

# Service Manual

FM/AM STEREO RECEIVER

SA-800

(FE), (ES)

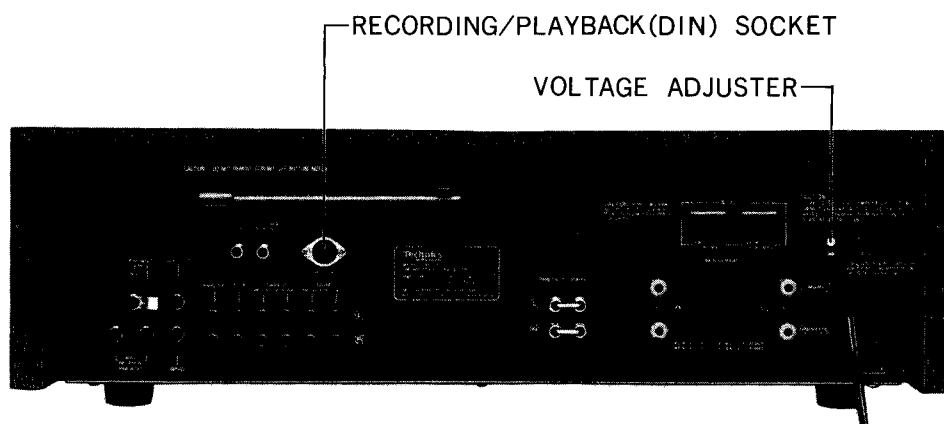
SA-800

- \* The model SA-800 (FE) is available in far East PX only
- \* The model SA-800 (ES) is available in European Military

For additional information, please refer to service manual for Model No. SA-800 (M, MC).

- Notes: \*
- This service manual included only the change of the **SA-800 (M, MC)** service manual (ORDER NO. SD7801-1295).
  - When servicing model **SA-800 (FE, ES)**, this service manual and **SA-800 (M, MC)** (ORDER NO. SD7801-1295) service manual should be used together.

## ■ SUPPLEMENTARY OPERATION



## CHANGES

## ■ TECHNICAL SPECIFICATIONS

	SA-800 (M), (MC)	→	SA-800 (FE), (ES)
Input sensitivity and impedance	<b>PHONO</b> 2.5mV/47 kilohms <b>AUX</b> 150mV/47 kilohms <b>PLAYBACK (TAPE 1, 2)</b> 150mV/47 kilohms		<b>PHONO</b> 2.5mV/47 kilohms <b>AUX</b> 150mV/47 kilohms <b>PLAYBACK (TAPE 1)</b> 180mV/47 kilohms <b>PLAYBACK (TAPE 2)</b> 150mV/47 kilohms <b>REC/PLAY</b> 180mV/47 kilohms
Output voltage	<b>PRE OUT</b> rated 1V, maximum 3V <b>REC OUT (TAPE 1, 2)</b> 150mV		<b>PRE OUT</b> rated 1V, maximum 3V <b>REC OUT (TAPE 1, 2)</b> 150mV <b>REC/PLAY</b> 30mV
Power consumption	330W (only for America) 600VA (only for Canada)		223W
Power supply	AC 120V (60 Hz)		AC 110V/120V/220V/240V (50/60Hz)

**Technics**  
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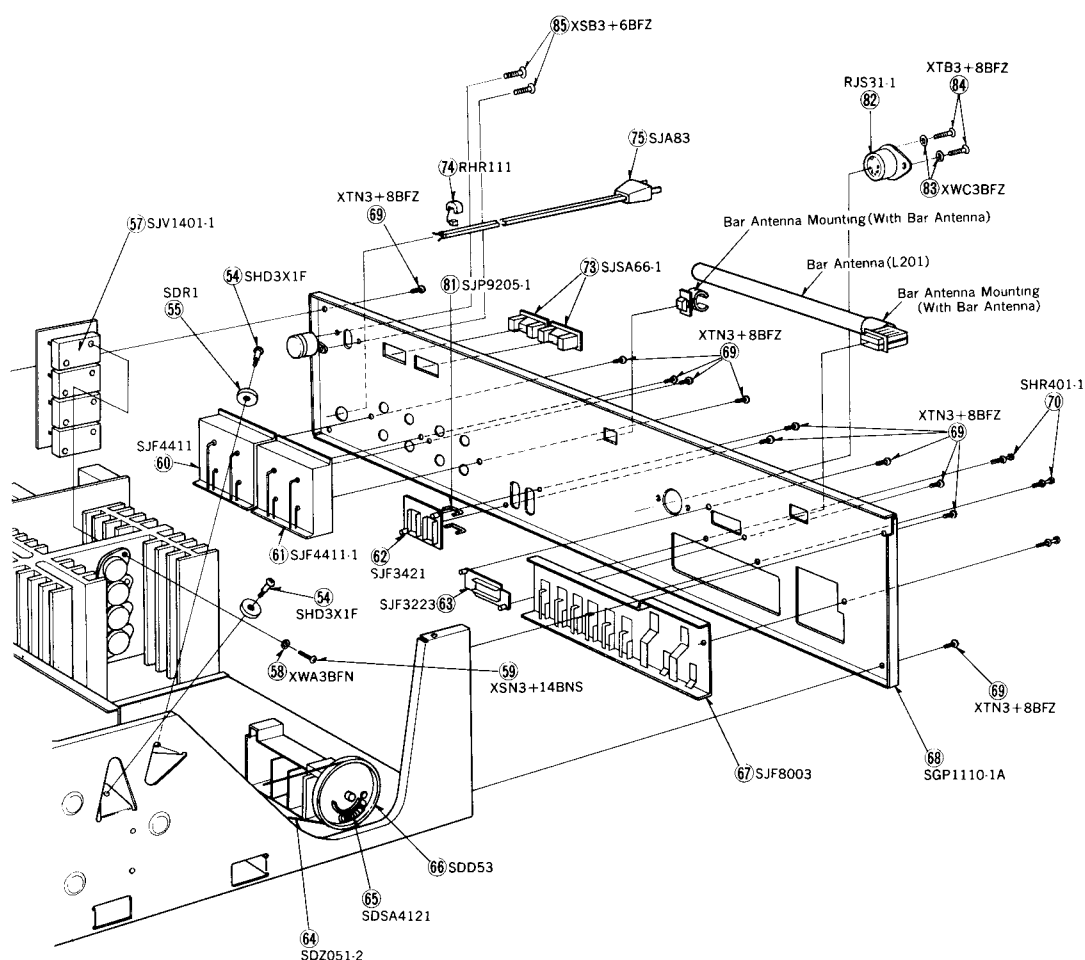
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Matsushita Electric Trading Co., Ltd.  
17-15, 6-chome, Shinbashi, Minato-ku, Tokyo 105 Japan

Matsushita Electric Trading Co., Ltd.  
P.O. Box 288, Central Osaka Japan

## ■ REPLACEMENT PARTS LIST

Ref. No.	Change of Part No.		Part Name & Description	Per Set (Pcs.)	Remarks
	SA-800 (M), (MC)	SA-800 (FE), (ES)			
TRANSISTORS					
TR501, 502	2SA720-R	2SA902S-F	AF Amplifier (Use in ranks F or G) ⑤	2	
TRANSFORMER					
T701	SLT5R29	SLT5S25	Transformer, Power Source	1	○
RESISTORS					
R533, 534	ERD25TJ102	ERO25CKF2201	Metallic, 2.2kΩ, 1/4W, ±1%	2	
R535, 536	ERD25TJ563	ERD25TJ473	Carbon, 47kΩ, 1/4W, ±5% ⑤	2	
R561, 562	ERD25TJ473	ERD25TJ274	Carbon, 270kΩ, 1/4W, ±5% ⑤	2	
R563, 564	ERD25TJ184	ERD25TJ683	Carbon, 68kΩ, 1/4W, ±5% ⑤	2	
R607, 608	ERD25TJ124	ERD25TJ823	Carbon, 82kΩ, 1/4W, ±5% ⑤	2	
R613, 614	ERD25TJ183	ERD25TJ562	Carbon, 5.6kΩ, 1/4W, ±5% ⑤	2	
R702	ERD18FAJ2R2	Deletion	-----	0	
R1001, 1002	—	ERD25TJ394	Carbon, 390kΩ, 1/4W, ±5% ⑤	2	
R1003, 1004	—	ERD25TJ104	Carbon, 100kΩ, 1/4W, ±5% ⑤	2	
R1005 ~ 1008	—	ERD25TJ472	Carbon, 4.7kΩ, 1/4W, ±5% ⑤	4	
CAPACITORS					
C521, 522	ECEA50MR68R	ECEA50M4R7R	Electrolytic, 4.7μF, 50V ⑤	2	
C551, 552	ECEA50M1R	ECEA50M4R7R	Electrolytic, 4.7μF, 50V ⑤	2	
C607, 608	ECCD2H070D	ECCD2H120K	Ceramic, 12pF, 500V, ±10%	2	
C613, 614	ECCD2H270K	ECCD2H820K	Ceramic, 82pF, 500V, ±10%	2	
C629, 630	ECCD1H100K	ECCD1H390K	Ceramic, 39pF, 50V, ±10%	2	
C808	ECEA16V10	ECEA1ES470	Electrolytic, 47μF, 25V ⑤	1	
C1002, 1003	ECQU1A103MD (M)	ECQU1A103MD	Polyester, 0.01μF, 125VAC, ±20%	2	
	ECQU1A103MC (MC)				
FUSES					
F1	XBA1F80NU14	XBA2E80NS5	Fuse, 8A (250V)	1	
F2	XBA1F20NU14	XBA1E20NS5	Fuse, 2A (125V)	1	
F3	XBA1F16NU14	XBA1E16NS5	Fuse, 1.6A (125V)	1	
F4	—	XBA2E40NS5	Fuse, 4A (250V)	1	
SWITCHES					
S16	SSL81	SSL15	Switch, Power Source	1	
S18	—	SSR53S	Switch, Voltage Adjuster	1	
CABINET and CHASSIS PARTS					
68	SGP1110A (M)	SGP1110-1A	Rear Panel	1	○
	SGP1110B (MC)				
75	RJA10A	SJA83	AC Cord	1	
82	—	RJS31-1	Socket, DIN (Tape REC/PLAY)	1	
83	—	XWC3BFZ	Washer	2	
84	—	XTB3+8BFZ	Screw, DIN Socket M'tg	2	
85	—	XSB3+6BFZ	Screw, Voltage Adjuster Switch M'tg	2	
* ACCESSORIES					
A2	—	RJP74-1	Plug Adapter, Power Source	1	
A3	—	RJP75	Plug Adapter, Power Source	1	
PACKING PARTS					
P2	SPS1387	SPS1521	Pad, Right Side	1	○
P3	SPS1385				
P4	SPS1383	SPS1519	Pad, Left Side	1	○
P5	SPS1381				
P6	SPG1345 (M)	SPG1377	Carton Box	1	○
	SPG1347 (MC)				
P7	SQF1755 (M)	SQF1831	Instructions Book, Printed Matter	1	○
	SQF1757 (MC)				

# EXPLODED VIEWS

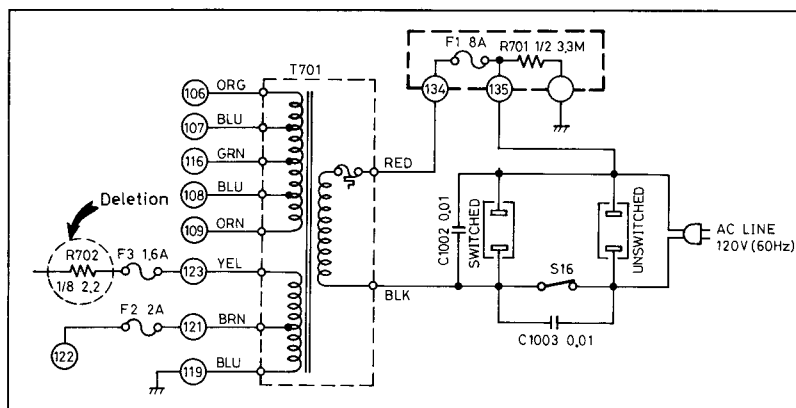


Ref. No.	Part No.	Part Name & Description	Per Set	Remarks
51	XWC3BFZ	Washer, Fuse Circuit Board Screw	1	
52	SNE55	Lug, Ground	1	
53	XTN3+8BFZ	Screw, Meter Bracket M'tg	1	
54	SHD3X1F	Shaft, Pulley	3	*
55	SDR1	Pulley, Dial	3	
56	SMM23	Bracket, Meter	1	*
57	SJV1401-1	Socket, Power Transistors	8	
58	XWA3BFN	Washer, Power Transistors Screw	16	
59	XSN3+14BNS	Screw, Power Transistors M'tg	16	
60	SJF4411	Terminal, Speakers (Left)	1	
61	SJF4411-1	Terminal, Speakers (Right)	1	
62	SJF3421	Terminal, Pre Out-Main In	1	
63	SJF3223	Terminal, 4CH Max Out and AM Stereo Out	1	
64	SDZ051-2	Cord, Dial 86-9/16" (220cm)	1roll	
65	SDSA4121	Spring, Dial Cord	1	
66	SDD53	Drum, Dial Cord	1	
67	SJF8003	Terminal, Input and Antenna	1	
68	SGP1110-1A	Rear Panel	1	○
69	XTN3+8BFZ	Screw, Terminal and Rear Panel M'tg	12	
70	SHR401-1	Lock Pin, Terminal M'tg	3	
71	XCJ6P21B	Jack, Headphones	1	
73	SJSA66-1	Socket, AC Outlet	2	
74	RHR111	Bushing, AC Cord	1	
75	SJA83	AC Cord	1	
76	SBM41	Magnet, Relay	2	
77	SBM9007	Bracket, Magnet	1	
78	SJP9205-1	Short pin, Pre & Main Amp Connection	2	
79	SGX763	Mirror, Dial Scale	1	
80	SHP641	Shading Cloth	3	
81	SJP9205-1	Short Pin, Pre & Main Amplifier	2	
82	RJS31-1	Socket, DIN (Tape REC/PLAY)	1	
83	XWC3BFZ	Washer	2	
84	XTB3+8BFZ	Screw, DIN Socket M'tg	2	
85	XSB3+6BFZ	Screw, Voltage Adjuster M'tg	2	

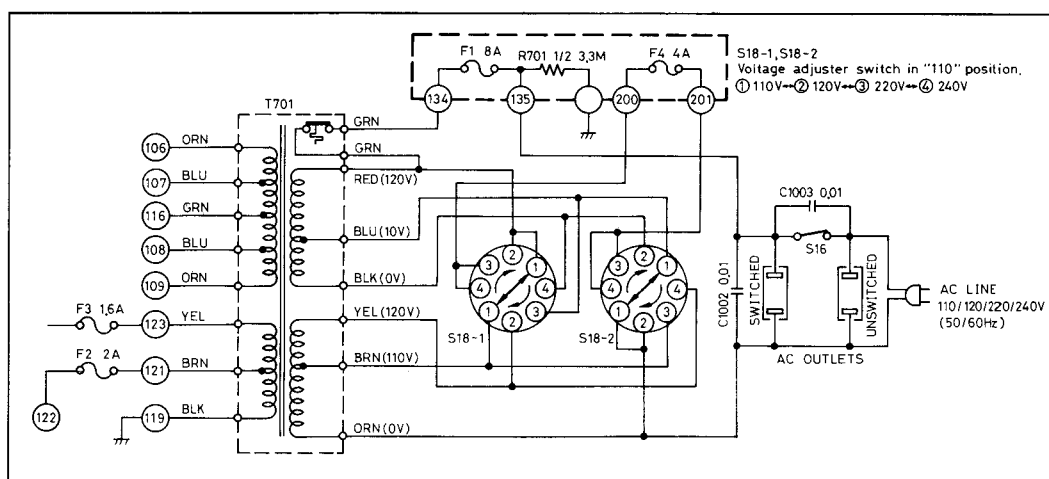
## CHANGES

### ■ SCHEMATIC DIAGRAMS

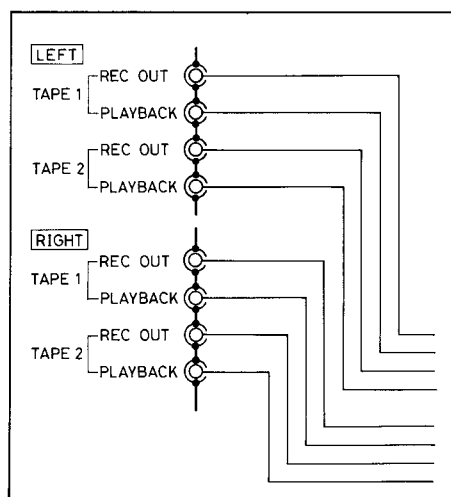
#### ● Power source



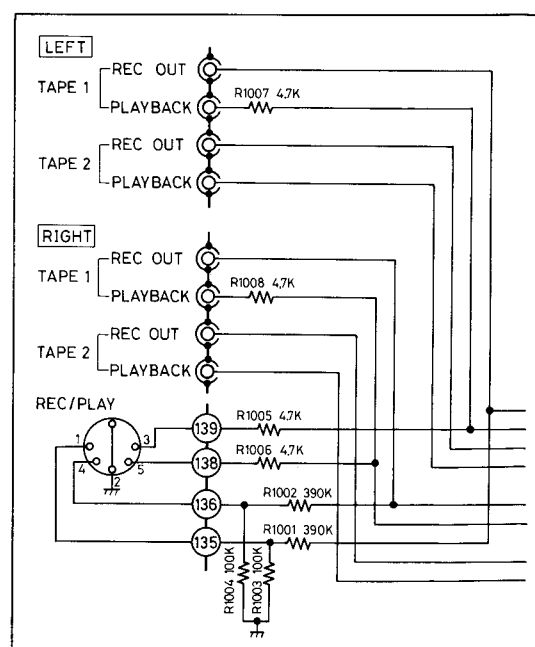
change



#### ● Tape deck connection terminal



change





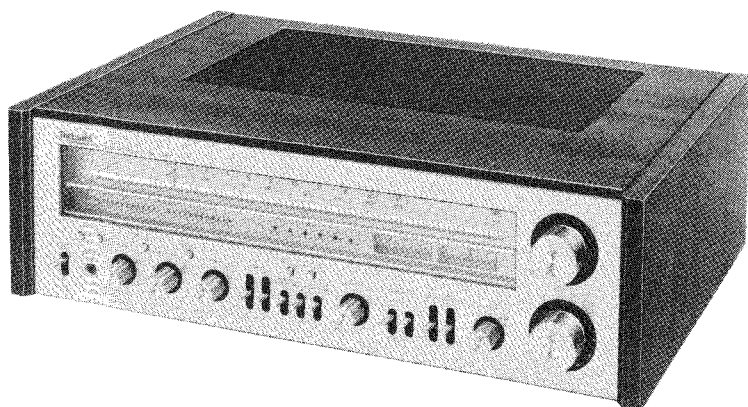
# Service Manual

SA-800

FM/AM STEREO RECEIVER

SA-800

(M), (MC)



- The model SA-800 (M) is available in America only.
- The model SA-800 (MC) is available in Canada only.

Simulated wood cabinet

## TECHNICAL SPECIFICATIONS (Specifications are subject to change without notice for further improvement.)

### POWER AMPLIFIER SECTION

Rated minimum sine wave RMS power output  
20Hz ~ 20kHz  
both channels driven  
0.04% total harmonic distortion  
125W per channel (8 ohms and 4 ohms)

1kHz continuous power output  
both channels driven  
0.04% total harmonic distortion  
135W per channel (8 ohms and 4 ohms)

Total harmonic distortion  
0.04% at rated power (20Hz ~ 20kHz), 8 ohms and 4 ohms  
0.015% at half power (20Hz ~ 20kHz), 8 ohms  
0.025% at half power (20Hz ~ 20kHz), 4 ohms  
0.005% at half power (1kHz), 8 ohms and 4 ohms

Intermodulation distortion 0.04%  
Frequency response 5Hz ~ 90kHz, +0, -1dB

S/N (IHF, A) 112dB  
Residual hum and noise 0.4mV  
Damping factor 50 (8 ohms), 25 (4 ohms)  
Input sensitivity and impedance 1V/100 kilohms  
Load impedance MAIN or REMOTE 4 ~ 16 ohms  
MAIN + REMOTE 8 ~ 16 ohms

### PREAMPLIFIER SECTION

Input sensitivity and impedance  
PHONO 2.5mV/47 kilohms  
AUX 150mV/47 kilohms  
PLAYBACK (TAPE 1, 2) 150mV/47 kilohms  
PHONO maximum input voltage (1kHz, RMS) 200mV

S/N (IHF, A)  
PHONO 83dB  
AUX 97dB

Frequency response  
PHONO RIAA standard curve  $\pm 0.2$ dB  
AUX 20Hz ~ 20kHz, +0, -0.3dB  
10Hz ~ 40 kHz, +0, -1dB

Tone controls  
BASS 50Hz, +12dB ~ -12dB  
MIDDLE 1kHz, +7dB ~ -7dB  
TREBLE 20kHz, +12dB ~ -12dB  
Loudness control (volume at -30dB) 50Hz, +9dB  
High filter 7kHz, -6dB/oct.  
Low filter 100Hz, -6dB/oct.  
Muting -20dB

Output voltage  
PRE OUT rated 1V, maximum 3V  
REC OUT (TAPE 1, 2) 150mV  
Acoustic controls (at tone "0" position)  
LOW boost 100Hz, +6dB  
HIGH boost 10kHz, +6dB

### FM TUNER SECTION

Frequency range 88 ~ 108MHz  
Sensitivity 10.3dBf  
1.8 $\mu$ V (IHF '58)

50 dB quieting sensitivity  
MONO 13.2dBf, (2.5 $\mu$ V IHF '58)  
STEREO 36.2dBf, (35.4 $\mu$ V IHF '58)

Total harmonic distortion  
MONO 100Hz 0.15%, 1kHz 0.1%, 6kHz 0.3%  
STEREO 100Hz 0.3%, 1kHz 0.2%, 6kHz 0.4%

S/N MONO 77dB  
STEREO 73dB

Frequency response 20Hz ~ 18kHz, +0.2, -0.8dB

Alternate channel selectivity 80dB  
Capture ratio 1.0dB

Image rejection at 98MHz 85dB  
IF rejection at 98MHz 100dB

Spurious response rejection at 98MHz 100dB  
AM suppression 60dB

Stereo separation  
1kHz 45dB  
10kHz 35dB

Leak carrier -70 dB (19kHz), -50 dB (38kHz)  
Antenna terminals 30 $\Omega$ , 75 $\Omega$

### AM TUNER SECTION

Frequency range 525 ~ 1605kHz  
Sensitivity 30 $\mu$ V, 50 $\mu$ V/m  
Selectivity 35dB  
Image rejection at 1000 kHz 50dB  
IF rejection at 1000 kHz 45dB

### GENERAL

Power consumption 330W (only for America)  
600VA (only for Canada)  
Power supply AC 12V 60Hz  
Dimensions (W x H x D) 22 $\frac{3}{4}$ " x 6 $\frac{1}{2}$ " x 15 $\frac{1}{2}$ "  
(582 x 177 x 393)mm  
Weight 41.9 lb (19kg)

Weights and dimensions shown are approximate.

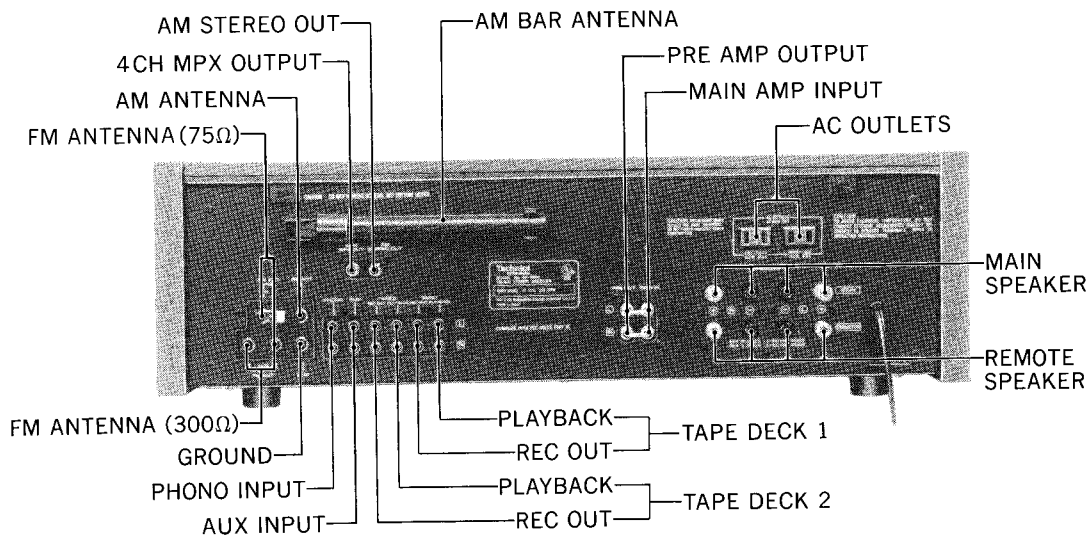
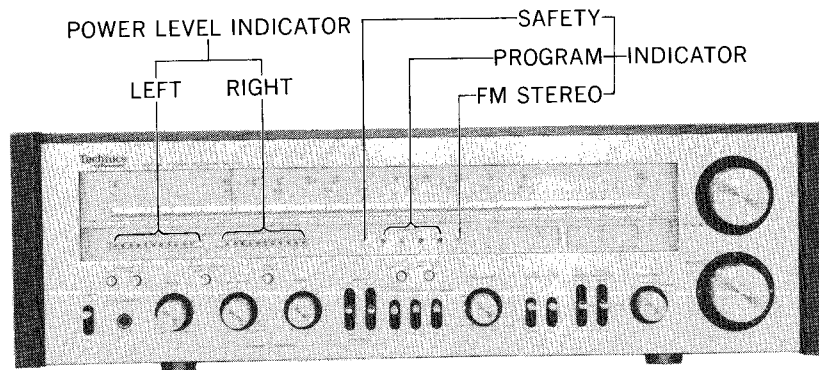
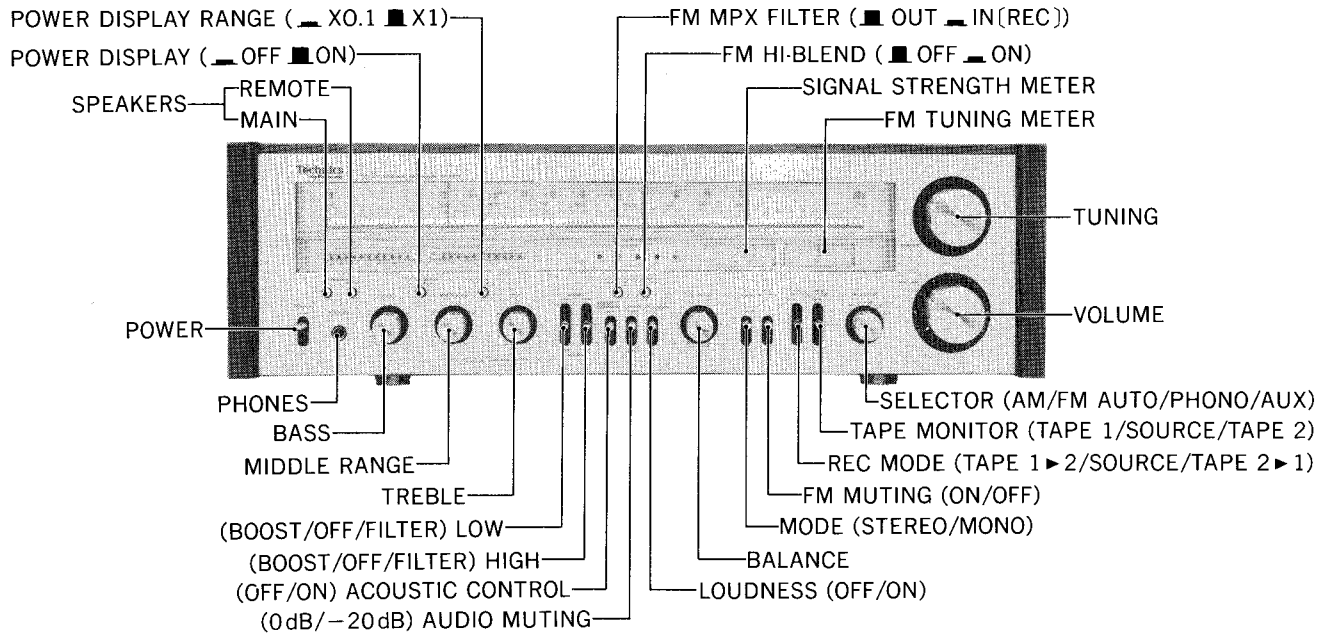
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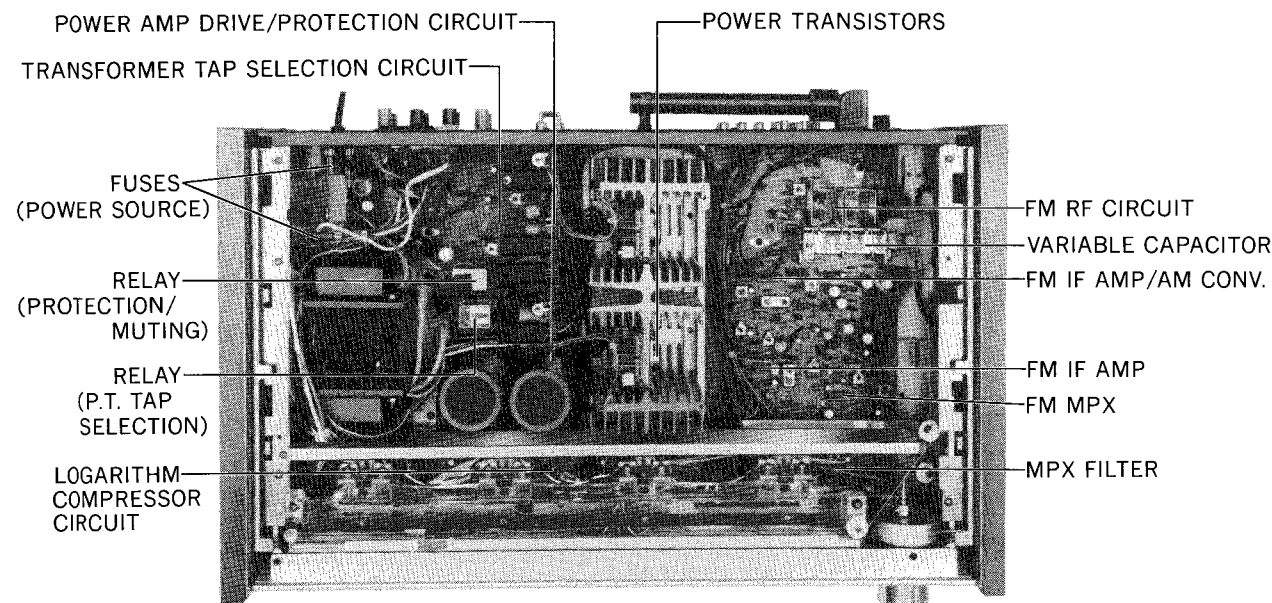
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## ■ LOCATION OF CONTROLS





## TECHNICAL GUIDE

### ■ AUTOMATIC SELECTION CIRCUITRY FOR MAIN AMPLIFIER POWER VOLTAGE. (TRANSFORMER COIL TAP)

This circuitry functions to maintain the main amplifier in a stabilized operating condition by detecting the DC resistance of the speakers connected to this unit, and then making the changeover to the high-voltage power transformer coil tap if the load is  $8\Omega$  or more, or to the low-voltage tap if the load is  $6\Omega$  or less.

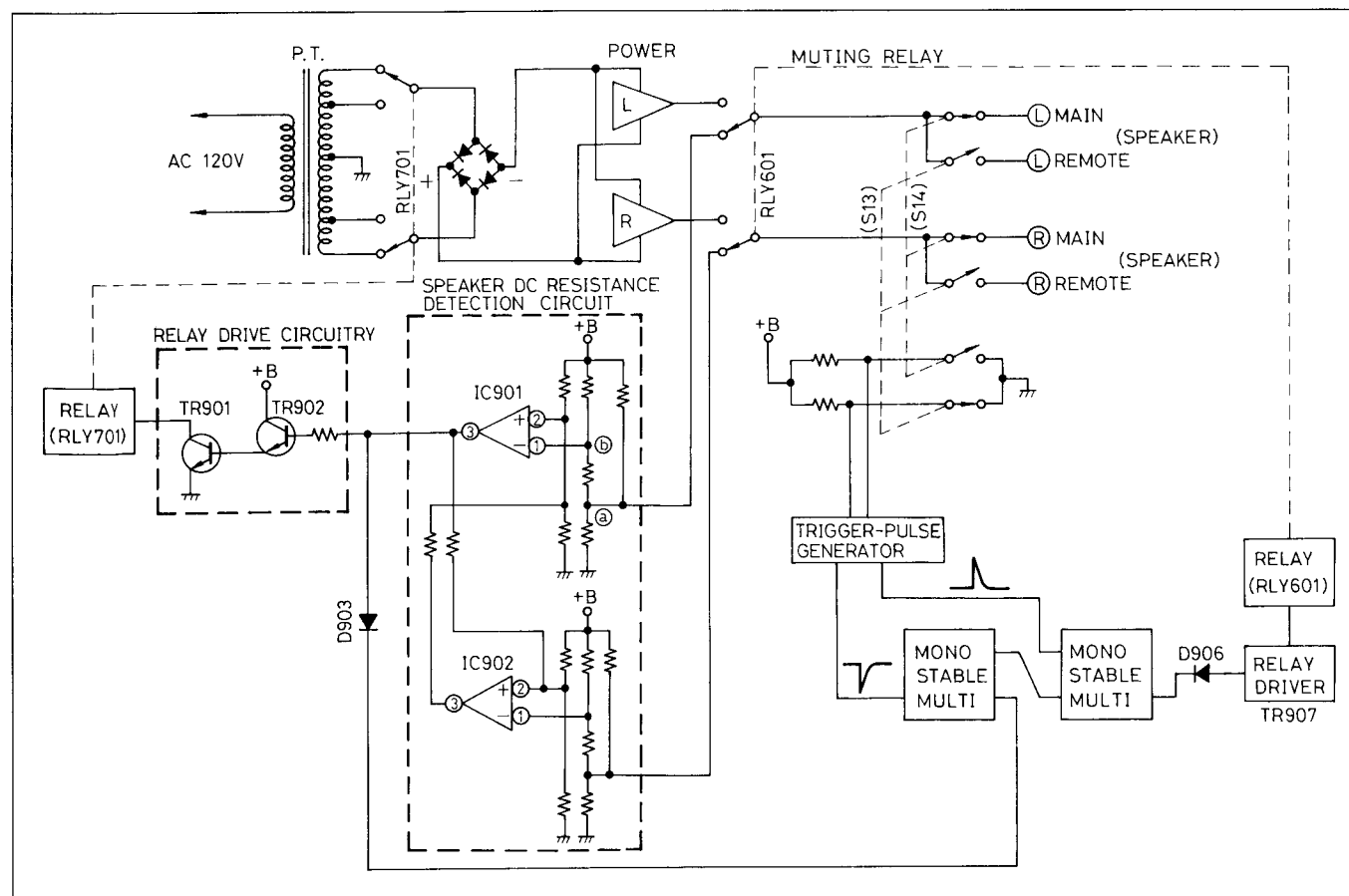


Fig. 1

### • Operation principles

1. If speakers with an impedance of  $6\Omega$  or less are to be connected to the left and right "MAIN" or "REMOTE" speaker terminals (Fig. 2).

After the speakers are connected to this unit, turn on the power switch. The muting circuitry of this unit will function for about 5 seconds, until output from the main amplifier appears at the speaker, thus maintaining the muting relay (RLY601) in the condition shown in figure 1. Speaker impedance is detected during this interval. With RLY601 in the condition shown in figure 1, the speakers will be connected in parallel to point (a) of the speaker DC resistance-detection circuitry, and the voltage at point (b) will decrease. With a reference voltage of 1.5V applied to terminal (2) of the comparator (IC901), a voltage of 6V will appear at terminal (3) when the voltage of terminal (1) becomes lower than that of terminal (2). In other words, the output voltage of terminal (3) activates TR902 and TR901 of the relay-drive circuitry, and the tap-selection relay (RLY701) switches over to the low-voltage tap. When  $8\Omega$  speakers are connected to the "MAIN" and "REMOTE" speaker terminals and both speaker switches are on, total impedance becomes  $4\Omega$ , and operation becomes the same as when speakers of  $6\Omega$  or less are connected.

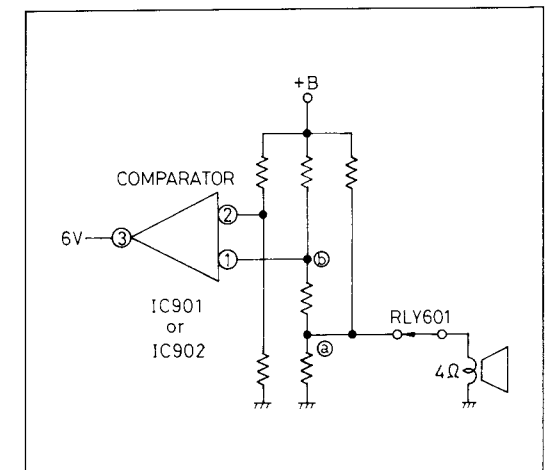


Fig. 2

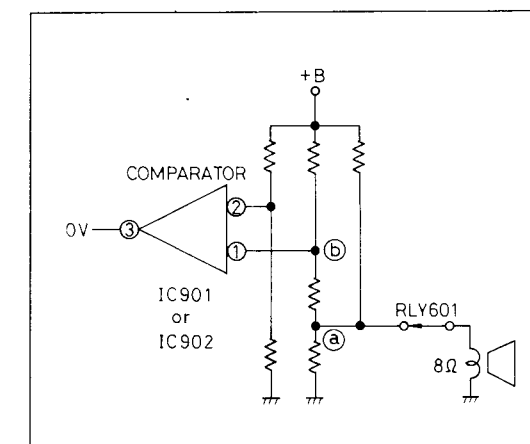


Fig. 3

2. If speakers with an impedance of  $8\Omega$  or more are to be connected to the left and right "MAIN" or "REMOTE" speaker terminals (Fig. 3).

The detection method is the same as when speakers with an impedance of  $6\Omega$  or less are connected. In this instance, however, the voltage of terminal (1) of the comparator becomes higher than the reference voltage of terminal (2), and no output appears at terminal (3). As a result, because the relay-drive circuitry does not operate, the relay (RLY701) remains switched to the high-voltage tap.

3. If a speaker with an impedance of  $8\Omega$  is connected to the left "MAIN" or "REMOTE" speaker terminal, and a  $4\Omega$  speaker is connected to the right terminal.

The detection method is the same as when speakers with an impedance of  $8\Omega$  or less are connected. In this instance, however, the 6V voltage can be obtained only from terminal (3) of the right channel comparator (IC902). This voltage is applied to terminal (2) of the left channel comparator (IC901), and then, because the voltage of terminal (2) of IC901 becomes high, it can be seen that the voltage of terminal (1) of IC901 becomes equivalently low. As a result, a 6V voltage can be obtained at terminal (3) of IC901, and the relay (RLY701) switches the power transformer over to the low-voltage tap. This operation is the same as when a  $4\Omega$  speaker is connected to the left speaker terminal and an  $8\Omega$  speaker is connected to the right terminal. Operation principles 1, 2 and 3 above are an explanation of the circuitry which detects speaker impedance after the power is turned on and until the main amplifier output is emitted to the speakers. The following is an explanation of the circuitry which detects impedance when the output is being emitted.

#### 4. Trigger-pulse-generation circuitry

This is circuitry which generates a positive pulse when a speaker switch is switched from off to on while this unit is operating, and generates a negative pulse when the switched from on to off (Fig. 4).

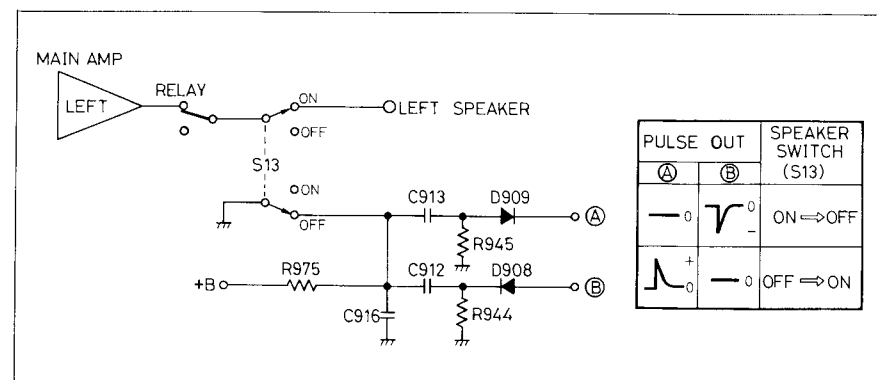


Fig. 4

- When the speaker switch (S13) is on, positive voltage (+B) is charged to C912 and C913.
- When the speaker switch is switched from on to off, the charge applied to C912 is suddenly discharged, D908 becomes forward biased, and a negative pulse can be obtained from (B) in figure 4.
- When the switch is switched from off to on, a positive voltage (+B) is suddenly charged to C913. D909 becomes forward biased, and a positive pulse can be obtained from (A) in figure 4.

#### 5. When a speaker switch is switched from off to on.

In this instance, as explained in item 4, a positive pulse is generated from the trigger-pulse-generation circuitry. This pulse is applied to the mono-stable multivibrator shown in figure 5. TR905 of this circuitry is usually maintained in the "off" condition, and TR906 in the "on" condition. When a positive pulse is applied to the base of TR905, it becomes on, and the collector becomes ground potential.

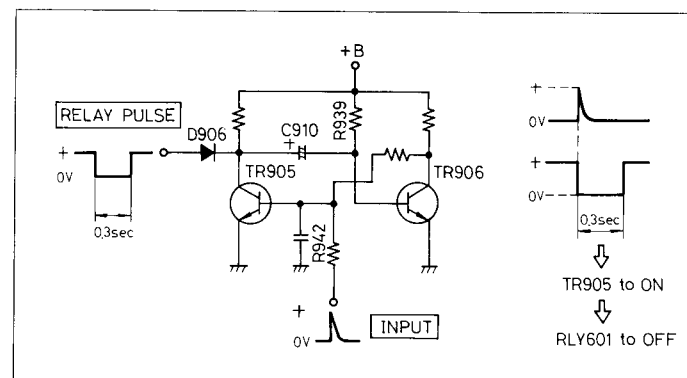


Fig. 5

However, because this transistor becomes on only at the instant that the positive pulse is applied, the collector also returns to positive potential about 0.3 second later. During this interval of about 0.3 second, the TR907 muting-relay-drive transistor becomes off, and RLY601 becomes in the condition shown in figure 1. Then speaker impedance is detected as described in items 1, 2 and 3, and the tap-selection circuitry is activated.

#### 6. When a speaker switch is switched from on to off

In this instance, as explained in item 4, a negative pulse is generated from the trigger-pulse-generation circuitry. This pulse is applied to the mono-stable multivibrator shown in figure 6. TR903 of this circuitry is usually maintained in the "on" condition, and TR904 in the "off" condition. TR903 becomes off only at the instant when a negative pulse is applied to its base, and positive voltage appears at the collector. C909 is charged by this voltage, and, at the same time, TR904 becomes on. When TR904 becomes on, the collector becomes ground potential, and, in the same way as explained in item 5, this circuitry also returns to the "off" condition after about 0.15 second. In this way, the TR904 collector and the impedance detection circuitry are connected by way of D903. During the time that the TR904 collector is ground potential, D903 becomes forward biased, and, therefore, the comparator function is simultaneously reset when TR902 of the tap-selection relay-drive circuitry becomes off. In addition, the collector potential of TR903 also returns to ground potential after about 0.3 second. At this time, the charge until now applied to C909 is discharged, and the negative pulse here generated is applied to the base of TR906. Then TR906 becomes off, and, as explained in item 5, the collector of TR905 becomes ground potential, and the negative pulse turns off the TR407 muting-relay-drive transistor for about 0.3 second. During this interval, the operation of the speaker DC resistance-detection circuitry is as already explained in items 1, 2 and 3. Note that, as shown in figure 6, time delays occur in each of the pulses.

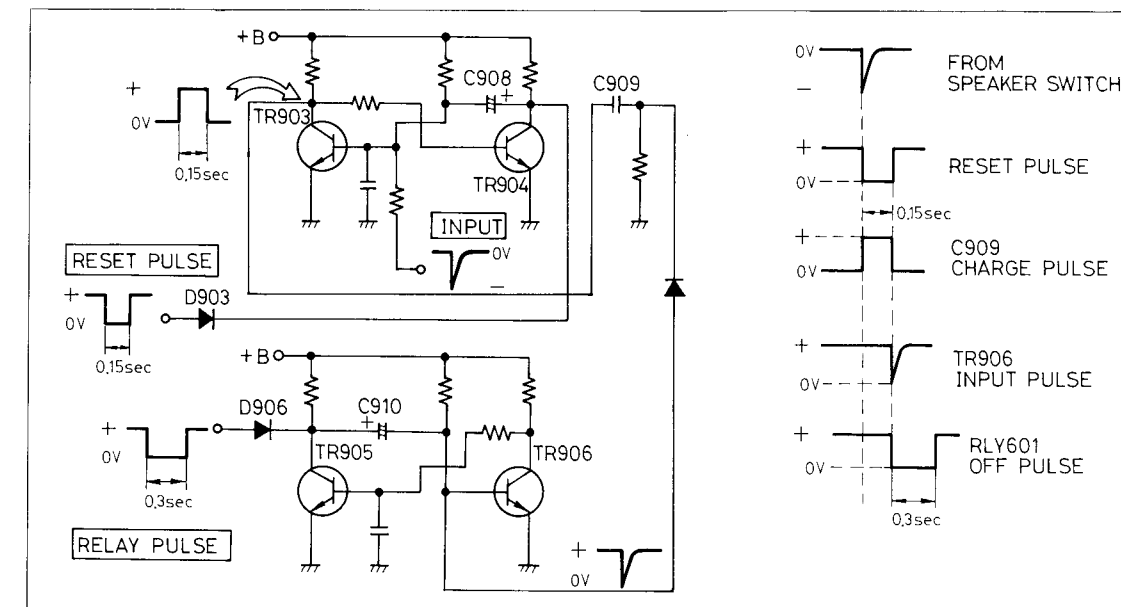


Fig. 6

### ■ POWER-INDICATION CIRCUITRY

The power amplifier output signal is attenuated by the sensitivity selector, and is applied to the logarithmic-compression circuitry. In this circuitry, as shown in figure 7, the output characteristics change logarithmically in relation to input, and the output is applied to the window comparator IC. Here, the pulse waveform becomes as shown in figure 8, and the indicator illuminates according to the input of the IC (the output of the power amplifier).

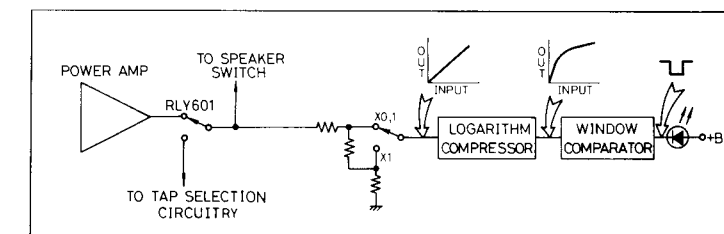


Fig. 7

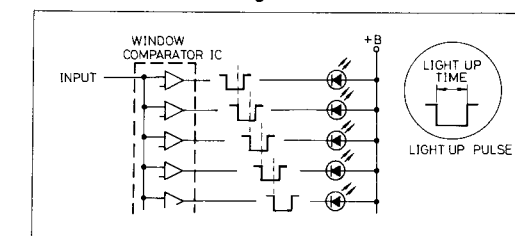


Fig. 8

### ■ TONE-CONTROL CIRCUITRY

Configuration is as shown in figure 9. Bass and treble are the BAX type of control circuitry, and a bandpass filter is used for control of intermediate frequencies. If the middle control is moved in direction A, a valley-like characteristic can be obtained. If it is moved in direction B, a peak-like characteristic can be obtained. Note that the input signal will bypass the tone-control circuitry if the acoustic control ("TONE") is set to the "OFF" position.

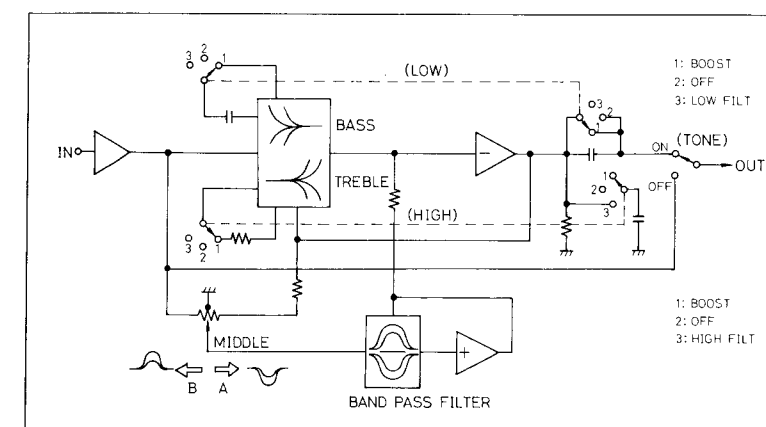


Fig. 9

### ■ PROTECTION CIRCUITRY

When DC voltage appears at the speaker terminals of this unit, there is protection circuitry to shut off the speaker relays and thus protect the speakers from damage, as well as protection circuitry which short-circuits the input and prevents the signal from being applied to the main amplifier, thus protecting the power amplifier from damage caused by overload or short-circuiting of the speaker terminals.

## ■ POWER TRANSISTOR PROTECTION CIRCUITRY

When speaker terminals are shorted or an overload voltage is applied to the power transistor, the emitter resistance voltage of the power transistor is applied to terminals 2 and 3 and to terminals 13 and 14 of IC903. This voltage actuates the switching circuitry of IC903, and positive voltage from terminal 4 turns on TR909.

When this happens, the TR909 collector becomes ground potential and TR916 becomes off, thus causing the safety indicator connected to TR916 to extinguish. In addition, positive voltage also appears at terminals 9 and 10 of IC903; TR910 and TR911 become on; and the main amplifier input is shorted. Note that, once the protection circuitry has operated, the circuitry will remain in the "hold" condition even though the abnormality is corrected. Thus, if the safety indicator goes out, the power should be turned off, and not turned on again until first it is confirmed that there is no abnormality.

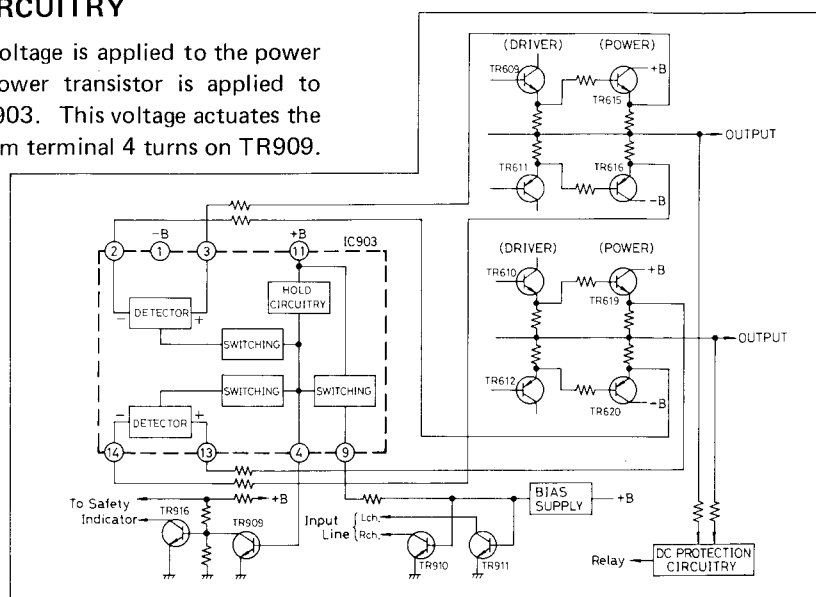


Fig. 10

## ■ ALIGNMENT INSTRUCTIONS ..... Main Amplifier Circuitry

### • Main amplifier (ICQ) alignment

1. The "ICQ" adjustment should be started about 5 minutes after setting the power switch to the ON position.
2. Speakers switch to "push" position.
3. Connect DC voltmeter between TP601 and (+) speaker terminal of right channel.
4. Adjust VR602 to 13 mV on DC voltmeter indication.
5. Connect DC voltmeter between Emitter (TR613) and (+) speaker terminal of left channel.
6. Adjust VR601 to 13 mV on DC voltmeter indication.

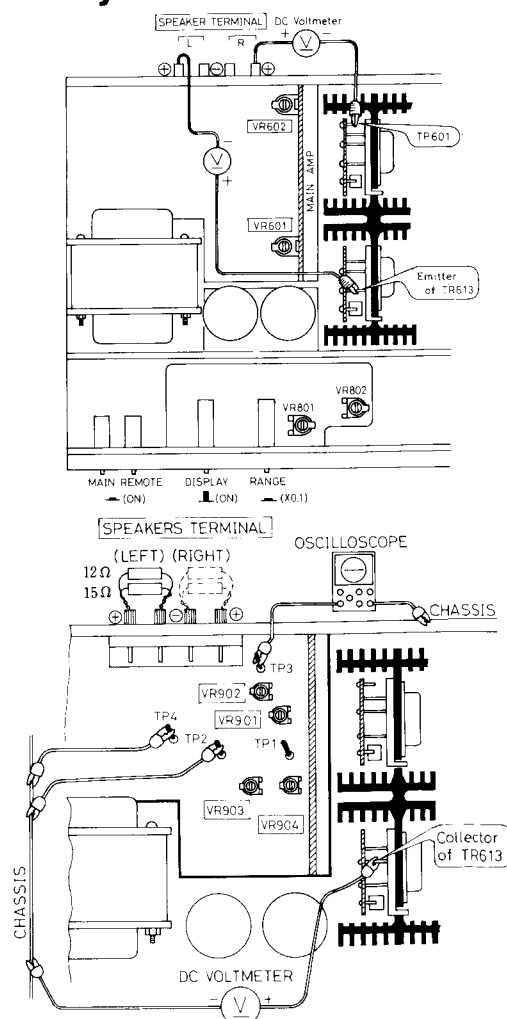
### • Power level indication alignment

1. Connect AC VTVM to speakers terminal. (Left and Right channels)
2. Power display switch to "ON" position and display range switch to "XO. 1" position.
3. Selector switch to "AUX" position.
4. Apply a 1kHz signal to "AUX" terminal. (Left and Right channels)
5. Volume control to maximum position of set.
6. Adjust supply signal level to 12.6V ~ 12.7V output voltage.
7. Adjust VR801 (Left channel) and VR802 (Right channel) until "200W" indicator lights up.

### • Power transformer tap selection circuitry alignment

- Notes:
- Resistors connected to speaker terminals should be of low tolerance ( $\pm 1\% \sim \pm 2\%$ ).
  - Each channel to be adjusted separately.

1. Set volume control to minimum position and speaker switch to "on" position.
2. Connect oscilloscope between TP1 and chassis for left channel, and between TP3 and chassis for right channel. (Set to voltage measurement range.)
3. Connect 6.5Ω resistor (or 12Ω and 15Ω coil resistors in parallel) to left channel speaker terminal.
4. Short TP2 and TP4 to chassis.
5. Adjust VR901 and VR902 so that TP3 output voltage is from about 0V to about 6V.
6. Connect 6.5Ω to right channel, and adjust VR903 and VR904 so that TP1 output voltage is from about 0V to about 6V.



7. After adjustment, remove 6.5Ω and wire shorting TP2 and TP4.
8. Measure TR613 collector voltage when 8Ω speakers are connected to speaker terminals.
9. Next, connect 6Ω speakers to speaker terminals, and confirm that TR613 collector voltage is about 10V lower than voltage measured in item 8.

## ■ ALIGNMENT INSTRUCTIONS ..... FM/AM Tuner Circuitry

<div>Notes:</div> <div><div><div>1. Muting switch . . . . . OFF</div><div>2. Band selector switch . . . . . AM/FM AUTO (FM, RF, FM-IF)</div><div>3. FM muting switch . . . . . OFF</div><div>4. Speaker switch . . . . . ON</div></div><div><div>5. Mode switch . . . . . MONO</div><div>6. Maintain line voltage at 120 volts.</div><div>7. 300Ω FM dummy antenna . . . . . Refer to fig. 1</div><div>8. Output of signal generator should be no higher than necessary to obtain an output reading.</div></div></div>					
SIGNAL GENERATOR		DIAL SETTING	INDICATOR (AC VTVM or SCOPE) (DISTORTION METER)	ADJUSTMENT POINTS	REMARKS
CONNECTION	FREQUENCY				
AM ALIGNMENT					
1 High side through 0.001μF to AM antenna trimmer terminal. Common to chassis.	455kHz (30% Mod. with 400Hz)	Point of non-interference	Connect VTVM or scope to TP201. through 0.1μF	T201 (1st IFT) (A) T201 (1st IFT) (B) T202 (2nd IFT)	Adjust for maximum output.
2 Fashion loop of several turns of wire and radiate signal into loop of receiver	600kHz (30% Mod. with 400Hz)	600kHz	Connect VTVM or scope to speaker terminals of receiver.	L202 (OSC Coil) L201 (ANT Coil)	Move L201 as shown in "alignment points" Adjust for maximum output. Adjust ferrite core of L201 by screw driver.
3 Fashion loop of several turns of wire and radiate signal into loop of receiver	1500kHz (30% Mod.) with 400Hz	1500kHz	Connect VTVM or scope to speaker terminals of receiver.	CT202 (OSC Trimmer) CT201 (ANT Trimmer)	Adjust for maximum output. Repeat steps (2) and (3).
FM-IF ALIGNMENT					
4	No Signal	Point of non-interference.	Tuning meter of set.	T102 (DISCRI IFT) (A) Orange Core	Adjust for center position of tuning meter.
FM-RF ALIGNMENT					
5 Connect to FM 300Ω antenna terminal through FM dummy antenna.	90MHz (100% Mod. with 400Hz)	90MHz	Connect scope to speaker terminals of receiver.	L7 (OSC Coil) L5 (RF-DET Coil) L2 (RF-DET Coil) L1 (ANT Coil) T101 (FM IFT)	Adjust for maximum amplitude and symmetrical curve. (Refer to fig. 4)
6 Connect to FM 300Ω antenna terminal through FM dummy antenna.	106MHz (100% Mod. with 400Hz)	106MHz	Connect scope to speaker terminals of receiver.	CT4 (OSC Trimmer) CT3 (RF DET Trimmer) CT2 (RF DET Trimmer) CT1 (ANT Trimmer)	Adjust for maximum amplitude and symmetrical curve. Repeat steps (5) and (6).
FM MONO DISTORTION ALIGNMENT					
7 Connect to FM 300Ω antenna terminal through FM dummy antenna. Apply 60 dB to set.	100MHz (100% Mod. with 400Hz)	100MHz	Connect distortion meter to speaker terminals of receiver.	T102 (DISCRI IFT) (B) Green Core	Adjust for minimum distortion meter indication
FM MUTING LEVEL ALIGNMENT					
8 Connect to FM 300Ω antenna terminal through FM dummy antenna. Apply 16dB (6.3μV) to set.	100MHz (100% Mod. with 400Hz)	100MHz	Connect VTVM or scope to speaker terminals.	VR101	FM muting switch to "ON". Adjust to that output can be obtained.
FM SIGNAL METER ALIGNMENT					
1 Apply 100MHz FM signal of 100dB (400Hz 30% modulation) to FM 300Ω antenna terminal through FM dummy antenna. 2 Tuning at 100MHz.			3 Adjust VR102 for about 4.7 point of signal meter indication.		
FM MPX PILOT ALIGNMENT					
Using a frequency counter			Using alternate system		
1 98MHz Non-modulated mono signal applied to set. 2 Muting switch to "ON". 3 Connect frequency counter to TP302 through resistor (100kΩ). 4 Adjust VR301 to 19kHz, ±30Hz.			1 Apply stereo signal from generator or stereo station to receiver. 2 Adjust VR301 until stereo indicator lights up. Cement arm of VR301 as shown in fig. 2.		
<div>Notes:</div> <div><div>1. Stereo modulator . . . . .</div><div>2. FM signal generator . . . . .</div><div>3. Selector switch to "FM AUTO"</div></div> <div><div>• Connect stereo modulator output to EXT MOD terminal of signal generator.</div><div>• Pilot signal modulation to "10%"</div><div>• Frequency approximately 100MHz/Output level to "72dB (IHF)"</div><div>• Modulation mode to "FM"</div><div>4. Mode switch to "STEREO"</div></div>					
FM SIGNAL GENERATOR CONNECTION	STEREO MODULATOR MODE & MOD. RATE	INDICATOR (AC VTVM)		ADJUSTMENT POINTS	REMARKS
FM MPX PILOT CANCEL ALIGNMENT					
1 FM 300Ω antenna terminals through FM dummy antenna.	19kHz (Pilot) signal 10% Modulation	Connect AC VTVM or scope to speaker terminals.		VR302 L303	• Tuning at 100MHz • FM Muting switch to "ON" • Make adjustment to bring the output to minimum.
FM MPX FILTER ALIGNMENT					
2 FM 300Ω antenna terminals through FM dummy antenna.	38kHz 100% Modulation (External Modulation)	Connect AC VTVM or scope to speaker terminals.		L301 L302	• Tuning at 100MHz • FM Muting switch to "ON" • FM Hi-blend switch to "OFF" • FM MPX Filt switch to "IN" • Make adjustment to bring the output to minimum.
FM STEREO SEPARATION ALIGNMENT					
FM 300Ω antenna terminals through FM dummy antenna.	(1kHz 30% Modulation) MODE L (and R) Pilot signal to "ON"	Connect VTVM to speaker terminals through low pass filter. (Refer to fig. 3)		VR303	• Tuning at 100MHz. • Make adjustment so that, when the antenna input is subjected to L modulation (or R modulation), R channel output (or L channel output) becomes minimum.



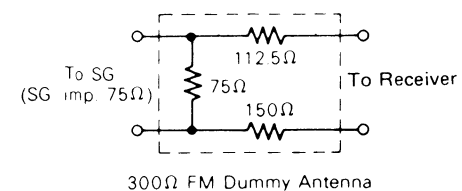


Fig. 1

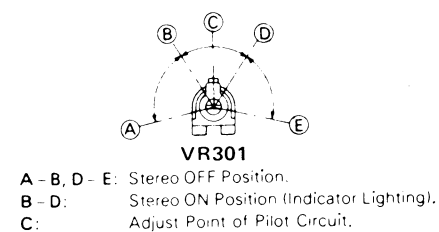


Fig. 2

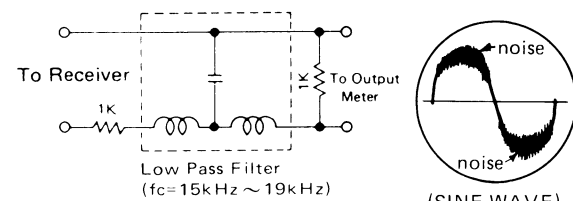


Fig. 3

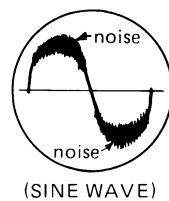
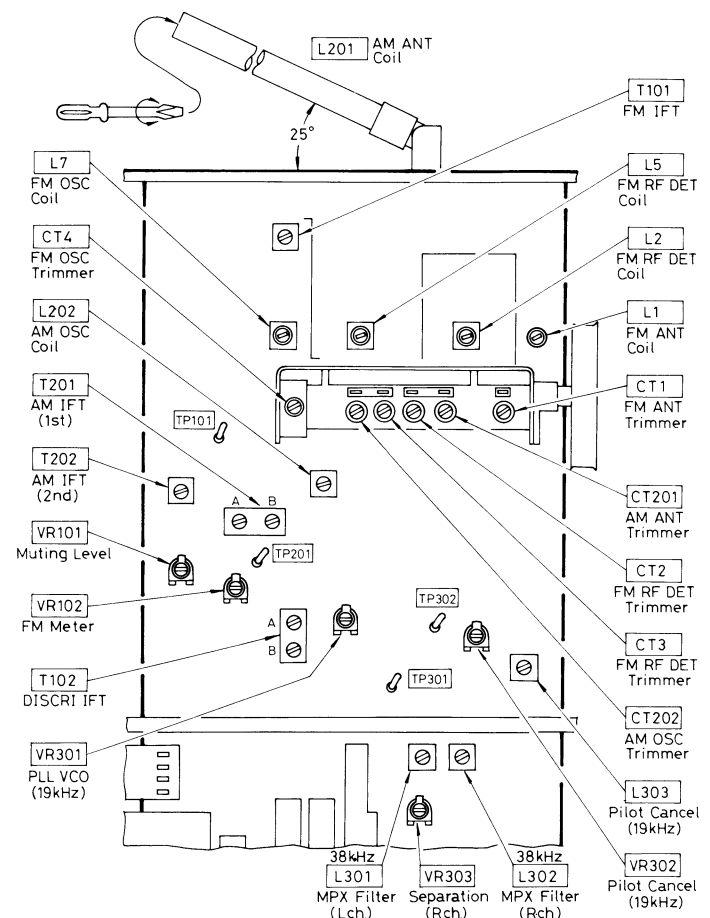


Fig. 4



■ TERMINAL GUIDE

2SA979 	SVTM47LP, 2SA564, 2SA720, 2SC828, 2SC945, 2SC1047, 2SC1328, 2SC1675, 2SC1885 	3SK40 	2SB536, 2SD381 
2SK49 	2SA913, 2SC1398, 2SC1913A 	2SC1628M 	
AN217, AN377, AN363 	AN7071 	SVIM51202L 	2SB539CC, 2SD287CC 

■ POWER LEVEL INDICATOR CIRCUIT BOARD (Logarithm Amplifier & Window Comparator)

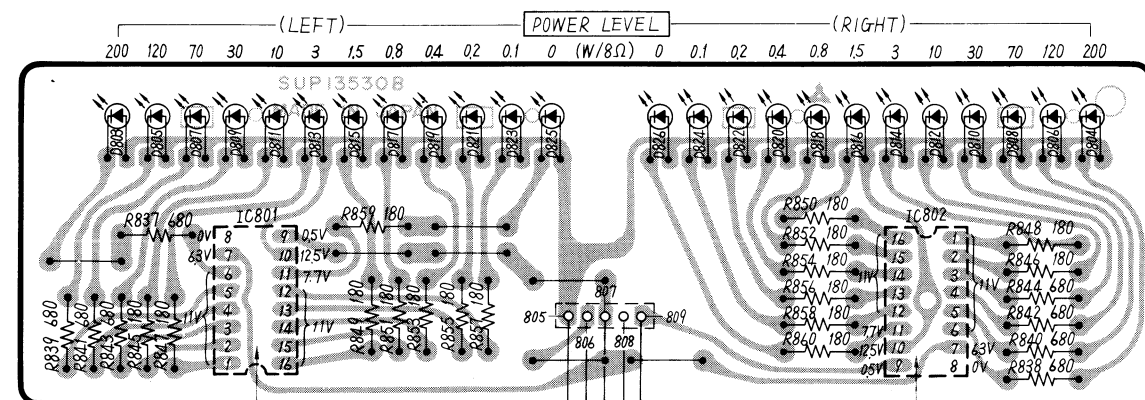


Fig. 5

■ TO REMOVE TOP BOARD

1. Remove the two rear panel screws (no. 1 and no. 2 screws in figure 5).
2. Holding both sides of the set, push the top board forcefully backward (in the direction shown by the arrows in figure 6).
3. The top board can then be removed by lifting it upward (Fig. 7).
4. When the top board is installed, reverse the above procedure. (When sliding it toward the front of the set, push forcefully from above.)

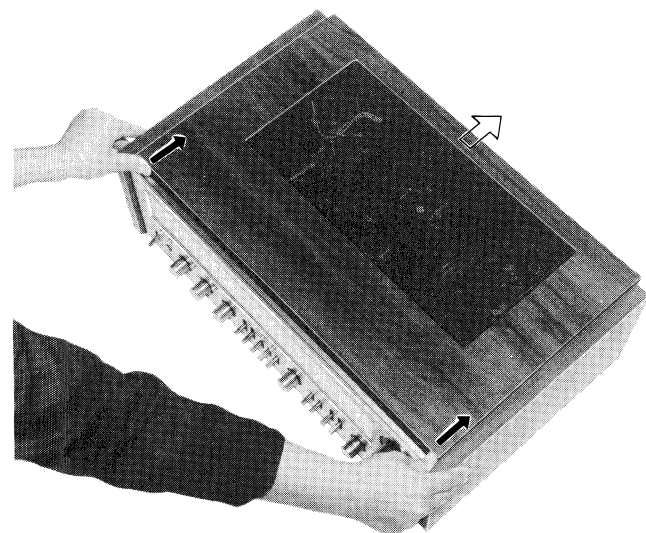


Fig. 6

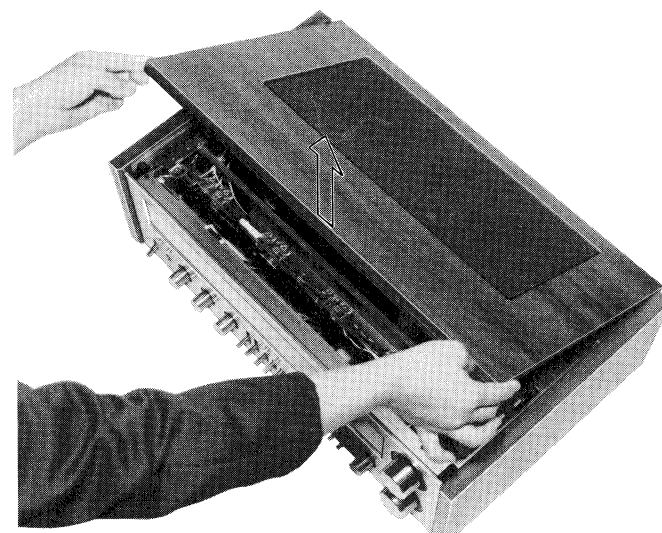
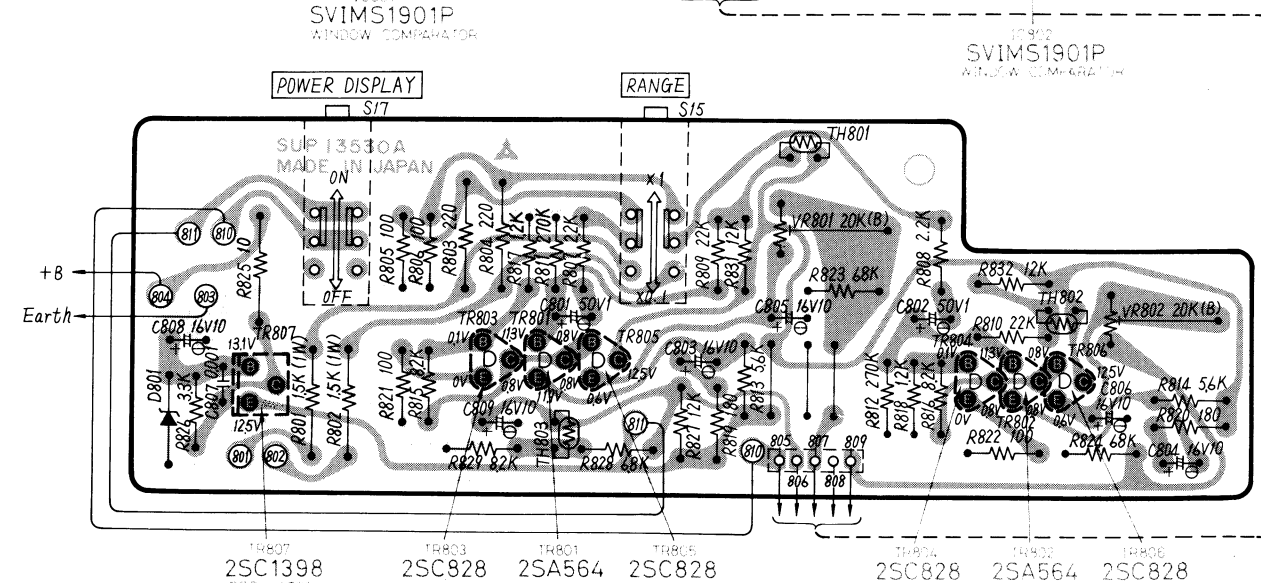


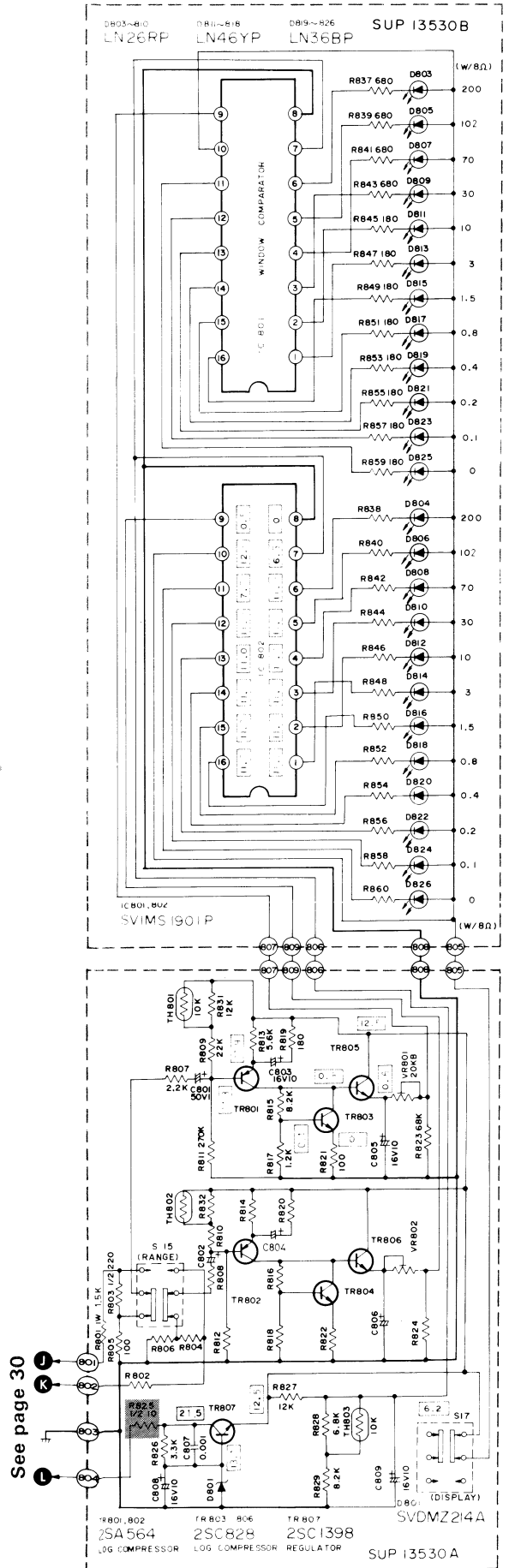
Fig. 7





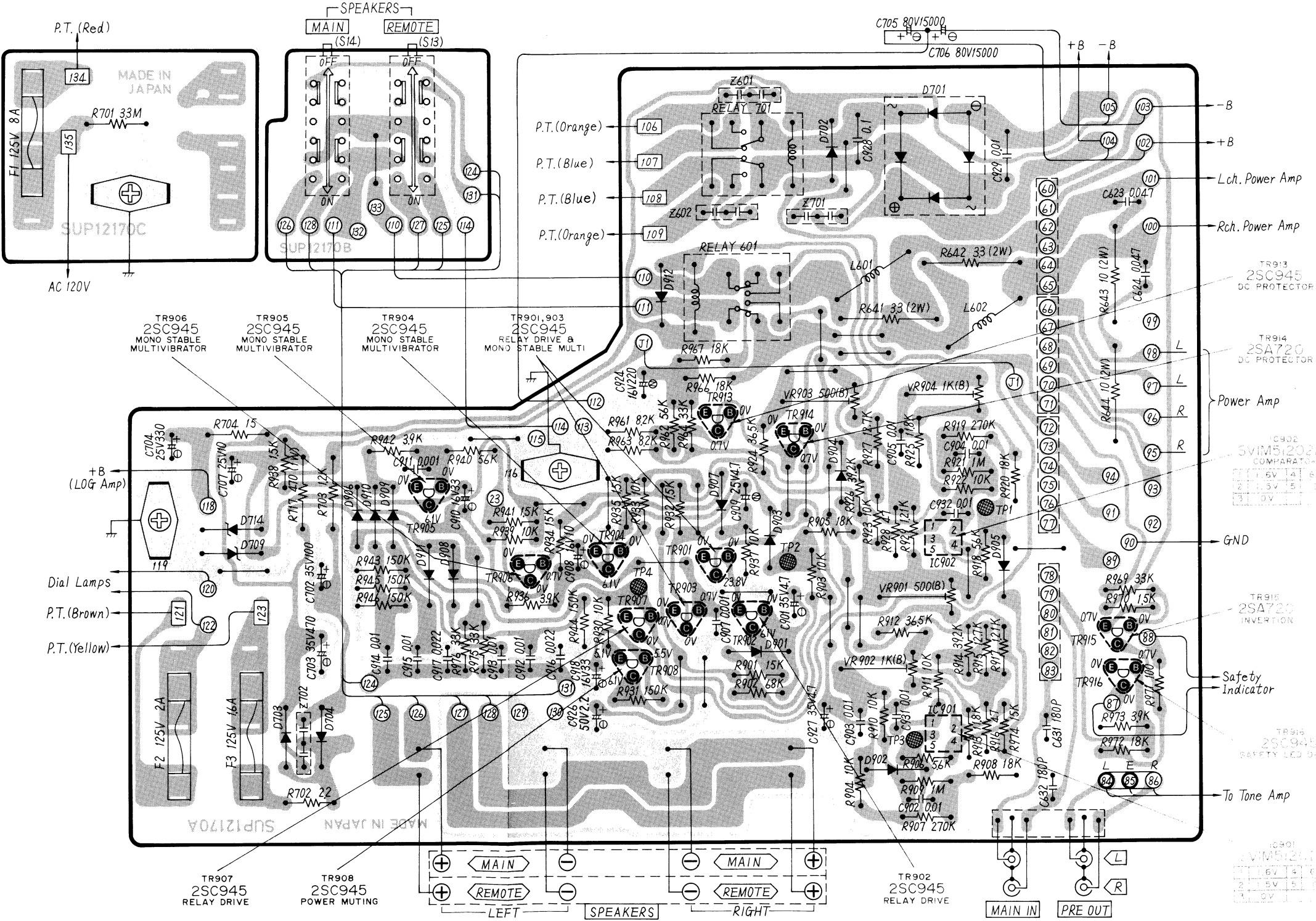


■ SCHEMATIC DIAGRAM OF POWER  
LEVEL INDICATOR

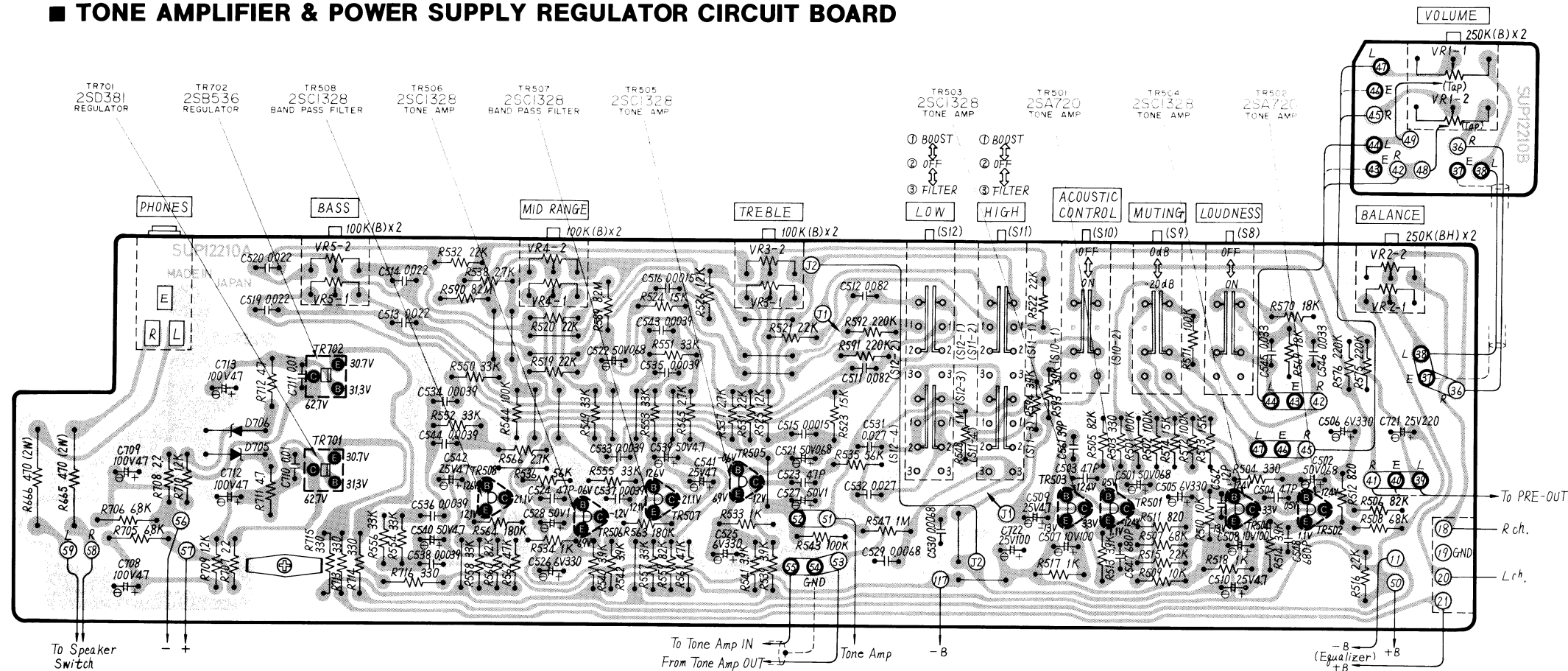


■ POWER SUPPLY & TRANSFORMER TAP SELECTION CIRCUIT BOARD

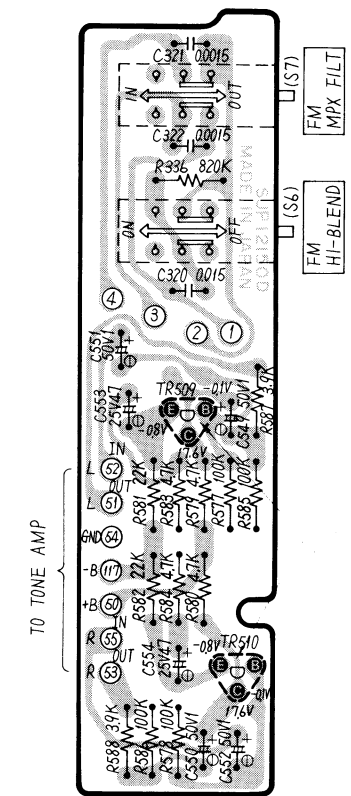
Earth (Ground) Lines



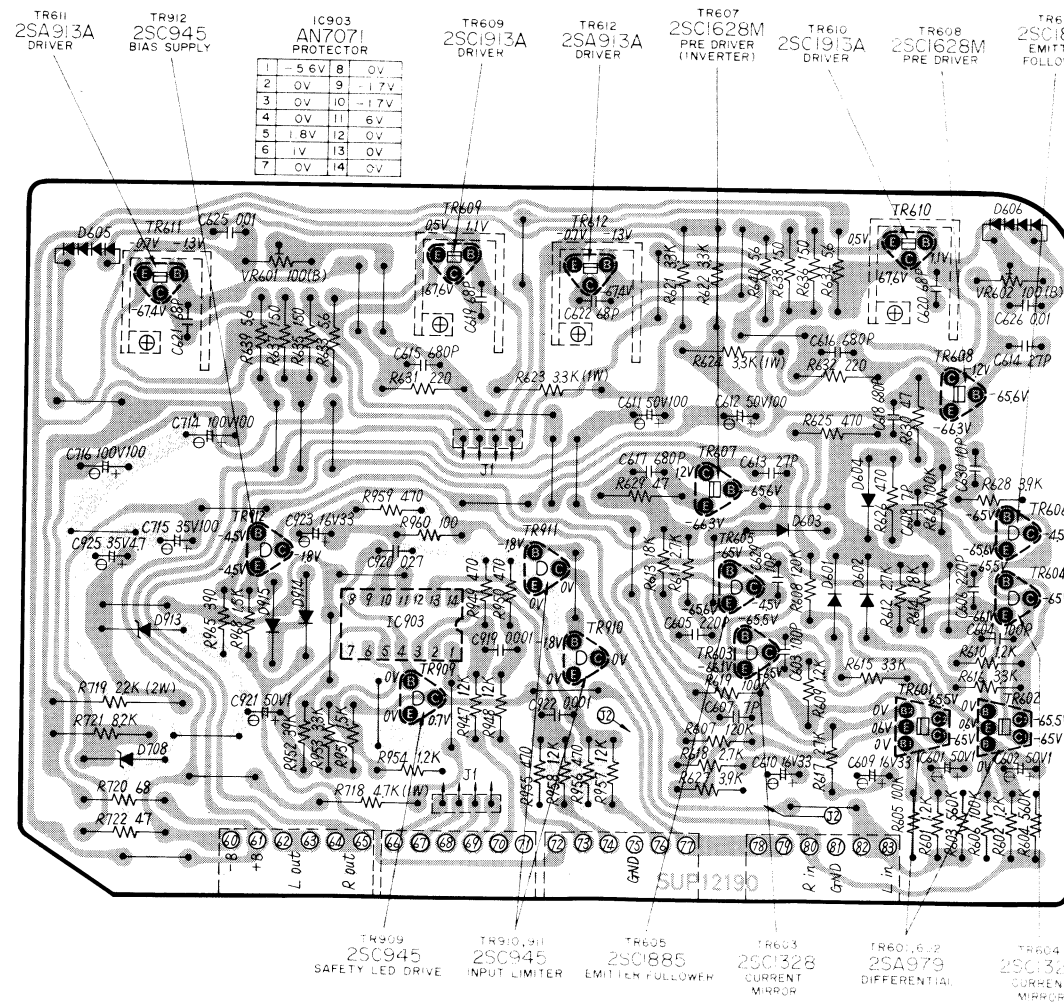
■ TONE AMPLIFIER & POWER SUPPLY REGULATOR CIRCUIT BOARD



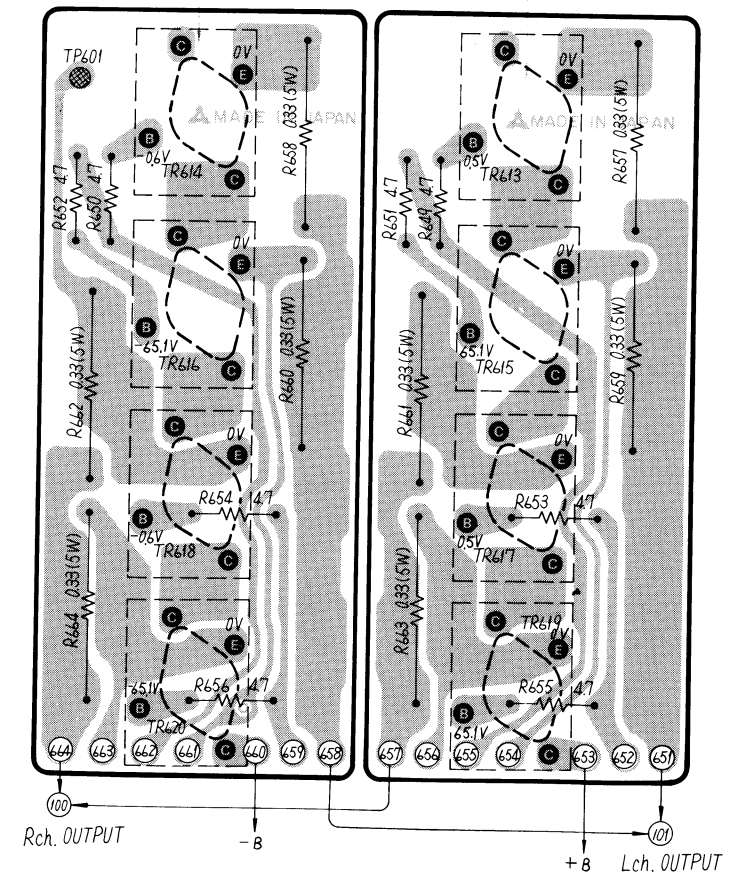
■ TONE AMPLIFIER CIRCUIT BOARD



■ MAIN AMPLIFIER & POWER AMPLIFIER CIRCUIT BOARD



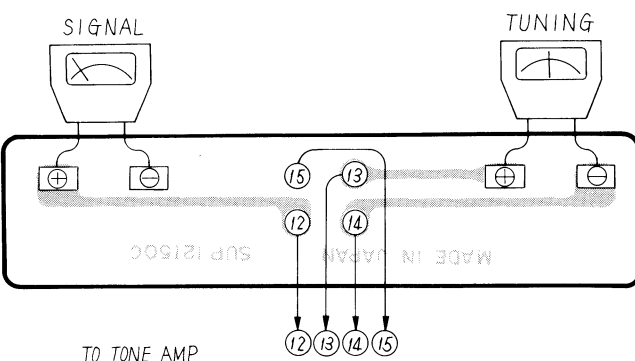
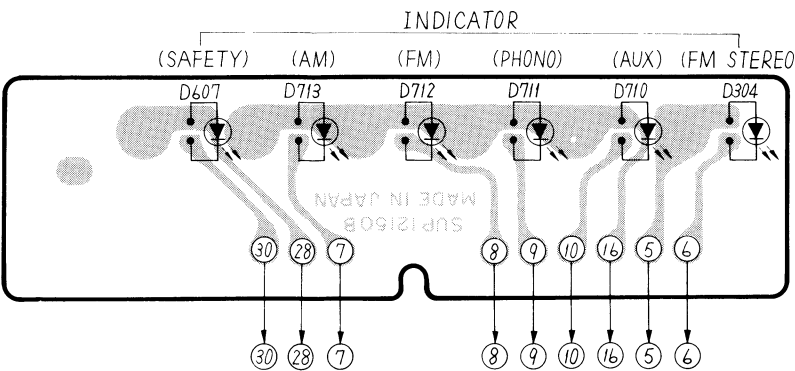
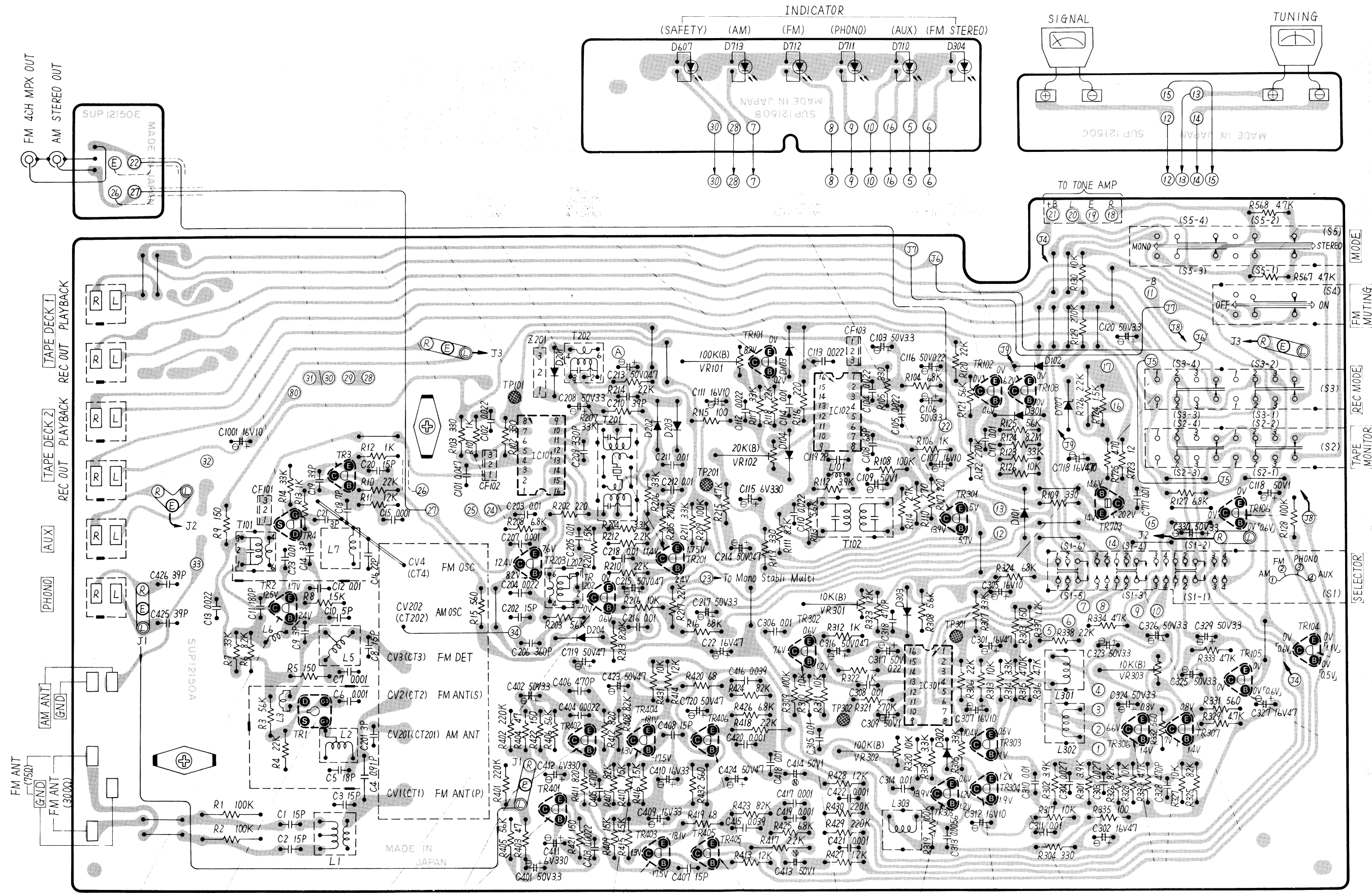
Earth (Ground) lines





■ FM/AM TUNER CIRCUITRY & PHONO EQUALIZER CIRCUIT BOARD

Earth (Ground) Lines



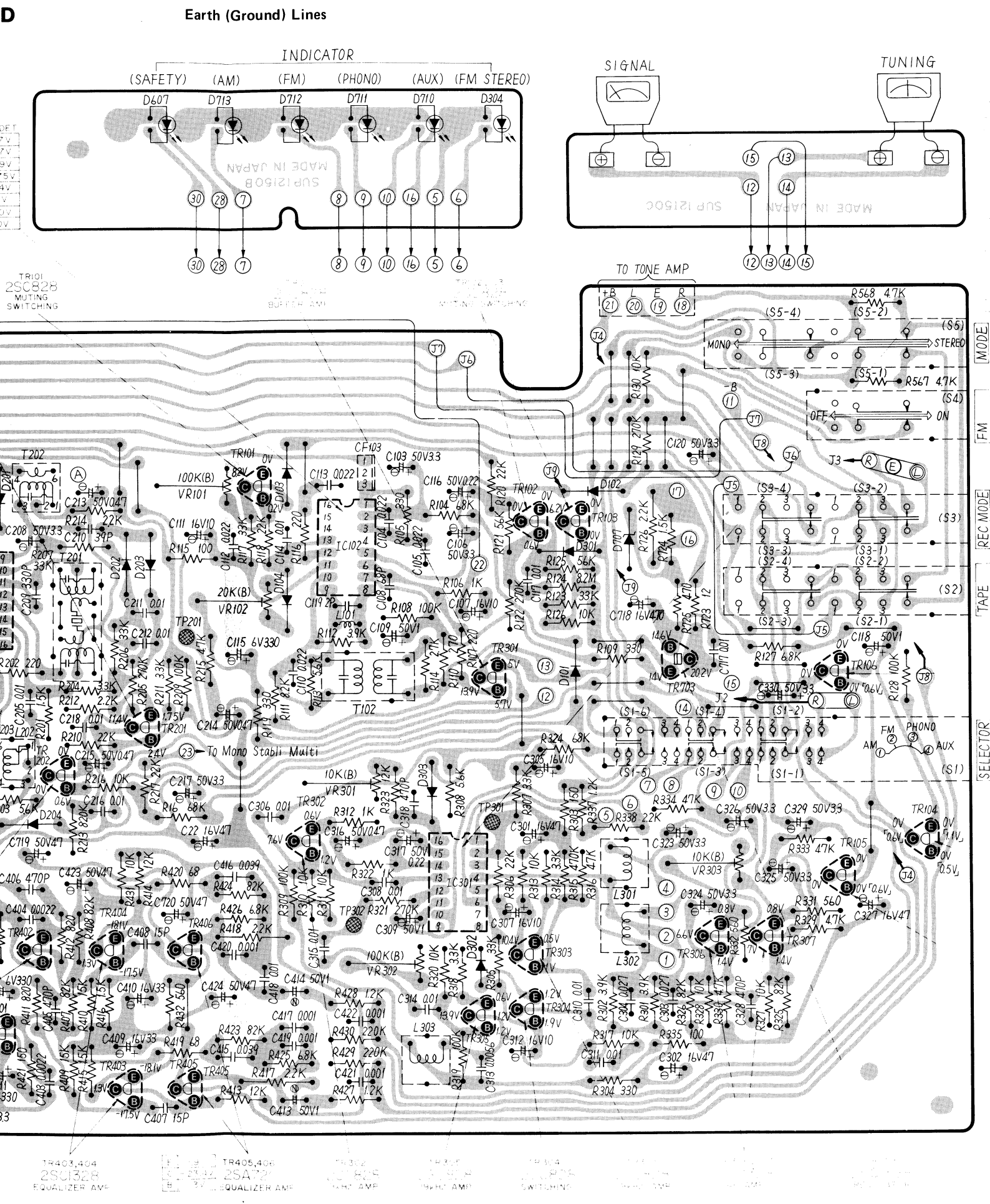
■ DIAL CO

- For threading
- 1. Prepare
- in length
- 2. Bring the
- is complete
- lowest fre
- 3. Direct the
- 4. Stretch the
- elongated
- 5. Fix the k

■ PACKING

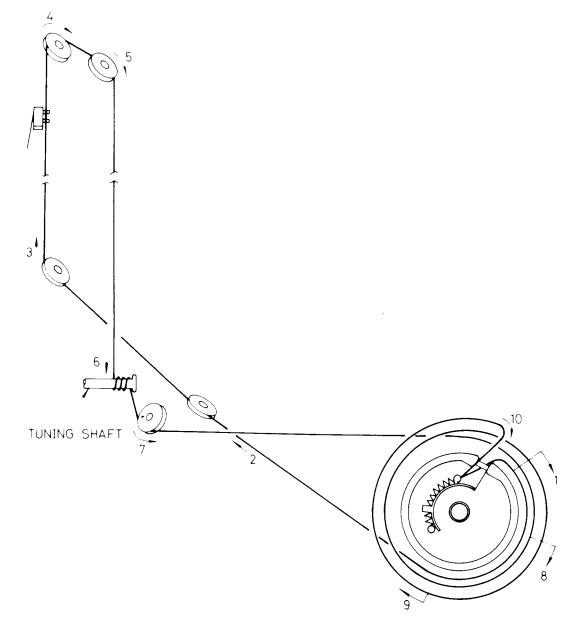
■ ACCESS

D

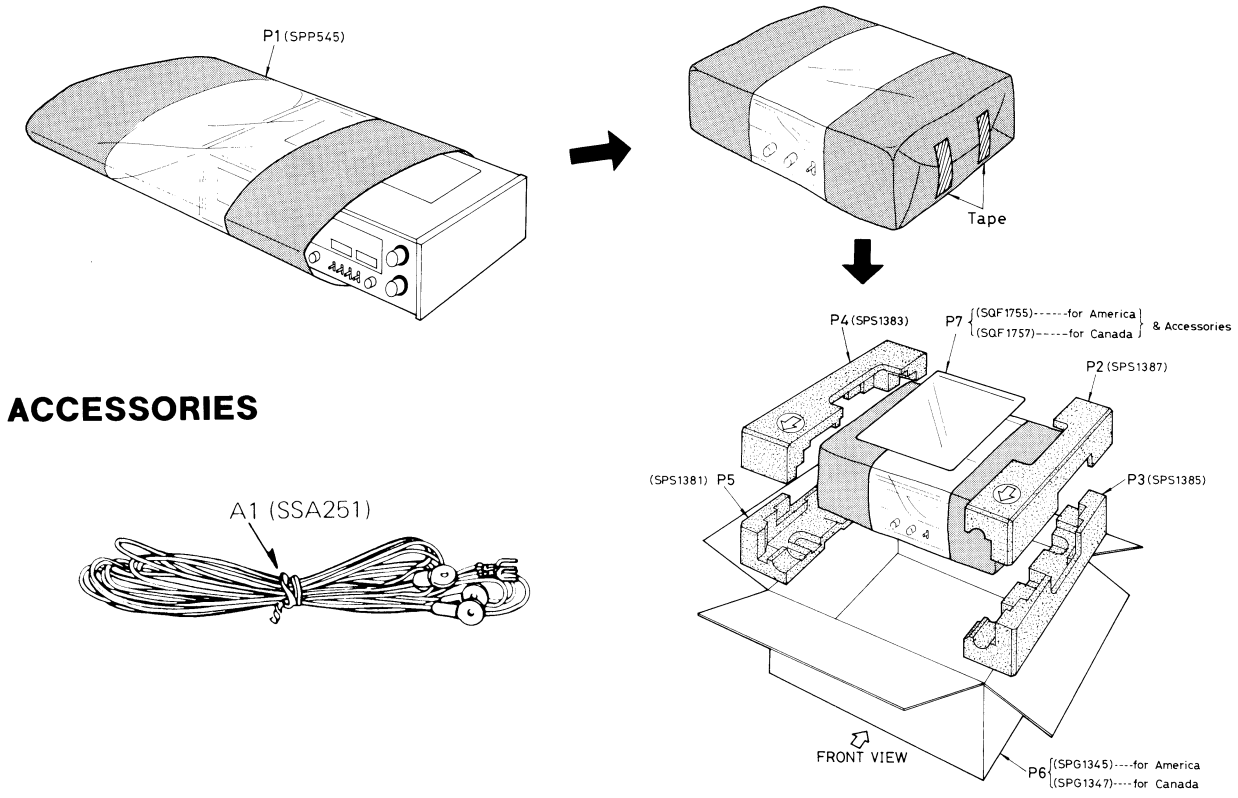


## DIAL CORD INSTALLATION GUIDE

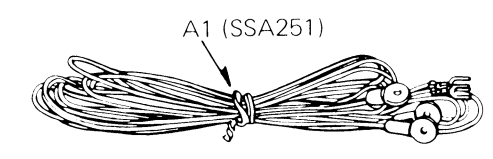
- For threading a fresh cord, proceed as follows.
  1. Prepare a fresh cord more than 220cm (86-9/16") in length.
  2. Bring the variable capacitor into a state where the drum is completely turned to the right (maximum capacity and lowest frequency for the variable capacitor).
  3. Direct the cord in the order from 1 to 10.
  4. Stretch the cord in such a tension as the spring length is elongated by 1.5 times that of the original state.
  5. Fix the knot of the cord with the bond.



## PACKINGS

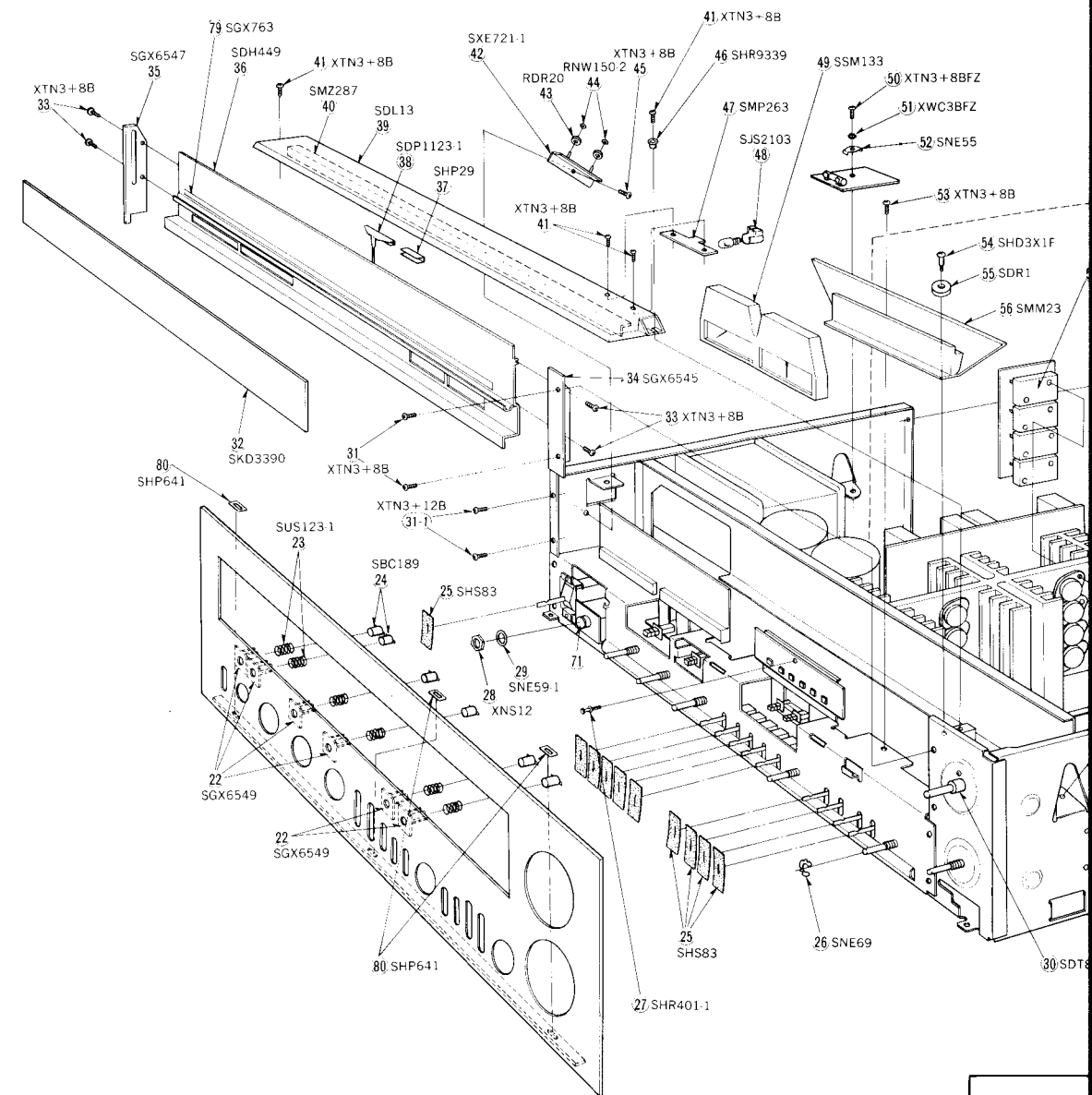
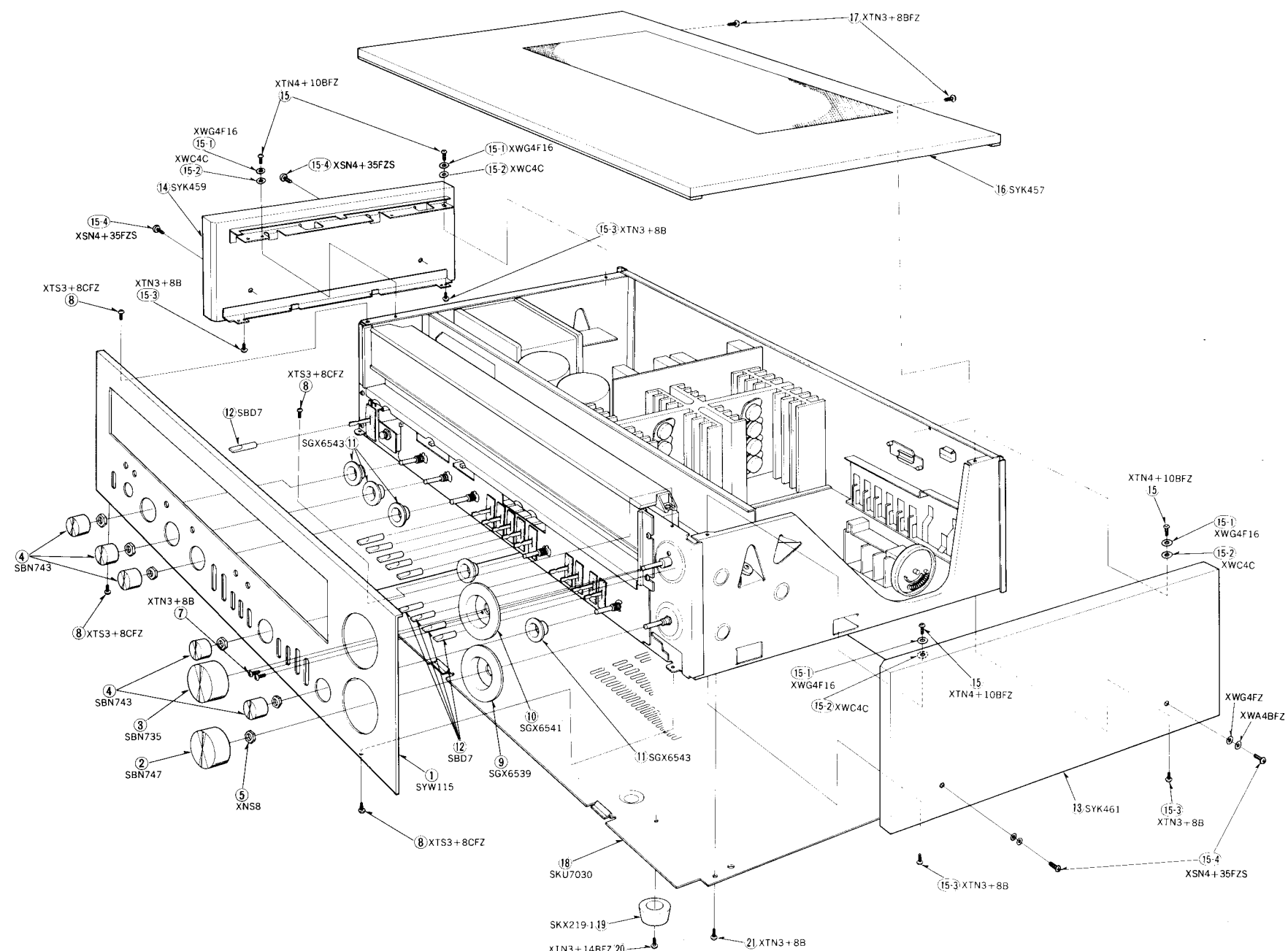


## ACCESSORIES



Ref. No.	Part No.	Part Name & Description	Per Set	Remarks
ACCESSORY				
A1	SSA251	Cord, FM Feeder Antenna	1	
PACKING PARTS				
P1	SPP545	Polyethylene Bag	1	○
P2	SPS1387	Pad, Right Upper Side	1	○
P3	SPS1385	Pad, Right Lower Side	1	○
P4	SPS1383	Pad, Left Upper Side	1	○
P5	SPS1381	Pad, Left Lower Side	1	○
P6 [M]	SPG1345	Carton Box	1	○
P6 [MC]	SPG1347	Carton Box	1	○
P7 [M]	SQF1755	Instructions Book, Printed Matter	1	○
P7 [MC]	SQF1757	Instructions Book, Printed Matter	1	○

## EXPLODED VIEWS



## REPLACEMENT PARTS LIST

## Important Safety Notice

Components identified by shaded area have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.

NOTE: 1. Part numbers are indicated on most mechanical parts.  
Please use this part number for parts orders.

Ref. No.	Part No.	Part Name & Description	Per Set	Remarks
1	SYW115	Panel, Front	1	○
2	SBN747	Knob, Volume	1	○
3	SBN735	Knob, Tuning	1	○
4	SBN743	Knob, Selector, Balance, Treble, Mid Range and Bass	5	○
5	XNS8	Nut, Ornament M'tg	6	
7	XTN3+8B	Screw, Tuning Ornament M'tg	2	
8	XTS3+8CFZ	Screw, Front Panel M'tg	5	
9	SGX6539	Ornament, Tuning	1	○
10	SGX6541	Ornament, Volume	1	○

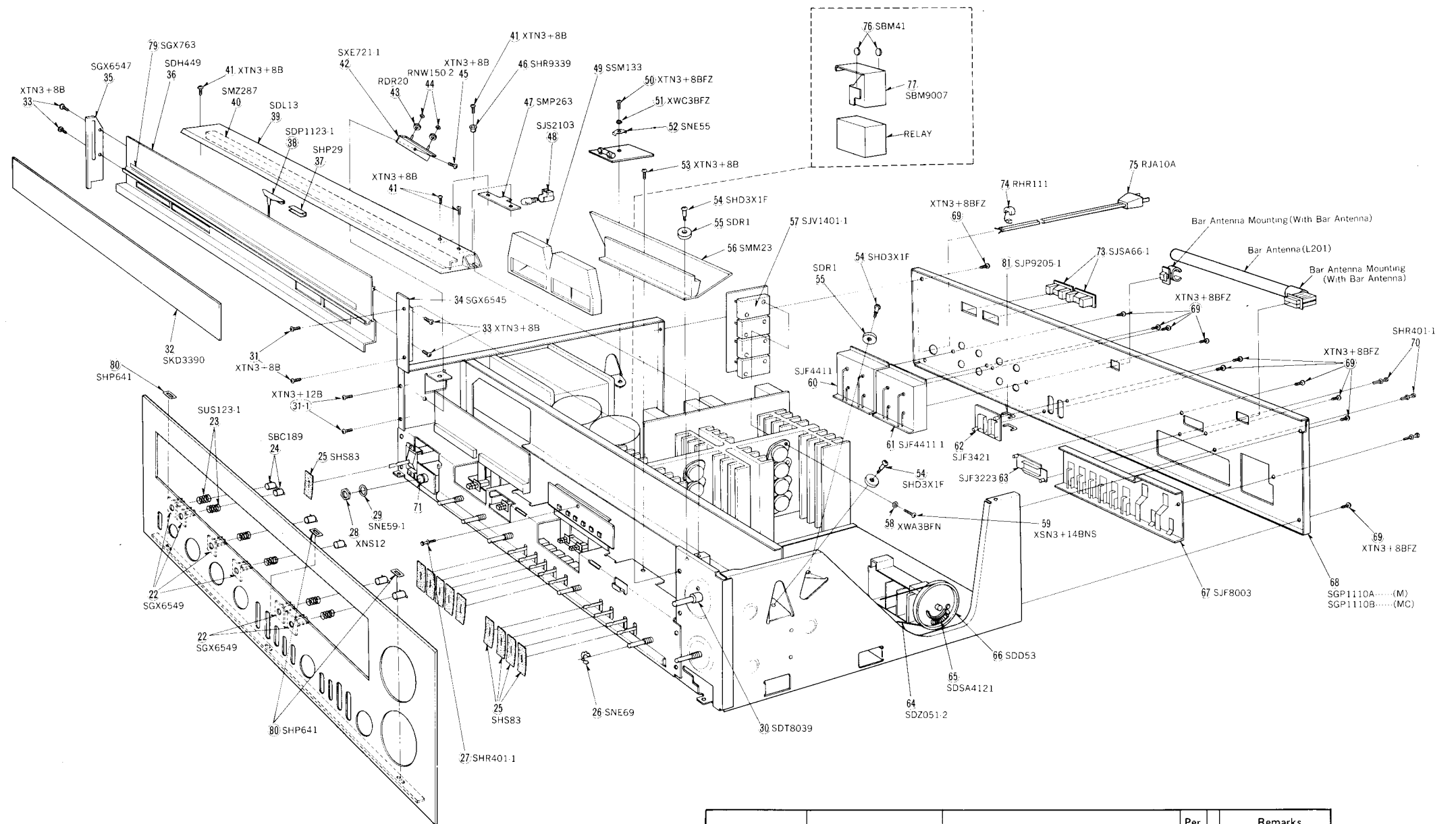
Ref. No.	Part No.	Part Name & Description	Per Set	Remarks
11	SGX6543	Ornament, Selector, Balance, Treble, Mid Range and Bass	5	○
12	SBD7	Knob, Levor Switch	10	
13	SYK461	Side Board, Right	1	○
14	SYK459	Side Board, Left	1	○
15	XTN4+10BFZ	Screw, Side Board M'tg	4	
15-1	XWG4F16	Washer, Side Board Screw	4	
15-2	XWC4C	Washer, Side Board Screw	4	
15-3	XTN3+8B	Screw, Side Board M'tg	4	
15-4	XSN4+35FZS	Screw, Side Board	4	
16	SYK457	Top Board	1	○
17	XTN3+8BFZ	Screw, Top Board M'tg	2	
18	SKU7030	Bottom Board	1	○*
19	SKX219-1	Foot, Set	4	
20	XTN3+14BFZ	Screw, Set Bottom Foot M'tg	4	
21	XTN3+8B	Screw, Bottom Board M'tg	10	
22	SGX6549	Sleeve, Push Switch Buttons	6	○
23	SUS123-1	Spring, Push Switch Button	6	
24	SBC189	Button, Push Switch	6	○

Ref. No.	Part No.	Part Name & Description	Per Set	Remarks
25	SHS83	Shading Cloth	10	
26	SNE69	Circclip, Volumes	6	○
27	SHR401-1	Lock Pin, Program Indicator Circuit Board M'tg	1	
28	XNS12	Nut, Headphones Jack	1	
29	SNE59-1	Washer, Headphones Jack	1	○
30	SDT8039	Shaft, Tuning Control Ass'y	1	○*
31	XTN3+8B	Screw, Dial Scale Escutcheon M'tg	2	
31-1	XTN3+12B	Screw, Dial Scale Escutcheon M'tg	2	
32	SKD3390	Transparent Cover	1	○*
33	XTN3+8B	Screw, Dial Scale M'tg	4	
34	SGX6545	Escutcheon, Dial Scale	1	○
35	SGX6547	Escutcheon, Dial Scale	1	○
36	SDH449	Dial Scale	1	○*
37	SHP29	Paper, Pointer Slide	1	
38	SDP1123-1	Pointer, Dial	1	○*
39	SDL13	Reflector Plate	1	○*
40	SMZ287	Escutcheon, Reflector Plate	1	○*
41	XTN3+8B	Screw, Reflector Plate M'tg	10	
42	SXE721-1	Shaft, Dial Cord Ass'y	1	○
43	RDR20	Pulley, Dial Cord	2	
44	RNW150-2	Washer, Pulley Lock	2	
45	XTN3+8B	Screw, Dial Cord Shaft M'tg	1	
46	SHR9339	Spacer, Reflector Plate Screw	1	
47	SMP263	Bracket, Pilot Lamp	4	*
48	SJS2103	Socket, Pilot Lamp	4	
49	SSM133	Meter, Signal & Tuning	1	○
50	XTN3+8BFZ	Screw, Fuse Circuit Board M'tg	1	

Ref. No.

51	XTN3+8B
52	XTN3+8B
53	XTN3+8B
54	XTN3+8B
55	XTN3+8B
56	XTN3+8B
57	XTN3+8B
58	XTN3+8B
59	XTN3+8B
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71	XTN3+8B
73	XTN3+8B
74	XTN3+8B
75	XTN3+8B
76	XTN3+8B
77	XTN3+8B
78	XTN3+8B
79	XTN3+8B
80	XTN3+8B
81	XTN3+8B





Q.	Part No.	Part Name & Description	Per Set	Remarks
	SGX6543	Ornament, Selector, Balance, Treble, Mid Range and Bass	5	○
	SBD7	Knob, Lever Switch	10	
	SYK461	Side Board, Right	1	○
	SYK459	Side Board, Left	1	○
	XTN4+10BFZ	Screw, Side Board M'tg	4	
	XWG4F16	Washer, Side Board Screw	4	
	XWC4C	Washer, Side Board Screw	4	
	XTN3+8B	Screw, Side Board M'tg	4	
	XSN4+35FZS	Screw, Side Board	4	
	SYK457	Top Board	1	○
	XTN3+8BFZ	Screw, Top Board M'tg	2	
	SKU7030	Bottom Board	1	○*
	SKX219-1	Foot, Set	4	
	XTN3+14BFZ	Screw, Set Bottom Foot M'tg	4	
	XTN3+8B	Screw, Bottom Board M'tg	10	
	SGX6549	Sleeve, Push Switch Buttons	6	○
	SUS123-1	Spring, Push Switch Button	6	
	SBC189	Button, Push Switch	6	○

Ref. No.	Part No.	Part Name & Description	Per Set	Remarks
25	SHS83	Shading Cloth	10	
26	SNE69	Circlip, Volumes	6	○
27	SHR401-1	Lock Pin, Program Indicator Circuit Board M'tg	1	
28	XNS12	Nut, Headphones Jack	1	
29	SNE59-1	Washer, Headphones Jack	1	○
30	SDT8039	Shaft, Tuning Control Ass'y	1	○*
31	XTN3+8B	Screw, Dial Scale Escutcheon M'tg	2	
31-1	XTN3+12B	Screw, Dial Scale Escutcheon M'tg	2	
32	SKD3390	Transparent Cover	1	○*
33	XTN3+8B	Screw, Dial Scale M'tg	4	
34	SGX6545	Escutcheon, Dial Scale	1	○
35	SGX6547	Escutcheon, Dial Scale	1	○
36	SDH449	Dial Scale	1	○*
37	SHP29	Paper, Pointer Slide	1	
38	SDP1123-1	Pointer, Dial	1	○*
39	SDL13	Reflector Plate	1	○
40	SMZ287	Escutcheon, Reflector Plate	1	○*
41	XTN3+8B	Screw, Reflector Plate M'tg	10	
42	SXE721-1	Shaft, Dial Cord Ass'y	1	○
43	RDR20	Pulley, Dial Cord	2	
44	RNW150-2	Washer, Pulley Lock	2	
45	XTN3+8B	Screw, Dial Cord Shaft M'tg	1	
46	SHR9339	Spacer, Reflector Plate Screw	1	
47	SMP263	Bracket, Pilot Lamp	4	*
48	SJS2103	Socket, Pilot Lamp	4	
49	SSM133	Meter, Signal & Tuning	1	○
50	XTN3+8BFZ	Screw, Fuse Circuit Board M'tg	1	

Ref. No.	Part No.	Part Name & Description	Per Set	Remarks
51	XWC3BFZ	Washer, Fuse Circuit Board Screw	1	
52	SNE55	Lug, Ground	1	
53	XTN3+8B	Screw, Meter Bracket M'tg	1	
54	SHD3X1F	Shaft, Pulley	3	*
55	SDR1	Pulley, Dial	3	
56	SMM23	Bracket, Meter	1	○*
57	SJV1401-1	Socket, Power Transistors	8	○
58	XWA3BFN	Washer, Power Transistors Screw	16	
59	XSN3+14BNS	Screw, Power Transistors M'tg	16	
60	SJF4411	Terminal, Speakers	1	
61	SJF4411-1	Terminal, Speakers	1	
62	SJF3421	Terminal, Pre Out-Main In	1	
63	SJF3223	Terminal, 4CH Max Out and AM Stereo Out	1	○
64	SDZ051-2	Cord, Dial 86-9/16" (220cm)	1 roll	
65	SDSA4121	Spring, Dial Cord	1	
66	SDD53	Drum, Dial Cord	1	○
67	SJF8003	Terminal, Input and Antenna	1	
68 [M]	SGP1110A	Rear Panel, Set for America [M]	1	
68 [MC]	SGP1110B	Rear Panel, Set for Canada [MC]	1	○
69	XTN3+8BFZ	Screw, Terminal and Rear Panel M'tg	12	○
70	SHR401-1	Lock Pin, Terminal M'tg	3	
71	XCJ6P21B	Jack, Headphones	1	
72	SJSA651	Socket, AC Outlet	2	
74	RHR111	Bushing, AC Cord	1	
75	<b>RJA10A</b>	<b>AC Cord</b>	1	
76	SBM41	Magnet, Relay	2	○
77	SBM9007	Bracket, Magnet	1	
78	SJP9205-1	Short pin, Pre & Main Amp Connection	2	
79	SGX763	Mirror, Dial Scale	1	○
80	SHP641	Shading Cloth	3	
81	SJP9205-1	Short Pin, Pre & Main Amplifier	2	

■ REPLACEMENT PARTS LIST .....Electric Parts

Important Safety Notice

Components identified by shaded area have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.

NOTE: 1. Part numbers are indicated on most mechanical parts.  
Please use this part number for parts orders.

Ref. No.	Part No.	Part Name & Description	Per Set	Remarks
INTEGRATED CIRCUITS				
IC101	AN217-BB	IC, FM IF Amplifier & AM Converter	1	
IC102	AN377	IC, FM IF Amplifier & FM Detector	1	
IC301	AN363	IC, FM Multiplex	1	
IC801, 802	SVIMS1901P	IC, Window Comparator	2	
IC901, 902	SVIM51202L	IC, Voltage Comparator	2	○
IC903	AN7071	IC, Protector	1	○
TRANSISTORS				
TR1	3SK40-M	Transistor [FET], FM RF Amplifier	1	
TR2	2SC1047-C	Transistor, FM Mixer (Use in ranks C or D)	1	
TR3	2SC1675-L1	Transistor, Local Oscillator	1	
TR4	2SK49-H1	Transistor [FET], Buffer	1	
TR101, 102, 103, 105, 106, 201, 202, 203	2SC1328-T	Transistor, Muting Switching (Use in ranks S, T or U)	8	
TR104	2SA666AI-R	Transistor, Muting Switching (Use in ranks Q, R or S)	1	
TR301 ~ 307	2SC1328-T	Transistor, Buffer Amplifier & 19 kHz Amplifier (Use in ranks S, T or U)	7	
TR401, 402	SVTM47LP	Transistor, Equalizer Amplifier	2	
R403, 404	2SC1328-T	Transistor, Equalizer Amplifier (Use in ranks S or T)	2	
TR405, 406, 501, 502	2SA720-R	Transistor, Equalizer & Volume Amplifier (Use in ranks Q or R)	4	
TR503 ~ 510	2SC1328-T	Transistor, Tone Amplifier (Use in ranks S or T)	8	
TR601, 602	2SA979-G	Transistor, Differential Amplifier (Use in ranks F or G)	2	○
TR603, 604	2SC1328-T	Transistor, Current Mirror (Use in ranks S or T)	2	
TR605, 606	2SC1885-R	Transistor, Emitter Follower (Use in ranks Q, R or S)	2	
TR607, 608	2SC1628M-0	Transistor, Pre Driver (Use in ranks Y or O)	2	
TR609, 610	2SC1913A-R	Transistor, Drive Amplifier (Use in ranks Q or R)	2	
TR611, 612	2SA913A-R	Transistor, Drive Amplifier (Use in ranks Q or R)	2	
(Use pair ranks TR609, 610, 611 and TR612.)				
TR613, 615, 617, 619	2SD287CC-R	Transistor, Power Amplifier (Use in ranks Q, R or S)	4	○
TR614, 616, 618, 620	2SB539CC-R	Transistor, Power Amplifier (Use in ranks Q, R or S)	4	○
(Use pair ranks TR613 ~ TR619 and TR620)				
TR701	2SD381-L	Transistor, Regulator	1	
TR702	2SB536-L	Transistor, Regulator	1	
TR703	2SC1398-Q	Transistor, Regulator (Use in ranks P, Q or R)	1	
TR801, 802	2SA666AI-R	Transistor, Logarithm Compressor (Use in ranks P, Q or R)	2	

Ref. No.	Part No.	Part Name & Description	Per Set	Remarks
TR803 ~ 806	2SC1328-T	Transistor, Logarithm Compressor (Use in ranks S, T or U)	4	
TR807	2SC1398-Q	Transistor, Regulator (Use in ranks P, Q or R)	1	
TR901 ~ 913, 916	2SC945-R	Transistor, Power Amp Protection Circuit & Selector Circuit of Power Transformer Voltage Tap (Use in ranks P1, P2, Q1, Q2 or R)	14	
TR914, 915	2SA720-R	Transistor, Power Amp DC Detector (Use in ranks Q or R)	2	
DIODES				
D101, 102, 103, 204, 301, 303	MA150	Diode, Switching	6	
D104	SVDKB262E	Diode, Meter Detector	1	
D201, 202, 203	OA99	Diode, AM Detector & AGC	3	
D302	SVDMA26-2	Diode, Bias	1	
D304	LN25RP	Light Emitting Diode	1	
D601 ~ 604	MA150	Diode, Driver Amplifier Circuit	4	
D605, 606	SVDSTV4HG	Diode, Driver Amplifier Circuit	2	○
D607	LN35BP	Light Emitting Diode	1	○
D701	SVDS15VB20	Rectifier	1	○
D702, 703, 704	SM112	Rectifier & Relay Diode	1	○
D705, 706	SVDMZ330B	Diode, Zener 30V	1	○
D707	SVDMZ314	Diode, Zener 14V	1	
D708	SVDMZ324	Diode, Zener 24V	1	
D709, 714	SVDMZ306	Diode, Zener 6V	2	
D710 ~ 713	LN25RP	Light Emitting Diode	4	
D801	SVDMZ214A	Diode, Zener 14V	1	
D803 ~ D810	LN26RP	Light Emitting Diode, Red	8	○
D811 ~ D818	LN46YP	Light Emitting Diode, Orange	8	
D819 ~ D826	LN36BP	Light Emitting Diode, Green	8	
D901, 902, 906	OA99	Diode	3	
D903, 904, 905, 907, 908, 909, 910, 911	MA150	Diode	8	
D912	SM112	Relay Diode	1	
D913	SVDMZ306	Diode, Zener 6V	1	
D914, 915	MA150	Diode	2	
COILS and TRANSFORMERS				
L1	SLA4P25	Coil, FM Antenna	1	
L2	SLD4P9	Coil, FM RF Detector	1	
L3	RLQY25S2	Coil, Choke	1	
L5	SLD4P15	Coil, FM RF Detector	1	
L6	RLQY15G5	Coil, Choke	1	
L7	SLO4P31	Coil, FM Oscillator	1	
L101	SLQX180-2	Coil, Choke	1	
L201	SLF2D45	Coil, AM Bar Antenna (w/Mounting)	1	○
L202	SLO2C9	Coil, AM Oscillator	1	
L301, 302, 303	SLM1C37-Z	Coil, 19kHz	3	
L601, 602	SLQY15G-3U	Coil, Power Amplifier Output	2	
T101	SLI4C109	Transformer, FM IF	1	○
T102	SLI4D513-3	Transformer, FM IF	1	
T201	SLI7C101-T	Transformer, AM IF	1	○

Ref. No.	Part No.	Part Name & Description	Per Set	Remarks
T202	SLI2C413	Transformer, AM IF	1	○
T701	SLI5R29	Transformer, Power	1	○
CERAMIC FILTERS				
CF101, 102	SVFE107MM-A SVFE107MM-B SVFE107MM-C SVFE107MM-D SVFE107MM-E SVFE107ML-A SVFE107ML-B SVFE107ML-C SVFE107ML-D SVFE107ML-E	Ceramic Filter, Red, 10.7MHz Ceramic Filter, Blue, 10.67MHz Ceramic Filter, Orange, 10.73MHz Ceramic Filter, Black, 10.64MHz Ceramic Filter, White, 10.76MHz Ceramic Filter, Red, 10.7MHz Ceramic Filter, Blue, 10.67MHz Ceramic Filter, Orange, 10.73MHz Ceramic Filter, Black, 10.64MHz Ceramic Filter, White, 10.76MHz (Use pair ranks as same as CF101, CF102 and CF103.)	each 2	
CF103	SVFE107ML-A SVFE107ML-B SVFE107ML-C SVFE107ML-D SVFE107ML-E	Ceramic Filter, Red, 10.7MHz Ceramic Filter, Blue, 10.67MHz Ceramic Filter, Orange, 10.73MHz Ceramic Filter, Black, 10.64MHz Ceramic Filter, White, 10.76MHz	each 1	
THERMISTORS				
TH801, 802, 803	ERTD2FHL103S	Thermistor, Output Indicator Circuit	3	○
RESISTORS				
R1, 2	ERD50TJ104	Carbon, 100kΩ, 1/2W, ± 5%	2	
R3	ERD25TJ563	Carbon, 56kΩ, 1/4W, ± 5%	1	
R4	ERD25TJ223	Carbon, 22kΩ, 1/4W, ± 5%	1	
R5	ERD25TJ151	Carbon, 150Ω, 1/4W, ± 5%	1	
R6	ERD25TJ822	Carbon, 8.2kΩ, 1/4W, ± 5%	1	
R7	ERD25TJ333	Carbon, 33kΩ, 1/4W, ± 5%	1	
R8	ERD25TJ152	Carbon, 1.5kΩ, 1/4W, ± 5%	1	
R9	ERD25TJ151	Carbon, 150Ω, 1/4W, ± 5%	1	
R10	ERD25TJ223	Carbon, 22kΩ, 1/4W, ± 5%	1	
R11	ERD25TJ123	Carbon, 12kΩ, 1/4W, ± 5%	1	
R12, 13	ERD25TJ102	Carbon, 1kΩ, 1/4W, ± 5%	2	
R14	ERD25TJ333	Carbon, 33kΩ, 1/4W, ± 5%	1	
R15	ERD25TJ561	Carbon, 560Ω, 1/4W, ± 5%	1	
R16	ERD25TJ683	Carbon, 68kΩ, 1/4W, ± 5%	1	
R101	ERD25TJ102	Carbon, 1kΩ, 1/4W, ± 5%	1	
R102, 103	ERD25TJ331	Carbon, 330Ω, 1/4W, ± 5%	2	
R104	ERD25TJ683	Carbon, 68kΩ, 1/4W, ± 5%	1	
R105	ERD25TJ331	Carbon, 330Ω, 1/4W, ± 5%	1	
R106	ERD25TJ102	Carbon, 1kΩ, 1/4W, ± 5%	1	
R107	ERD25TJ221	Carbon, 220Ω, 1/4W, ± 5%	1	
R108	ERD25TJ104	Carbon, 100kΩ, 1/4W, ± 5%	1	
R109	ERD25TJ331	Carbon, 330Ω, 1/4W, ± 5%	1	
R110	ERD25TJ271	Carbon, 270Ω, 1/4W, ± 5%	1	
R111	ERD25TJ822	Carbon, 8.2kΩ, 1/4W, ± 5%	1	
R112	ERD25TJ392	Carbon, 3.9kΩ, 1/4W, ± 5%	1	
R113	ERD25TJ562	Carbon, 5.6kΩ, 1/4W, ± 5%	1	
R114	ERD25TJ272	Carbon, 2.7kΩ, 1/4W, ± 5%	1	
R115	ERD25TJ101	Carbon, 100Ω, 1/4W, ± 5%	1	
R116	ERD25TJ221	Carbon, 220Ω, 1/4W, ± 5%	1	
R117	ERD25TJ333	Carbon, 33kΩ, 1/4W, ± 5%	1	
R118	ERD25TJ223	Carbon, 22kΩ, 1/4W, ± 5%	1	
R119	ERD25TJ331	Carbon, 330Ω, 1/4W, ± 5%	1	
R120	ERD25TJ223	Carbon, 22kΩ, 1/4W, ± 5%	1	
R121	ERD25TJ563	Carbon, 56kΩ, 1/4W, ± 5%	1	

Part Name & Description	Per Set	Remarks
Transformer, AM IF	1	○
Transformer, Power	1	○
CERAMIC FILTERS		
Ceramic Filter, Red, 10.7MHz	each 2	
Ceramic Filter, Blue, 10.67MHz		
Ceramic Filter, Orange, 10.73MHz		
Ceramic Filter, Black, 10.64MHz		
Ceramic Filter, White, 10.76MHz	each 1	
Ceramic Filter, Red, 10.7MHz		
Ceramic Filter, Blue, 10.67MHz		
Ceramic Filter, Orange, 10.73MHz		
Ceramic Filter, Black, 10.64MHz		
Ceramic Filter, White, 10.76MHz		
as CF101, CF102 and CF103.)		
THERMISTORS		
Thermistor, Output Indicator Circuit	3	○
RESISTORS		
Carbon, 100kΩ, 1/2W, ± 5%	2	
Carbon, 56kΩ, 1/4W, ± 5%	1	
Carbon, 22kΩ, 1/4W, ± 5%	1	
Carbon, 150Ω, 1/4W, ± 5%	1	
Carbon, 8.2kΩ, 1/4W, ± 5%	1	
Carbon, 33kΩ, 1/4W, ± 5%	1	
Carbon, 1.5kΩ, 1/4W, ± 5%	1	
Carbon, 150Ω, 1/4W, ± 5%	1	
Carbon, 22kΩ, 1/4W, ± 5%	1	
Carbon, 12kΩ, 1/4W, ± 5%	1	
Carbon, 1kΩ, 1/4W, ± 5%	2	
Carbon, 33kΩ, 1/4W, ± 5%	1	
Carbon, 560Ω, 1/4W, ± 5%	1	
Carbon, 68kΩ, 1/4W, ± 5%	1	
Carbon, 1kΩ, 1/4W, ± 5%	1	
Carbon, 330Ω, 1/4W, ± 5%	2	
Carbon, 68kΩ, 1/4W, ± 5%	1	
Carbon, 330Ω, 1/4W, ± 5%	1	
Carbon, 1kΩ, 1/4W, ± 5%	1	
Carbon, 220Ω, 1/4W, ± 5%	1	
Carbon, 100kΩ, 1/4W, ± 5%	1	
Carbon, 330Ω, 1/4W, ± 5%	1	
Carbon, 270Ω, 1/4W, ± 5%	1	
Carbon, 8.2kΩ, 1/4W, ± 5%	1	
Carbon, 3.9kΩ, 1/4W, ± 5%	1	
Carbon, 5.6kΩ, 1/4W, ± 5%	1	
Carbon, 2.7kΩ, 1/4W, ± 5%	1	
Carbon, 100Ω, 1/4W, ± 5%	1	
Carbon, 220Ω, 1/4W, ± 5%	1	
Carbon, 33kΩ, 1/4W, ± 5%	1	
Carbon, 22kΩ, 1/4W, ± 5%	1	
Carbon, 330Ω, 1/4W, ± 5%	1	
Carbon, 22kΩ, 1/4W, ± 5%	1	
Carbon, 56kΩ, 1/4W, ± 5%	1	

Ref. No.	Part No.	Part Name & Description	Per Set	Remarks
R122	ERD25TJ274	Carbon, 270kΩ, 1/4W, ± 5%	1	
R123	ERD25TJ333	Carbon, 33kΩ, 1/4W, ± 5%	1	
R124	ERC14GK825	Solid, 8.2MΩ, 1/4W, ±10%	1	
R125	ERD25TJ563	Carbon, 56kΩ, 1/4W, ± 5%	1	
R126	ERD25TJ103	Carbon, 10kΩ, 1/4W, ± 5%	1	
R127	ERD25TJ682	Carbon, 68kΩ, 1/4W, ± 5%	1	
R128	ERD25TJ104	Carbon, 100kΩ, 1/4W, ± 5%	1	
R129	ERD25TJ274	Carbon, 270kΩ, 1/4W, ± 5%	1	
R130	ERD25TJ103	Carbon, 10kΩ, 1/4W, ± 5%	1	
R201	ERD25TJ152	Carbon, 1.5kΩ, 1/4W, ± 5%	1	
R202	ERD25TJ221	Carbon, 220Ω, 1/4W, ± 5%	1	
R203	ERD25TJ562	Carbon, 5.6kΩ, 1/4W, ± 5%	1	
R204	ERD25TJ332	Carbon, 3.3kΩ, 1/4W, ± 5%	1	
R205	ERD25TJ274	Carbon, 270kΩ, 1/4W, ± 5%	1	
R206, 207	ERD25TJ333	Carbon, 33kΩ, 1/4W, ± 5%	2	
R208	ERD25TJ682	Carbon, 68kΩ, 1/4W, ± 5%	1	
R209	ERD25TJ104	Carbon, 100kΩ, 1/4W, ± 5%	1	
R210	ERD25TJ223	Carbon, 22kΩ, 1/4W, ± 5%	1	
R211	ERD25TJ332	Carbon, 3.3kΩ, 1/4W, ± 5%	1	
R212	ERD25TJ222	Carbon, 2.2kΩ, 1/4W, ± 5%	1	
R213	ERD25TJ824	Carbon, 820kΩ, 1/4W, ± 5%	1	
R214	ERD25TJ222	Carbon, 2.2kΩ, 1/4W, ± 5%	1	
R215	ERD25TJ472	Carbon, 4.7kΩ, 1/4W, ± 5%	1	
R216	ERD25TJ103	Carbon, 10kΩ, 1/4W, ± 5%	1	
R217	ERD25TJ223	Carbon, 22kΩ, 1/4W, ± 5%	1	
R301, 302	ERD25TJ392	Carbon, 3.9kΩ, 1/4W, ± 5%	2	
R303	ERD25TJ151	Carbon, 150Ω, 1/4W, ± 5%	1	
R304	ERD25TJ331	Carbon, 330Ω, 1/4W, ± 5%	1	
R305	ERD25TJ333	Carbon, 33kΩ, 1/4W, ± 5%	1	
R306	ERD25TJ223	Carbon, 22kΩ, 1/4W, ± 5%	1	
R307	ERD25TJ332	Carbon, 3.3kΩ, 1/4W, ± 5%	1	
R308	ERD25TJ562	Carbon, 5.6kΩ, 1/4W, ± 5%	1	
R309	ERD25TJ104	Carbon, 100kΩ, 1/4W, ± 5%	1	
R310, 311	ERD25TJ103	Carbon, 10kΩ, 1/4W, ± 5%	2	
R312	ERD25TJ102	Carbon, 1kΩ, 1/4W, ± 5%	1	
R313	ERD25TJ103	Carbon, 10kΩ, 1/4W, ± 5%	1	
R314	ERD25TJ332	Carbon, 3.3kΩ, 1/4W, ± 5%	1	
R315	ERD25TJ474	Carbon, 470kΩ, 1/4W, ± 5%	1	
R316	ERD25TJ473	Carbon, 47kΩ, 1/4W, ± 5%	1	
R317	ERD25TJ103	Carbon, 10kΩ, 1/4W, ± 5%	1	
R318	ERD25TJ332	Carbon, 3.3kΩ, 1/4W, ± 5%	1	
R319	ERD25TJ104	Carbon, 100kΩ, 1/4W, ± 5%	1	
R320	ERD25TJ103	Carbon, 10kΩ, 1/4W, ± 5%	1	
R321	ERD25TJ274	Carbon, 270kΩ, 1/4W, ± 5%	1	
R322	ERD25TJ102	Carbon, 1kΩ, 1/4W, ± 5%	1	
R323	ERD25TJ123	Carbon, 12kΩ, 1/4W, ± 5%	1	
R324	ERD25TJ683	Carbon, 68kΩ, 1/4W, ± 5%	1	
R325, 326	ERD25TJ823	Carbon, 82kΩ, 1/4W, ± 5%	2	
R327, 328	ERD25TJ103	Carbon, 10kΩ, 1/4W, ± 5%	2	
R329, 330	ERD25TJ472	Carbon, 4.7kΩ, 1/4W, ± 5%	2	
R331, 332	ERD25TJ561	Carbon, 560Ω, 1/4W, ± 5%	2	
R333, 334	ERD25TJ473	Carbon, 47kΩ, 1/4W, ± 5%	2	
R335	ERD25TJ101	Carbon, 100Ω, 1/4W, ± 5%	1	
R336	ERD25TJ824	Carbon, 820kΩ, 1/4W, ± 5%	1	
R337	ERD25TJ122	Carbon, 1.2kΩ, 1/4W, ± 5%	1	
R338	ERD25TJ222	Carbon, 2.2kΩ, 1/4W, ± 5%	1	
R401, 402	ER025CKG2203	Metal Film, 220kΩ, 1/4W, ± 2%	2	○

Ref. No.	Part No.	Part Name & Description	Per Set	Remarks
R403, 404	ERD25TJ470	Carbon, 47Ω, 1/4W, ± 5%	2	
R405, 406	ER025CKG5602	Metal Film, 56kΩ, 1/4W, ± 2%	2	○
R407, 408	ER025CKG8202	Metal Film, 82kΩ, 1/4W, ± 2%	2	○
R409, 410	ER025CKG1502	Metal Film, 15kΩ, 1/4W, ± 2%	2	○
R411, 412	ERD25TJ821	Carbon, 820Ω, 1/4W, ± 5%	2	
R413, 414	ERD25TJ123	Carbon, 12kΩ, 1/4W, ± 5%	2	
R415, 416	ERD25TJ152	Carbon, 1.5kΩ, 1/4W, ± 5%	2	
R417, 418	ERD12FJ222	Carbon, 2.2kΩ, 1/2W, ± 5%	2	
R419, 420	ERD25TJ680	Carbon, 68Ω, 1/4W, ± 5%	2	
R421, 422	ERD25TJ151	Carbon, 150Ω, 1/4W, ± 5%	2	
R423, 424	ER025CKF8202	Metal Film, 82kΩ, 1/4W, ± 1%	2	
R425, 426	ER025CKF6801	Metal Film, 68kΩ, 1/4W, ± 1%	2	
R427, 428	ERD25TJ122	Carbon, 1.2kΩ, 1/4W, ± 5%	2	
R429, 430	ER025CKG2203	Metal Film, 220kΩ, 1/4W, ± 2%	2	
R431	ERD25TJ103	Carbon, 10kΩ, 1/4W, ± 5%	1	
R432	ERD25TJ561	Carbon, 560Ω, 1/4W, ± 5%	1	
R501, 502	ERD25TJ104	Carbon, 100kΩ, 1/4W, ± 5%	2	
R503, 504	ERD25TJ331	Carbon, 330Ω, 1/4W, ± 5%	2	
R505, 506	ERD25TJ823	Carbon, 82kΩ, 1/4W, ± 5%	2	
R507, 508	ERD25TJ683	Carbon, 68kΩ, 1/4W, ± 5%	2	
R509, 510	ERD25TJ103	Carbon, 10kΩ, 1/4W, ± 5%	2	
R511, 512	ERD25TJ821	Carbon, 820Ω, 1/4W, ± 5%	2	
R513, 514	ERD25TJ392	Carbon, 3.9kΩ, 1/4W, ± 5%	2	
R515, 516	ERD25TJ222	Carbon, 2.2kΩ, 1/4W, ± 5%	2	
R517, 518	ERD25TJ102	Carbon, 1kΩ, 1/4W, ± 5%	2	
R519, 520	ERD25TJ223	Carbon, 22kΩ, 1/4W, ± 5%	2	
R521, 522	ERD25TJ223	Carbon, 22kΩ, 1/4W, ± 5%	2	
R523, 524	ERD25TJ153	Carbon, 15kΩ, 1/4W, ± 5%	2	
R525, 526	ERD25TJ122	Carbon, 1.2kΩ, 1/4W, ± 5%	2	
R531, 532	ERD25TJ223	Carbon, 22kΩ, 1/4W, ± 5%	2	
R533, 534	ERD25TJ102	Carbon, 1kΩ, 1/4W, ± 5%	2	
R535, 536	ERD25TJ563	Carbon, 56kΩ, 1/4W, ± 5%	2	
R537, 538	ERD25TJ272	Carbon, 2.7kΩ, 1/4W, ± 5%	2	
R539, 540	ERD25TJ392	Carbon, 3.9kΩ, 1/4W, ± 5%	2	
R541, 542	ERD25TJ392	Carbon, 3.9kΩ, 1/4W, ± 5%	2	
R543, 544	ERD25TJ104	Carbon, 100kΩ, 1/4W, ± 5%	2	
R547, 548	ERD25TJ105	Carbon, 1MΩ, 1/4W, ± 5%	2	
R549, 550	ERD25TJ333	Carbon, 33kΩ, 1/4W, ± 5%	2	
R551, 552	ERD25TJ333	Carbon, 33kΩ, 1/4W, ± 5%	2	
R553, 554	ERD25TJ333	Carbon, 33kΩ, 1/4W, ± 5%	2	
R555, 556	ERD25TJ333	Carbon, 33kΩ, 1/4W, ± 5%	2	
R557, 558	ERD25TJ333	Carbon, 33kΩ, 1/4W, ± 5%	2	
R559, 560	ERD25TJ823	Carbon, 82kΩ, 1/4W, ± 5%	2	
R561, 562	ERD25TJ473	Carbon, 47kΩ, 1/4W, ± 5%	2	
R563, 564	ERD25TJ184	Carbon, 180kΩ, 1/4W, ± 5%	2	
R565, 566	ERD25TJ272	Carbon, 2.7kΩ, 1/4W, ± 5%	2	
R567, 568	ERD25TJ472	Carbon, 4.7kΩ, 1/4W, ± 5%	2	
R569, 570	ERD25TJ183	Carbon, 18kΩ, 1/4W, ± 5%	2	
R571, 572	ERD25TJ104	Carbon, 100kΩ, 1/4W, ± 5%	2	
R573, 574	ERD25TJ153	Carbon, 15kΩ, 1/4W, ± 5%	2	
R575, 576	ERD25TJ224	Carbon, 220kΩ, 1/4W, ± 5%	2	
R577, 578	ERD25TJ104	Carbon, 100kΩ, 1/4W, ± 5%	2	
R579, 580	ERD25TJ472	Carbon, 4.7kΩ, 1/4W, ± 5%	2	
R581, 582	ERD25TJ223	Carbon, 22kΩ, 1/4W, ± 5%	2	
R583, 584	ERD25TJ472	Carbon, 4.7kΩ, 1/4W, ± 5%	2	
R585, 586	ERD25TJ104	Carbon, 100kΩ, 1/4W, ± 5%	2	
R587, 588	ERD25TJ392	Carbon, 3.9kΩ, 1/4W, ± 5%	2	



Schematic Diagram ..... Model SA-800

■ BLOCK

Notes:

- 1. S1-1 ~ S1-6: Selector switch in "AM" position.  
(1) AM ↔ (2) FM AUTO ↔ (3) PHONO ↔ (4) AUX)
- 2. S2-1 ~ S2-4: Tape monitor switch in "SOURCE" position.  
(1) TAPE 2 ↔ (2) SOURCE ↔ (3) TAPE 1)
- 3. S3-1 ~ S3-4: Recording mode switch in "SOURCE" position.  
(1) TAPE 2 ▶ (1) ↔ (2) SOURCE ↔ (3) TAPE 1 ▶ (2)
- 4. S4: FM muting switch in "ON" position.
- 5. S5-1 ~ S5-4: Mode switch in "STEREO" position.
- 6. S6: FM hi-blend switch in "OFF" position.
- 7. S7: FM MPX filter switch in "OUT" position (OUT ↔ IN)
- 8. S8: Loudness switch in "OFF" position.
- 9. S9: Audio muting switch in "0 dB" position. (0 dB ↔ -20 dB)
- 10. S10: Acoustic control switch in "OFF" position.
- 11. S11: Acoustic HIGH switch in "OFF" position.  
(1) BOOST ↔ (2) OFF ↔ (3) FILTER
- 12. S12: Acoustic LOW switch in "OFF" position.  
(1) BOOST ↔ (2) OFF ↔ (3) FILTER
- 13. S13: Remote speakers switch in "OFF" position.
- 14. S14: Main speakers switch in "OFF" position.
- 15. S15: Power display range switch in "X1" position. (See page 13)
- 16. S16: Power source switch in "OFF" position.
- 17. S17: Power display switch in "ON" position. (See page 13)

- 18. Indicated voltage values are the standard values for the unit measured by the DC electronic circuit tester (high impedance) with the chassis taken as standard. Therefore, there may exist some errors in the voltage values, depending on the internal impedance of the DC circuit tester.  
Not apply signal to set and muting switch to OFF condition.  
AM signal reception.  
FM muting to ON condition.
- 19. This schematic diagram may be modified at any time with the development of new technology.

• SIGNAL LINES

AF FM AM

• TRANSISTORS AND INTEGRATED CIRCUITS TERMINAL GUIDE

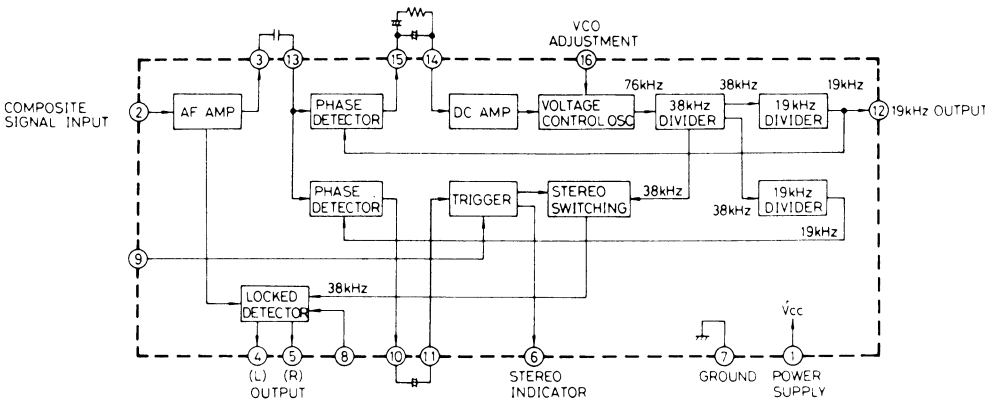
See page 10

• SCHEMATIC DIAGRAM OF POWER LEVEL INDICATOR

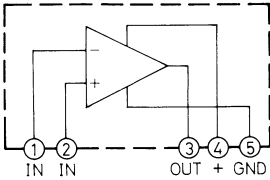
See page 13

IMPORTANT SAFETY NOTICE

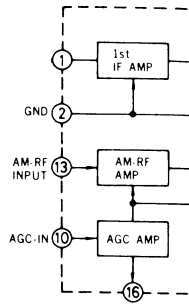
THE SHADED AREA ON THIS SCHEMATIC DIAGRAM INCORPORATES SPECIAL FEATURES IMPORTANT FOR SAFETY.  
WHEN SERVICING IT IS ESSENTIAL THAT ONLY MANUFACTUR'S SPECIFIED PARTS BE USED FOR THE CRITICAL COMPONENTS IN THE SHADED AREAS OF THE SCHEMATIC.



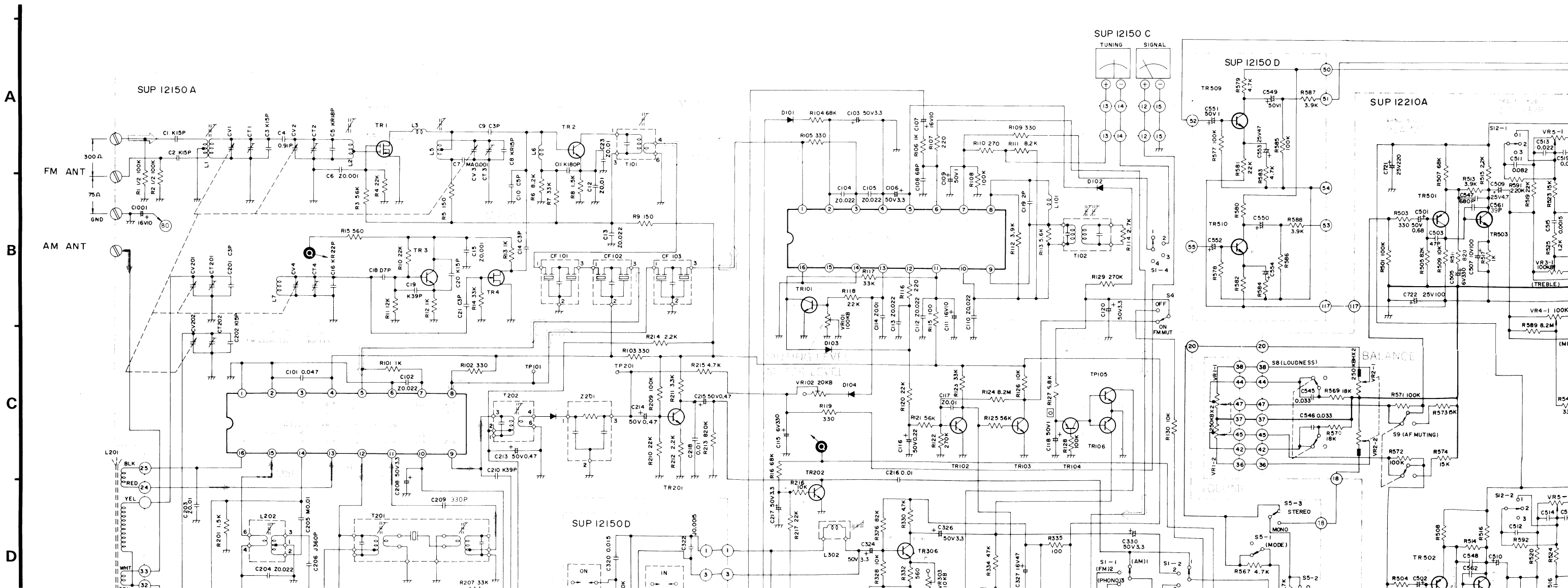
IC301 (AN363)  
FM MPX



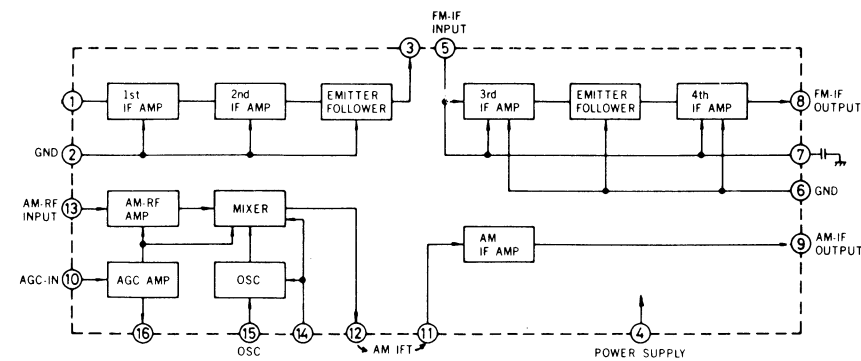
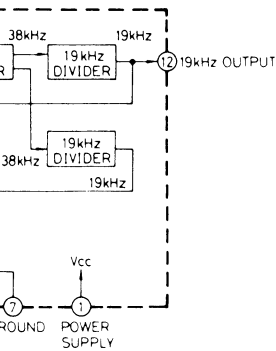
IC901, 902 (SVIM51202L)  
COMPARATOR



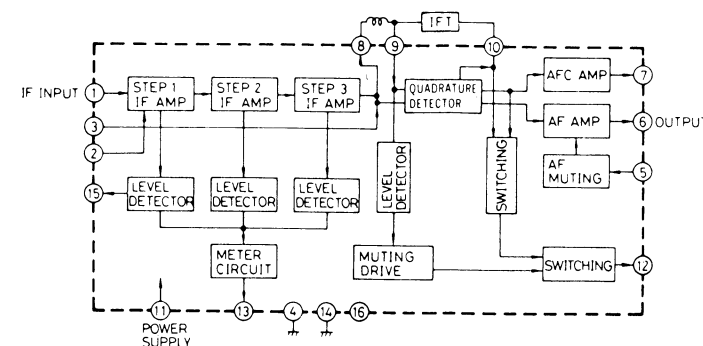
1 2 3 4 5 6 7 8 9 10



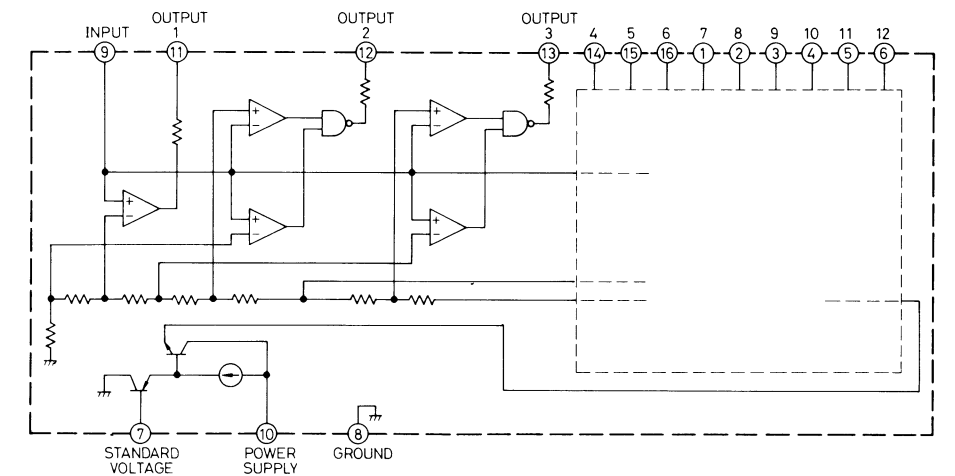
# ■ BLOCK DIAGRAMS OF INTEGRATED CIRCUITS



IC101 (AN217)  
FM 2 STEPS IF AMPLIFIER  
& AM CONVERTER



IC102 (AN377)  
FM IF AMPLIFIER & DETECTOR



IC801, 802 (SVIMS1901P)  
WINDOW COMPARATOR

9

10

11

12

13

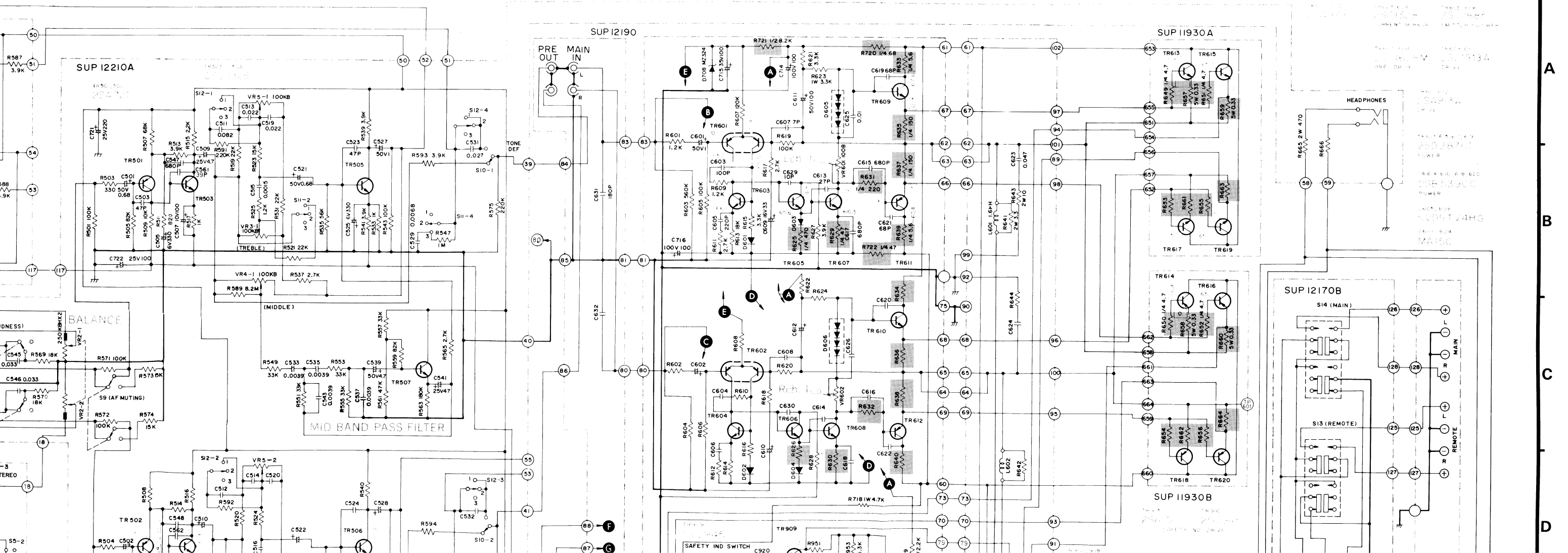
14

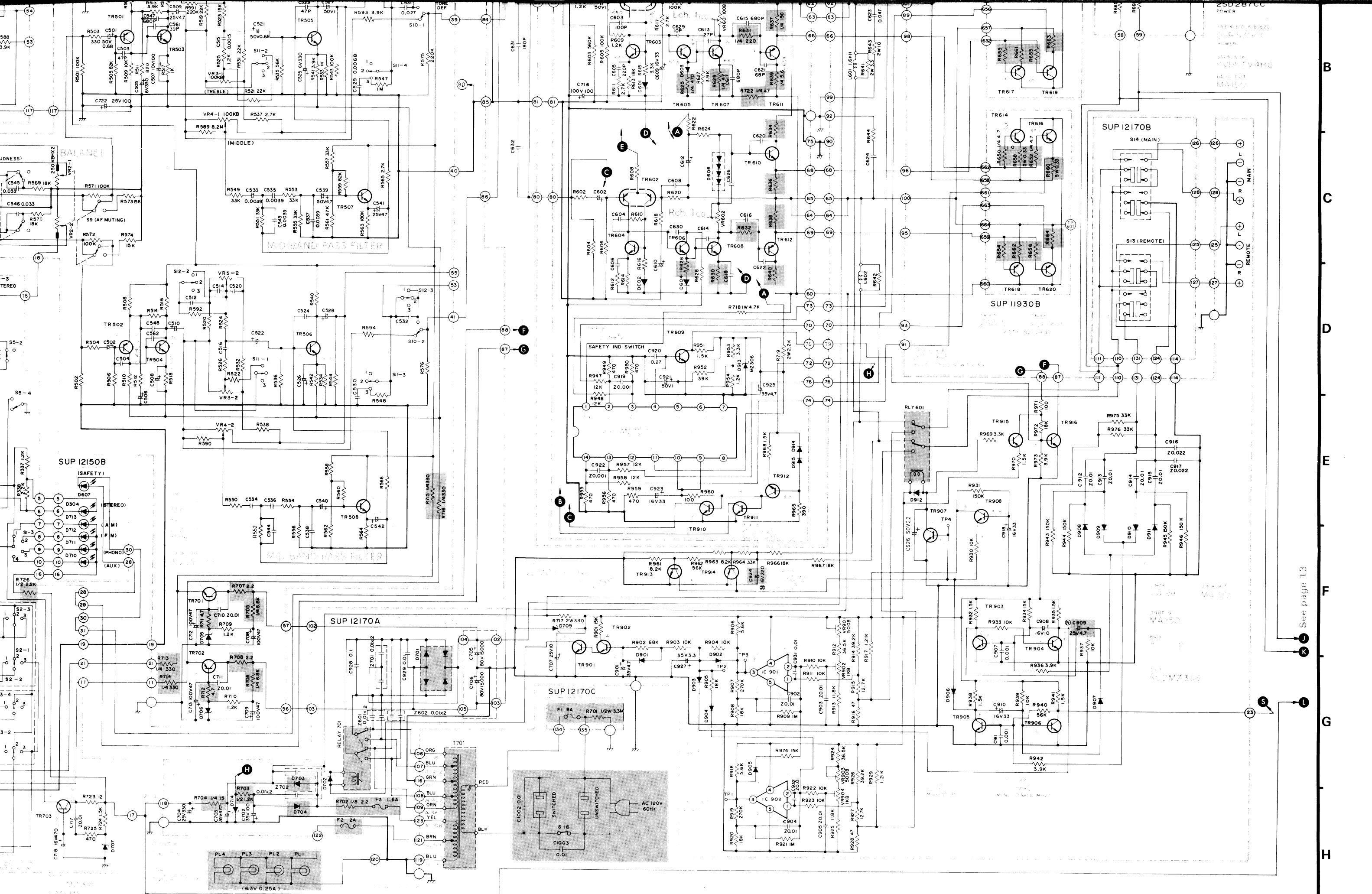
15

16

17

18





B  
C  
D  
E  
F  
G  
H

AM ANT

SUP12150E

AM STEREO OUT

4ch MPX OUT

LEFT

PHONO

AUX

TAPE 1  
REC OUT  
PLAYBACK

TAPE 2  
REC OUT  
PLAYBACK

RIGHT

PHONO

AUX

TAPE 1  
REC OUT  
PLAYBACK

TAPE 2  
REC OUT  
PLAYBACK

GND

SUP12150D

FM HI-BLEND

FM MPX FILT

SUP12150B

(SAFETY)

(STEREO)

(A M)

(F M)

(PHONO)

(AUX)



Ref. No.	Part No.	Part Name & Description	Per Set	Remarks
R589, 590	ERC14GK825	Solid, 8.2M $\Omega$ , 1/4W, $\pm$ 10%	2	
R591, 592	ERD25TJ224	Carbon, 220k $\Omega$ , 1/4W, $\pm$ 5%	2	
R593, 594	ERD25TJ392	Carbon, 3.9k $\Omega$ , 1/4W, $\pm$ 5%	2	
R601, 602	ERD25TJ122	Carbon, 1.2k $\Omega$ , 1/4W, $\pm$ 5%	2	
R603, 604	ERD25TJ564	Carbon, 560k $\Omega$ , 1/4W, $\pm$ 5%	2	
R605, 606	ERD25TJ104	Carbon, 100k $\Omega$ , 1/4W, $\pm$ 5%	2	
R607, 608	ERD25TJ124	Carbon, 120k $\Omega$ , 1/4W, $\pm$ 5%	2	
R609, 610	ERD25TJ122	Carbon, 1.2k $\Omega$ , 1/4W, $\pm$ 5%	2	
R611, 612	ERD25TJ272	Carbon, 2.7k $\Omega$ , 1/4W, $\pm$ 5%	2	
R613, 614	ERD25TJ183	Carbon, 18k $\Omega$ , 1/4W, $\pm$ 5%	2	
R615, 616	ERD25TJ332	Carbon, 3.3k $\Omega$ , 1/4W, $\pm$ 5%	2	
R617, 618	ERD25TJ272	Carbon, 2.7k $\Omega$ , 1/4W, $\pm$ 5%	2	
R619, 620	ERD25TJ104	Carbon, 100k $\Omega$ , 1/4W, $\pm$ 5%	2	
R621, 622	ERG1ANJ332	Metal Film, 3.3k $\Omega$ , 1W, $\pm$ 5%	2	
R623, 624	ERG1ANJ332	Metal Film, 3.3k $\Omega$ , 1W, $\pm$ 5%	2	
R625, 626	ERD14FJ471	Carbon, 470 $\Omega$ , 1/4W, $\pm$ 5%	2	
R627, 628	ERD25TJ392	Carbon, 3.9k $\Omega$ , 1/4W, $\pm$ 5%	2	
R629, 630	ERD14FJ470	Carbon, 47 $\Omega$ , 1/4W, $\pm$ 5%	2	
R631, 632	ERD14FJ221	Carbon, 220 $\Omega$ , 1/4W, $\pm$ 5%	2	
R633, 634	ERD14FJ5R6	Carbon, 5.6 $\Omega$ , 1/4W, $\pm$ 5%	2	
R635, 636	ERD14FJ151	Carbon, 150 $\Omega$ , 1/4W, $\pm$ 5%	2	
R637, 638	ERD14FJ151	Carbon, 150 $\Omega$ , 1/4W, $\pm$ 5%	2	
R639, 640	ERD14FJ5R6	Carbon, 5.6 $\Omega$ , 1/4W, $\pm$ 5%	2	
R641, 642	ERX2ANJ3R3	Metal Film, 3.3 $\Omega$ , 2W, $\pm$ 5%	2	
R643, 644	ERG2ANJ100	Metal Film, 10 $\Omega$ , 2W, $\pm$ 5%	2	
R649, 650	ERD14FJ4R7	Carbon, 4.7 $\Omega$ , 1/4W, $\pm$ 5%	2	
R651, 652	ERD14FJ4R7	Carbon, 4.7 $\Omega$ , 1/4W, $\pm$ 5%	2	
R653, 654	ERD14FJ4R7	Carbon, 4.7 $\Omega$ , 1/4W, $\pm$ 5%	2	
R655, 656	ERD14FJ4R7	Carbon, 4.7 $\Omega$ , 1/4W, $\pm$ 5%	2	
R657, 658	ERF5AKR33	Non-Flammable, 0.33 $\Omega$ , 5W, $\pm$ 10%	2	
R659, 660	ERF5AKR33	Non-Flammable, 0.33 $\Omega$ , 5W, $\pm$ 10%	2	
R661, 662	ERF5AKR33	Non-Flammable, 0.33 $\Omega$ , 5W, $\pm$ 10%	2	
R663, 664	ERF5AKR33	Non-Flammable, 0.33 $\Omega$ , 5W, $\pm$ 10%	2	
R665, 666	ERG2ANJ471	Metal Film, 470 $\Omega$ , 2W, $\pm$ 5%	2	
R701	ERC122GK335	Solid, 3.3M $\Omega$ , 1/2W, $\pm$ 10%	1	
R702	ERD18FAJ2R2	Carbon, 2.2 $\Omega$ , 1/8W, $\pm$ 5%	1	
R703	ERD12FJ122	Carbon, 1.2k $\Omega$ , 1/2W, $\pm$ 5%	1	
R704	ERD14FJ150	Carbon, 15 $\Omega$ , 1/4W, $\pm$ 5%	1	
R705, 706	ERD14FJ682	Carbon, 6.8k $\Omega$ , 1/4W, $\pm$ 5%	2	
R707, 708	ERD18FAJ2R2	Carbon, 2.2 $\Omega$ , 1/8W, $\pm$ 5%	2	
R709, 710	ERD25TJ122	Carbon, 1.2k $\Omega$ , 1/4W, $\pm$ 5%	2	
R711, 712	ERD18FAJ4R7	Carbon, 4.7 $\Omega$ , 1/8W, $\pm$ 5%	2	
R713, 714	ERD14FJ331	Carbon, 330 $\Omega$ , 1/4W, $\pm$ 5%	2	
R715, 716	ERD14FJ331	Carbon, 330 $\Omega$ , 1/4W, $\pm$ 5%	2	
R717	ERG2ANJ331	Metal Film, 330 $\Omega$ , 2W, $\pm$ 5%	1	
R718	ERG1ANJ472	Metal Film, 4.7k $\Omega$ , 1W, $\pm$ 5%	1	
R719	ERG2ANJ222	Metal Film, 2.2k $\Omega$ , 2W, $\pm$ 5%	1	
R720	ERD14FJ680	Carbon, 68 $\Omega$ , 1/4W, $\pm$ 5%	1	
R721	ERD12FJ822	Carbon, 8.2k $\Omega$ , 1/2W, $\pm$ 5%	1	
R722	ERD14FJ470	Carbon, 47 $\Omega$ , 1/4W, $\pm$ 5%	1	
R723	ERD25TJ120	Carbon, 12 $\Omega$ , 1/4W, $\pm$ 5%	1	
R724	ERD25TJ152	Carbon, 1.5k $\Omega$ , 1/4W, $\pm$ 5%	1	
R725	ERD25TJ471	Carbon, 470 $\Omega$ , 1/4W, $\pm$ 5%	1	
R726	ERD12FJ222	Carbon, 2.2k $\Omega$ , 1/2W, $\pm$ 5%	1	
R801, 802	ERG1ANJ152	Metal Film, 1.5k $\Omega$ , 1W, $\pm$ 5%	2	
R803, 804	ERD50TJ221	Carbon, 220 $\Omega$ , 1/2W, $\pm$ 5%	2	
R805, 806	ERD25TJ101	Carbon, 100 $\Omega$ , 1/4W, $\pm$ 5%	2	
R807, 808	ERD25TJ222	Carbon, 2.2k $\Omega$ , 1/4W, $\pm$ 5%	2	
R809, 810	ERD25TJ223	Carbon, 22k $\Omega$ , 1/4W, $\pm$ 5%	2	
R811, 812	ERD25TJ274	Carbon, 270k $\Omega$ , 1/4W, $\pm$ 5%	2	
R813, 814	ERD25TJ562	Carbon, 5.6k $\Omega$ , 1/4W, $\pm$ 5%	2	
R815, 816	ERD25TJ822	Carbon, 8.2k $\Omega$ , 1/4W, $\pm$ 5%	2	
R817, 818	ERD25TJ122	Carbon, 1.2k $\Omega$ , 1/4W, $\pm$ 5%	2	
R819, 820	ERD25TJ181	Carbon, 180 $\Omega$ , 1/4W, $\pm$ 5%	2	
R821, 822	ERD25TJ101	Carbon, 100 $\Omega$ , 1/4W, $\pm$ 5%	2	
R823, 824	ERD25TJ683	Carbon, 68k $\Omega$ , 1/4W, $\pm$ 5%	2	
R825	ERD12FJ100	Carbon, 10 $\Omega$ , 1/2W, $\pm$ 5%	1	
R826	ERD25TJ332	Carbon, 3.3k $\Omega$ , 1/4W, $\pm$ 5%	1	
R827	ERD25TJ123	Carbon, 12k $\Omega$ , 1/4W, $\pm$ 5%	1	
R828	ERD25TJ682	Carbon, 6.8k $\Omega$ , 1/4W, $\pm$ 5%	1	
R829	ERD25TJ822	Carbon, 8.2k $\Omega$ , 1/4W, $\pm$ 5%	1	
R831, 832	ERD25TJ123	Carbon, 12k $\Omega$ , 1/4W, $\pm$ 5%	2	
R837, 838	ERD25TJ681	Carbon, 680 $\Omega$ , 1/4W, $\pm$ 5%	2	
R839, 840	ERD25TJ681	Carbon, 680 $\Omega$ , 1/4W, $\pm$ 5%	2	
R841, 842	ERD25TJ681	Carbon, 680 $\Omega$ , 1/4W, $\pm$ 5%	2	
R843, 844	ERD25TJ681	Carbon, 680 $\Omega$ , 1/4W, $\pm$ 5%	2	
R845, 846	ERD25TJ181	Carbon, 180 $\Omega$ , 1/4W, $\pm$ 5%	2	
R847, 848	ERD25TJ181	Carbon, 180 $\Omega$ , 1/4W, $\pm$ 5%	2	
R849, 850	ERD25TJ181	Carbon, 180 $\Omega$ , 1/4W, $\pm$ 5%	2	

Ref. No.	Part No.	Part Name & Description	Per Set	Remarks
R851, 852	ERD25TJ181	Carbon, 180 $\Omega$ , 1/4W, $\pm$ 5%	2	
R853, 854	ERD25TJ181	Carbon, 180 $\Omega$ , 1/4W, $\pm$ 5%	2	
R855, 856	ERD25TJ181	Carbon, 180 $\Omega$ , 1/4W, $\pm$ 5%	2	
R857, 858	ERD25TJ181	Carbon, 180 $\Omega$ , 1/4W, $\pm$ 5%	2	
R859, 860	ERD25TJ181	Carbon, 180 $\Omega$ , 1/4W, $\pm$ 5%	2	
R901	ERD25TJ153	Carbon, 15k $\Omega$ , 1/4W, $\pm$ 5%	1	
R902	ERD25TJ683	Carbon, 68k $\Omega$ , 1/4W, $\pm$ 5%	1	
R903, 904	ERD25TJ103	Carbon, 10k $\Omega$ , 1/4W, $\pm$ 5%	2	
R905	ERD25TJ183	Carbon, 18k $\Omega$ , 1/4W, $\pm$ 5%	1	
R906	ERD25TJ562	Carbon, 5.6k $\Omega$ , 1/4W, $\pm$ 5%	1	
R907	ERD25TJ274	Carbon, 270k $\Omega$ , 1/4W, $\pm$ 5%	1	
R908	ERD25TJ183	Carbon, 18k $\Omega$ , 1/4W, $\pm$ 5%	1	
R909	ERD25TJ105	Carbon, 1M $\Omega$ , 1/4W, $\pm$ 5%	1	
R910, 911	ERD25TJ103	Carbon, 10k $\Omega$ , 1/4W, $\pm$ 5%	2	
R912	ER025CKG3652	Metal Film, 36.5k $\Omega$ , 1/4W, $\pm$ 2%	1	○
R913	ER025CKG1182	Metal Film, 11.8k $\Omega$ , 1/4W, $\pm$ 2%	1	○
R914	ER025CKG3922	Metal Film, 39.2k $\Omega$ , 1/4W, $\pm$ 2%	1	○
R915	ER025CKG1272	Metal Film, 12.7k $\Omega$ , 1/4W, $\pm$ 2%	1	○
R916	ERD25TJ470	Carbon, 47 $\Omega$ , 1/4W, $\pm$ 5%	1	
R917	ER025CKG1211	Metal Film, 1.21k $\Omega$ , 1/4W, $\pm$ 2%	1	○
R918	ERD25TJ562	Carbon, 5.6k $\Omega$ , 1/4W, $\pm$ 5%	1	
R919	ERD25TJ274	Carbon, 270k $\Omega$ , 1/4W, $\pm$ 5%	1	
R920	ERD25TJ183	Carbon, 18k $\Omega$ , 1/4W, $\pm$ 5%	1	
R921	ERD25TJ105	Carbon, 1M $\Omega$ , 1/4W, $\pm$ 5%	1	
R922, 923	ERD25TJ103	Carbon, 10k $\Omega$ , 1/4W, $\pm$ 5%	2	
R924	ER025CKG3652	Metal Film, 36.5k $\Omega$ , 1/4W, $\pm$ 2%	1	
R925	ER025CKG1182	Metal Film, 11.8k $\Omega$ , 1/4W, $\pm$ 2%	1	
R926	ER025CKG3922	Metal Film, 39.2k $\Omega$ , 1/4W, $\pm$ 2%	1	
R927	ER025CKG1272	Metal Film, 12.7k $\Omega$ , 1/4W, $\pm$ 2%	1	
R928	ERD25TJ470	Carbon, 47 $\Omega$ , 1/4W, $\pm$ 5%	1	
R929	ER025CKG1211	Metal Film, 1.21k $\Omega$ , 1/4W, $\pm$ 2%	1	
R930	ERD25TJ103	Carbon, 10k $\Omega$ , 1/4W, $\pm$ 5%	1	
R931	ERD25TJ154	Carbon, 150k $\Omega$ , 1/4W, $\pm$ 5%	1	
R932	ERD25TJ152	Carbon, 1.5k $\Omega$ , 1/4W, $\pm$ 5%	1	
R933	ERD25TJ103	Carbon, 10k $\Omega$ , 1/4W, $\pm$ 5%	1	
R934	ERD25TJ153	Carbon, 15k $\Omega$ , 1/4W, $\pm$ 5%	1	
R935	ERD25TJ152	Carbon, 1.5k $\Omega$ , 1/4W, $\pm$ 5%	1	
R936	ERD25TJ392	Carbon, 3.9k $\Omega$ , 1/4W, $\pm$ 5%	1	
R937	ERD25TJ103	Carbon, 10k $\Omega$ , 1/4W, $\pm$ 5%	1	
R938	ERD25TJ152	Carbon, 1.5k $\Omega$ , 1/4W, $\pm$ 5%	1	
R939	ERD25TJ103	Carbon, 10k $\Omega$ , 1/4W, $\pm$ 5%	1	
R940	ERD25TJ563	Carbon, 56k $\Omega$ , 1/4W, $\pm$ 5%	1	
R941	ERD25TJ152	Carbon, 1.5k $\Omega$ , 1/4W, $\pm$ 5%	1	
R942	ERD25TJ392	Carbon, 3.9k $\Omega$ , 1/4W, $\pm$ 5%	1	
R943, 944	ERD25TJ154	Carbon, 150k $\Omega$ , 1/4W, $\pm$ 5%	2	
R945, 946	ERD25TJ154	Carbon, 150k $\Omega$ , 1/4W, $\pm$ 5%	2	
R947, 948	ERD25TJ123	Carbon, 12k $\Omega$ , 1/4W, $\pm$ 5%	2	
R949, 950	ERD25TJ471	Carbon, 470 $\Omega$ , 1/4W, $\pm$ 5%	2	
R951	ERD25TJ152	Carbon, 1.5k $\Omega$ , 1/4W, $\pm$ 5%	1	
R952	ERD25TJ393	Carbon, 39k $\Omega$ , 1/4W, $\pm$ 5%	1	
R953	ERD25TJ332	Carbon, 3.3k $\Omega$ , 1/4W, $\pm$ 5%	1	
R954	ERD25TJ122	Carbon, 1.2k $\Omega$ , 1/4W, $\pm$ 5%	1	
R955, 956	ERD25TJ471	Carbon, 470 $\Omega$ , 1/4W, $\pm$ 5%	2	
R957, 958	ERD25TJ123	Carbon, 12k $\Omega$ , 1/4W, $\pm$ 5%	2	
R959	ERD25TJ471	Carbon, 470 $\Omega$ , 1/4W, $\pm$ 5%	1	
R960	ERD25TJ101	Carbon, 100 $\Omega$ , 1/4W, $\pm$ 5%	1	
R961	ERD25TJ822	Carbon, 8.2k $\Omega$ , 1/4W, $\pm$ 5%	1	
R962	ERD25TJ563	Carbon, 56k $\Omega$ , 1/4W, $\pm$ 5%	1	
R963	ERD25TJ822	Carbon, 8.2k $\Omega$ , 1/4W, $\pm$ 5%	1	
R964	ERD25TJ333	Carbon, 33k $\Omega$ , 1/4W, $\pm$ 5%	1	
R965	ERD25TJ391	Carbon, 390 $\Omega$ , 1/4W, $\pm$ 5%	1	
R966, 967	ERD25TJ183	Carbon, 18k $\Omega$ , 1/4W, $\pm$ 5%	2	
R968	ERD25TJ152	Carbon, 1.5k $\Omega$ , 1/4W, $\pm$ 5%	1	
R969	ERD25TJ332	Carbon, 3.3k $\Omega$ , 1/4W, $\pm$ 5%	1	
R970	ERD25TJ152	Carbon, 1.5k $\Omega$ , 1/4W, $\pm$ 5%	1	
R971	ERD25TJ101	Carbon, 100 $\Omega$ , 1/4W, $\pm$ 5%	1	
R972	ERD25TJ183	Carbon, 18k $\Omega$ , 1/4W, $\pm$ 5%	1	
R973	ERD25TJ392	Carbon, 3.9k $\Omega$ , 1/4W, $\pm$ 5%	1	
R974	ERD25TJ153	Carbon, 15k $\Omega$ , 1/4W, $\pm$ 5%	1	
R975, 976	ERD25TJ333	Carbon, 33k $\Omega$ , 1/4W, $\pm$ 5%	2	
VARIABLE RESISTORS				
VR1	EWK22A029BF5	Volume Control, 250k $\Omega$ (B)	1	○
VR2	EWK4A029252	Balance Control, 250k $\Omega$ (BH)	1	○
VR3	EWK6GA029B15	Treble Control, 100k $\Omega$ (B)	1	○
VR4	EWK7KA029B15	Bass Control, 100k $\Omega$ (B)	1	○
VR5	EWK6GA029B15	Middle Control, 100k $\Omega$ (B)	1	○

Ref. No.	Part No.	Part Name & Description
VR101	EVLS3AA00B15	Muting Level Adjustment, 100k $\Omega$
VR102	EVLS3AA00B24	FM Meter Adjustment, 20k $\Omega$ (B)
VR301	EVTS3MA00B14	PLL VCO Adjustment, 10k $\Omega$ (B)
VR302	EVLS3AA00B15	19kHz Level Adjustment, 100k $\Omega$
VR303	EVLS3AA00B14	Separation Adjustment, 10k $\Omega$
VR601, 602	EVLS7AA00B12	ICQ Adjustment, 100 $\Omega$ (B)
VR801, 802	EVLS3AA00B24	LED Lighting Level Adjustment
VR901	EVTS3MA00B52	Comparator Adjustment, 500 $\Omega$
VR902	EVTS3MA00B13	Comparator Adjustment, 1k $\Omega$
VR903	EVTS3MA00B52	Comparator Adjustment, 500 $\Omega$
VR904	EVTS3MA00B13	Comparator Adjustment, 1k $\Omega$
CAPACITORS		
C1, 2	ECCD1H150KC	Ceramic, 15pF, 50V
C3	ECCD1H150KC	Ceramic, 15pF, 50V
C4	ECGN5R91K	Ceramic, 0.91pF, 50V
C5	ECCD1H180KR	Ceramic, 18pF, 50V
C6	ECKD1H102ZF	Ceramic, 0.001 $\mu$ F, 50V
C7	ECKD1H102MDA	Ceramic, 0.001 $\mu$ F, 50V
C8	ECCD1H150KR	Ceramic, 15pF, 50V
C9	ECCD1H030CC	Ceramic, 3pF, 50V
C10	ECCD1H050CC	Ceramic, 5pF, 50V
C11	ECCD1H181K	Ceramic, 180pF, 50V
C12	ECKD1H103ZF	Ceramic, 0.01 $\mu$ F, 50V
C13	ECKD1H223ZF	Ceramic, 0.022 $\mu$ F, 50V
C14	ECCD1H030CC	Ceramic, 3pF, 50V
C15	ECKD1H102ZF	Ceramic, 0.001 $\mu$ F, 50V
C16	ECCD1H220KR	Ceramic, 22pF, 50V
C17	ECCD1H030CC	Ceramic, 3pF, 50V
C18	ECCD1H070DC	Ceramic, 7pF, 50V
C19	ECCD1H390KC	Ceramic, 39pF, 50V
C20	ECCD1H150KC	Ceramic, 15pF, 50V
C21	ECCD1H030CC	Ceramic, 3pF, 50V
C22	ECEA16V47	Electrolytic, 47 $\mu$ F, 16V
C23	ECKD1H103ZF	Ceramic, 0.01 $\mu$ F, 50V
C101	ECQM1H473JZ	Polyester, 0.047 $\mu$ F, 50V
C102	ECKD1H223ZF	Ceramic, 0.022 $\mu$ F, 50V
C103	ECEA50Z3R3	Electrolytic, 3.3 $\mu$ F, 50V
C104, 105	ECKD1H223ZF	Ceramic, 0.022 $\mu$ F, 50V
C106	ECEA50Z3R3	Electrolytic, 3.3 $\mu$ F, 50V
C107	ECEA16V10	Electrolytic, 10 $\mu$ F, 16V
C108	ECCD1H680KC	Ceramic, 68pF, 50V
C109	ECEA50Z1	Electrolytic, 1 $\mu$ F, 50V
C110	ECKD1H223ZF	Ceramic, 0.022 $\mu$ F, 50V
C111	ECEA16V10	Electrolytic, 10 $\mu$ F, 16V
C112, 113	ECKD1H223ZF	Ceramic, 0.022 $\mu$ F, 50V
C114	ECKD1H103ZF	Ceramic, 0.01 $\mu$ F, 50V
C115	ECEA6V330V	Electrolytic, 330 $\mu$ F, 6.3V
C116	ECEA50MR22R	Electrolytic, 0.22 $\mu$ F, 50V
C117	ECKD1H103ZF	Ceramic, 0.01 $\mu$ F, 50V
C118	ECEA50Z1	Electrolytic, 1 $\mu$ F, 50V
C119	ECCD1H020CC	Ceramic, 2pF, 50V
C120	ECEA50Z3R3	Electrolytic, 3.3 $\mu$ F, 50V
C201	ECCD1H030CC	Ceramic, 3pF, 50V
C202	ECCD1H150KC	Ceramic, 15pF, 50V
C203	ECKD1H103ZF	Ceramic, 0.01 $\mu$ F, 50V
C204	ECKD1H223ZF	Ceramic, 0.022 $\mu$ F, 50V
C205	ECKD1H103MD	Ceramic, 0.01 $\mu$ F, 50V
C206	ECQS05361JZ	Styrol, 360pF, 50V
C207	ECKD1H102ZF	Ceramic, 0.001 $\mu$ F, 50V
C208	ECEA50Z3R3	Electrolytic, 3.3 $\mu$ F, 50V
C209	ECKD1H331KB	Ceramic, 330pF, 50V
C210	ECCD1H390KC	Ceramic, 39pF, 50V
C211, 212	ECKD1H103ZF	Ceramic, 0.01 $\mu$ F, 50V
C213, 214	ECEA50VR47	Electrolytic, 0.47 $\mu$ F, 50V
C215	ECEA50VR47	Electrolytic, 0.47 $\mu$ F, 50V
C216	ECQM1H103KZ	Polyester, 0.01 $\mu$ F, 50V
C217	ECEA50Z3R3	Electrolytic, 3.3 $\mu$ F, 50V
C218	ECQM1H103KZ	Polyester, 0.01 $\mu$ F, 50V
C301, 302	ECEA16V47	Electrolytic, 47 $\mu$ F, 16V
C303, 304	ECQM1H273JZ	Polyester, 0.027 $\mu$ F, 50V
C305	ECEA16V10	Electrolytic, 10 $\mu$ F, 16V
C306	ECQM1H103KZ	Polyester, 0.01 $\mu$ F, 50V
C307	ECEA16V10	Electrolytic, 10 $\mu$ F, 16V
C308	ECQM1H103KZ	Polyester, 0.01 $\mu$ F, 50V
C309	ECEA50M1R	Electrolytic, 1 $\mu$ F, 50V
C310, 311	ECQM1H103KZ	Polyester, 0.01 $\mu$ F, 50V

Part No.	Part Name & Description	Per Set	Remarks
<b>EVLS3AA00B15</b>	Muting Level Adjustment, 100kΩ (B)	1	
<b>EVLS3AA00B24</b>	FM Meter Adjustment, 20kΩ (B)	1	
<b>EVTS3MA00B14</b>	PLL VCO Adjustment, 10kΩ (B)	1	
<b>EVLS3AA00B15</b>	19kHz Level Adjustment, 100kΩ (B)	1	
<b>EVLS3AA00B14</b>	Separation Adjustment, 10kΩ (B)	1	
<b>EVLS7AA00B12</b>	ICQ Adjustment, 100Ω (B)	2	
<b>EVLS3AA00B24</b>	LED Lighting Level Adjustment, 20kΩ (B)	2	
<b>EVTS3MA00B52</b>	Comparator Adjustment, 500Ω (B)	1	○
<b>EVTS3MA00B13</b>	Comparator Adjustment, 1kΩ (B)	1	○
<b>EVTS3MA00B52</b>	Comparator Adjustment, 500Ω (B)	1	○
<b>EVTS3MA00B13</b>	Comparator Adjustment, 1kΩ (B)	1	○

## CAPACITORS

<b>ECCD1H150KC</b>	Ceramic, 15pF, 50V, ±10%	2	
<b>ECCD1H150KC</b>	Ceramic, 15pF, 50V, ±10%	1	
<b>ECCN5R91K</b>	Ceramic, 0.91pF, 50V, ±10%	1	
<b>ECCD1H180KR</b>	Ceramic, 18pF, 50V, ±10%	1	
<b>ECKD1H102ZF</b>	Ceramic, 0.001μF, 50V, ±20%	1	
<b>ECKD1H102MDA</b>	Ceramic, 0.001μF, 50V, ±20%	1	
<b>ECCD1H150KR</b>	Ceramic, 15pF, 50V, ±10%	1	
<b>ECCD1H030CC</b>	Ceramic, 3pF, 50V, ±0.25pF	1	
<b>ECCD1H050CC</b>	Ceramic, 5pF, 50V, ±0.25pF	1	
<b>ECCD1H181K</b>	Ceramic, 180pF, 50V, ±10%	1	
<b>ECKD1H103ZF</b>	Ceramic, 0.01μF, 50V, ±20%	1	
<b>ECKD1H223ZF</b>	Ceramic, 0.022μF, 50V, ±20%	1	
<b>ECCD1H030CC</b>	Ceramic, 3pF, 50V, ±0.25pF	1	
<b>ECKD1H102ZF</b>	Ceramic, 0.001μF, 50V, ±20%	1	
<b>ECCD1H220KR</b>	Ceramic, 22pF, 50V, ±10%	1	
<b>ECCD1H030CC</b>	Ceramic, 3pF, 50V, ±0.25pF	1	
<b>ECCD1H070DC</b>	Ceramic, 7pF, 50V, ±0.5pF	1	
<b>ECCD1H390KC</b>	Ceramic, 39pF, 50V, ±10%	1	
<b>ECCD1H150KC</b>	Ceramic, 15pF, 50V, ±10%	1	
<b>ECCD1H030CC</b>	Ceramic, 3pF, 50V, ±0.25pF	1	
<b>ECEA16V47</b>	Electrolytic, 47μF, 16V	1	
<b>ECKD1H103ZF</b>	Ceramic, 0.01μF, 50V, ±20%	1	
<b>ECQM1H473JZ</b>	Polyester, 0.047μF, 50V, ±5%	1	
<b>ECKD1H223ZF</b>	Ceramic, 0.022μF, 50V, ±20%	1	
<b>ECEA50Z3R3</b>	Electrolytic, 3.3μF, 50V	1	
<b>ECKD1H223ZF</b>	Ceramic, 0.022μF, 50V, ±20%	2	
<b>ECEA50Z3R3</b>	Electrolytic, 3.3μF, 50V	1	
<b>ECEA16V10</b>	Electrolytic, 10μF, 16V	1	
<b>ECCD1H680KC</b>	Ceramic, 68pF, 50V, ±10%	1	
<b>ECEA50Z1</b>	Electrolytic, 1μF, 50V	1	
<b>ECKD1H223ZF</b>	Ceramic, 0.022μF, 50V, ±20%	1	
<b>ECEA16V10</b>	Electrolytic, 10μF, 16V	1	
<b>ECKD1H223ZF</b>	Ceramic, 0.022μF, 50V, ±20%	2	
<b>ECKD1H103ZF</b>	Ceramic, 0.01μF, 50V, ±20%	1	
<b>ECEA6V330V</b>	Electrolytic, 330μF, 6.3V	1	
<b>ECEA50MR22R</b>	Electrolytic, 0.22μF, 50V	1	
<b>ECKD1H103ZF</b>	Ceramic, 0.01μF, 50V, ±20%	1	
<b>ECEA50Z1</b>	Electrolytic, 1μF, 50V	1	
<b>ECCD1H020CC</b>	Ceramic, 2pF, 50V, ±0.25pF	1	
<b>ECEA50Z3R3</b>	Electrolytic, 3.3μF, 50V	1	
<b>ECCD1H030CC</b>	Ceramic, 3pF, 50V, ±0.25pF	1	
<b>ECCD1H150KC</b>	Ceramic, 15pF, 50V, ±10%	1	
<b>ECKD1H103ZF</b>	Ceramic, 0.01μF, 50V, ±20%	1	
<b>ECKD1H223ZF</b>	Ceramic, 0.022μF, 50V, ±20%	1	
<b>ECKD1H103MD</b>	Ceramic, 0.01μF, 50V, ±20%	1	
<b>ECQS05361JZ</b>	Styrol, 360pF, 50V, ±5%	1	
<b>ECKD1H102ZF</b>	Ceramic, 0.001μF, 50V, ±20%	1	
<b>ECEA50Z3R3</b>	Electrolytic, 3.3μF, 50V	1	
<b>ECKD1H331KB</b>	Ceramic, 330pF, 50V, ±10%	1	
<b>ECCD1H390KC</b>	Ceramic, 39pF, 50V, ±10%	1	
<b>ECKD1H103ZF</b>	Ceramic, 0.01μF, 50V, ±20%	2	
<b>ECEA50VR47</b>	Electrolytic, 0.47μF, 50V	2	
<b>ECEA50VR47</b>	Electrolytic, 0.47μF, 50V	1	
<b>ECQM1H103KZ</b>	Polyester, 0.01μF, 50V, ±10%	1	
<b>ECEA50Z3R3</b>	Electrolytic, 3.3μF, 50V	1	
<b>ECQM1H103KZ</b>	Polyester, 0.01μF, 50V, ±10%	1	
<b>ECEA16V47</b>	Electrolytic, 47μF, 16V	2	
<b>ECQM1H273JZ</b>	Polyester, 0.027μF, 50V, ±5%	2	
<b>ECEA16V10</b>	Electrolytic, 10μF, 16V	1	
<b>ECQM1H103KZ</b>	Polyester, 0.01μF, 50V, ±10%	1	
<b>ECEA16V10</b>	Electrolytic, 10μF, 16V	1	
<b>ECQM1H103KZ</b>	Polyester, 0.01μF, 50V, ±10%	1	
<b>ECEA50M1R</b>	Electrolytic, 1μF, 50V	1	
<b>ECQM1H103KZ</b>	Polyester, 0.01μF, 50V, ±10%	2	

Ref. No.	Part No.	Part Name & Description	Per Set	Remarks
C312	<b>ECEA16V10</b>	Electrolytic, 10μF, 16V	1	
C313	<b>ECQS05562JZ</b>	Styrol, 560pF, 50V, ±5%	1	
C314, 315	<b>ECQM1H103KZ</b>	Polyester, 0.01μF, 50V, ±10%	2	
C316	<b>ECEA50VR47</b>	Electrolytic, 0.47μF, 50V	1	
C317	<b>ECEA50MR22R</b>	Electrolytic, 0.22μF, 50V	1	
C318	<b>ECQS05471JZ</b>	Styrol, 470pF, 50V, ±5%	1	
C320	<b>ECQM1H153KZ</b>	Polyester, 0.015μF, 50V, ±10%	1	
C321, 322	<b>ECQM1H152KZ</b>	Polyester, 0.0015μF, 50V, ±10%	2	
C323, 324	<b>ECEA50M3R3R</b>	Electrolytic, 3.3μF, 50V	2	
C325, 326	<b>ECEA50M3R3R</b>	Electrolytic, 3.3μF, 50V	2	
C327	<b>ECEA16V47</b>	Electrolytic, 47μF, 16V	1	
C328	<b>ECKD1H471KB</b>	Ceramic, 470pF, 50V, ±10%	1	
C329, 330	<b>ECEA50M3R3R</b>	Electrolytic, 3.3μF, 50V	2	
C401, 402	<b>ECEA50M3R3R</b>	Electrolytic, 3.3μF, 50V	2	
C403, 404	<b>ECKD1H222ZF</b>	Ceramic, 0.0022μF, 50V, ±20%	2	
C405, 406	<b>ECKD1H471KB</b>	Ceramic, 470pF, 50V, ±10%	2	
C407, 408	<b>ECCD1H150KC</b>	Ceramic, 15pF, 50V, ±10%	2	
C409, 410	<b>ECEA16V33</b>	Electrolytic, 33μF, 16V	2	
C411, 412	<b>ECEA6V330V</b>	Electrolytic, 330μF, 6.3V	2	
C413, 414	<b>ECEA50N1</b>	Non-Polar Electrolytic, 1μF, 50V, ±20%	2	
C415, 416	<b>FCQF1393GZN</b>	Polypropylene, 0.039μF, 100V, ±2%	2	
C417, 418	<b>ECQF1103GZN</b>	Polypropylene, 0.01μF, 100V, ±2%	2	
C419, 420	<b>ECQM1H102JZ</b>	Polyester, 0.001μF, 50V, ±5%	2	
C421, 422	<b>ECQM1H102JZ</b>	Polyester, 0.001μF, 50V, ±5%	2	
C423, 424	<b>ECEA50V47V</b>	Electrolytic, 47μF, 50V	2	
C425, 426	<b>ECCD1H390KC</b>	Ceramic, 39pF, 50V, ±10%	2	
C501, 502	<b>ECEA50MR68R</b>	Electrolytic, 0.68μF, 50V	2	
C503, 504	<b>ECCD1H470K</b>	Ceramic, 47pF, 50V, ±10%	2	
C505, 506	<b>ECEA6V330V</b>	Electrolytic, 330μF, 6.3V	2	
C507, 508	<b>ECEA10V100V</b>	Electrolytic, 100μF, 10V	2	
C509, 510	<b>ECEA25Z4R7</b>	Electrolytic, 4.7μF, 25V	2	
C511, 512	<b>ECQM1H823KZ</b>	Polyester, 0.082μF, 50V, ±10%	2	
C513, 514	<b>ECQM1H223KZ</b>	Polyester, 0.022μF, 50V, ±10%	2	
C515, 516	<b>ECQM1H152KZ</b>	Polyester, 0.0015μF, 50V, ±10%	2	
C519, 520	<b>FCQM1H223KZ</b>	Polyester, 0.022μF, 50V, ±10%	2	
C521, 522	<b>ECEA50MR68R</b>	Electrolytic, 0.68μF, 50V	2	
C523, 524	<b>ECCD1H470K</b>	Ceramic, 47pF, 50V, ±10%	2	
C525, 526	<b>ECEA6V330V</b>	Electrolytic, 330μF, 6.3V	2	
C527, 528	<b>ECEA50M1R</b>	Electrolytic, 1μF, 50V	2	
C529, 530	<b>ECQM1H682KZ</b>	Polyester, 0.0068μF, 50V, ±10%	2	
C531, 532	<b>ECQM1H273KZ</b>	Polyester, 0.027μF, 50V, ±10%	2	
C533, 534	<b>ECQM1H392KZ</b>	Polyester, 0.0039μF, 50V, ±10%	2	
C535, 536	<b>ECQM1H392KZ</b>	Polyester, 0.0039μF, 50V, ±10%	2	
C537, 538	<b>ECQM1H392KZ</b>	Polyester, 0.0039μF, 50V, ±10%	2	
C539, 540	<b>ECEA50M4R7R</b>	Electrolytic, 4.7μF, 50V	2	
C541, 542	<b>ECEA25V47V</b>	Electrolytic, 47μF, 25V	2	
C543, 544	<b>ECQM1H392KZ</b>	Polyester, 0.0039μF, 50V, ±10%	2	
C545, 546	<b>ECQM1H333KZ</b>	Polyester, 0.033μF, 50V, ±10%	2	
C547, 548	<b>ECKD1H681KB</b>	Ceramic, 680pF, 50V, ±10%	2	
C549, 550	<b>ECEA50M1R</b>	Electrolytic, 1μF, 50V	2	
C551, 552	<b>ECEA50M1R</b>	Electrolytic, 1μF, 50V	2	
C553, 554	<b>ECEA25V47V</b>	Electrolytic, 47μF, 25V	2	
C561, 562	<b>ECCD1H390K</b>	Ceramic, 39pF, 50V, ±10%	2	
C601, 602	<b>ECEA50M1R</b>	Electrolytic, 1μF, 50V	2	
C603, 604	<b>ECCD1H101K</b>	Ceramic, 100pF, 50V, ±10%	2	
C605, 606	<b>ECKD1H221KB</b>	Ceramic, 220pF, 50V, ±10%	2	
C607, 608	<b>ECCD2H070D</b>	Ceramic, 7pF, 500V, ±0.5pF	2	
C609, 610	<b>ECEA16V33</b>	Electrolytic, 33μF, 16V	2	
C611, 612	<b>ECEA50V100V</b>	Electrolytic, 100μF, 50V	2	
C613, 614	<b>ECCD2H270K</b>	Ceramic, 27pF, 500V, ±10%	2	
C615, 616	<b>ECKD1H681KB</b>	Ceramic, 680pF, 50V, ±10%	2	
C617, 618	<b>ECKD1H681KB</b>	Ceramic, 680pF, 50V, ±10%	2	
C619, 620	<b>ECCD2H680K</b>	Ceramic, 68pF, 500V, ±10%	2	
C621, 622	<b>ECCD2H680K</b>	Ceramic, 68pF, 500V, ±10%	2	
C623, 624	<b>ECQM1473KZ</b>	Polyester, 0.047μF, 100V, ±10%	2	
C625, 626	<b>ECKD1H103ZF</b>	Ceramic, 0.01μF, 50V, ±20%	2	
C629, 630	<b>ECCD1H100K</b>	Ceramic, 10pF, 50V, ±10%	2	
C631, 632	<b>ECCD1H181K</b>	Ceramic, 180pF, 50V, ±10%	2	
C702	<b>ECEA35V100V</b>	Electrolytic, 100μF, 35V	1	
C703	<b>ECEA35V470V</b>	Electrolytic, 470μF, 35V	1	
C704	<b>ECEA25V330V</b>	Electrolytic, 330μF, 25V	1	
C705, 706	<b>ECEM80R153Z</b>	Electrolytic, 15000μF, 80V	2	○
C707	<b>ECEA25V10</b>	Electrolytic, 10μF, 25V	1	
C708, 709	<b>ECEA100V47V</b>	Electrolytic, 47μF, 100V	2	
C710, 711	<b>ECKD1H103ZF</b>	Ceramic, 0.01μF, 50V, ±20%	2	
C712, 713	<b>ECEA100V47V</b>	Electrolytic, 47μF, 100V	2	
C714	<b>ECEA100V100A</b>	Electrolytic, 100μF, 100V	1	
C715	<b>ECEA35V100V</b>	Electrolytic, 100μF, 35V	1	

Ref. No.	Part No.	Part Name & Description	Per Set	Remarks
C716	ECEA100V100A	Electrolytic, 100μF, 100V	1	
C717	ECKD1H103ZF	Ceramic, 0.01μF, 50V, ±20%	1	
C718	ECSCA1CS471	Electrolytic, 470μF, 16V	1	
C719, 720	ECEA50V47V	Electrolytic, 47μF, 50V	2	
C721	ECEA25V220V	Electrolytic, 220μF, 25V	1	
C722	ECEA25V100V	Electrolytic, 100μF, 25V	1	
C801, 802	ECEA50Z1	Electrolytic, 1μF, 50V	2	
C803, 804	ECEA16V10	Electrolytic, 10μF, 16V	2	
C805, 806	ECEA16V10	Electrolytic, 10μF, 16V	2	
C807	ECKD1H102ZF	Ceramic, 0.001μF, 50V, ±20%	1	
C808, 809	ECEA16V10	Electrolytic, 10μF, 16V	2	
C901	ECEA35V4R7	Electrolytic, 4.7μF, 35V	1	
C902, 903	ECKD1H103ZF	Ceramic, 0.01μF, 50V, ±20%	2	
C904, 905	ECKD1H103ZF	Ceramic, 0.01μF, 50V, ±20%	2	
C907	ECKD1H102ZF	Ceramic, 0.001μF, 50V, ±20%	1	
C908	ECEA16V10	Electrolytic, 10μF, 16V	1	
C909	ECEA25N4R7	Non-Polar Electrolytic, 4.7μF, 25V	1	
C910	ECEA16V33	Electrolytic, 33μF, 16V	1	
C911	ECKD1H102ZF	Ceramic, 0.001μF, 50V, ±20%	1	
C912, 913	ECKD1H103ZF	Ceramic, 0.01μF, 50V, ±20%	2	
C914, 915	ECKD1H103ZF	Ceramic, 0.01μF, 50V, ±20%	2	
C916, 917	ECKD1H223ZF	Ceramic, 0.022μF, 50V, ±20%	2	
C918	ECEA16V33	Electrolytic, 33μF, 16V	1	
C919	ECKD1H102ZF	Ceramic, 0.001μF, 50V, ±20%	1	
C920	ECQM1H274KZ	Polyester, 0.27μF, 50V, ±10%	1	
C921	ECEA50Z1	Electrolytic, 1μF, 50V	1	
C922	ECKD1H102ZF	Ceramic, 0.001μF, 50V, ±20%	1	
C923	ECEA16V33	Electrolytic, 33μF, 16V	1	
C924	ECEA16N220V	Non-Polar Electrolytic, 220μF, 16V	1	
C925	ECEA35V4R7	Electrolytic, 4.7μF, 35V	1	
C926	ECEA1HS2R2	Electrolytic, 2.2μF, 50V	1	
C927	ECEA35V3R3	Electrolytic, 3.3μF, 35V	1	
C928	ECQM2104KZ	Polyester, 0.1μF, 200V, ±10%	1	
C929	ECKD2H103PE	Ceramic, 0.01μF, 500V, ±10%	1	
C931, 932	ECKD1H103ZF	Ceramic, 0.01μF, 50V, ±20%	2	
C1001	ECEA16V10	Electrolytic, 10μF, 16V	1	
C1002, 1003 [M]	ECQU1A103MD	Polyester, 0.01μF, 125VAC, ±20%	2	
C1002, 1003 [MC]	ECQU1A103MC	Polyester, 0.01μF, 125VAC, ±20%	2	
VARIABLE CAPACITOR				
CV1, 2, 3, 4, 201, 202 (CT1, 2, 3, 4, 201, 202)	ECVC763J124A	Variable Capacitor, with Trimmer	1	
COMPONENT COMBINATIONS				
Z201	EXRF203Z471	Component Combination, AM Detector	1	
Z601, 602, 702	EXRFS203ZS	Component Combination, Relay & Rectifier	3	○
Z701	RXAF103P22HD	Component Combination, Rectifier	1	
RELAYS				
RLY601	SSY47	Relay, Muting & Protection	1	○
RLY701	SSY35	Relay, Transformer Coil Tap Selection	1	
FUSES				
F1	XBA1F80NU14	Fuse, 8A (125V) Primary	1	○
F2	XBA1F20NU14	Fuse, 2A (125V) Lamp	1	○
F3	XBA1F16NU14	Fuse, 1.6A (125V) RF Circuit	1	○
LAMPS				
PL1, 2, 3, 4	XAMR62S	Lamp, Dial (6.3V 0.25A)	4	
SWITCHES				
S1	ESRM164F25A	Switch, Selector	1	○
S2, 3	SSL95	Switch, Rec Mode & Tape Monitor	2	○
S4	SSL97	Switch, FM Muting	1	○
S5	SSL99	Switch, Mode	1	○
S6, 7	SSH239S	Switch	1	
S8, 9, 10	SSL97	Switch, Loudness, AF Muting & Tone	3	○
S11, 12	SSL93	Switch, High & Low Filter	2	○
S15, 17	SSH63S	Switch, Sensitivity & Display OFF	2	
S13, 14	SSH245	Switch, Speakers (Main & Remote)	1	○
S16	SSL81	Switch, Power	1	○

# Service Manual

Cassette Receiver

SA-X800

**Supplement**

Color

(K)...Black Type

Color	Area
(K)	[EG].....F.R Germany

Please file and use this supplement manual together with the service manual for Model No. SA-X800, Order No. HAD8706175C2.

**Note:**

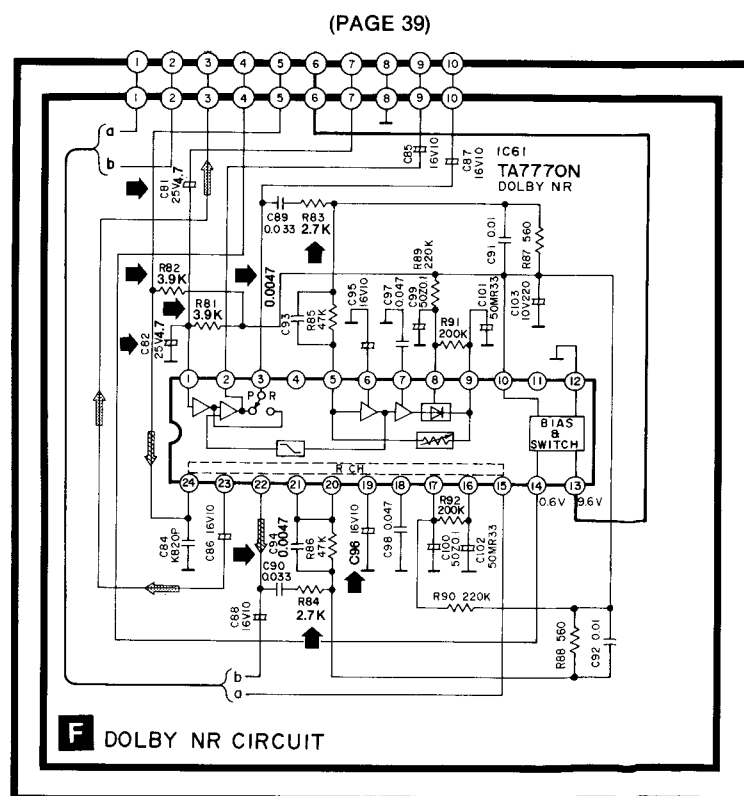
1. This supplement is issued to correct the incorrect values of components shown in the DOLBY NR CIRCUIT schematic diagram.
2. Also included are additional electronic components of the DOLBY NR CIRCUIT in the replacement parts list.

**ADDITION****REPLACEMENT PARTS LIST**

Ref No.	Part No.	Value
<b>INTEGRATED CIRCUIT</b>		
IC61	TA7770N	I.C, DOLBY-NR
<b>RESISTORS</b>		
R81, R82	ERDS2TJ392	1/4W, 3.9kΩ
R83, R84	ERDS2TJ272	1/4W, 2.7kΩ
R85, R86	ERDS2TJ473	1/4W, 47kΩ
R87, R88	ERDS2TJ561	1/4W, 560Ω
R89, R90	ERDS2TJ224	1/4W, 220kΩ
R91, R92	ERDS2TJ204	1/4W, 200kΩ
<b>CAPACITORS</b>		
C81, C82	ECEA1EU4R7	25V, 4.7μF
C83, C84	RCBS1H821KBY	50V, 820pF
C85, C86	ECEA1CU100	16V, 10μF
C87, C88	ECEA1CU100	16V, 10μF
C89, C90	ECQM1H333JZ	50V, 0.033μF
C91, C92	ECQB1H103JZ	50V, 0.01μF
C93, C94	ECQB1H472JZ	50V, 0.0047μF
C95, C96	ECEA1CU100	16V, 10μF
C97, C98	ECFD1V473KD	35V, 0.047μF
C99, C100	ECEA1HSR1	50V, 0.1μF
C101, C102	ECAG25ER33	25V, 0.33μF
C103	ECEA1AU221	10V, 220μF

**CORRECTION**

➡ mark (only)

**SCHEMATIC DIAGRAM**
**Technics**

Matsushita Electric Trading Co., Ltd.  
P.O. Box 288, Central Osaka Japan

Printed in Japan  
H871102300 IM

# Service Manual

Cassette Receiver

SA-X800L

**Supplement**

Color

(K)...Black Type

Please file and use this supplement manual together with the service manual for Model No. SA-X800L, Order No. HAD8704073C8.

Color	Areas
(K)	[E, E5]...Continental Europe.
(K)	[EB] .....Belgium.
(K)	[EF] .....France.
(K)	[EK] .....United Kingdom.
(K)	[EH] .....Holland.
(K)	[XL] .....Australia.

**Note:**

1. This supplement is issued to correct the incorrect values of components shown in the DOLBY NR CIRCUIT schematic diagram.
2. Also included are additional electronic components of the DOLBY NR CIRCUIT in the replacement parts list.

**ADDITION****REPLACEMENT PARTS LIST**

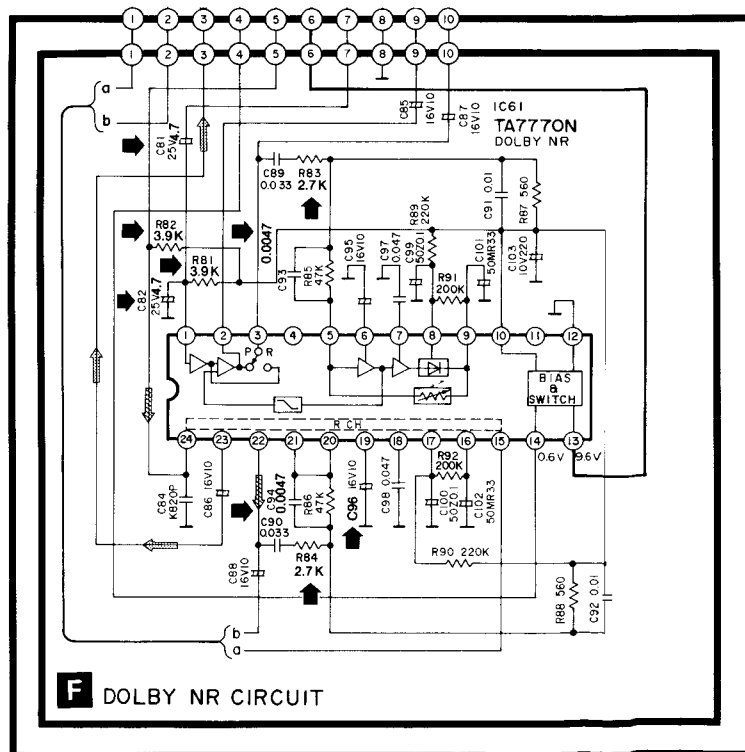
Ref No.	Part No.	Value
<b>INTEGRATED CIRCUIT</b>		
IC61	TA7770N	I.C, DOLBY-NR
<b>RESISTORS</b>		
R81, R82	ERDS2TJ392	1/4W, 3.9kΩ
R83, R84	ERDS2TJ272	1/4W, 2.7kΩ
R85, R86	ERDS2TJ473	1/4W, 47kΩ
R87, R88	ERDS2TJ561	1/4W, 560Ω
R89, R90	ERDS2TJ224	1/4W, 220kΩ
R91, R92	ERDS2TJ204	1/4W, 200kΩ
<b>CAPACITORS</b>		
C81, C82	ECEA1EU4R7	25V, 4.7μF
C83, C84	RCBS1H821KBY	50V, 820pF
C85, C86	ECEA1CU100	16V, 10μF
C87, C88	ECEA1CU100	16V, 10μF
C89, C90	ECQM1H333JZ	50V, 0.033μF
C91, C92	ECQB1H103JZ	50V, 0.01μF
C93, C94	ECQB1H472JZ	50V, 0.0047μF
C95, C96	ECEA1CU100	16V, 10μF
C97, C98	ECFD1V473KD	35V, 0.047μF
C99, C100	ECEA1HSR1	50V, 0.1μF
C101, C102	ECAG25ER33	25V, 0.33μF
C103	ECEA1AU221	10V, 220μF

**CORRECTION**

➡ mark (only)

**SCHEMATIC DIAGRAM**

(PAGE 39)


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