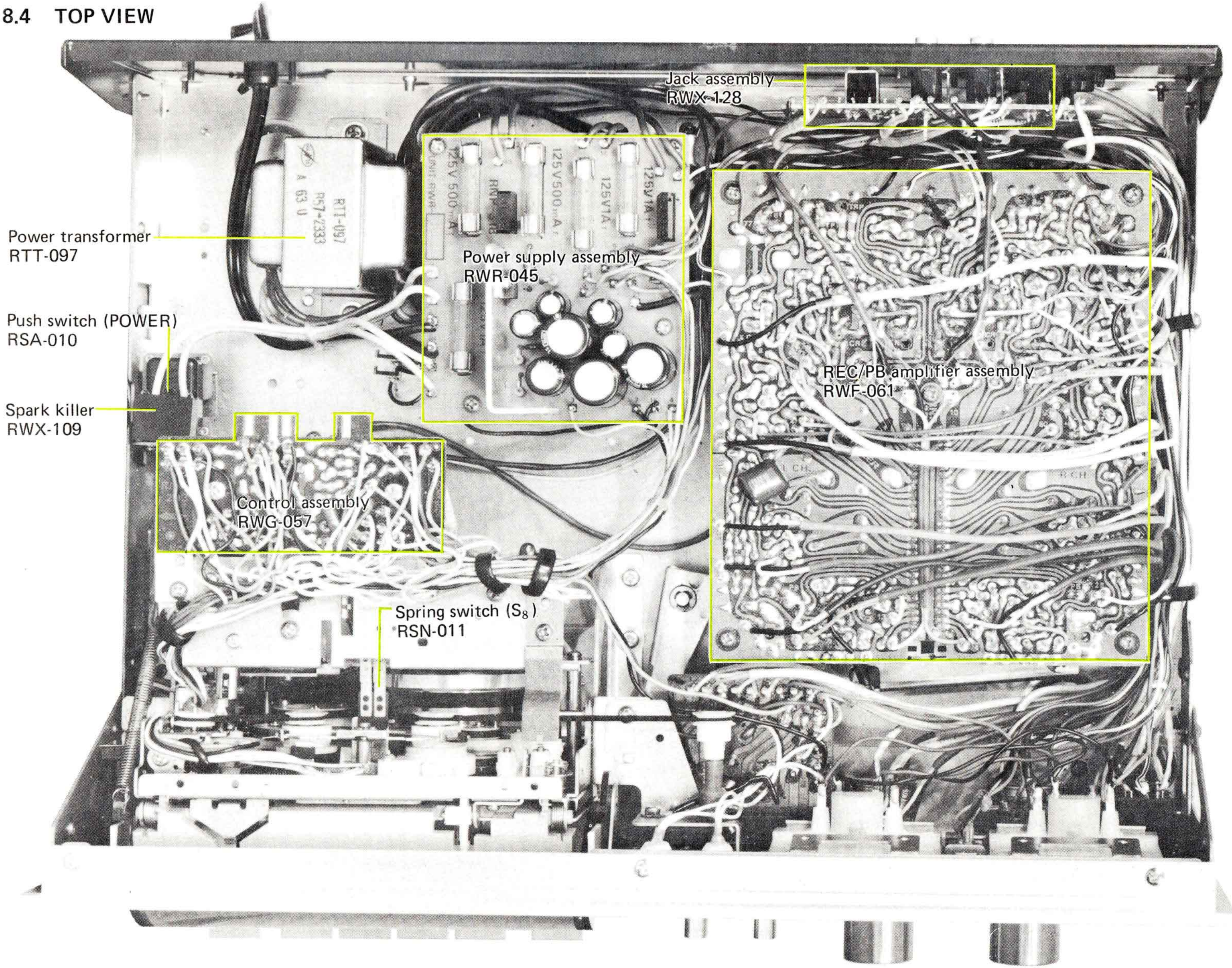
Lever switch (TAPE)
RSK-032

Variable resistor 20k-15A
(INPUT)
RCV-029

Variable resistor 20k-3B
(OUTPUT)
RCV-030

Phone jack (PHONES)
RKN-032

8.4 TOP VIEW



9. MECHANICAL ADJUSTMENTS

In principle all of these adjustments should be made with the mechanism section removed from the main unit (however, the wiring should not be disconnected).

Concerning Wow and Flutter

If rotary unevenness increases, inspect the following items, clean, adjust or replace the parts concerned, etc.

1. A Capstan which is bent, rattling, or dirty.
2. Dirt on pinch roller, or an unsuitable pressure.
3. Flywheel thrust rattle.
4. Stretched or deformed belt, oil or grease on belt.
5. Dirt, eccentricity, or unsuitable pressure, on the take-up idler.
6. Uneven torque on the take-up reel base.
7. Back tension which is too high.
8. Uneven rotation of the Hall effect generator sensing switch.
9. Uneven or Faulty rotation of tape counter.
10. Defective cassette or tape.

9.1 PINCH ROLLER CONTACT PRESSURE

1. Set in the PLAY mode, and place a tension gage (with approximately 500g for full scale deflection) as shown by the arrow in Figure 19. First lift the pinch roller some one to two millimeters away from the capstan and slowly allow the pinch roller arm to return to its normal position, noting the reading at which the pinch roller begins to rotate.

NOTE:
The PLAY lever cannot be depressed unless the cassette detector pin is also depressed when no cassette is actually loaded in the deck. Unless you make the measurement when the supply reel shaft is turning, the auto stop mechanism will operate, and the deck will stop.

2. If the measurement is not between 280 and 360g, move the pinch pressure string to a new adjustment hole.
3. If this adjustment still does not bring the value to within the range 280 to 360g, replace the pinch pressure spring.

NOTE:
When the pinch pressure spring is attached, there is a danger that the spring will be deformed if the hook of the spring is not inserted to the hole in the head base with the spring itself passing through the pinch spring shaft. Also, care is needed so that the tip of the spring does not damage the pinch roller when the spring is being fitted.

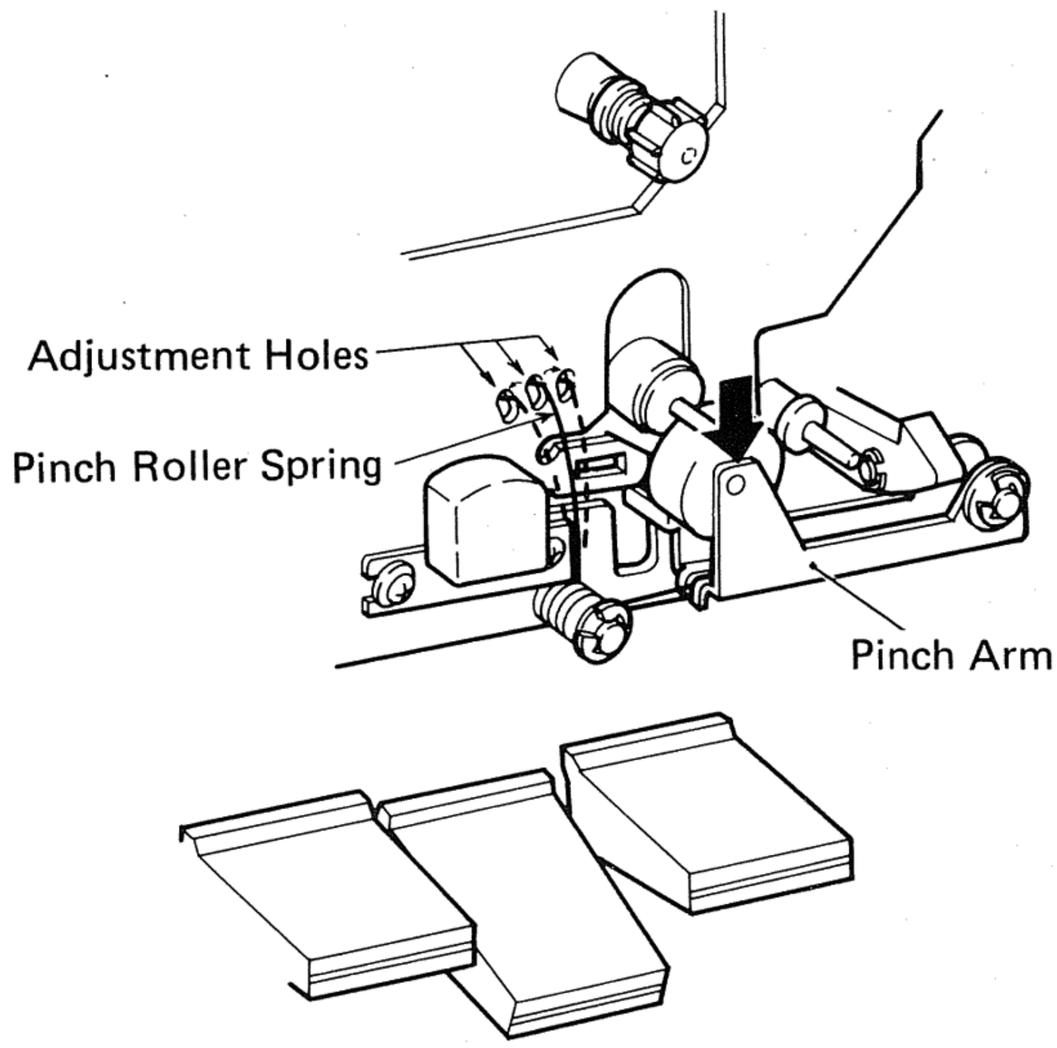


Fig. 19 Adjustment of Pinch Roller Pressure

9.2 REEL DRIVING SHAFT TORQUE

Measure the torque for each reel bases during PLAY, FF, and REW. The normal range of readings is given in the Table. When the readings are outside the indicated range, clean each idler, reel base, and all other parts which come into contact with the rollers, and measure the torque again. If the readings still do not come within the specified range, replace the reel base.

Table

	Take-up Reel Base	Supply Reel Base
During PLAY	40 – 60g-cm	*Less than 6g-cm
During FF	80 – 110g-cm	*Less than 6g-cm
During REW	*Less than 5g-cm	80 – 110g-cm

* Back Tension Torque

9.3 TAPE TRANSPORT SPEED

The transport speed of the tape during playback (or recording) may be adjusted by means of a screwdriver through a hole on the rear of the motor.

(Recommended Standard)

Playback the test tape STD-301 used for tape speed and wow and flutter measurements. Check that the frequency deviation is within ±1% for the start, the central portion, and the end of the tape, with less than 1% deviation. (The mechanism should be in the vertical position when these measurements are made.)

9.4 PLAY TIMING

Standard

Adjust so that the take-up reel shaft and the pinch roller begin to move at the same time when the PLAY lever is slowly depressed.
However, if the pinch roller and the capstan are within 0.1 mm of being in contact when the take-up reel shaft begins to rotate, this is acceptable.

Adjustment

By bending upwards or downwards the part marked A in Figure 21, the timing can be adjusted.
The bending can be easily performed if a screwdriver is inserted into the long hole.
After adjustment, there should be no tape spillage after a tape cassette has been inserted, and the PLAY lever has been depressed. The high speed tape transport should not be engaged.

9.5 PAUSE TIMING

Standard

If, in the PLAY mode, the PAUSE lever is slowly depressed, the pinch roller should separate from the capstan by 1 to 2 mm. Next, you should adjust so that when the PAUSE lever is slowly returned, the take-up reel shaft and the pinch roller commence movement at the same instant.
However, it is permissible for the take-up reel shaft begins to rotate while the pinch roller and the capstan are still separated, provided the separation is less than 0.1 mm.

Adjustment

This should be carried out after the PLAY timing adjustment has been performed. The part A in Figure 22, can be used to adjust the timing by bending it in the direction of motion of the PAUSE operating plate.
After adjustment, the pinch arm and the PAUSE arm should be separated during the PLAY mode (with PAUSE off). Again, when a cassette tape has been loaded, in the PLAY mode, and the PAUSE lever is operated, there should be no tape spillage, nor should the high speed transport be engaged.

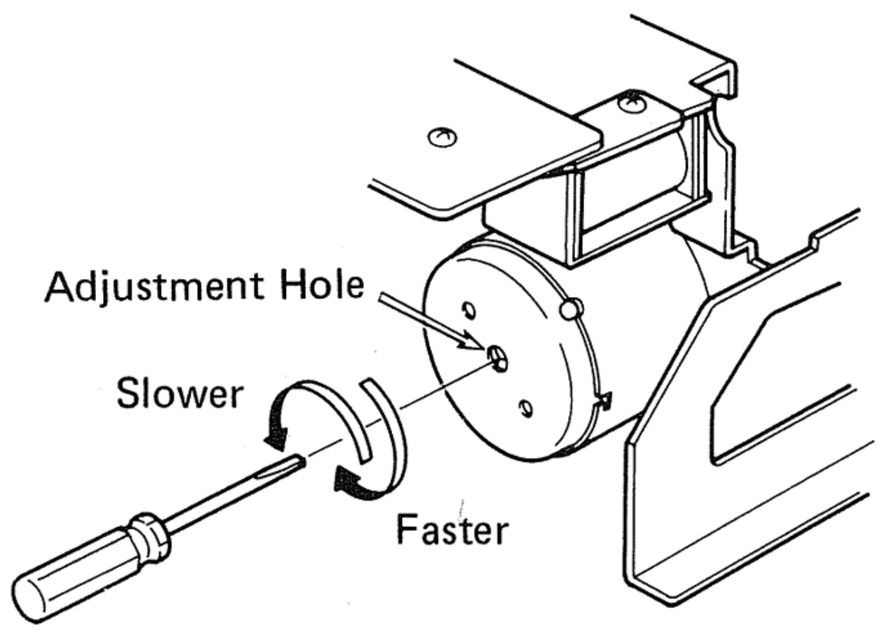


Fig. 20 Adjustment of Tape Transport

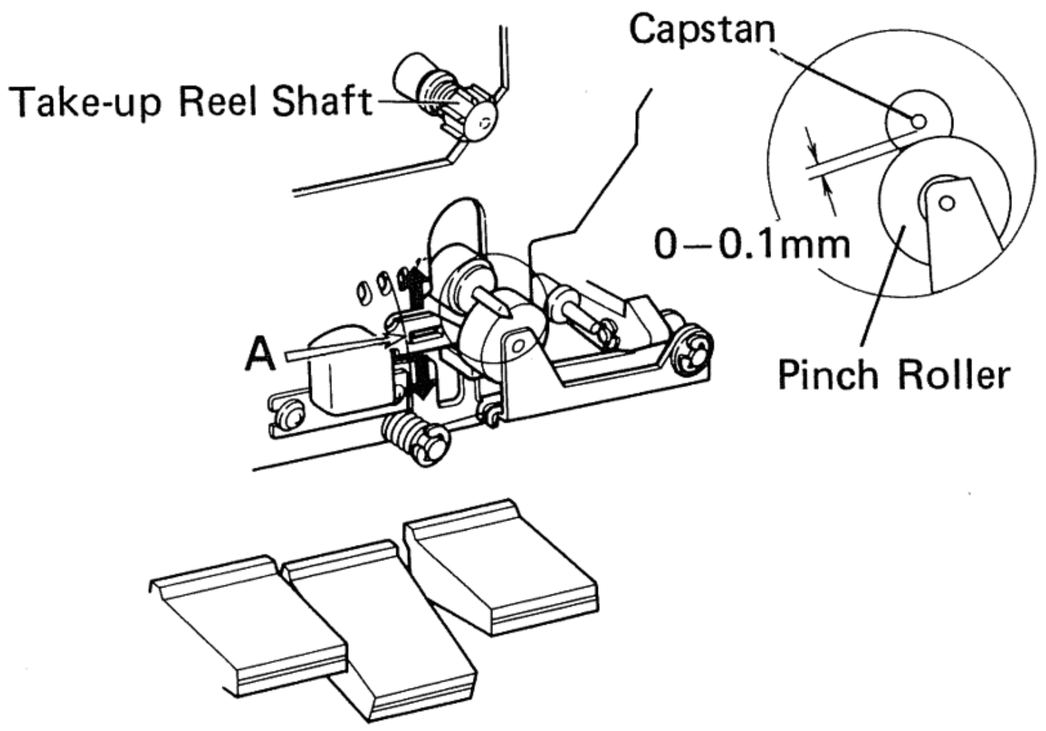


Fig. 21 PLAY Timing Adjustment

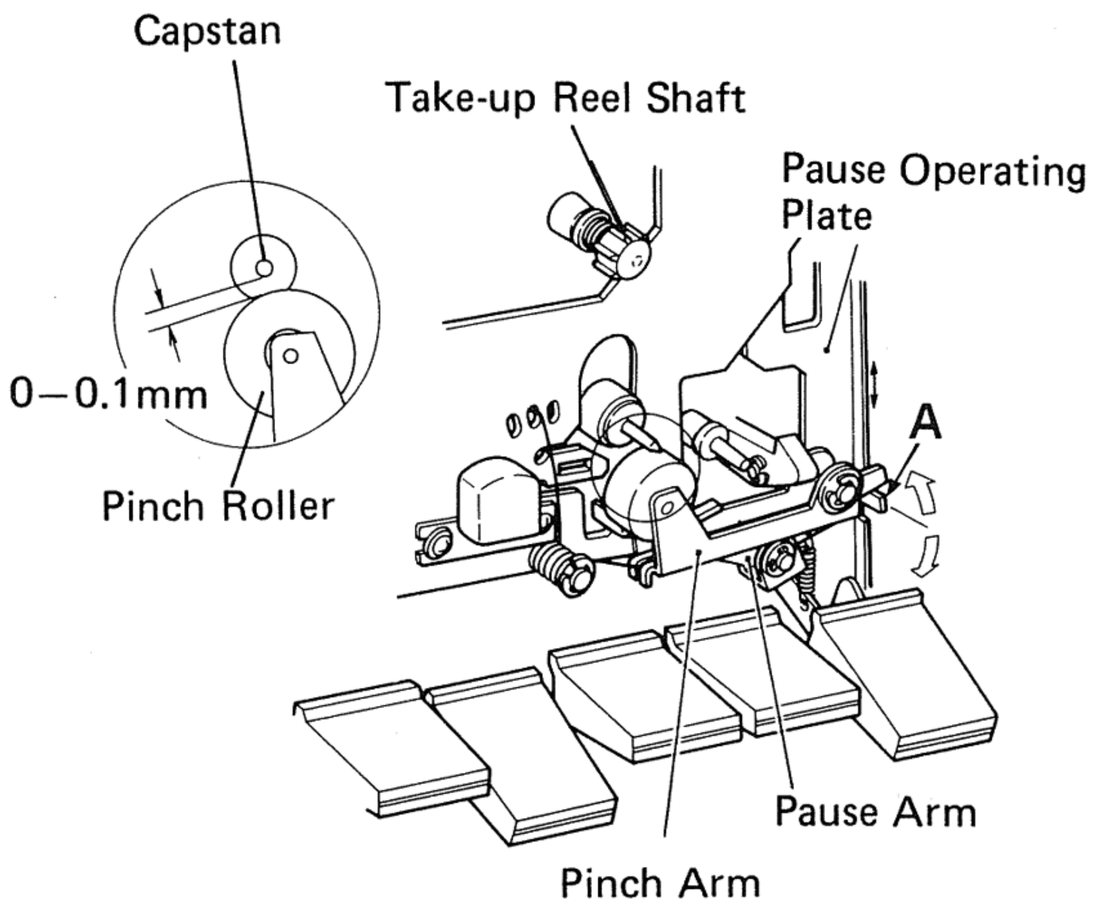


Fig. 22 PAUSE Timing Adjustment

9.6 MOTOR (PLAY) SWITCH OPERATION

Standard

In the STOP condition, a gap g (reference value 0.05 to 0.15 mm) should be between the bent part A of the brake operating plate and the motor switch separator B.

Adjustment

Insert a screwdriver into the grooved section C of the motor switch bracket, and change the angle at which the switch is attached by moving it forwards and backwards to perform the adjustment (Figure 23).

After adjustment, modes, this switch should be checked for proper operation in the PLAY, FF, and REW modes (i.e. that the contact is completely made).

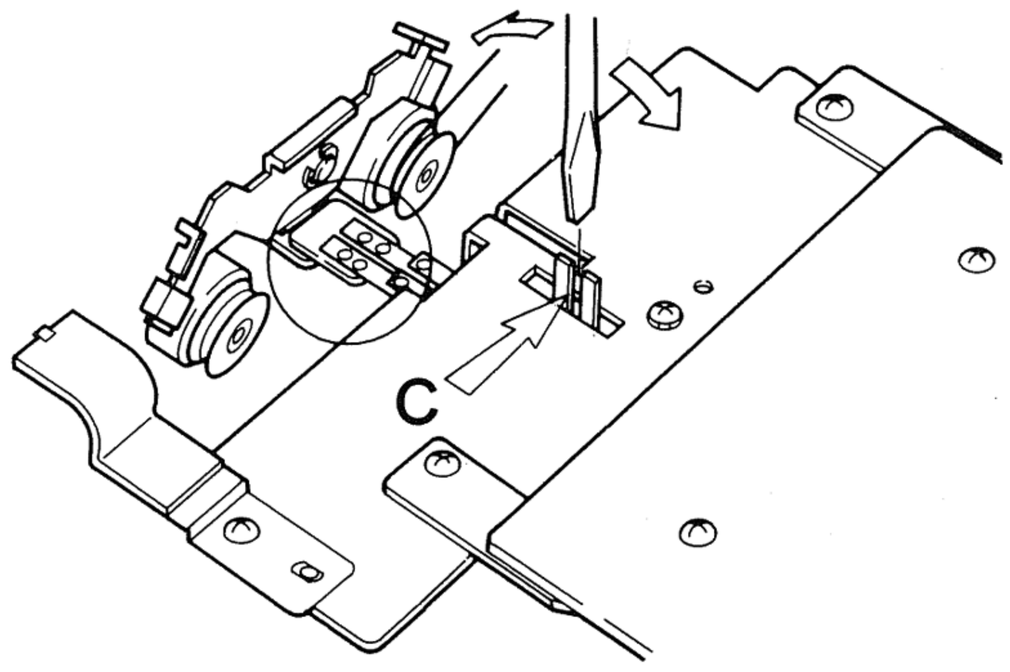


Fig. 23 Adjustment of the Motor Switch

9.7 MUTING SWITCH OPERATION

Standard

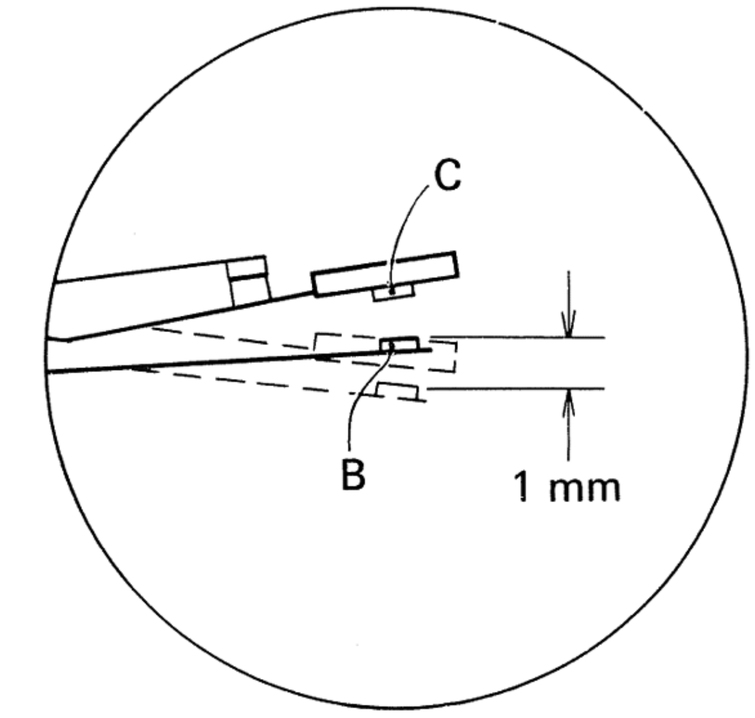
The changeover of the muting switch timing should be slow when going from STOP to PLAY and fast when going from PLAY to STOP, and fully effective in all cases.

Adjustment

The adjustment is made while the PLAY lever is being operated, by inserting a screwdriver into the grooved section of the switch holder D (as shown in Figure 24) and moving it up and down appropriately. The operating lever A in Figure 24 should contact the muting switch separator, with B moving about 1 mm ($\pm^{0.5}_{0.3}$mm) when C contacts B. However, this 1 mm does not include the extra stroke after the operating lever has been locked.

After adjustment check that in the PLAY mode, B and C come into effective contact with B moving 1 mm ($\pm^{0.5}_{0.3}$mm).

Check that, with no signal, during recording and playback, there is no click noise on the LINE OUT when the STOP lever is depressed, and the level meter pointers hardly move.



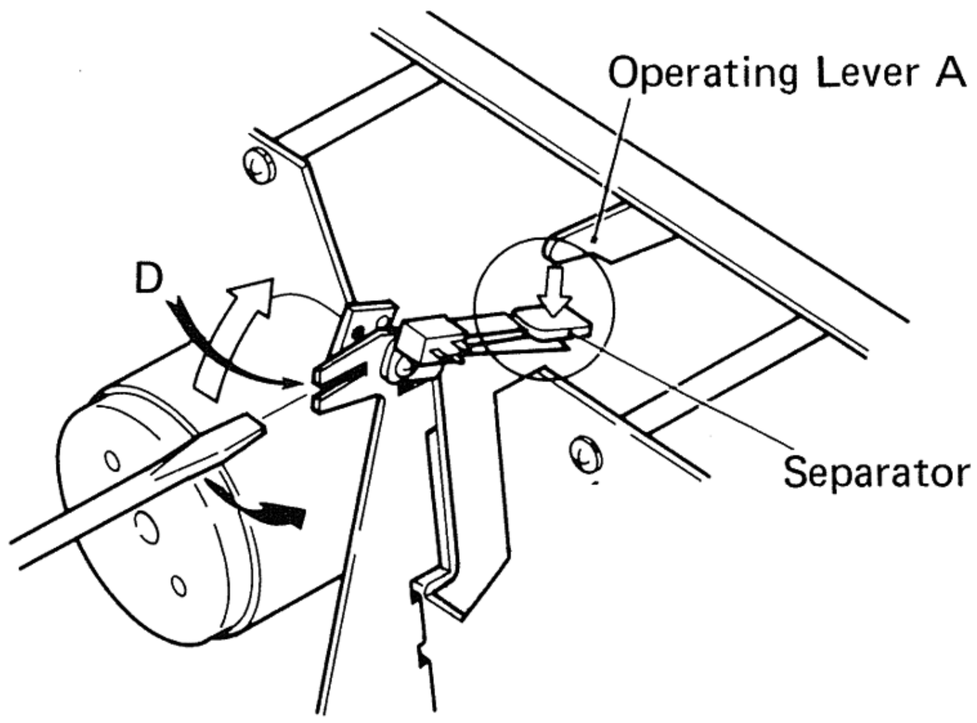


Fig. 24 Muting Switch Adjustment

10. ALIGNMENT OF THE REC/PB CIRCUITS

Items for Adjustment

10.1 Head Azimuth
10.2 Playback Equalizer
10.3 Playback Level
10.4 Level Meter Calbration
10.5 Rough Recording Current
10.6 Rough Recording Bias
10.7 Bias Trap Tuning
10.8 Record/Playback Responce
10.9 Recording Sensitivity
10.10 Dolby Circuit

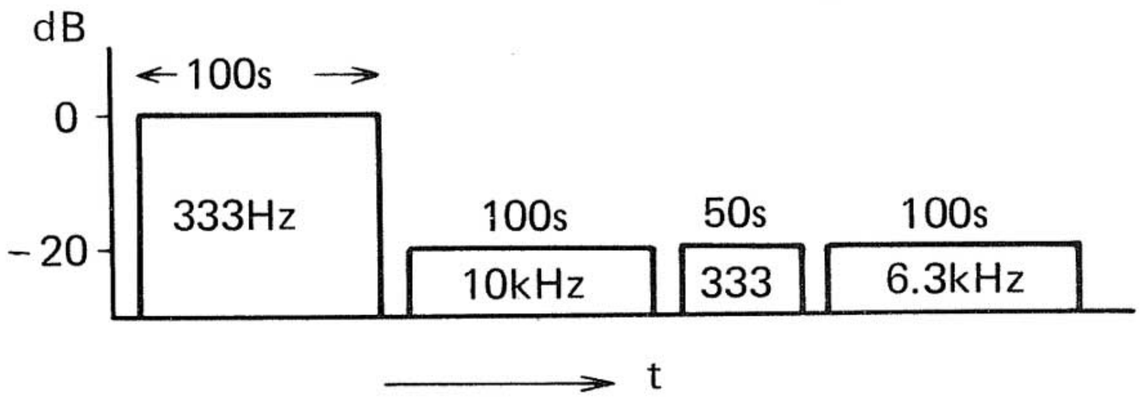


Fig. 25 Recorded Contents of Tape STD-341

Points Requiring Special Care

1. Clean the head before performing the adjustments.
2. Complete all mechanical adjustments.
3. Test tapes to be used
   STD-341 . . . . . See Figure 25
   STD-601 . . . . . STD blank tape
   STD-602 . . . . . CrO_2 blank tape
   (STD-331) . . . . . Playback frequency response characteristic check
4. Section 10.8 involves fine adjustment of the recording bias to adjust the frequency response. Do not touch the peaking coil of the REC amplifier.
5. The basic recording level for the CT-F6262 is 160 pwb/mm at 333Hz. This is 4dB lower than the 333Hz, 0dB signal on STD-341 (250 pwb/mm).
6. In the text "recording state" unless otherwise indicated to the contrary, implies insertion of a cassette which does not have the second chrome detector hole. It also implies a state in which the REC and PLAY levers are both depressed (while the PAUSE lever may also be depressed).
7. In the text, unless otherwise indicated to the contrary, the DOLBY NR is OFF.

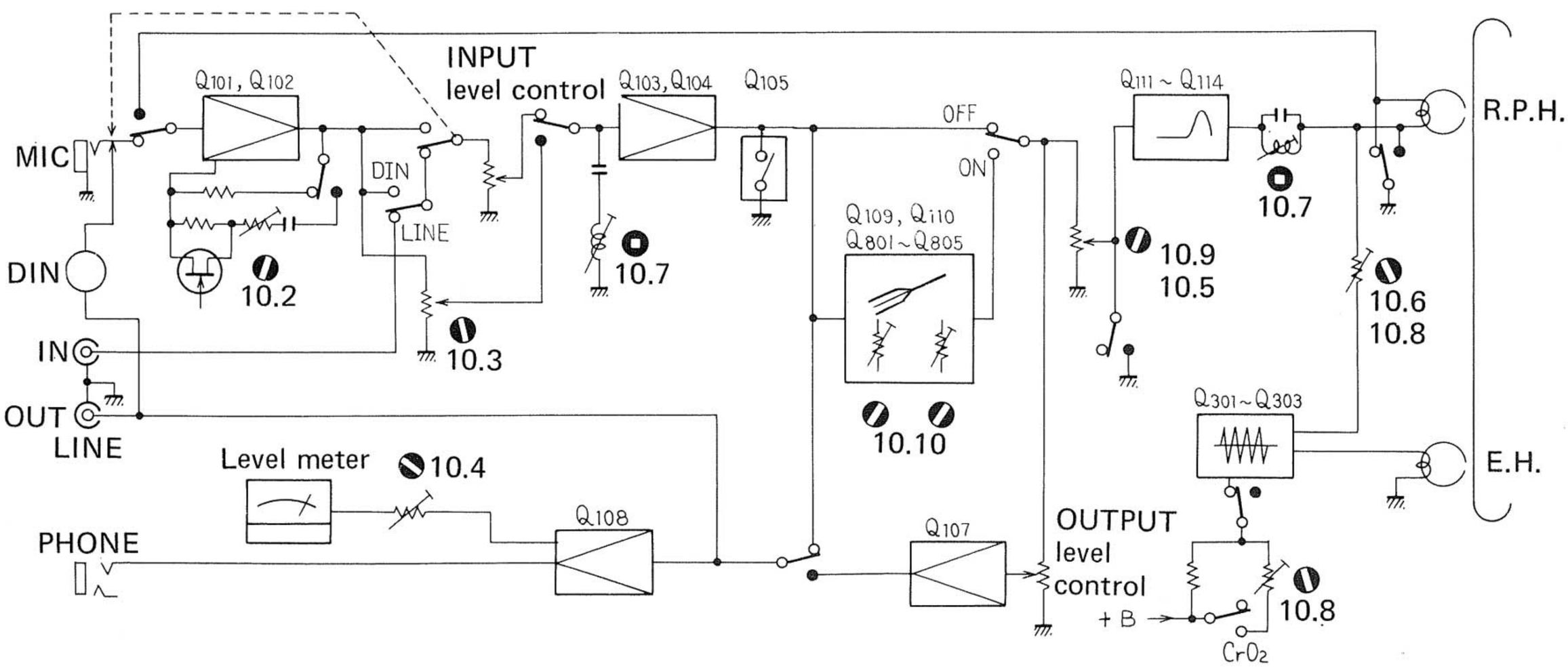


Fig. 26 Black diagram

10.1 HEAD AZIMUTH

- Connect an AC mV meter between terminals No. 57 (L) and No. 58 (R) and ground on the REC/PB amplifier assembly.
- Set the tape selector to STD.

Play the −20dB 10kHz section of the test tape STD-341, and turn the head azimuth adjustment screw shown in Figure 27 until both L and R channel outputs are at a maximum.
After adjustment, be sure to lock the screw with paint.

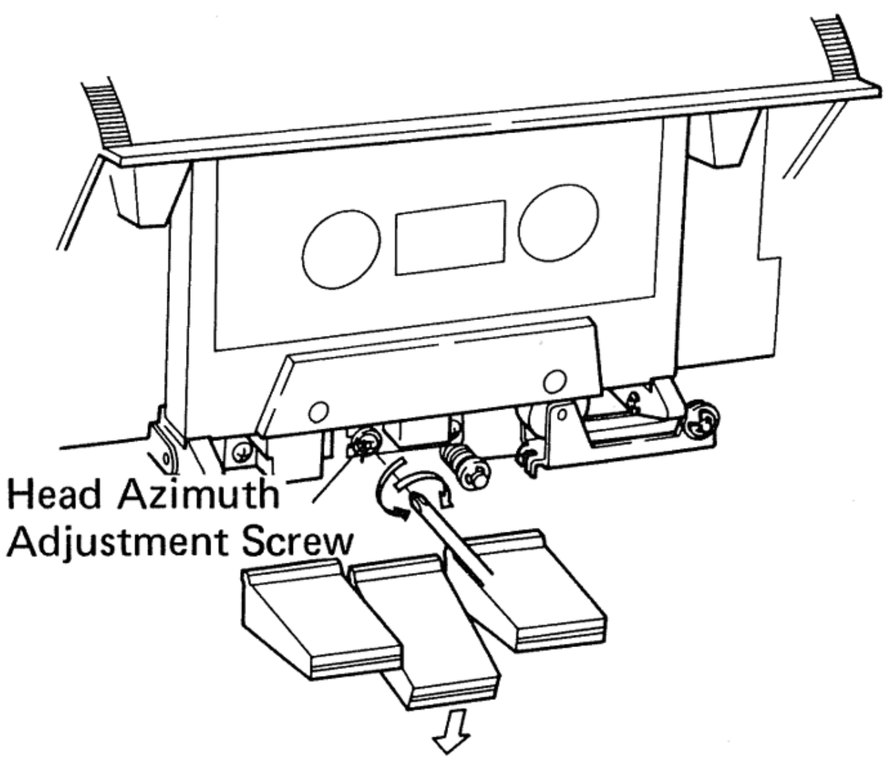


Fig. 27 Head Azimuth Adjustment

10.2 PLAYBACK EQUALIZER

- Attach an AC mV meter between terminals No. 57 (L) and No. 58 (R) on the REC/PB amplifier assembly and ground.
- Set the tape selector to STD.
- Turn VR101 and VR201 on the REC/PB amplifier assembly up to maximum.

1. Playback the 333Hz −20dB section of test tape STD-341 and read the mV meter indication.
2. Playback the 6.3kHz −20dB section of the same tape and adjust VR102 and VR202 to give a mV meter reading which is 0.5dB above that for 333Hz.
3. In this state, turn the tape selector to Fe-Cr, and with the 333Hz frequency taken as the reference, check that the response at 6.3kHz is between −3 and −6dB.

Check of Playback Frequency Response Characteristic (For Reference)

Play the test tape STD-331, and check that the playback frequency response is within the limits shown in Figure 28.

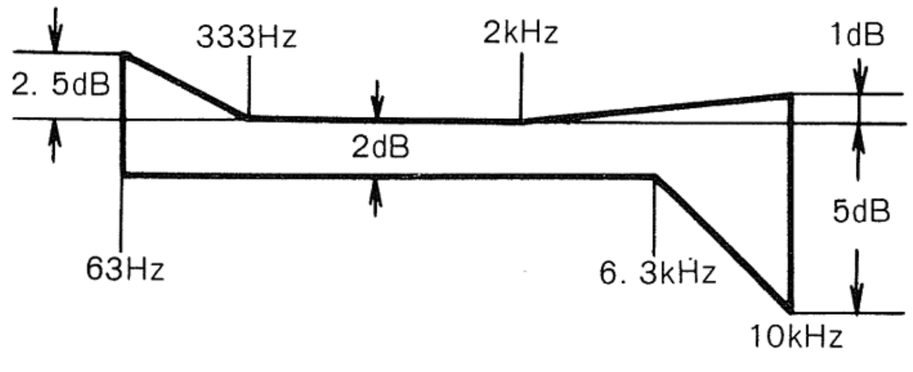


Fig. 28 Playback Frequency Response (Using STD-331, and the STD Position, with DOLBY NR OFF

10.3 PLAYBACK LEVEL

- Connect the mV meter between terminals No. 57 (L) and No. 58 (R) and ground on the REC/PB Amplifier assembly.
- Set the tape selector to STD.
- Turn the DOLBY NR switch ON.

Play the 333Hz 0dB section on the test tape STD-341, and adjust VR101 and VR201 so that the mV meter reading is +0.6dBv (1.07V).

NOTE:
This adjustment determines the DOLBY level, and must be performed with great care.

10.4 LEVEL METER CALIBRATION

- Connect the mV meter between terminals No. 57 (L) and No. 58 (R) and ground on the REC/PB amplifier assembly.
- Switch to the recording mode.

1. Feed a −10dBv (316 mV) 333Hz signal to the LINE INPUT terminals.
2. Adjust the input level controls so that the mV meter reading is −3.4dBv (676mV).
3. Adjust VR103 and VR203 so that the level meter reads "0dB".

10.5 ROUGH RECORDING CURRENT

- The fine adjustment of recording current is performed under heading 10.9 Recording Sensitivity.
- The settings for the input level controls and the input signal itself should be the same as for the Preceding section 10.4 Level Meter Calibration.
- Short terminals No. 51 and No. 59 (ground) on the REC/PB amplifier assembly, so that the muting goes OFF.
- Connect a mV meter between terminals No. 1 (L) and No. 3 (ground) and between No. 2 (R) and No. 4 (ground) on the REC/PB amplifier assembly.

- Set the tape selector to STD.

Depress the recording lever only, and adjust VR104 and VR204 so that the mV meter reading is 0.4mV.

NOTE:
With the REC lever only depressed, the amplifier will record, but the bias oscillator circuit will not operate. After the adjustment has been completed, remove the short from the terminals.

10.6 ROUGH RECORDING BIAS

- The fine adjustment of recording bias is made in section 10.8 Record/Playback Response.
- Connect the mV meter between terminals No. 1 (L) and No. 3 (ground) and also between No. 2 (R) and No. 4 (ground) and also between No. 2 (R) and No. 4 (ground) on the REC/PB amplifier assembly.
- Set the tape selector to STD.
- Turn the INPUT level controls to minimum and set the deck to the recording mode.

Adjust VR105 and VR205 so that the mV meter gives a reading of 5.3mV.

10.7 BIAS TRAP TUNING

- Connect the mV meter and an oscilloscope between terminals No. 83 (L) and No. 84 (R) and ground on the REC/PB amplifier assembly.
- Turn the INPUT level controls to minimum.
- Set to the recording state.

Adjust L104 and L204 so that the bias leakage waveform as displayed on the oscilloscope (85kHz ±10%) becomes a minimum.

- Turn the input selector switch to DIN, and connect DIN plug and connecting cord (this enables easy adjustment to be made).
- Connect the mV meter to the output terminals.
- Insert a tape cassette which has the extra chrome detecting hole and switch to the recording state.
- Turn the INPUT level controls to maximum.

Adjust L101 and L201 so that the bias leakage level becomes minimum.

Next, turn the INPUT level control and check that the bias leakage level is less than −34dBv (20mV) at all positions.

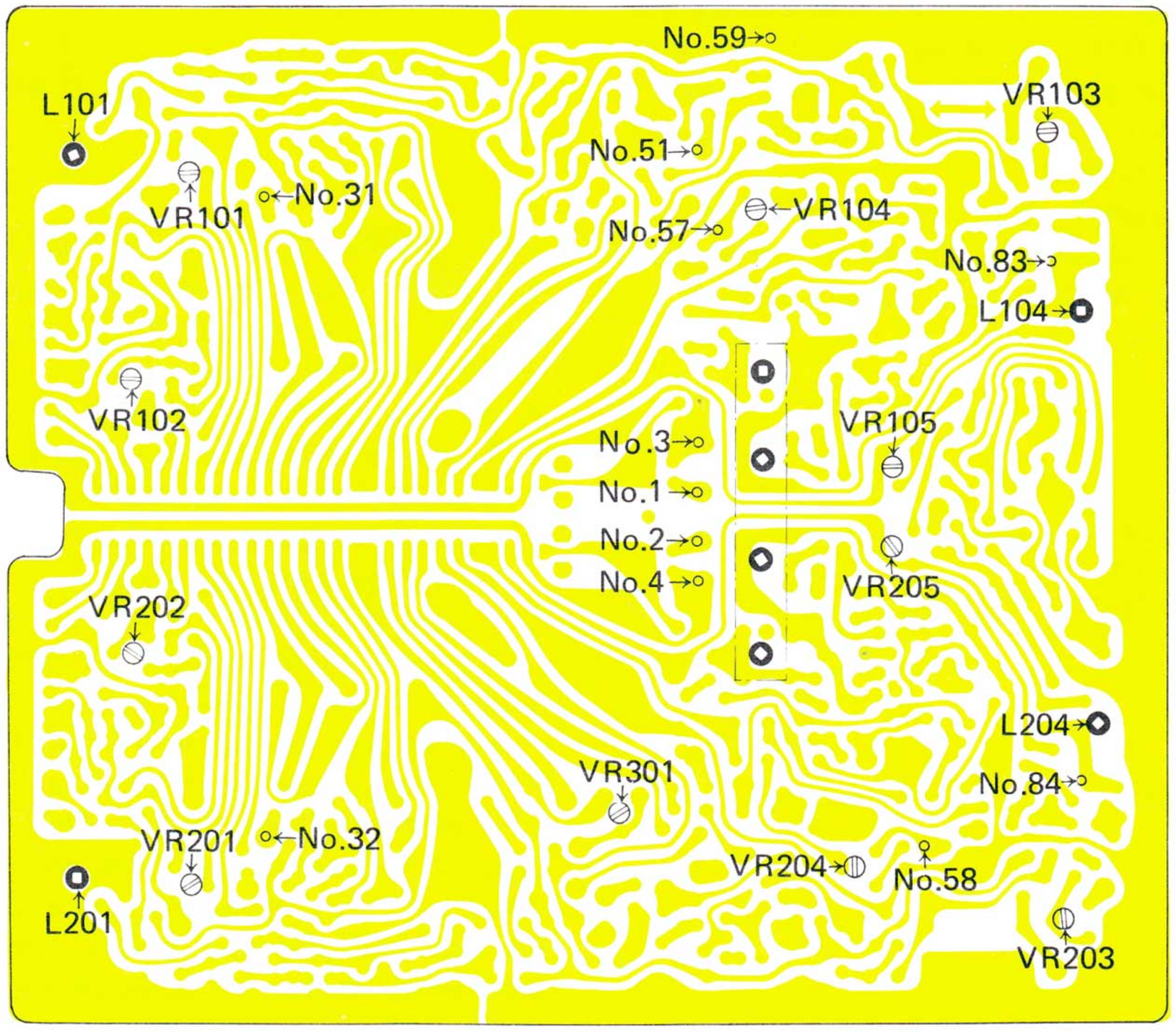


Fig. 29 REC/PB Amplifier Assembly Adjustment Places

10.8 RECORD/PLAYBACK RESPONSE

- Set the tape selector to STD.
- Connect a −30dBv (31.6mV) 333Hz signal to the INPUT terminals and set to the recording state.
- Connect the mV meter between the terminals No. 57 (L) and No. 58 (R) and ground on the REC/PB amplifier assembly.

1. Adjust the INPUT level control so that the mV meter reads −23.4dBv (67.6mV).
2. With a −30dBv (31.6mV) input signal level (at the INPUT terminals), record 333Hz and 6.3kHz signals on the test tape STD-601.
3. Playback the signals recorded in the previous paragraph, and adjust VR105 and VR205 so that the playback level for 6.3kHz is 0.5dB higher than for 333Hz.

The changes in frequency response produced by VR105 and VR205, will not be apparent unless you both record and playback. After you have made a slight adjustment, repeat the recording and playback a number of times until the 6.3kHz playback level is 0.5dB above the 333Hz level.

4. Check the recording and playback frequency response characteristic over the range 63Hz to 12kHz, and determine that it is within the limits defined by Figures 30 and 31.
5. In the same way, record and playback using the test tape STD-601, adjusting VR301 so that level for 6.3kHz playback is 1dB up compared with the level for 333Hz (the permissable range is from −5.0 to +1.5dB).
6. Just as in paragraph 4 above, check that the recording and playback frequency response characteristic is within the limits defined by Figures 32 and 33.

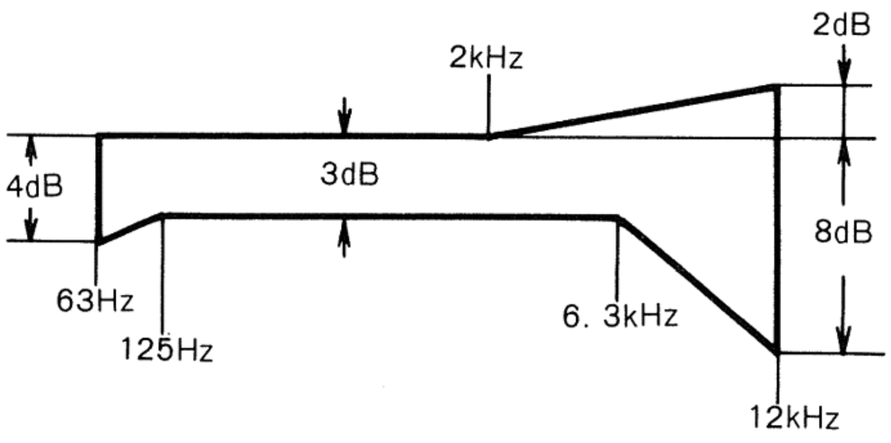


Fig. 30 STD-601 is used, DOLBY NR is OFF.

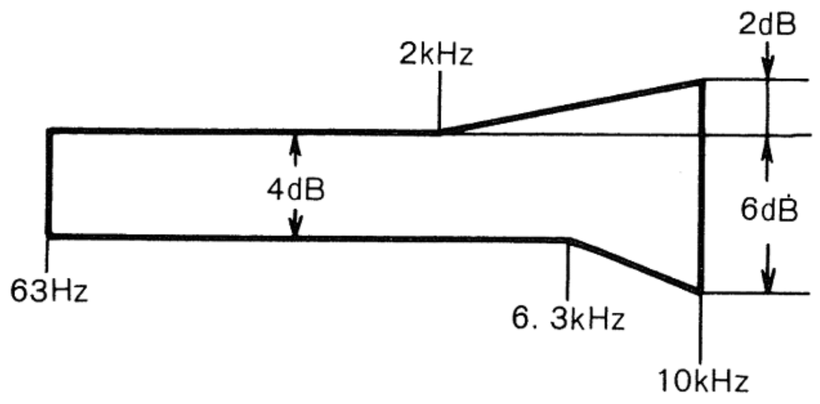


Fig. 31 STD-601 used, DOLBY NR is ON.

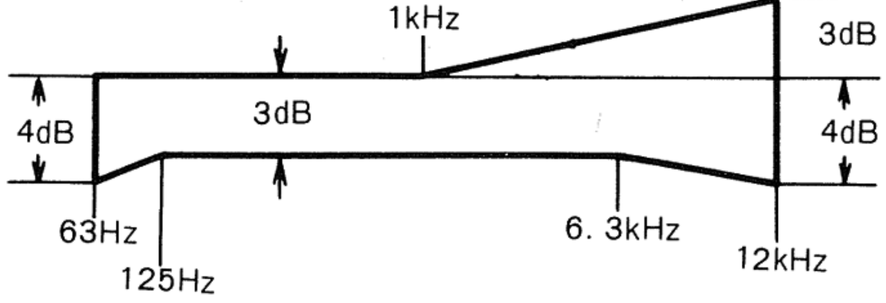


Fig. 32 STD-602 is used, DOLBY NR is OFF.

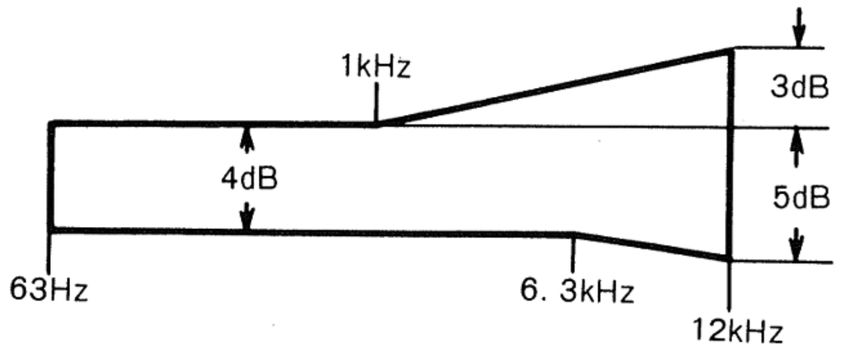


Fig. 33 STD-602 is used, DOLBY NR is ON.

10.9 RECORDING SENSITIVITY

- Connect the mV meter between terminals No. 57 (L) and No. 58 (R) and ground on the REC/PB amplifier assembly.
- Set the TAPE SELECTOR to STD.
- Turn the DOLBY NR switch ON.
- With a −10dBv (316mV) signal applied to the INPUT terminals, and a frequency of 333Hz, set to the recording state.

1. Adjust the INPUT level control so that the reading on the mV meter is −3.4dBv (676mV).
2. Record and playback on the test tape STD-601, and adjust VR104 and VR204 so that the meter reading on playback becomes −3.4dBv (676mV).

The effect of adjusting VR104 and VR204 will only be apparent after both recording and playing back, so after adjusting them slightly, repeat recording and playback several times until the playback level reaches −3.4dBv (676mV).

3. Record and playback on test tape STD-602, and check that the playback level is within the range −3.4dBv±1.5dB (569mV to 803mV).

10.10 DOLBY CIRCUIT

- Adjustments of the DOLBY assembly are made via the adjusting hole on the bottom of the deck (Figure 34).
- Connect the mV meter between terminals No. 31 (L) and No. 32 (R) and ground on the REC/PB amplifier assembly.
- Turn the DOLBY assembly VR802 to maximum (note: there are two adjustments for both L and R).
- Turn the DOLBY NR switch OFF.
- Apply a −10dBv (316mV) 5kHz signal to the INPUT terminals and set to the recording state.

1. Adjust the INPUT level control so that the mV meter reads 1V.
2. Adjust the input signal level on the INPUT terminals to −50dBv (3.16mV), and adjust VR801 (L and R) to give a reading of −30dBv (31.6mV) on the mV meter.
3. Alter the input signal level to the INPUT terminals to −40dBv (10mV), and adjust VR802 (L and R) so that the mV meter reading is −22dBv (79.4mV).

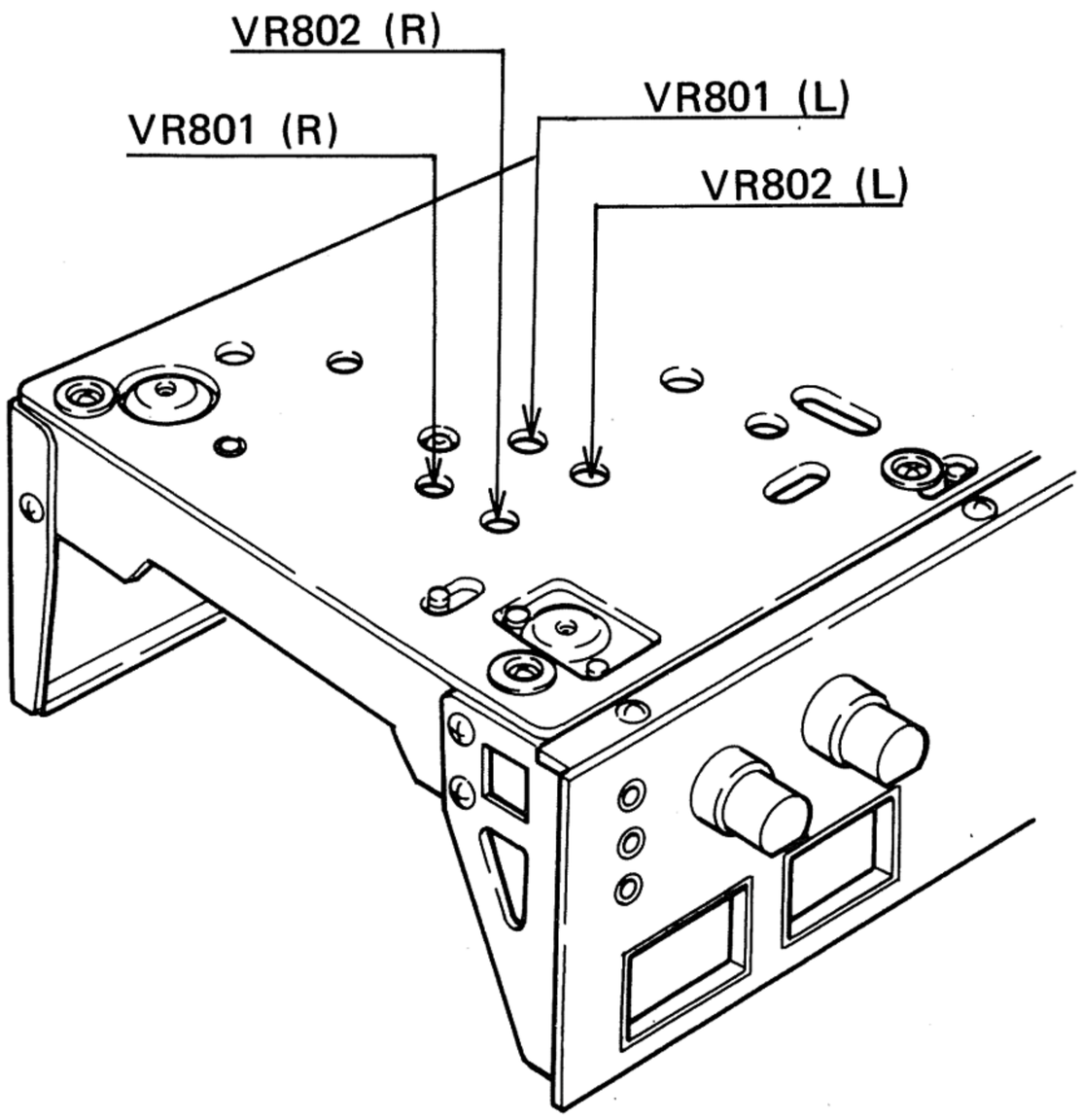


Fig. 34 DOLBY Circuit Adjustment

11. SCHEMATIC DIAGRAMS, P. C. BOARD PATTERNS AND PARTS LIST

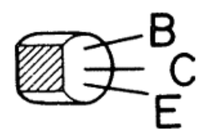
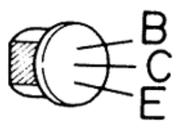
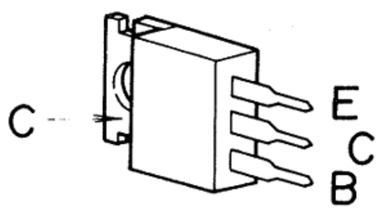
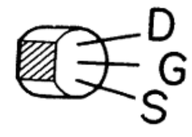
11.1 MISCELLANEA

Miscellaneous Parts

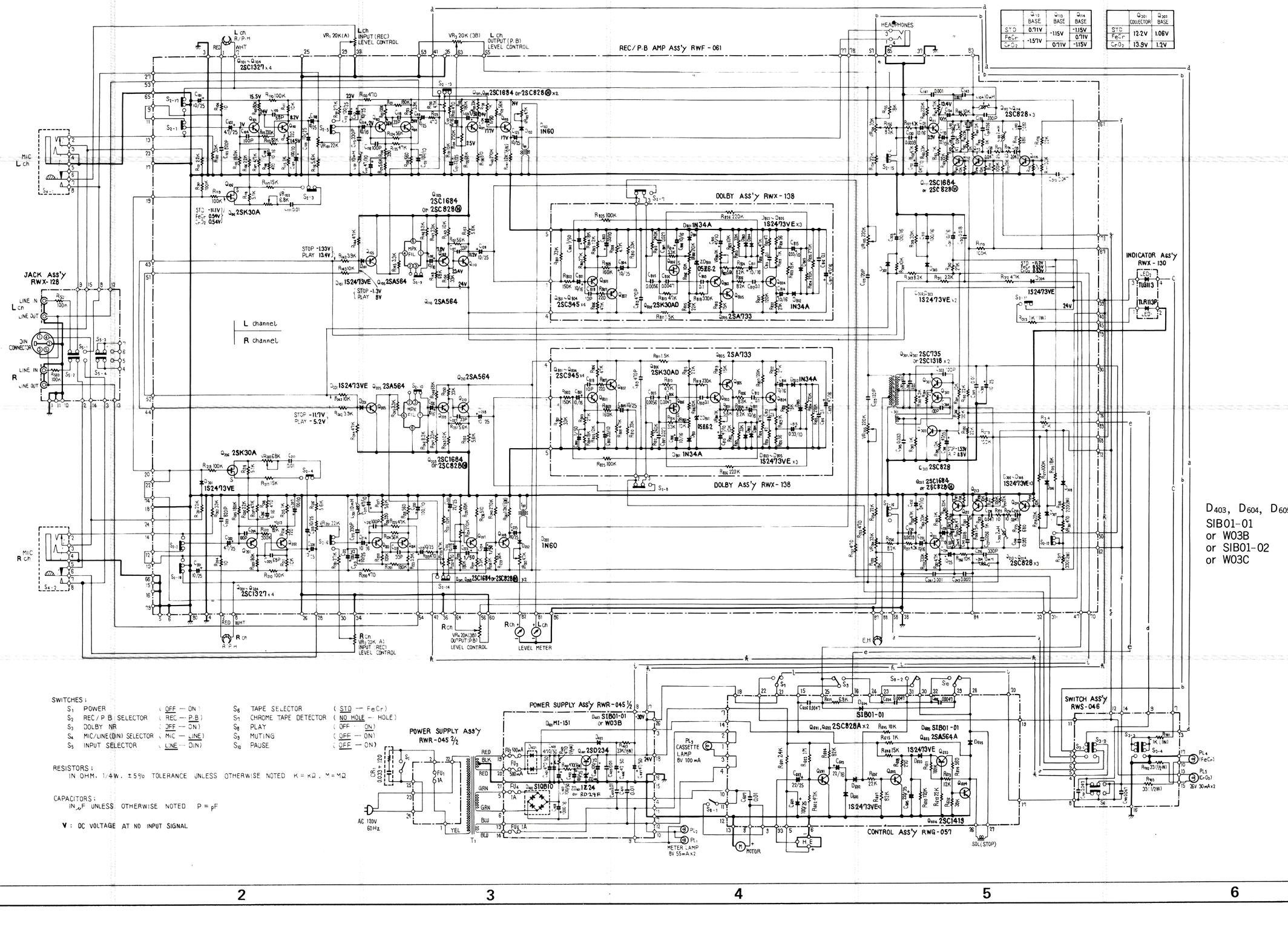
NOTE:
- *Capacitors: in μF unless otherwise noted p:pF*
- *Resistors: in Ω, ¼W unless otherwise noted k:kΩ, M:MΩ*

Symbol	Description	Part No.
S1	Push switch (POWER)	RSA-010
S7	Lever switch ($Cr0_2$ DET.)	RSN-010
S8	Spring switch (Motor)	RSN-011
S9	Spring switch (Pause)	RSN-006
S10	Spring switch (Muting)	RSN-006
H.E.	Hall tape running detector	RSX-041
M	Motor	RXM-027
R/P.H.	REC/PB head	RPB-013
E.H.	Erase head	RPB-038
	Solenoid	RXP-036
	Level meter	RAW-049
	Phone jack (MIC)	RKN-031
	Phone jack (PHONES)	RKN-032
T1	Power transformer	RTT-097
PL1	Lamp with leads 8V, 55mA	REL-026
PL2	Lamp with leads 8V, 55mA	REL-026
PL3	Lamp assembly 8V, 100mA	REL-033
VR1,2	Variable resistor (INPUT)	RCV-029
VR3,4	Variable resistor (OUTPUT)	RCV-030
CR1	Sparke killer	RWX-109
	REC/PB amplifier assembly	RWF-061
	Switch assembly	RWS-046
	Power supply assembly	RWR-045
	Indicator assembly	RWX-130
	Jack assembly	RWX-128
	Control assembly	RWG-057
	Dolby assembly	RWX-138
	AC power cord	RDG-013

External Appearance of Transistors

2SA564 2SA564A 2SA733 2SC828A 2SC945 2SC1372 2SC1684	
2SC735	
2SC1419 2SD234	
2SK30A 2SK30AD	

11.2 SCHEMATIC DIAGRAM



	Q112 BASE	Q113 BASE	Q114 BASE
STD	0.71V	-1.15V	-1.15V
FeCr	-1.57V		0.71V
Cr O2		0.71V	-1.15V

	Q201 COLLECTOR	Q203 BASE
STD	12.2V	1.06V
FeCr	13.9V	1.2V

SWITCHES:

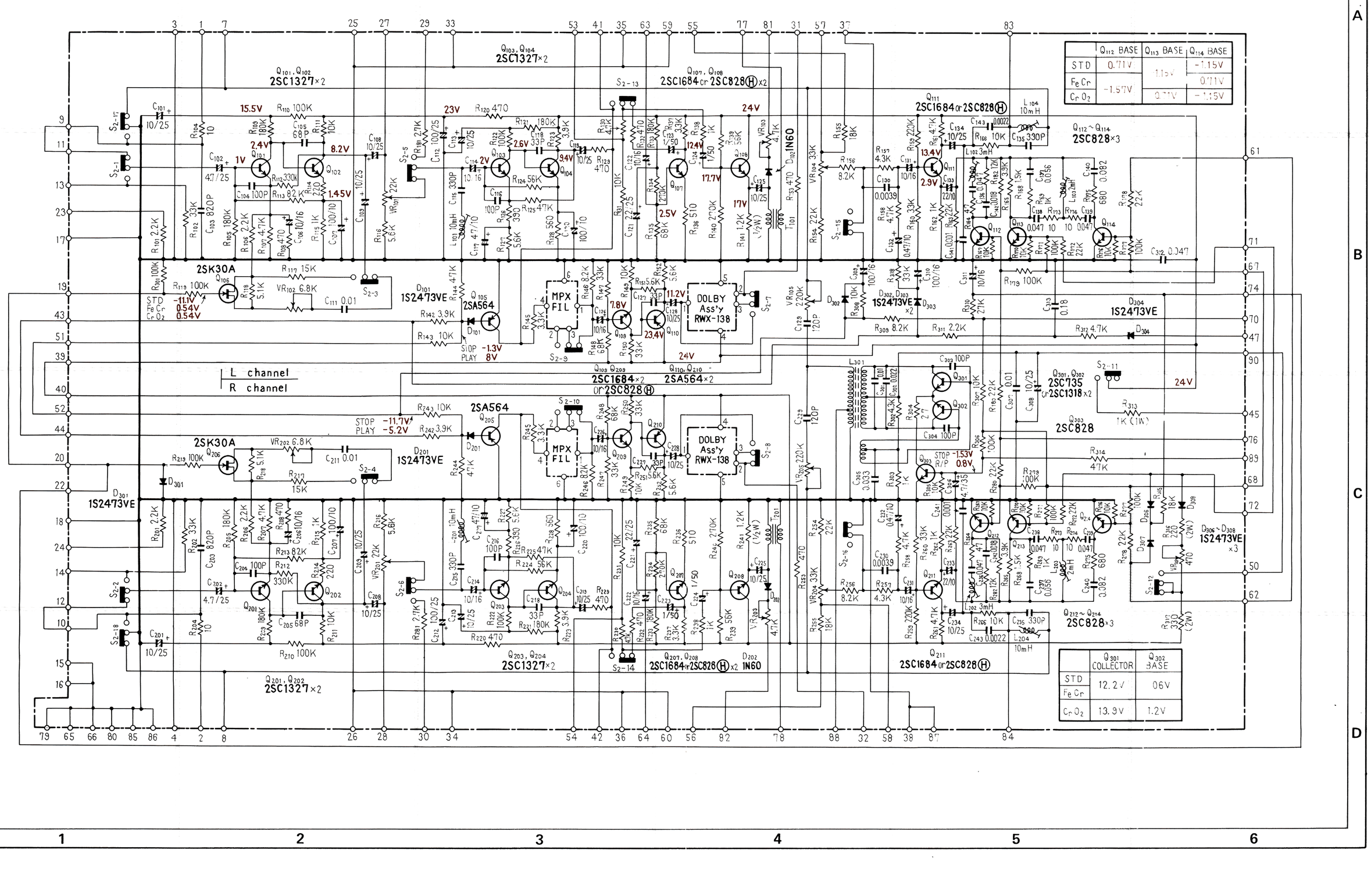
S_1	POWER	(OFF — ON)	S_6	TAPE SELECTOR	(STD — FeCr)
S_2	REC / P.B SELECTOR	(REC — P.B)	S_7	CHROME TAPE DETECTOR	(NO HOLE — HOLE)
S_3	DOLBY NR	(OFF — ON)	S_8	PLAY	(OFF — ON)
S_4	MIC/LINE(DIN) SELECTOR	(MIC — LINE)	S_9	MUTING	(OFF — ON)
S_5	INPUT SELECTOR	(LINE — DIN)	S_{10}	PAUSE	(OFF — ON)

RESISTORS:
IN OHM, 1/4W, ±5% TOLERANCE UNLESS OTHERWISE NOTED K = KΩ, M = MΩ

CAPACITORS:
IN μF UNLESS OTHERWISE NOTED P = pF

V : DC VOLTAGE AT NO INPUT SIGNAL

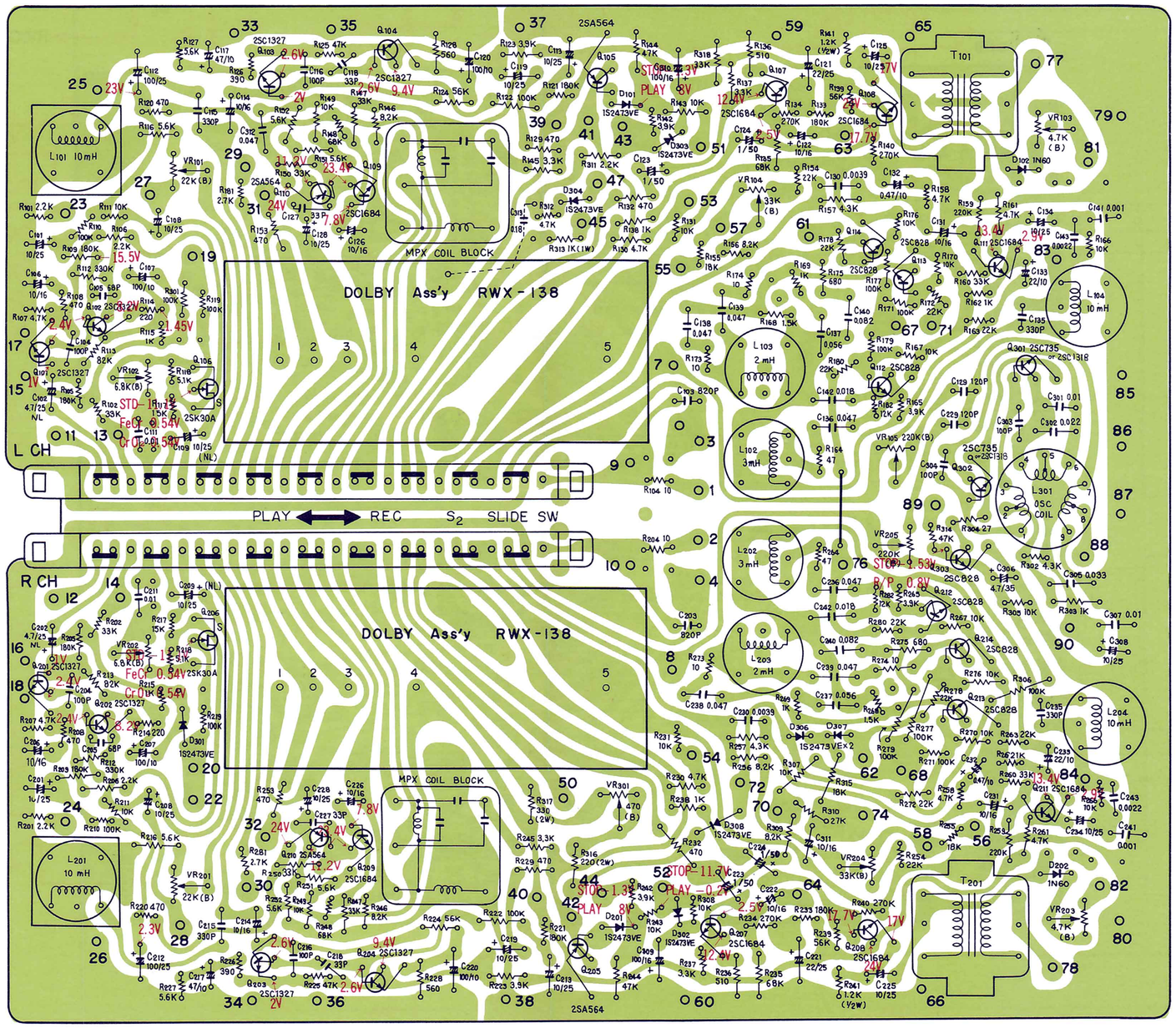
11.3 REC/PB AMPLIFIER ASSEMBLY (RWF-061)

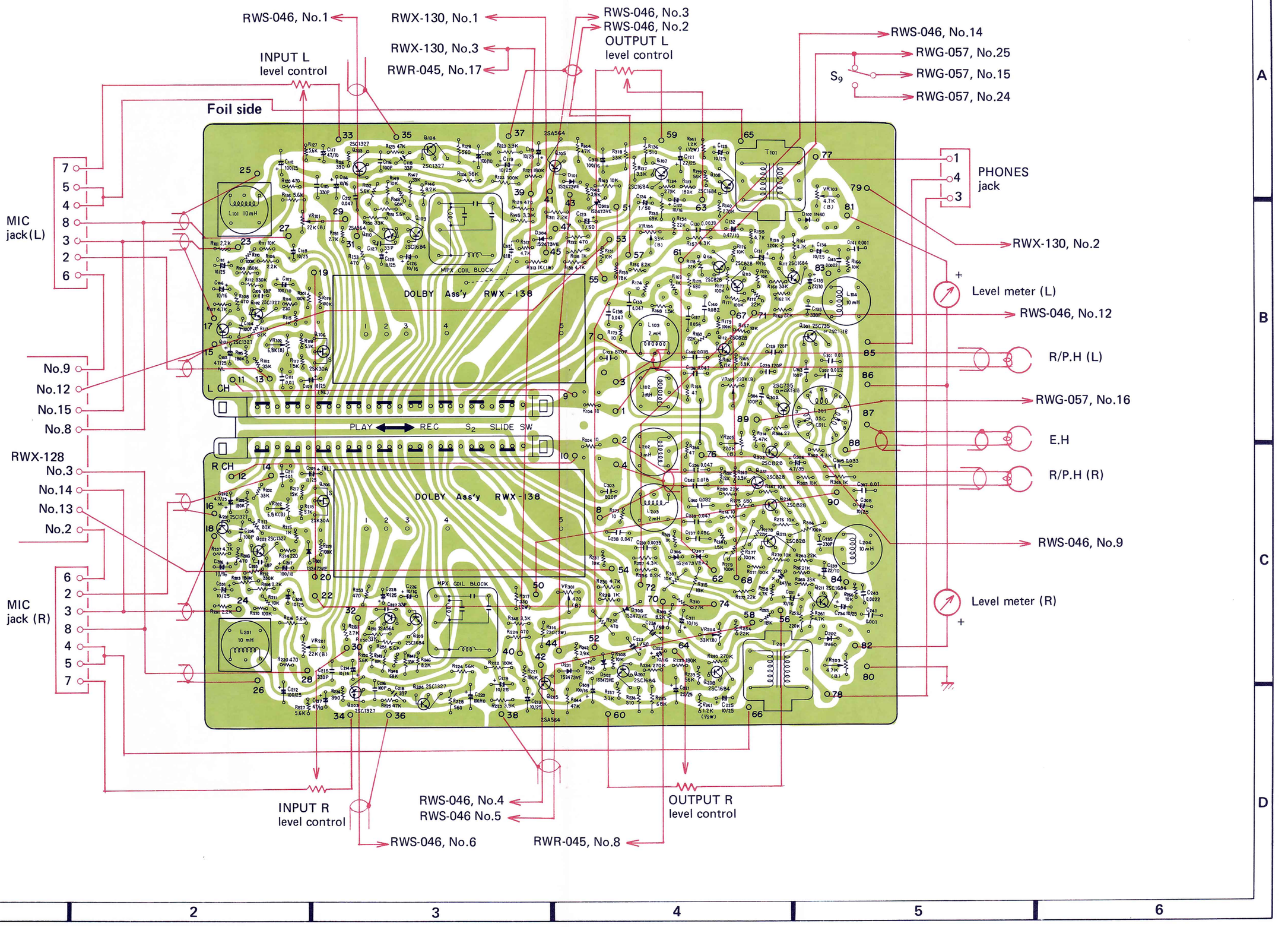


	Q112 BASE	Q113 BASE	Q114 BASE
STD	0.71V	1.15V	-1.15V
Fe Cr	-1.57V		0.71V
Cr O2		0.71V	-1.15V

	Q301 COLLECTOR	Q302 BASE
STD	12.2V	0.6V
Fe Cr		
Cr O2	13.9V	1.2V

Foil side


L CH
R CH
DOLBY Ass'y RWX-138
MPX COIL BLOCK
PLAY ⟷ REC S2 SLIDE SW
L101 10mH
L201 10 mH
L102 3mH
L202 3mH
L103 2 mH
L203 2 mH
L104 10 mH
L204 10 mH
L301 OSC COIL
T101
T201
2SC1327
2SA564
2SC1684
2SC828
2SC735 or 2SC1318
2SK30A
1S2473VE
1N60
STOP 0V
PLAY 8V
REC 8V
STOP 2.53V
PLAY 0.8V
STOP 1.9V
PLAY 8V
STOP -11.7V
PLAY -0.2V
STOP 17.7V
PLAY 17V


RWS-046, No.1
RWX-130, No.1
RWS-046, No.3
RWS-046, No.2
OUTPUT L
level control
INPUT L
level control
RWX-130, No.3
RWR-045, No.17
RWS-046, No.14
RWG-057, No.25
RWG-057, No.15
RWG-057, No.24
S9
Foil side
PHONES
jack
MIC
jack(L)
RWX-130, No.2
Level meter (L)
RWS-046, No.12
R/P.H (L)
RWG-057, No.16
E.H
R/P.H (R)
RWS-046, No.9
Level meter (R)
No.9
No.12
No.15
No.8
RWX-128
No.3
No.14
No.13
No.2
MIC
jack (R)
MPX COIL BLOCK
DOLBY Ass'y RWX-138
L CH
R CH
PLAY REC S2 SLIDE SW
INPUT R
level control
RWS-046, No.4
RWS-046 No.5
RWS-046, No.6
RWR-045, No.8
OUTPUT R
level control

Parts List of REC/PB Amplifier Assembly (RWF-061)

SEMICONDUCTORS

Symbol	Description	Part No.
Q101	Transistor	2SC1372-T or U
Q102	Transistor	2SC1372-T or U
Q103	Transistor	2SC1372-T or U
Q104	Transistor	2SC1372-T or U
Q105	Transistor	2SA564-R or S
Q106	FET	2SK30A-O or Y
Q107	Transistor	2SC1684-R or S (2SC828H-R or S)
Q108	Transistor	2SC1684-R or S (2SC828H-R or S)
Q109	Transistor	2SC1684-R or S (2SC828H-R or S)
Q110	Transistor	2SA564-R or S
Q111	Transistor	2SC1684-R or S (2SC828H-R or S)
Q112	Transistor	2SC828-R, S or Q
Q113	Transistor	2SC828-R, S or Q
Q114	Transistor	2SC828-R, S or Q
Q201	Transistor	2SC1372-T or U
Q202	Transistor	2SC1372-T or U
Q203	Transistor	2SC1372-T or U
Q204	Transistor	2SC1372-T or U
Q205	Transistor	2SA564-R or S
Q206	FET	2SK30A-O or Y
Q207	Transistor	2SC1684-R or S (2SC828H-R or S)
Q208	Transistor	2SC1684-R or S (2SC828H-R or S)
Q209	Transistor	2SC1684-R or S (2SC828H-R or S)
Q210	Transistor	2SA564-R or S
Q211	Transistor	2SC1684-R or S (2SC828H-R or S)
Q212	Transistor	2SC828-R, S or Q
Q213	Transistor	2SC828-R, S or Q
Q214	Transistor	2SC828-R, S or Q
Q301*	Transistor	2SC735-Y, GR or O (2SC1318-R or S)
Q302*	Transistor	2SC735-Y, GR or O (2SC1318-R or S)
	* hfe of Q301 and Q302 should have the same value (matched pair)	
Q303	Transistor	2SC828-R, S or Q
D101	Diode	1S2473VE
D102	Diode	1N60
D301	Diode	1S2473VE
D302	Diode	1S2473VE
D303	Diode	1S2473VE
D304	Diode	1S2473VE
D305	.....	.....
D306	Diode	1S2473VE
D307	Diode	1S2473VE
D308	Diode	1S2473VE
D201	Diode	1S2473VE
D202	Diode	1N60

TRANSFORMERS AND COILS

Symbol	Description	Part No.
T101	Matching transformer	RTV-007
T201	Matching transformer	RTV-007
L101	Trap coil	T84-401
L102	Peaking coil	RTF-010
L103	Peaking coil	RTF-007
L104	Trap coil	T84-401
L201	Trap coil	T84-401
L202	Peaking coil	RTF-010
L203	Peaking coil	RTF-007
L204	Trap coil	T84-401
L301	Oscillator coil	T64-001
	MPX coil block	RTF-012

RESISTORS

Symbol	Description		Part No.
R101	Carbon film	2.2k	RD¼VS 222J
R102	Carbon film	33k	RD¼VS 333J
R103	Vacancy		.....
R104	Carbon film	10	RD¼VS 100J
R105	Carbon film	180k	RD¼VS 184J
R106	Carbon film	2.2k	RD¼VS 222J
R107	Carbon film	4.7k	RD¼VS 472J
R108	Carbon film	470	RD¼VS 471J
R109	Carbon film	180k	RD¼VS 184J
R110	Carbon film	100k	RD¼VS 104J
R111	Carbon film	10k	RD¼VS 103J
R112	Carbon film	330k	RD¼VS 334J
R113	Carbon film	82k	RD¼VS 823J
R114	Carbon film	220	RD¼VS 221J
R115	Carbon film	1k	RD¼VS 102J
R116	Carbon film	5.6k	RD¼VS 562J
R117	Carbon film	15k	RD¼VS 153J
R118	Carbon film	5.1k	RD¼VS 512J
R119	Carbon film	100k	RD¼VS 104J
R120	Carbon film	470	RD¼VS 471J
R121	Carbon film	180k	RD¼VS 184J
R122	Carbon film	100k	RD¼VS 104J
R123	Carbon film	3.9k	RD¼VS 392J
R124	Carbon film	56k	RD¼VS 563J
R125	Carbon film	47k	RD¼VS 473J

Symbol	Description			Part No.
R126	Carbon film	390		RD¼VS 391J
R127	Carbon film	5.6k		RD¼VS 562J
R128	Carbon film	560		RD¼VS 561J
R129	Carbon film	470		RD¼VS 471J
R130	Carbon film	3.9k		RD¼VS 392J
R131	Carbon film	10k		RD¼VS 103J
R132	Carbon film	470		RD¼VS 471J
R133	Carbon film	180k		RD¼VS 184J
R134	Carbon film	270k		RD¼VS 271J
R135	Carbon film	68k		RD¼VS 683J
R136	Carbon film	510		RD¼VS 511J
R137	Carbon film	3.3k		RD¼VS 332J
R138	Carbon film	1k		RD¼VS 102J
R139	Carbon film	56k		RD¼VS 563J
R140	Carbon film	270		RD¼VS 271J
R141	Carbon film	1.2k	½W	RD½PS 122J
R142	Carbon film	3.9k		RD¼VS 392J
R143	Carbon film	10k		RD¼VS 103J
R144	Carbon film	47k		RD¼VS 473J
R145	Carbon film	3.3k		RD¼VS 332J
R146	Carbon film	8.2k		RD¼VS 822J
R147	Carbon film	33k		RD¼VS 333J
R148	Carbon film	68k		RD¼VS 683J
R149	Carbon film	10k		RD¼VS 103J
R150	Carbon film	33k		RD¼VS 333J
R151	Carbon film	5.6k		RD¼VS 562J
R152	Carbon film	5.6k		RD¼VS 562J
R153	Carbon film	470		RD¼VS 471J
R154	Carbon film	22k		RD¼VS 223J
R155	Carbon film	18k		RD¼VS 183J
R156	Carbon film	8.2k		RD¼VS 822J
R157	Carbon film	4.3k		RD¼VS 432J
R158	Carbon film	4.7k		RD¼VS 472J
R159	Carbon film	220k		RD¼VS 224J
R160	Carbon film	33k		RD¼VS 333J
R161	Carbon film	4.7k		RD¼VS 472J
R162	Carbon film	1k		RD¼VS 102J
R163	Carbon film	22k		RD¼VS 223J
R164	Carbon film	47		RD¼VS 470J
R165	Carbon film	3.9k		RD¼VS 392J
R166	Carbon film	10k		RD¼VS 103J
R167	Carbon film	10k		RD¼VS 103J
R168	Carbon film	1.5k		RD¼VS 152J
R169	Carbon film	1k		RD¼VS 102J
R170	Carbon film	10k		RD¼VS 103J
R171	Carbon film	100k		RD¼VS 104J
R172	Carbon film	22k		RD¼VS 223J
R173	Carbon film	10		RD¼VS 100J
R174	Carbon film	10		RD¼VS 100J
R175	Carbon film	680		RD¼VS 681J
R176	Carbon film	10k		RD¼VS 103J
R177	Carbon film	100k		RD¼VS 104J

Symbol	Description			Part No.
R178	Carbon film	22k		RD¼VS 223J
R179	Carbon film	100k		RD¼VS 104J
R180	Carbon film	22k		RD¼VS 223J
R181	Carbon film	2.7k		RD¼VS 272J
R182	Carbon film	12k		RD¼VS 123J
R201	Carbon film	2.2k		RD¼VS 222J
R202	Carbon film	33k		RD¼VS 333J
R203	Vacancy			.....
R204	Carbon film	10		RD¼VS 100J
R205	Carbon film	180k		RD¼VS 184J
R206	Carbon film	2.2k		RD¼VS 222J
R207	Carbon film	4.7k		RD¼VS 472J
R208	Carbon film	470		RD¼VS 471J
R209	Carbon film	180k		RD¼VS 184J
R210	Carbon film	100k		RD¼VS 104J
R211	Carbon film	10k		RD¼VS 103J
R212	Carbon film	330k		RD¼VS 334J
R213	Carbon film	82k		RD¼VS 823J
R214	Carbon film	220		RD¼VS 221J
R215	Carbon film	1k		RD¼VS 102J
R216	Carbon film	5.6k		RD¼VS 562J
R217	Carbon film	15k		RD¼VS 153J
R218	Carbon film	5.1k		RD¼VS 512J
R219	Carbon film	100k		RD¼VS 104J
R220	Carbon film	470		RD¼VS 471J
R221	Carbon film	180k		RD¼VS 184J
R222	Carbon film	100k		RD¼VS 104J
R223	Carbon film	3.9k		RD¼VS 392J
R224	Carbon film	56k		RD¼VS 563J
R225	Carbon film	47k		RD¼VS 473J
R226	Carbon film	390		RD¼VS 391J
R227	Carbon film	5.6k		RD¼VS 562J
R228	Carbon film	560		RD¼VS 561J
R229	Carbon film	470		RD¼VS 471J
R230	Carbon film	3.9k		RD¼VS 392J
R231	Carbon film	10k		RD¼VS 103J
R232	Carbon film	470		RD¼VS 471J
R233	Carbon film	180k		RD¼VS 184J
R234	Carbon film	270k		RD¼VS 274J
R235	Carbon film	68k		RD¼VS 683J
R236	Carbon film	510		RD¼VS 511J
R237	Carbon film	3.3k		RD¼VS 332J
R238	Carbon film	1k		RD¼VS 102J
R239	Carbon film	56k		RD¼VS 563J
R240	Carbon film	270		RD¼VS 271J
R241	Carbon film	1.2k	½W	RD½PS 122J
R242	Carbon film	3.9k		RD¼VS 392J
R243	Carbon film	10k		RD¼VS 103J
R244	Carbon film	47k		RD¼VS 473J
R245	Carbon film	3.3k		RD¼VS 332J
R246	Carbon film	8.2k		RD¼VS 822J

Symbol	Description			Part No.
R247	Carbon film	33k		RD¼VS 333J
R248	Carbon film	68k		RD¼VS 683J
R249	Carbon film	10k		RD¼VS 103J
R250	Carbon film	33k		RD¼VS 333J
R251	Carbon film	5.6k		RD¼VS 562J
R252	Carbon film	5.6k		RD¼VS 562J
R253	Carbon film	470		RD¼VS 471J
R254	Carbon film	22k		RD¼VS 223J
R255	Carbon film	18k		RD¼VS 183J
R256	Carbon film	8.2k		RD¼VS 822J
R257	Carbon film	4.3k		RD¼VS 432J
R258	Carbon film	4.7k		RD¼VS 472J
R259	Carbon film	220k		RD¼VS 224J
R260	Carbon film	33k		RD¼VS 333J
R261	Carbon film	4.7k		RD¼VS 472J
R262	Carbon film	1k		RD¼VS 102J
R263	Carbon film	22k		RD¼VS 223J
R264	Carbon film	47		RD¼VS 470J
R265	Carbon film	3.9k		RD¼VS 392J
R266	Carbon film	10k		RD¼VS 103J
R267	Carbon film	10k		RD¼VS 103J
R268	Carbon film	1.5k		RD¼VS 152J
R269	Carbon film	1k		RD¼VS 102J
R270	Carbon film	10k		RD¼VS 103J
R271	Carbon film	100k		RD¼VS 104J
R272	Carbon film	22k		RD¼VS 223J
R273	Carbon film	10		RD¼VS 100J
R274	Carbon film	10		RD¼VS 100J
R275	Carbon film	680		RD¼VS 681J
R276	Carbon film	10k		RD¼VS 103J
R277	Carbon film	100k		RD¼VS 104J
R278	Carbon film	22k		RD¼VS 223J
R279	Carbon film	100k		RD¼VS 104J
R280	Carbon film	22k		RD¼VS 223J
R281	Carbon film	2.7k		RD¼VS 272J
R282	Carbon film	12k		RD¼VS 123J
R302	Carbon film	4.3k		RD¼VS 432J
R303	Carbon film	1k		RD¼VS 102J
R304	Carbon film	27		RD¼VS 270J
R305	Carbon film	10k		RD¼VS 103J
R306	Carbon film	100k		RD¼VS 104J
R307	Carbon film	10k		RD¼VS 103J
R308	Carbon film	10k		RD¼VS 103J
R309	Carbon film	8.2k		RD¼VS 822J
R310	Carbon film	27k		RD¼VS 273J
R311	Carbon film	2.2k		RD¼VS 222J
R312	Carbon film	4.7k		RD¼VS 472J
R313	Metal oxide	1k	1W	RS1P 102J
R314	Carbon film	47k		RD¼VS 473J
R315	Carbon film	18k		RD¼VS 183J
R316	Metal oxide	220	2W	RS2P 221J

Symbol	Description			Part No.
R317	Metal oxide	330	2W	RS2P 331J
VR101	Semi-fixed	22k-B		C92-857
VR102	Semi-fixed	6.8k-B		RCP-001
VR103	Semi-fixed	4.7k-B		C92-051
VR104	Semi-fixed	33k-B		C81-426
VR105	Semi-fixed	220k-B		RCP-005
VR201	Semi-fixed	22k-B		C92-857
VR202	Semi-fixed	6.8k-B		RCP-001
VR203	Semi-fixed	4.7k-B		C92-051
VR204	Semi-fixed	33k-B		C81-426
VR205	Semi-fixed	220k-B		RCP-005
VR301	Semi-fixed	470-B		RCP-022

CAPACITORS

Symbol	Description			Part No.
C101	Electrolytic	10	25V	CEA 100P 25
C102	Electrolytic (NL)	4.7	25V	RCH-017
C103	Polystyrene	820p	50V	RCE-022
C104	Ceramic	100p	50V	CCDSL 101K 50
C105	Ceramic	68p		CCDSL 680K 50
C106	Electrolytic	10	16V	CEA 100P 16
C107	Electrolytic	100	10V	CEA 101P 10
C108	Electrolytic	10	25V	CEA 100P 25
C109	Electrolytic (NL)	10	25V	RCH-022
C110	Vacancy			.....
C111	Mylar	0.01	50V	CQMA 103K 50
C112	Electrolytic	100	25V	CEA 101P 25
C113	Electrolytic	10	25V	CEA 100P 25
C114	Electrolytic	10	16V	CEA 100P 16
C115	Polystyrene	330p	50V	RCE-008
C116	Ceramic	100p	50V	CCDSL 101K 50
C117	Electrolytic	47	10V	CEA 470P 10
C118	Ceramic	33p	50V	CCDSL 330K 50
C119	Electrolytic	10	25V	CEA 100P 25
C120	Electrolytic	100	10V	CEA 101P 10
C121	Electrolytic	22	25V	CEA 220P 25
C122	Electrolytic	10	16V	CEA 100P 16
C123	Electrolytic	1	50V	CEA 010P 50
C124	Electrolytic	1	50V	CEA 010P 50
C125	Electrolytic	10	25V	CEA 100P 25
C126	Electrolytic	10	16V	CEA 100P 16
C127	Ceramic	33p	50V	CCDSL 330K 50
C128	Electrolytic	10	25V	CEA 100P 25
C129	Polystyrene	120p	50V	RCE-009
C130	Mylar	0.0039	50V	CQMA 392K 50
C131	Electrolytic	10	16V	CEA 100P 16
C132	Electrolytic	0.47	10V	CSSA R47M 10
C133	Electrolytic	22	10V	CEA 220P 10
C134	Electrolytic	10	25V	CEA 100P 25
C135	Polystyrene	330p	50V	RCE-008

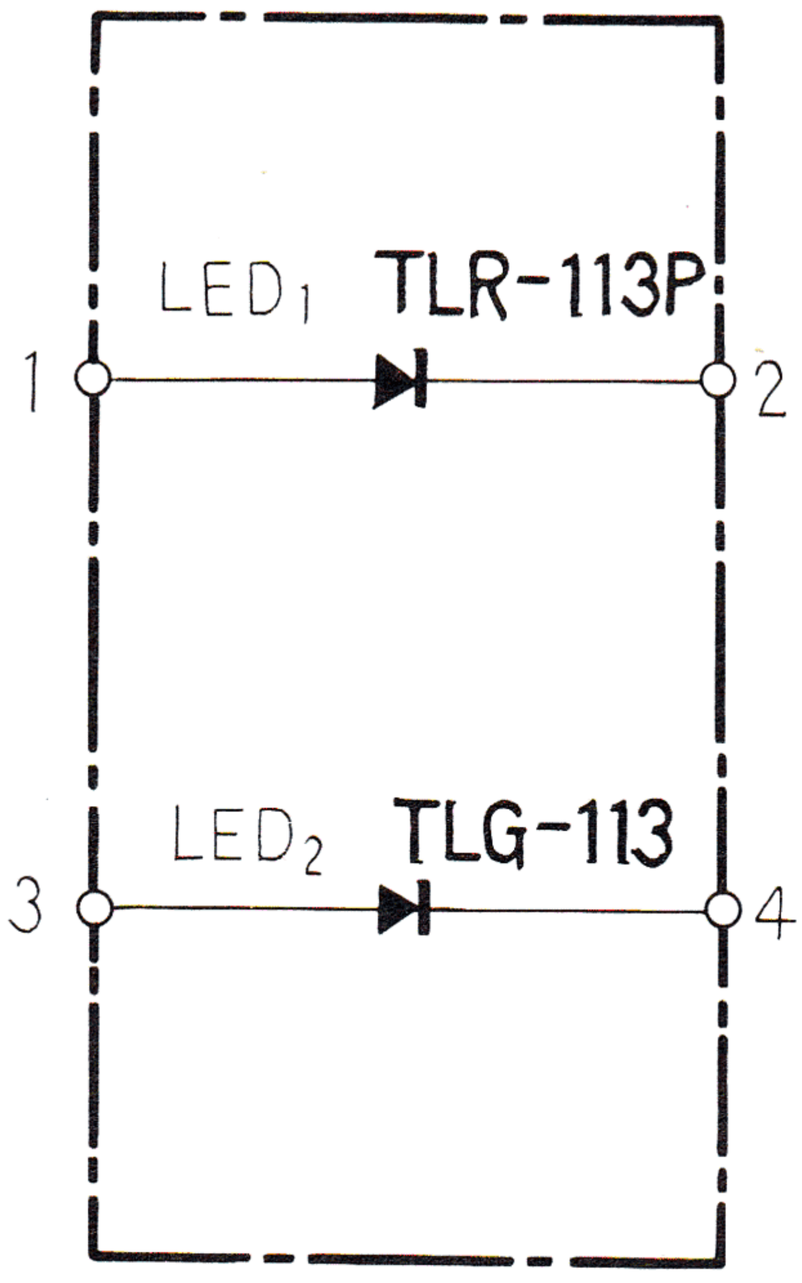
Symbol	Description			Part No.
C136	Mylar	0.047	50V	CQMA 473K 50
C137	Mylar	0.056	50V	CQMA 563K 50
C138	Mylar	0.047	50V	CQMA 473K 50
C139	Mylar	0.047	50V	CQMA 473K 50
C140	Mylar	0.082	50V	CQMA 823K 50
C141	Mylar	0.001	50V	CQMA 102K 50
C142	Mylar	0.018	50V	CQMA 183K 50
C143	Mylar	0.0022	50V	CQMA 222K 50
C201	Electrolytic	10	25V	CEA 100P 25
C202	Electrolytic (NL)	4.7	25V	RCH-017
C203	Polystyrene	820p	50V	RCE-022
C204	Ceramic	100p	50V	CCDSL 101K 50
C205	Ceramic	68p	50V	CCDSL 680K 50
C206	Electrolytic	10	16V	CEA 100P 16
C207	Electrolytic	100	10V	CEA 101P 10
C208	Electrolytic	10	25V	CEA 100P 25V
C209	Electrolytic (NL)	10	25V	RCH-022
C210	Vacancy			.....
C211	Mylar	0.01	50V	CQMA 103K 50
C212	Electrolytic	100	25V	CEA 101P 25
C213	Electrolytic	10	25V	CEA 100P 25
C214	Electrolytic	10	16V	CEA 100P 16
C215	Polystyrene	330p	50V	RCE-008
C216	Ceramic	100p	50V	CCDSL 101K 50
C217	Electrolytic	47	10V	CEA 470P 10
C218	Ceramic	33p	50V	CCDSL 330K 50
C219	Electrolytic	10	25V	CEA 100P 25
C220	Electrolytic	100	10V	CEA 101P 10
C221	Electrolytic	22	25V	CEA 220P 25
C222	Electrolytic	10	16V	CEA 100P 16
C223	Electrolytic	1	50V	CEA 010P 50
C224	Electrolytic	1	50V	CEA 010P 50
C225	Electrolytic	10	25V	CEA 100P 25
C226	Electrolytic	10	16V	CEA 100P 16
C227	Ceramic	33p	50V	CCDSL 330K 50
C228	Electrolytic	10	25V	CEA 100P 25
C229	Polystyrene	120p	50V	RCE-009
C230	Mylar	0.0039	50V	CQMA 392K 50
C231	Electrolytic	10	16V	CEA 100P 16
C232	Electrolytic	0.47	10V	CSSA R47M 10
C233	Electrolytic	22	10V	CEA 220P 10
C234	Electrolytic	10	25V	CEA 100P 25
C235	Polystyrene	330p	50V	RCE-008
C236	Mylar	0.047	50V	CQMA 473K 50
C237	Mylar	0.056	50V	CQMA 563K 50
C238	Mylar	0.047	50V	CQMA 473K 50
C239	Mylar	0.047	50V	CQMA 473K 50
C240	Mylar	0.082	50V	CQMA 823K 50
C241	Mylar	0.001	50V	CQMA 102K 50
C242	Mylar	0.018	50V	CQMA 183K 50
C243	Mylar	0.0022	50V	CQMA 222K 50

Symbol	Description			Part No.
C301	Mylar	0.01	50V	CQMA 103K 50
C302	Polypropylene	0.022	50V	CQPA 223K 50
C303	Ceramic	100p	50V	CCDSL 101K 50
C304	Ceramic	100p	50V	CCDSL 101K 50
C305	Mylar	0.033	50V	CQMA 333K 50
C306	Electrolytic	4.7	35V	CEA 4R7P 35
C307	Mylar	0.01	50V	CQMA 103K 50
C308	Electrolytic	10	25V	CEA 100P 25
C309	Electrolytic	100	16V	CEA 101P 16
C310	Electrolytic	100	16V	CEA 101P 16
C311	Electrytic	10	16V	CEA 100P 16
C312	Mylar	0.047	50V	CQMA 473K 50
C313	Mylar	0.18	50V	CQMA 184K 50

OTHERS

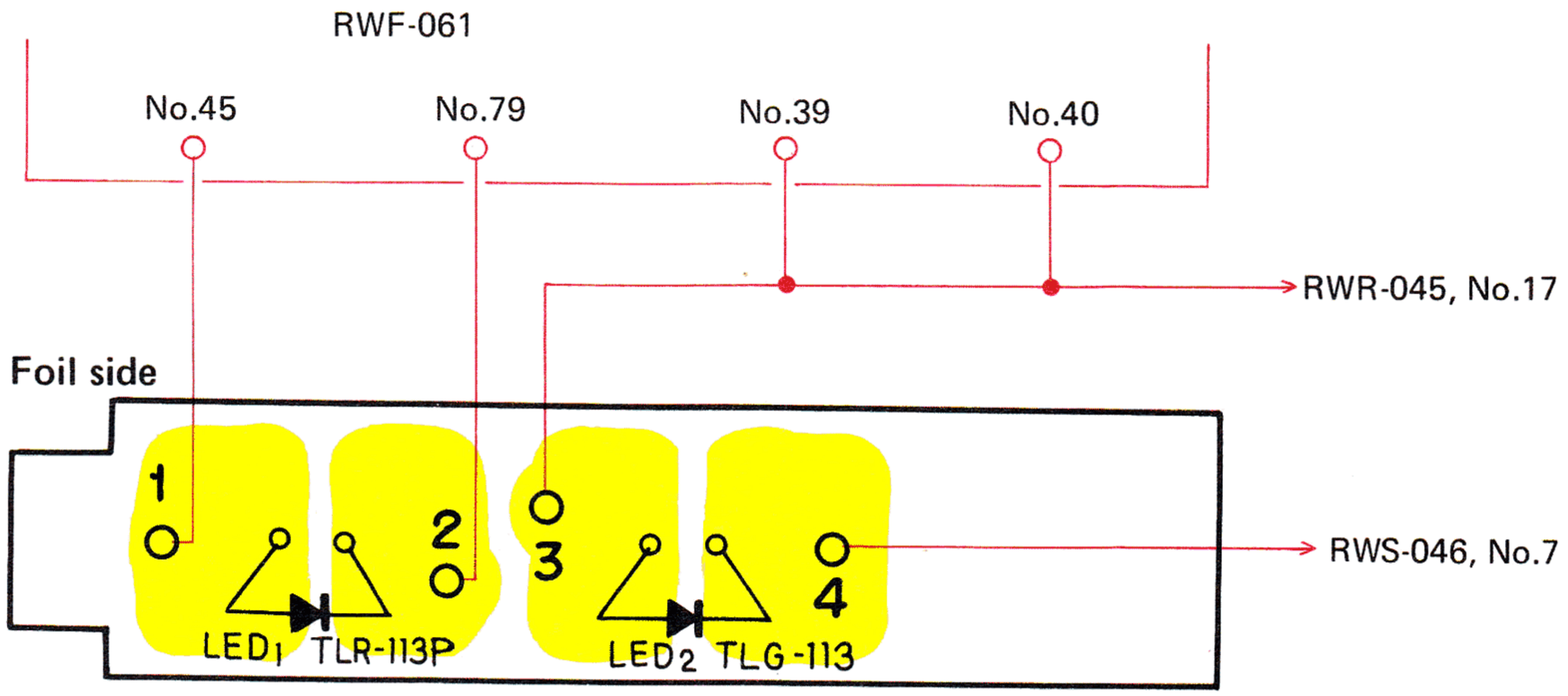
Symbol	Description	Part No.
S2	Slide switch (REC/PB)	RSH-011
	Dolby assembly	RWX-138
	Shield case	M15-414

11.4 INDICATOR ASSEMBLY (RWX-130)

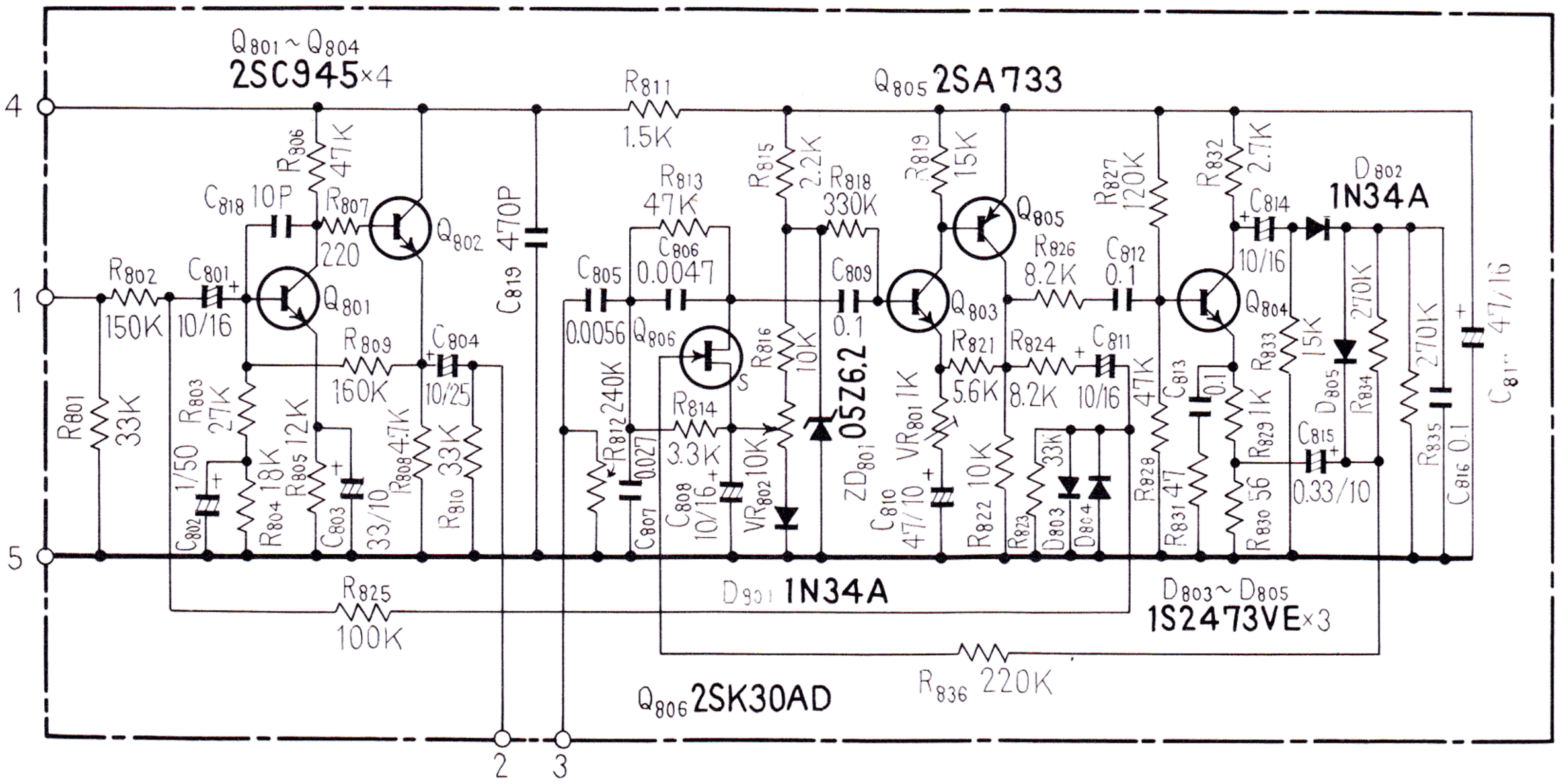


Parts List of Indicator Assembly (RWX-130)

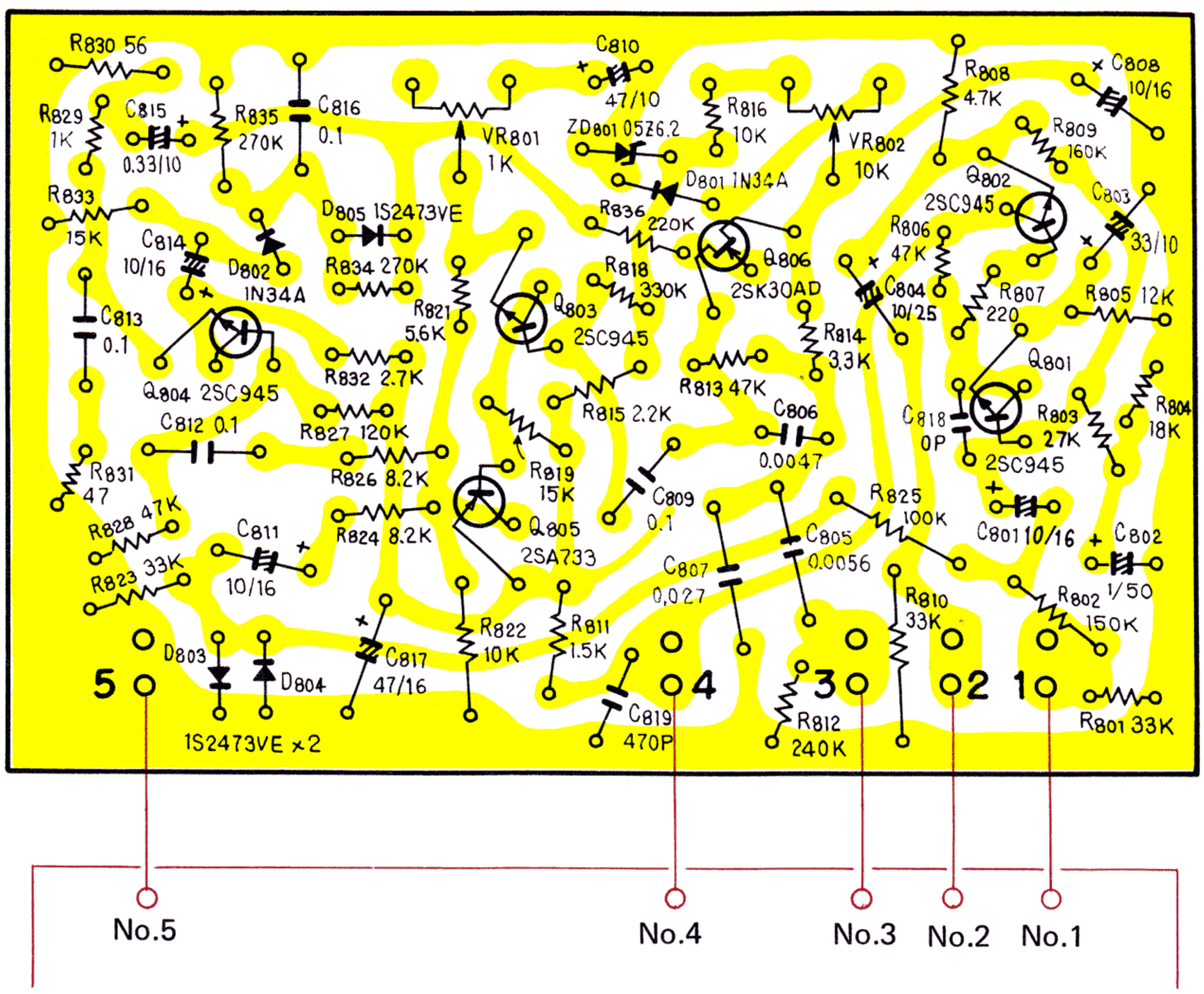
Symbol	Description	Part No.
LED1	Light emitting diode (red)	TLR-113P
LED2	Light emitting diode (green)	TLG-113
	Holder	REB-179



11.5 DOLBY ASSEMBLY (RWX-138)



Foil side



RWF-061

Parts List of Dolby Assembly (RWX-138)

SEMICONDUCTORS

Symbol	Description	Part No.
Q801	Transistor	2SC945-P or Q (2SC828-R)
Q802	Transistor	2SC945-P or Q (2SC828-R)
Q803	Transistor	2SC945-P or Q (2SC828-R)
Q804	Transistor	2SC945-P or Q (2SC828-R)
Q805	Transistor	2SA733-P or Q (2SA564-R)
Q806	FET	2SK30AD-2
ZD801	Zener diode	05Z6.2
D801	Diode	1N34A or OA90
D802	Diode	1N34A or OA90
D803	Diode	1S2473VE
D804	Diode	1S2473VE
D805	Diode	1S2473VE

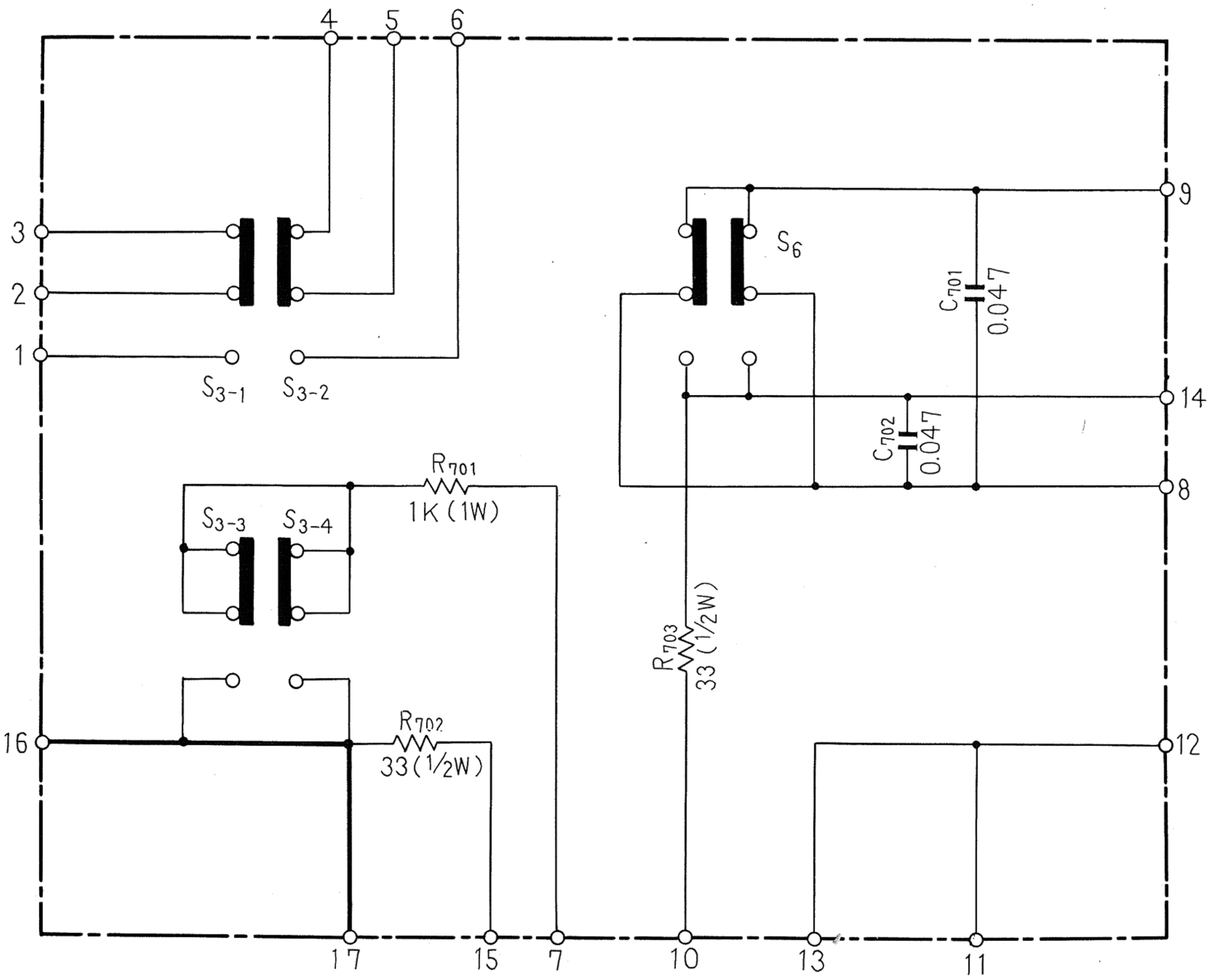
RESISTORS

Symbol	Description		Part No.
VR801	Semi-fixed	1k-B	RCP-033
VR802	Semi-fixed	10k-B	RCP-032
R801	Carbon film	33k	RD¼VS 333J
R802	Carbon film	150k	RD¼VS 154J
R803	Carbon film	27k	RD¼VS 273J
R804	Carbon film	18k	RD¼VS 183J
R805	Carbon film	12k	RD¼VS 123J
R806	Carbon film	47k	RD¼VS 473J
R807	Carbon film	220	RD¼VS 221J
R808	Carbon film	4.7k	RD¼VS 472J
R809	Carbon film	160k	RD¼VS 164J
R810	Carbon film	33k	RD¼VS 333J
R811	Carbon film	1.5k	RD¼PSF 152J
R812	Carbon film	240k	RD¼VS 244J
R813	Carbon film	47k	RD¼VS 473J
R814	Carbon film	3.3k	RD¼VS 332J
R815	Carbon film	2.2k	RD¼VS 222J
R816	Carbon film	10k	RD¼VS 103J
R817	Vacancy		.....
R818	Carbon film	330k	RD¼VS 334J
R819	Carbon film	15k	RD¼VS 153J
R820	Vacancy		.....
R821	Carbon film	5.6k	RD¼VS 562J
R822	Carbon film	10k	RD¼VS 103J
R823	Carbon film	33k	RD¼VS 333J
R824	Carbon film	8.2k	RD¼VS 822J
R825	Carbon film	100k	RD¼VS 104J
R826	Carbon film	8.2k	RD¼VS 822J
R827	Carbon film	120k	RD¼VS 124J
R828	Carbon film	47k	RD¼VS 473J
R829	Carbon film	1k	RD¼VS 102J
R830	Carbon film	56	RD¼VS 560J
R831	Carbon film	47	RD¼VS 470J
R832	Carbon film	2.7k	RD¼VS 272J
R833	Carbon film	15k	RD¼VS 153J
R834	Carbon film	270k	RD¼VS 274J
R835	Carbon film	270k	RD¼VS 274J
R836	Carbon film	220k	RD¼VS 224J

CAPACITORS

Symbol	Description			Part No.
C801	Electrolytic	10	16V	CEA 100P 16
C802	Electrolytic	1	50V	CEA 010P 50
C803	Electrolytic	33	10V	CEA 330P 10
C804	Electrolytic	10	25V	CEA 100P 25
C805	Mylar	0.0056	50V	CQMA 562K 50
C806	Mylar	0.0047	50V	CQMA 472K 50
C807	Mylar	0.027	50V	CQMA 273K 50
C808	Electrolytic	10	16V	CEA 100P 16
C809	Mylar	0.1	50V	CQMA 104K 50
C810	Electrolytic	47	10V	CEA 470P 10
C811	Electrolytic	10	16V	CEA 100P 16
C812	Mylar	0.1	50V	CQMA 104K 50
C813	Mylar	0.1	50V	CQMA 104K 50
C814	Electrolytic	10	16V	CEA 100P 16
C815	Electrolytic	0.33	10	CSSA R33M 10
C816	Mylar	0.1	50V	CQMA 104K 50
C817	Electrolytic	47	16V	CEA 470P 16
C818	Ceramic	10p	50V	CCDSL 100K 50
C819	Ceramic	470p	50V	CKDYB 471K 50

11.6 SWITCH ASSEMBLY (RWS-046)



S_3 : DOLBY SW (OFF POSI.)
S_6 : TAPE SW (STD POSI.)

Parts List of Switch Assembly (RWS-046)

SWITCHES

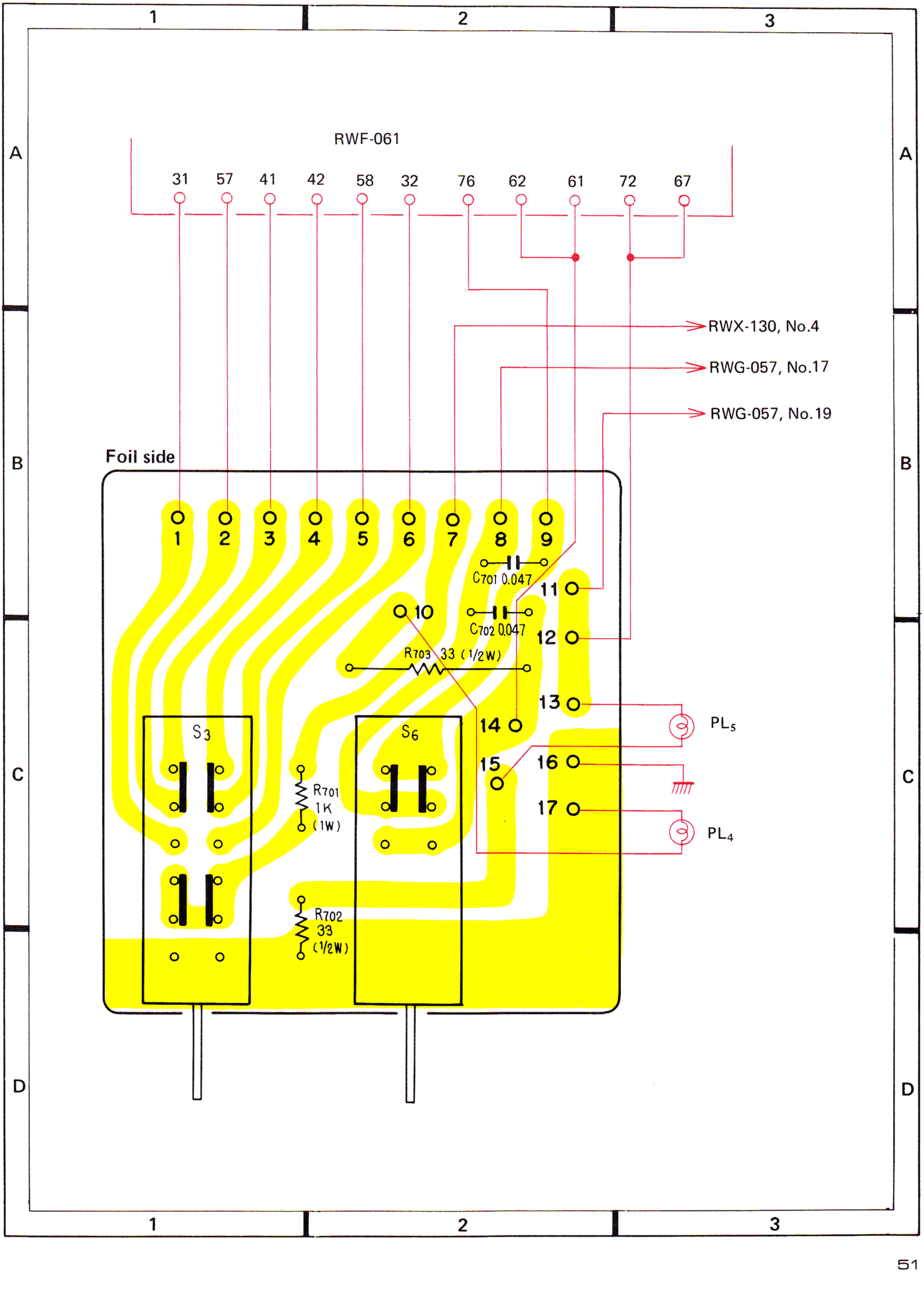
Symbol	Description	Part No.
S3	Lever switch (DOLBY NR)	RSK-031
S6	Lever switch (TAPE SELECTOR)	RSK-032

RESISTOR

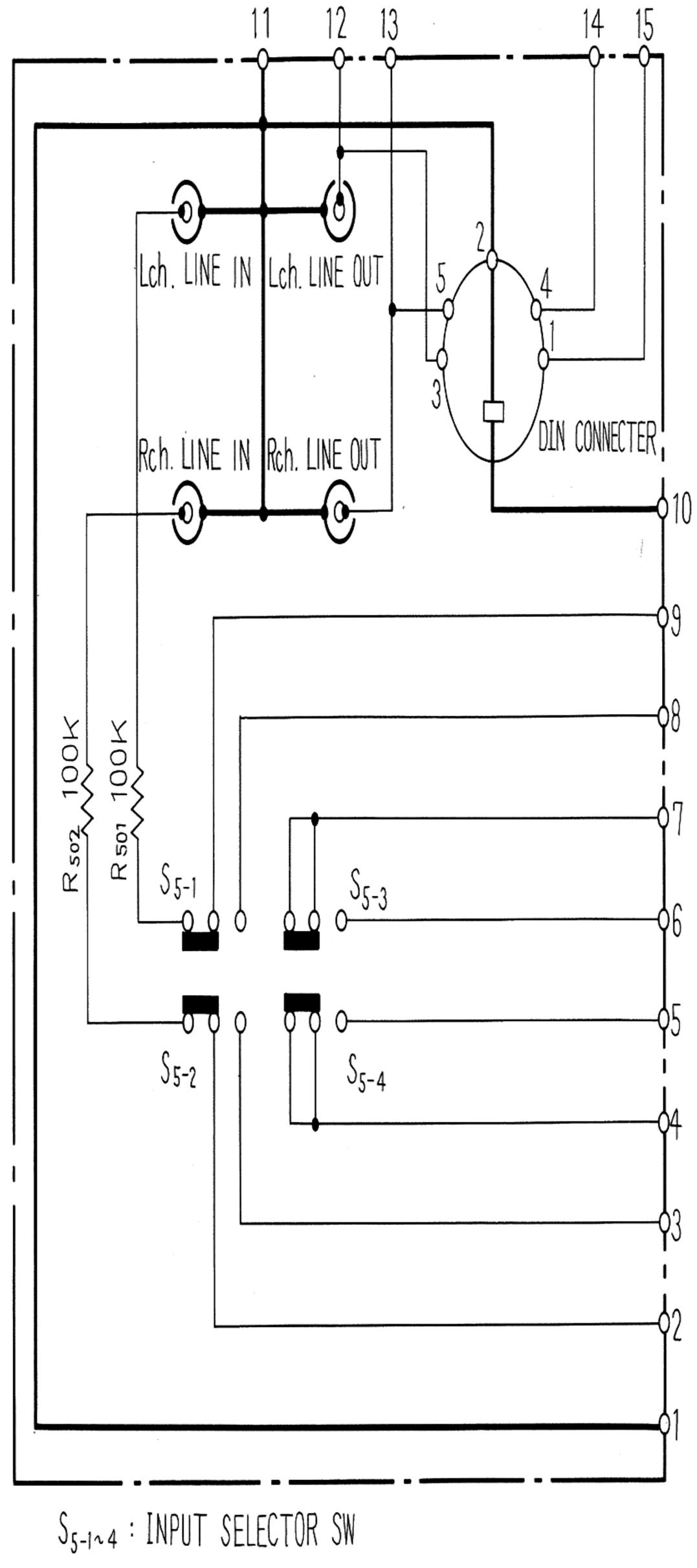
Symbol	Description			Part No.
R701	Metal oxide	1k	1W	RS1PS 102J
R702	Carbon film	33	½W	RD½PSF 330J
R703	Carbon film	33	½W	RD½PSF 330J

CAPACITORS

Symbol	Description			Part No.
C701	Mylar	0.047	50V	CQMA 473K 50
C702	Mylar	0.047	50V	CQMA 473K 50

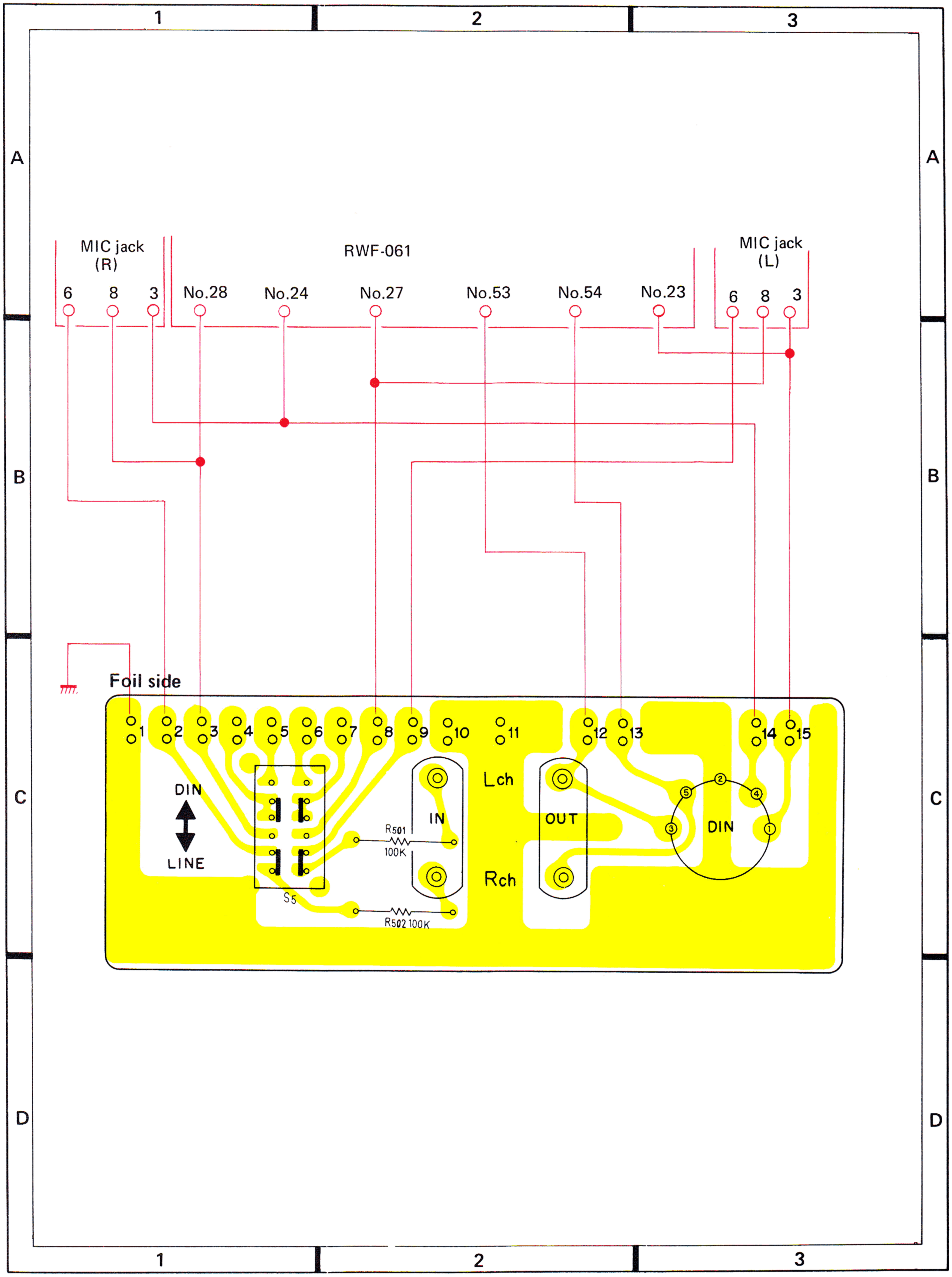


11.7 JACK ASSEMBLY (RWX-128)

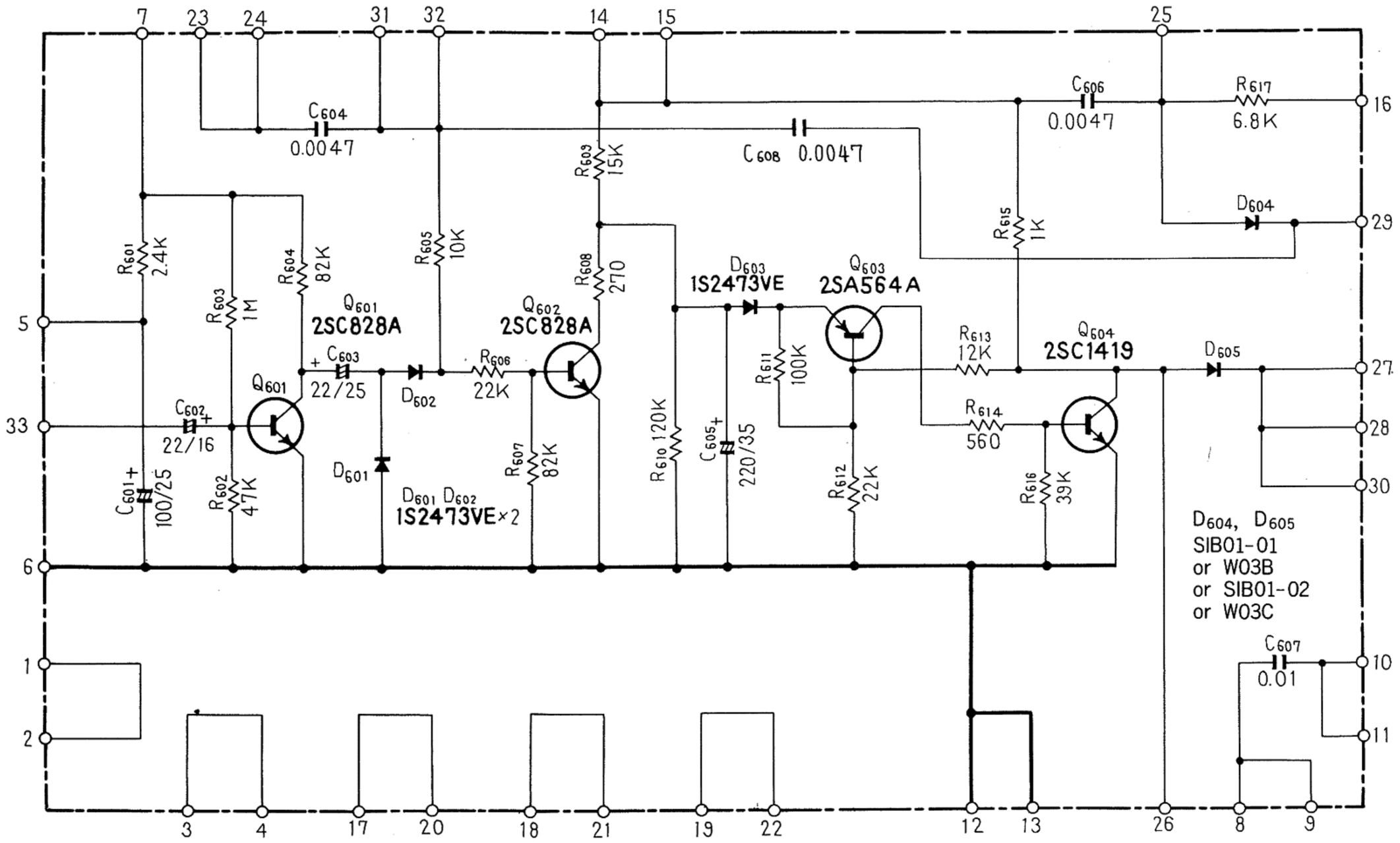


Parts List of Jack Assembly (RWX-128)

Symbol	Description	Part No.
S5	Slide switch (INPUT SELECTOR)	RSH-021
R501	Carbon film resistor 100k	RD¼PS 104J
R502	Carbon film resistor 100k	RD¼PS 104J
	Terminal assembly (LINE/DIN)	RKB-010



11.8 CONTROL ASSEMBLY (RWG-057)



Parts List of Control Assembly (RWG-057)

SEMICONDUCTORS

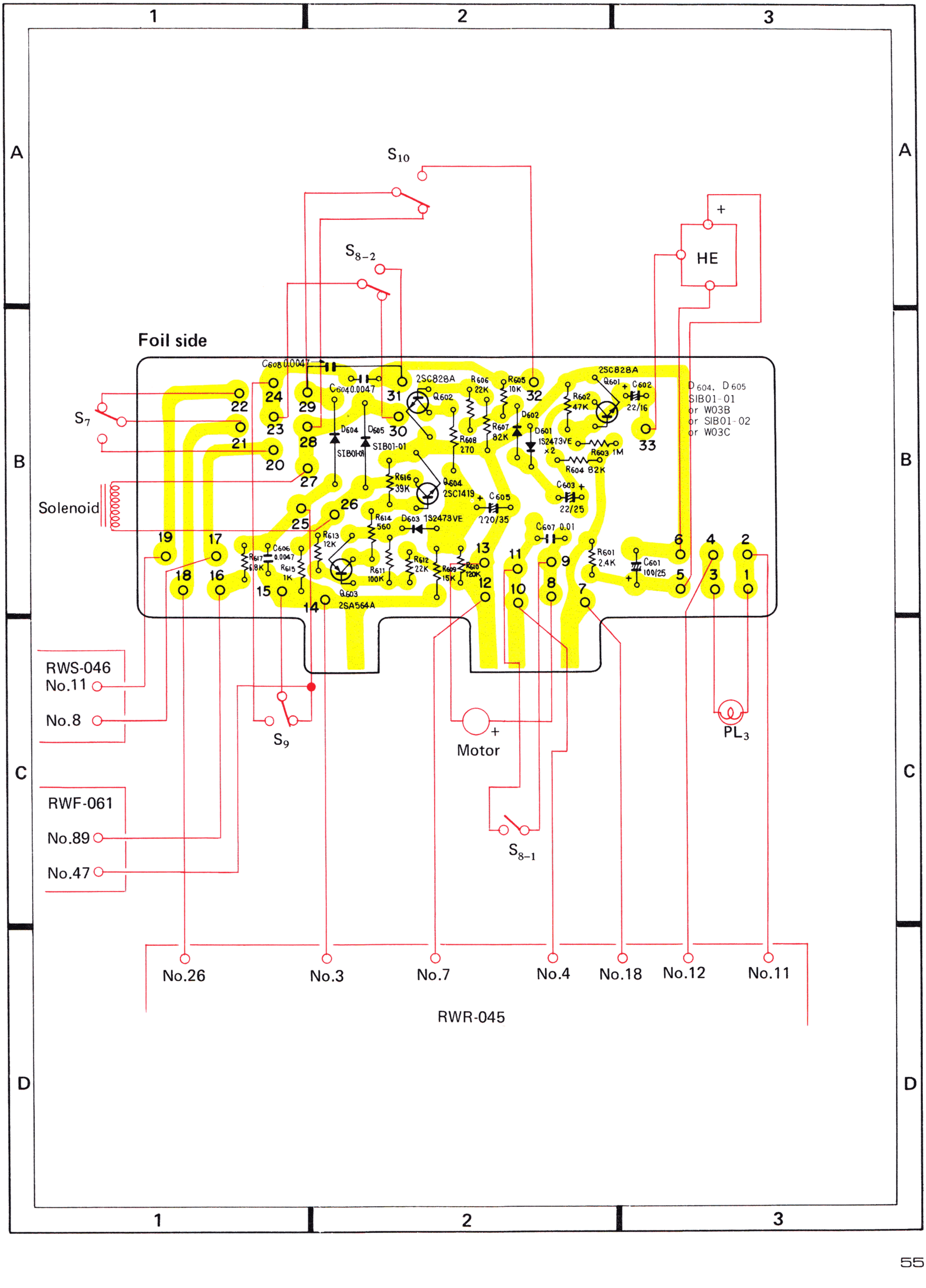
Symbol	Description	Part No.
Q601	Transistor	2SC 828A-R or S
Q602	Transistor	2SC 828A-R or S
Q603	Transistor	2SA 564A-R or S
Q604	Transistor	2SC 1419-C or 2SC790-Y
D601	Diode	1S2473VE
D602	Diode	1S2473VE
D603	Diode	1S2473VE
D604	Diode	SIB01-01 (W03B) (SIB01-02) (W03C)
D605	Diode	SIB01-01 (W03B) (SIB01-02) (W03C)

RESISTORS

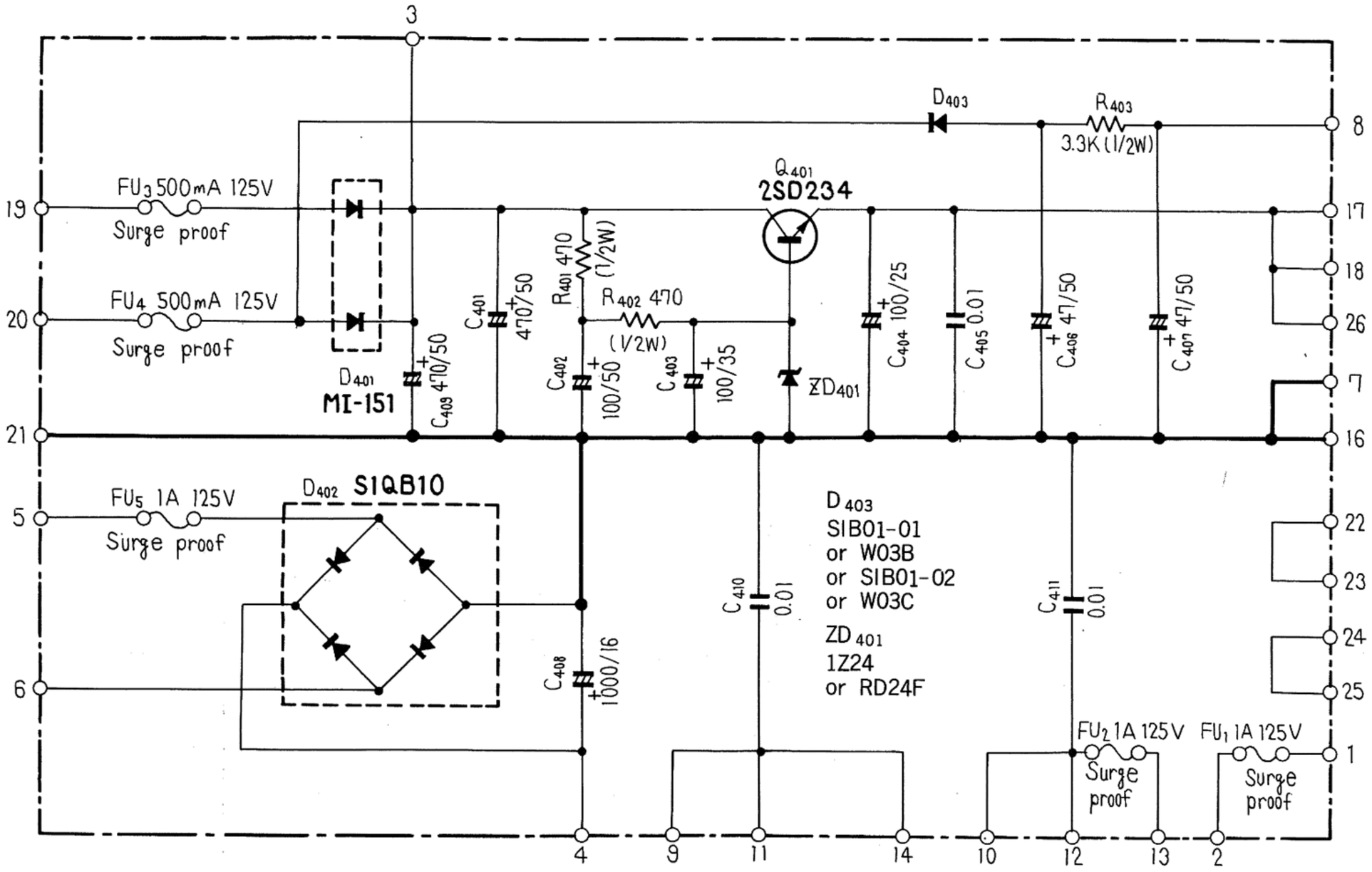
Symbol	Description		Part No.
R601	Carbon film	2.4k	RD¼VS 242J
R602	Carbon film	47k	RD¼VS 473J
R603	Carbon film	1M	RD¼VS 105J
R604	Carbon film	82k	RD¼VS 823J
R605	Carbon film	10k	RD¼VS 103J
R606	Carbon film	22k	RD¼VS 223J
R607	Carbon film	82k	RD¼VS 823J
R608	Carbon film	270	RD¼VS 271J
R609	Carbon film	15k	RD¼VS 153J
R610	Carbon film	120k	RD¼VS 124J
R611	Carbon film	100k	RD¼VS 104J
R612	Carbon film	22k	RD¼VS 223J
R613	Carbon film	12k	RD¼VS 123J
R614	Carbon film	560	RD¼VS 561J
R615	Carbon film	1k	RD¼VS 102J
R616	Carbon film	39k	RD¼VS 393J
R617	Carbon film	6.8k	RD¼VS 682J

CAPACITORS

Symbol	Description			Part No.
C601	Electrolytic	100	25V	CEA 101P 25
C602	Electrolytic	22	16V	CEA 220P 16
C603	Electrolytic	22	25V	CEA 220P 25
C604	Mylar	0.0047	50V	CQMA 472K 50
C605	Electrolytic	220	35V	CEA 221P 35
C606	Mylar	0.0047	50V	CQMA 472K 50
C607	Mylar	0.01	50V	CQMA 103K 50
C608	Mylar	0.0047	50V	CQMA 472K 50



11.9 POWER SUPPLY ASSEMBLY (RWR-045)



Parts List of Power Supply Assembly (RWR-045)

SEMICONDUCTORS

Symbol	Description	Part No.
Q401	Transistor	2SD234-O or Y
ZD401	Zener diode	1Z24 or RD24F
D401	Rectifier stack	MI151
D402	Bridge rectifier	S1QB10
D403	Diode	SIB01-01 (W03B) (SIB01-02) (W03C)

RESISTORS

Symbol	Description			Part No.
R401	Carbon film	470	½W	RD½PSF 471J
R402	Carbon film	470	½W	RD½PSF 471J
R403	Carbon film	3.3k	½W	RD½PS 332J

CAPACITORS

Symbol	Description			Part No.
C401	Electrolytic	470	50V	CEA 471P 50
C402	Electrolytic	100	50V	CEA 101P 50
C403	Electrolytic	100	35V	CEA 101P 35
C404	Electrolytic	100	25V	CEA 101P 25
C405	Ceramic	0.01	50V	CKDYF 103Z 50
C406	Electrolytic	47	50V	CEA 470P 50
C407	Electrolytic	47	50V	CEA 470P 50
C408	Electrolytic	1000	16V	CEA 102P 16
C409	Electrolytic	470	50V	CEA 471P 50
C410	Ceramic	0.01	50V	CKDYF 103Z 50
C411	Ceramic	0.01	50V	CKDYF 103Z 50

OTHERS

Symbol	Description		Part No.
FU1	Fuse	1A	REK-051
FU	Fuse	1A	REK-051
FU3	Fuse	500mA	REK-048
FU4	Fuse	500mA	REK-048
FU5	Fuse	1A	REK-051
	Fuse clip		RKR-017
	Heat sink		RNF-008

RWG-057

No.10 No.12 No.14 No.18 No.7 No.4 No.2

PL_1 PL_2

Foil side

D402 SIQB10

C405 0.01 C411 0.01 C410 0.01

C408 1000/16

C404 100/25

C407 47/50

C409 470/50

C401 470/50

C406 47/50

C402 100/50

ZD401 IZ24 or RD24F

C403 100/35

R401 470(1/2W)

R402 470(1/2W)

R403 3.3K (1/2W)

D403 SIB01-01 or SIB01-02 or W03B or W03C

Q401 2SD234

D401 MI-151

FU_1 125V 1A Surge proofe

FU_2 125V 1A Surge proof

FU_3 125V 500mA Surge proof

FU_4 125V 500mA Surge proof

FU_5 125V 1A Surge proof

4 16 7 21 18 11 12 17 9 10 26 8 3 6 5 14 13 20 19 2 25 24 23 22 1

GRN GRN BLU BLU RED BLK RED YEL WHT

S_1

CR_1

AC POWER

→ RWF-061, No.39

→ RWF-061, No.40

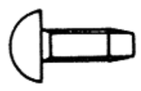
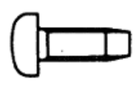
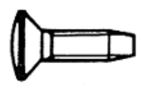
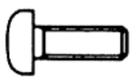
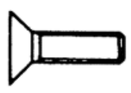
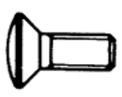
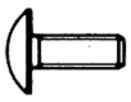
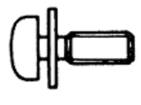
→ RWX-130, No.3

→ RWF-061, No.70

12. EXPLODED VIEWS

NOMENCLATURE OF SCREWS, WASHERS AND NUTS

The following symbols stand for screws, washers and nuts as shown in exploded view.

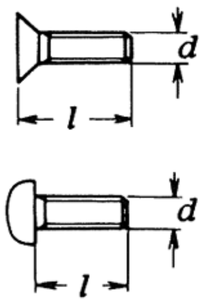
Symbol	Description	Shape
RT	Brazier head tapping screw	
PT	Pan head tapping screw	
BT	Binding head tapping screw	
CT	Countersunk head tapping screw	
TT	Truss head tapping screw	
OCT	Oval countersunk head tapping screw	
PM	Pan head machine screw	
CM	Countersunk head machine screw	
OCM	Oval countersunk head machine screw	
TM	Truss head machine screw	
BM	Binding head machine screw	
PSA	Pan head screw with spring lock washer	
PSB	Pan head screw with spring lock washer and flat washer	
PSF	Pan head screw with flat washer	

Symbol	Description	Shape
EW	E type washer	
FW	Flat washer	
SW	Spring lock washer	
N	Nut	
WN	Washer faced nut	
ITW	Internal toothed lock washer	
OTW	Outernal toothed lock washer	
SC	Slotted set screw (Cone point)	
SF	Slotted set screw (Flat point)	
HS	Hexagon socket headless set screw	
OCW	Oval countersunk head wood screw	
CW	Countersunk head wood screw	
RW	Round head wood screw	

EXAMPLE

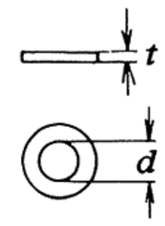
PM · 3x8

- 3 — diameter in mm (d)
- 8 — length in mm (l)
- PM — Symbol

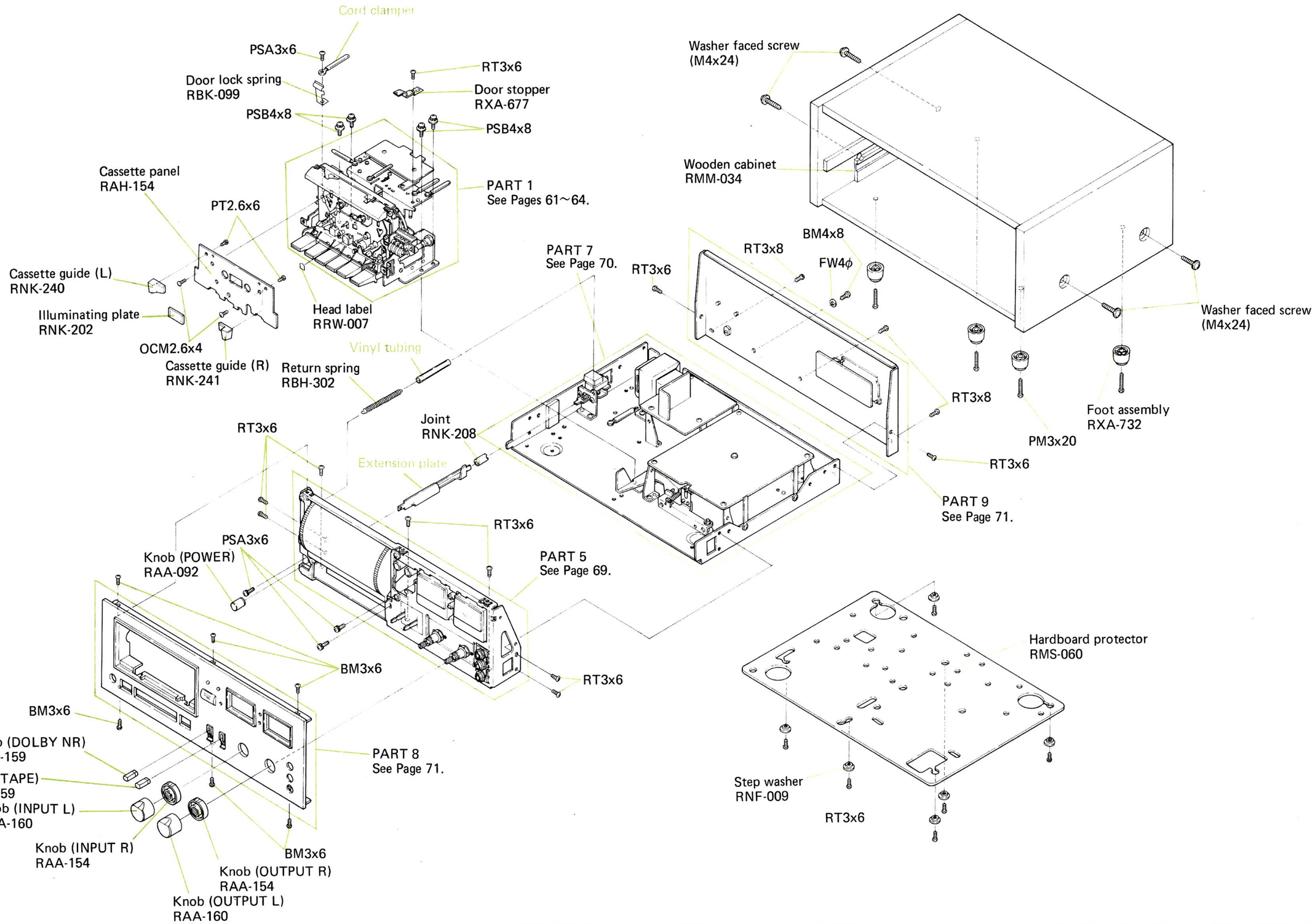


FW · 9ϕ x 1^{t}

- 9ϕ — diameter in mm (d)
- 1^{t} — thickness in mm (t)
- FW — Symbol

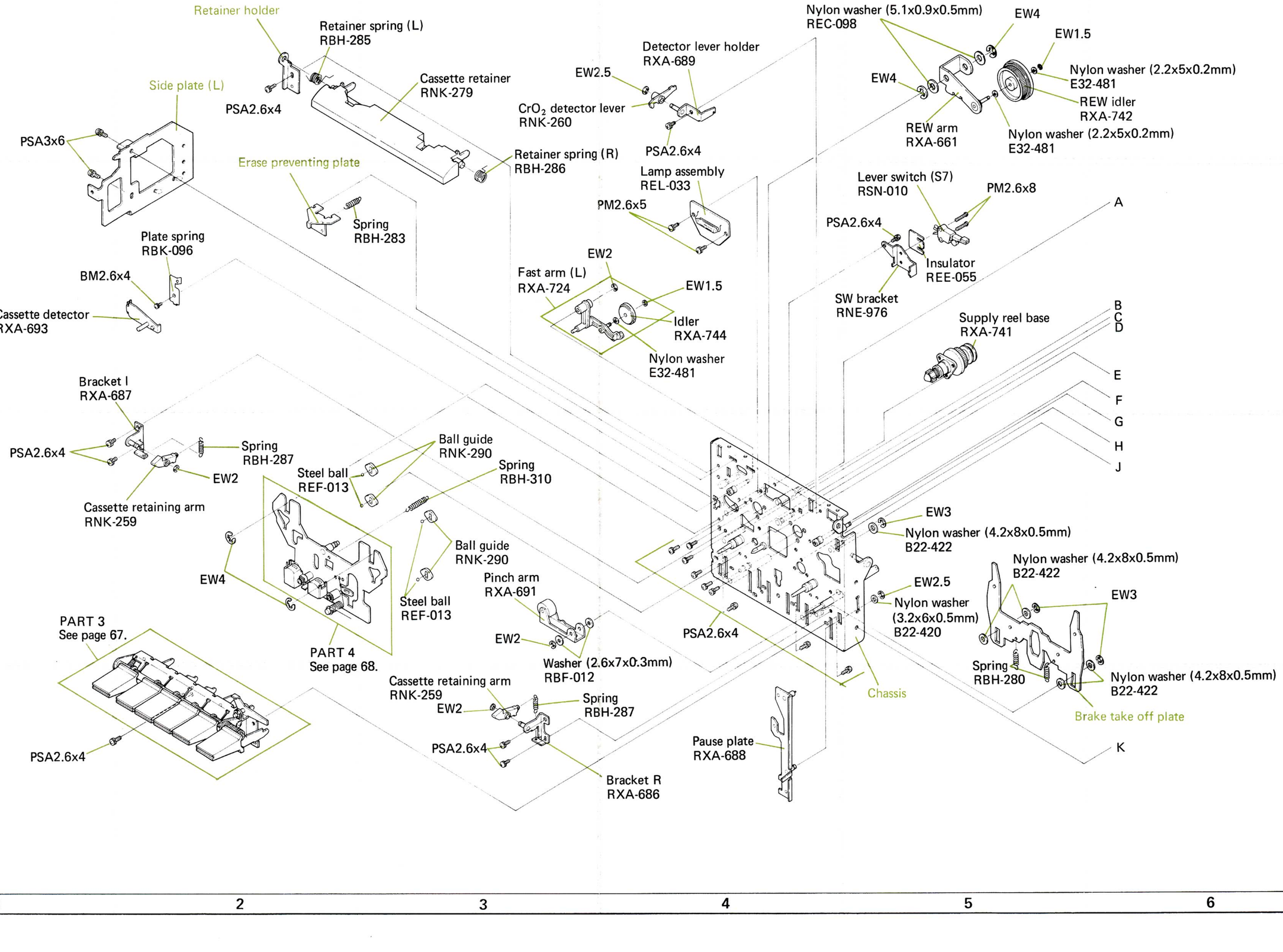


NOTE:
Parts indicated in green type cannot be supplied.



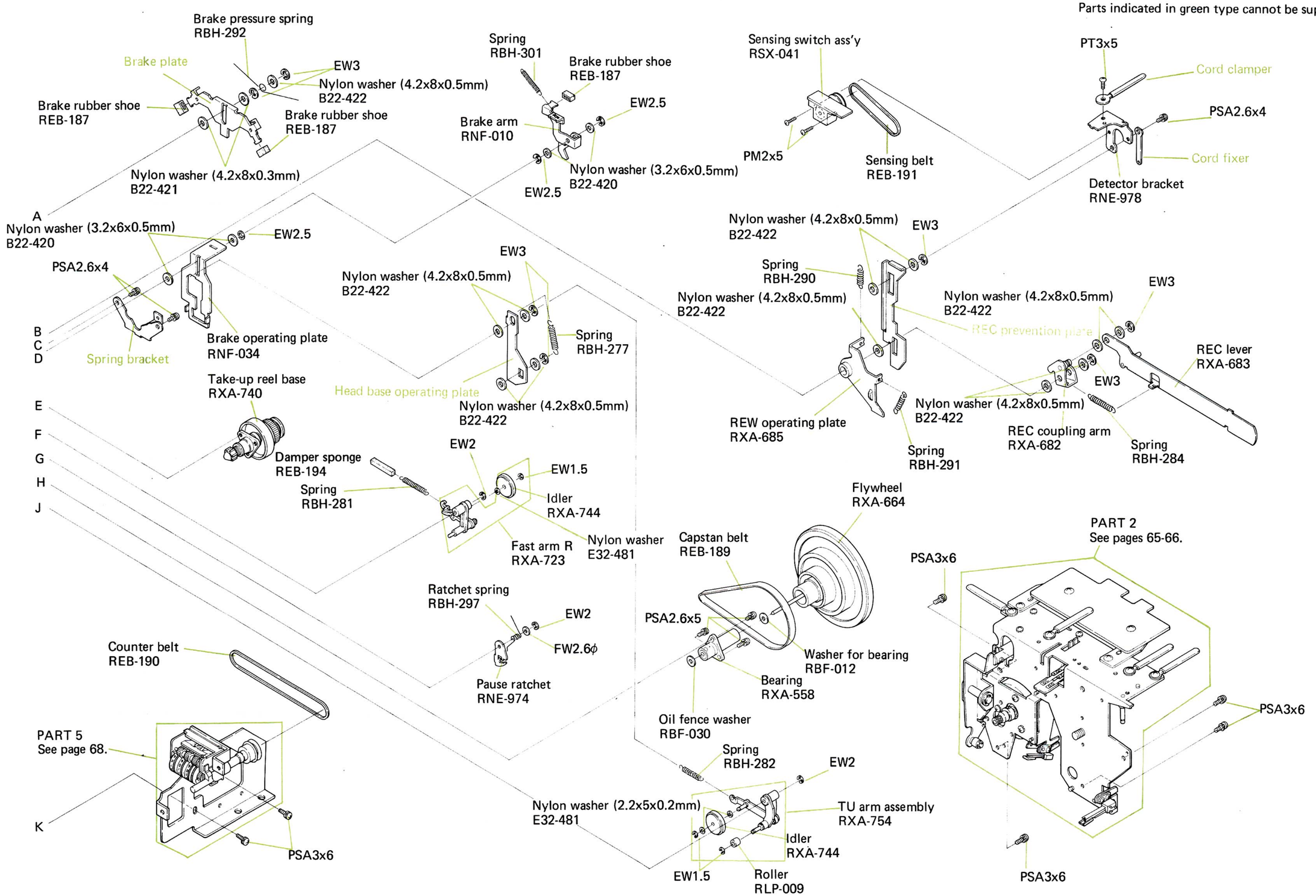
Part 1-1

NOTE:
Parts indicated in green type cannot be supplied.



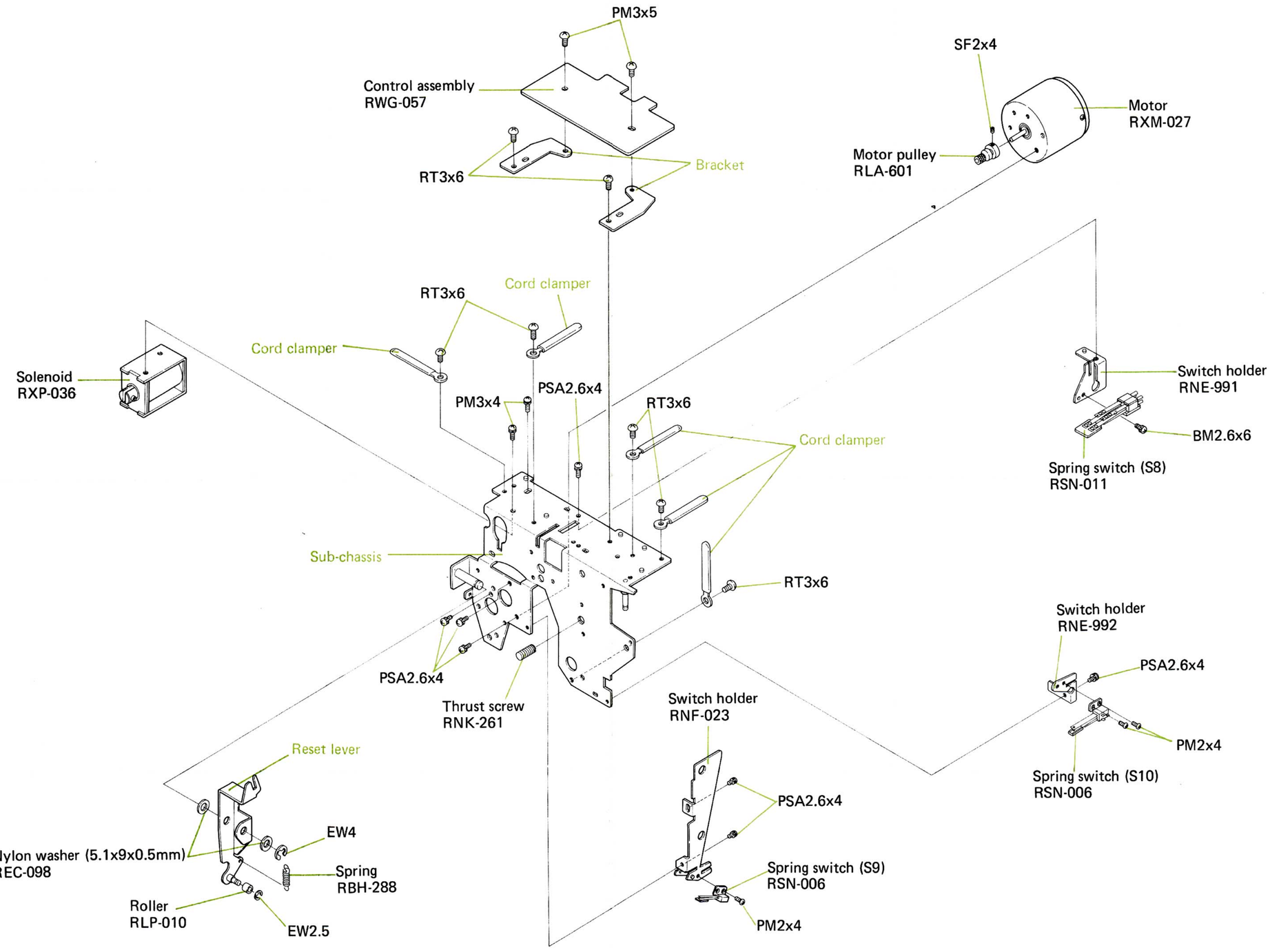
Part 1-2

NOTE:
Parts indicated in green type cannot be supplied.



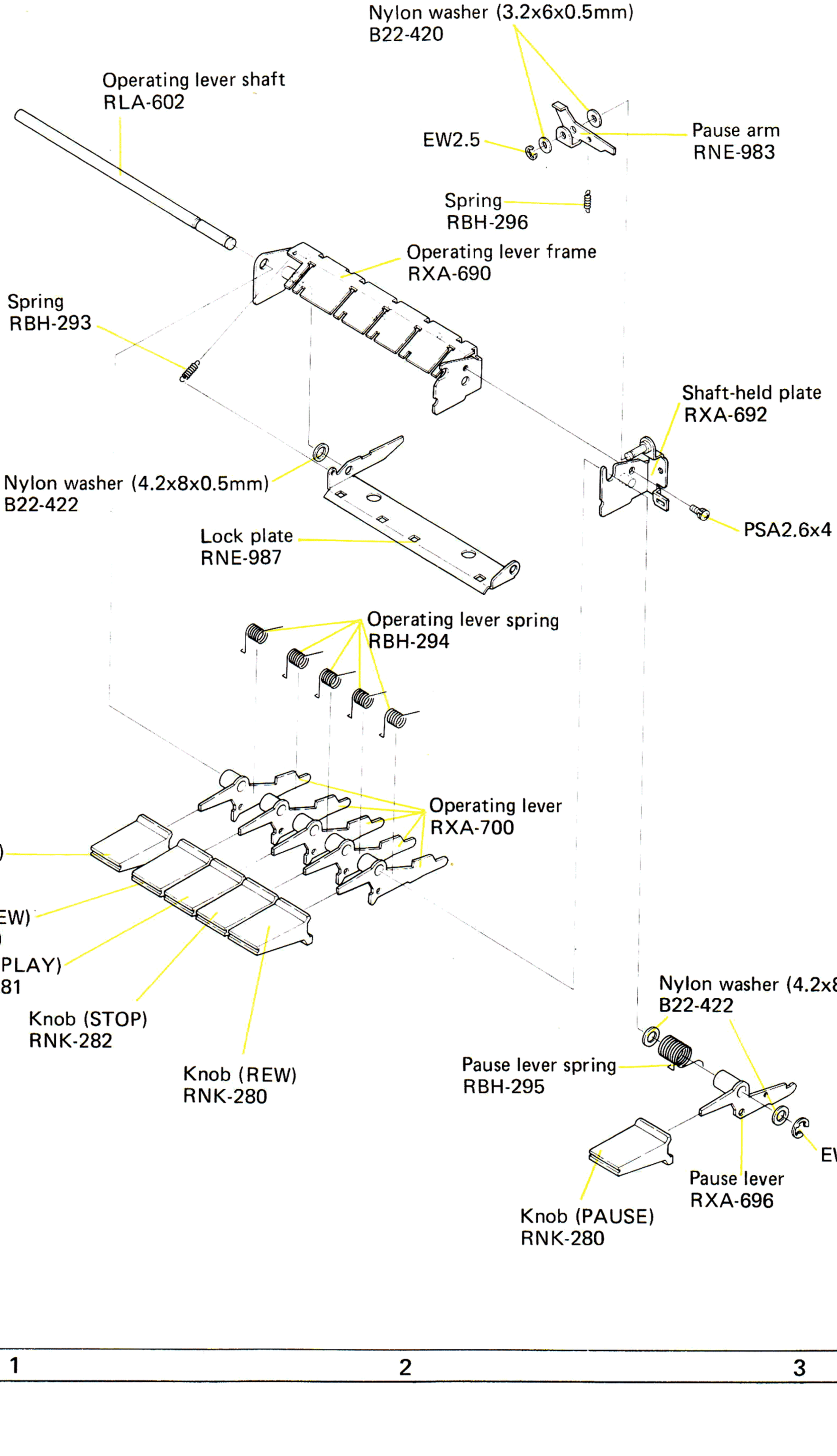
Part 2

NOTE:
Parts indicated in green type cannot be supplied.



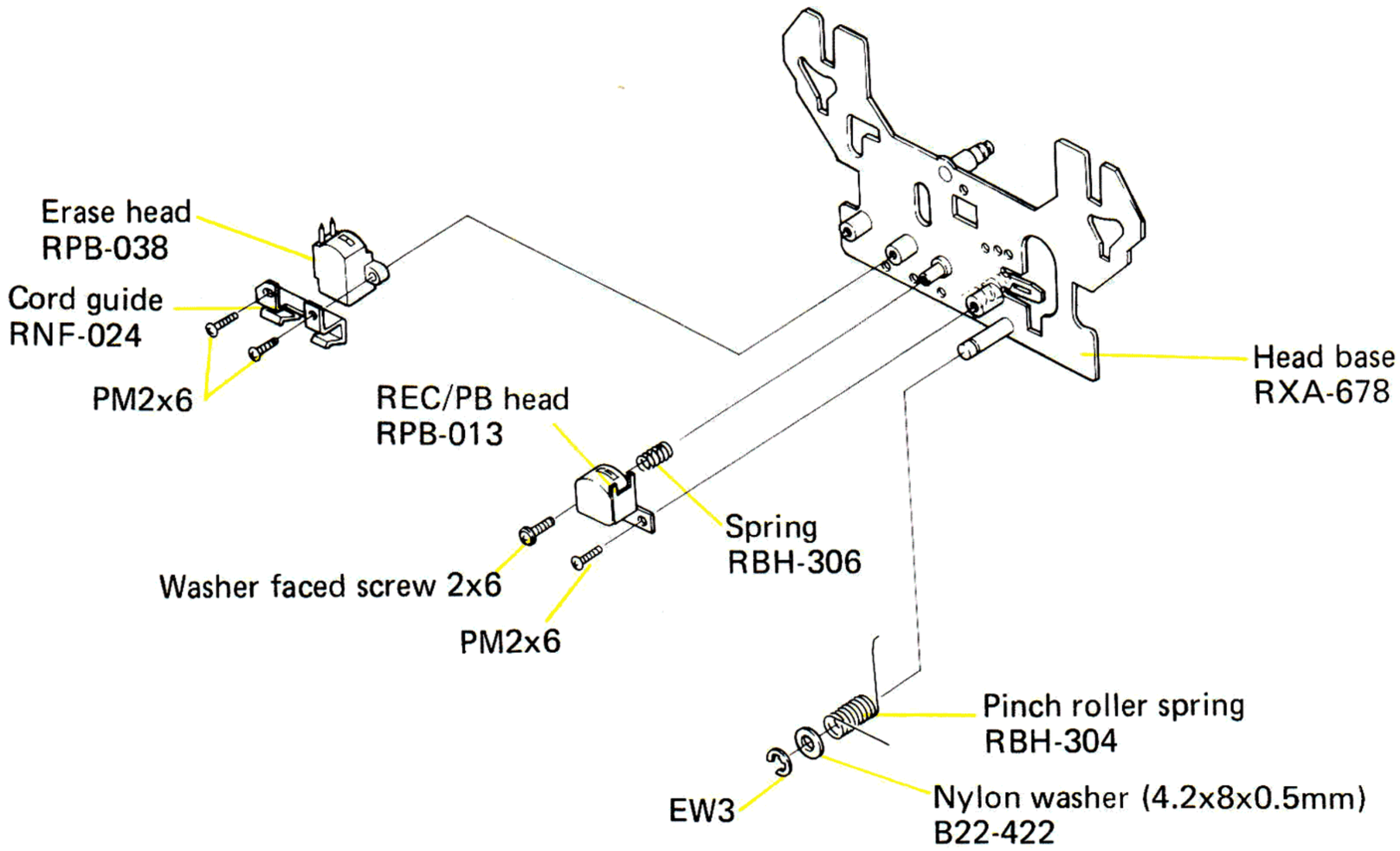
Part 3

NOTE:
Parts indicated in green type cannot be supplied.

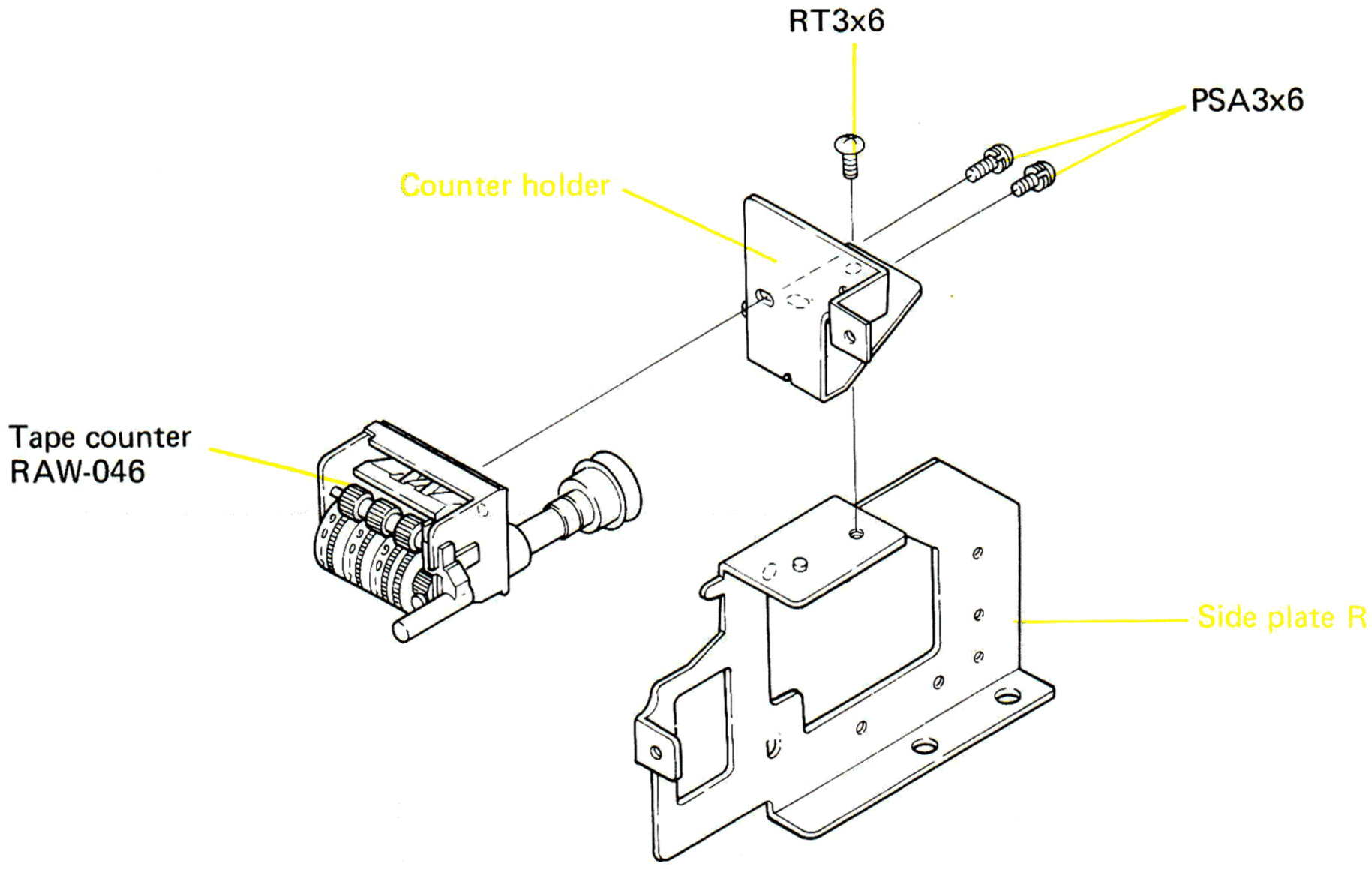


Part 4

NOTE:
Parts indicated in green type cannot be supplied.

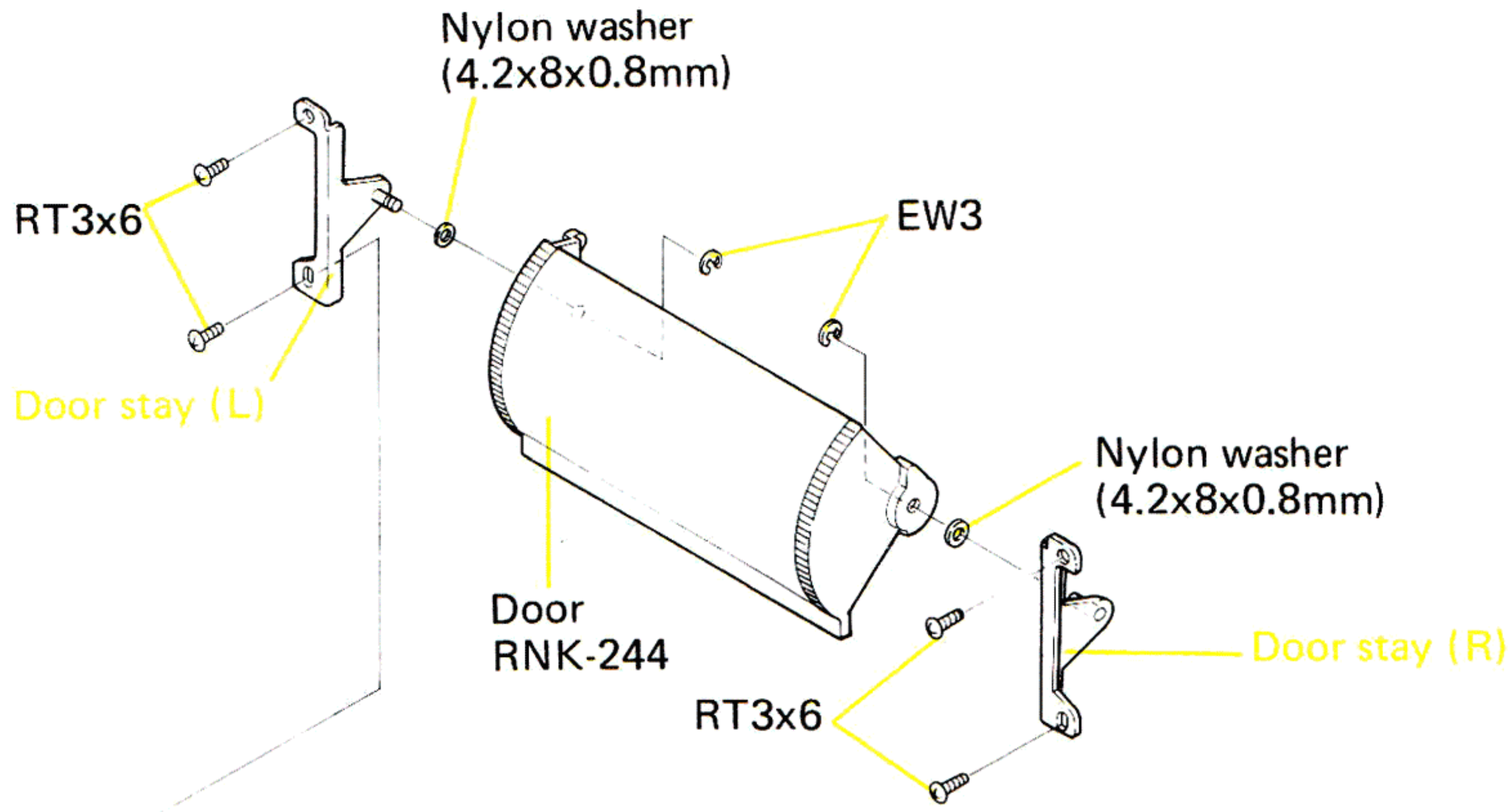


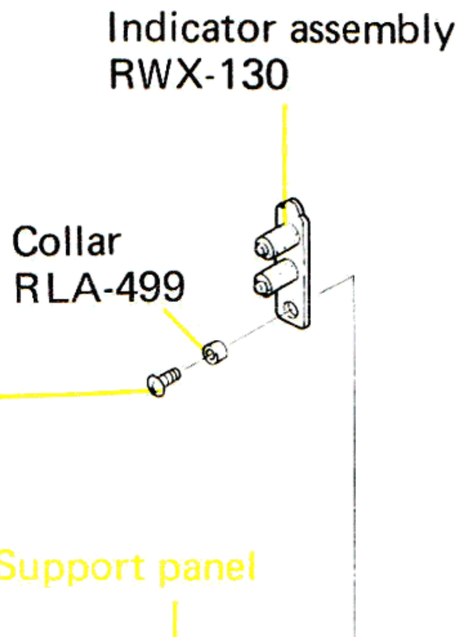
Part 5

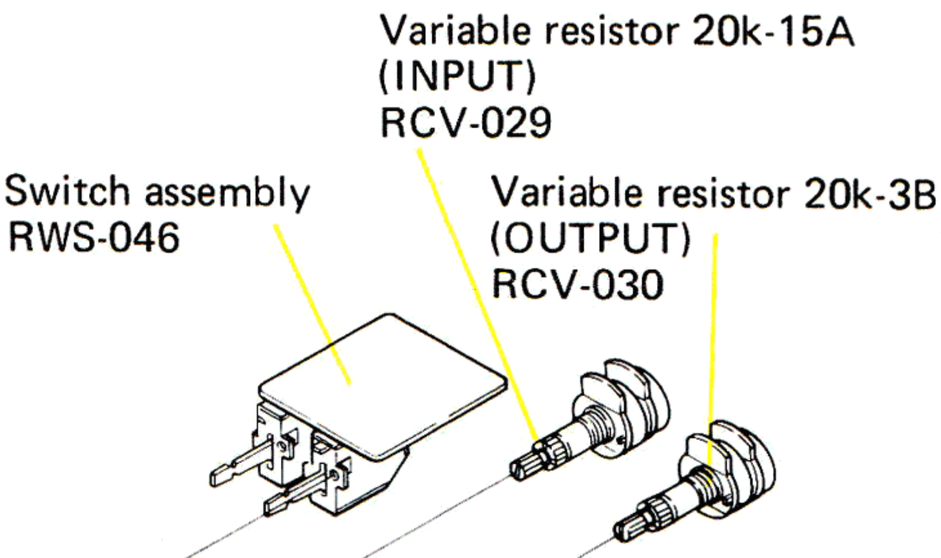


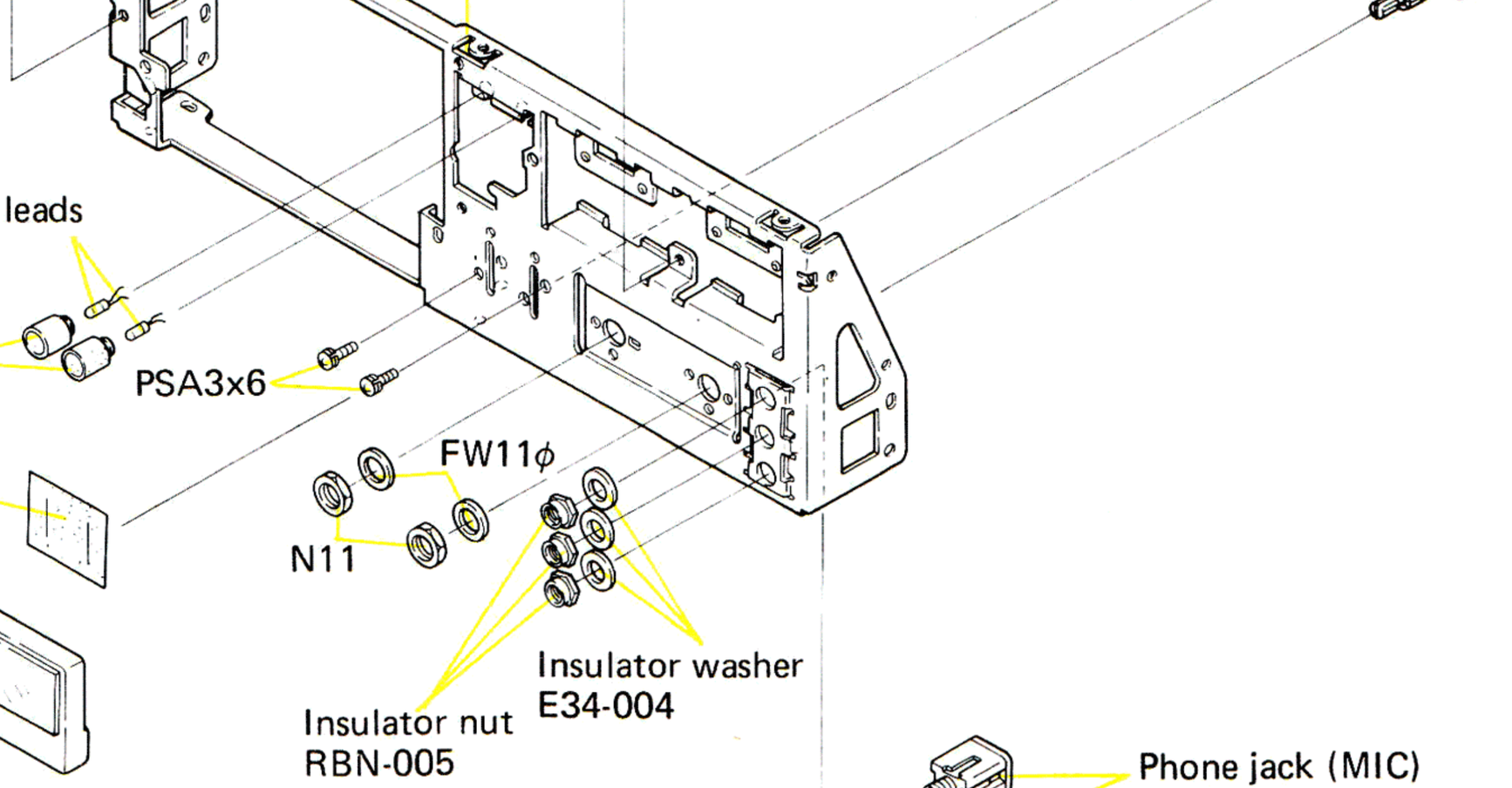
Part 6

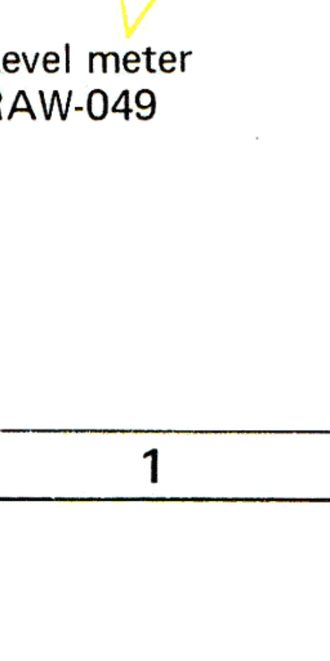
NOTE:
Parts indicated in green type cannot be supplied.

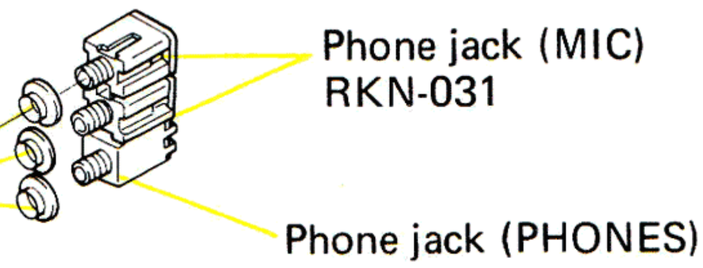






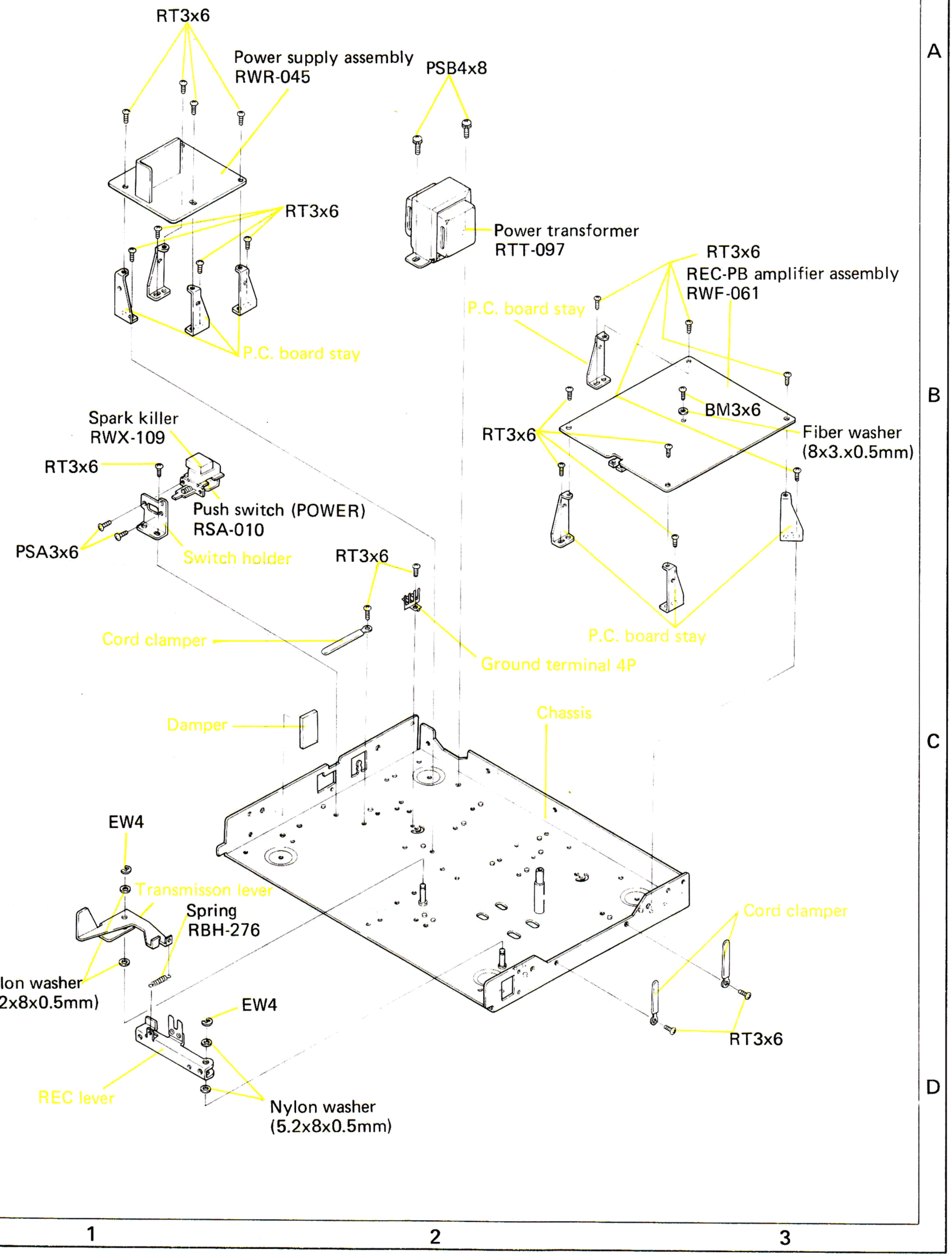






Part 7

NOTE:
Parts indicated in green type cannot be supplied.

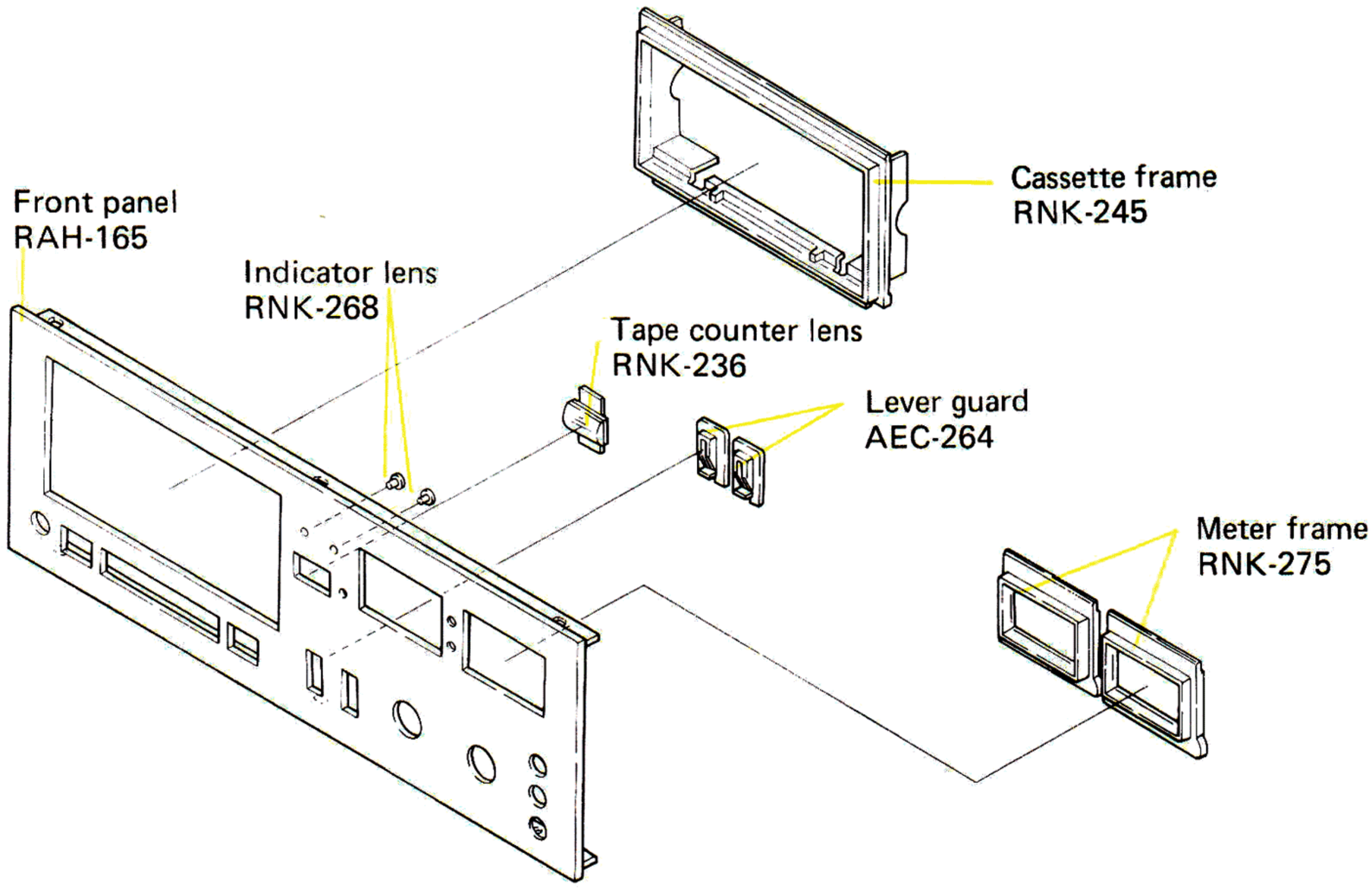


1 2 3

A

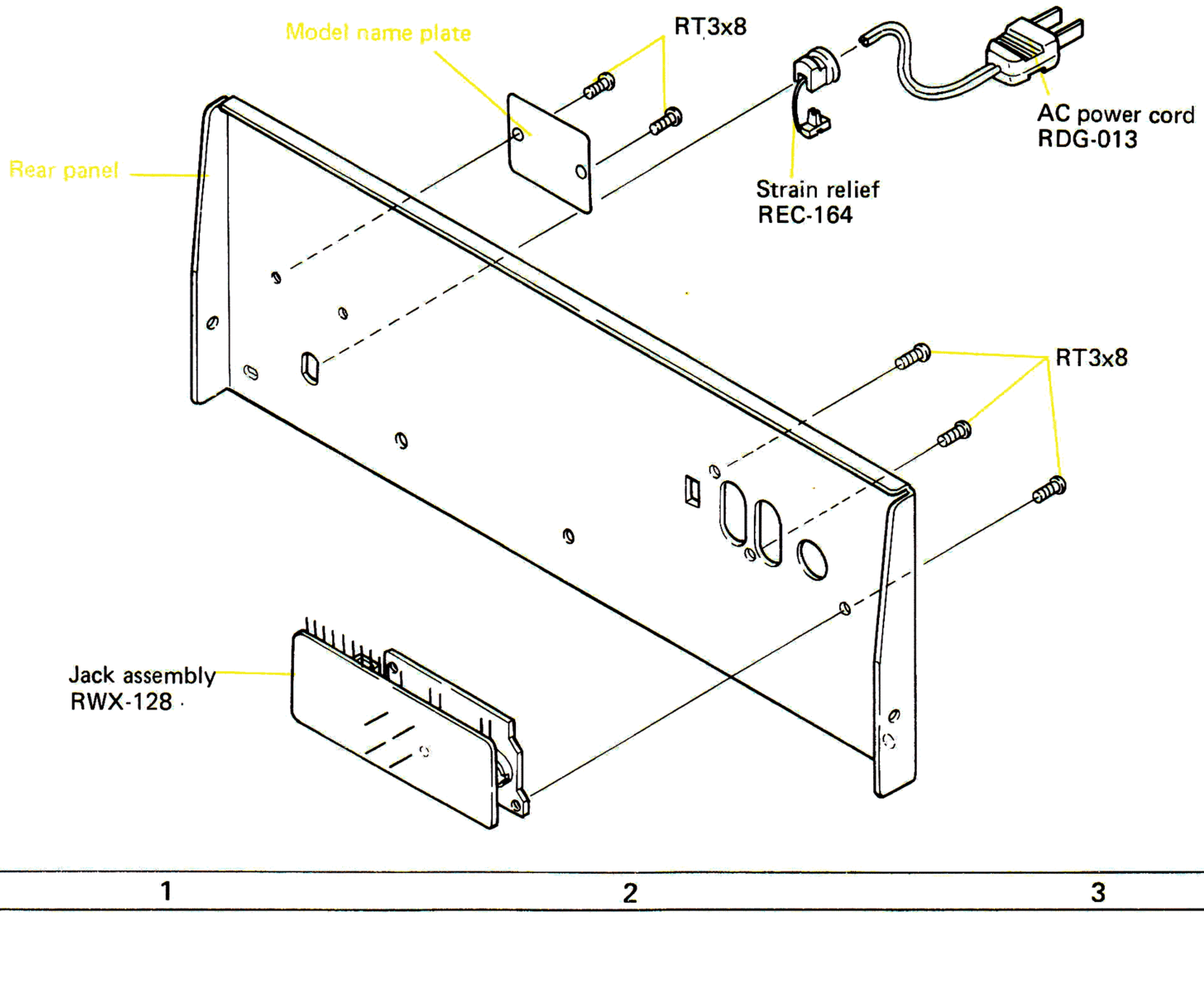
Part 8

NOTE:
Parts indicated in green type cannot be supplied.



B

Part 9

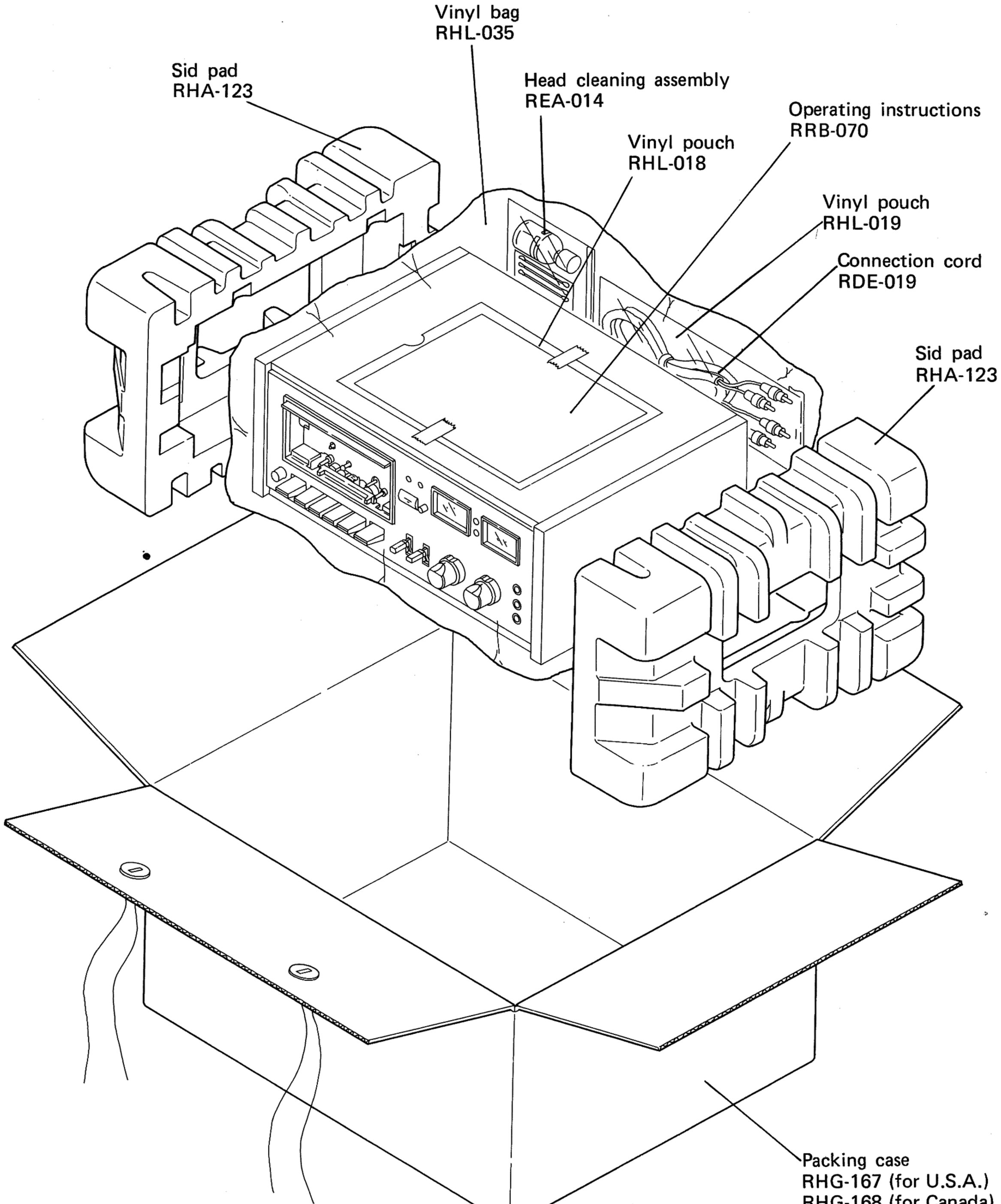


C

D

1 2 3

13. PACKING



PIONEER ELECTRONIC CORPORATION
4-1, Meguro 1-Chome, Meguro-ku, Tokyo 153, Japan
U.S. PIONEER ELECTRONICS CORPORATION
75 Oxford Drive, Moonachie, New Jersey 07074, U.S.A.
PIONEER ELECTRONIC (EUROPE) N.V.
Luithagen-Haven9, 2030 Antwerp, Belgium
PIONEER ELECTRONICS AUSTRALIA PTY. LTD.
178-184 Boundary Road, Braeside, Victoria 3195, Australia

<76K04Y5H01>

Printed in Japan
<ART-189-0>