

CASSETTE TAPE DECK

CT-F8282

CT-F8080

SERVICE MANUAL



MODEL CT-F8282 COMES IN TWO VERSIONS DISTINGUISHED AS FOLLOWS:

Type	Voltage	Remarks
KCU	120V only	CSA (Canada) and UL (U.S.A) approved
D	120V, 220V, 240V (Switchable)	General export model

MODEL CT-F8080 COMES IN TWO VERSIONS DISTINGUISHED AS FOLLOWS:

Type	Voltage	Remarks
D	120V, 220V, 240V (Switchable)	General export model
HG	220V, 240V (Switchable)	SEMKO (Sweden), NEMKO (Norway), DEMKO (Denmark) and EI (Finland) approved

This service manual is applicable to the CT-F8282/KCU MODEL

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1. SPECIFICATIONS

Systems	Compact cassette, 2-channel stereo
Motors	Electronically-controlled DC motor (built-in generator) x 1; (4.8cm/s speed drive) DC torque motor x 1; (Fast forward and rewind drive)
Heads	"Ferrite Solid" recording/playback head x 1 Ferrite erasing head x 1
Operation	Solenoid drive, direct switchable and time play presettable
Fast Winding Time	Approximately 65 seconds (C-60 tape)
Wow and Flutter	No more than 0.07% (WRMS)
Frequency Response	Standard, LH tapes: 20 to 16,000Hz (30 to 13,000Hz ± 3 dB) Chromium dioxide tape: 20 to 17,000Hz (30 to 15,000Hz ± 3 dB) Ferrichromium dioxide tape: 20 to 17,000Hz (30 to 15,000Hz ± 3 dB)
Signal-to-Noise Ratio	Dolby OFF: More than 53dB Dolby ON: More than 63dB (over 5kHz, standard, LH tapes) (When chromium dioxide tape is used, signal-to-noise ratio is further improved by 4.5dB over 5kHz)
Harmonic Distortion	No more than 1.5% (0dB)
Inputs (Reference level/Maximum allowable input/Impedance)	MIC x 2; 0.2mV/100mV/50k Ω , 6mm ϕ jack (Reference MIC impedance; 250 Ω to 50k Ω) LINE x 2 (2-channel stereo); 60mV/25V/100k Ω DIN (REC/PLAY) x 1; Input & Output, 5.5mV/3.6V/8.7k Ω , 5p jack (DIN standard)
Outputs (Reference level/Maximum level/Load impedance)	LINE x 2 (2-channel stereo); 450mV/660mV/50k Ω HEADPHONES x 1; 60 mV/98mV/8 Ω DIN (REC/PLAY) 1; 450mV/660mV/50k Ω (DIN standard) ● With output level controls
Semiconductors	
Amplifier Section	Transistors; 60, Diodes; 40, Zener Diodes; 4, FETs; 4 LEDs; 2, Hall element; 1
Motor Control Section	Transistors; 3, Diodes; 1
Subfunctions	● Dolby system (ON-OFF) with indicator lamp ● Tape selector (STD/CrO ₂ /FeCr) with CrO ₂ indicator lamp and Manual tape selector of independently BIAS/EQ (Ferri-chrome tape available) ● Cassette compartment illumination ● Memory stop mechanism (ON/OFF) with indicator lamp ● Recording peak level indicator (Lightable level; 5dB) ● AC Outlet (UNSWITCHED)
Power Requirements	AC120V, 60Hz
Power Consumption	49watts, Max.
Dimensions	452(W) x 193(H) x 342(D) mm. max. 17-3/4 x 7-5/8 x 13-1/2 in.
Weight Without package	12.2kg (26.9 lb)
Furnished parts	Stereo connecting cord with pin plugs; 2 Head cleaning kit; 1 Operating instructions; 1 Polishing cloth; 1

NOTES:

- Reference tape: standard, LH tapes are DIN no. 45513/BLATT6.
: chrome tape is DIN no. 45513/BLATT7 (CrO₂).
- Reference recording level: meter 0dB level (equivalent to 160 nwb/m).
- Reference signal: 333Hz.
- Wow & Flutter: at 3kHz
- Frequency response: measured at -20dB level, DOLBY OFF, Level deviation is ± 6 dB without indication.
- Signal-to-Noise ratio: measured at +4dB level (equivalent to 250 nwb/m with weighted IEC A curve.
- Sensitivity: Input level (mV) for reference recording measured with input (recording) level control set at maximum position.
- Maximum allowable input level: measured at the point where the output signal wave is clipped while gradually turning the input level control.
- Reference output level: meter 0dB level.
- Maximum output (playback) level: Output level to reference recording level, measured with output (playback) level control set at maximum position.

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

2. 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.

REC INDICATOR

Lights red during recording.

NOTE:

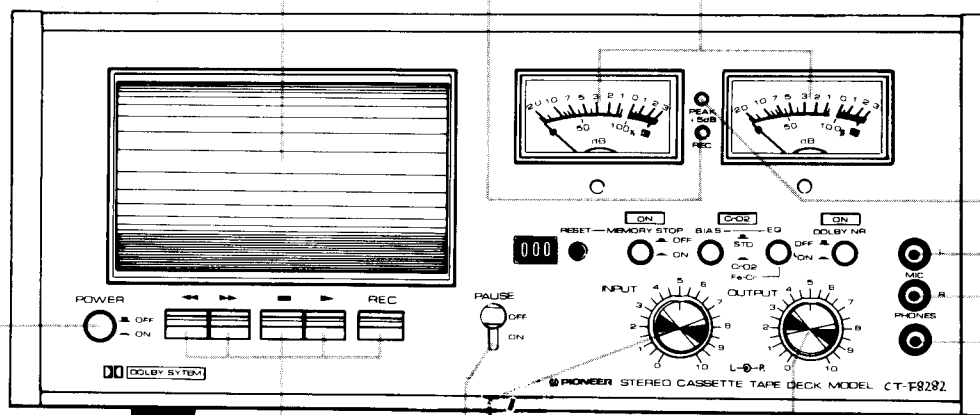
Be sure to confirm REC indicator lighting before proceeding to record.

PEAK +5 dB INDICATOR

Lights when recording peak level exceeds +5 dB. When recording, adjust INPUT controls so that this indicator does not light continuously.

LEVEL METERS

Display input level during recording and output level during playback.



OPERATING LEVERS

- Rewind (◀◀): Press to rewind tape (tape travels from right to left).
- Fast Forward (▶▶): Press for tape fast forward (tape travels from left to right).
- Stop (■): Press to stop tape and release other operating levers.
- Play (▶): Press to play tape. To record, press simultaneously with REC lever. (Tape travels from left to right).
- Record (REC): Press simultaneously with Play (▶) lever to perform recording.

NOTES:

1. Avoid simultaneously pressing two or more levers (except for Play (▶) and Record levers during recording).
2. With the CT-F8282 it is not necessary to press the Stop (■) lever when switching between modes.

PAUSE SWITCH

Set to ON to temporarily stop tape motion during recording or playback. Return it to OFF to resume tape motion. Normally set this switch to the OFF position.

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 and PEAK indicator 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.

MIC JACKS

Microphone input jacks for recording. Connect left channel microphone to L jack and right channel microphone to R jack.

NOTE:

Be sure to disconnect microphones when not recording. If connected, a source connected to the INPUT (REC) or DIN REC/PLAY jacks cannot be recorded.

MEMORY STOP INDICATOR

Lights when memory stop function is being used.

RESET BUTTON

Press to reset tape counter digits to "000".

TAPE COUNTER

Indicates tape running position.

CrO₂ INDICATOR LAMP

Lights when chrome tape is being used, and when both EQ and BIAS buttons are depressed.

DOLBY INDICATOR LAMP

Lights to indicate Dolby recording or Dolby playback.

MEMORY STOP BUTTON

When set to ON (depressed), the tape running position during record or playback corresponding to "000" counter indication becomes registered. Employ in such situations as when desiring to again listen to the same program.

BIAS SELECTOR BUTTON

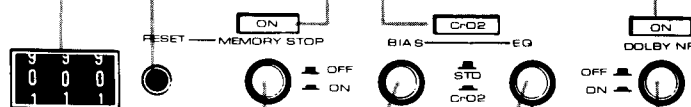
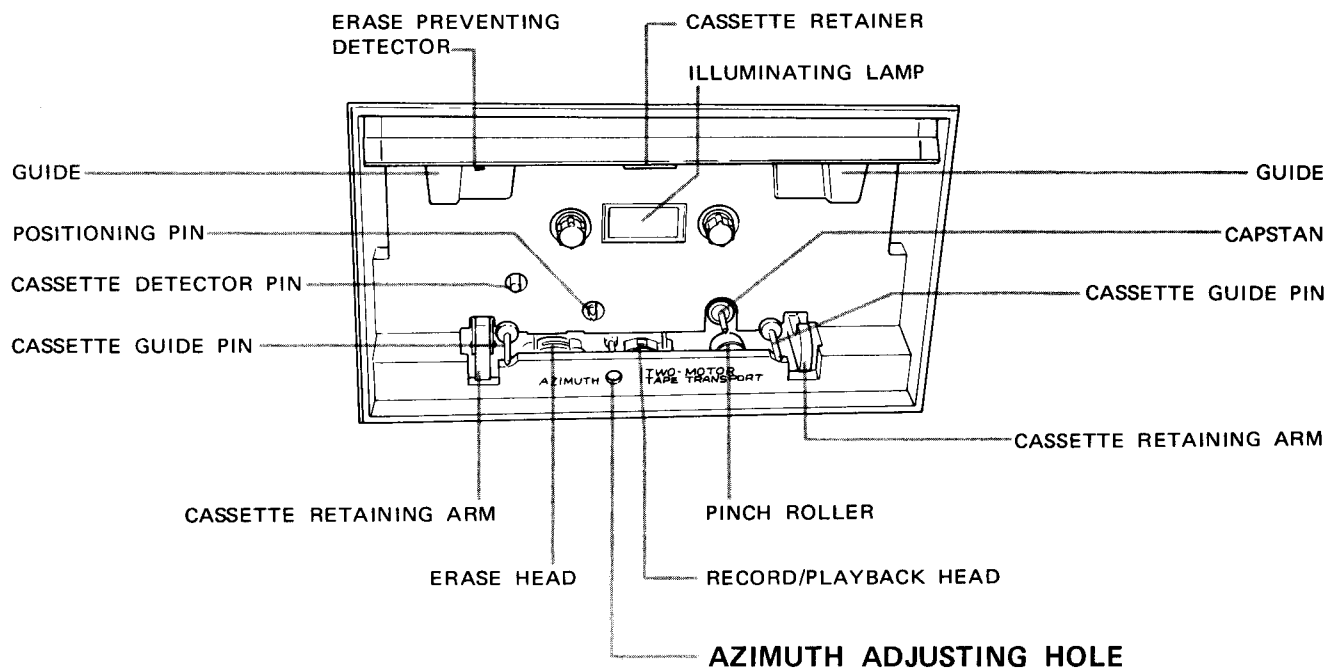
Set according to type of tape used for recording. Depress when using chrome tape.

DOLBY NR BUTTON

Depress to employ built-in Dolby system for recording or playback.

EQ SELECTOR BUTTON

Employ to select equalization according to the type of tape being used for recording or playback. Depress when using chrome (CrO₂) or ferrichrome (FeCr) tape. Set to STD (undepressed) to play chrome tape recorded to earlier specifications (120 μ s).

**MAIN SECTIONS OF TAPE TRANSPORT**

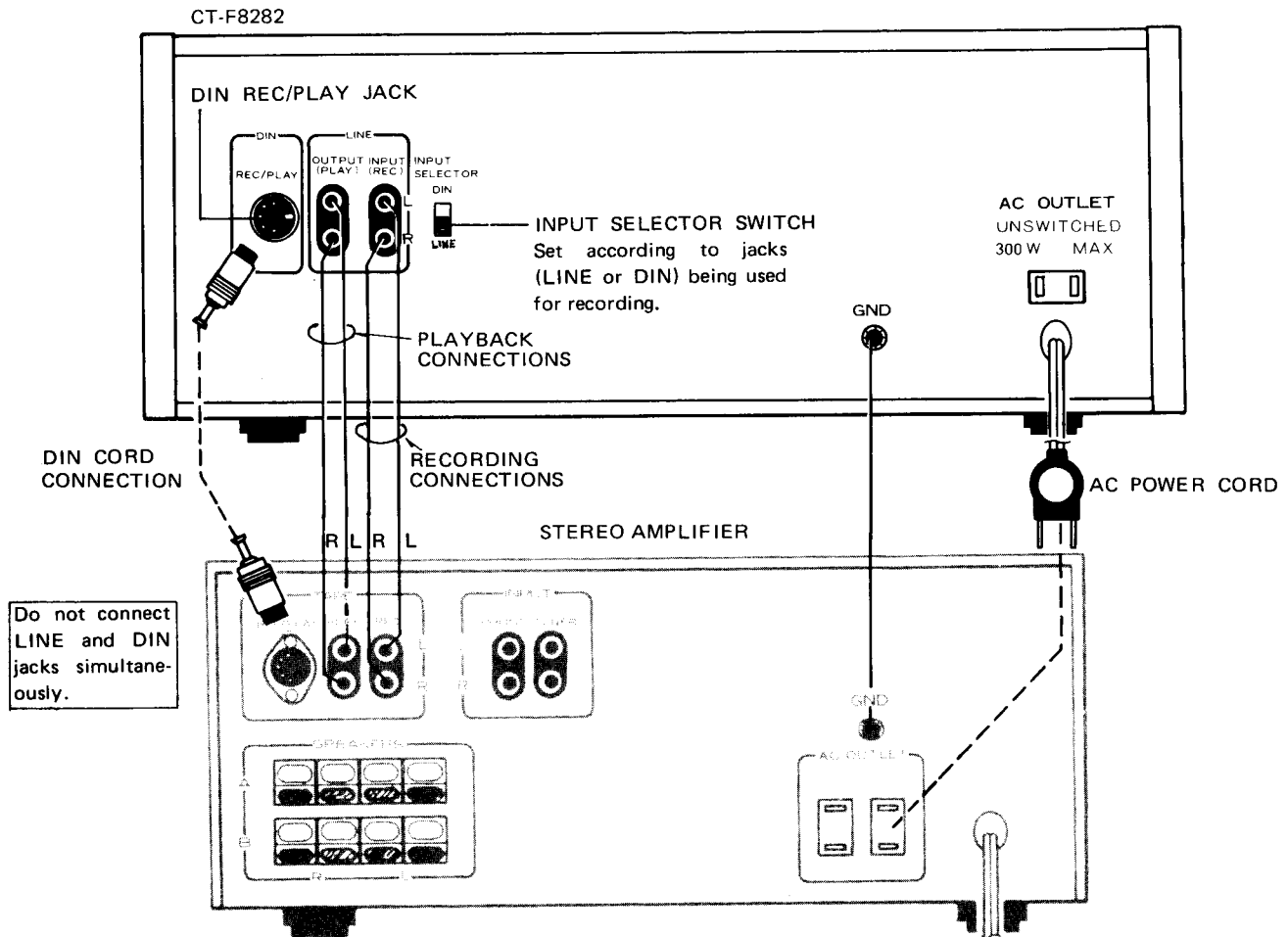
*Manufactured under license from Dolby Laboratories Incorporated.

*Dolby and  are trademarks of Dolby Laboratories Incorporated.

AZIMUTH ADJUSTING HOLE

Hole for adjusting angle of record/playback head. As special test instruments and test tapes are required, this adjustment should only be performed by a Pioneer Authorized Service Station. Precise adjustment has been performed at the factory prior to shipment.

3. CONNECTION DIAGRAM



INPUT SELECTOR SWITCH OPERATION

Set switch according to program source to be recorded (Fig. 1).

LINE Use accessory cords to connect **LINE (INPUT)** jacks of CT-F8282 to recording output (**TAPE REC**) jacks of a stereo receiver (or amplifier), then set switch to this position for recording.

DIN Use separately sold DIN record/play cord to connect **DIN REC/PLAY** jack of CT-F8282 to the same type jack (if provided) on a stereo receiver (or amplifier). Then set switch to this position for recording.

NOTE:

If microphones are connected to front panel **MIC** jacks, a source connected to the **LINE (INPUT)** or **DIN REC/PLAY** jacks cannot be recorded.

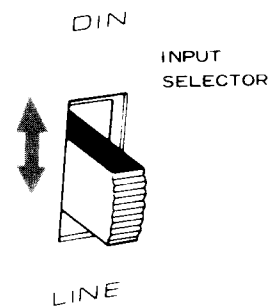
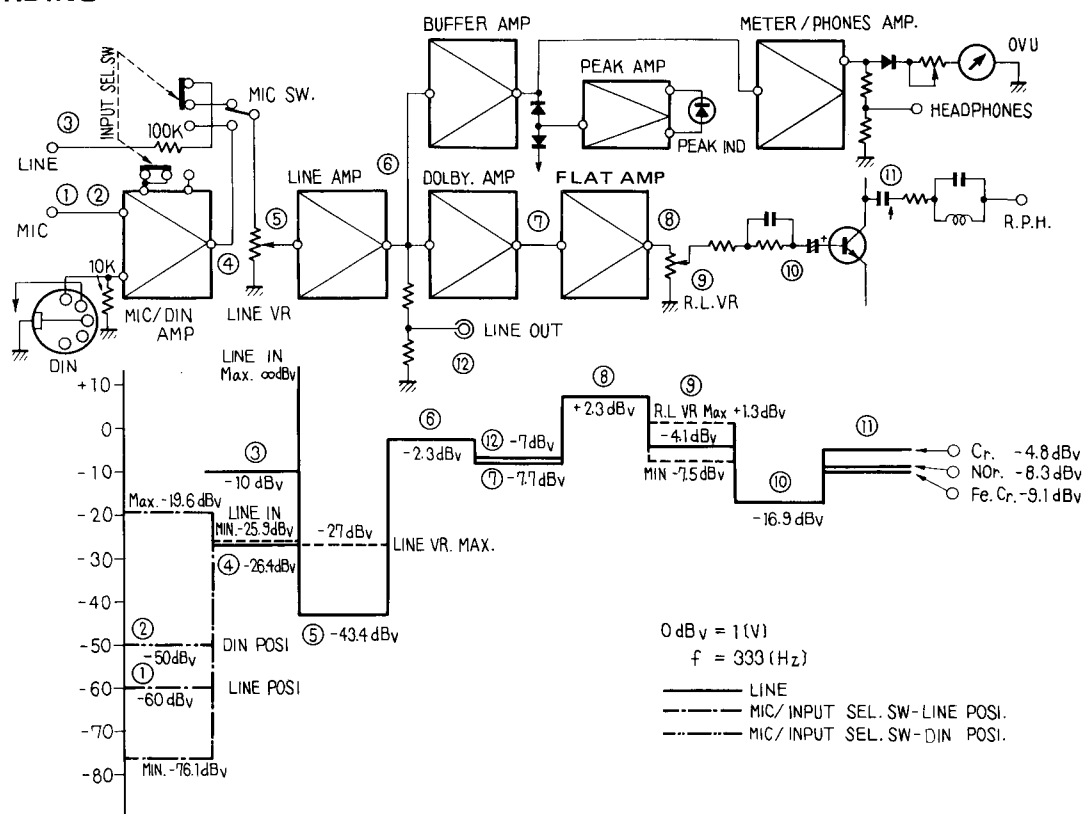


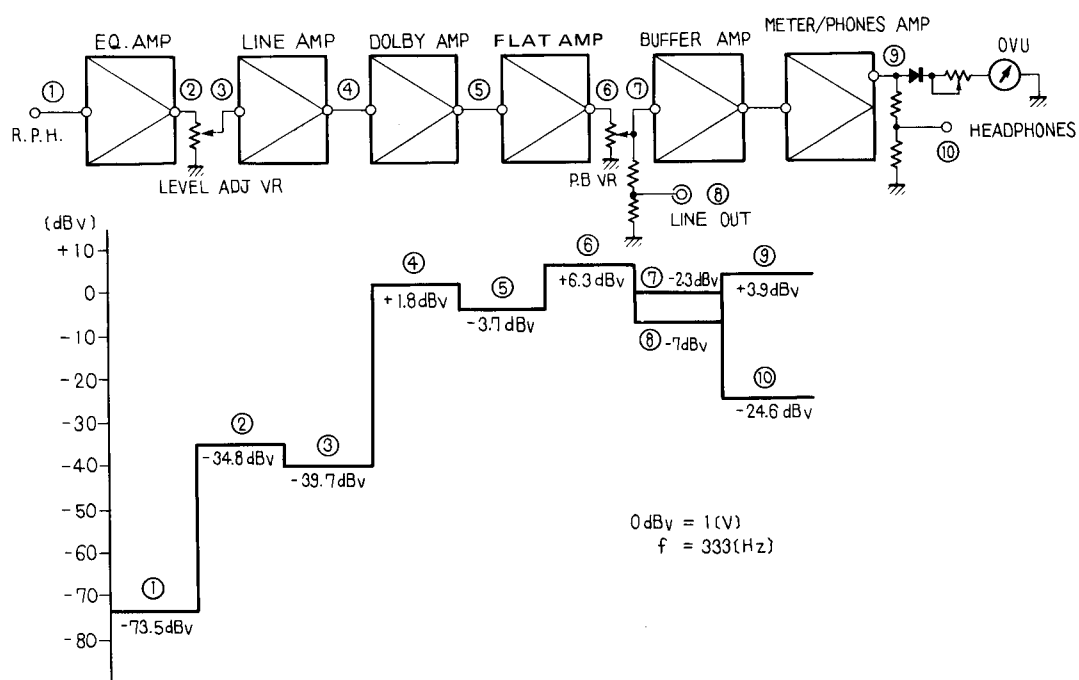
Fig. 1

4. LEVEL DIAGRAMS

RECORDING



PLAYBACK



5. OUTLINE OF OPERATION

5.1 BLOCK DIAGRAM (CONTROL SECTION)

This introduction to operation is centered around an explanation of the control section. Un-

derstanding should be based on the following circuit diagrams and explanations, etc.

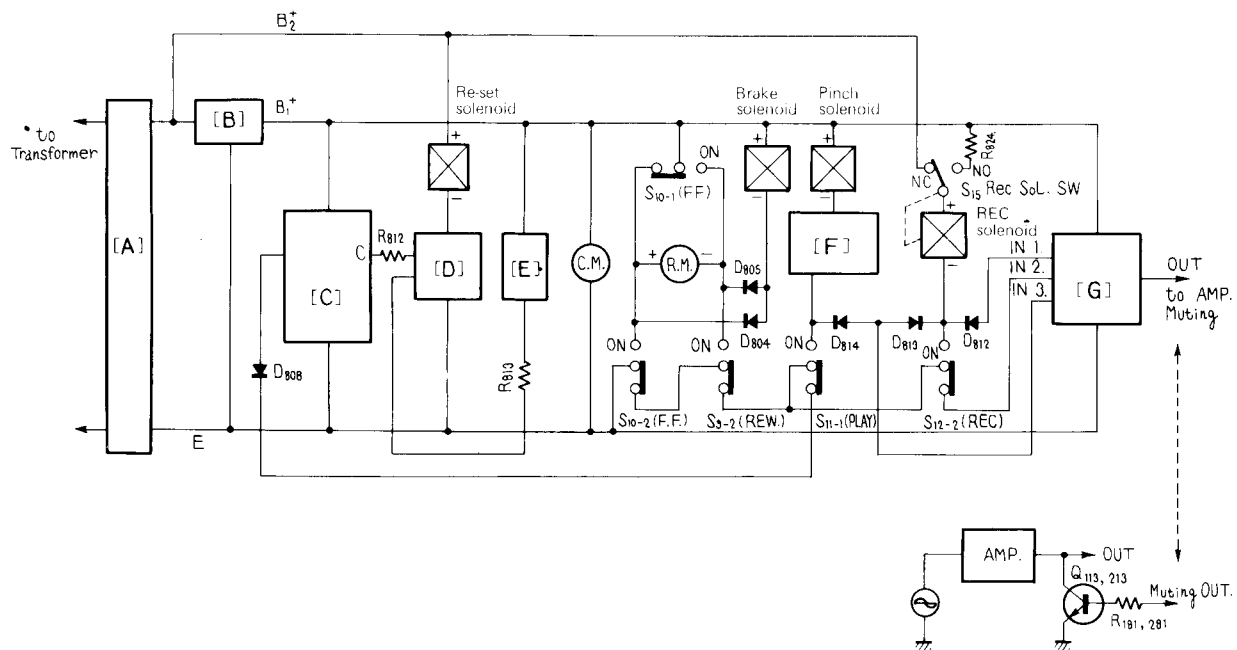


Fig. 2 Block diagram for Control section

(A) RECTIFIER SECTION

This section converts the AC into DC.

(B) VOLTAGE STABILIZER SECTION

This stabilizes the DC voltage and at the same time smoothes the ripple.

(C) TAPE-END DETECTOR CIRCUIT SECTION

This circuit generates a pulse signal some three seconds after the tape has run out. This circuit consists of an unstable multi-vibrator that generates pulses repeatedly until operating lever is released.

(D) RESET SOLENOID SWITCHING CIRCUIT SECTION

This section amplifies the pulse generated by Section (C), to operate the reset solenoid.

(E) MEMORY STOP CIRCUIT SECTION

When the counter reaches "999" during REWIND, a pulse is produced which is amplified by Section (D) and used to release the REW lever.

(F) PINCH SOLENOID SWITCHING CIRCUIT SECTION

When the PLAY levers depressed, a high voltage is applied for approximately 0.5 seconds to the pinch solenoid, which increases the force of attraction. After pull-in, this voltage returns to a lower potential: this reduces the amount of heat generated by the solenoid.

(G) MUTING CONTROL CIRCUIT SECTION

This circuit functions to bring the amplifier muting into operation. For about 0.5 seconds after the lever has been depressed for PLAY, REC, REC/PLAY, it reduces the output voltage to 0V (the muting voltage). In addition, it generates a positive pulse which mutes the amplifier for 0.3 seconds approximately when the REC lever is turned ON or OFF, whether the PLAY lever is itself ON or OFF.

5.2 OUTLINE OF OPERATION

(1) PLAY OPERATION

When the POWER switch is turned ON, the capstan motor (CM) starts to rotate. Then, if the PLAY lever is depressed, S11-1 goes ON, and the pinch solenoid switching circuit section is grounded. A current therefore flows through the pinch solenoid, which pulls in the plunger, so that tape transport begins. If the FF (S10-2) or REW (S9-2) lever is depressed, the pinch solenoid switching circuit will not be grounded and PLAY will not commence even if the PLAY lever is depressed. The FF condition has the highest priority, followed by REW, and PLAY or REC. Due to the operation of D814, when S11-1 (PLAY) is ON, this is detected by the muting control circuit, and some 0.5 seconds later, the muting control circuit (which held the output voltage at 0) ceases operation.

(2) FF OPERATION

When the FF lever is depressed, both S10-1 and S10-2 go ON, and the rapid transport motor (RM) has a positive potential applied to its negative terminal and a negative potential applied to its positive terminal. At the same time, due to the action of D804, a current flows through the braking solenoid, drawing in the plunger, releasing the brake from the reel base so that the FF mode is entered.

(3) REW OPERATION

When the REW lever is depressed, S9-2 goes ON, and the rapid transport motor (RM) has a positive potential applied to its positive terminal and a negative potential applied to its negative terminal. At the same time, due to the action of D805, a current flows through the braking solenoid, and the plunger operates to release the brake from the reel mount so that the REW mode is entered.

(4) REC OPERATION

When the REC lever is depressed, S12-2 goes ON, and one side of the REC solenoid is grounded so that a current flows through the REC solenoid via S15. The plunger is pulled in, and the amplifier recording/play back switch is set for REC.

Immediately after the plunger has been drawn in, the switch S15 which is linked with the plunger goes to the NO side. This causes the voltage applied to the solenoid to be dropped via R824, preventing the generation of excessive heat.

At the same time, due to the action of D813, the

muting control circuit detects that the REC SW S12-2 is ON, and after a delay of approximately 0.5 seconds, the amplifier muting which had held the output at 0 volts, is released.

(5) REC/PLAY OPERATION

(1) Operation and (4) operation are combined.

(6) AUTO-STOP OPERATION

If either of the FF, REW, or PLAY levers are depressed, this action is detected when ground is removed from D808 and the tape-end detector circuit operates. After the tape has been fully wound out, the reset plunger releases the lever after approximately three seconds, so that the STOP condition is entered.

If by chance, or malfunction of the lever, the first reset operation does not give the required release, the plunger will operate repeatedly until the lever is released.

(7) MEMORY STOP

During REW, if the memory switch is ON, as soon as the counter reaches "999" the counter switch causes the memory stop circuit and the reset solenoid switching circuit to operate, so that the button is released by the reset plunger, and the STOP condition is entered.

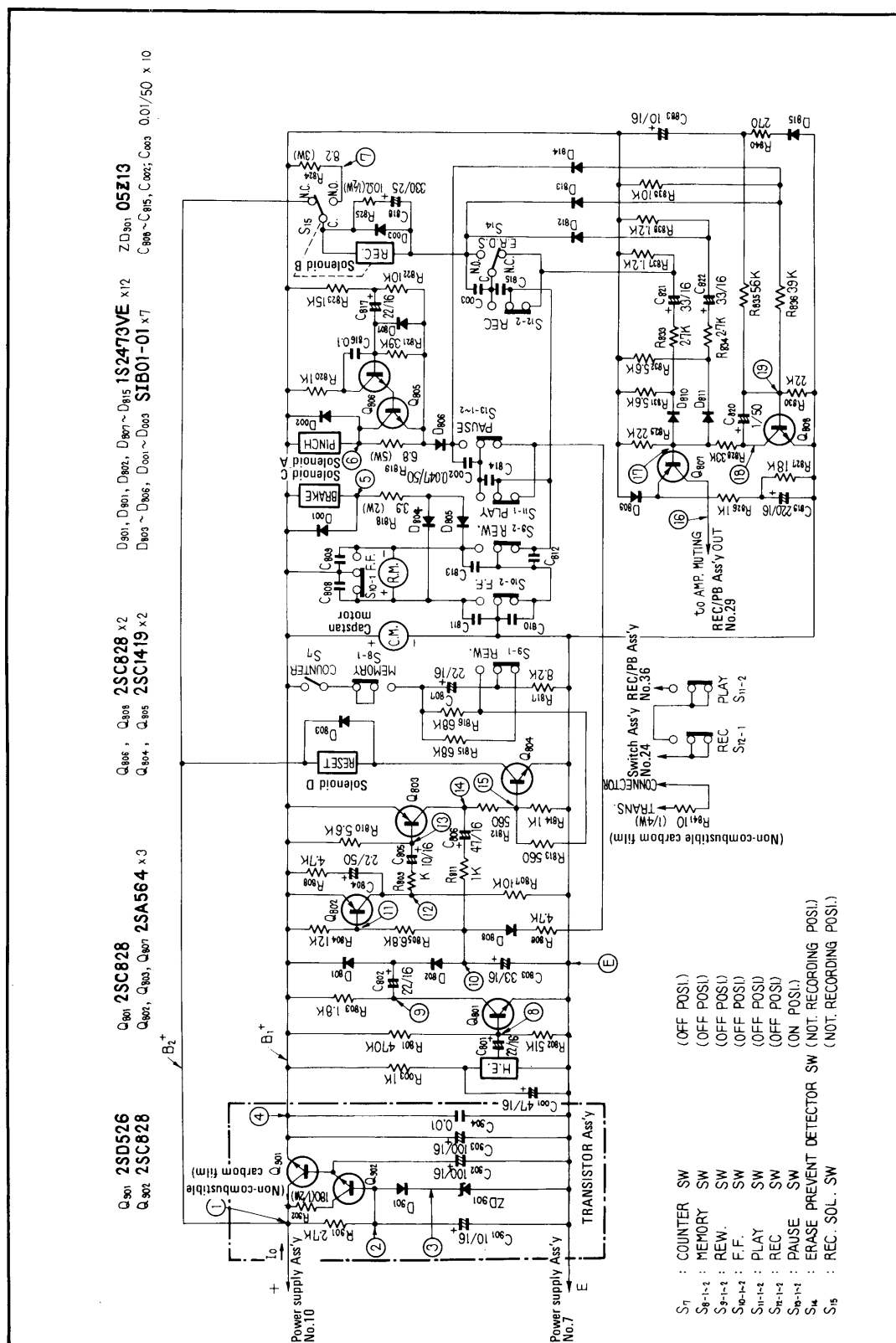
(8) AUTO-START OPERATION

(For recordings made during an absence, and for "alarm clock" play back)

In the STAND-BY condition for PLAY or REC/PLAY, as soon as the electrical power is turned on, the solenoids all operate and tape transport is initiated. The muting control circuit ensures that for approximately 3.5 seconds after the electric power comes on, a positive voltage is generated which causes the amplifier muting to come ON so that there will be no output.

6. CIRCUIT DESCRIPTIONS

6.1 CIRCUIT DIAGRAM



6.2 VOLTAGE READINGS

Measurement Point	STOP	Rapid Transport	PLAY	REC	REC/PLAY
Current Drawn I_1 [mA]	90	585~685	1010→685	815→555	1610→1090
①-E [V]	21.3	19.1	19.0	19.3	17.9
②-E [V]	14.1	14.1	14.1	14.1	14.0
③-E [V]	13.4	13.3	13.3	13.3	13.3
④-E(B ₁) [V]	13.0	12.7	12.7	12.7	12.5
⑤-E [V]		2.7			
⑥-E [V]			1→5.0		1→4.9
⑦-EV _{REC} [V]				8.8	8.7
⑧-E [V]	0.6	DC0.6V +AC60~1000mVp-p	Same as rapid transport		Same as rapid transport
⑨-E [V]	0.5~6.5	DC0.5~6.5V +AC2~10Vp-p	Same as rapid transport		Same as rapid transport
⑩-E [V]	3.9	6~11.5	Same as rapid transport		Same as rapid transport
⑪-E [V]	12.3	12.0	12.0	12.0	11.8
⑫-E [V]	12.9	12.6	12.6	12.6	12.4
⑬-E [V]	13.0	12.7	12.7	12.7	12.5
⑭-E [V]	0	0	0	0	0
⑮-E [V]	0	0	0	0	0
⑯-E [V]	12.0	11.7	11.7→-1	11.7→-1	11.5→-1
⑰-E [V]	11.8	11.5	11.5→12.7	11.5→12.7	11.3→12.5
⑱-E [V]	0	0	0→12.7	0→12.7	0→12.5
⑲-E [V]	0.7	0.7	0.7→0	0.7→0	0.7→0
④-⑤V _{brake}		10.0			
④-⑥V _{pinch}			11.7→7.7		11.5→7.6

- Potentials ①~⑤ should be measured when conditions have stabilized after the plunger has been drawn in.
- I_1 is subject to variations of about 100mA depending on the amount of tape which has been wound on in the rapid transport mode. The → sign indicates the change from when the plunger is drawing in an after the plunger has been drawn in.
- The → for ⑥ indicates the values when the plunger is drawing in an after the plunger has been drawn in.
- ⑯ ~ ⑲ have potentials marked with → which indicates the changes until the muting is released.
- The potential at ⑨ in the STOP condition is subject to fairly wide variations due to the h_{FE} of Q801 and the potential at ④.
- The $B_1 +$ voltage of ④ is subject to a variation of approximately $\pm 0.8V$ about the potential shown, due to variations in ZD901. Further note that this variation also affects all other potentials.
- The potential at ⑩ is subject to considerable variation due to the influence of the output voltage of H.E. and the h_{FE} of Q801.

6.3 A DESCRIPTION OF THE CIRCUITS FOR EACH BLOCK

(Refer to the Block Diagram on Page 10 and the Circuit Diagram on Page 12)

(A) RECTIFIER SECTION

This is a full-wave bridge-type single-phase rectifier with capacitor.

(B) STABILIZED VOLTAGE SUPPLY SECTION

This is a linear voltage stabilizing circuit in which Q901 and Q902 are Darlington connected, and C901 and C902 form a ripple filter. D901 gives the temperature compensation for the Zener potential of ZD901. The response time of this circuit is approximately 50 msec. This is a faster response for the same ripple content than conventional voltage stabilizer circuits (C901 is less than C902 so that the charge up time for C901 has been reduced). The object was increasing the reliability of the REC solenoid pull-in for absent recordings.

(C) TAPE-END DETECTOR CIRCUIT

This section may be broadly divided into four parts.

(1) Rotation Detector

The sensing switch uses a Hall effect element (H.E.), with the output derived from the coupling capacitor C801. Four pulses are generated by one rotation of the magnet. C001 is included to remove ripple in the power supply.

(2) Amplifier

Q801 amplifies the particular AC signal which is generated by the rotation detector.

(3) Rectifier Section

The signal which was amplified by Q801 is rectified by D801 and D802 and smoothed by C803. The voltage on the plus side of C804 is always less than that of B_1+ . Depending on the outputs of the H.E. and the gain of Q801, it will be from +6 to +11.5V approximately (B_1+ is approximately 12.5V).

(4) Unstable Multi-Vibrator Section

During the rotation, the difference between the voltage rectified in (3) and that of B_1+ , causes a base current to flow through R805 in Q802, which is therefore ON, with Q803 OFF.

When the tape runs out, rotation ceases, and the positive potential on C803 rises until Q802 goes OFF, and at the same time, Q803 goes ON. This causes a positive collector potential on Q803.

This condition continues until C805 has charged completely (during which time C806 discharges), and then returns to the initial state. In the above operation, the effect of D808 continues repeatedly until the potential on the positive side of C803 drops (when the button has been released and R806 is grounded).

C804 and R808, which are connected across C and E of Q802, are intended to prevent Q803 from going ON with a sudden drop in the collector potential of Q802, when the electrical power supply is cut off during rotation.

(D) RESET SOLENOID SWITCHING CIRCUIT

This is a transistor saturation switching circuit using Q804. When a positive potential appears on the collector of Q803, a base current flows through R812. This causes Q804 to go ON, and the reset plunger operates.

Similarly, in the MEMORY STOP mode too, a base current flows through R813, Q804 goes ON, and the reset plunger is caused to operate.

(E) MEMORY STOP CIRCUIT

When the REW SW S9-1 is ON, the differentiating circuit formed by C807 and R817 ensures that when the memory SW S8-2 and the counter SW S7 come ON, the potential across R817 (the differentiated waveform) is applied via R813 to Q804 so that a trigger current develops, which causes the reset solenoid to operate instantaneously.

When the counter switch S7 is OFF, R815 and R816 discharge C807.

(F) PINCH SOLENOID SWITCH CIRCUIT

This consists of a saturation switching circuit using Q805 and Q806, and a differentiation circuit formed by C817 and R823.

When the PLAY lever S11-1 is ON, and the PAUSE switch S13-12 goes OFF, the emitter of Q805 goes to ground potential via D806. A current flows through the base of Q806 via R823 and C817.

Further, a base current flows in Q805 through R820 and the collector and emitter of Q806. Q805 therefore goes ON, and a potential approximately equivalent to B_1+ is applied to the pinch solenoid so that the plunger is drawn in.

Then, after approximately 0.5 seconds, when C817 charges up, Q805 and Q806 go OFF, and the voltage applied to the pinch solenoid drops, through the action of R819, to the potential

required to hold the solenoid in. The potential at this time is some 7 to 8 Volts.

D807 and R822 form the discharge loop for C817. C816 is to ensure stability while Q806 is going from OFF to ON.

(G) MUTING CONTROL CIRCUIT

Click noise and various other kinds of noise are generated when the different operating switches are switched ON and OFF, the power is switched ON and OFF, and the tape recorder is switched from the recording to play back mode, etc.

In order to eliminate this noise, the noise (that is the signal) is shorted by appropriate biasing of the switching transistors Q113 and Q213 on the REC/PB amplifier assembly.

(1) When Power is ON (absent recording, and alarmclock reproduction)

For approximately 3.5 seconds after the power is switched ON (until C823 has charged up) C823 and R835 give rise to a base current in Q808 so that Q808 goes ON. Q807 goes ON due to R828, also goes on.

A potential approximately equal to B_1+ appears at the collector (the output terminal) of Q807. This causes Q113 and Q213 in the REC/PB amplifier assembly section to go ON so that the signal (noise) is shorted. Again, this operation occurs whenever any of the operational switches is switched ON or OFF.

(2) REC, PLAY, REC/PLAY (during normal operation)

A base current flows in Q808 through R839 and R836 continually during the STOP, FF and REW states. Q808 and Q807 and also Q113 and Q213 on the REC/PB amplifier assembly are all ON and the signal (noise) is shorted.

When the PLAY button is depressed, the cathode side of D814 goes to ground potential via S11-1 (pause switch OFF) and S13-1, S13-2. The current which flows to R839 is by-passed by D814 so that Q808 goes OFF. At this time, C820 and Q808 form an integrating circuit, so that the OFF condition is not entered immediately, but only some 0.3 to 0.5 seconds later.

In the REC state, D813 functions in the same manner instead of D814.

In playback, with the PAUSE switch ON, the PAUSE switch is in series with the PLAY switch, so that when Q808 is ON, the signal is shorted (in other words muting is effective), but when the PAUSE switch is set ON during recording, D813 is always grounded, so that the condition is exactly that for non-muting, and the signal can be monitored.

(3) PLAY → REC/PLAY (follow-up recording)

With the PLAY lever depressed, D814 acts so as to turn Q808 and Q807 OFF, so that when the REC lever is depressed with the muting still in the released (e.e. non-effective) state, the cathode side of D812 goes to ground potential, a charging current flows in C822, and even if Q808 is OFF, Q807 goes ON for approximately 0.3 seconds, with Q113 and Q213 ON, so that the signal (or noise) is shorted.

(4) REC/PLAY → PLAY (REC release)

With the REC and PLAY levers depressed, D813 and D814 ensure that when Q808 and Q807 are OFF and the REC lever is released with the muting still in the released state, a charging current flows in C821 so that even with Q808 OFF, Q807 goes ON for approximately 0.3 seconds, with Q113 and Q213 ON, and the signal (noise) is shorted.

TIMING CHARTS

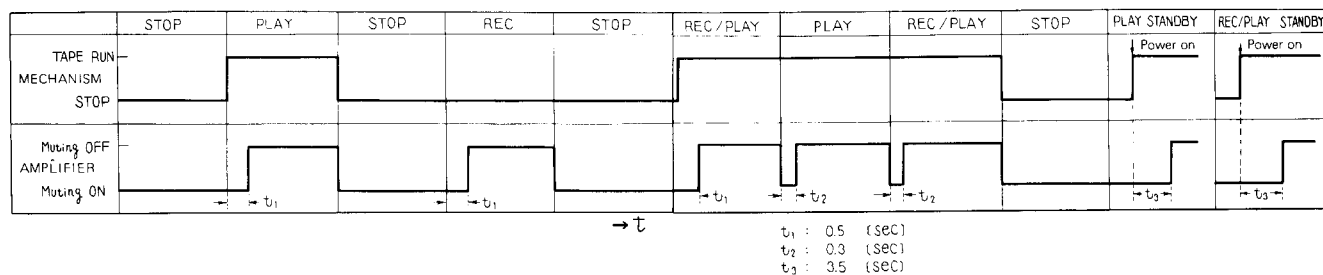


Fig. 3

(5) POWER Switch OFF

In REC, PLAY, and REC/PLAY states, Q807 and Q808 are of course OFF, and the muting is released. At this time, if the POWER is switched OFF, the B_1+ line voltage decays with a time constant t_1 which depends upon the load.

However, the emitter of Q807 contains R826 and C819, which are normally charged by the line voltage B_1+ . When the POWER goes OFF, and they discharge via D809, they do so at a rate which is independent of the B_1+ line.

If, however, under these circumstances, the time constant t_2 is such that $t_2 > t_1$, Q807 will come back ON immediately after the POWER is switched OFF. It follows that Q113 and Q213 go ON, and noise is shorted.

Further, an illustration is given below, for information, of a comparison between what happens with this circuit and what would happen without it.

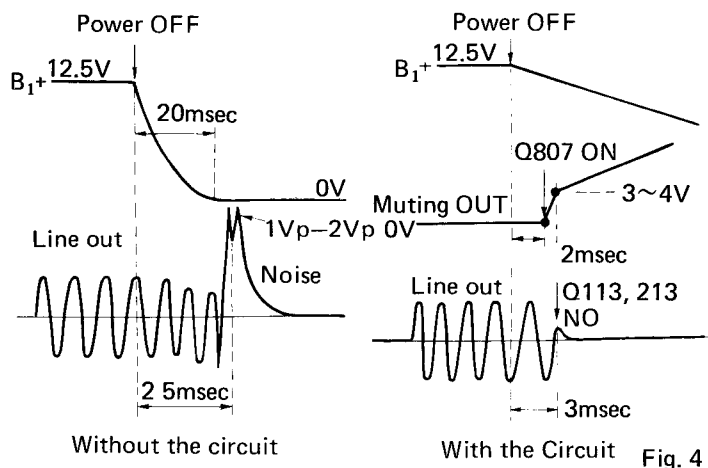


Fig. 4

6.4 EXPLANATION OF OTHER THAN BLOCK CIRCUITS

(1) Diode back-potential protection

The diodes concerned are D803, D001, D002 and D003, connected to the solenoids.

These are inserted to protect circuit elements.

(2) Prevention of diode reverse current

The diodes concerned are D804, D805, D806, D809 to D814, and D808.

AND gates are formed respectively by the diode pairs D804 and D805, D810 and D811, and D813 and D814. Further, Q807, D810 and D811, and Q808, D813 and D814, both form NAND gates, so that the essential signals to each are detected and appear at the output.

(3) Diode discharge loop configuration

D801, D807, and D815 are to discharge capacitors C802, C817, and C823 respectively.

Again, D801, with D802, also perform as rectifiers (in this case as voltage-doubling rectifiers).

(4) Diode temperature compensation

The diode concerned is D901. The forward voltage temperature coefficient of diodes is generally negative, whereas the temperature coefficient of the Zener potential of ZD901 is positive. These cancel out, so that the variation in output voltage with temperature is minimized.

(5) The function of C818 and R825

The function is particularly designed to be effective for absent recordings.

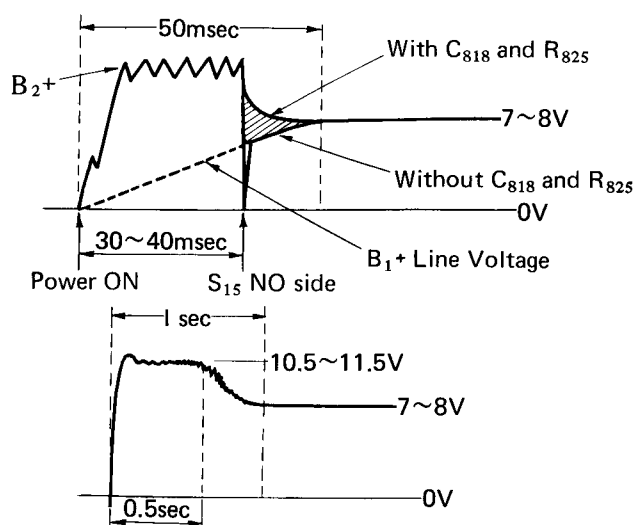
In REC/PLAY stand-by, when the POWER comes ON, initially, since S15 is on the NC side, B_2+ line voltage rises, and the REC plunger is accordingly pulled in.

At this time, the rise time for B_2+ line voltage is extremely short, so that the plunger is pulled in at virtually the same instant as the POWER comes ON.

However, as indicated previously, the B_1+ line voltage rise time is approximately 50 msec, so that even if the pull-in is followed by S15 changing over to the NO side, the plunger may fall back due to the voltage still being low at that time. In order to prevent this occurrence, C818 and R825 have been included. These charge from the B_2+ line, discharging through the solenoid when S15 changes over, ensuring reliable pull-in.

NOTE:

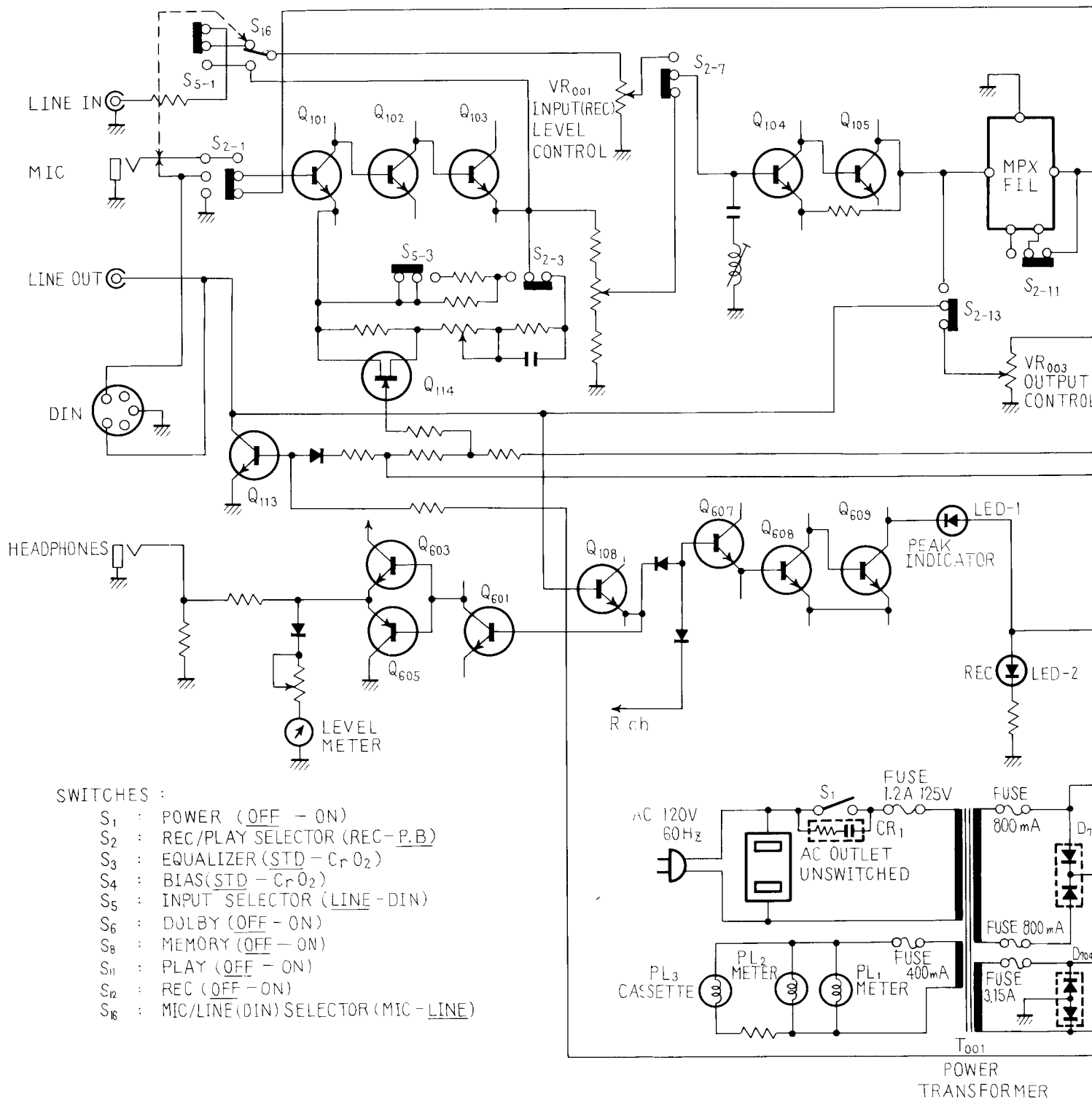
The following diagram illustrates the potential (voltage) waveform across the solenoid terminals.

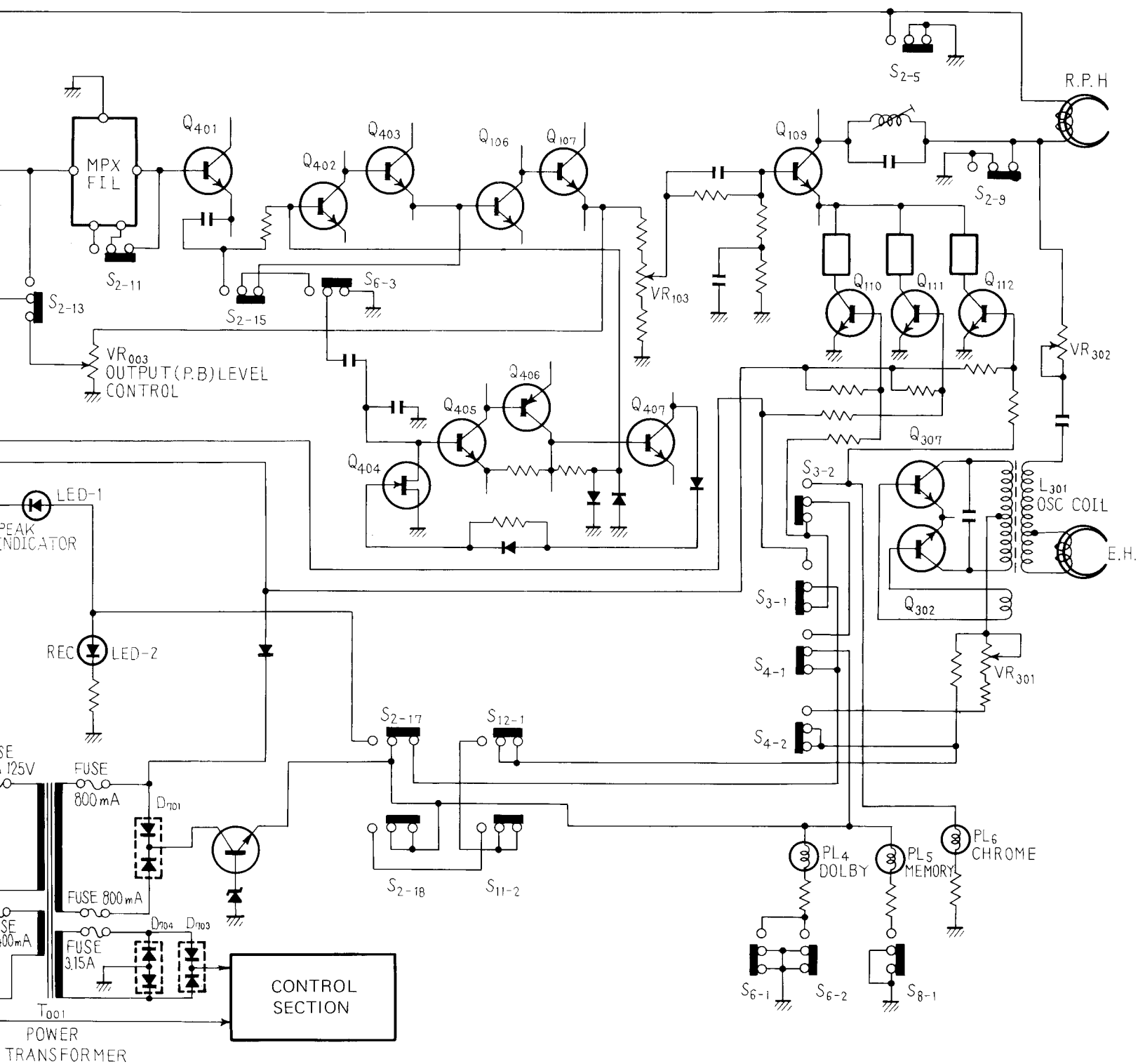


Voltage Waveform Applied to the Pinch Solenoid

Fig. 5

7. BLOCK DIAGRAM

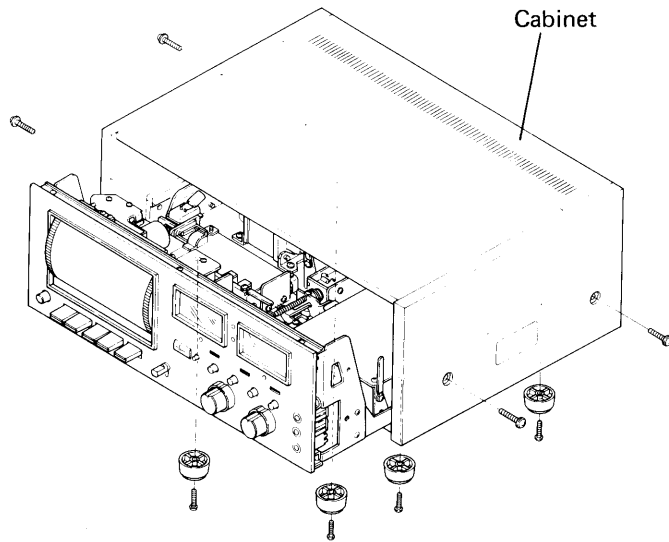




8. DISASSEMBLY

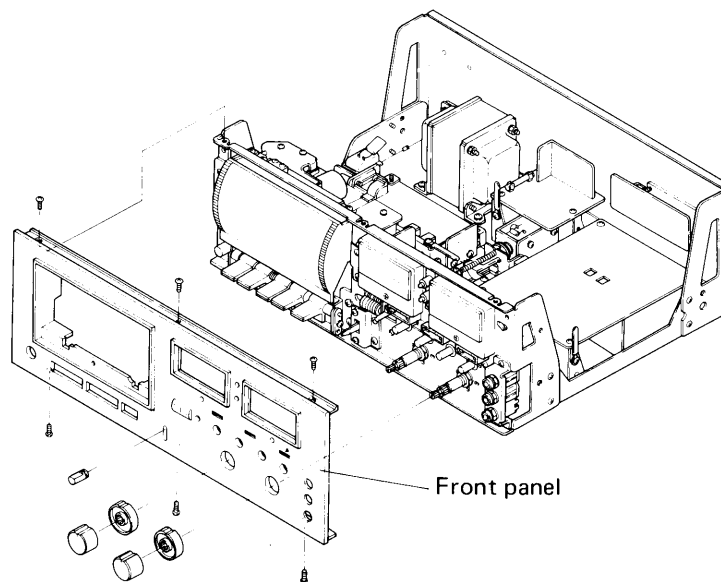
CABINET

The cabinet can be removed by taking out 4 cabinet retaining screws and the 4 foot pad retaining screws on the bottom plate. When reattaching it, ensure that there is no gap between the cabinet and the front panel.



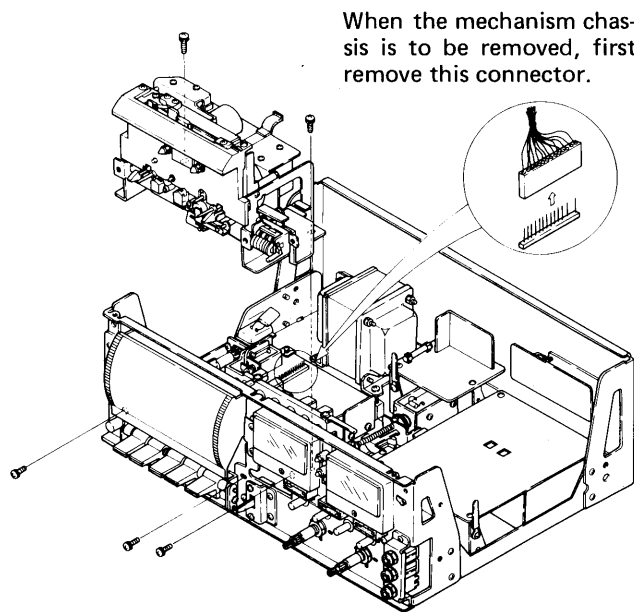
FRONT PANEL

1. Pull off the knobs shown in the diagram and open the door.
2. The six retaining screws of the front panel are removed.
3. Remove the front panel gently, ensuring that it is not damaged or marked in the process.

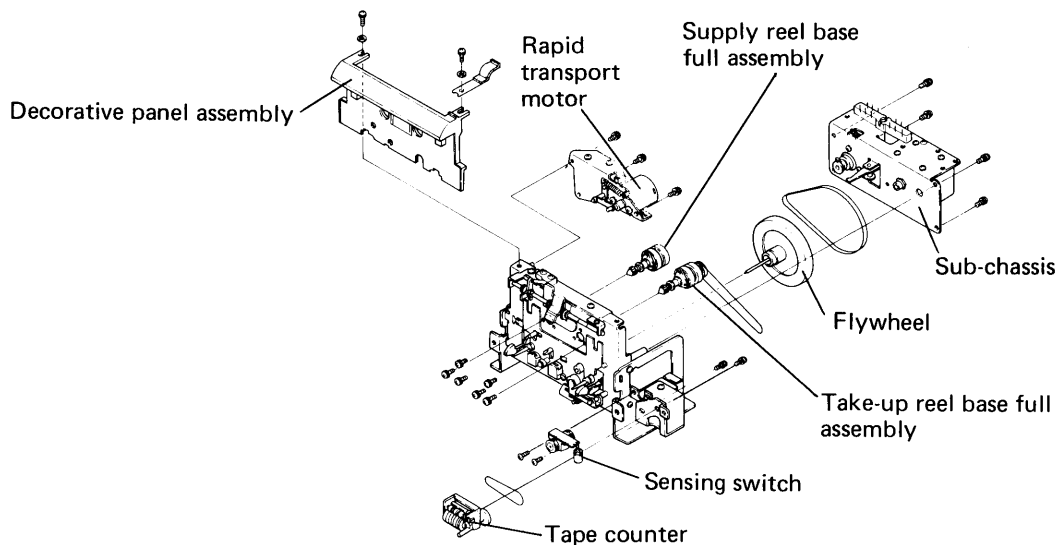


MECHANISM CHASSIS

1. Remove all connectors from the mechanism chassis.
2. The leads from the heads are soldered in place. These leads should not be removed unless heads are to be replaced.
 - Slacken the cord-retaining clip which keeps the leads from the heads in place.
 - Remove the door spring.
3. If the mechanism chassis retaining screws are removed, the mechanism chassis itself can be removed.

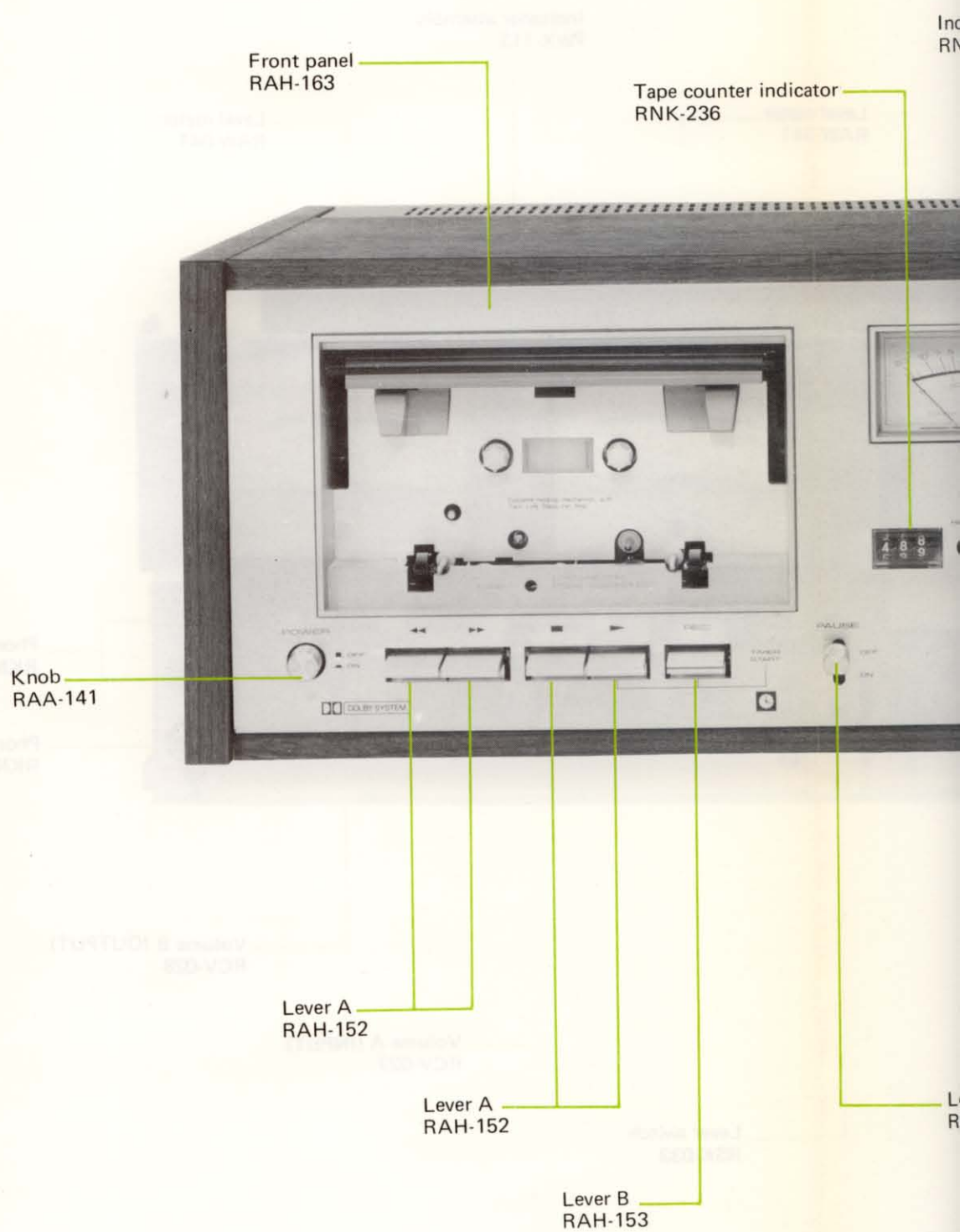


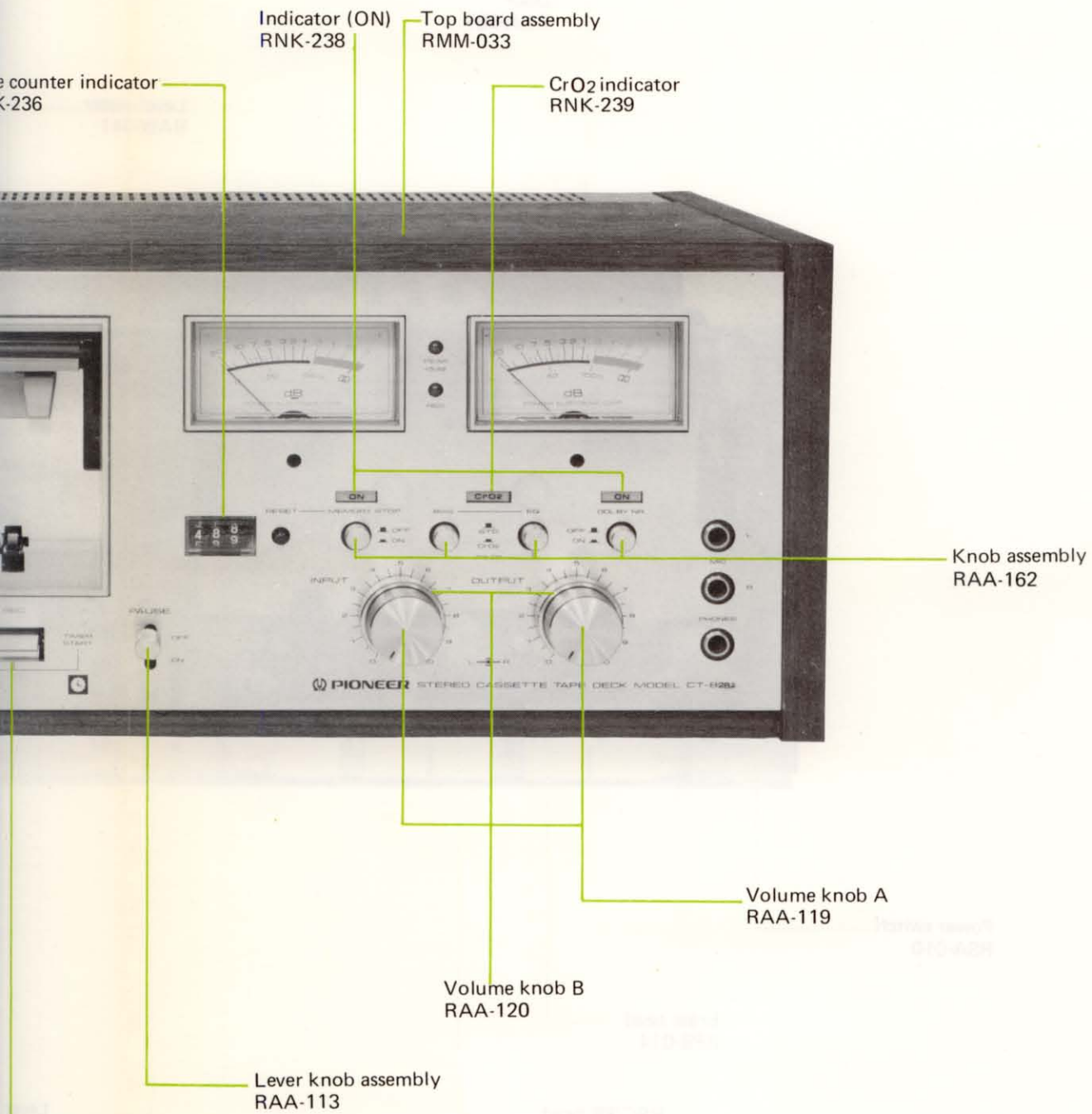
DISASSEMBLY OF THE MECHANISM CHASSIS



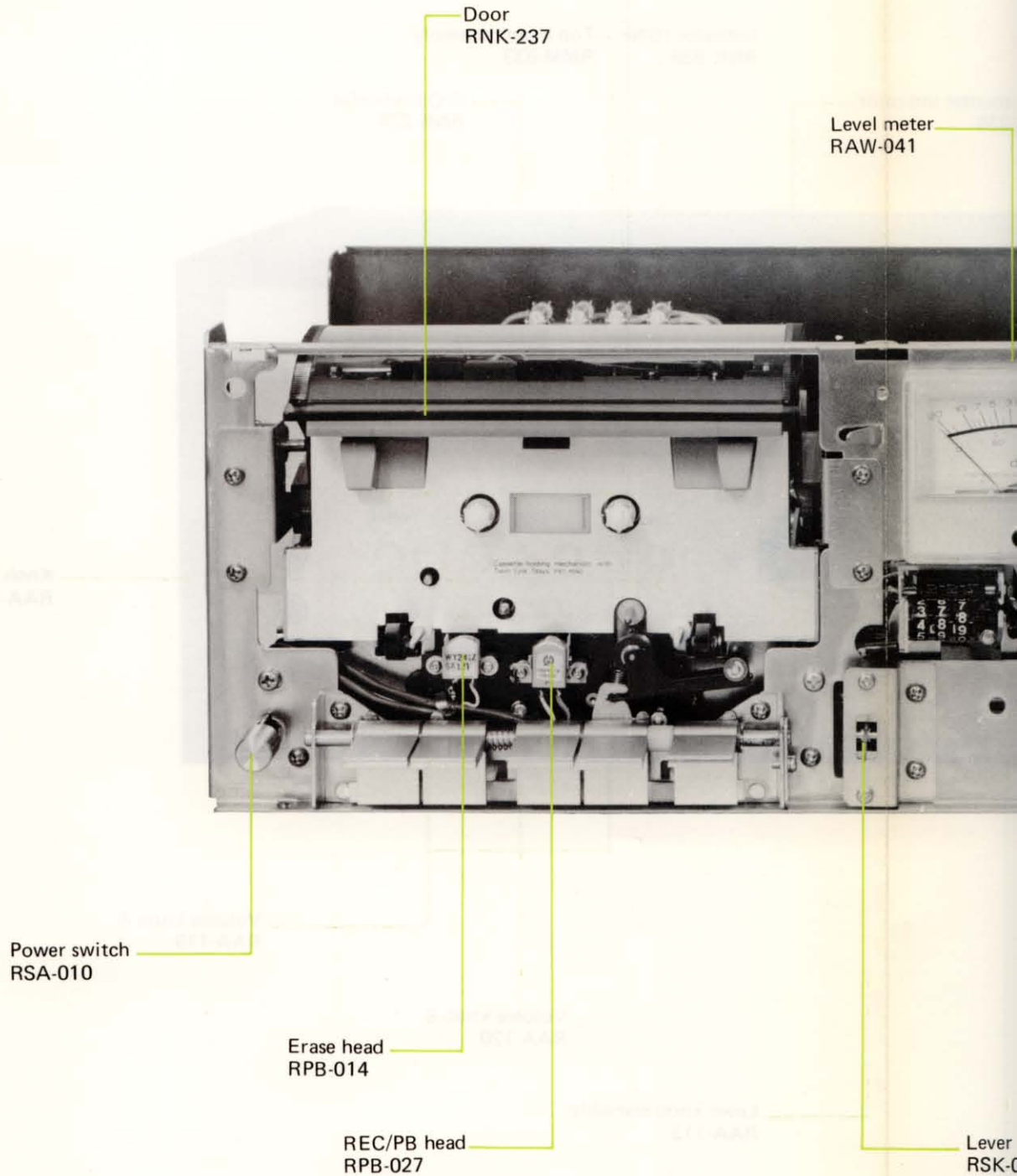
9. PARTS LOCATIONS

9.1 FRONT VIEW



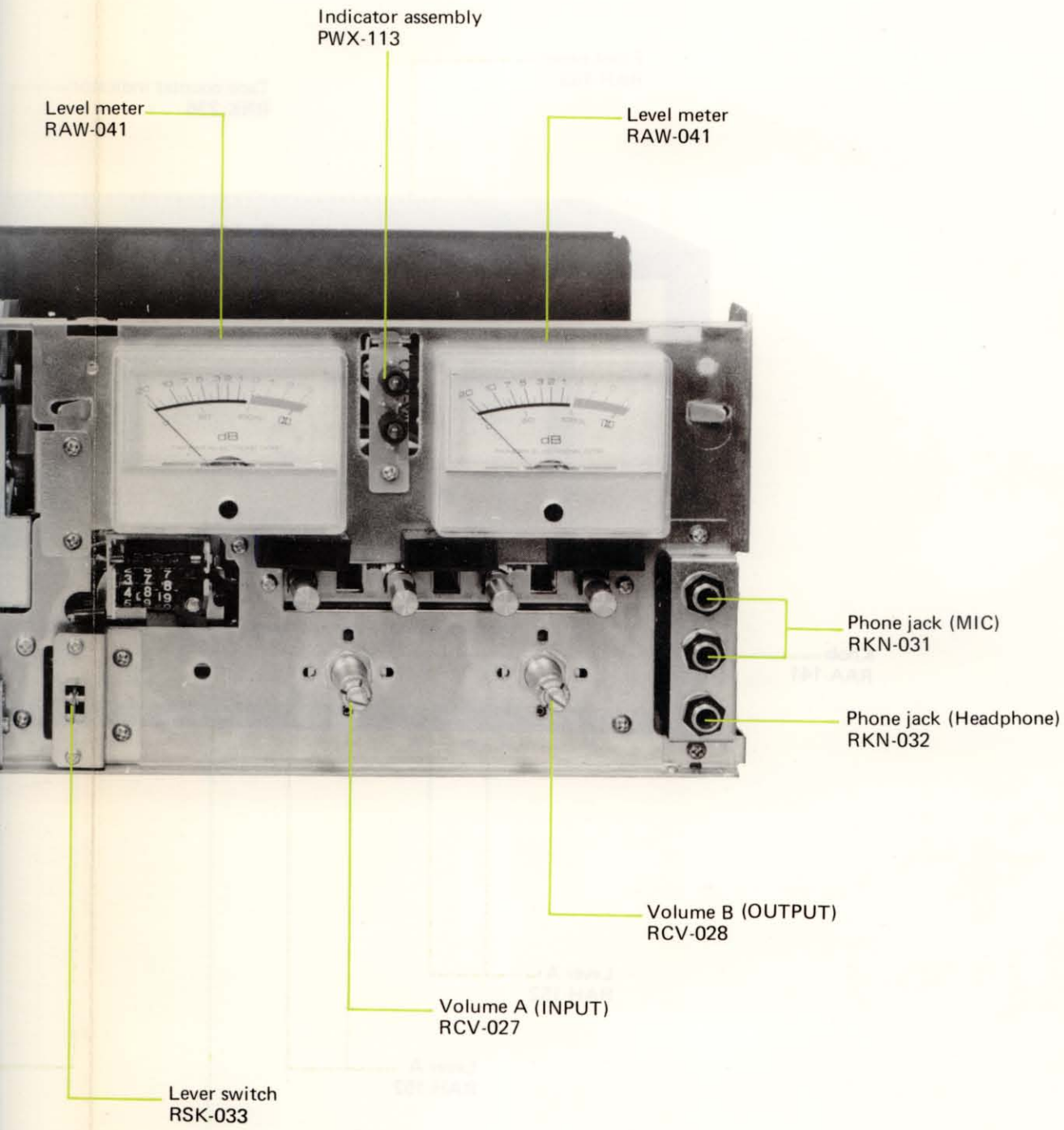


9.2 FRONT VIEW WITH PANEL REMOVED

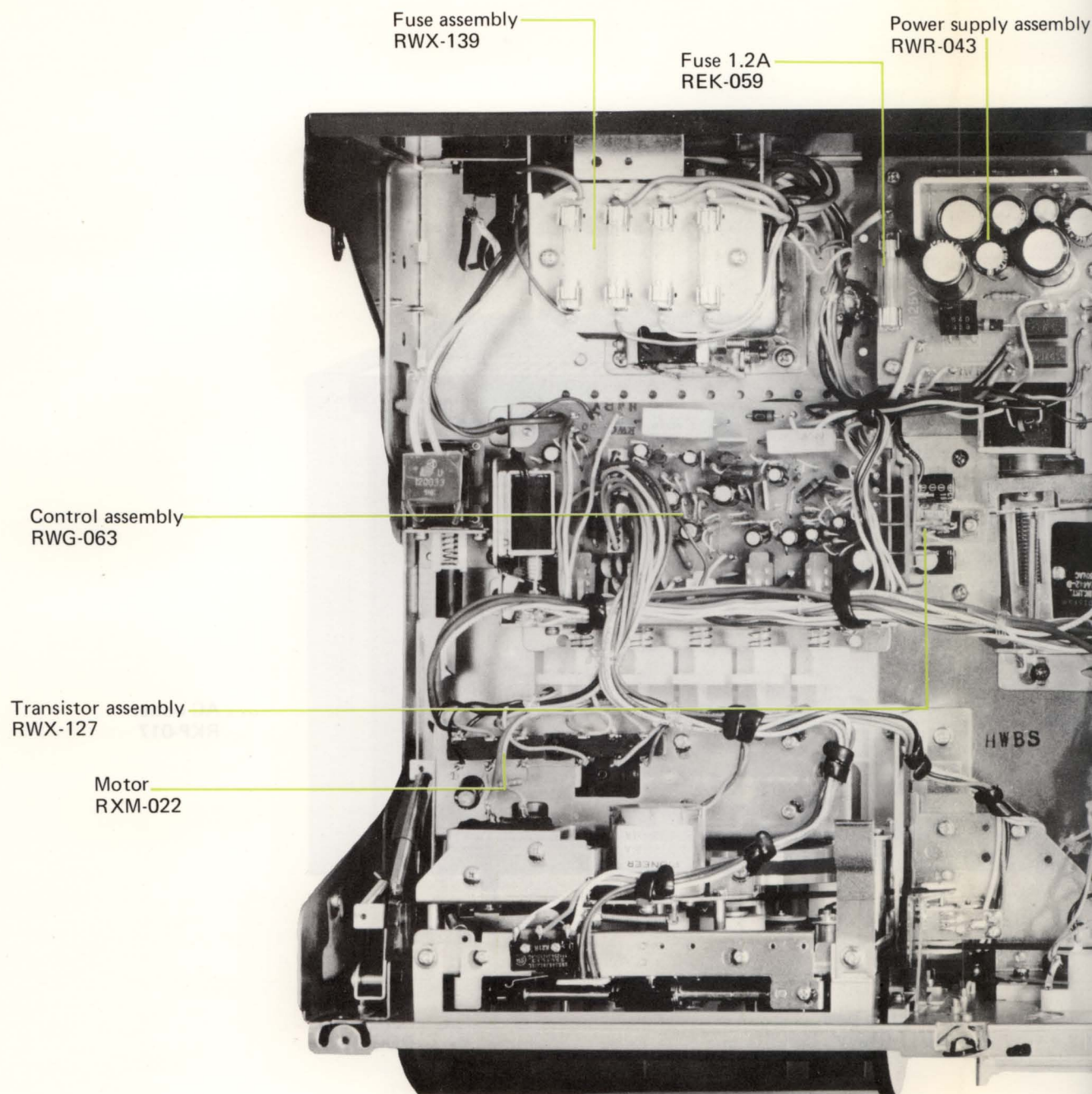


0. PARTS LOCATIONS

R.1. FRONT VIEW



9.3 TOP VIEW



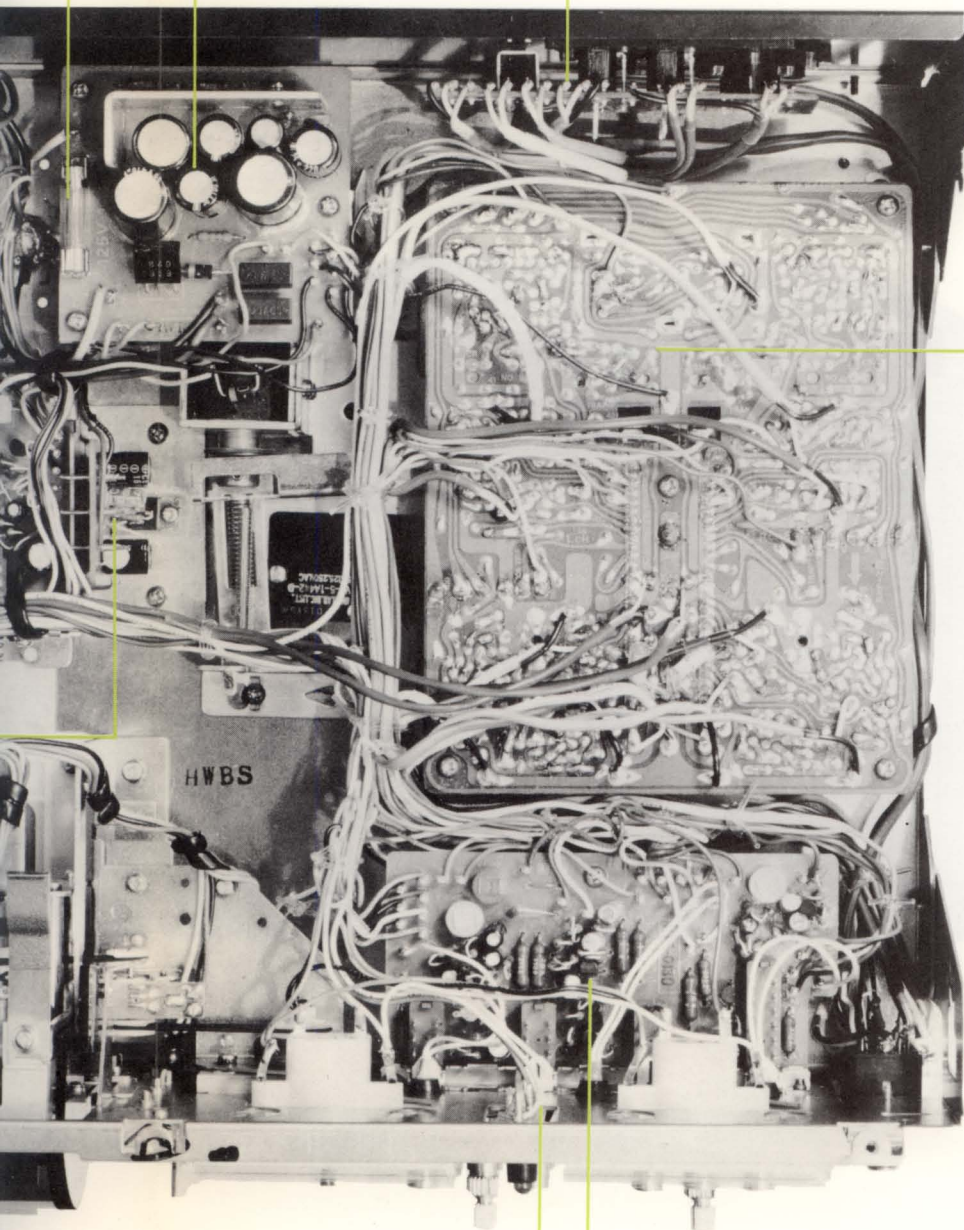
Indicator
PWX-11

W31V RA38 4.8

Power supply assembly
RWR-043

Jack assembly
RWX-128

REC/PB amplifier assembly
RWF-055

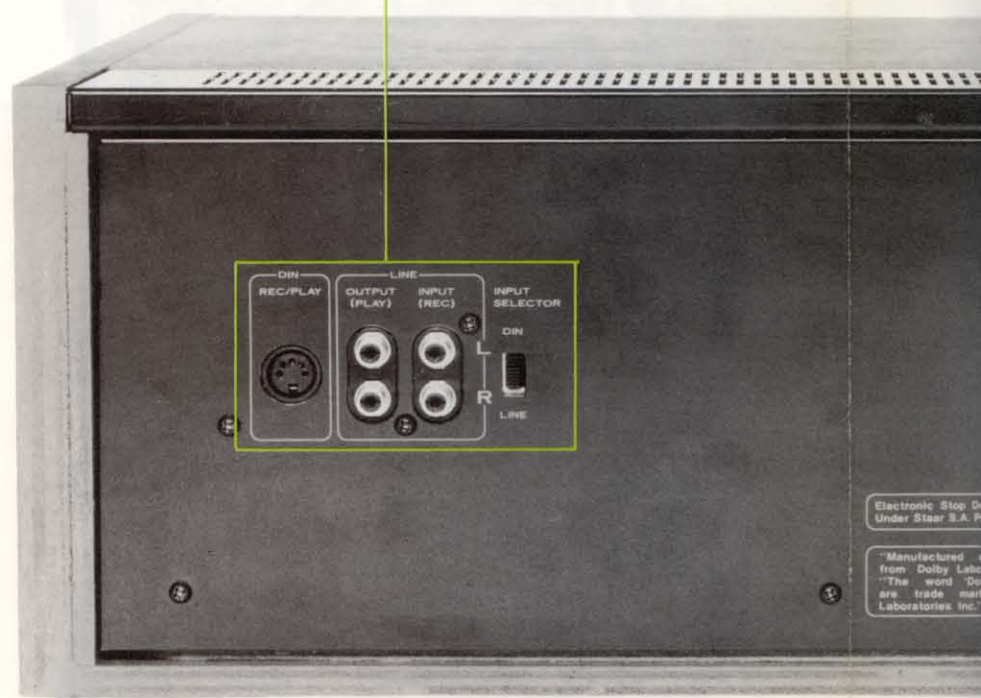


Indicator assembly
PWX-113

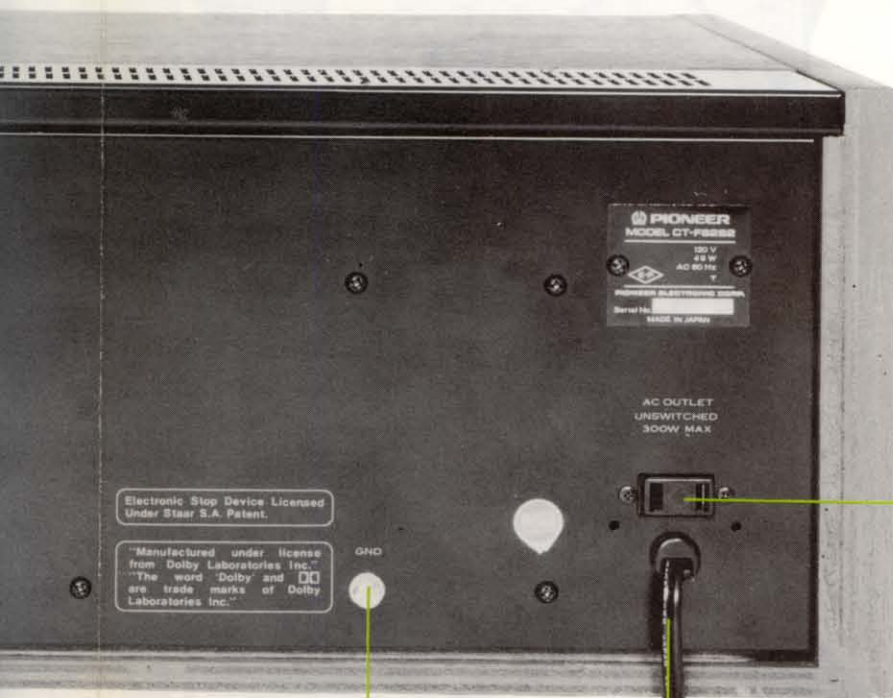
Switch assembly
RWS-048

9.4 REAR VIEW

Jack assembly
RWX-128



Binding p
B11-012



AC outlet
RKP-017

Binding post
B11-012

Power cord
RDG-013

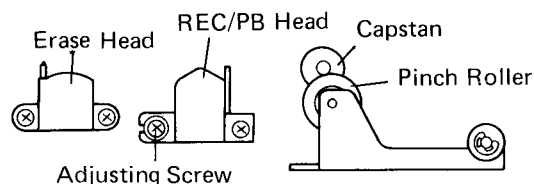
10. ELECTRICAL ADJUSTMENTS

There are two series of adjustments to be followed: those for the reproduction system, and those for the recording system. For reproduction (playback) adjustments, use the special adjustment-setting tape STD-341, and for recording system adjustments, use the recording-adjustment tape STD-601.

Please refer to pages 31, 32 for locations of the semi-fixed resistors and coils used in carrying out adjustments.

HEAD AZIMUTH ADJUSTMENT

1. Set the OUTPUT volume (VR003, 004) to maximum, and attach a millivoltmeter to the OUTPUT terminals.
2. Set the EQ SELECTOR to STD. Play back the 10kHz signal on the adjustment-tape (STD-341), and adjust the head azimuth (angle) for maximum output from both L and R channels.
3. Be sure to fasten the screw with locktight after completing this adjustments.



PLAYBACK EQUALIZATION ADJUSTMENT

1. Set the EQ SELECTOR to STD, and turn the semi-fixed resistor VR101, 201, to their maximum positions.
2. Play back STD-341 (333Hz/-20dB), and adjust the OUTPUT volume (VR003, 004) so that the OUTPUT terminal levels are -30dBv (31.6mV).
3. Next, play back the 6.3kHz/-20dB section on STD-341, and adjust the semi-fixed resistor VR102, 202, so that the output level is -29.5dBv (33.5mV).
4. Finally, with the EQ SELECTOR set to CHROME, check that playback level of the 6.3kHz/-20dB signal is within -36dBv to -33dBv (15.9mV to 22.4mV) range.

PLAYBACK LEVEL ADJUSTMENT

1. Set the EQ SELECTOR to STD, attach a millivoltmeter to the output terminals (No. 102, 103) of the REC/PB amplifier assembly. Any convenient setting of the OUTPUT volume control may be used.

2. Turn the DOLBY NR switch ON. Play back the 333Hz/0dB section of STD-341, and adjust VR101, 201 to provide a meter reading of -3.7dBv (653mV).

NOTE:

This setting determines the Dolby level, so it must be performed accurately.

ADJUSTMENT FOR 0 VU

1. Apply a 333Hz/-10dBv (316mV) signal to the INPUT terminals, and switch the unit to the recording mode.
2. Adjust the INPUT VOLUME controls VR001, 002 so that the output level at the output terminals (No. 102, 103) of the REC/PB amplifier assembly is -7.7dBv (412mV).
3. Next, adjust VR602, 603 so that the level meter indication becomes 0 VU.

RECORDING CURRENT ROUGH ADJUSTMENT

1. Apply a 333Hz/-10dBv (316mV) signal to the INPUT terminals, and switch the unit to the recording mode.
2. Adjust the INPUT volume until -7dBv (447mV) signal appears at the OUTPUT terminals.
3. Connect a millivoltmeter between terminals No. 15 and 19, and No. 16 and 20, on the REC/PB amplifier assembly.
4. Disconnect the wire from the No. 44 terminal.
5. With the EQ SELECTOR set to STD, adjust VR103, 203, so that the meter reads 0.4mV.
6. Reconnect the wire to the same terminal (No. 44).

BIAS TRAP ADJUSTMENT

1. With the unit in the recording mode, turn the INPUT VOLUME to maximum. Connect a millivoltmeter and an oscilloscope to the test point TP-2 on the REC/PB amplifier assembly, and tune L102 and L202 for minimum waveform amplitude.
2. With the BIAS SELECTOR set for CHROME, and the INPUT SELECTOR switched to DIN, connect a millivoltmeter to the OUTPUT terminals.
3. Tune L101 and L201 for minimum bias leakage level. Finally, check that the bias leakage is always less than 17.5mV at any position of the INPUT VOLUME.

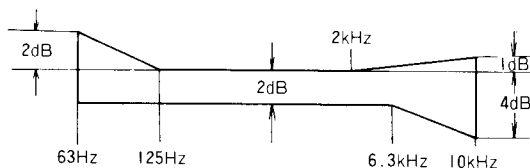
RECORDING CURRENT ROUGH ADJUSTMENT

1. With the unit in the recording mode, turn the INPUT VOLUME to minimum.
2. Switch the EQ SELECTOR to STD.
3. Connect a millivoltmeter between terminals No. 15 and 19, and No. 16 and 20 on the REC/PB amplifier assembly. Adjust VR301, 302 so that the meter indication becomes 1.6 mV.

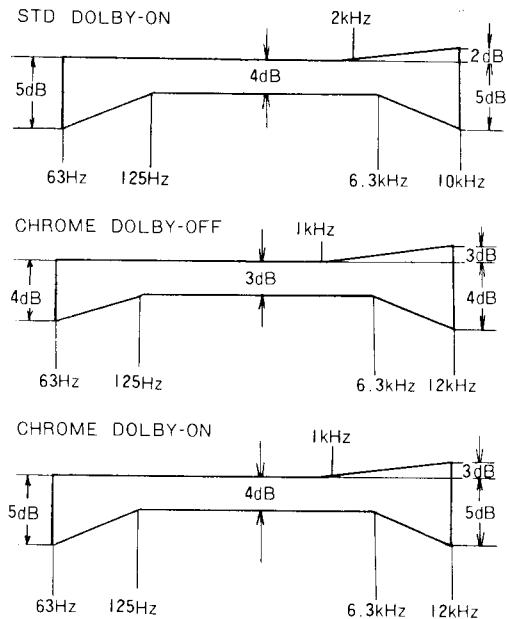
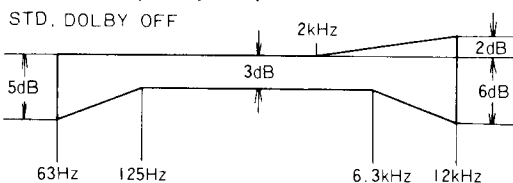
ADJUSTMENT OF REC/PB FREQUENCY RESPONSE

1. Set the BIAS and EQ SELECTOR at STD, the DOLBY NR is switched OFF.
2. Apply a 333Hz/-30dBv (31.6mV) signal to the INPUT terminals, and set the unit in the recording mode. Adjust the INPUT VOLUME control to provide -27dBv (44.7mV) at the OUTPUT terminals.
3. Record the 333Hz signal on the STD-601 tape.
4. Next, record a 6.3kHz/-30dBv (31.6mV) signal, and adjust VR301, 302 so that any deviation in the playback output level from the level for 333Hz in the previous section is within ± 1 dB.
5. Further, record and playback at frequencies up to 12kHz, checking that response is within the specified limits.
6. With the BIAS and EQ SELECTOR at CHROME, record similar 333Hz and 6.3kHz signals on tape STD-602, and adjust VR601 on the switch assembly (RWS-048) so that the difference in playback level for 6.3kHz with respect to that for 333Hz is 1dB $\pm$ 1dB.

Playback Frequency Response



Overall Frequency Response



RECORDING LEVEL ADJUSTMENT

1. Set the BIAS and EQ SELECTOR at STD, switch the DOLBY NR OFF.
2. Apply a 333Hz/-10dBv (316mV) signal to the INPUT terminals, and connect a millivoltmeter to the DOLBY-OUT terminals (No. 102, 103) on the REC/PB amplifier assembly. Adjust the INPUT VOLUME to provide -7.7dBv (412mV) output.
3. Record the 333Hz/-10dBv (316mV) signal on tape STD-601, and adjust VR103, 203 to provide -7.7dBv (412mV) output from the DOLBY OUT terminals (No. 102, 103) on the REC/PB amplifier assembly.
4. With the BIAS and EQ SELECTOR set to CHROME, record and playback the 333Hz/-10dBv (316mV) signal on tape STD-602, and check that the output from the DOLBY OUT terminals (No. 102, 103) on the REC/PB amplifier assembly is -6.2dBv ~ -9.2dBv (490mV ~ 347mV).

CHECK OF PEAK INDICATOR OPERATION

1. With the unit in the recording state, apply a 333Hz/-10dBv (316mV) signal to the INPUT terminals, and turn the INPUT VOLUME down to minimum.
2. Operating with the L-channel alone, check that the PEAK INDICATOR lamp illuminates when the L-channel output is -3dBv ~ -1dBv (708mV ~ 891mV).
3. After having checked the L channel, check both the operation of the R channel alone, and L and R channels together.

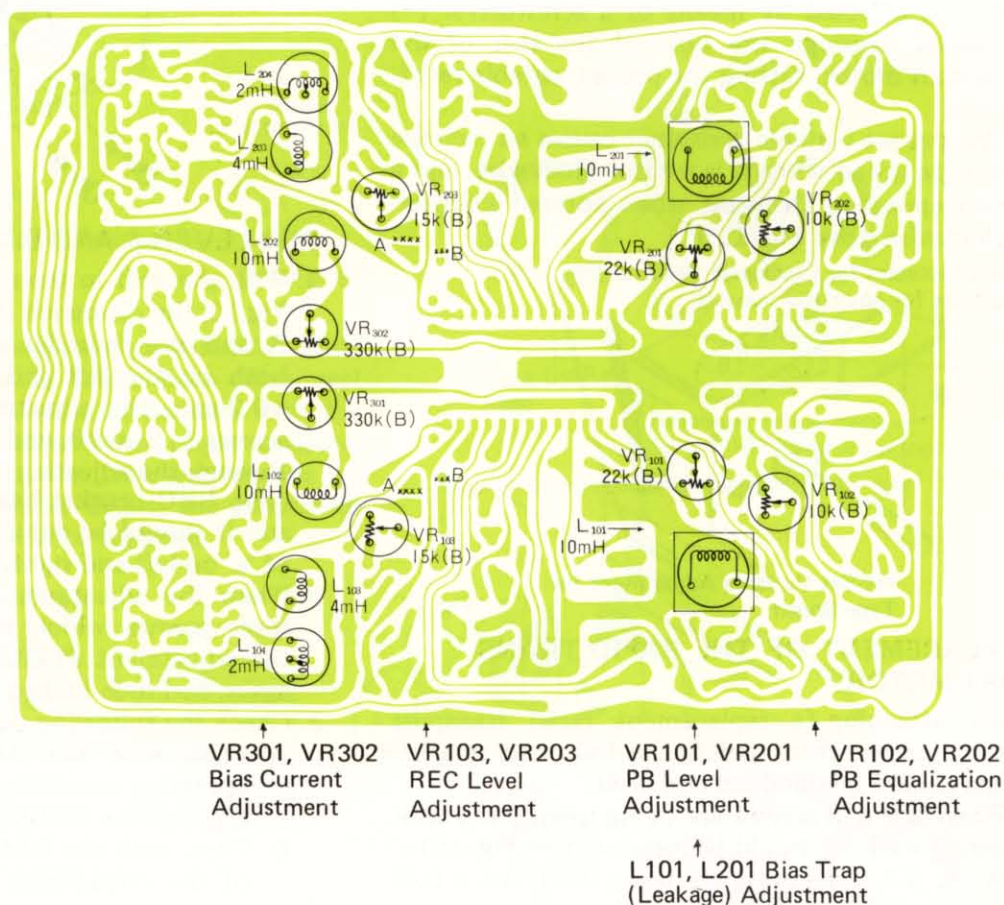
DOLBY ADJUSTMENT

1. Connect a millivoltmeter to the REC/PB amplifier assembly terminals No. 102 (L channel) and No. 103 (R channel).
2. Turn the DOLBY NR switch ON.
3. Turn VR401 (for L and R channel) on the Dolby circuit board to maximum.
4. Apply a 5kHz signal to the INPUT terminals, and set the unit into the recording mode.
5. Adjust the INPUT LEVEL control until the meter reading is -4.7dBv (582mV).
6. Reduce the INPUT terminal signal level from that of (5) by 40dB .
7. Adjust VR402 (for L and R channel) until the millivoltmeter reading becomes -34.7dBv (18.4mV).
8. Raise the INPUT signal level from that of (6) by 10dB .
9. Adjust VR401 (for L and R channel) until the millivoltmeter reading becomes -26.7dBv (46.2mV).

REC/PB Amplifier Assembly Points of Adjustment

※
Response Compensation Adj.
(A), (B) REC/PB Frequency

L102, L202
Bias Trap Adjustment



※

NOTE:

(A) and (B) have been adjusted at the factory before shipment to have the optimum equalization for the REC/PB heads fitted.

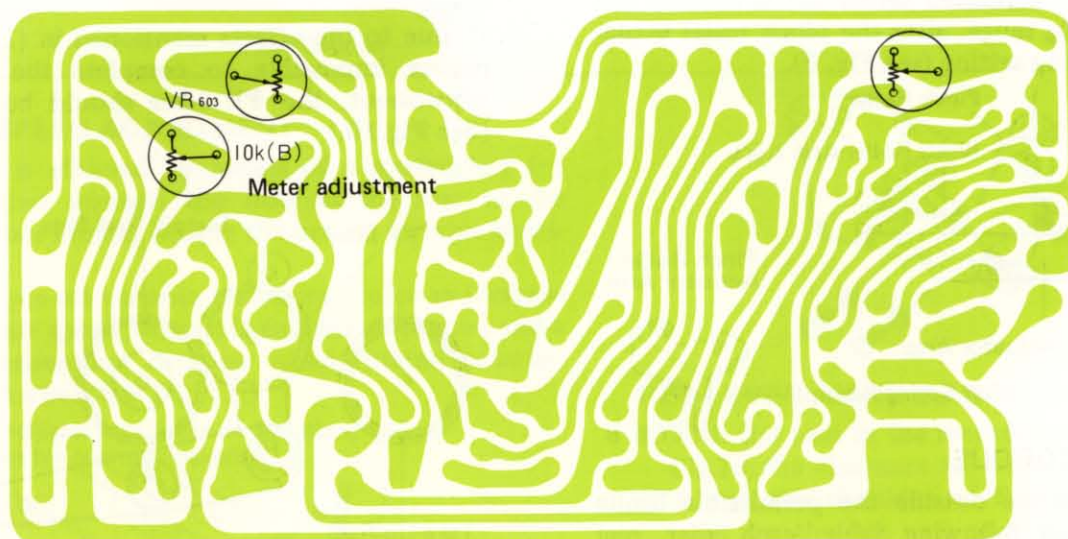
Their effects upon the REC/PB static response are as shown in the table.

A	B	Effect (at 6.3kHz for all POSITIONS)
Soldered	Soldered	+1.2[dB]
Soldered	Isolated	0[dB] (standard)
Isolated	Isolated	-2.0[dB]

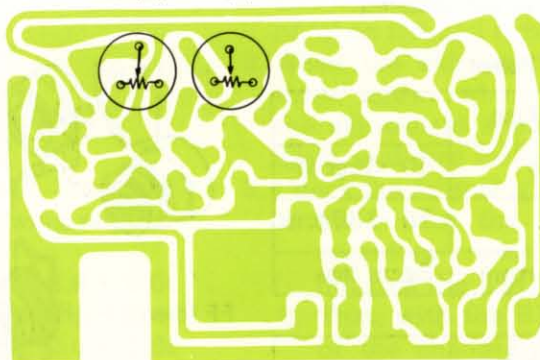
Adjustment Points on the Switch Assembly

VR601 470 (B)
(CHROME bias adjustment)

VR602 10k (B)
(Meter adjustment)

**Dolby Assembly Adjustment Points**

VR401 10k(B) VR402 1k(B)



11. MECHANICAL ADJUSTMENTS

PINCH ROLLER PRESSURE

1. Refer to page 20 for the method of disassembly of the various parts, and remove the mechanism chassis assembly. Attach the connector between unit and mechanism chassis assembly so that mechanism assembly will be able to be operated.
2. In the PLAY mode, insert a 500g tension gauge at the measuring point, and separate the pinch roller from the capstan by approximately 1 to 2 mm. Check that when motion subsequently begins with the pinch roller pressing against the capstan, the reading is between 350 and 450g. (At the same time, check that there is a gap between the pinch roller actuator arm and the head base.)
3. If the value measured under (2) is outside the 350 to 450g range, alter the pinch roller actuator arm spring setting (see Fig. 8).

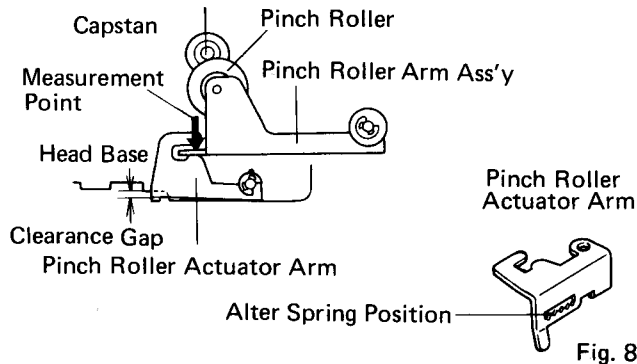


Fig. 8

REEL BASE TORQUE

If the torques lie outside the permissible limits detailed in the following table, each idler, reel base, and other components in contact with the rollers should be cleaned and the torque measurement repeated. If, even after this, the torques are still outside the permissible limits, the take-up or supply reel affected should be replaced.

Trque Values for Reel Bases

Take-up Reel Base	
PLAY Take-Up Torque	40—65gcm
FF Take-Up Torque	75—130gcm
REW Back-Tension Torque	8gcm less

Supply Reel Base	
PLAY Back-Tension Torque	4—8gcm
REW Tape-Up Torque	75—130gcm

ADJUSTMENT OF THE FF/REW REVERSING FORCE

The mechanism for changing over from FF to REW does not only change the direction of rotation of the rapid transport motor, but also reverses the FF idler.

This reversing force is adjusted, as shown in Fig. 9, by means of the FF reverse spring.

When the reverse spring is re-located in the direction of the arrow, it increases the force available to effect the reverse.

1. After adjusting the spring, always be sure to alternate several times between FF and REW. If any unusual vibration, etc., is noticed, the spring should be returned to the standard location.
2. If, due to the effects mentioned in (1) above, it proves impossible to complete the necessary adjustment, the FF idler should be replaced. (See Fig.10.)

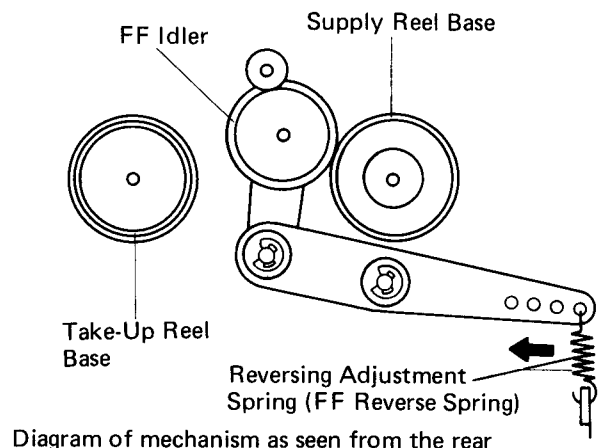


Fig. 9

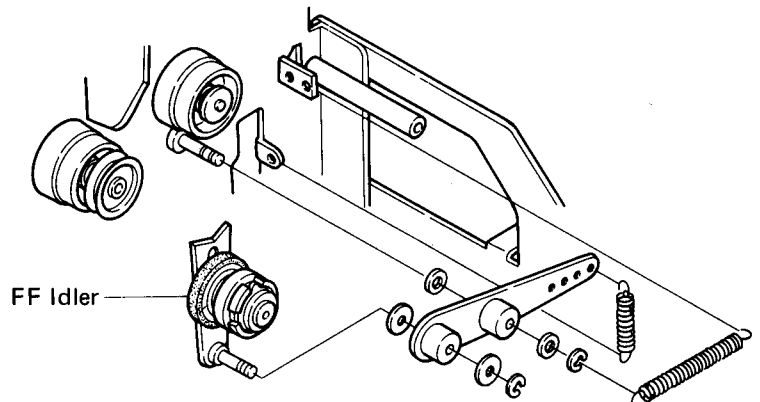
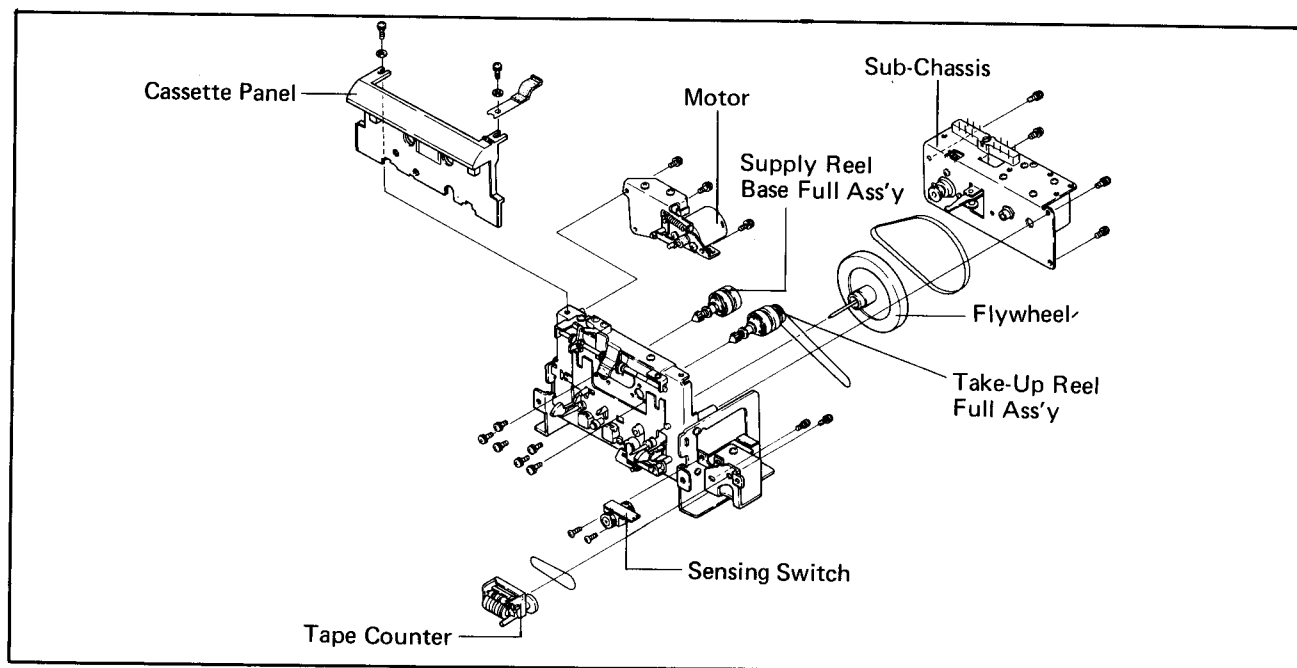


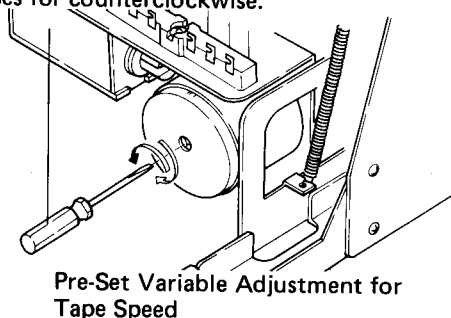
Fig. 10



TAPE SPEED ADJUSTMENT

1. This is effected by means of a screwdriver (-) inserted through the hole at the rear of the capstan motor, setting the pre-set variable resistance.
2. The pre-set variable resistance causes an increase in tape speed when it is rotated clockwise, and a corresponding decrease when rotated counterclockwise. (See Fig. 11.)

Speed Increases for Clockwise Rotation,
Decreases for counterclockwise.



Pre-Set Variable Adjustment for
Tape Speed

Fig. 11

REPLACEMENT OF THE RAPID TRANSPORT MOTOR

When attaching a replacement rapid transport motor, screws which satisfy the following requirements should be obtained and used:

1. When 2.6 x 3 screws are being used, 2.6 x 0.6t spring washers should be inserted (See Fig. 12)
2. When 2.6 x 4 screws are being used, 2.6 x 0.6t spring washers and 2.5 x 0.5t flat washers should be inserted. The motor will be destroyed if screws are used which do not satisfy the above conditions.

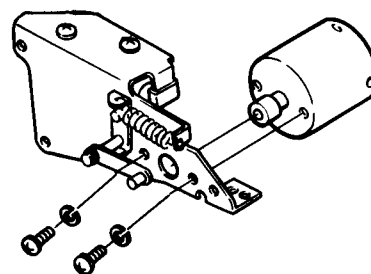


Fig. 12

REC LEVER A AND B ADJUSTMENT

1. With the unit in the recording state, as shown in Fig. 13, the clearance (a) between recording lever A and the shoulder of B should be the same both on the left and on the right, at $0.5 \text{ mm} \pm 0.2 \text{ mm}$. This adjustment is made by slackening screws 1, 2 and 3, and inserting a (-) screwdriver through the adjusting hole. (The REC bracket has some freedom to rotate, and it should be adjusted to give the same value of 'a' on left and right.)
2. When the adjustment has been completed, all three screws which were slackened to permit the adjustment should be tightened back down again, and then locked.
3. Check the following points after the adjustment:
 - A. That, with the REC solenoid in the non-operating condition, the REC lever A does not foul the REC/PB changeover switch.
 - B. That, with the REC solenoid operating, both of the changeover switch are entered positively.
 - C. That, with the REC solenoid operating, the REC lever B gives positive changeover of the microswitch.

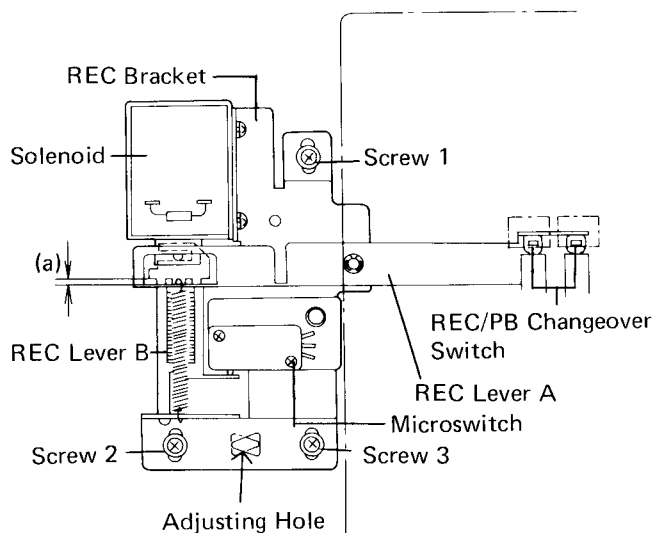


Fig. 13

REPLACEMENT OF THE DOOR

1. Remove the bonnet and front panel.
2. Remove the door spring which tends to hold door open.
3. The four screws which secure the door supports at both sides of the door, in front of the panel stay, are slackened (See Fig.14).
4. With the door in the shut position, the door may be pulled forward and detached when the supports mentioned in (3) above are displaced to the side (outwards).
5. Door installation is carried out in the reverse order.

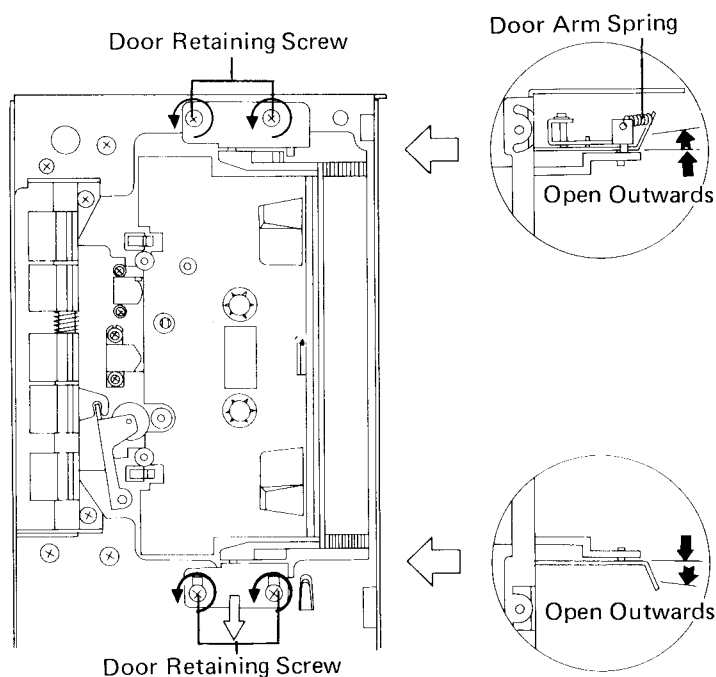


Fig. 14

LEVEL METER 'PLAY'

1. The degree of 'play' in the attachment of the level meters should be adjusted with reference to Fig. 15.
2. If the bending angle is too great, the meter may be damaged, so particular care is called for when tightening front panel screws so that meter is not held excessively tight by panel springs.

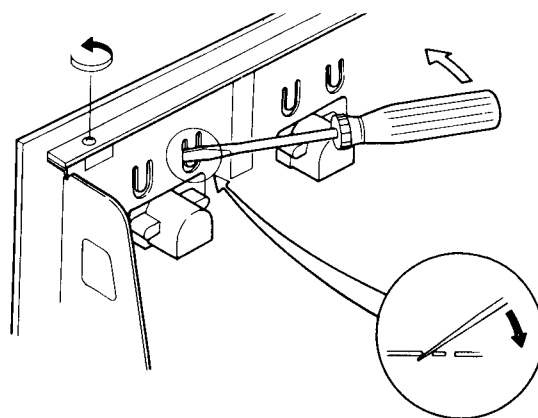


Fig. 15

CONCERNING WOW AND FLUTTER

The wow and flutter figure for the CT-F8282, at 0.07% WRMS, put this unit in the high performance class. If uneven rotation is indicated by wow and flutter, the following points should be checked. Based on this, the appropriate action (cleaning, adjustment, or replacement of parts) should be taken.

1. Capstan deformation, vibration or dirt.
2. Play in the flywheel slide.
3. Dirt or deterioration in the capstan belt.
4. Dirt or unsuitable contact pressure in the pinch roller.
5. Dirt, eccentricity, or unsuitable contact pressure in the take-up idler.
6. Uneven torque in the take-up reel base torque.
7. Unsuitable or uneven back tension.
8. Torque unevenness arising from sensing switch or counter.
9. Defective cassette (tape).

11.10 MICROSWITCH ADJUSTMENT

The microswitch which is turned ON or OFF by the cassette case is to prevent mistaken erasure. When it has been replaced, insert a cassette case and check that it works positively.

12. SCHEMATIC DIAGRAMS P.C, BOARD PATTERN AND PART LISTS

12.1 MISCELLANEOUS-PARTS

NOTE:

- Capacitors: in μF unless otherwise noted P:PF
- Resistors: in Ω , $\frac{1}{4}\text{W}$ unless otherwise noted K:k Ω , M:M Ω

Symbol	Description	Part No.
R001	Carbon film 10k	RD $\frac{1}{4}$ PS 103J
R002	Carbon film 10k	RD $\frac{1}{4}$ PS 103J
VR001	INPUT LEVEL Control 20k(A)	RCV-027
VR002	INPUT LEVEL Control 20k(A)	RCV-027
VR003	OUTPUT LEVEL Control 20k(B)	RCV-028
VR004	OUTPUT LEVEL Control 20k(B)	RCV-028
S13	Lever switch (PAUSE)	RSK-033
S15	Micro switch	RSF-019
D003	Diode	SIB01-01 or W03B
T001	Power transformer	RTT-101
CR1	Spark killer	RWX-109
PL4	Lamp (DRLBY)	REL-026
PL5	Lamp (MEMORY)	REL-026
PL6	Lamp (CHROME)	REL-026

Description	Part No.
AC outlet	RKP-017
Level meter	RAW-041
MIC jack	RKN-031
HEADPHONES jack	RKN-032
Solenoid (REC)	RXP-031
REC/PB amplifier assembly	RWF-055
Dolby processor assembly	RWX-129
Control assembly	RWG-063
Switch assembly	RWS-048
Transistor assembly	RWX-127
Jack assembly	RWX-128
Power supply assembly	RWR-043
Indicator assembly	RWX-113
Fuse assembly	RWX-139

External Appearance of Transistors

2SC1327

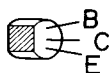
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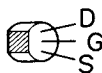
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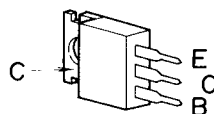


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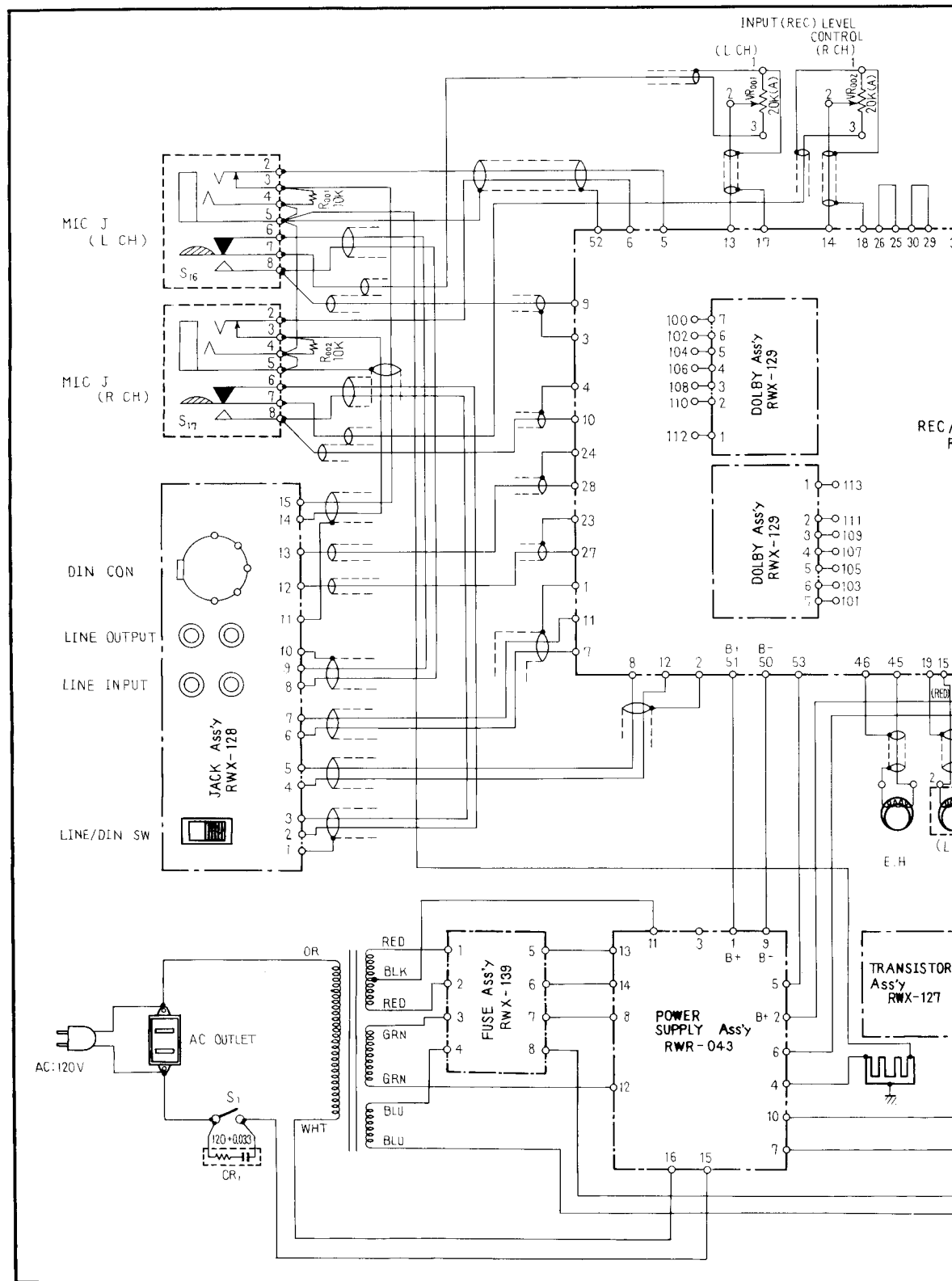
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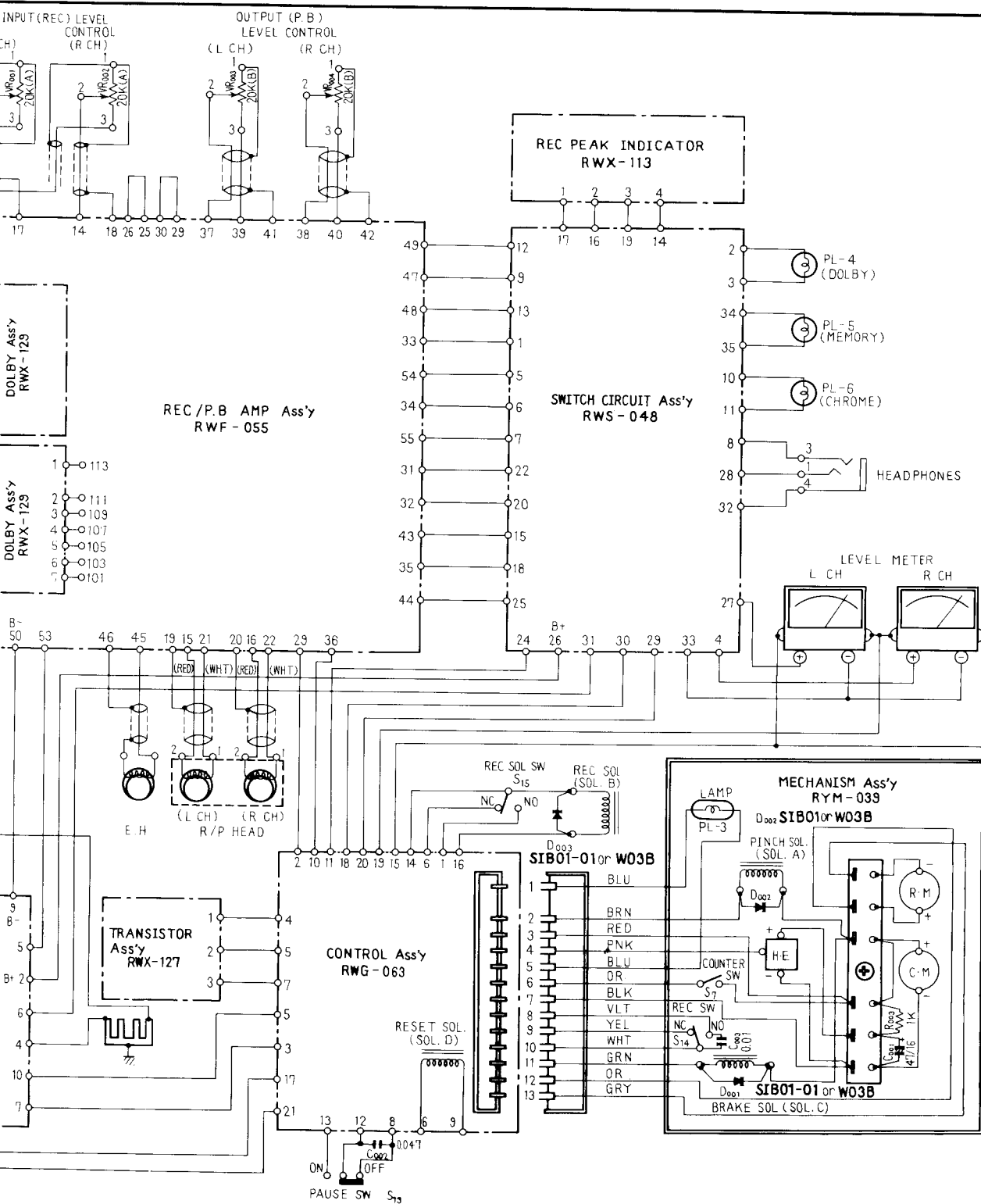
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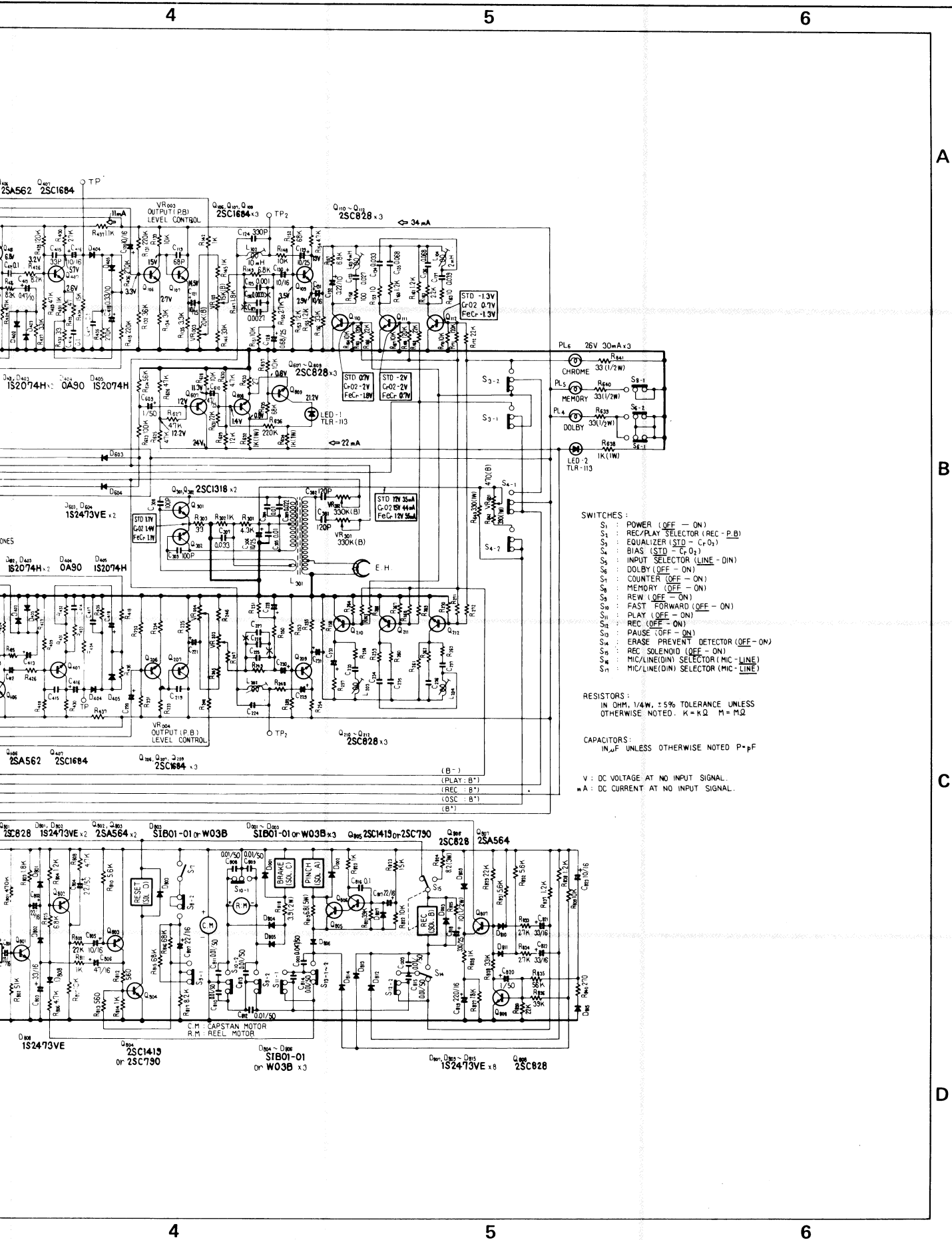
12.2 CIRCUIT OUTLINE





A





12.4 REC/PB AMPLIFIER ASSEMBLY (RWF-055)

Parts List

SEMICONDUCTORS

Symbol	Description	Part No.
Q101	Transistor	2SC1327-T or U
Q102	Transistor	2SC1327-T or U
Q103	Transistor	2SC1327-T or U
Q104	Transistor	2SC1327-T or U
Q105	Transistor	2SC1327-T or U
Q106	Transistor	2SC1684-R or S
Q107	Transistor	2SC1684-R or S
Q108	Transistor	2SC1684-R or S
Q109	Transistor	2SC1684-R or S
Q110	Transistor	2SC828-R or S
Q111	Transistor	2SC828-R or S or Q
Q112	Transistor	2SC828-R or S or Q
Q113	Transistor	2SC828-R or S or Q
Q114	Transistor	2SK30A-O or Y
Q201	Transistor	2SC1327-T or U
Q202	Transistor	2SC1327-T or U
Q203	Transistor	2SC1327-T or U
Q204	Transistor	2SC1327-T or U
Q205	Transistor	2SC1327-T or U
Q206	Transistor	2SC1684-R or S
Q207	Transistor	2SC1684-R or S
Q208	Transistor	2SC1684-R or S
Q209	Transistor	2SC1684-R or S
Q210	Transistor	2SC828-R or S or Q
Q211	Transistor	2SC828-R or S or Q
Q212	Transistor	2SC828-R or S or Q
Q213	Transistor	2SC828-R or S or Q
Q214	Transistor	2SK30A-O or Y
Q301	Transistor	2SC1318-R or S
Q302	Transistor	2SC1318-R or S
D101	Diode	1S2473VE
D102	Diode	1S2473VE
D103	Diode	1S2473VE

RESISTORS

Symbol	Description	Part No.
VR101	Semi-fixed 22k (B)	C92-857
VR102	Semi-fixed 10k (B)	C92-049
VR103	Solid semi-fixed 15k (B)	RCP-006
VR201	Semi-fixed 22k (B)	C92-857
VR202	Semi-fixed 10k (B)	C92-049
VR203	Solid-semi-fixed 15k (B)	RCP-006
VR301	Semi-fixed 330k (B)	RCP-021
VR302	Semi-fixed 330k (B)	RCP-021

Symbol	Description	Part No.
R100	Carbon film 120k	RD4VS 124J
R101	Carbon film 220k	RD4VS 224J
R102	Carbon film 10k	RD4VS 103J
R103	Carbon film 680	RD4VS 681J
R104	Carbon film 68k	RD4VS 683J
R105	Carbon film 100k	RD4VS 104J
R106	Carbon film 27k	RD4VS 273J
R107	Carbon film 470	RD4VS 471J
R108	Carbon film 3.9k	RD4VS 392J
R109	Carbon film 2.7k	RD4VS 272J
R110	Carbon film 3.9k	RD4VS 392J
R111	Carbon film 1k	RD4VS 102J
R112	Carbon film 5.6k	RD4VS 562J
R113	Carbon film 10	RD4VS 100J
R114	Carbon film 100k	RD4VS 104J
R115	Carbon film 3.3k	RD4VS 332J
R116	Carbon film 10k	RD4VS 103J
R117	Carbon film 33k	RD4VS 333J
R118	Carbon film 6.2k	RD4VS 622J
R119	Carbon film 270k	RD4VS 274J
R120	Carbon film 2.2k	RD4VS 222J
R121	Carbon film 470	RD4VS 471J
R122	Carbon film 18k	RD4VS 183J
R123	Carbon film 330	RD4VS 331J
R124	Carbon film 3.3k	RD4VS 332J
R125	Carbon film 15k	RD4VS 153J
R126	Carbon film 120k	RD4VS 124J
R127	Carbon film 47k	RD4VS 473J
R128	Carbon film 1k	RD4VS 102J
R129	Carbon film 2.2k	RD4VS 222J
R130	Carbon film 680	RD4VS 681J
R131	Carbon film 220k	RD4VS 224J
R132	Carbon film 36k	RD4VS 363J
R133	Carbon film 10k	RD4VS 103J
R134	Carbon film 3k	RD4VS 302J
R135	Carbon film 3.3k	RD4VS 332J
R136	Carbon film 1k	RD4VS 102J
R137	Carbon film 120k	RD4VS 124J
R138	Carbon film 270k	RD4VS 274J
R139	Carbon film 3.9k	RD4VS 392J
R140	Carbon film 33k	RD4VS 333J
R141	Carbon film 3.3k	RD4VS 332J
R142	Carbon film 1k	RD4VS 102J
R143	Carbon film 6.8k	RD4VS 682J
R144	Carbon film 12k	RD4VS 123J
R145	Carbon film 1k	RD4VS 102J
R146	Carbon film 33k	RD4VS 333J
R147	Carbon film 1.8k	RD4VS 182J

Symbol	Description	Part No.	Symbol	Description	Part No.
R148	Carbon film 10k	RD%VS 103J	R218	Carbon film 6.2k	RD%VS 622J
R149	Carbon film 6.8k	RD%VS 682J	R219	Carbon film 270k	RD%VS 274J
R150	Carbon film 2.7k	RD%VS 272J	R220	Carbon film 2.2k	RD%VS 222J
R151	Carbon film 10k	RD%VS 103J	R221	Carbon film 470	RD%VS 471J
R152	Carbon film 68k	RD%VS 683J	R222	Carbon film 18k	RD%VS 183J
R153	Carbon film 12k	RD%VS 123J	R223	Carbon film 330	RD%VS 331J
R154	Carbon film 4.7k	RD%VS 472J	R224	Carbon film 3.3k	RD%VS 332J
R155	Carbon film 1.2k	RD%VS 122J	R225	Carbon film 15k	RD%VS 153J
R156	Carbon film 33k	RD%VS 333J	R226	Carbon film 120k	RD%VS 124J
R157	Carbon film 6.8k	RD%VS 682J	R227	Carbon film 47k	RD%VS 473J
R158	Carbon film 100	RD%VS 101J	R228	Carbon film 1k	RD%VS 102J
R159	Carbon film 10	RD%VS 100J	R229	Carbon film 2.2k	RD%VS 222J
R160	Carbon film 1.2k	RD%VS 122J	R230	Carbon film 680	RD%VS 681J
R161	Carbon film 1.2k	RD%VS 122J	R231	Carbon film 220k	RD%VS 224J
R162	Carbon film 2.2k	RD%VS 222J	R232	Carbon film 36k	RD%VS 363J
R163	Carbon film 10	RD%VS 100J	R233	Carbon film 10k	RD%VS 103J
R164	Carbon film 10k	RD%VS 103J	R234	Carbon film 3k	RD%VS 302J
R165	Carbon film 120k	RD%VS 124J	R235	Carbon film 3.3k	RD%VS 332J
R166	Carbon film 22k	RD%VS 223J	R236	Carbon film 1k	RD%VS 102J
R167	Carbon film 10k	RD%VS 103J	R237	Carbon film 120k	RD%VS 124J
R168	Carbon film 120k	RD%VS 124J	R238	Carbon film 270k	RD%VS 274J
R169	Carbon film 22k	RD%VS 223J	R239	Carbon film 3.9k	RD%VS 392J
R170	Carbon film 10k	RD%VS 103J	R240	Carbon film 33k	RD%VS 333J
R171	Carbon film 120k	RD%VS 124J	R241	Carbon film 3.3k	RD%VS 332J
R172	Carbon film 22k	RD%VS 223J	R242	Carbon film 1k	RD%VS 102J
R173	Carbon film 100k	RD%VS 104J	R243	Carbon film 6.8k	RD%VS 682J
R174	Carbon film 100k	RD%VS 104J	R244	Carbon film 12k	RD%VS 123J
R175	Carbon film 100k	RD%VS 104J	R245	Carbon film 1k	RD%VS 102J
R176	Carbon film 27k	RD%VS 273J	R246	Carbon film 33k	RD%VS 333J
R177	Carbon film 15k	RD%VS 153J	R247	Carbon film 1.8k	RD%VS 182J
R178	Carbon film 5.6k	RD%VS 562J	R248	Carbon film 10k	RD%VS 103J
R179	Carbon film 3.3k	RD%VS 332J	R249	Carbon film 6.8k	RD%VS 682J
R180	Carbon film 68k	RD%VS 683J	R250	Carbon film 2.7k	RD%VS 272J
R181	Carbon film 6.8k	RD%VS 682J	R251	Carbon film 10k	RD%VS 103J
R200	Carbon film 120k	RD%VS 124J	R252	Carbon film 68k	RD%VS 683J
R201	Carbon film 220k	RD%VS 224J	R253	Carbon film 12k	RD%VS 123J
R202	Carbon film 10k	RD%VS 103J	R254	Carbon film 4.7k	RD%VS 472J
R203	Carbon film 680	RD%VS 681J	R255	Carbon film 1.2k	RD%VS 122J
R204	Carbon film 68k	RD%VS 683J	R256	Carbon film 33k	RD%VS 333J
R205	Carbon film 100k	RD%VS 104J	R257	Carbon film 6.8k	RD%VS 682J
R206	Carbon film 27k	RD%VS 273J	R258	Carbon film 100	RD%VS 101J
R207	Carbon film 470	RD%VS 471J	R259	Carbon film 10	RD%VS 100J
R208	Carbon film 3.9k	RD%VS 392J	R260	Carbon film 1.2k	RD%VS 122J
R209	Carbon film 2.7k	RD%VS 272J	R261	Carbon film 1.2k	RD%VS 122J
R210	Carbon film 3.9k	RD%VS 392J	R262	Carbon film 2.2k	RD%VS 222J
R211	Carbon film 1k	RD%VS 102J	R263	Carbon film 10	RD%VS 100J
R212	Carbon film 5.6k	RD%VS 562J	R264	Carbon film 10k	RD%VS 103J
R213	Carbon film 10	RD%VS 100J	R265	Carbon film 120k	RD%VS 124J
R214	Carbon film 100k	RD%VS 104J	R266	Carbon film 2.2k	RD%VS 223J
R215	Carbon film 3.3k	RD%VS 332J	R267	Carbon film 10k	RD%VS 103J
R216	Carbon film 10k	RD%VS 103J	R268	Carbon film 120k	RD%VS 124J
R217	Carbon film 33k	RD%VS 333J	R269	Carbon film 22k	RD%VS 223J

Symbol	Description			Part No.
R270	Carbon film	10k		RD4VS 103J
R271	Carbon film	120k		RD4VS 124J
R272	Carbon film	22k		RD4VS 223J
R279	Carbon film	3.3k		RD4VS 332J
R301	Carbon film	4.3k		RD4VS 432J
R302	Carbon film	1k		RD4VS 102J
R303	Carbon film	33		RD4VS 330J

CAPACITORS

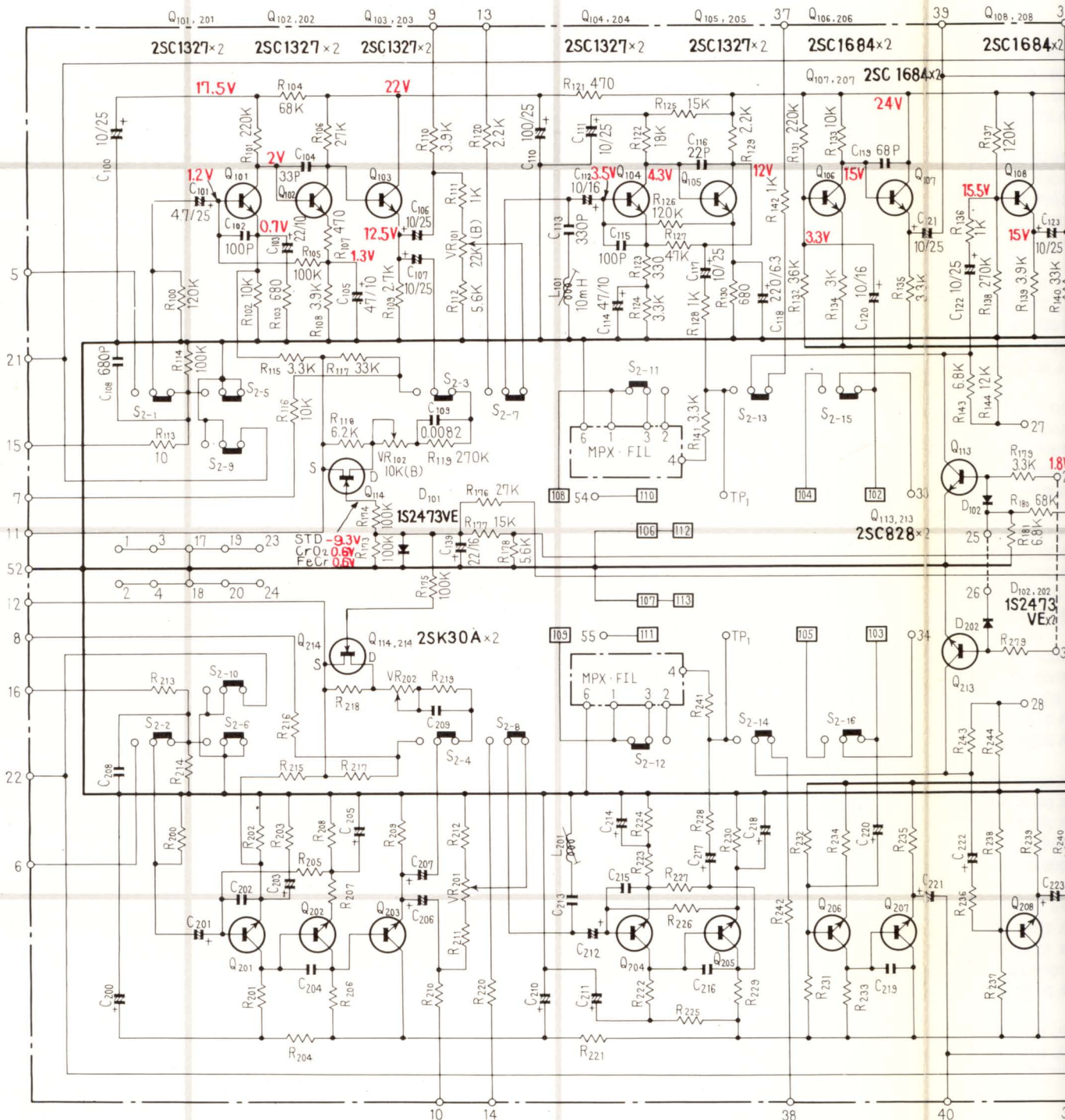
Symbol	Description			Part No.
C100	Electrolytic	10	25V	CEA 100P 25
C101	Electrolytic	4.7	25V	RCH-017-0
C102	Ceramic	100p	50V	CCDSL 101K 50
C103	Electrolytic	22	10V	CEA 220P 10
C104	Ceramic	33p	50V	CCDSL 330K 50
C105	Electrolytic	47	10V	CEA 470P 10
C106	Electrolytic	10	25V	CEA 100P 25
C107	Electrolytic	100	25V	RCH-011-0
C108	Polystyrene	680p	50V	RCE-021-0
C109	Mylar	0.0082	50V	CQMA 822K 50
C110	Electrolytic	100	25V	CEA 101P 25
C111	Electrolytic	10	25V	CEA 100P 25
C112	Electrolytic	10	16V	CEA 100P 16
C113	Polystyrene	330p	50V	RCE-008-0
C114	Electrolytic	47	10V	CEA 470P 10
C115	Ceramic	100p	50V	CCDSL 101K 50
C116	Ceramic	22p	50V	CCDSL 220K 50
C117	Electrolytic	10	25V	CEA 100P 25
C118	Electrolytic	220	6.3V	CEA 221P 6R3
C119	Ceramic	68p	50V	CCDSL 680K 50
C120	Electrolytic	10	16V	CEA 100P 16
C121	Electrolytic	10	25V	CEA 100P 25
C122	Electrolytic	10	25V	CEA 100P 25
C123	Electrolytic	10	25V	CEA 100P 25
C124	Polystyrene	330p	50V	RCE-008-0
C125	Mylar	0.001	50V	CQMA 102K 50
C126	Mylar	0.0033	50V	CQMA 332K 50
C127	Mylar	0.0027	50V	CQMA 272K 50
C128	Electrolytic	0.68	25V	CSSA 0R68M 25
C129	Electrolytic	10	25V	CEA 100P 25
C130	Electrolytic	10	16V	CEA 100P 16
C131	Electrolytic	10	16V	CEA 100P 16
C132	Electrolytic	0.22	10V	CSSA 0R22M 10
C133	Mylar	0.027	50V	CQMA 273K 50
C134	Mylar	0.033	50V	CQMA 333K 50
C135	Mylar	0.068	50V	CQMA 683K 50
C136	Mylar	0.068	50V	CQMA 683K 50
C137	Mylar	0.039	50V	CQMA 393K 50
C138				
C139	Electrolytic	22	16V	CEA 220P 16

Symbol	Description			Part No.
C200	Electrolytic	10	25V	CEA 100P 25
C201	Electrolytic	4.7	25V	RCH-017-0
C202	Ceramic	100p	50V	CCDSL 101K 50
C203	Electrolytic	22	10V	CEA 220P 10
C204	Ceramic	33p	50V	CCDSL 330K 50
C205	Electrolytic	47	10V	CEA 470P 10
C206	Electrolytic	10	25V	CEA 100P 25
C207	Electrolytic	100	25V	RCH-022-0
C208	Polystyrene	680p	50V	RCE-021-0
C209	Mylar	0.0082	50V	CQMA 822K 50
C210	Electrolytic	100	25V	CEA 101P 25
C211	Electrolytic	10	25V	CEA 100P 25
C212	Electrolytic	10	16V	CEA 100P 16
C213	Polystyrene	330p	50V	RCE-008-0
C214	Electrolytic	47	10V	CEA 470P 10
C215	Ceramic	100p	50V	CCDSL 101K 50
C216	Ceramic	22p	50V	CCDSL 220K 50
C217	Electrolytic	10	25V	CEA 100P 25
C218	Electrolytic	220	6.3V	CEA 221P 6R3
C219	Ceramic	68p	50V	CCDSL 680K 50
C220	Electrolytic	10	16V	CEA 100P 16
C221	Electrolytic	10	25V	CEA 100P 25
C222	Electrolytic	10	25V	CEA 100P 25
C223	Electrolytic	10	25V	CEA 100P 25
C224	Polystyrene	330p	50V	RCE-008-0
C225	Mylar	0.001	50V	CQMA 102K 50
C226	Mylar	0.003	50V	CQMA 332K 50
C227	Mylar	0.0027	50V	CQMA 272K 50
C228	Electrolytic	0.68	25V	CSSA 0R68M 25
C229	Electrolytic	10	25V	CEA 100P 25
C230	Electrolytic	10	16V	CEA 100P 16
C231	Electrolytic	10	16V	CEA 100P 16
C232	Electrolytic	0.22	10V	CSSA 0R22M 10
C233	Mylar	0.027	50V	CQMA 273K 50
C234	Mylar	0.033	50V	CQMA 333K 50
C235	Mylar	0.068	50V	CQMA 683K 50
C236	Mylar	0.068	50V	CQMA 683K 50
C237	Mylar	0.039	50V	CQMA 393K 50
C301	Mylar	120p		RCE-009-0
C302	Mylar	120p		RCE-009-0
C303	Mylar	0.023	50V	CQMPA 233K 50
C304	Mylar	0.01	50V	CQMA 103K 50
C305	Mylar	0.01	50V	CQMA 103K 50
C306	Electrolytic	10	25V	CEA 100P 25
C307	Mylar	0.033	50V	CQMA 333K 50
C308	Ceramic	100p	50V	CCDSL 101K 50
C309	Ceramic	100p	50V	CCDSL 101K 50

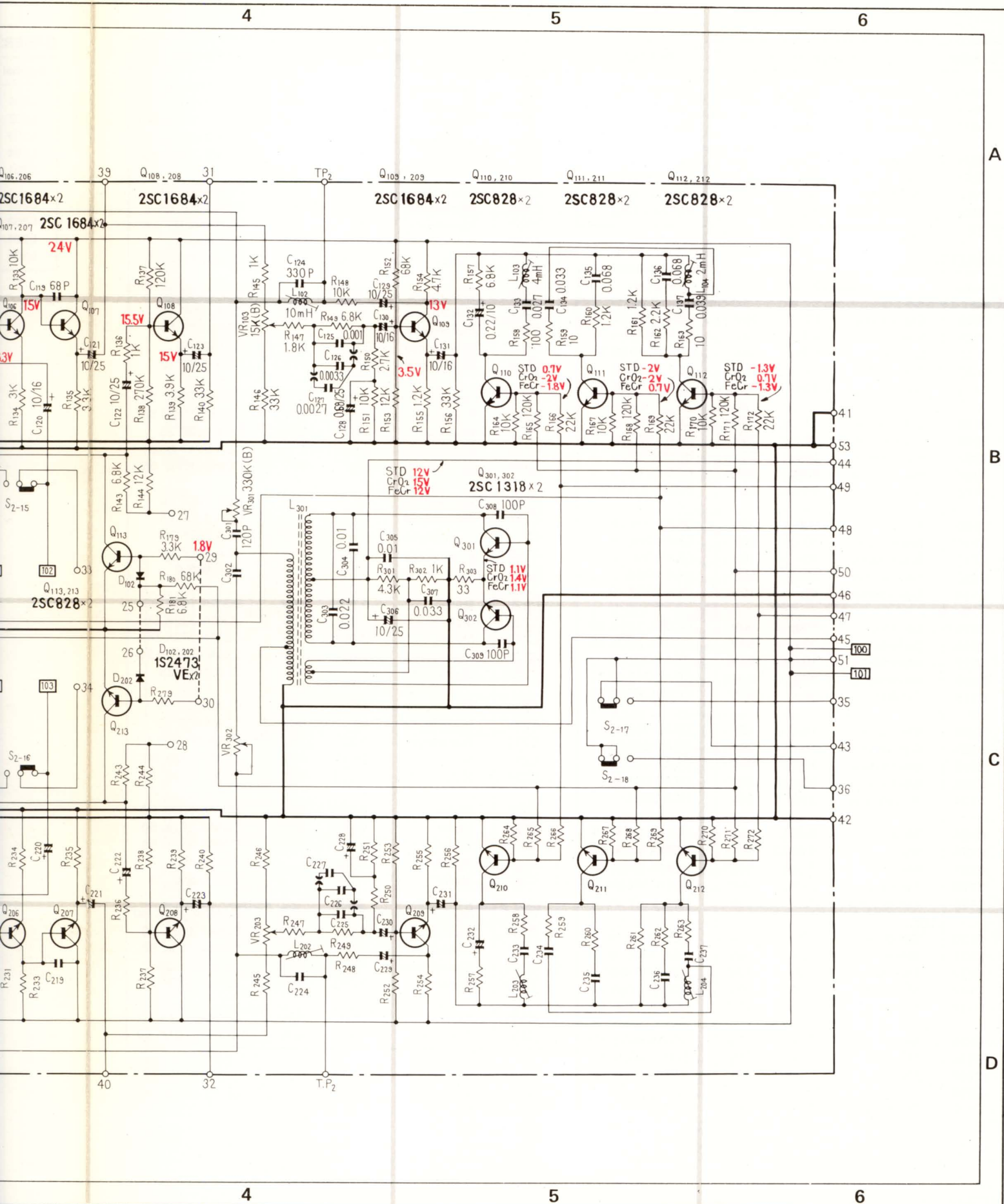
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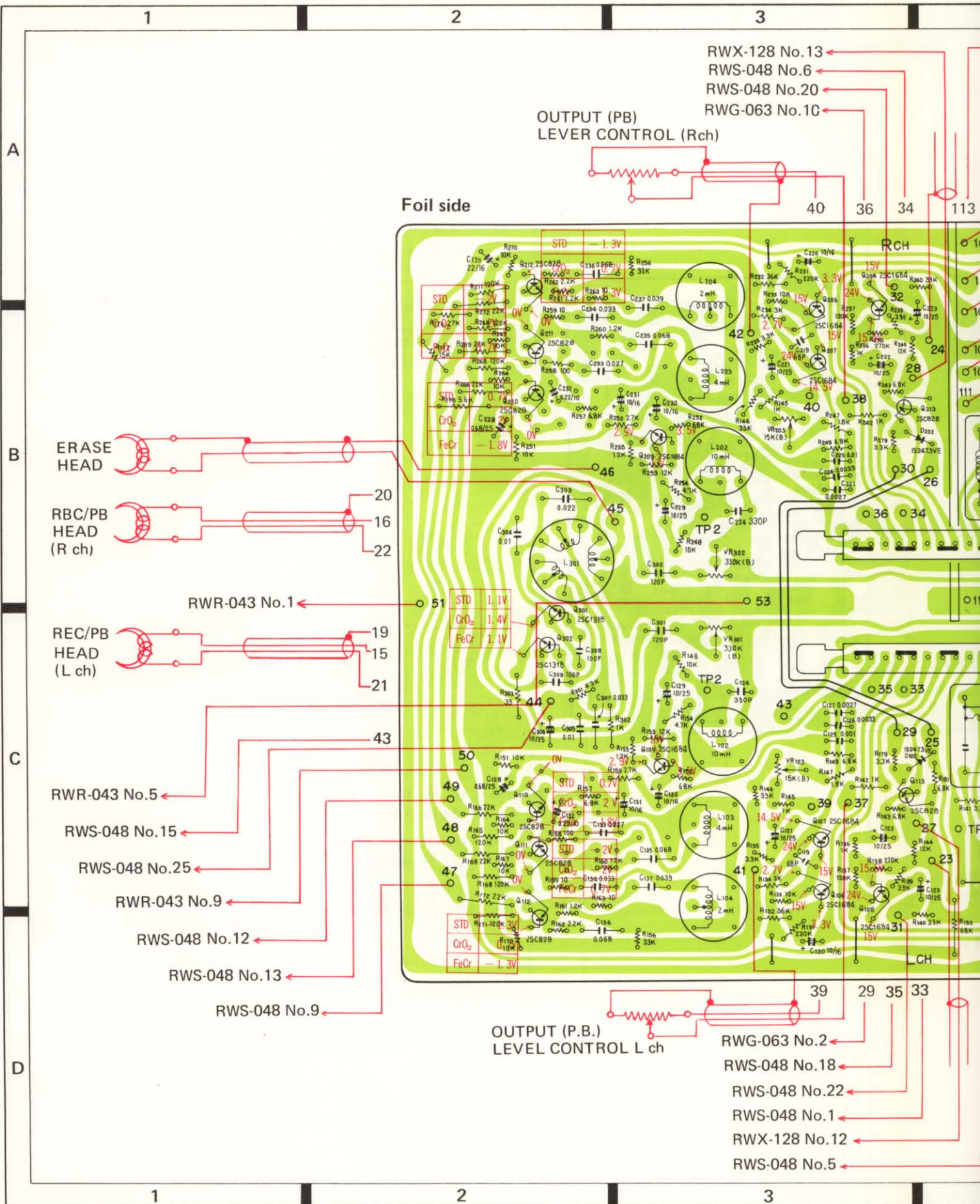
Symbol	Description	Part No.
L101	Trap coil	T84-401
L102	Trap coil	T84-401
L103	Peaking coil	RTF-001
L104	Peaking coil	RTF-007
L201	Trap coil	T84-401
L202	Trap coil	T84-401
L203	Peaking coil	RTF-001
L204	Peaking coil	RTF-007
L301	Oscillator coil	T64-001

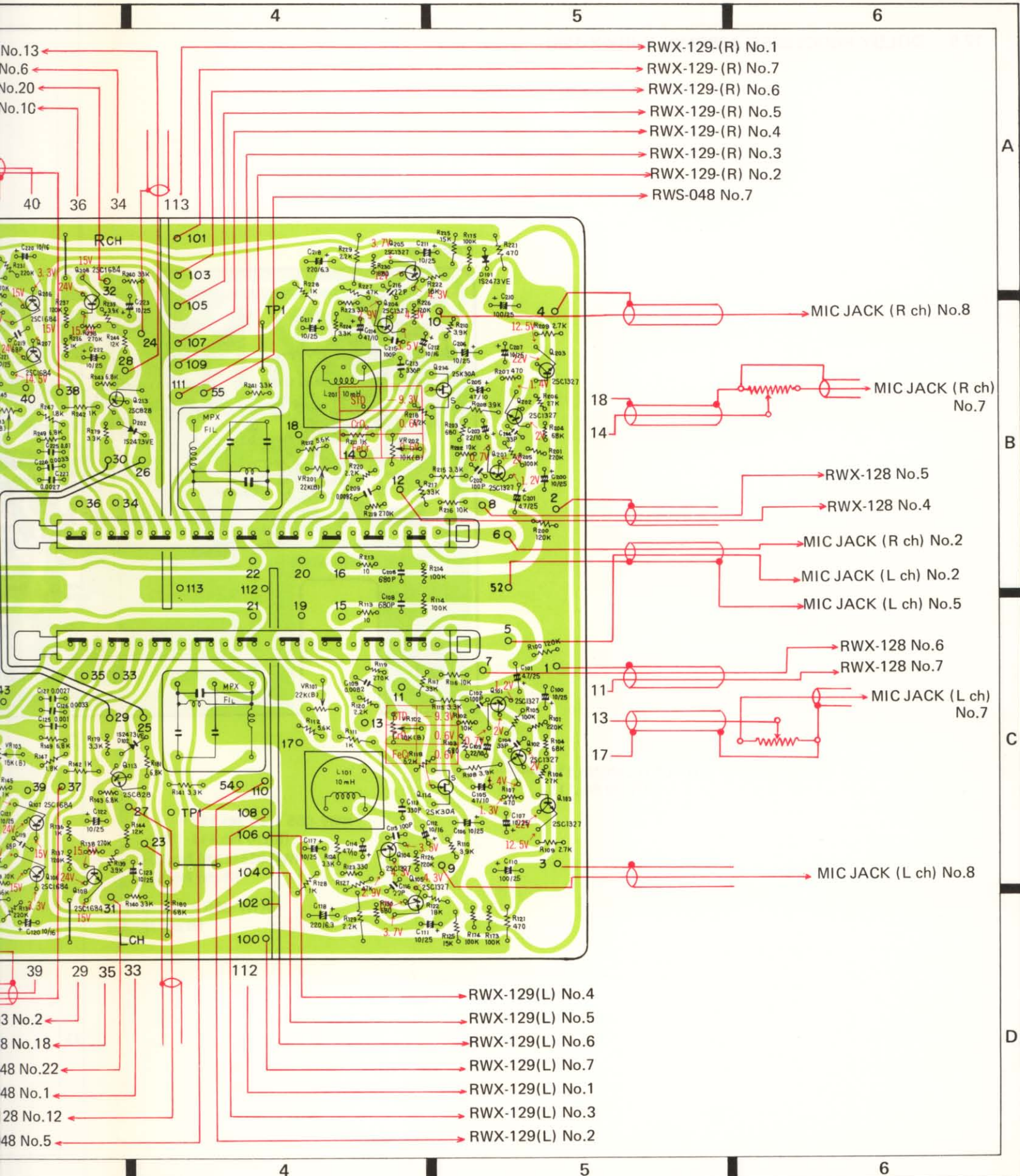
REC/PB Amplifier Assembly (RWF-055)



S2-1 ~ S2-18 REC PLAY SW (PLAY POSI.)

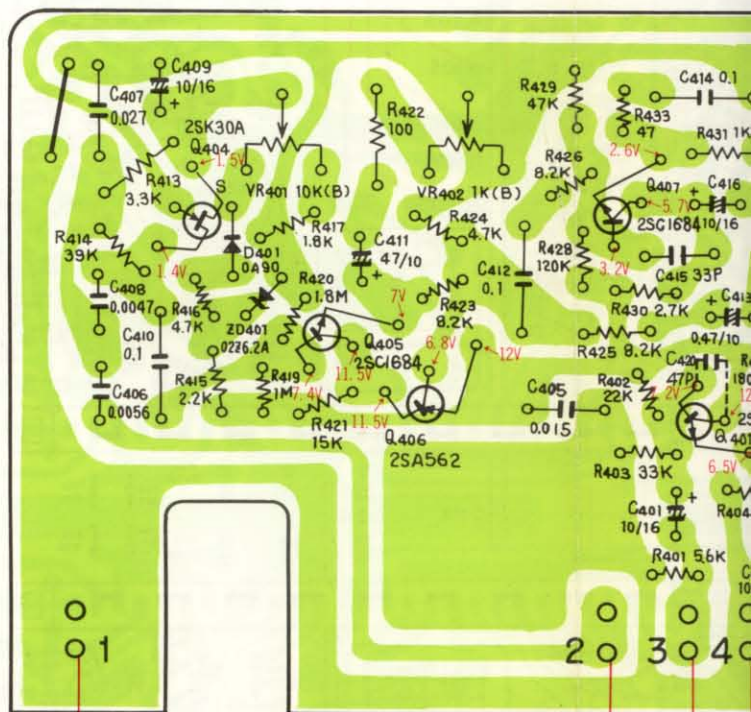






12.5 DOLBY PROCESSER ASSEMBLY (RWX-129)

Foil side



RWF-055 (L ch) No.112
(R ch) No.113

RWF-055 L ch No.110
(R ch) No.111

RWF-055 (L ch) No.108
(R ch) No.109

RWF-055 (L ch) No.106
(R ch) No.107

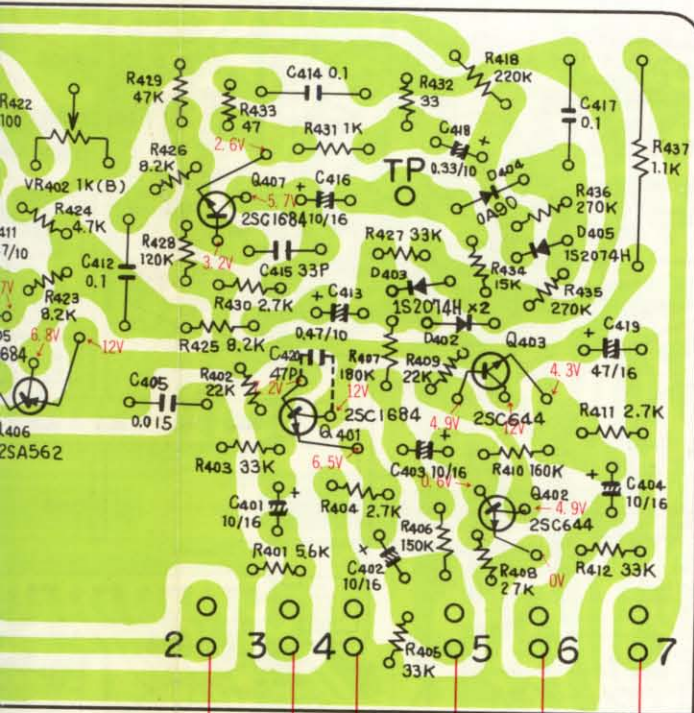
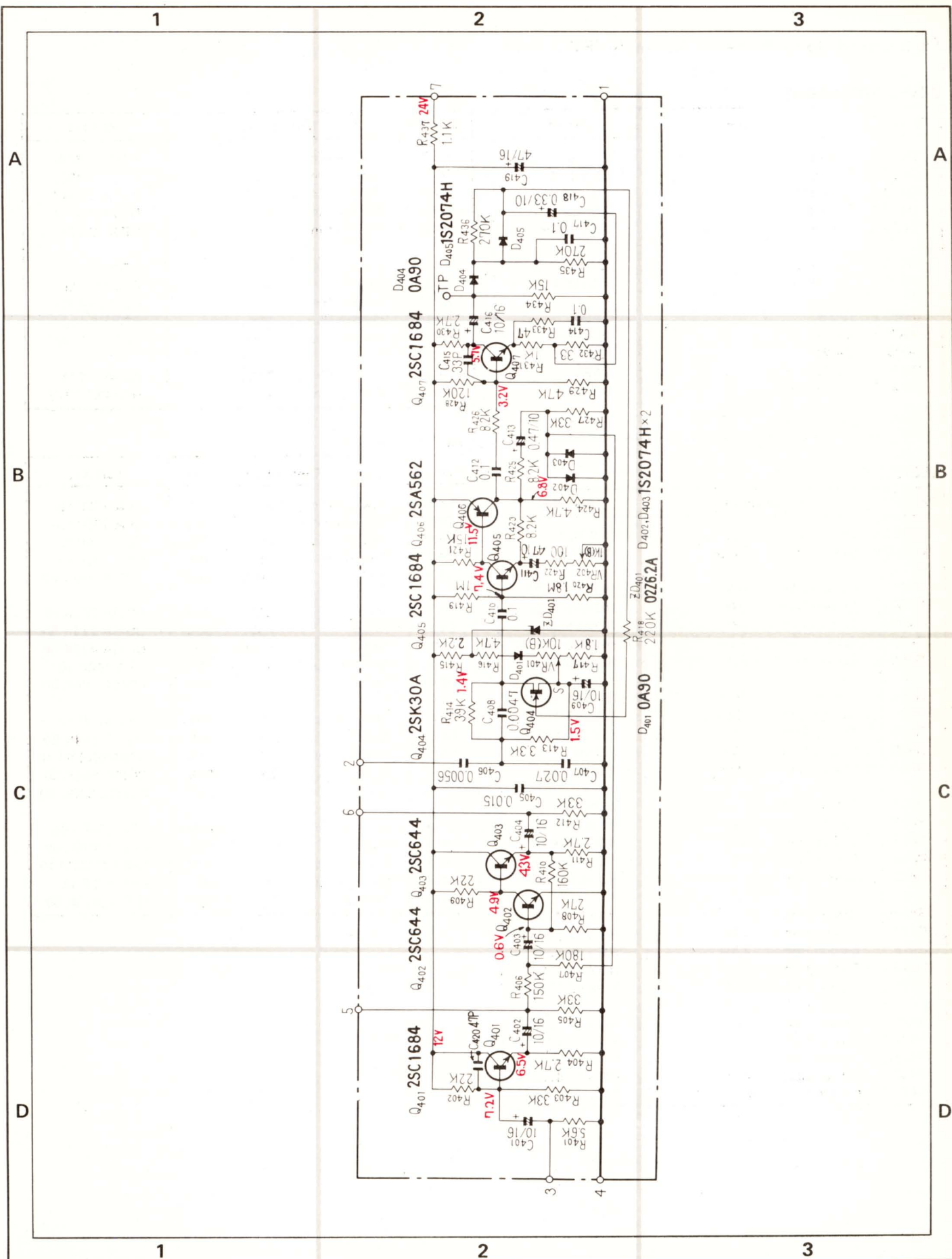


Diagram showing the connection between the RWF-055 (L ch) No.100 (R ch) No.101 and the RWF-055 (L ch) No.102 (R ch) No.103. The diagram shows a red line connecting the two units, with arrows indicating the flow of information. The units are labeled with their respective channel numbers and names.



Parts List of Dolby Processor Assembly (RWX-129)

SEMICONDUCTORS

Symbol	Description	Part No.
Q401	Transistor	2SC1648-R or S
Q402	Transistor	2SC644-S
Q403	Transistor	2SC644-S
Q404	Transistor	2SK30A — (D-2)
Q405	Transistor	2SC1684-R or S
Q406	Transistor	2SA562 — O
Q407	Transistor	2SC1684-R or S
D401	Diode	OA90
D402	Diode	1S2074H
D403	Diode	1S2074H
D404	Diode	OA90
D405	Diode	1S2074H
ZD401	Zener diode	02Z6.2A

Symbol	Description	Part No.
R426	Carbon film 8.2k	RD4VS 822J
R427	Carbon film 33k	RD4VS 333J
R428	Carbon film 120k	RD4VS 124J
R429	Carbon film 47k	RD4VS 473J
R430	Carbon film 2.7k	RD4VS 272J
R431	Carbon film 1k	RD4VS 102J
R432	Carbon film 33	RD4VS 330J
R433	Carbon film 47	RD4VS 470J
R434	Carbon film 15k	RD4VS 153J
R435	Carbon film 270k	RD4VS 274J
R436	Carbon film 270k	RD4VS 274J
R437	Carbon film 1.1k	RD4PSF 112J

RESISTORS

Symbol	Description	Part No.
VR401	Semi-fixed 10k (B)	RCP-032
VR402	Semi-fixed 1k (B)	RCP-033
R401	Carbon film 5.6k	RD4VS 562J
R402	Carbon film 22k	RD4VS 223J
R403	Carbon film 33k	RD4VS 333J
R404	Carbon film 2.7k	RD4VS 272J
R405	Carbon film 33k	RD4VS 333J
R406	Carbon film 150k	RD4VS 154J
R407	Carbon film 180k	RD4VS 184J
R408	Carbon film 27k	RD4VS 273J
R409	Carbon film 22k	RD4VS 223J
R410	Carbon film 160k	RD4VS 164J
R411	Carbon film 2.7k	RD4VS 272J
R412	Carbon film 33k	RD4VS 333J
R413	Carbon film 3.3k	RD4VS 332J
R414	Carbon film 39k	RD4VS 393J
R415	Carbon film 2.2k	RD4VS 222J
R416	Carbon film 4.7k	RD4VS 472J
R417	Carbon film 1.8k	RD4VS 182J
R418	Carbon film 220k	RD4VS 224J
R419	Carbon film 1M	RD4VS 105J
R420	Carbon film 1.8M	RD4VS 185J
R421	Carbon film 15k	RD4VS 153J
R422	Carbon film 100	RD4VS 101J
R423	Carbon film 8.2k	RD4VS 822J
R424	Carbon film 4.7k	RD4VS 472J
R425	Carbon film 8.2k	RD4VS 822J

CAPACITORS

Symbol	Description	Part No.
C401	Electrolytic 10 16V	CEA 100P 16
C402	Electrolytic 10 16V	CEA 100P 16
C403	Electrolytic 10 16V	CEA 100P 16
C404	Electrolytic 10 16V	CEA 100P 16
C405	Mylar 0.015 50V	CQMA 153K 50
C406	Mylar 0.0056 50V	CQMA 562K 50
C407	Mylar 0.027 50V	CQMA 273K 50
C408	Mylar 0.0047 50V	CQMA 472K 50
C409	Electrolytic 10 16V	CEA 100P 16
C410	Mylar 0.1 50V	CQMA 104K 50
C411	Electrolytic 47 10V	CEA 470P 10
C412	Mylar 0.1 50V	CQMA 104K 50
C413	Electrolytic 0.47 10V	CSSA 0R47M 10
C414	Mylar 0.1 50V	CQMA 104K 50
C415	Ceramic 33p 50V	CCDSL 330K 50
C416	Electrolytic 10 16V	CEA 100P 16
C417	Mylar 0.1 50V	CQMA 104K 50
C418	Electrolytic 0.33 10V	CSSA 0R33M 10
C419	Electrolytic 47 16V	CEA 470P 16
C420	Ceramic 47p 50V	CCDSL470K 50

12.6 CONTROL ASSEMBLY (RWG-063)

Parts List

SEMICONDUCTORS

Symbol	Description	Part No.
Q801	Transistor	2SC828-S
Q802	Transistor	2SA564-R or S
Q803	Transistor	2SA564-R or S
Q804	Transistor	2SC1419-C 2SC790-O or Y
Q805	Transistor	2SC1419-C 2SC790-O or Y
Q806	Transistor	2SC828-R or S
Q807	Transistor	2SA564-R or S
Q808	Transistor	2SC828-R or S
D801	Diode	1S2473VE
D802	Diode	1S2473VE
D803	Diode	SIB01-01 or W03B
D804	Diode	SIB01-01 or W03B
D805	Diode	SIB01-01 or W03B
D806	Diode	SIB01-01 or W03B
D807	Diode	1S2473VE
D808	Diode	1S2473VE
D809	Diode	1S2473VE
D810	Diode	1S2473VE
D811	Diode	1S2473VE
D812	Diode	1S2473VE
D813	Diode	1S2473VE
D814	Diode	1S2473VE
D815	Diode	1S2473VE

RESISTORS

Symbol	Description	Part No.
R801	Carbon film 470k	RD4VS 474J
R802	Carbon film 51k	RD4VS 513J
R803	Carbon film 1.8k	RD4VS 182J
R804	Carbon film 12k	RD4VS 123J
R805	Carbon film 6.8k	RD4VS 682J
R806	Carbon film 4.7k	RD4VS 472J
R807	Carbon film 10k	RD4VS 103J
R808	Carbon film 4.7k	RD4VS 472J
R809	Carbon film 22k	RD4VS 223J
R810	Carbon film 5.6k	RD4VS 562J
R811	Carbon film 1k	RD4VS 102J
R812	Carbon film 560	RD4VS 561J
R813	Carbon film 560	RD4VS 561J
R814	Carbon film 1k	RD4VS 102J
R815	Carbon film 68k	RD4VS 683J
R816	Carbon film 68k	RD4VS 683J
R817	Carbon film 8.2k	RD4VS 822J
R818	Wire wound 3.9 2W	RCN-026-0
R819	Wire wound 6.8 5W	RCN-028-0
R820	Carbon film 1k	RD4VS 102J

Symbol	Description	Part No.
R821	Carbon film 39k	RD4VS 393J
R822	Carbon film 10k	RD4VS 103J
R823	Carbon film 15k	RD4VS 153J
R824	Wire wound 8.2 3W	RCN-027-0
R825	Metal oxide 10	RS4PSF 100J
R826	Carbon film 1k	RD4VS 102J
R827	Carbon film 18k	RD4VS 183J
R828	Carbon film 33k	RD4VS 333J
R829	Carbon film 22k	RD4VS 223J
R830	Carbon film 22k	RD4VS 223J
R831	Carbon film 5.6k	RD4VS 562J
R832	Carbon film 5.6k	RD4VS 562J
R833	Carbon film 2.7k	RD4VS 272J
R834	Carbon film 2.7k	RD4VS 272J
R835	Carbon film 56k	RD4VS 563J
R836	Carbon film 39k	RD4VS 393J
R837	Carbon film 1.2k	RD4VS 122J
R838	Carbon film 1.2k	RD4VS 122J
R839	Carbon film 10k	RD4VS 103J
R840	Carbon film 270	RD4VS 271J
R841	Carbon film 10	RD4PSF 100J

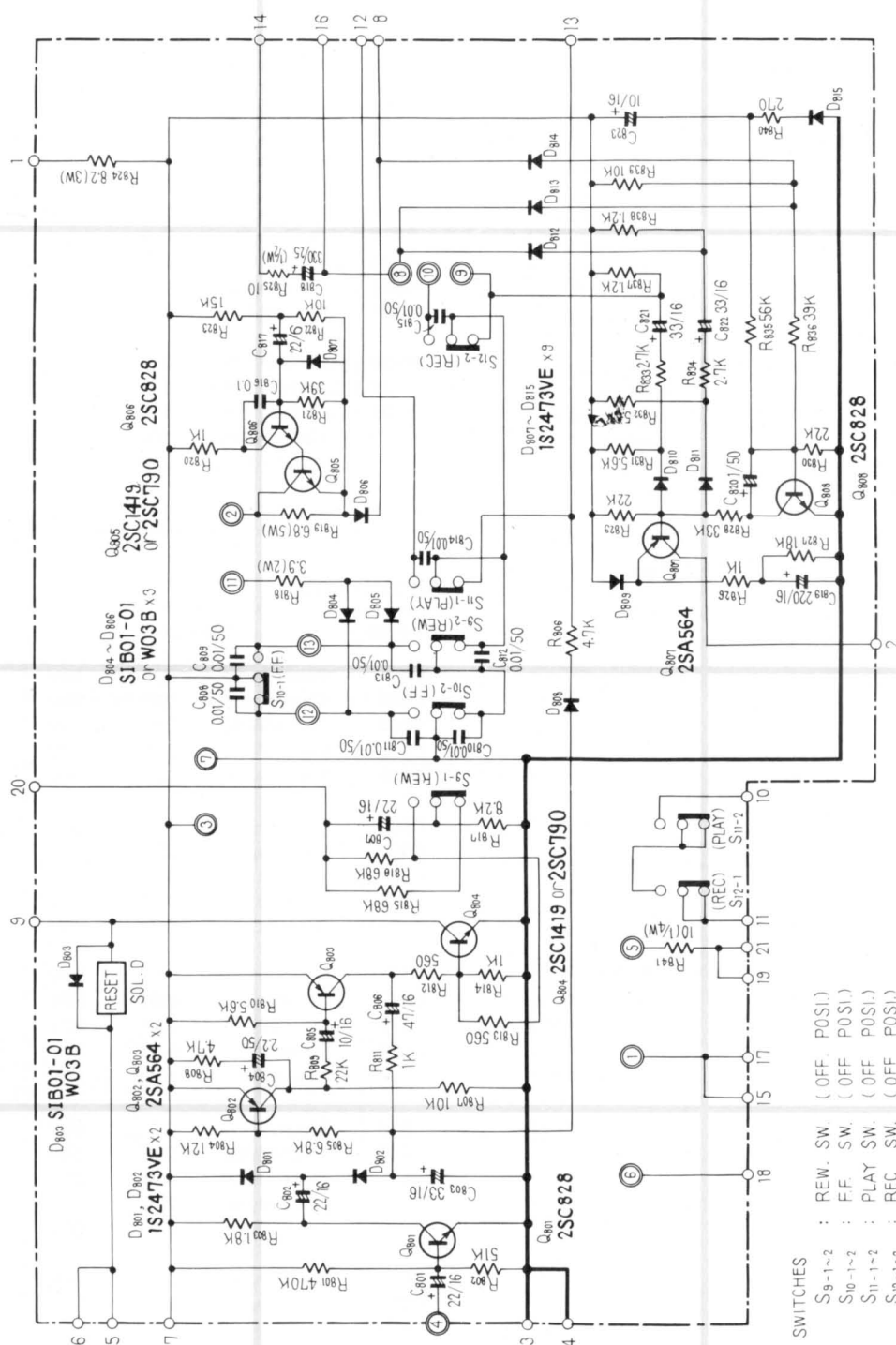
CAPACITORS

Symbol	Description	Part No.
C801	Electrolytic 22 16V	CEA 220P 16
C802	Electrolytic 22 16V	CEA 220P 16
C803	Electrolytic 33 16V	CEA 330P 16
C804	Electrolytic 2.2 50V	CEA 2R2P 50
C805	Electrolytic 10 16V	CEA 100P 16
C806	Electrolytic 47 16V	CEA 470P 16
C807	Electrolytic 22 16V	CEA 220P 16
C808	Ceramic 0.01 50V	CKDYF 103Z 50
C809	Ceramic 0.01 50V	CKDYF 103Z 50
C810	Ceramic 0.01 50V	CKDYF 103Z 50
C811	Ceramic 0.01 50V	CKDYF 103Z 50
C812	Ceramic 0.01 50V	CKDYF 103Z 50
C813	Ceramic 0.01 50V	CKDYF 103Z 50
C814	Ceramic 0.01 50V	CKDYF 103Z 50
C815	Ceramic 0.01 50V	CKDYF 103Z 50
C816	Mylar 0.1 50V	CQMA 104K 50
C817	Electrolytic 22 16V	CEA 220P 16
C818	Electrolytic 330 25V	CEA 331P 25
C819	Electrolytic 220 16V	CEA 221P 16
C820	Electrolytic 1 50V	CEA 010P 50
C821	Electrolytic 33 16V	CEA 330P 16
C822	Electrolytic 33 16V	CEA 330P 16
C823	Electrolytic 10 16V	CEA 100P 16

OTHERS

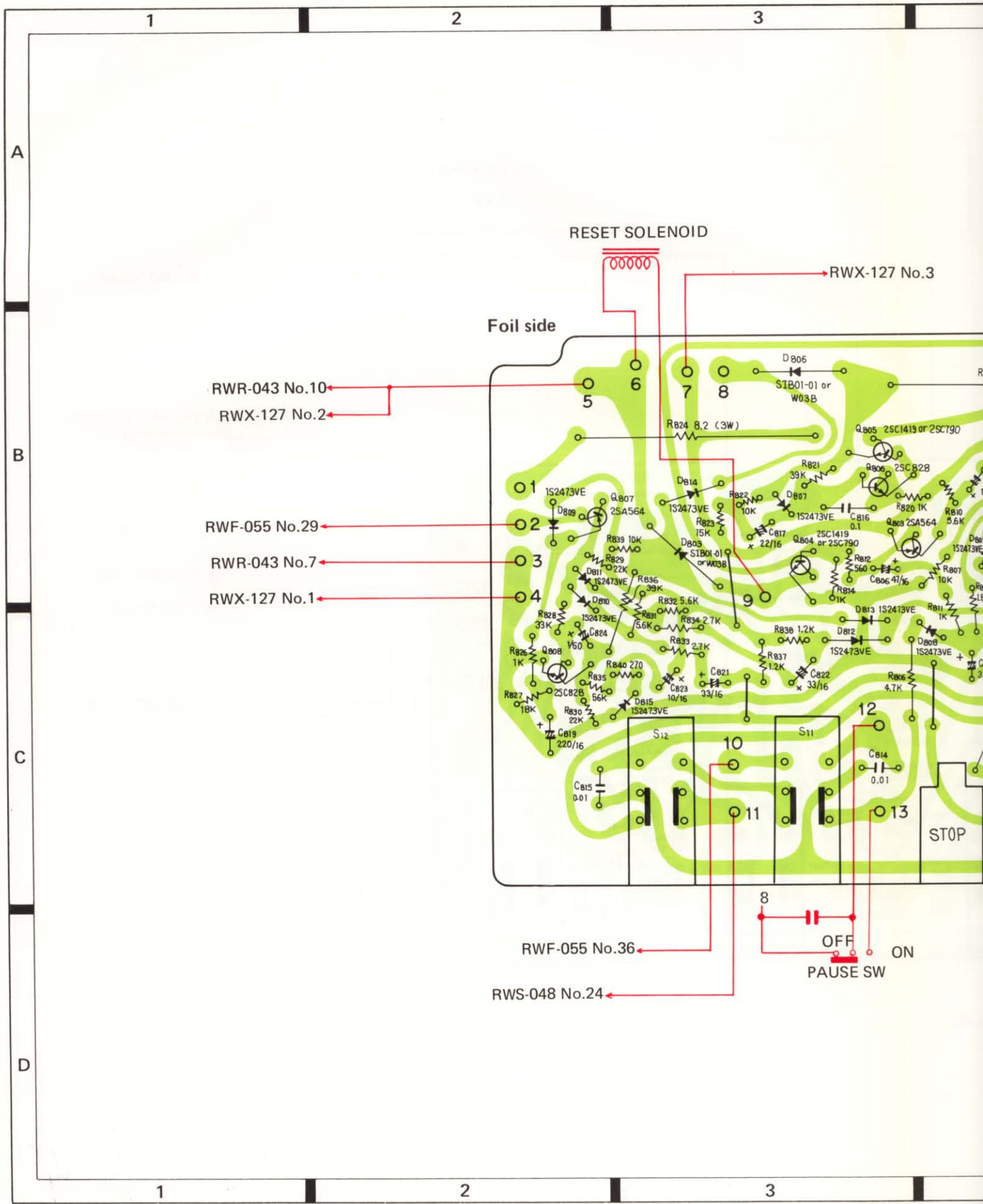
Symbol	Description	Part No.
	Solenoid (D)	RXP-032
	Function switch	RSG-046
	Connector	RKP-016

Control Assembly (RWG-063)



SWITCHES			
S ₉₋₁₋₂	: REW.	SW.	(OFF. POSI.)
S ₁₀₋₁₋₂	: FF.	SW.	(OFF. POSI.)
S ₁₁₋₁₋₂	: PLAY	SW.	(OFF. POSI.)
S ₁₂₋₁₋₂	: REC	SW.	(OFF. POSI.)

①~⑬ CONNECTOR TERMINAL NO.



RESET SOLENOID

RWX-127 No.3

Foil side

RWR-043 No.10
RWX-127 No.2

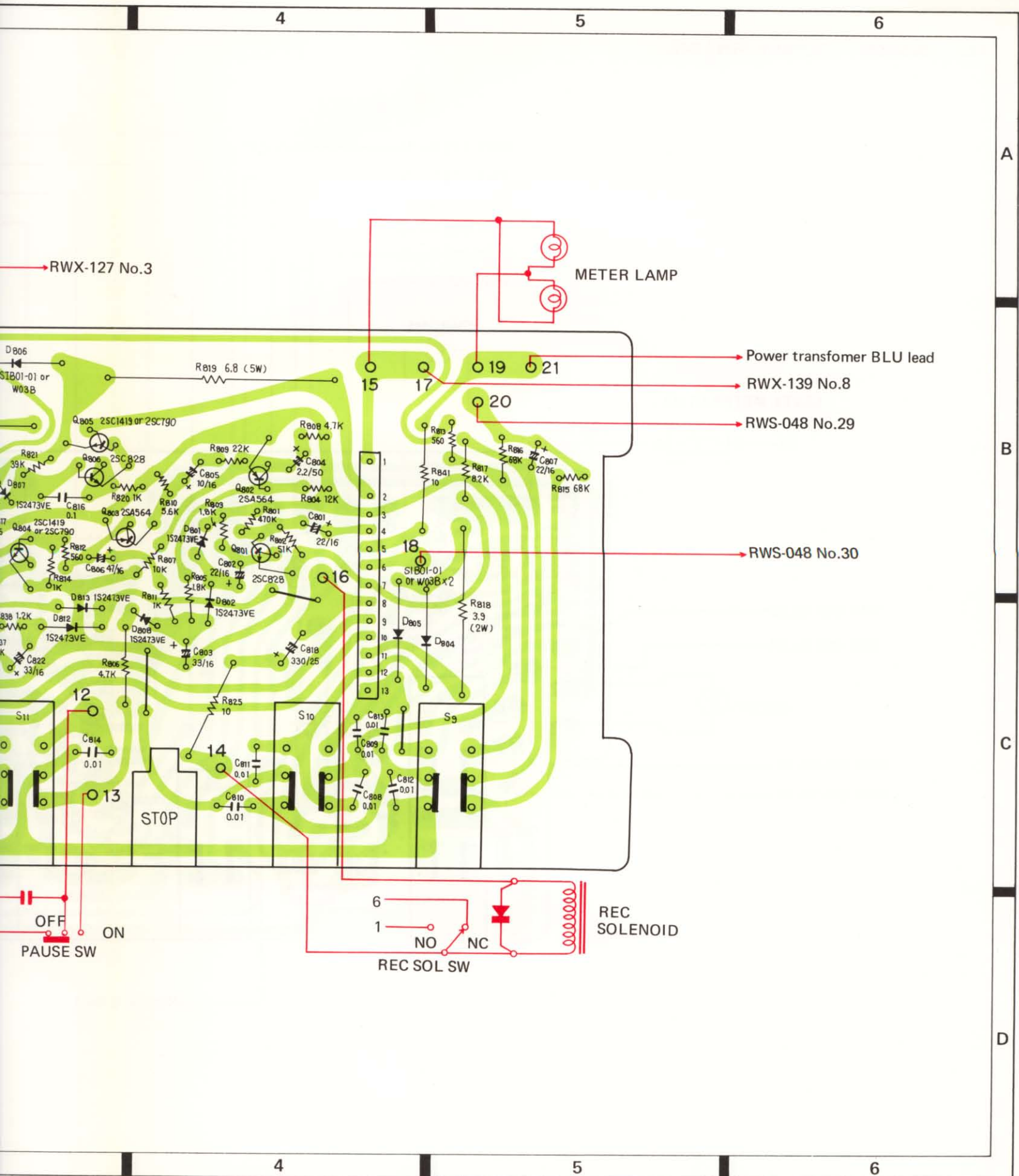
RWF-055 No.29
RWR-043 No.7
RWX-127 No.1

RWF-055 No.36

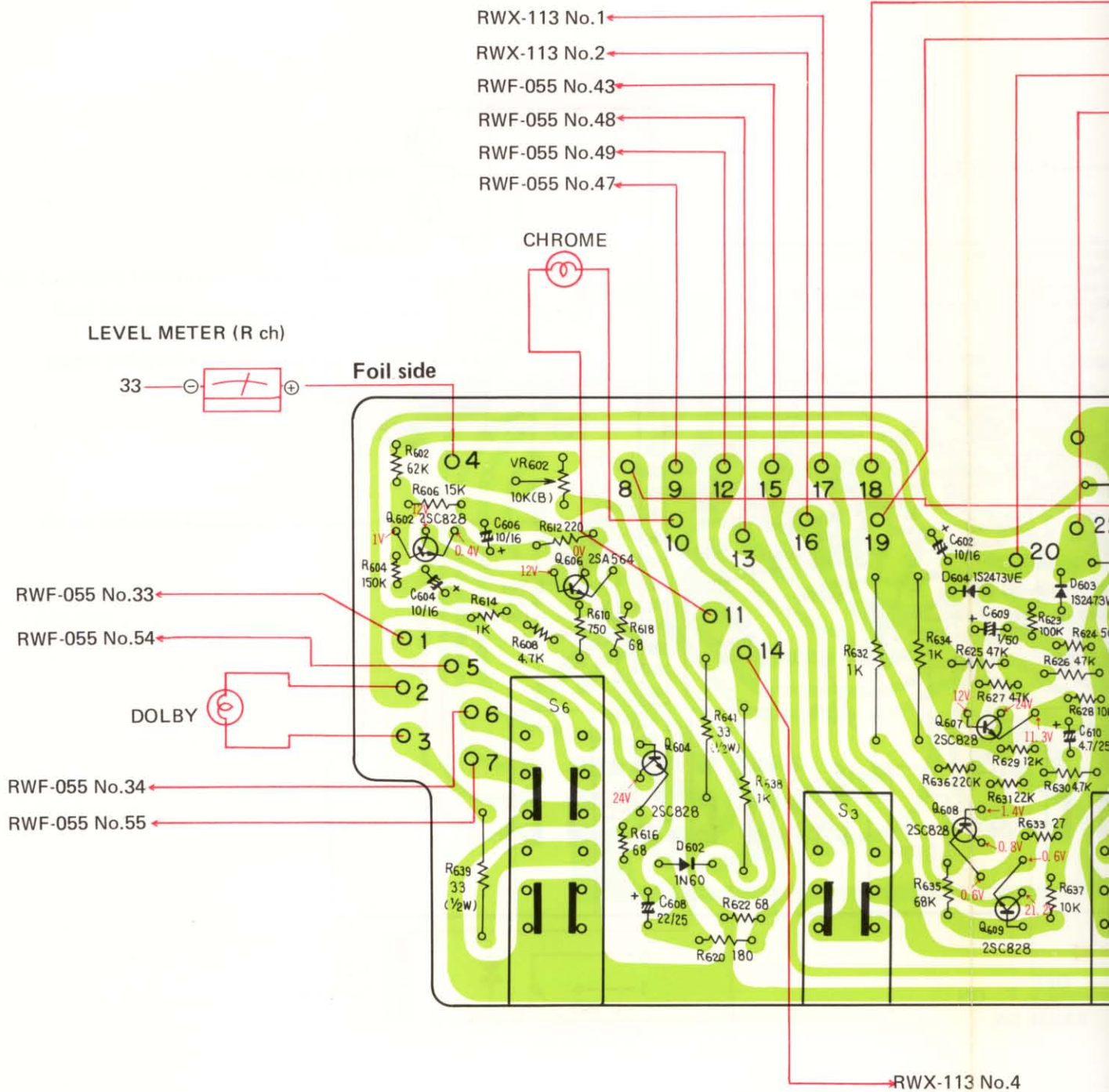
RWS-048 No.24

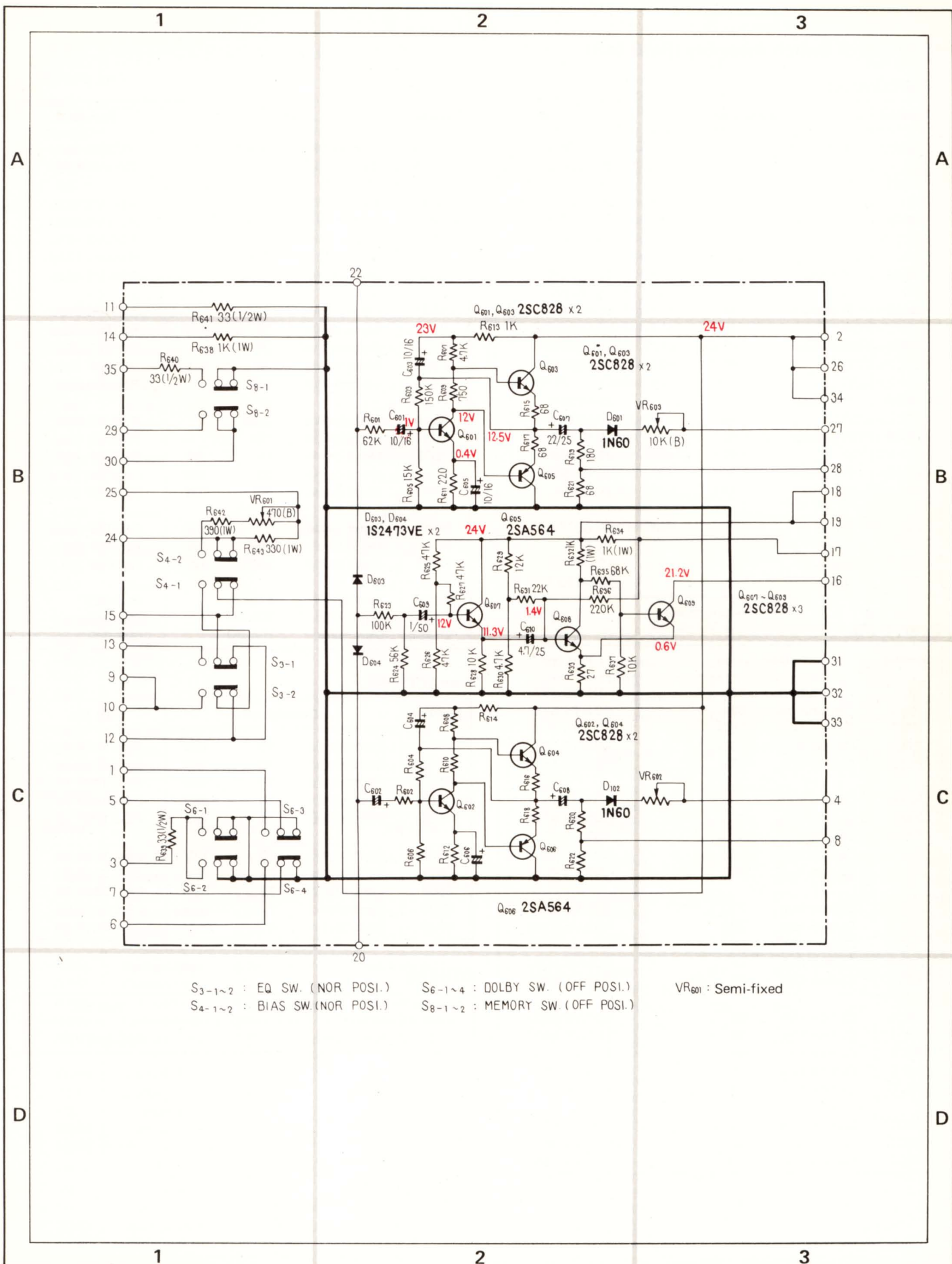
OFF ON
PAUSE SW

STOP



12.7 SWITCH ASSEMBLY (RWS-048)





Parts List of Switch Assembly (RWS-048)

SEMICONDUCTORS

Symbol	Description	Part No.
Q601	Transistor	2SC828-R 2SC828-S
Q602	Transistor	2SC828-R 2SC828-S
Q603	Transistor	2SC828-R 2SC828-S
Q604	Transistor	2SC828-R 2SC828-S
Q605	Transistor	2SA564-R 2SA564-S
Q606	Transistor	2SA564-R 2SA564-S
Q607	Transistor	2SA828-R 2SA828-S
Q608	Transistor	2SA828-R 2SA828-S
Q609	Transistor	2SA828-R 2SA828-S
D601	Diode	1N 60
D602	Diode	1N 60
D603	Diode	1S2473VE
D604	Diode	1S2473VE

RESISTORS

Symbol	Description	Part No.
R601	Carbon film 62k	RD¼VS 623J
R602	Carbon film 62k	RD¼VS 623J
R603	Carbon film 150k	RD¼VS 154J
R604	Carbon film 150k	RD¼VS 154J
R605	Carbon film 15k	RD¼VS 153J
R606	Carbon film 15k	RD¼VS 153J
R607	Carbon film 4.7k	RD¼VS 472J
R608	Carbon film 4.7k	RD¼VS 472J
R609	Carbon film 750	RD¼VS 751J
R610	Carbon film 750	RD¼VS 751J
R611	Carbon film 220	RD¼VS 221J
R612	Carbon film 220	RD¼VS 221J
R613	Carbon film 1k	RD¼VS 102J
R614	Carbon film 1k	RD¼VS 102J
R615	Carbon film 68	RD¼VS 680
R616	Carbon film 68	RD¼VS 680J
R617	Carbon film 68	RD¼VS 680J
R618	Carbon film 68	RD¼VS 680J
R619	Carbon film 180	RD¼VS 181J
R620	Carbon film 180	RD¼VS 181J
R621	Carbon film 68	RD¼VS 680J
R622	Carbon film 68	RD¼VS 680J
R623	Carbon film 100k	RD¼VS 104J

Symbol	Description	Part No.
R624	Carbon film 56k	RD¼VS 563J
R625	Carbon film 47k	RD¼VS 473J
R626	Carbon film 47k	RD¼VS 473J
R627	Carbon film 47k	RD¼VS 473J
R628	Carbon film 10k	RD¼VS 103J
R629	Carbon film 12k	RD¼VS 123J
R630	Carbon film 4.7k	RD¼VS 472J
R631	Carbon film 22k	RD¼VS 223J
R632	Metal oxide 1k 1W	RS1PSF 102J
R633	Carbon film 27	RD¼VS 270J
R634	Metal oxide 1k 1W	RS1PSF 102J
R635	Carbon film 68k	RD¼VS 683J
R636	Carbon film 220k	RD¼VS 224J
R637	Carbon film 10k	RD¼VS 103J
R638	Metal oxide 1k 1W	RS1PSF 102J
R639	Metal oxide 33 ½W	RS½PSF 330J
R640	Metal oxide 33 ½W	RS½PSF 330J
R641	Metal oxide 33 ½W	RS½PSF 330J
R642	Metal oxide 390 1W	RS1PSF 391J
R643	Metal oxide 330 1W	RS1PSF 331J
VR601	Semi-fixed 470 (B)	RCP-022
VR602	Semi-fixed 10k (B)	C92-049
VR603	Semi-fixed 10k (B)	C92-049

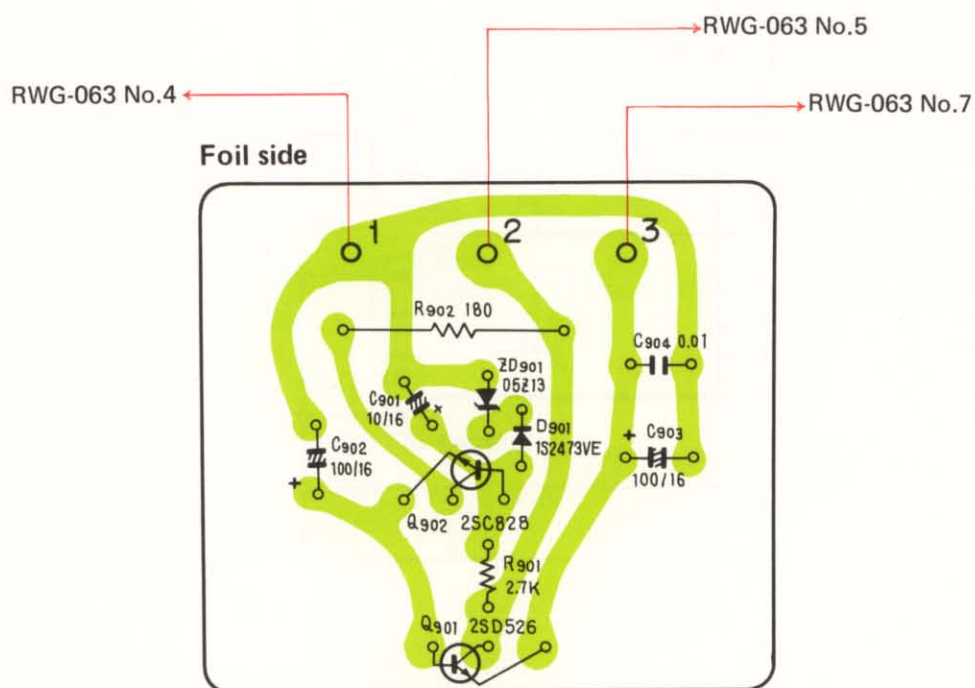
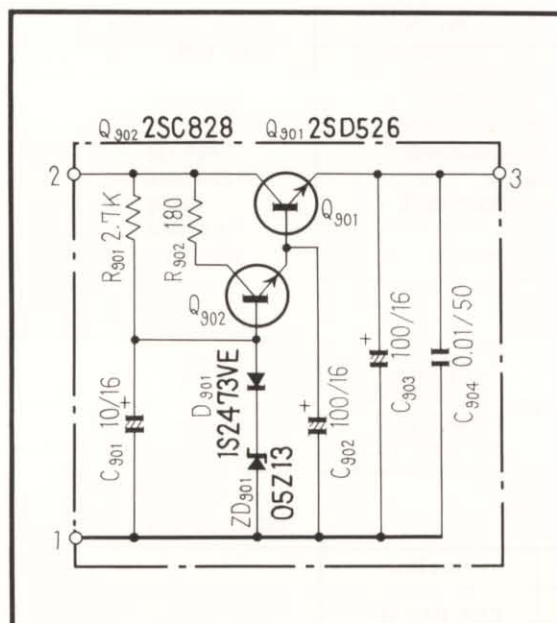
CAPACITORS

Symbol	Description	Part No.
C601	Electrolytic 10 16V	CEA 100P 16
C602	Electrolytic 10 16V	CEA 100P 16
C603	Electrolytic 10 16V	CEA 100P 16
C604	Electrolytic 10 16V	CEA 100P 16
C605	Electrolytic 10 16V	CEA 100P 16
C606	Electrolytic 10 16V	CEA 100P 16
C607	Electrolytic 22 25V	CEA 220P 25
C608	Electrolytic 22 25V	CEA 220P 25
C609	Electrolytic 1 50V	CEA 010P 50
C610	Electrolytic 4.7 25V	CEA 4R7P 25

OTHERS

Symbol	Description	Part No.
	Push switch	RSG-045

12.8 TRANSISTOR ASSEMBLY (RWX-127)



Parts List of Transistor Assembly (RWX-127)

SEMICONDUCTORS

Symbol	Description	Part No.
Q901	Transistor	2SD526-O 2SD526-Y
Q902	Transistor	2SC828-R 2SC828-S
D901	Diode	1S2473VE
ZD901	Zener diode	05Z13

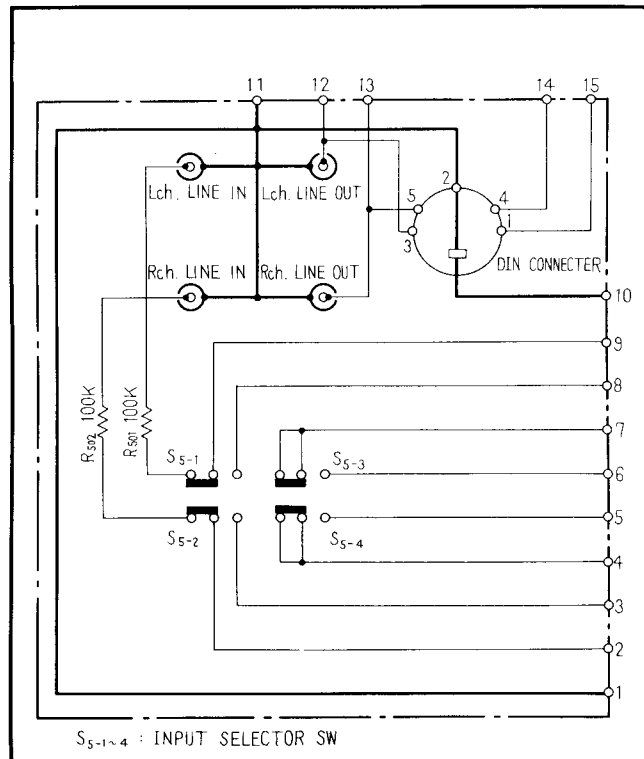
RESISTORS

Symbol	Description	Part No.
R901	Carbon film 2.7k	RD¼VS 272J
R902	Carbon film 180	RD¼PSF 181J

CAPACITORS

Symbol	Description	Part No.
C901	Electrolytic 10 16V	CEA 100P 16
C902	Electrolytic 100 16V	CEA 101P 16
C903	Electrolytic 100 16V	CEA 101P 16
C904	Ceramic 0.01 50V	CKDYF 103Z 50

12.9 JACK ASSEMBLY (RWX-128)



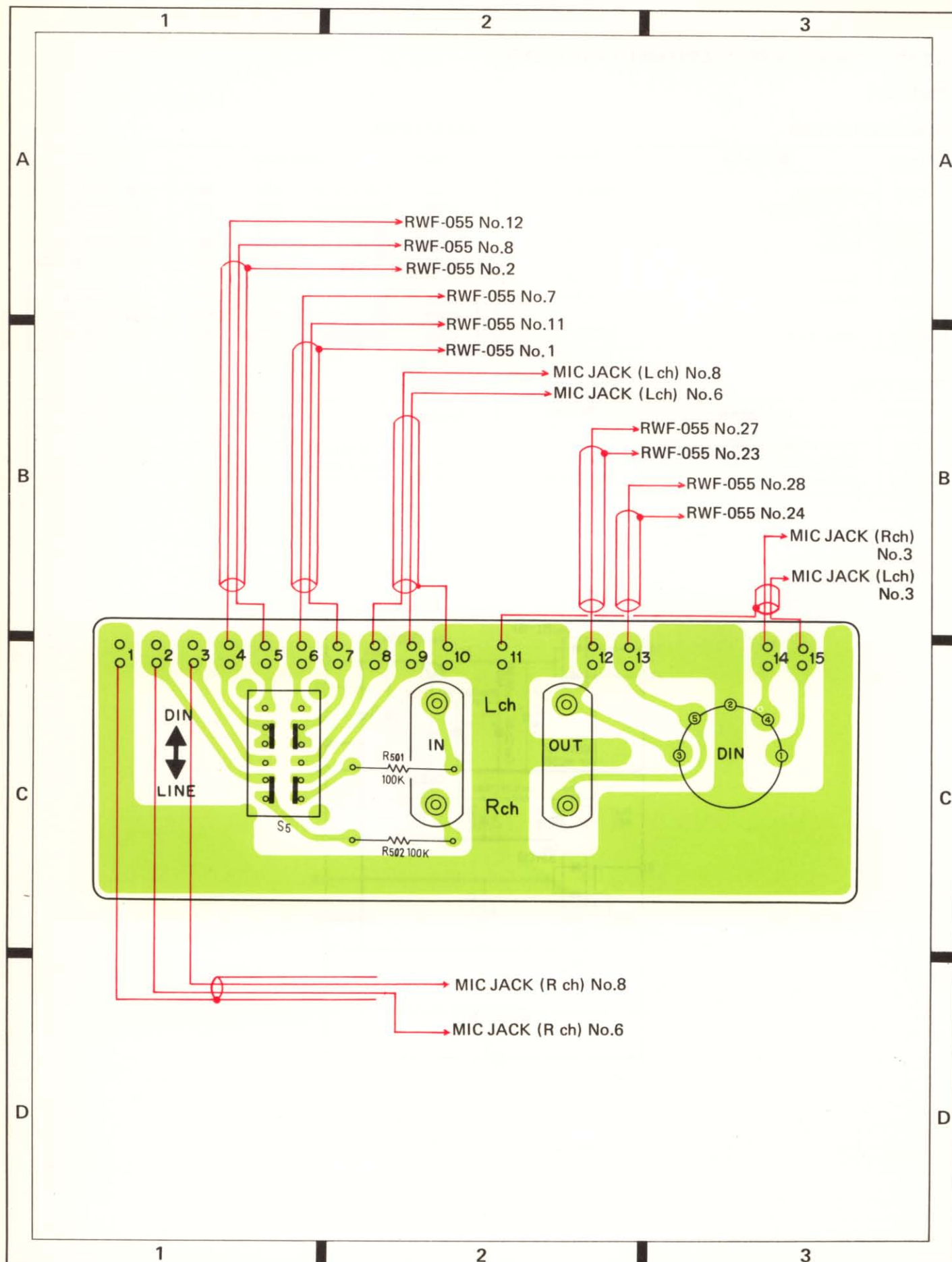
Parts List

RESISTORS

Symbol	Description	Part No.
R501	Carbon film 100k	RD¼PS 104J
R502	Carbon film 100k	RD¼PS 104J

OTHERS

Symbol	Description	Part No.
	Jack assembly Switch	RKB-010 RSH-021



12.10 POWER SUPPLY ASSEMBLY (RWR-043)

Parts List

SEMICONDUCTORS

Symbol	Description	Part No.
Q701	Transistor	2SD234-O
D701	Diode	M1-151
D702	Diode	S1B01-01 or W03B
D703	Diode	S3VC10
D704	Diode	S3VC10R
ZD701	Zener diode	05Z24

CAPACITORS

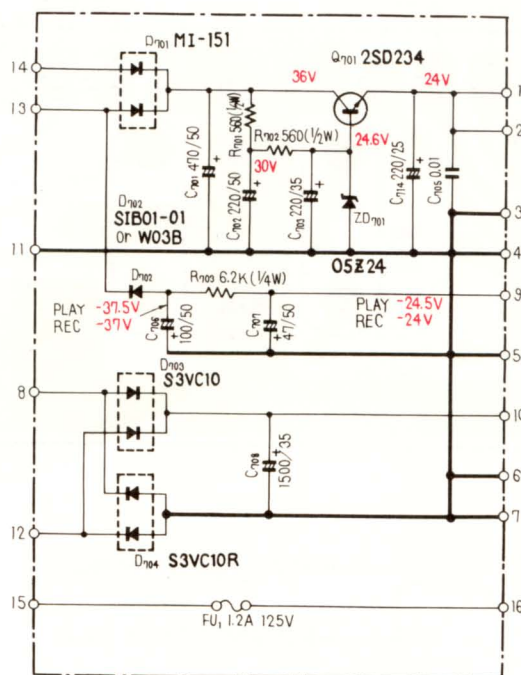
Symbol	Description	Part No.
C701	Electrolytic 470 50V	CEA 471P 50
C702	Electrolytic 220 50V	CEA 221P 50
C703	Electrolytic 220 35V	CEA 221P 35
C704	Electrolytic 220 25V	CEA 221P 25
C705	Ceramic 0.01 50V	CKDYF 103Z 50
C706	Electrolytic 10 50V	CEA 100P 50
C707	Electrolytic 47 50V	CEA 470P 50
C708	Electrolytic 1,500 35V	CEA 152P 35

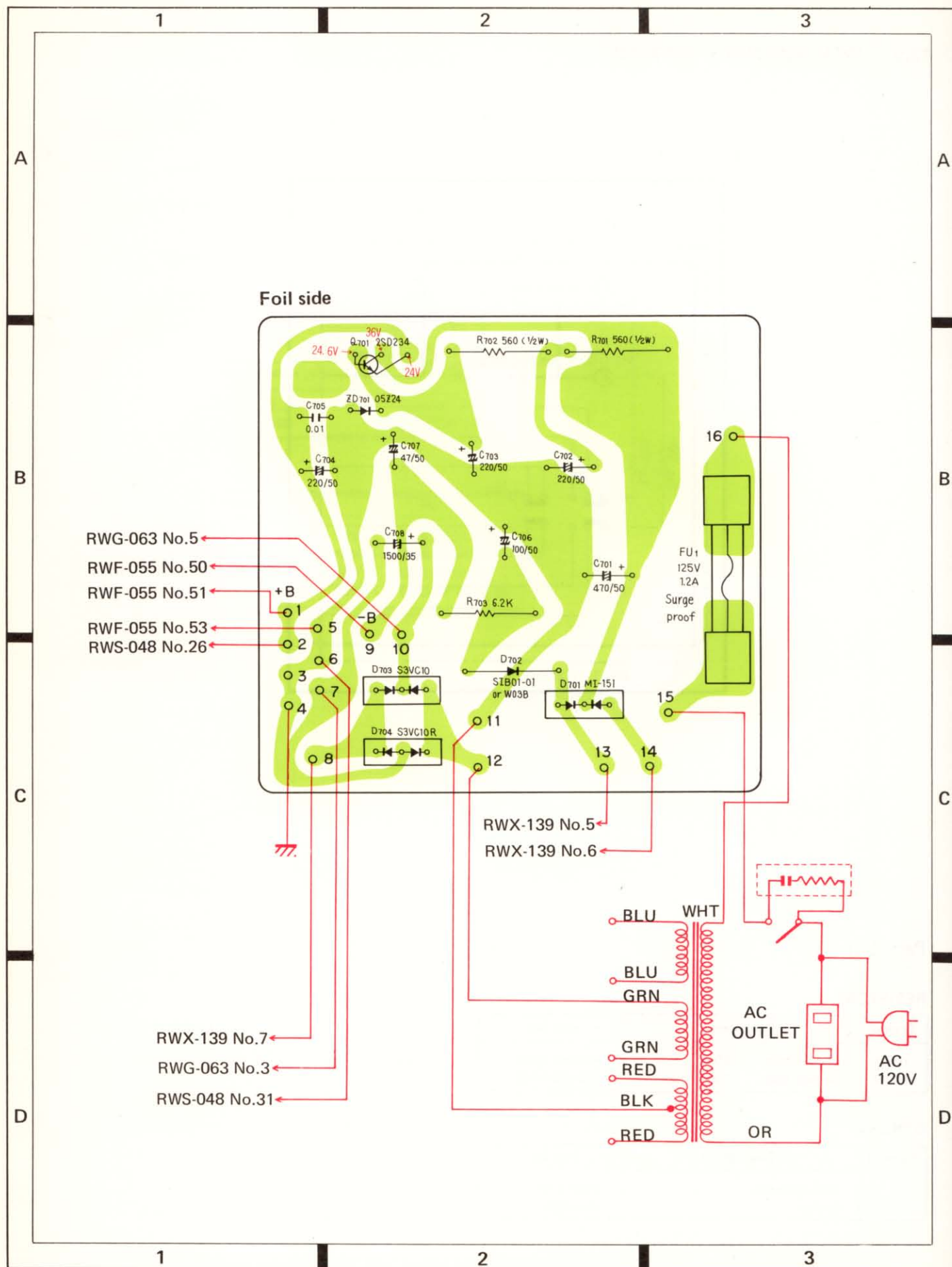
RESISTORS

Symbol	Description	Part No.
R701	Metal oxide 560 $\frac{1}{2}$ W	RS $\frac{1}{2}$ PSF 561J
R702	Metal oxide 560 $\frac{1}{2}$ W	RS $\frac{1}{2}$ PSF 561J
R703	Carbon film 6.2k	RD $\frac{1}{4}$ PSF 622J

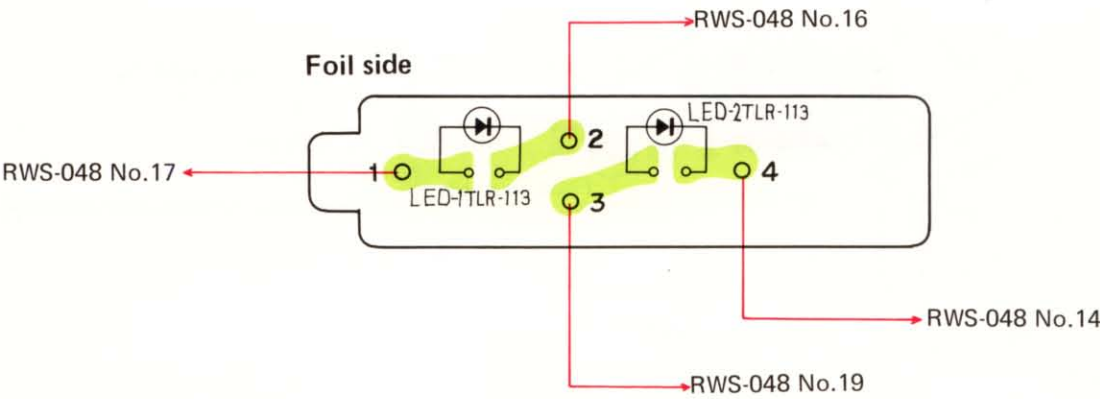
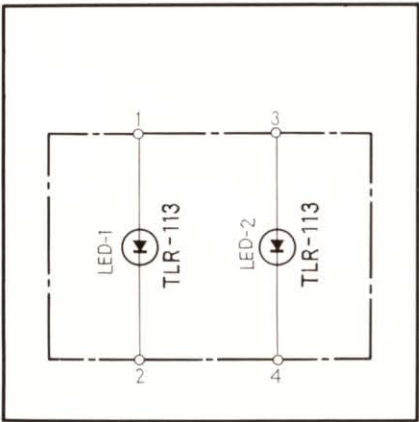
OTHERS

Symbol	Description	Part No.
F1	Fuse clip (C) Fuse 1.2A	RKR-017 REK-059





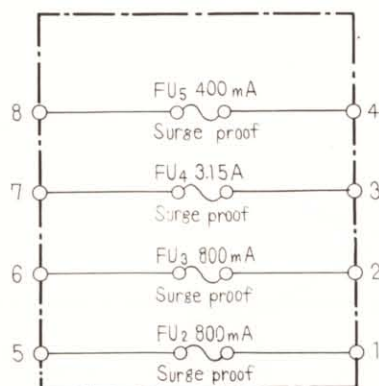
12.11 INDICATOR ASSEMBLY (RWX-113)



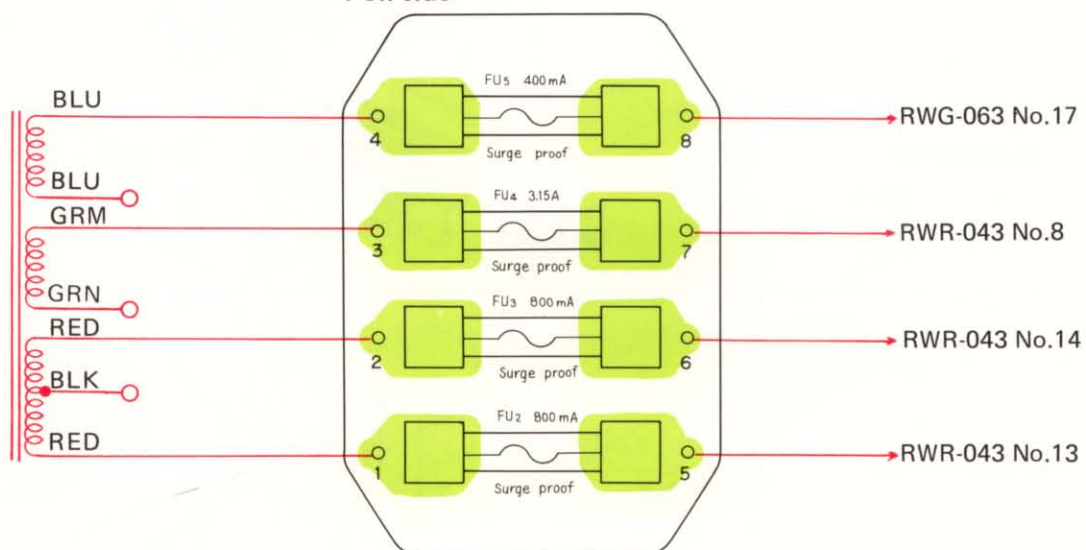
Parts List

Symbol	Description	Part No.
LED-1	TLR-113P	REB-179-A
LED-2	TLR-113P	
	Diode holder	

12.12 FUSE ASSEMBLY (RWX-139)



Foil side



Parts List

FUSES

Symbol	Description	Part No.
F2	Fuse (800mA)	REK-058
F3	Fuse (800mA)	REK-058
F4	Fuse (3.15A)	REK-044
F5	Fuse (400mA)	REK-057
	Fuse crip	RKR-017

1

2

3

13. EXPLODED VIEWS

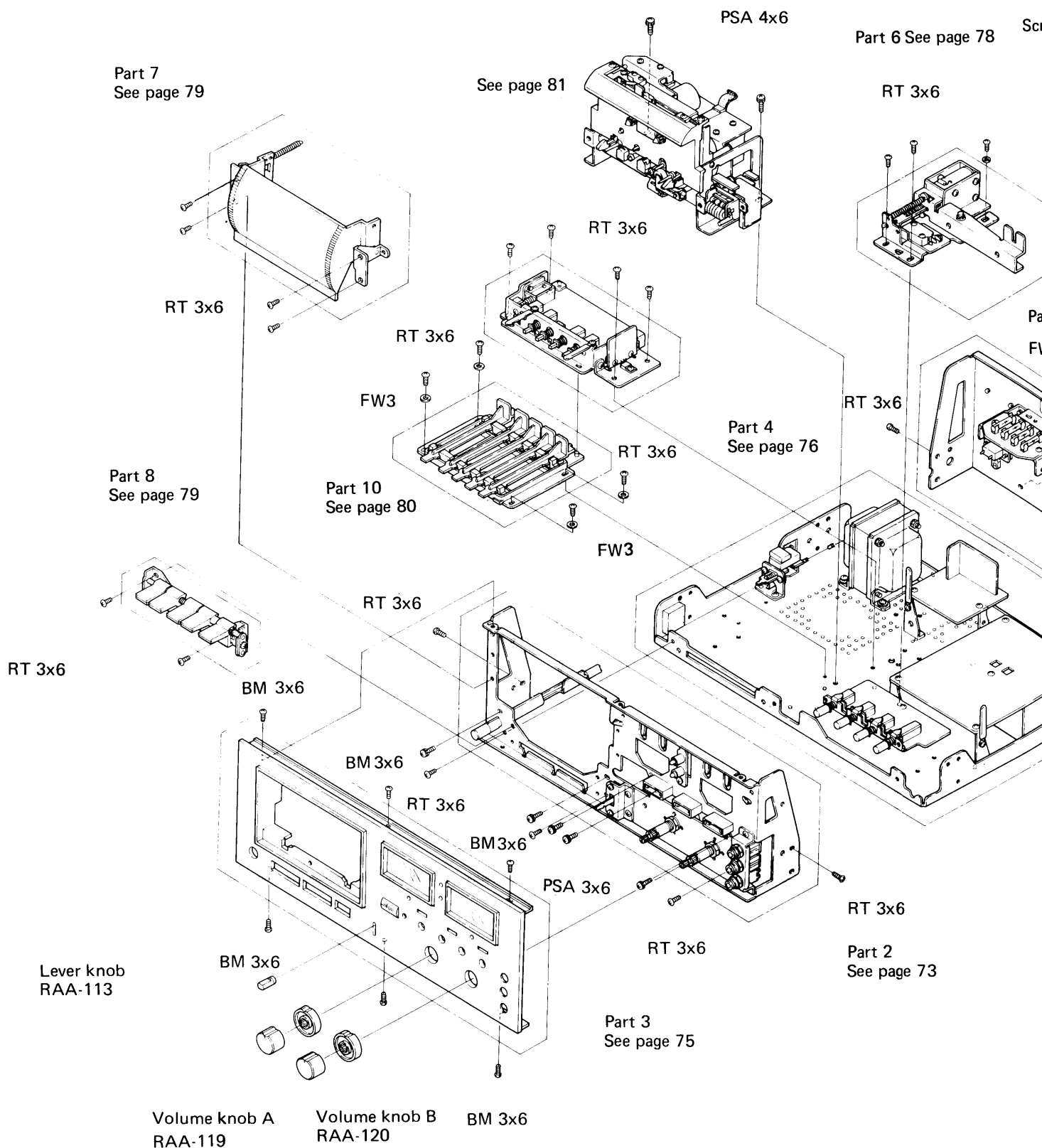
13.1 EXTERIOR

A

B

C

D



1

2

3

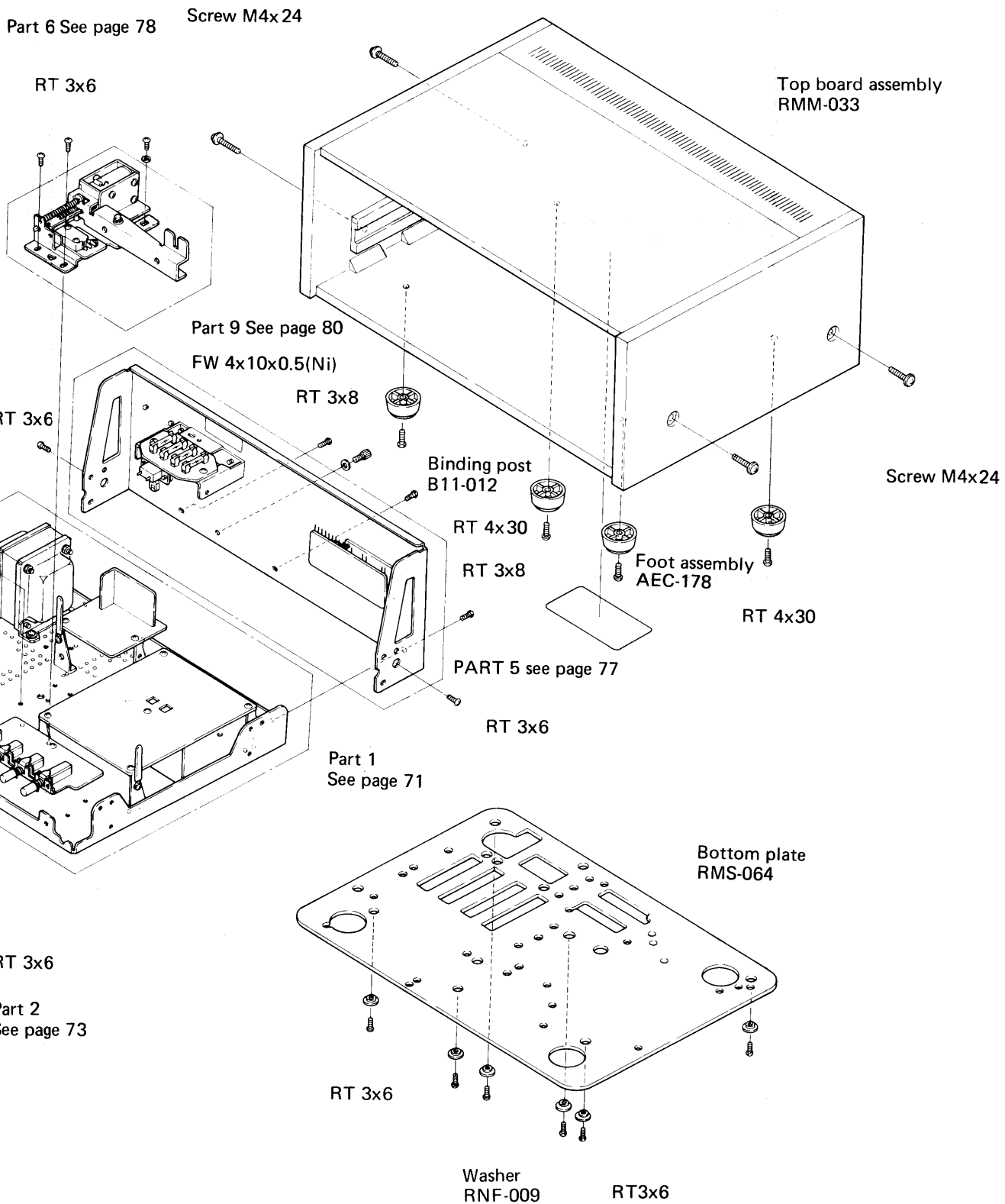
4

5

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NOTE:

Parts indicated in green type cannot be supplied.



A

B

C

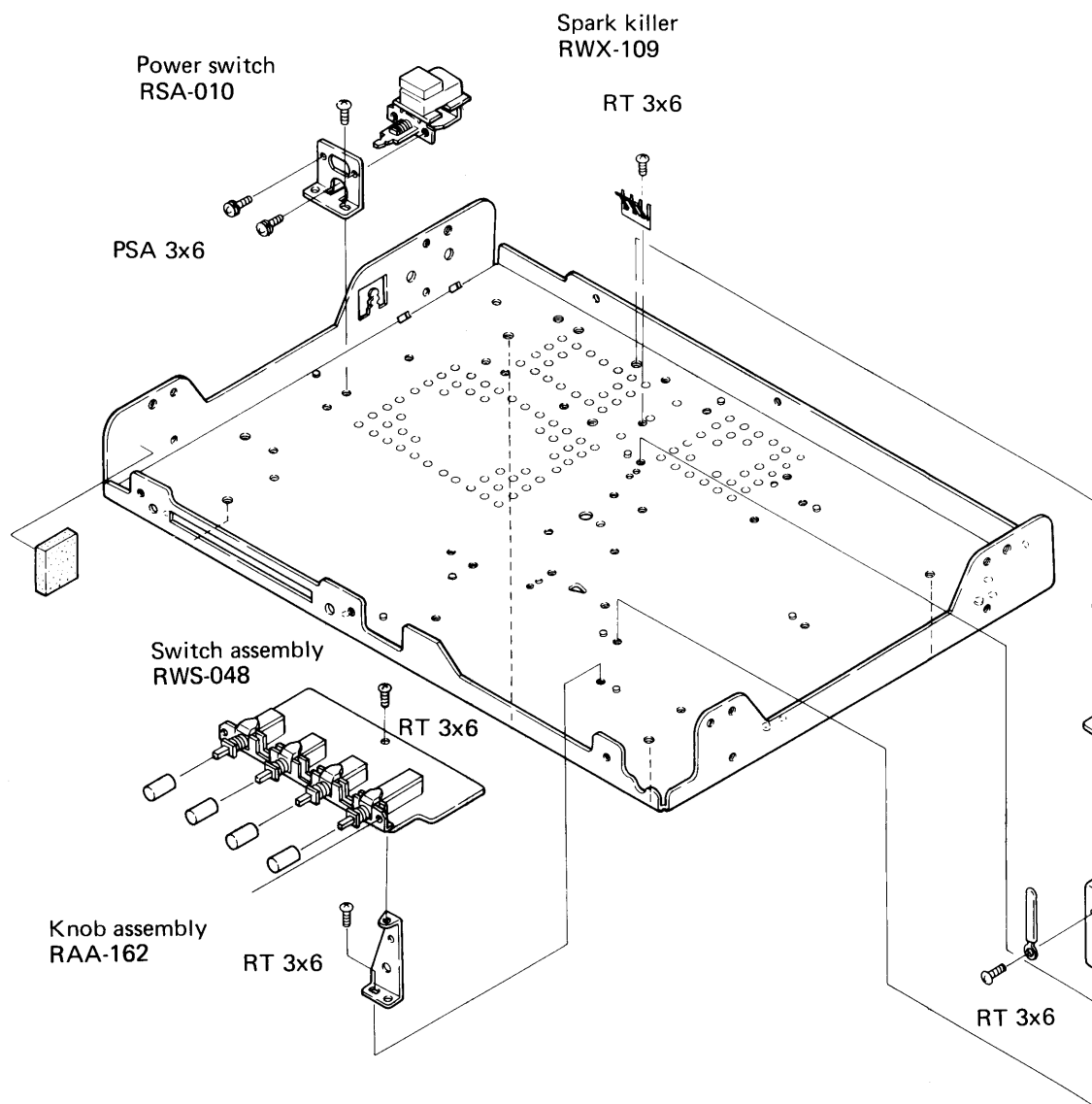
D

4

5

6

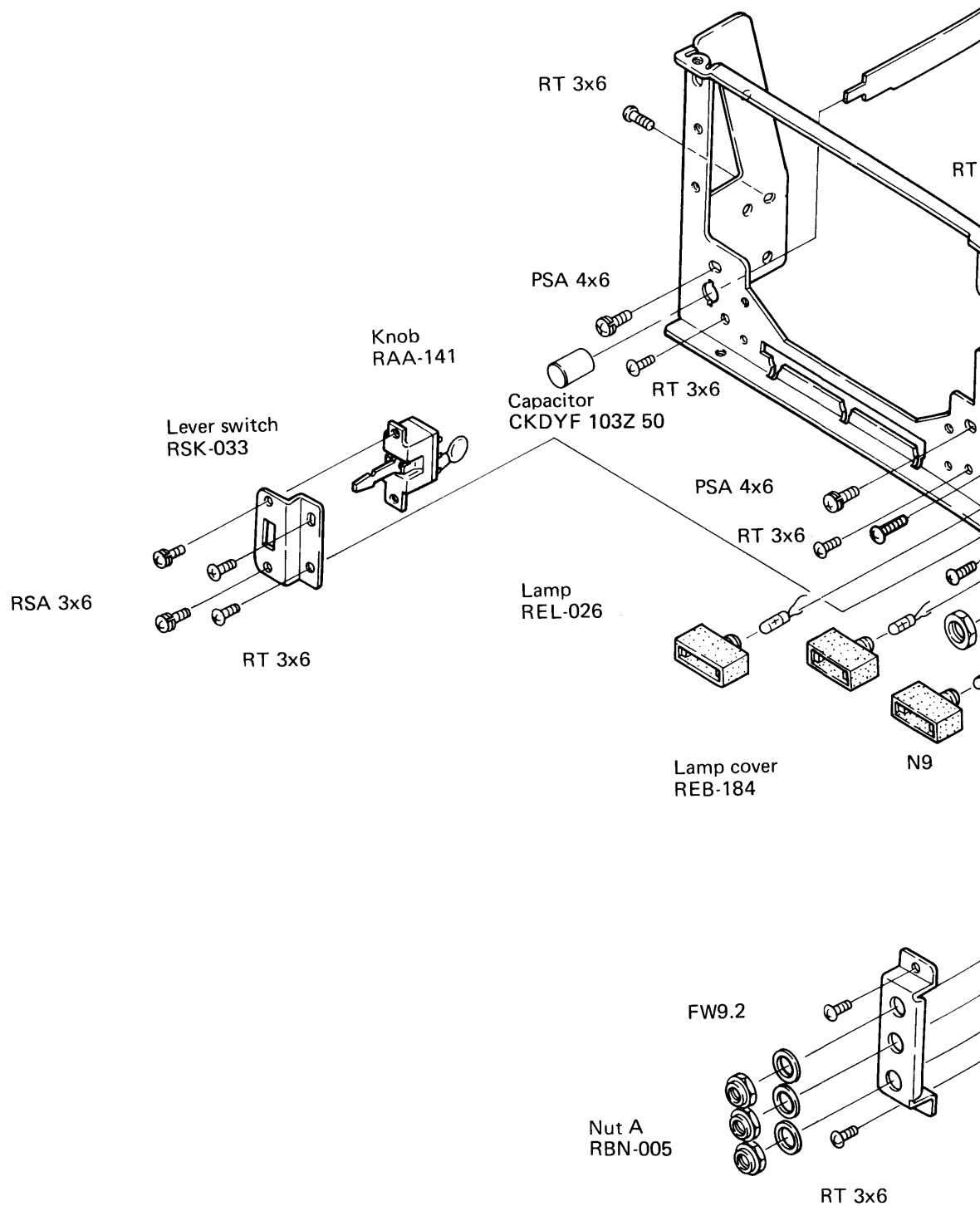
13.2 PART 1 MAIN CHASSIS



Parts indicated in green type cannot be supplied.



13.3 PART 2 PANEL STAY



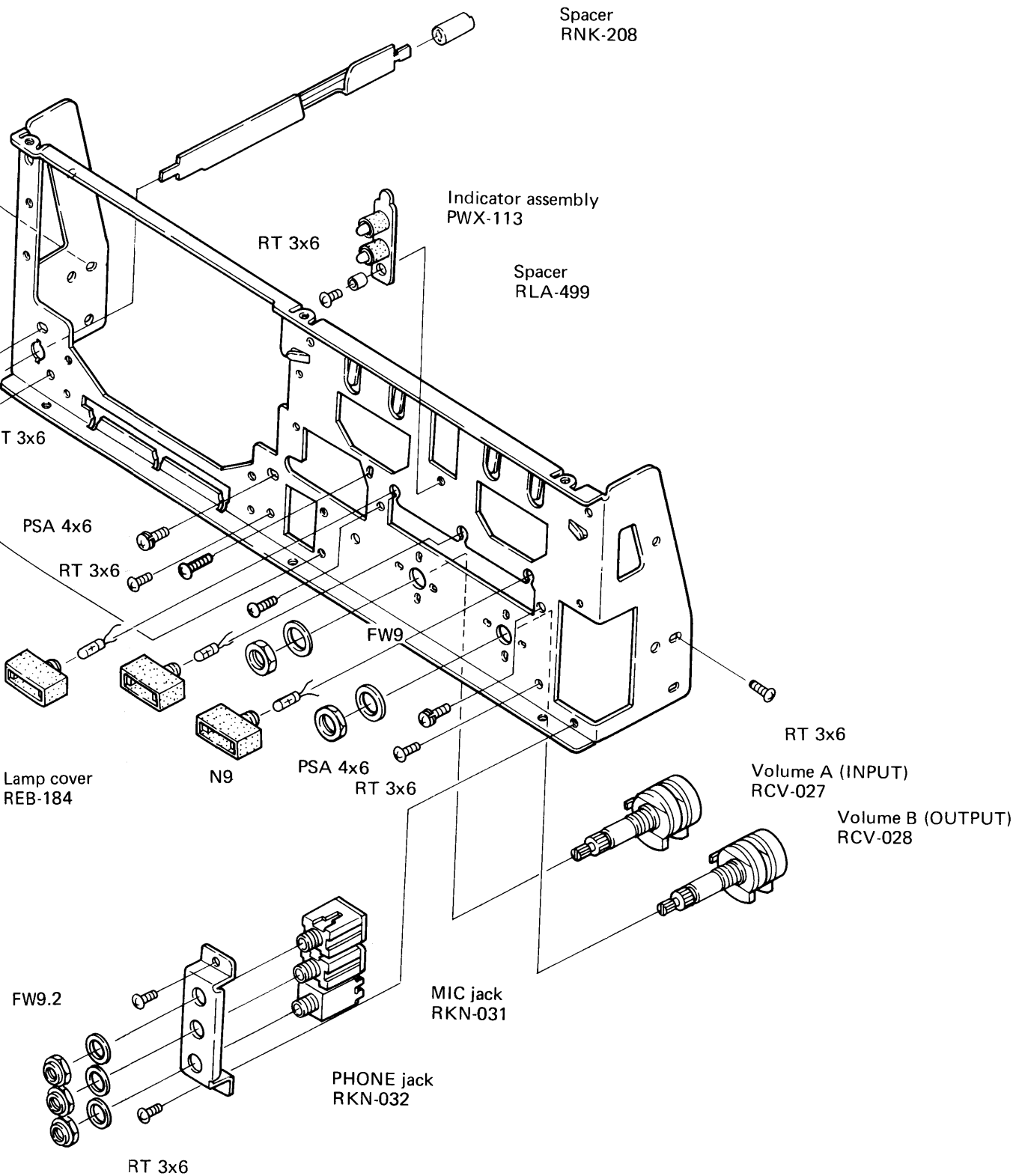
4

5

6

NOTE:

Parts indicated in green type cannot be supplied.



A

B

C

D

4

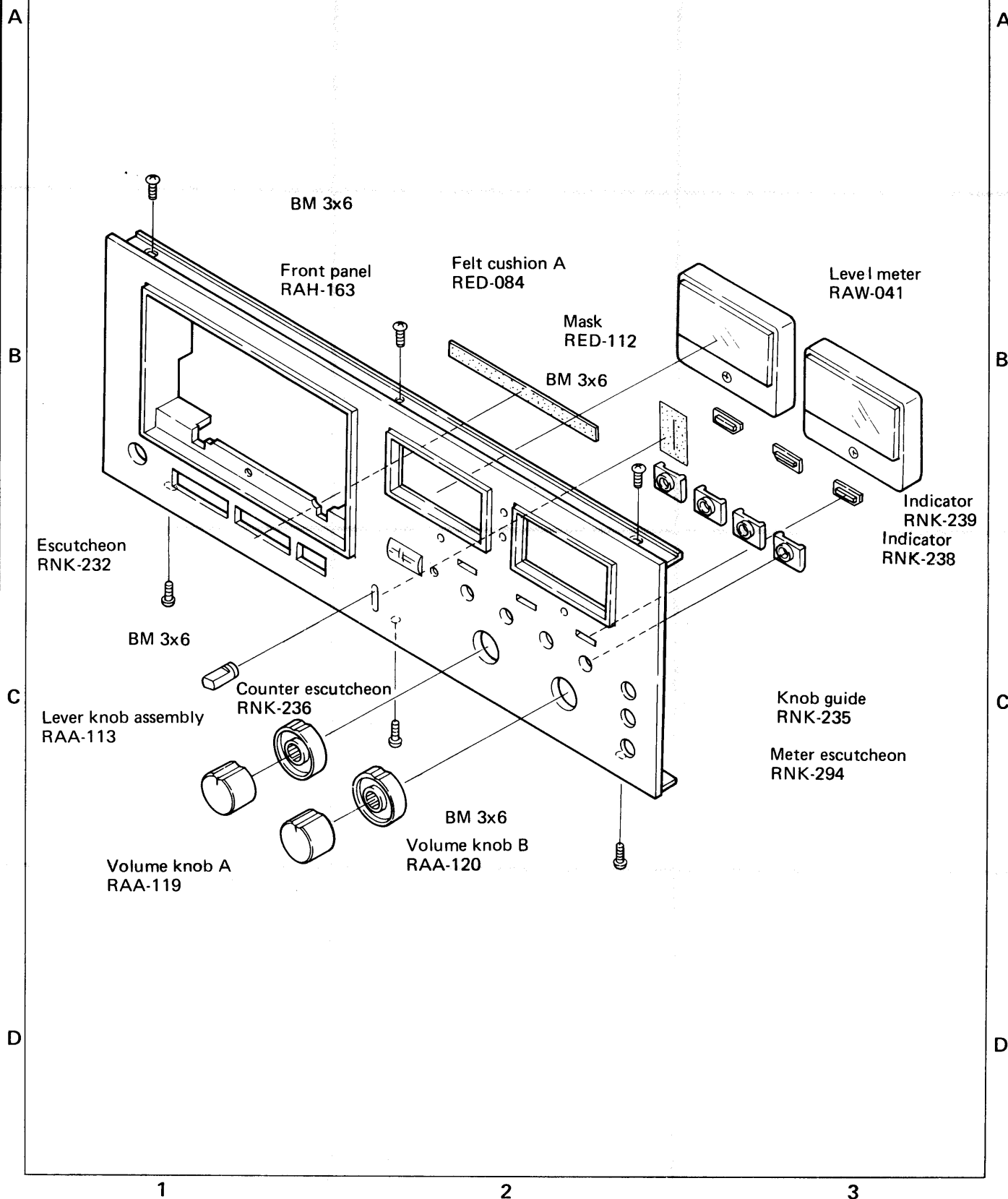
5

6

13.4 PART 3 FRONT PANEL

NOTE:

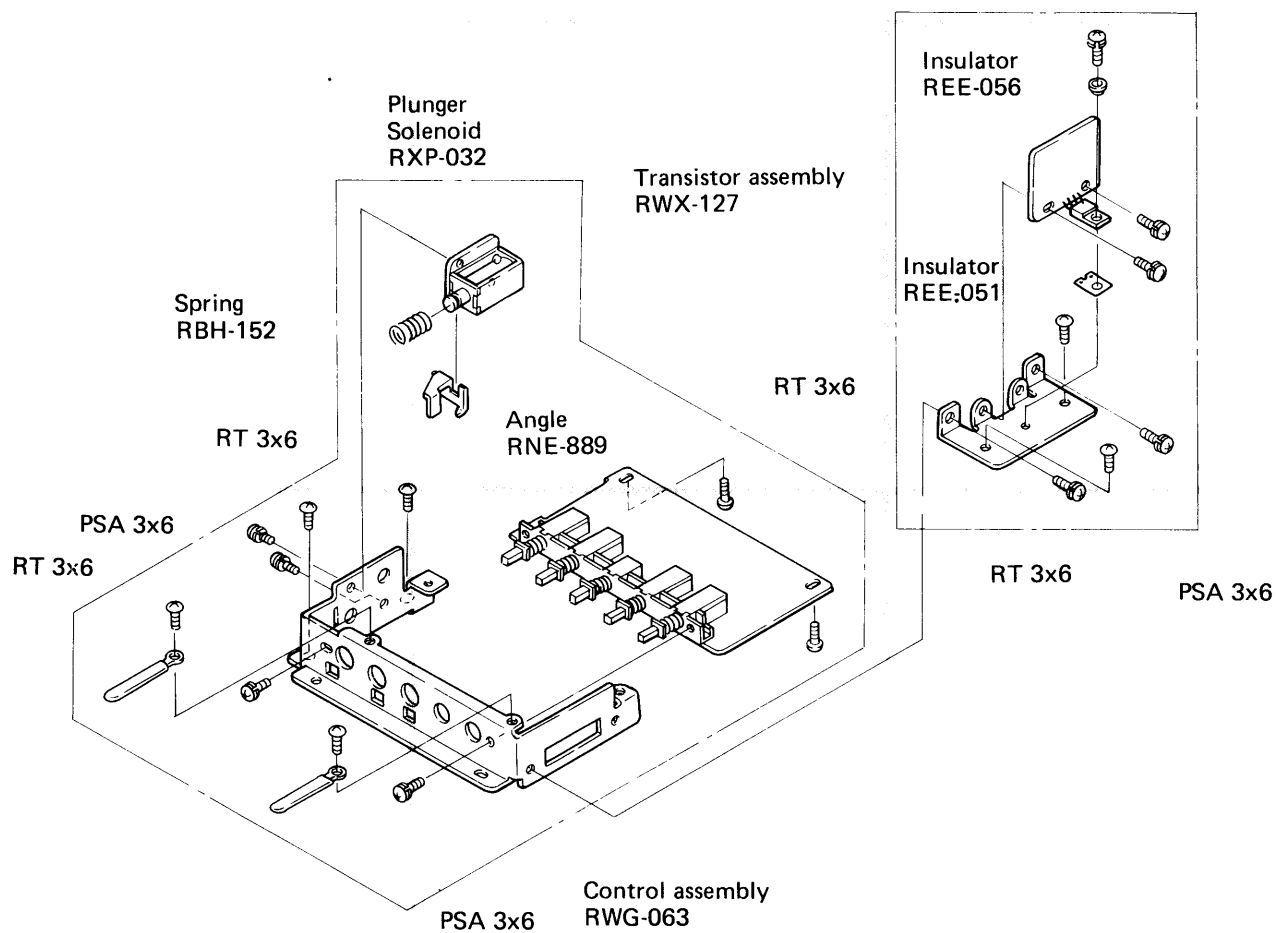
Parts indicated in green type cannot be supplied.



13.5 PART 4 CONTROL ASSEMBLY

NOTE:

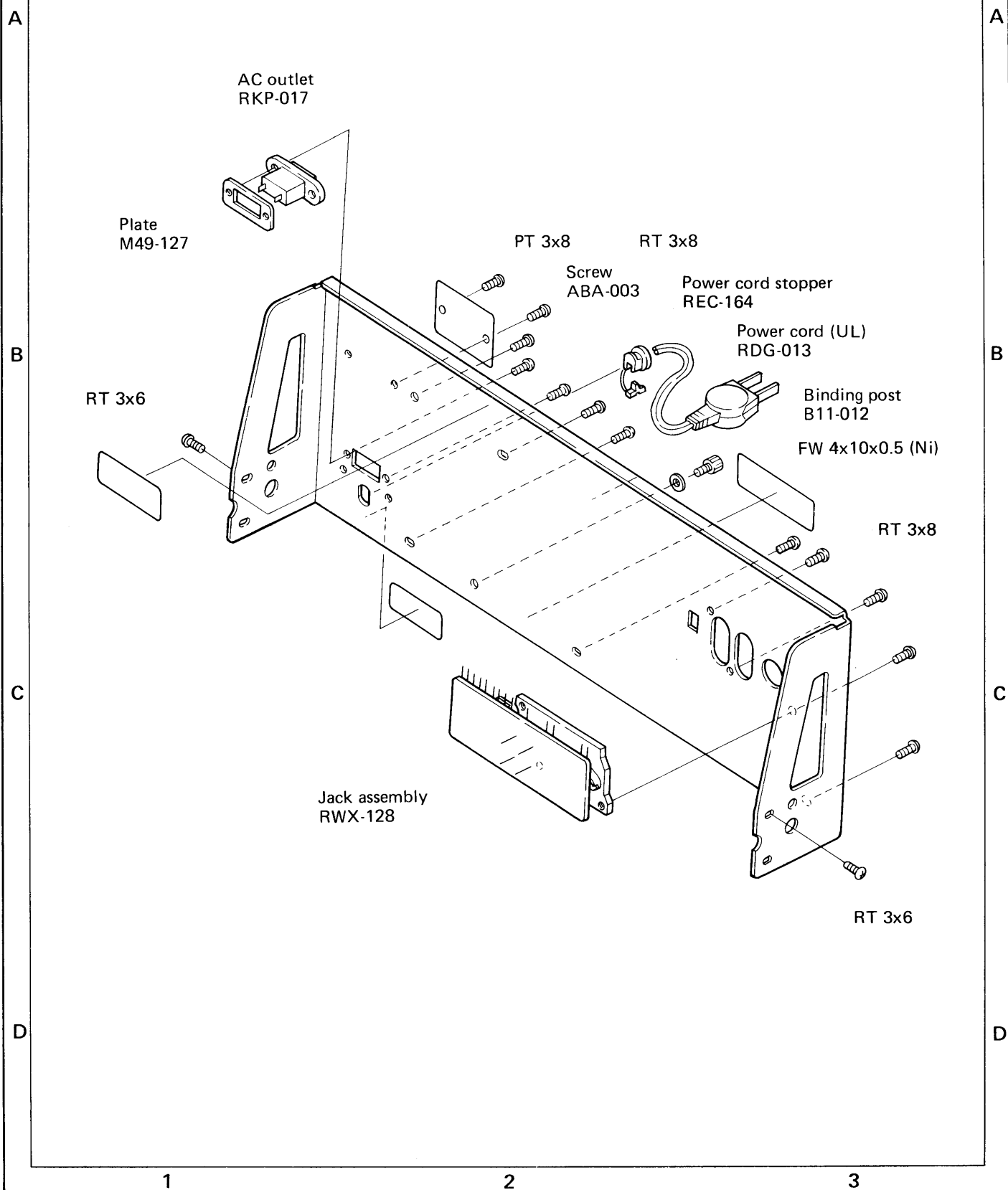
Parts indicated in green type cannot be supplied.



13.6 PART 5 REAR PANEL

NOTE:

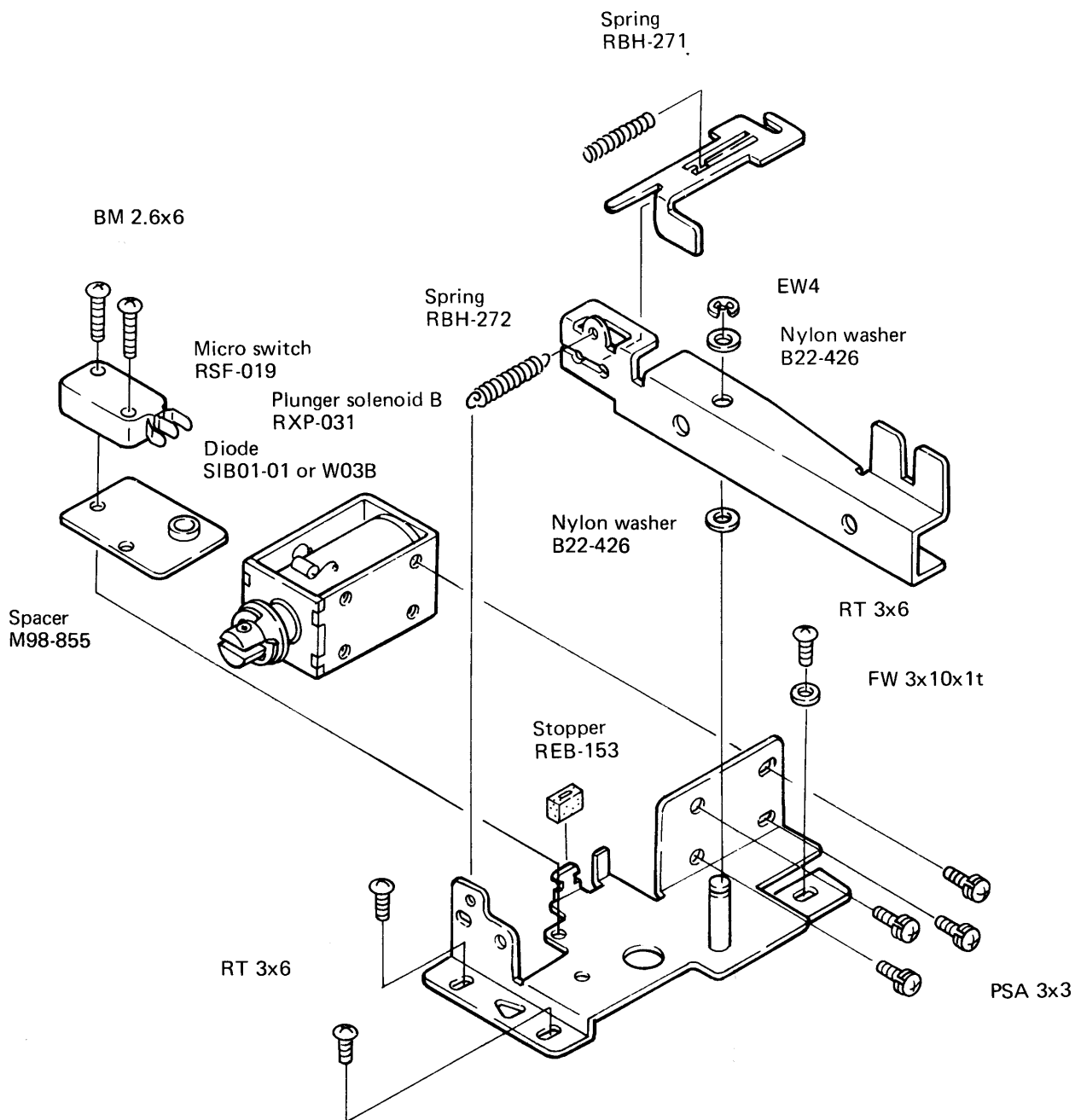
Parts indicated in green type cannot be supplied.



13.7 PART 6

NOTE:

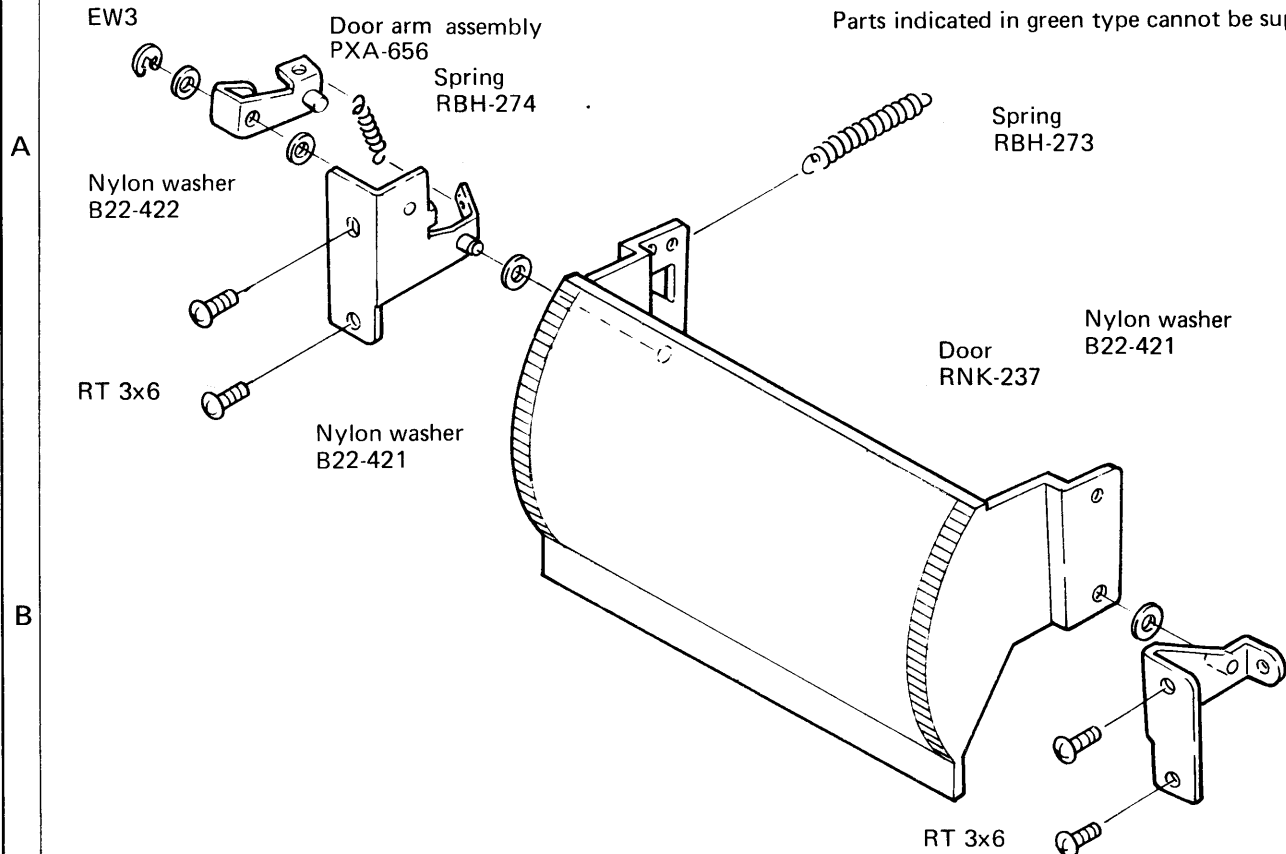
Parts indicated in green type cannot be supplied.



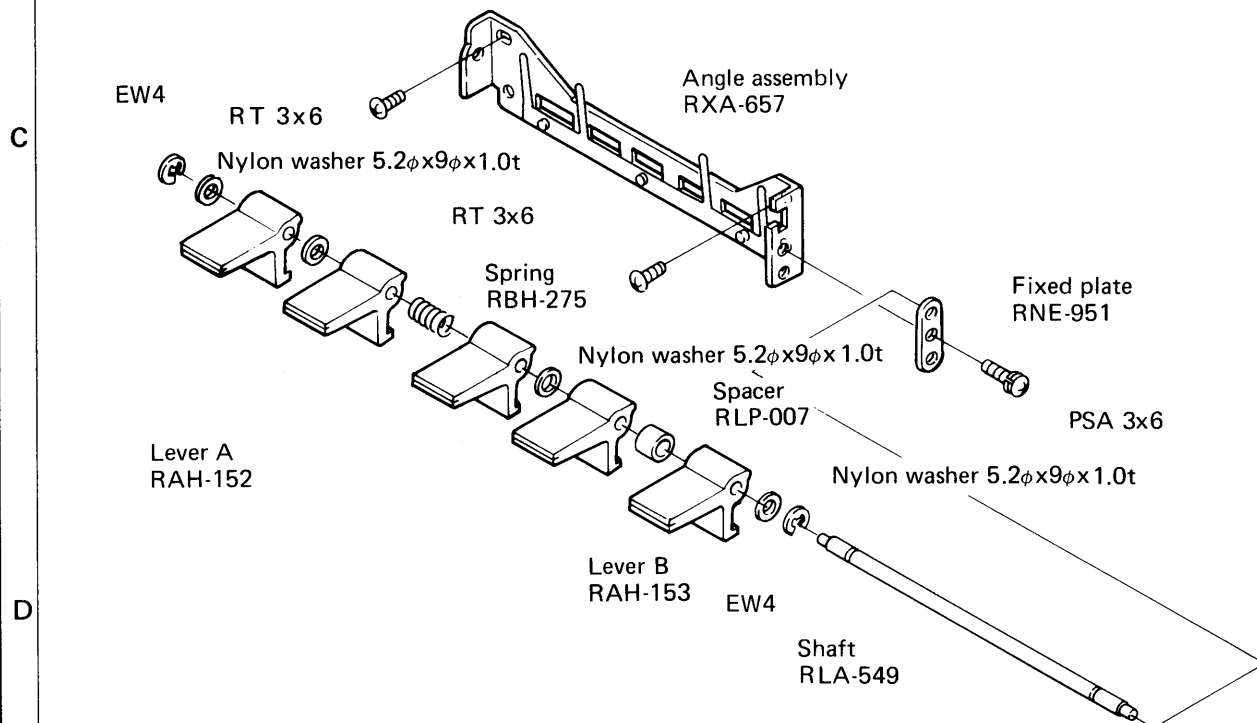
13.8 PART 7 DOOR

NOTE:

Parts indicated in green type cannot be supplied.



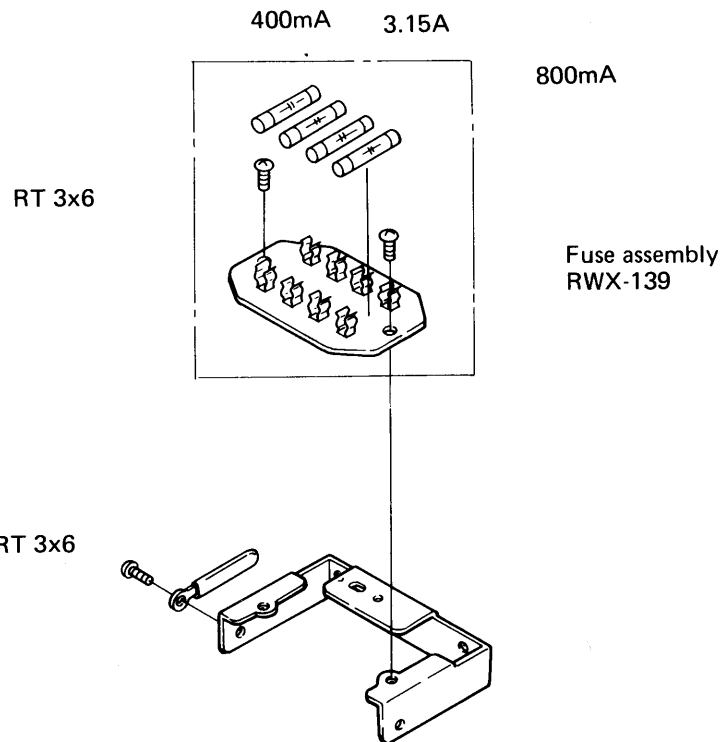
13.9 PART 8 FUNCTION LEVER



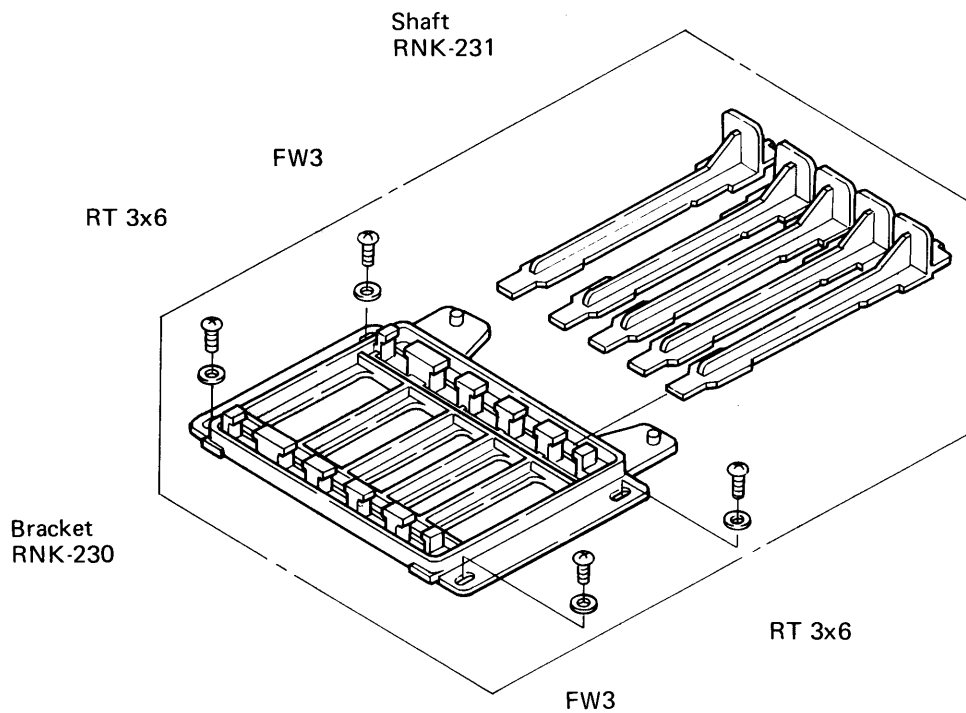
13.10 PART 9 FUSE ASSEMBLY

NOTE:

Parts indicated in green type cannot be supplied.



13.11 PART 10



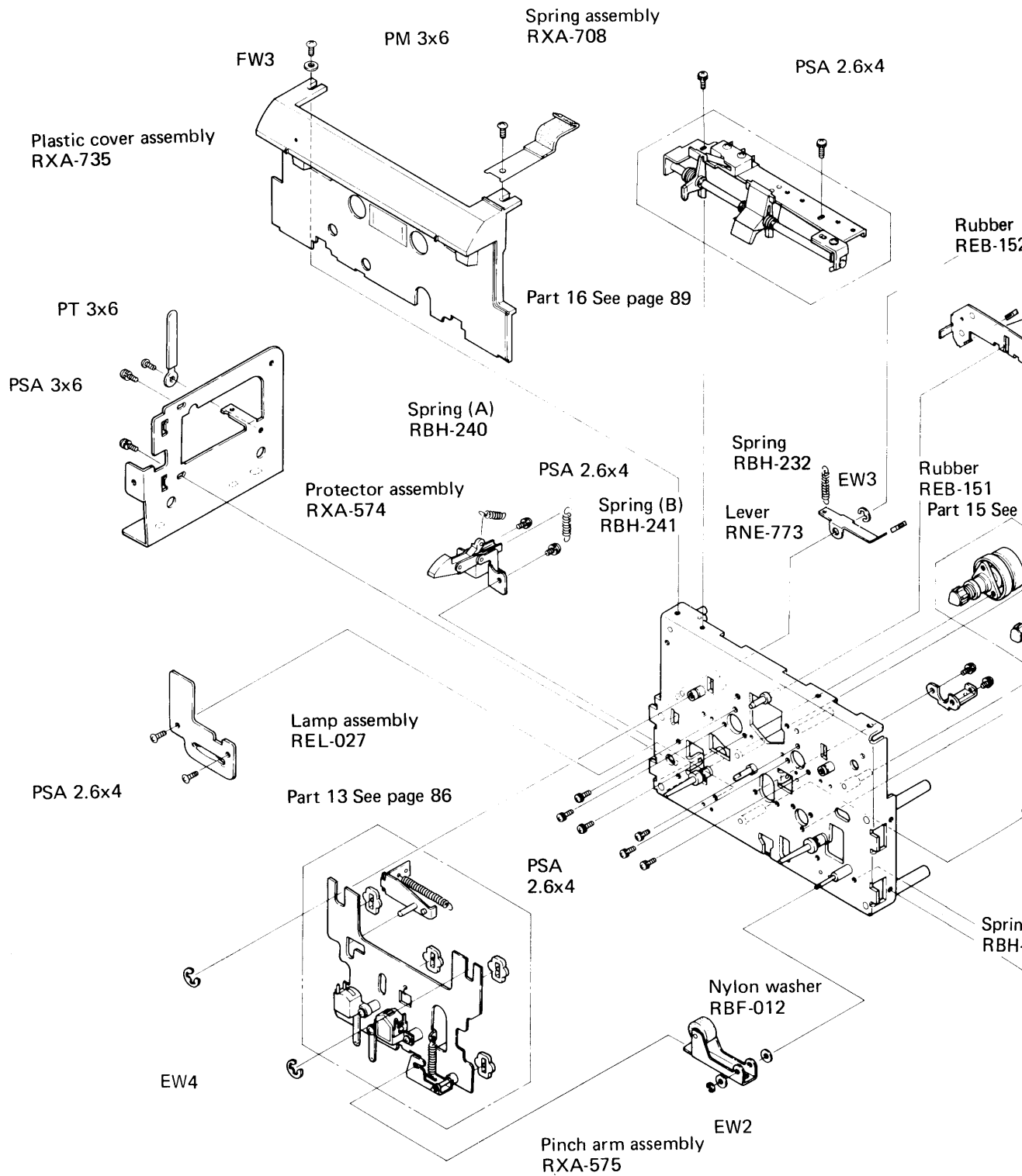
13.12 TRANSPORT

A

B

C

D



4

5

6

NOTE:

Parts indicated in green type cannot be supplied.

Part 12 See page 85

PSA 2.6x4

PSA 2.6x4

Connector socket assembly
RKP-015Rubber
REB-152Spring
RBH-233EW2
FW2

Part 17 See page 90

Washer RBF-007

EW1.5

PSA 3x6

Part 11
See page 83Rubber
REB-151

Part 15 See page 88

Washer
RBF-012

PSA 2.6x6

Shaft holder assembly
RXA-558Washer
RBF-007Washer
RBF-025

Part 18 See page 90

EW2

PSA 2.6x4

Belt
REB-156

Lever RNE-857

EW3

Spring
RBH-245Washer
M98-855Washer
B22-421Spring (B)
RBH-241

PSA 3x6

Part 14
See page 87Spring (A)
RBH-240

PSA 2.6x4

Protector assembly
RXA-574

PT 3x6

PSA 3x6

4

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6

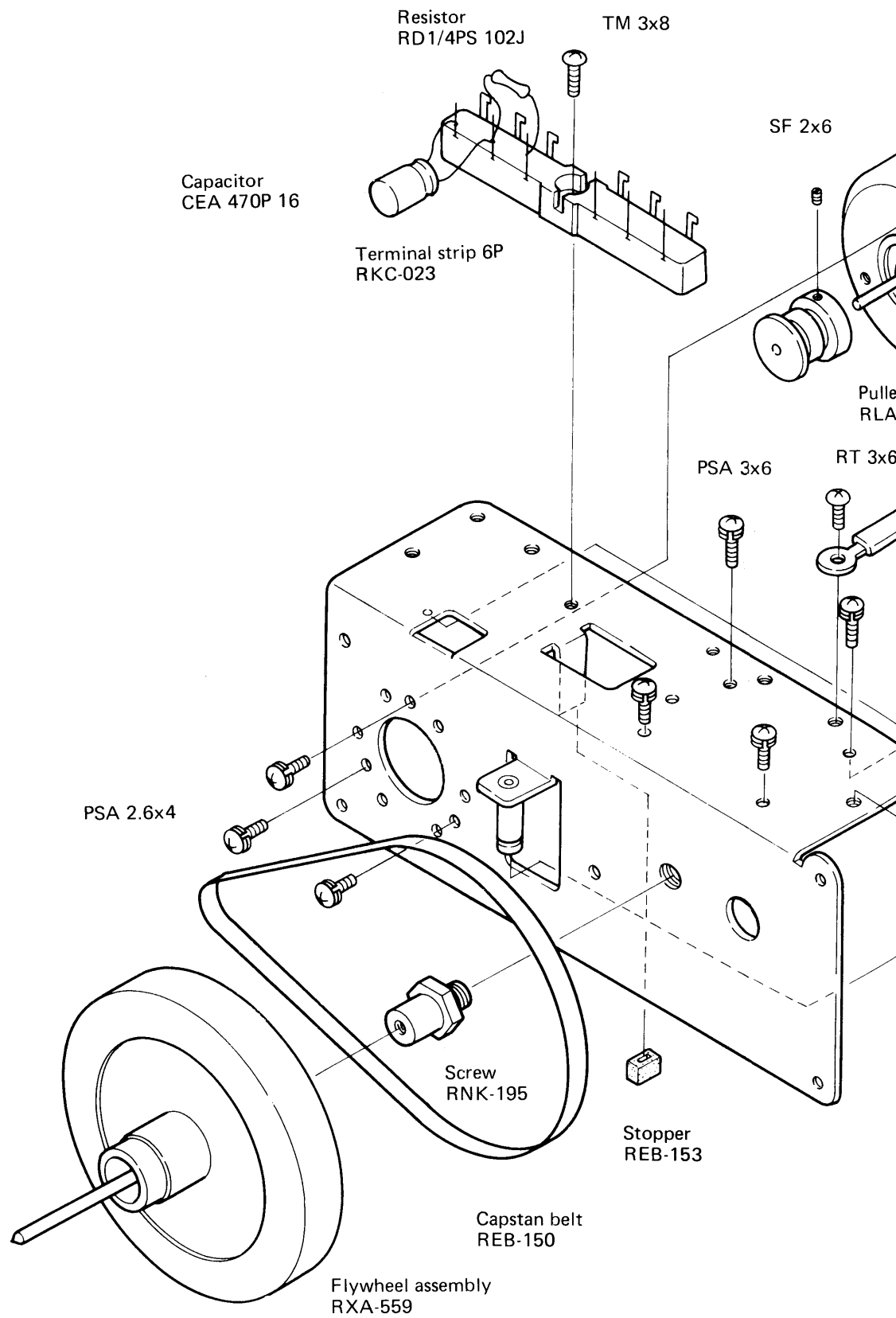
A

B

C

D

13.13 PART 11 SUB CHASSIS



4

5

6

NOTE:

Parts indicated in green type cannot be supplied.

TM 3x8

Motor
RXM-022

SF 2x6

Pulley
RLA-465Plunger solenoid
RXP-029

PSA 3x6

RT 3x6

Spring
RBH-248

FW5.2

FW5.2

EW4

Stopper
REB-153

4

5

6

A

B

C

D

13.14 PART 12 MOTOR

NOTE:

Parts indicated in green type cannot be supplied.

A

A

B

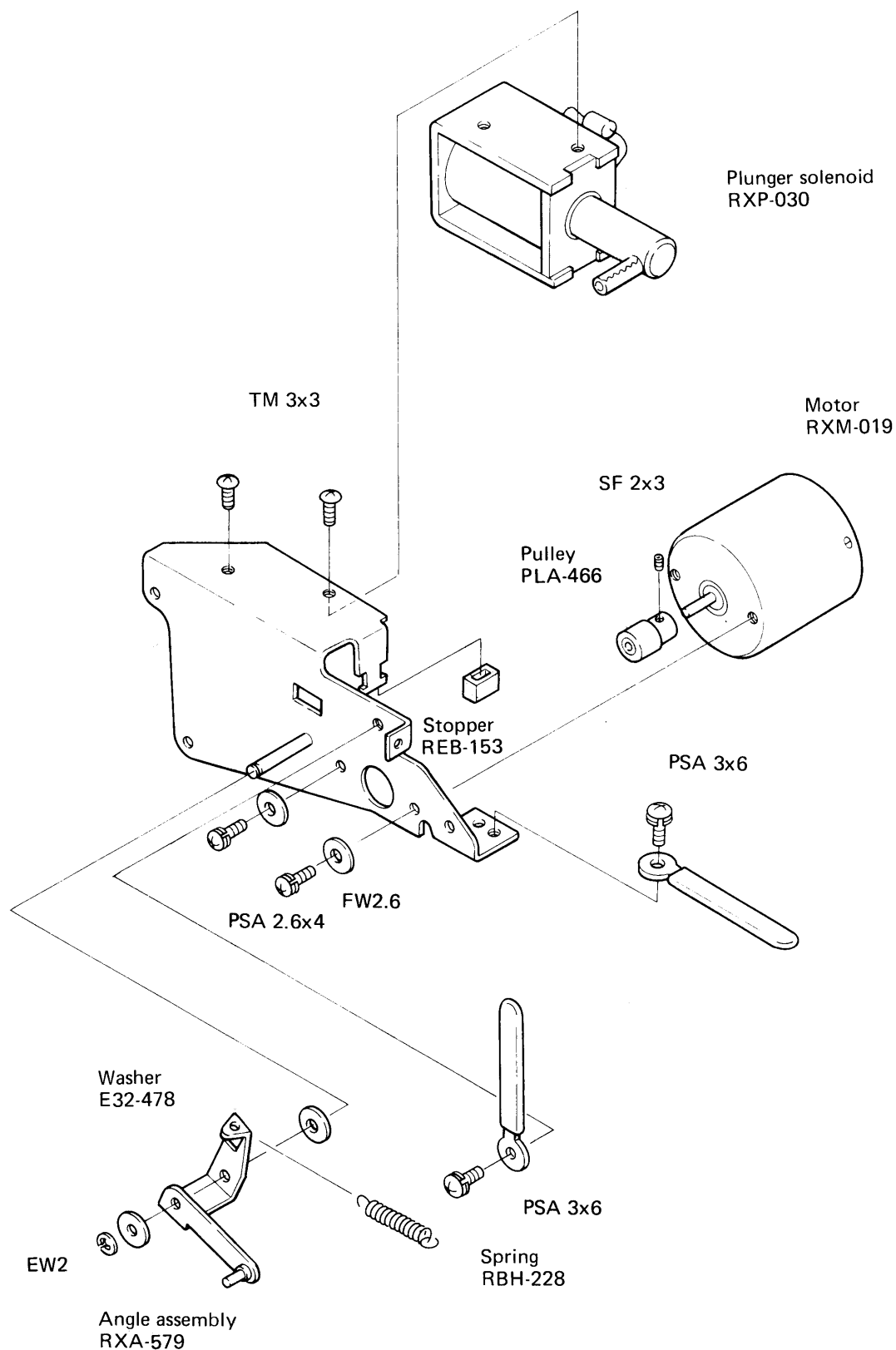
B

C

C

D

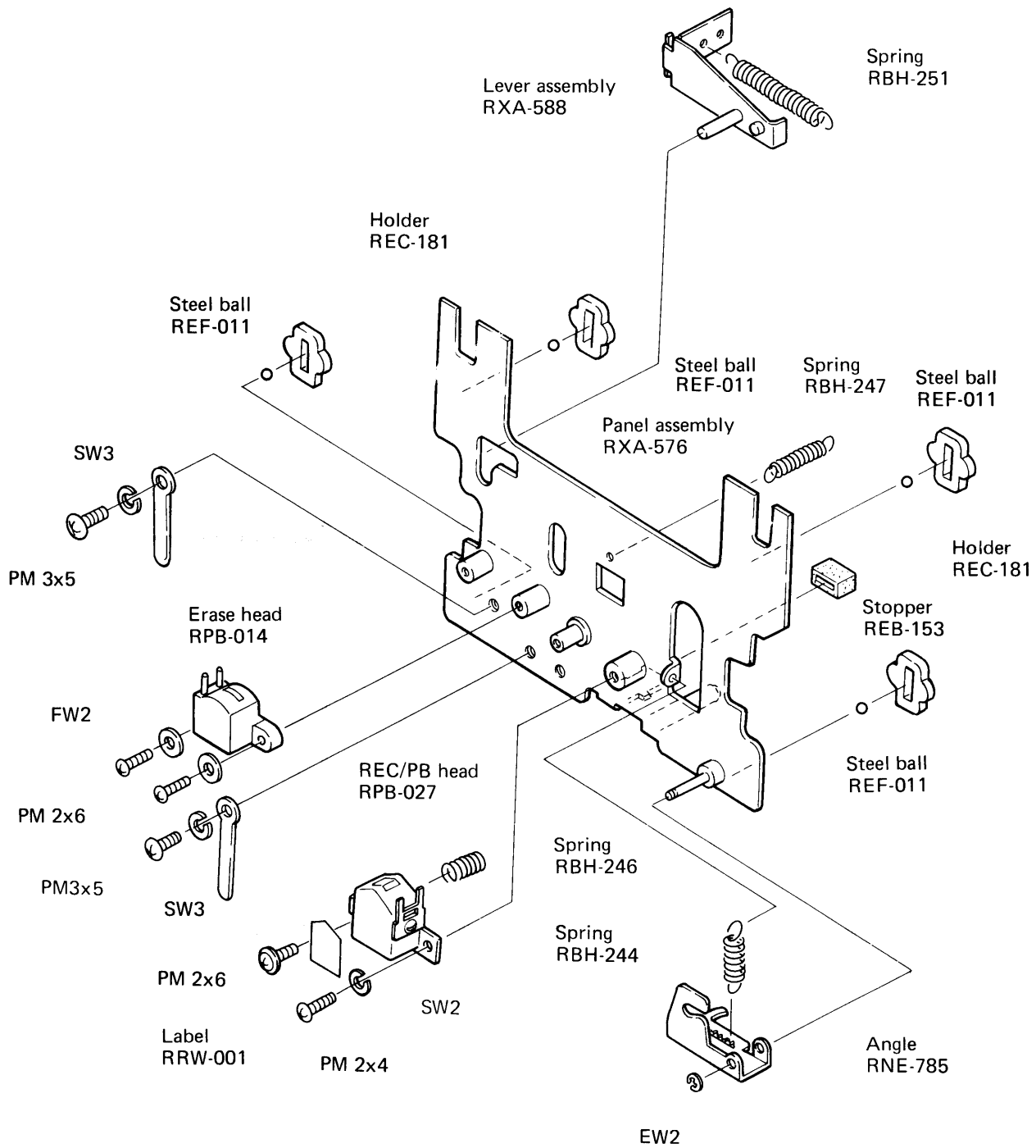
D



13.15 PART 13

NOTE:

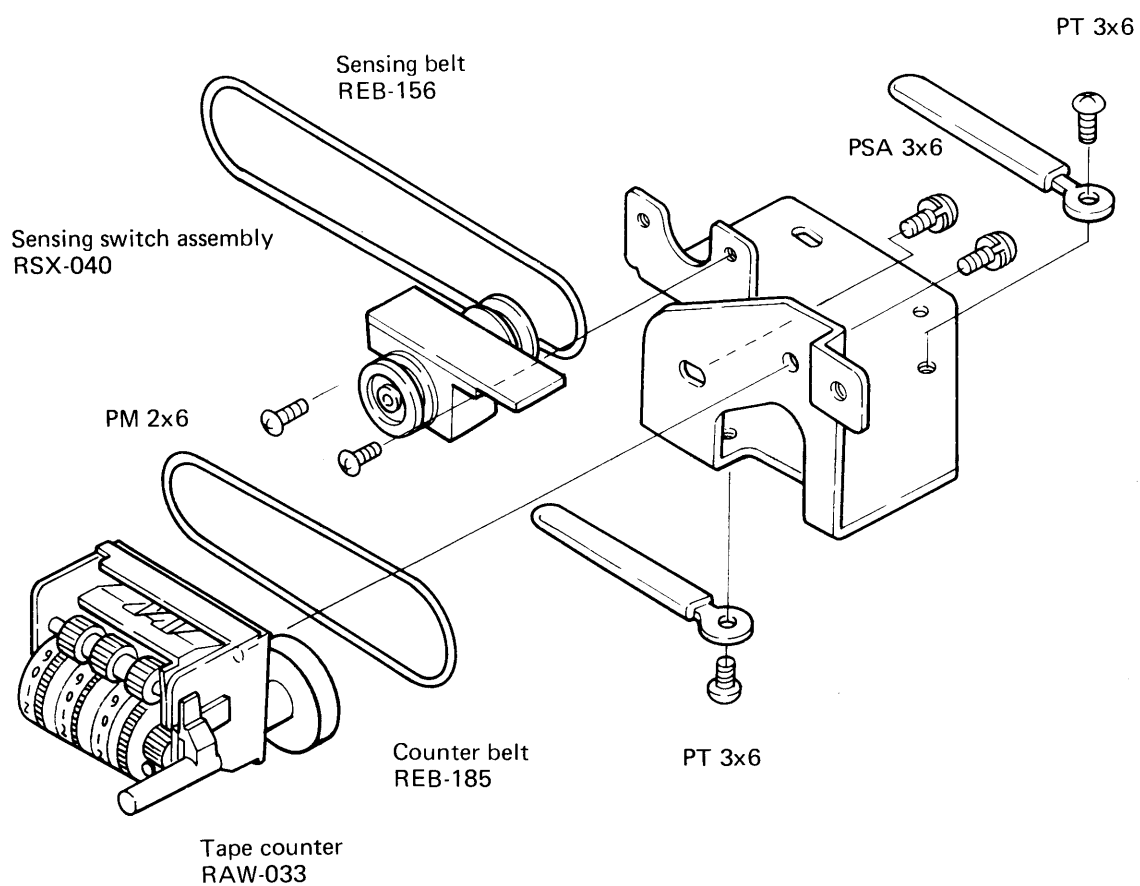
Parts indicated in green type cannot be supplied.



13.16 PART 14 TAPE COUNTER

NOTE:

Parts indicated in green type cannot be supplied.

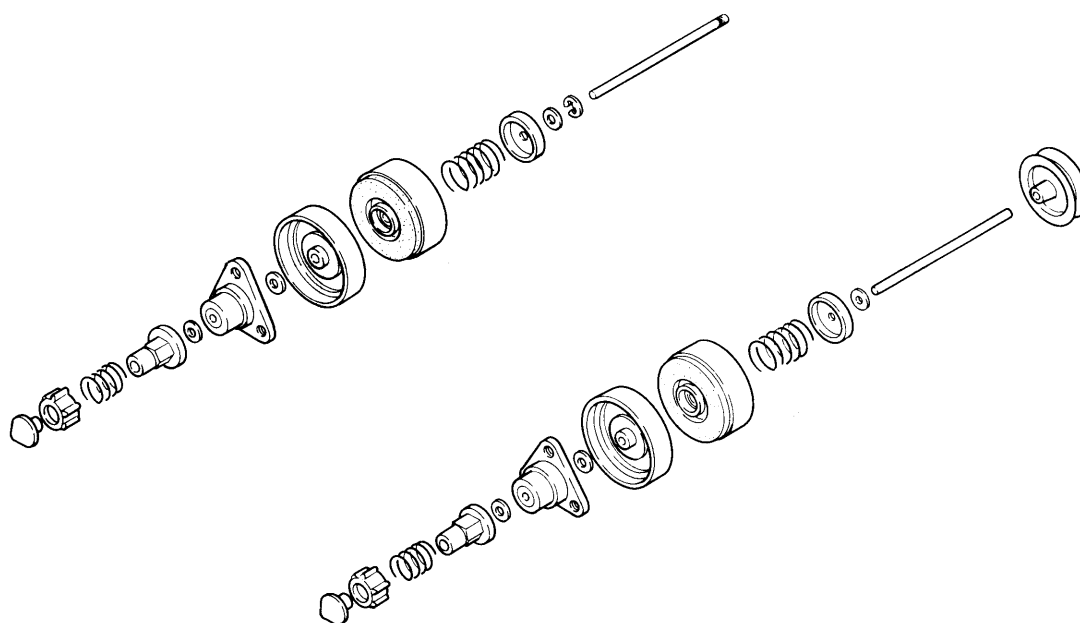


13.17 PART 15 REEL SHAFT

NOTE:

Parts indicated in green type cannot be supplied.

Supply reel full assembly
RXA-563

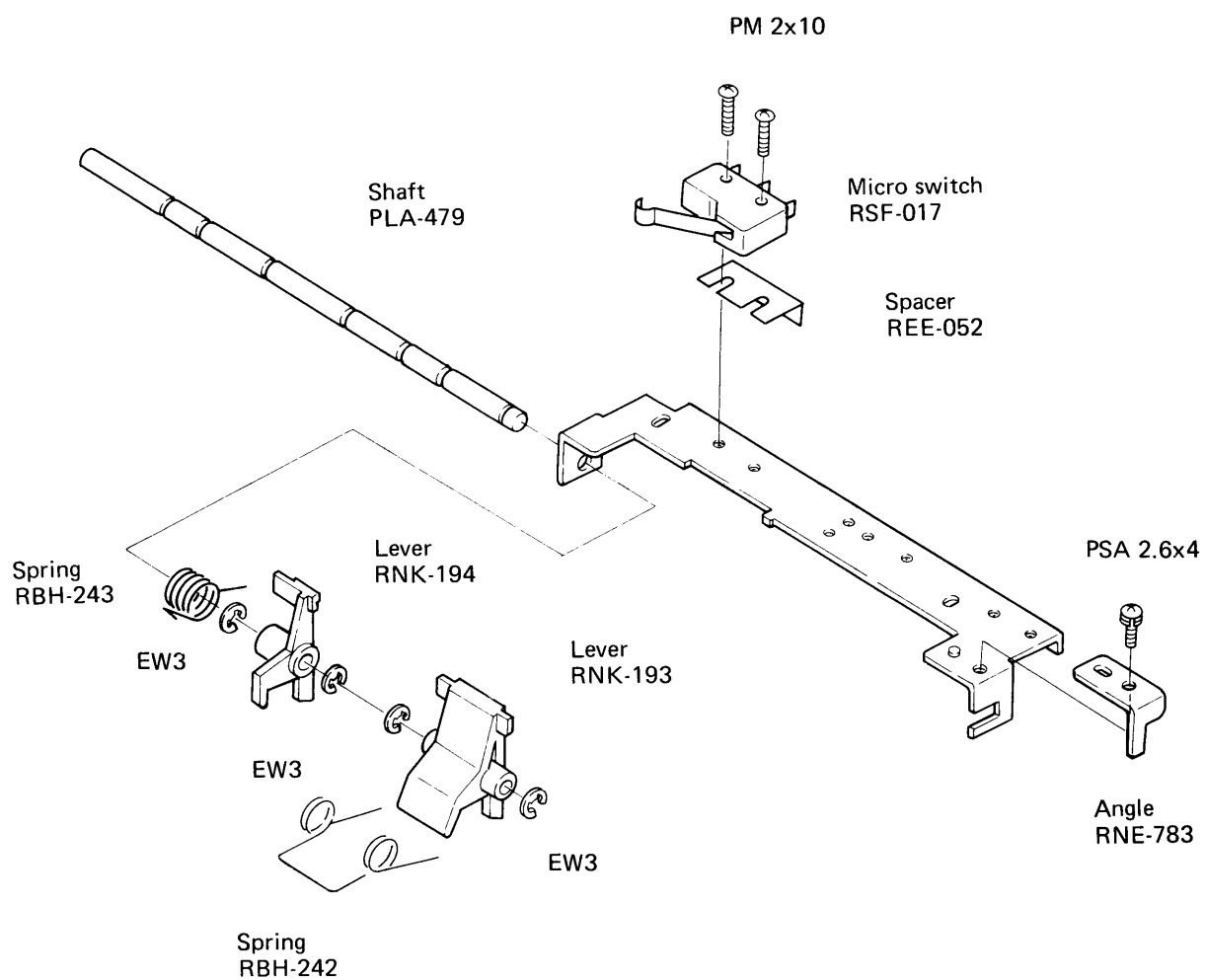


Take up reel full assembly
RXA-560

13.18 PART 16 PAUSE LEVER

NOTE:

Parts indicated in green type cannot be supplied.

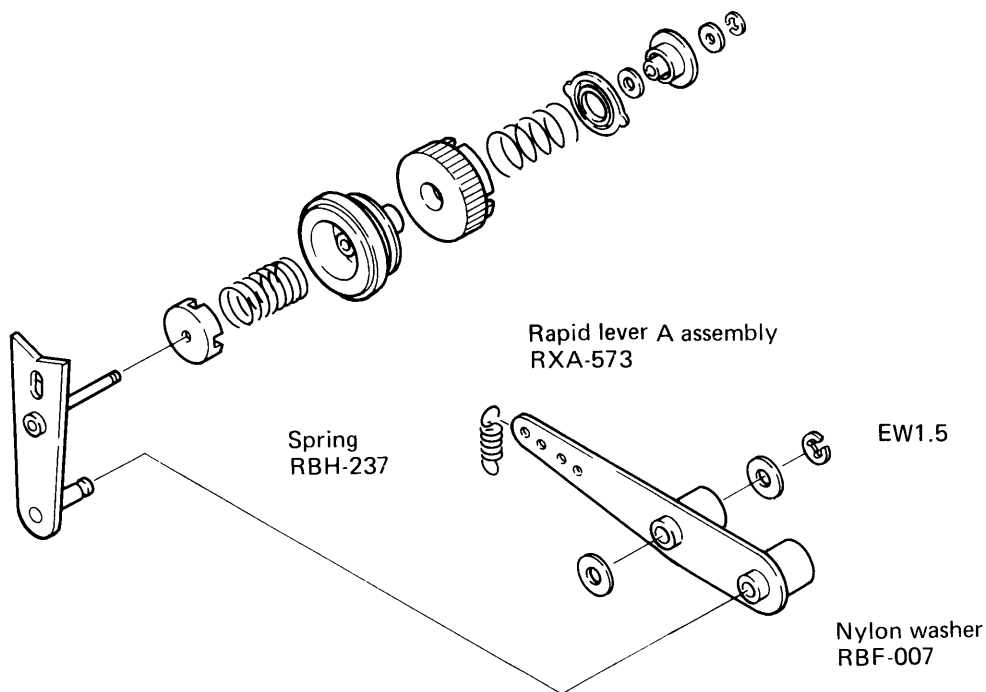


13.19 PART 17 F.F. IDLER

NOTE:

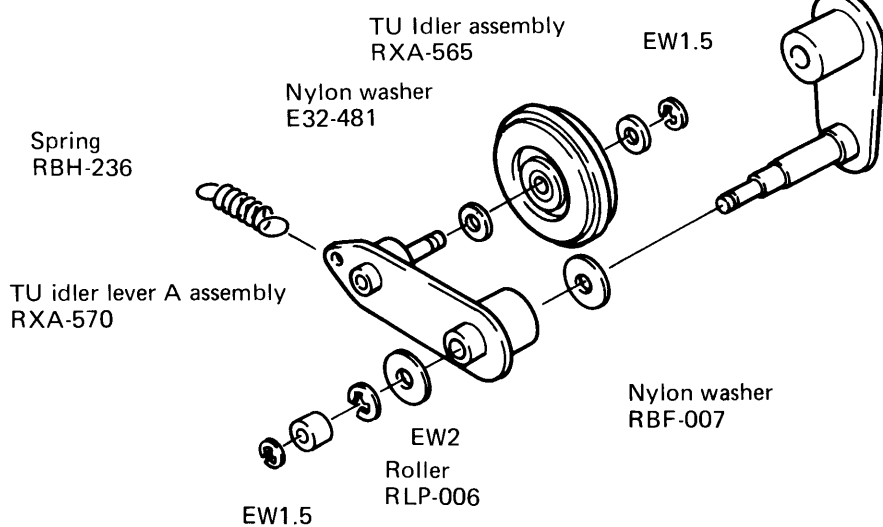
Parts indicated in green type cannot be supplied.

F.F. Idler Assembly
RXA-581



13.20 PART 18 TU IDLER

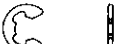
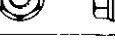
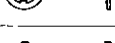
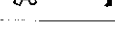
TU Idler lever B assembly
RXA-571



13.21 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	

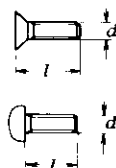
EXAMPLE

PM • 3x8

length in mm (l)

diameter in mm (d)

Symbol

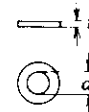


FW • 9φ x 1^t

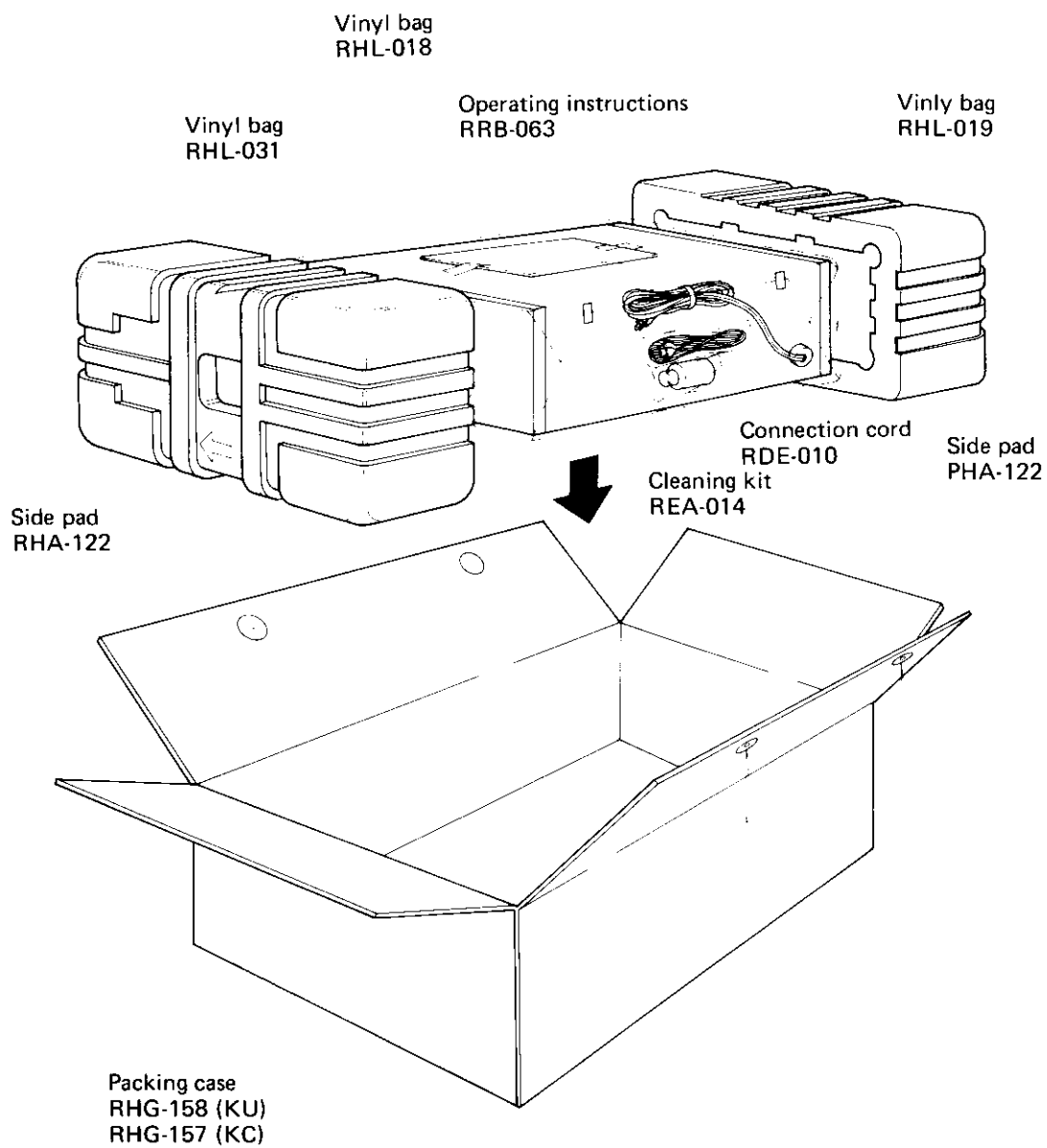
thickness in mm (t)

diameter in mm (d)

Symbol



14. PACKING



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