ORDER NO. SD7804-1349

Service Manual

SA-800

FM/AM STEREO RECEIVER

SA-800

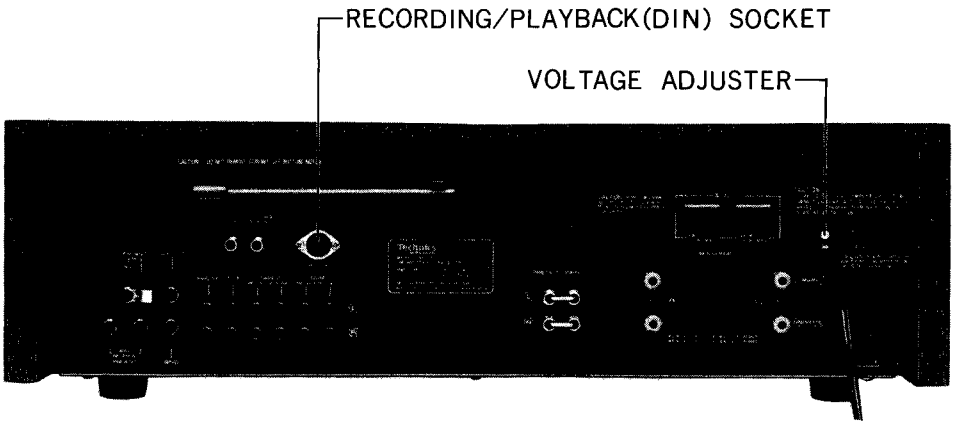
(FE), (ES)

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

For additional information, please refer to ...vice 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	**PHONO** 2.5mV/47 kilohms **AUX** 150mV/47 kilohms **PLAYBACK (TAPE 1, 2)** 150mV/47 kilohms		**PHONO** 2.5mV/47 kilohms **AUX** 150mV/47 kilohms **PLAYBACK (TAPE 1)** 180mV/47 kilohms **PLAYBACK (TAPE 2)** 150mV/47 kilohms **REC/PLAY** 180mV/47 kilohms
Output voltage	**PRE OUT** rated 1V, maximum 3V **REC OUT (TAPE 1, 2)** 150mV		**PRE OUT** rated 1V, maximum 3V **REC OUT (TAPE 1, 2)** 150mV **REC/PLAY** 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
by Panasonic

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

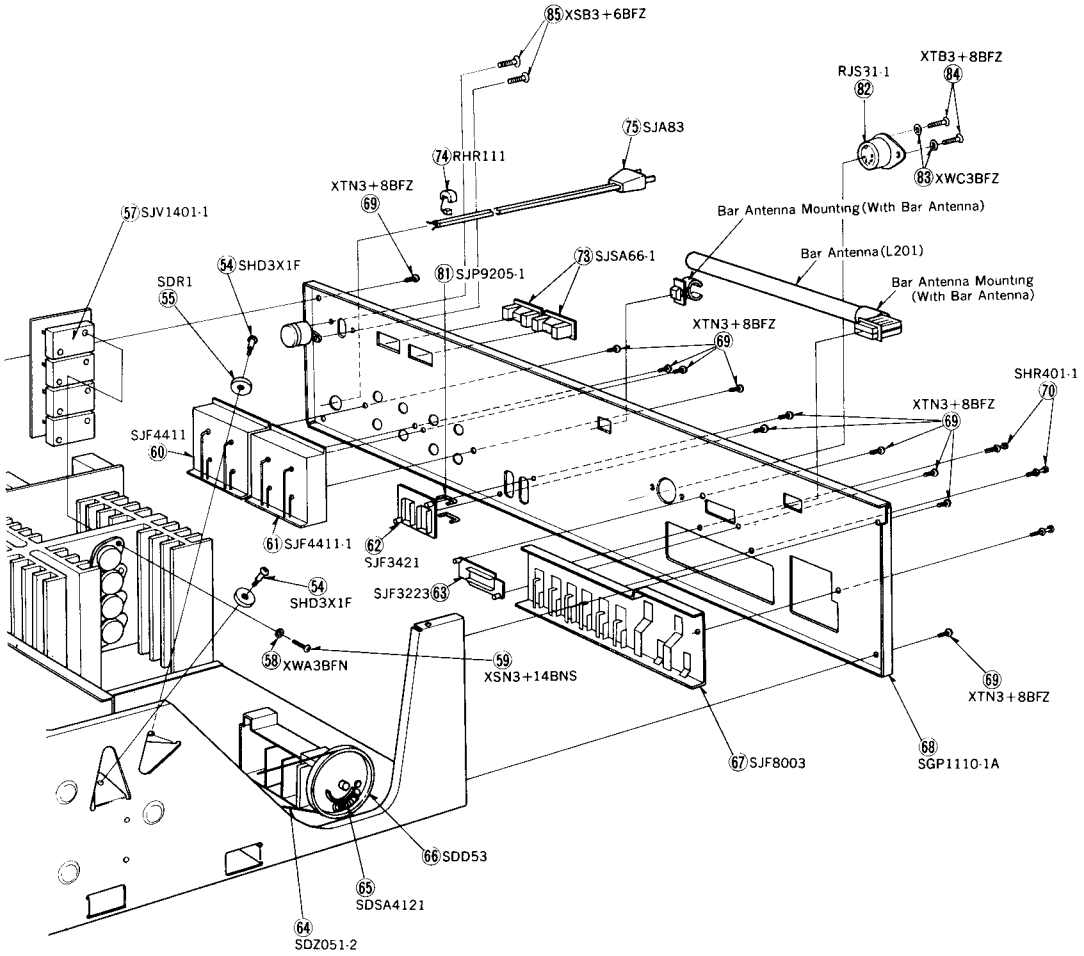
Matsushita Electric Trading Co., Ltd.
P.O.Box 288, Central Osaka Japan

CHANGES

■ REPLACEMENT PARTS LIST

Ref. No.	Change of Part No. SA-800 (M), (MC)	→ SA-800 (FE), (ES)	Part Name & Description	Per Set (Pcs.)		Remarks
TRANSISTORS						
TR501, 502	2SA720-R	2SA902S-F	AF Amplifier (Use in ranks F or G) Ⓢ	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% Ⓢ	2		
R561, 562	ERD25TJ473	ERD25TJ274	Carbon, 270kΩ, 1/4W, ±5% Ⓢ	2		
R563, 564	ERD25TJ184	ERD25TJ683	Carbon, 68kΩ, 1/4W, ±5% Ⓢ	2		
R607, 608	ERD25TJ124	ERD25TJ823	Carbon, 82kΩ, 1/4W, ±5% Ⓢ	2		
R613, 614	ERD25TJ183	ERD25TJ562	Carbon, 5.6kΩ, 1/4W, ±5% Ⓢ	2		
R702	ERD18FAJ2R2	Deletion	----------	0		
R1001, 1002	–	ERD25TJ394	Carbon, 390kΩ, 1/4W, ±5% Ⓢ	2		
R1003, 1004	–	ERD25TJ104	Carbon, 100kΩ, 1/4W, ±5% Ⓢ	2		
R1005 ~ 1008	–	ERD25TJ472	Carbon, 4.7kΩ, 1/4W, ±5% Ⓢ	4		
CAPACITORS						
C521, 522	ECEA50MR68R	ECEA50M4R7R	Electrolytic, 4.7μF, 50V Ⓢ	2		
C551, 552	ECEA50M1R	ECEA50M4R7R	Electrolytic, 4.7μF, 50V Ⓢ	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 Ⓢ	1		
C1002, 1003	ECQU1A103MD (M) ECQU1A103MC (MC)	ECQU1A103MD	Polyester, 0.01μF, 125VAC, ±20%	2		
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) SGP1110B (MC)	SGP1110-1A	Rear Panel	1		○
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) SPG1347 (MC)	SPG1377	Carton Box	1		○
P7	SQF1755 (M) SQF1757 (MC)	SQF1831	Instructions Book, Printed Matter	1		○

■ EXPLODED VIEWS

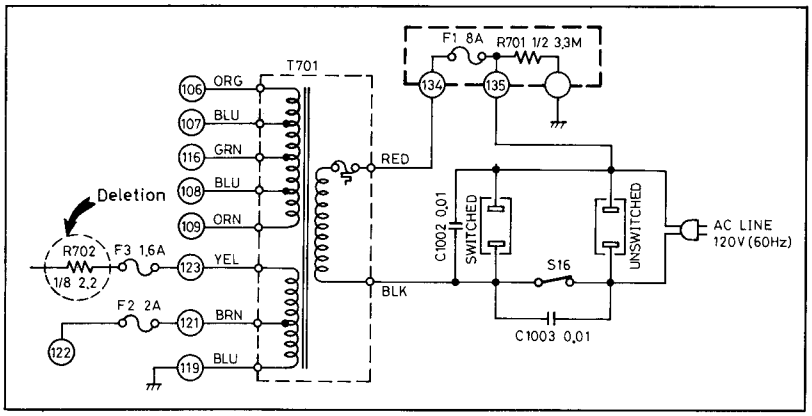


Ref. No.	Part No.	Part Name & Description	Per Set	Remarks
51	XWC3BFZ	Washer, Fuse Circuit Board Screw	1	
52	SNE55	Lug, Ground	1	
53	XTN3+8B	Screw, Meter Bracket M'tg	1	
54	SHD3X1F	Shaft, Pulley	3	*
55	SDR1	Pulley, Dial	3	
56	SMM23	Bracket, Meter	1	*
57	SJV1401-1	Socket, Power Transistors	8	
58	XWA3BFN	Washer, Power Transistors Screw	16	
59	XSN3+14BNS	Screw, Power Transistors M'tg	16	
60	SJF4411	Terminal, Speakers (Left)	1	
61	SJF4411-1	Terminal, Speakers (Right)	1	
62	SJF3421	Terminla, 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



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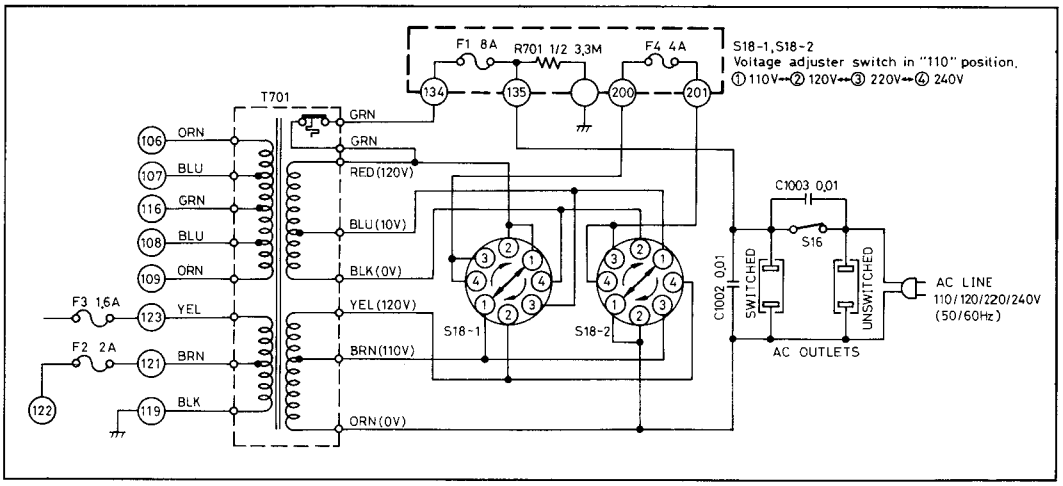
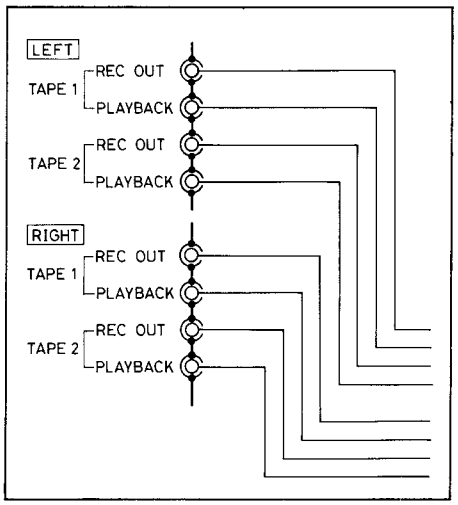


● Tape deck connection terminal



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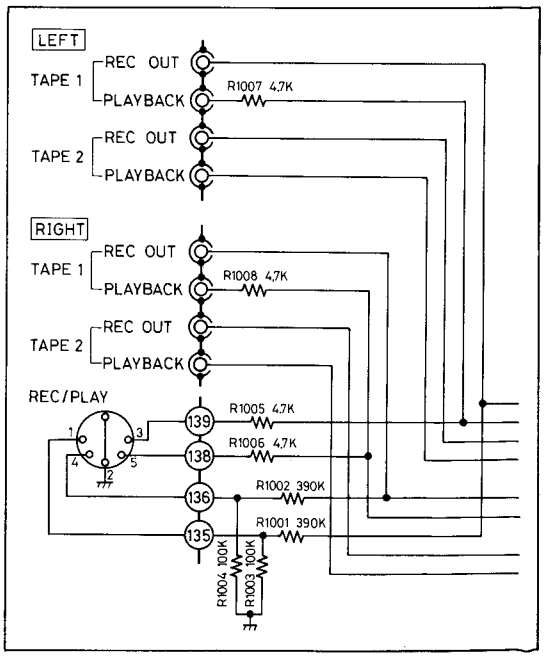

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ORDER NO. SD7801-1295

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, $^{+0}_{-1}$dB
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 ±0.2dB
AUX	20Hz ~ 20kHz, $^{+0}_{-0.3}$dB
	10Hz ~ 40 kHz, $^{+0}_{-1}$dB
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 (TAPE1, 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
	1.8μV (IHF '58)
50 dB quieting sensitivity	
MONO	13.2dBf, (2.5μV IHF '58)
STEREO	36.2dBf, (35.4μV 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, $^{+0.2}_{-0.8}$dB
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	300Ω, 75Ω

AM TUNER SECTION

Frequency range	525 ~ 1605kHz
Sensitivity	30μV, 250μV/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 120V 60Hz
Dimensions (W x H x D)	22⅞" x 6¾" x 15⅝"
	(582 x 177 x 393)mm
Weight	41.9 lb. (19kg)

Weights and dimensions shown are approximate.

Technics by Panasonic

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Matsushita Electric of Canada Ltd.
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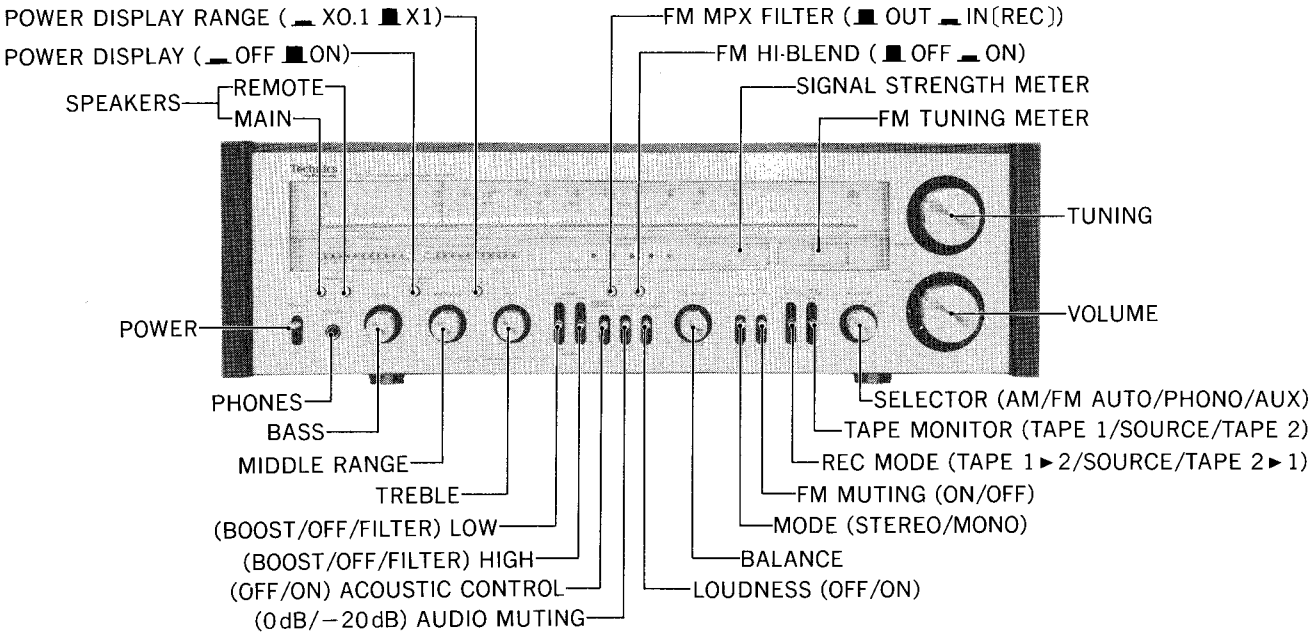
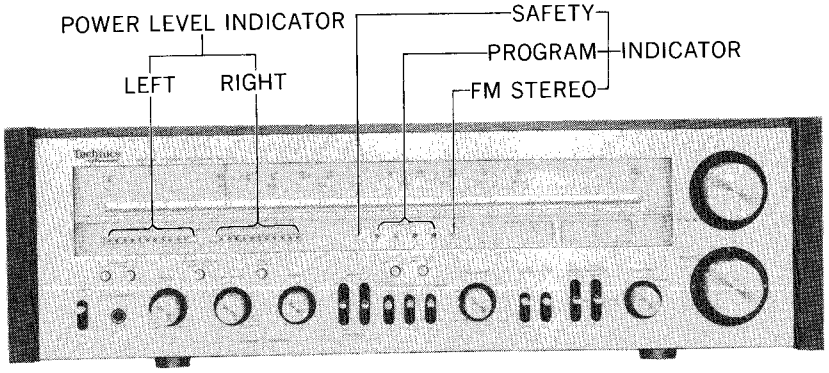
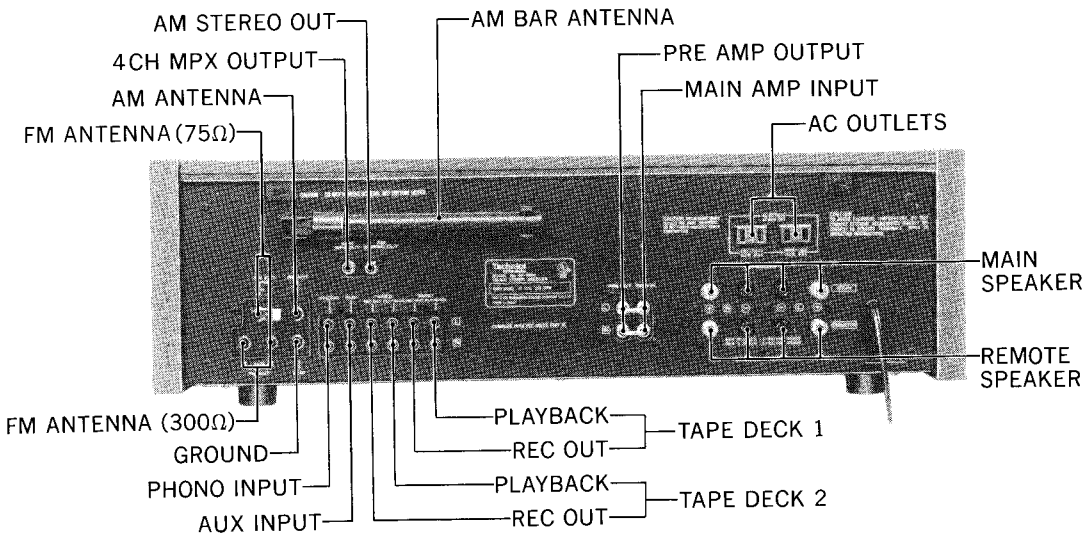
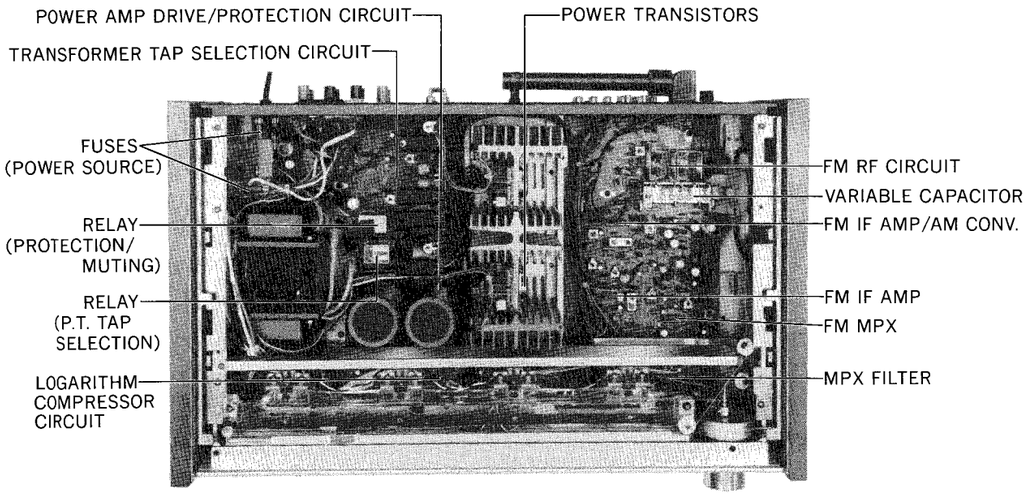
Ontario, Canada M9W 1B5

■ 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 8Ω or more, or to the low-voltage tap if the load is 6Ω or less.

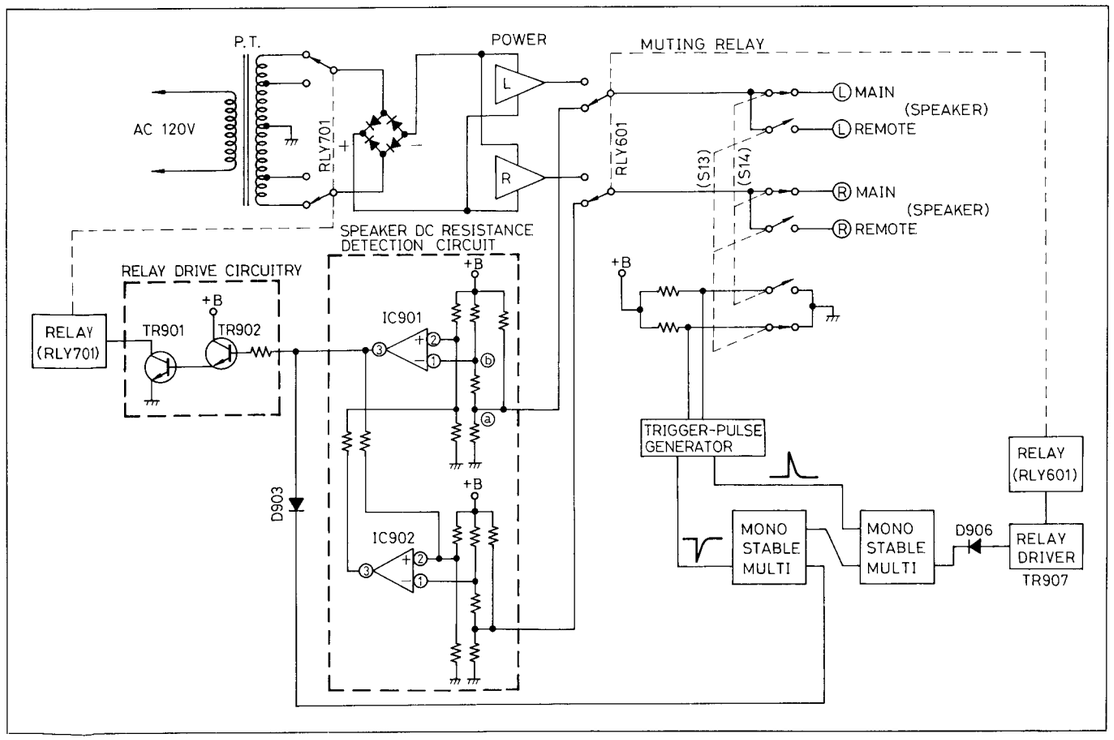


Fig. 1

- **Operation principles**

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

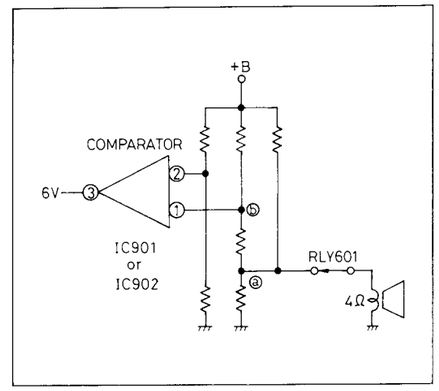


Fig. 2

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 ⓐ of the speaker DC resistance-detection circuitry, and the voltage at point ⓑ 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 8Ω speakers are connected to the "MAIN" and "REMOTE" speaker terminals and both speaker switches are on, total impedance becomes 4Ω, and operation becomes the same as when speakers of 6Ω or less are connected.

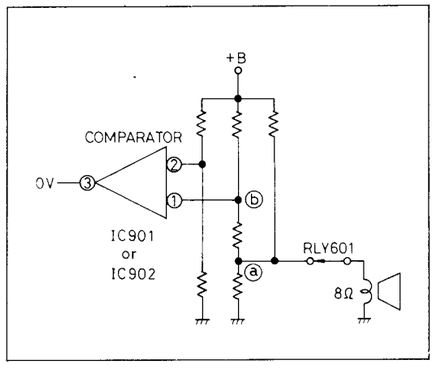


Fig. 3

2. If speakers with an impedance of 8Ω 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 6Ω 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 8Ω is connected to the left "MAIN" or "REMOTE" speaker terminal, and a 4Ω speaker is connected to the right terminal.

The detection method is the same as when speakers with an impedance of 8Ω 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 4Ω speaker is connected to the left speaker terminal and an 8Ω 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

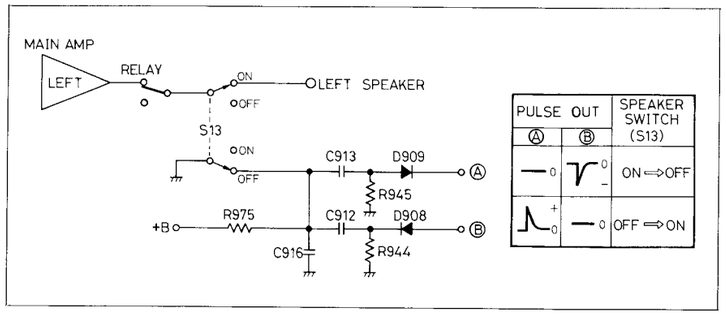


Fig. 4

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).

① When the speaker switch (S13) is on, positive voltage (+B) is charged to C912 and C913.

② 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 Ⓑ in figure 4.

③ 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 Ⓐ in figure 4.

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

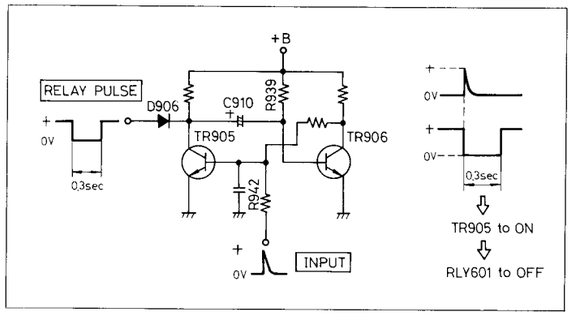


Fig. 5

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. 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.

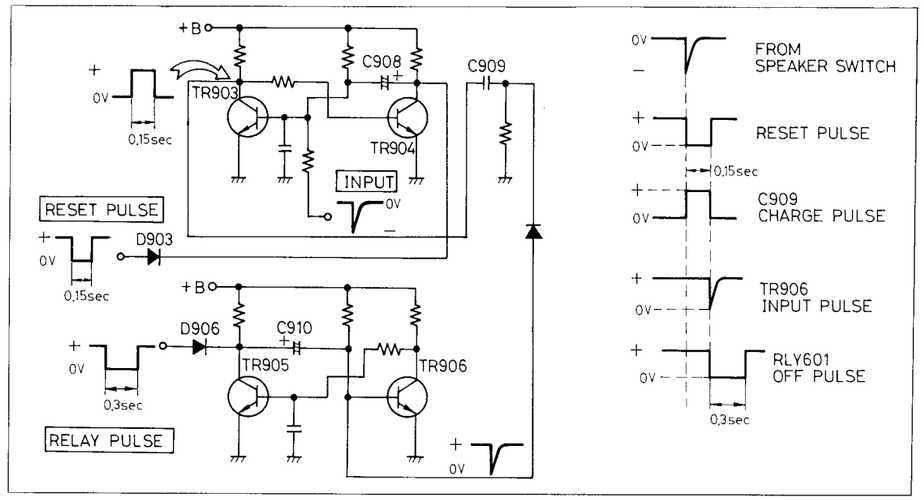


Fig. 6

■ 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).

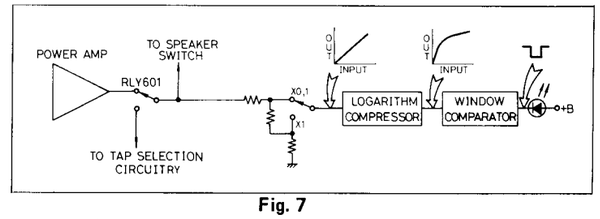


Fig. 7

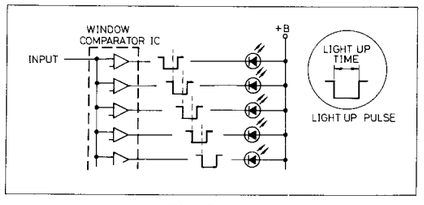


Fig. 8

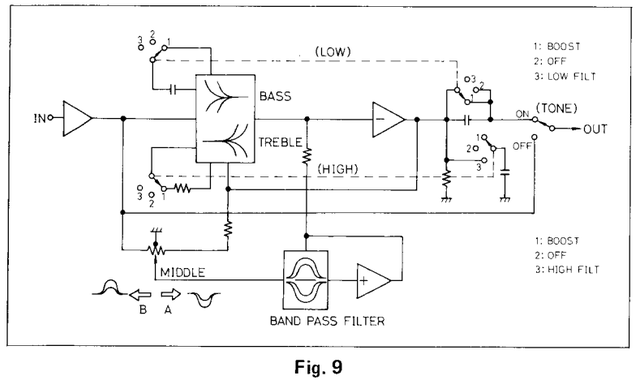


Fig. 9

■ 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.

■ 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-circuitry 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.

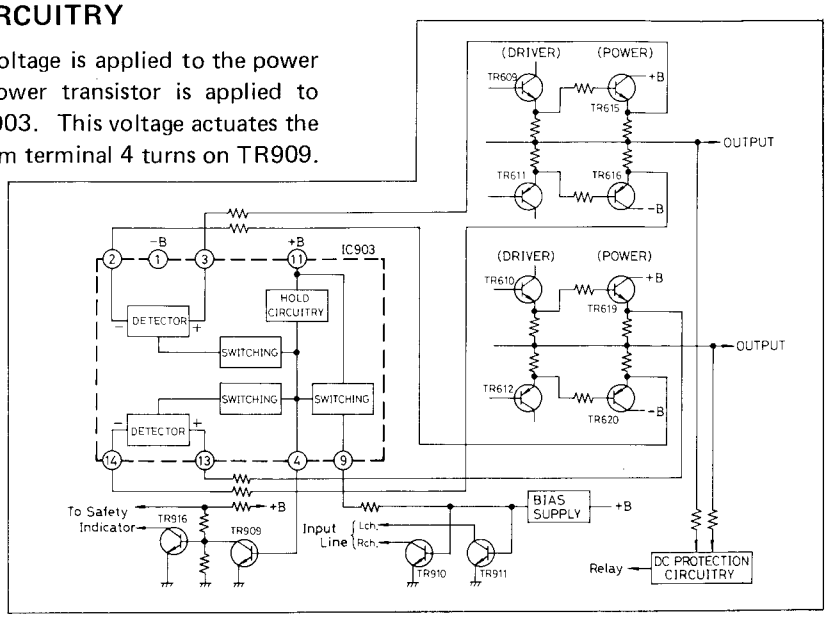
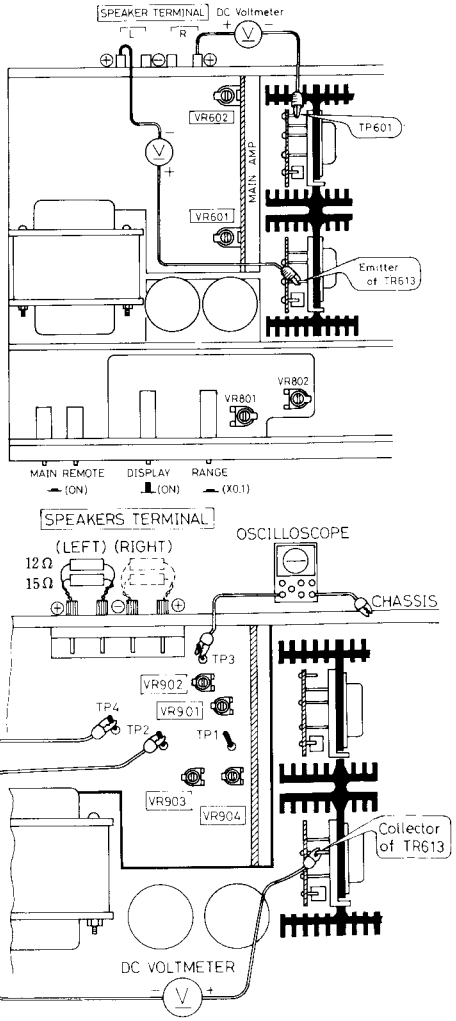


Fig. 10

■ 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**

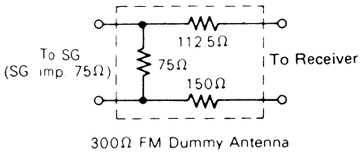
  Notes: ◦ Resistors connected to speaker terminals should be of low tolerance (±1% ~ ±2%).
  ◦ Each channel to be adjusted separately.

  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

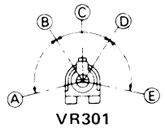
Notes:
1. Muting switch . . . . . OFF
2. Band selector switch . . . . . AM/FM AUTO (FM, RF FM-IF)
3. FM muting switch . . . . . OFF
4. Speaker switch . . . . . ON
5. Mode switch . . . . . MONO
6. Maintain line voltage at 120 volts.
7. 300Ω FM dummy antenna . . . . . Refer to fig. 1
8. Output of signal generator should be no higher than necessary to obtain an output reading.

	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-inter-ference	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 L 201 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-inter-ference.	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 sym-metrical 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					
9	**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		
10	**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.		
	Notes: 1. Stereo modulator . . . . . • Connect stereo modulator output to EXT MOD terminal of signal generator. 2. FM signal generator . . . . . • Pilot signal modulation to "10%" • Frequency approximatery 100MHz/Output level to "72dB (IHF)" • Modulation mode to "FM" 3. Selector switch to "FM AUTO" 4. Mode switch to "STEREO"					
	FM SIGNAL GENERATOR CONNECTION	STEREO MODULATOR MODE & MOD. RATE		INDICATOR (AC VTVM)	ADJUSTMENT POINTS	REMARKS
	FM MPX PILOT CANCEL ALIGNMENT					
11	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					
12	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 ALIGNEMNT					
13	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.



300Ω FM Dummy Antenna

Fig. 1



VR301

A - B, D - E: Stereo OFF Position.
B - D: Stereo ON Position (Indicator Lighting).
C: Adjust Point of Pilot Circuit.

Fig. 2

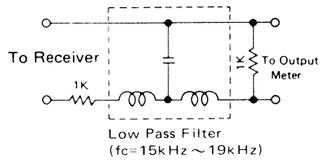
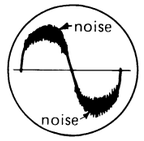
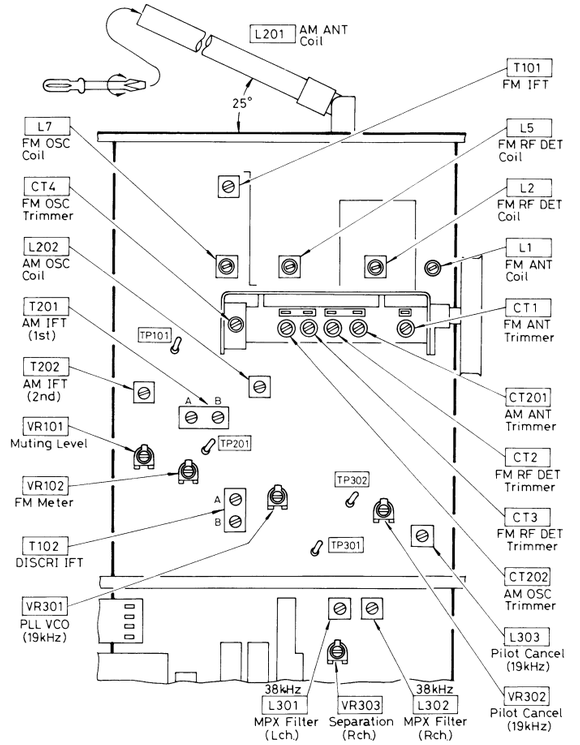


Fig. 3

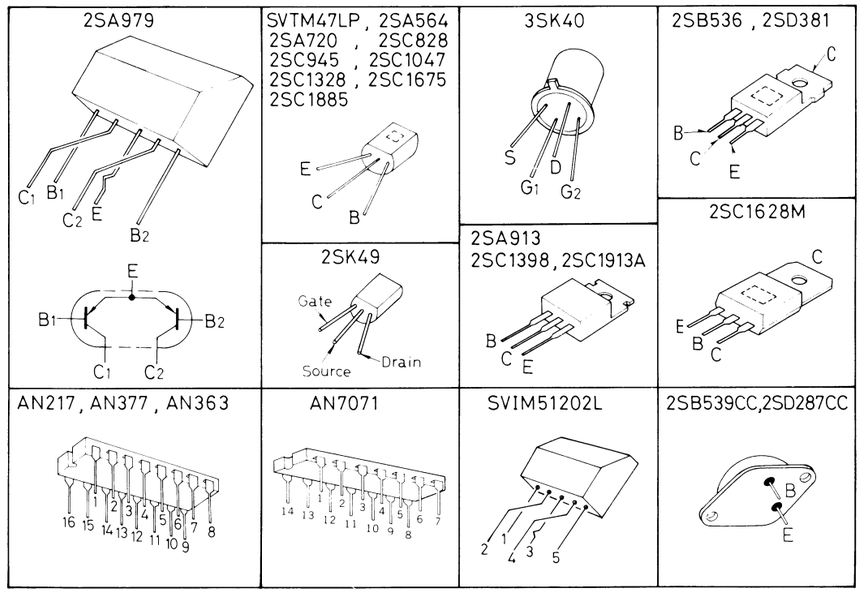


(SINE WAVE)

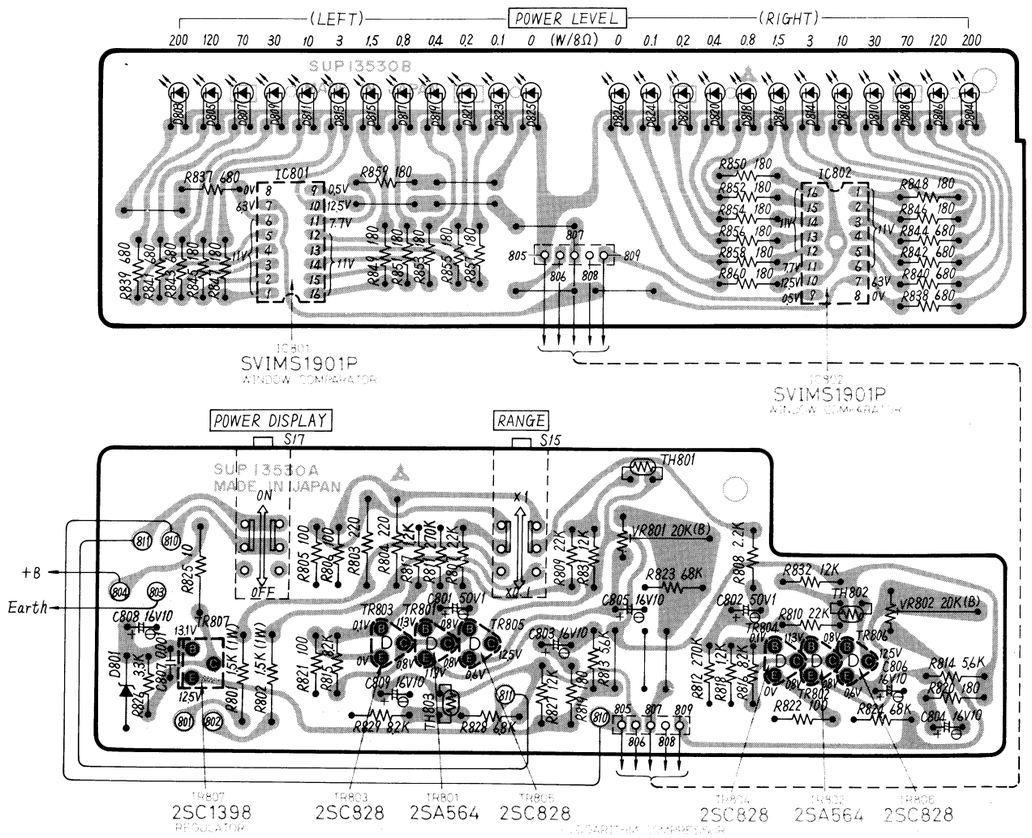
Fig. 4



■ TERMINAL GUIDE



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



■ 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.)

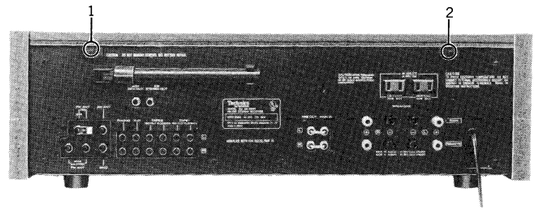


Fig. 5

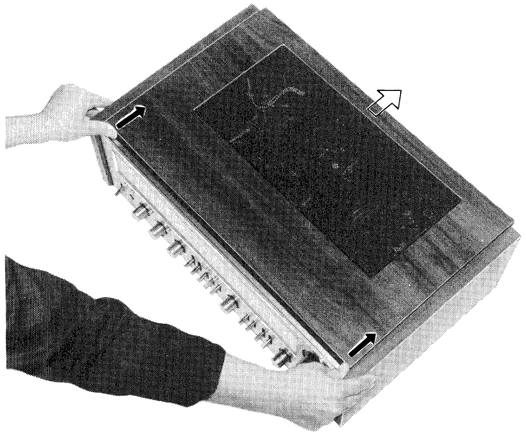


Fig. 6

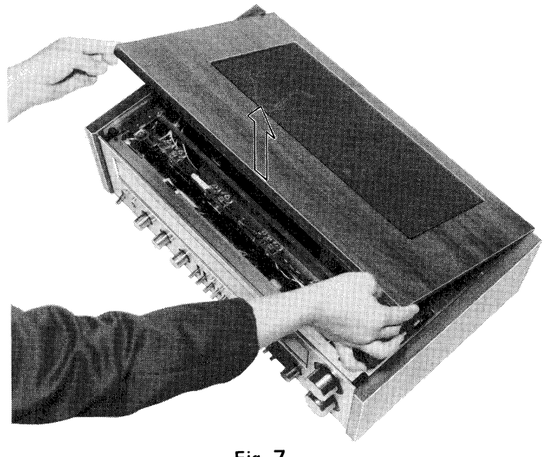
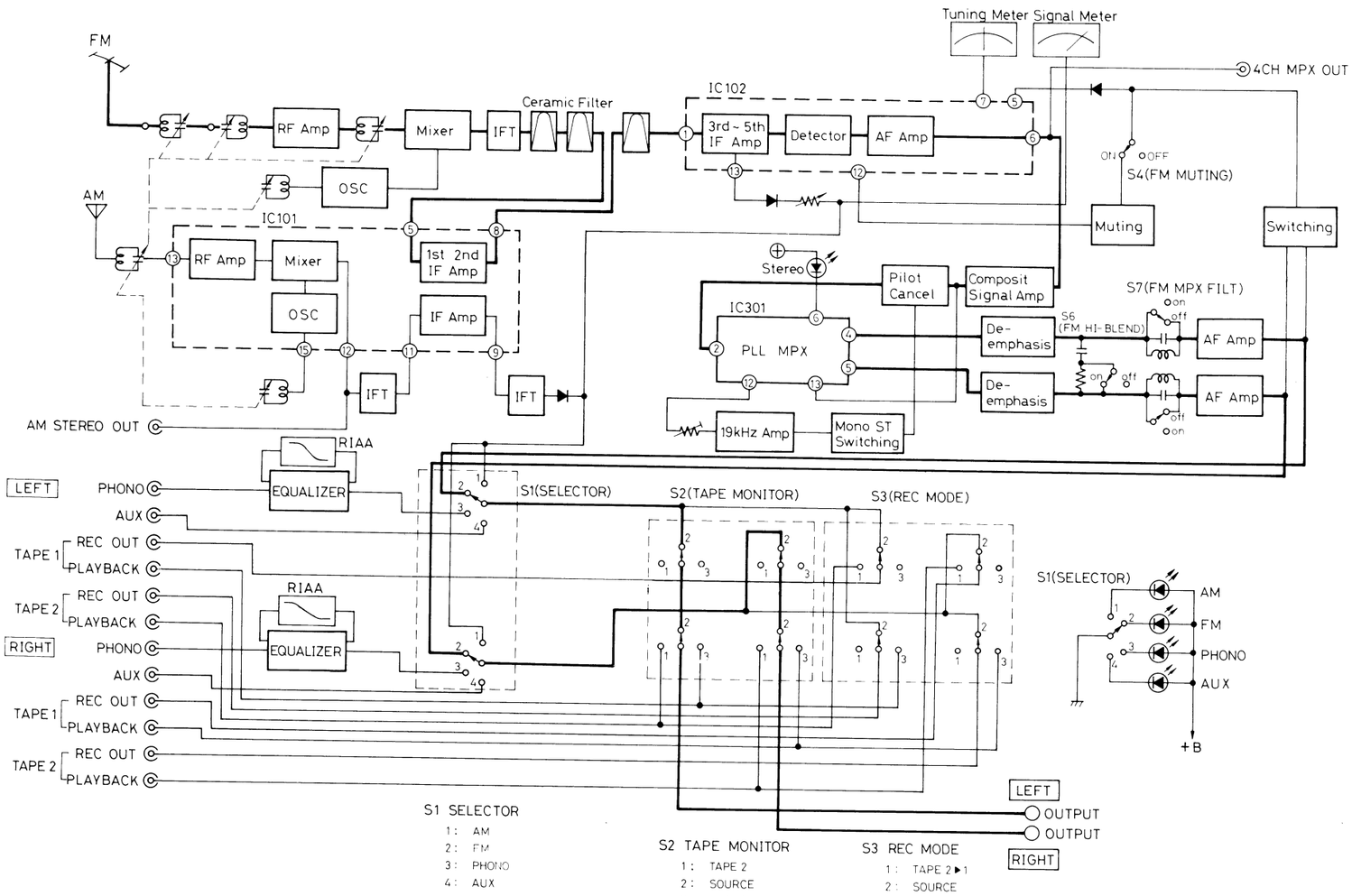
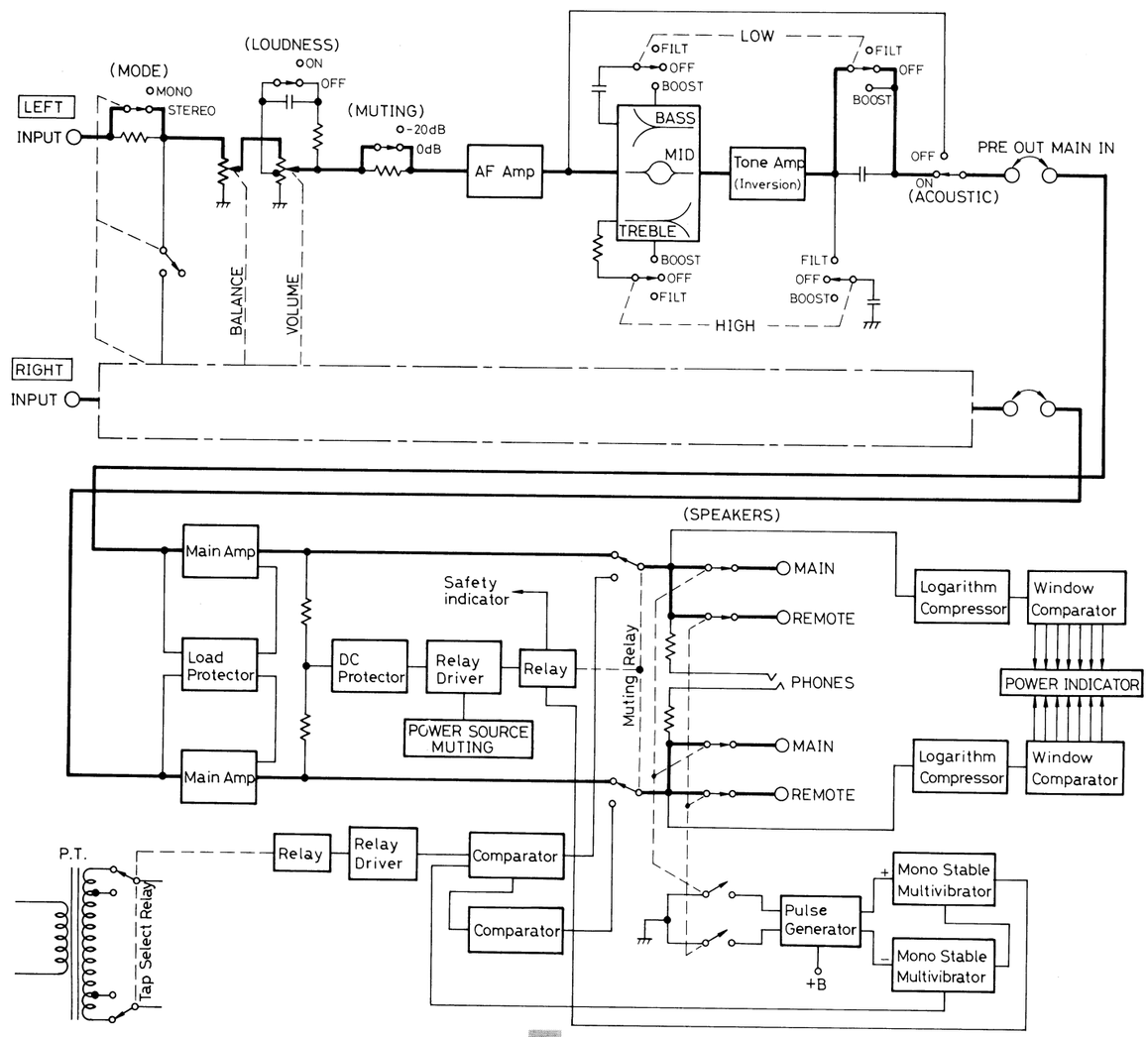


Fig. 7

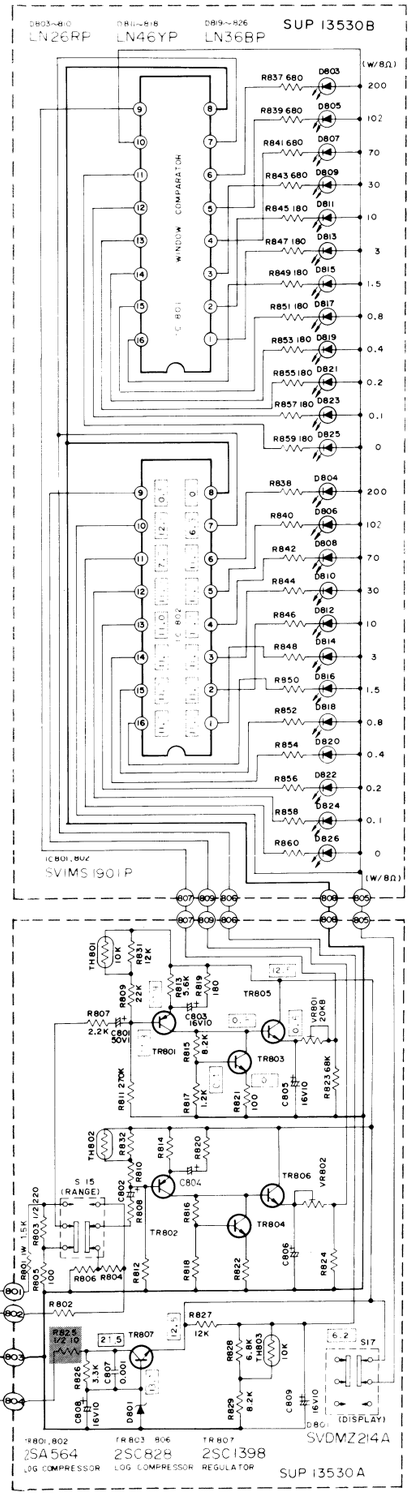
■ BLOCK DIAGRAM ..... FM/AM Tuner and Tape monitor selection circuitry



■ BLOCK DIAGRAM ..... Pre and Main amplifier circuitry



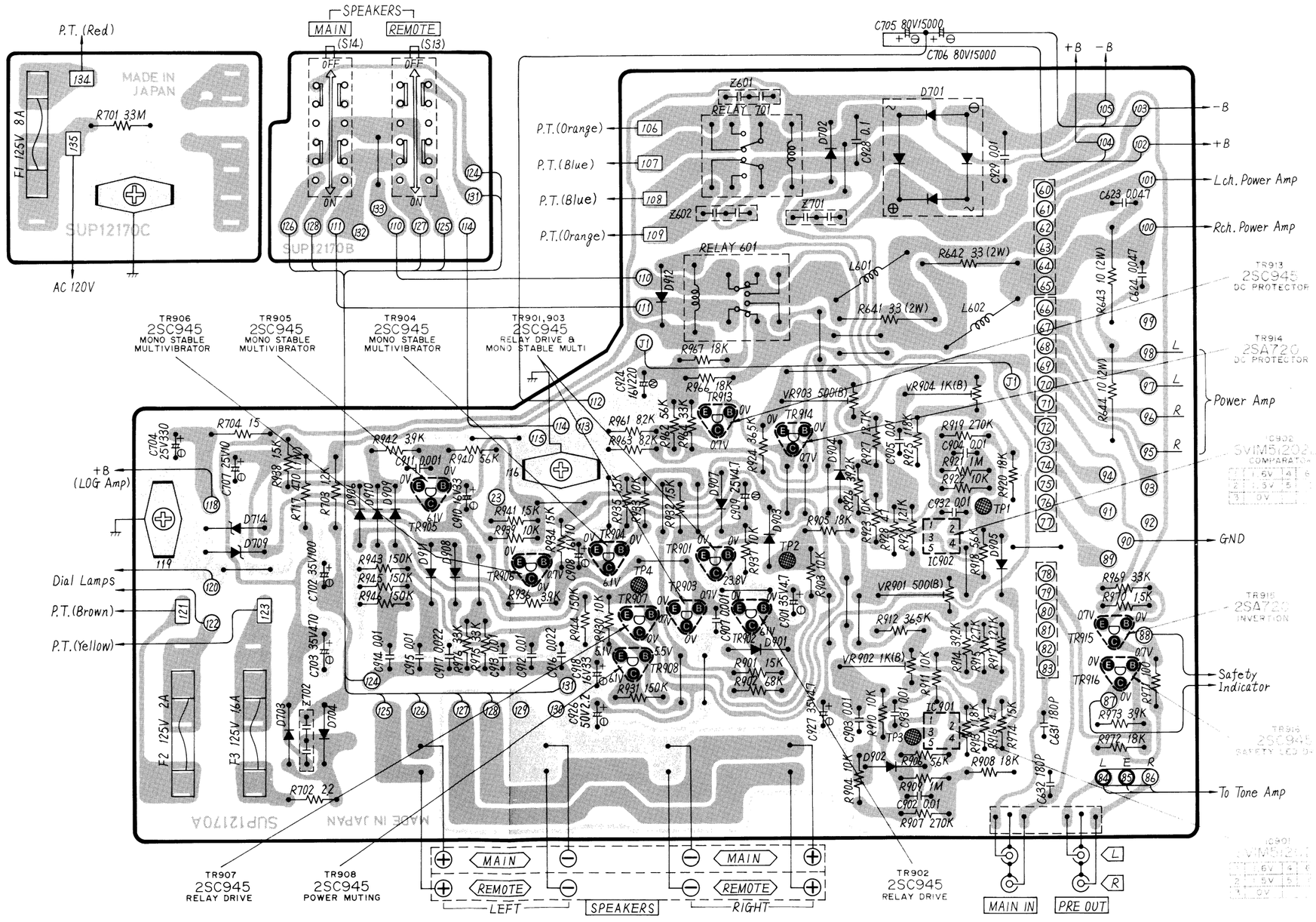
■ SCHEMATIC DIAGRAM OF POWER LEVEL INDICATOR



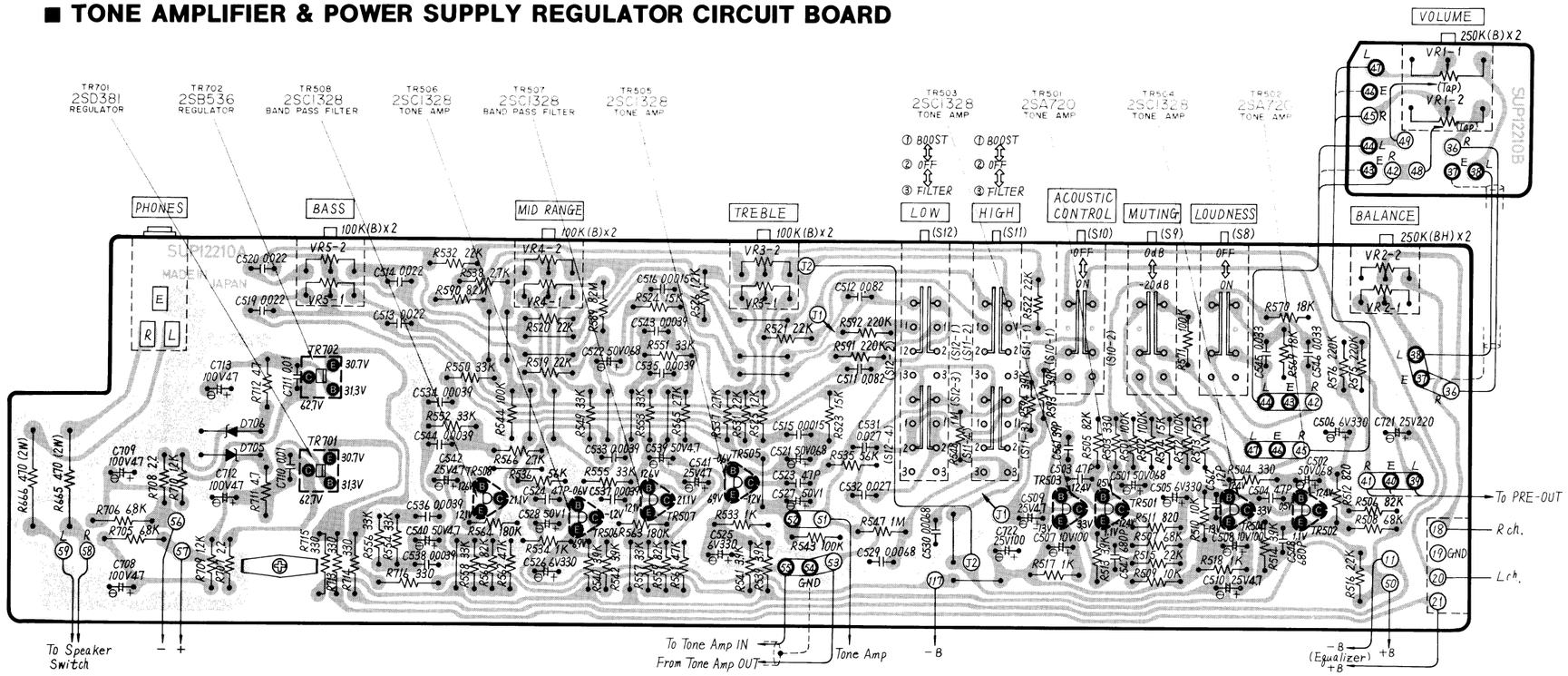
See page 30

■ POWER SUPPLY & TRANSFORMER TAP SELECTION CIRCUIT BOARD

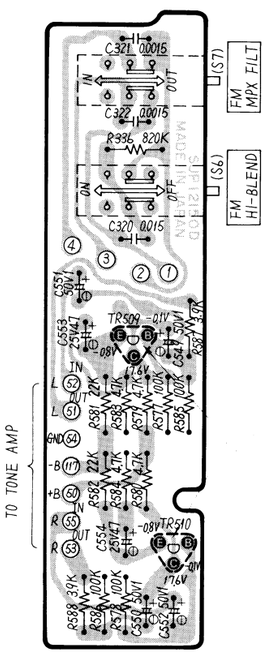
Earth (Ground) Lines



■ TONE AMPLIFIER & POWER SUPPLY REGULATOR CIRCUIT BOARD

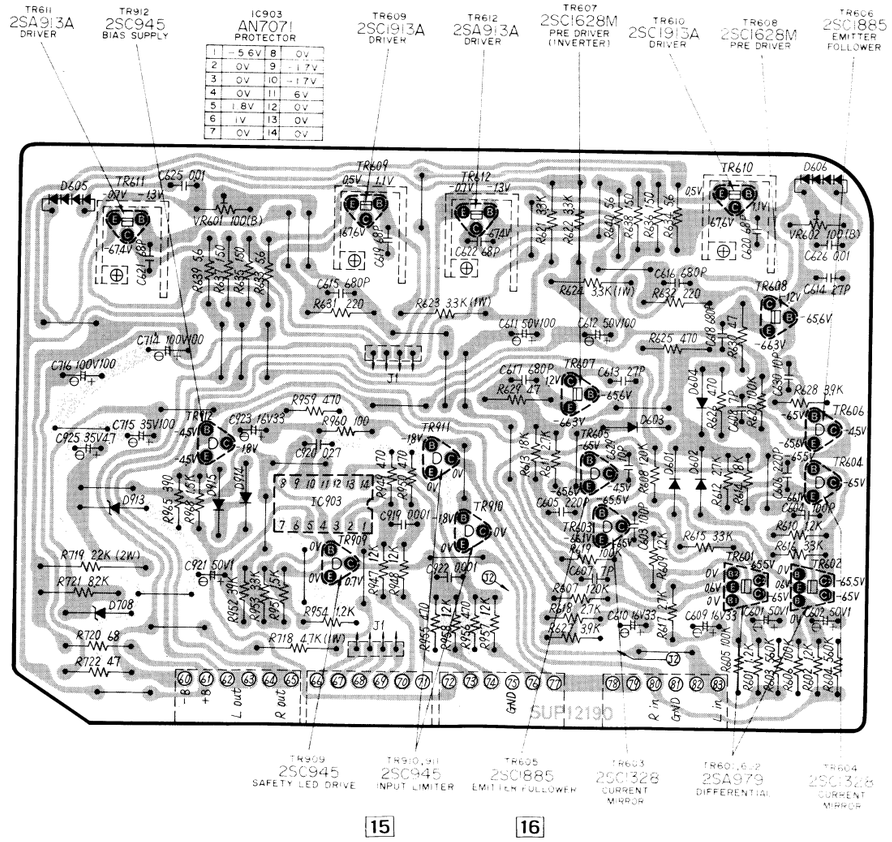


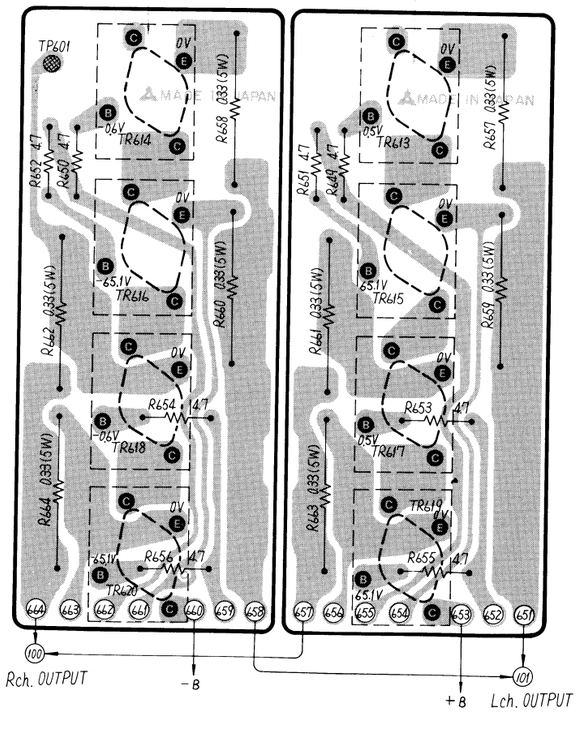
■ TONE AMPLIFIER CIRCUIT BOARD



■ MAIN AMPLIFIER & POWER AMPLIFIER CIRCUIT BOARD

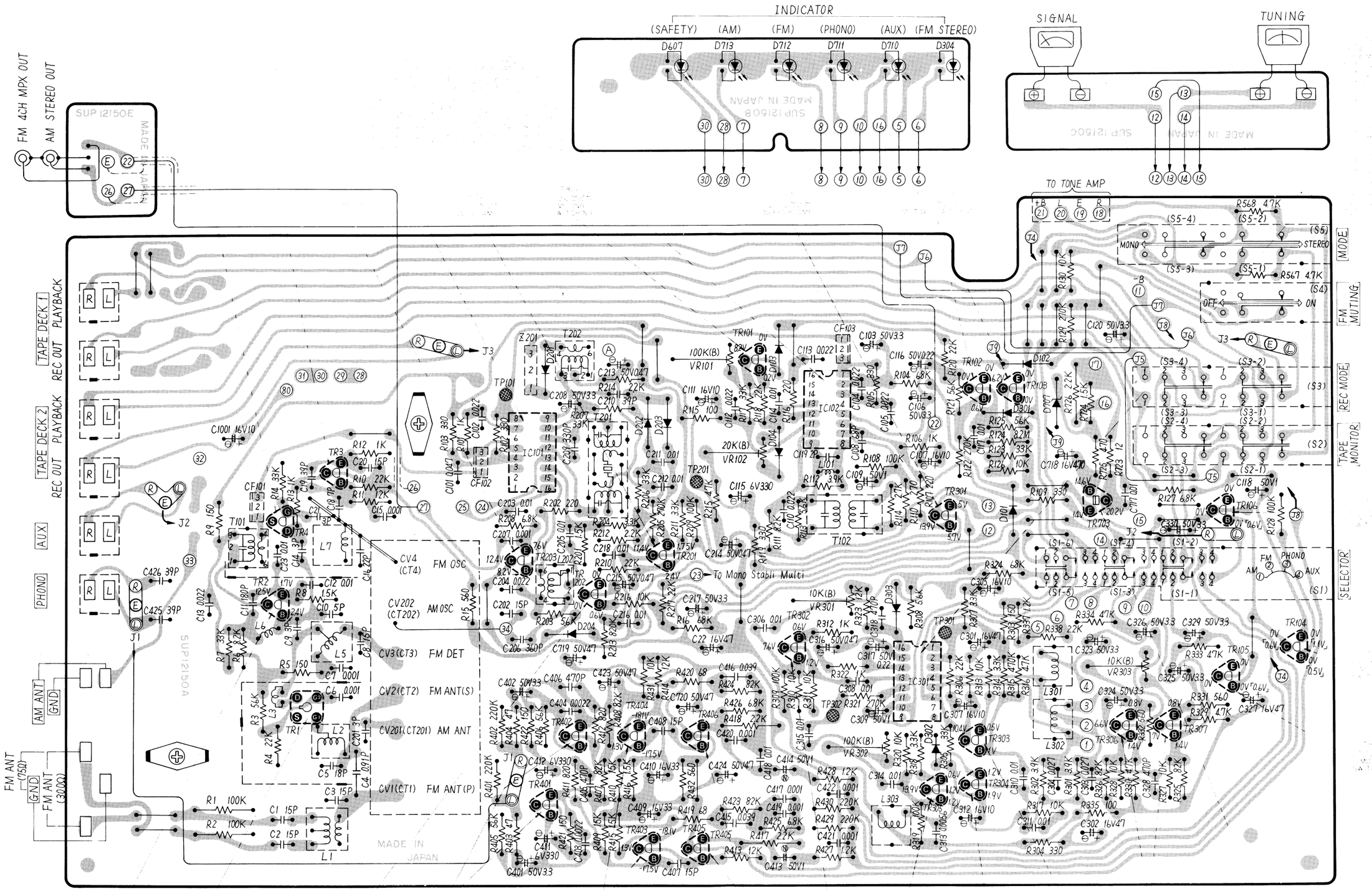
Earth (Ground) lines





■ FM/AM TUNER CIRCUITRY & PHONO EQUALIZER CIRCUIT BOARD

Earth (Ground) Lines



■ DIAL C

- For threadin
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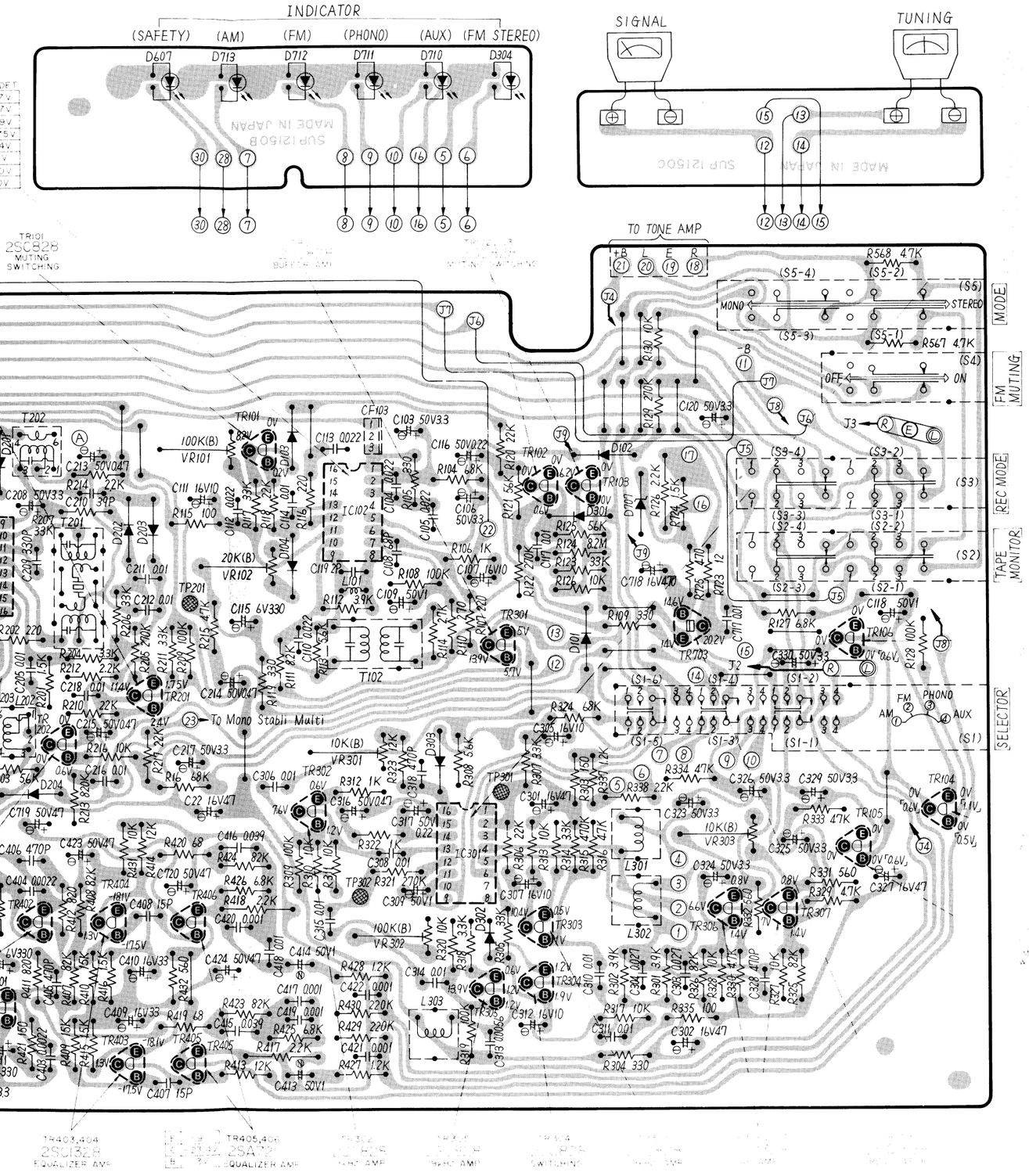
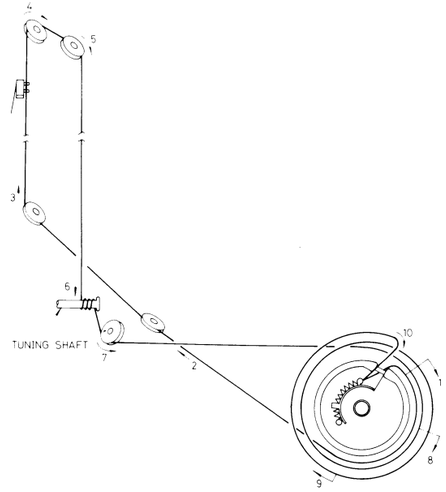
Earth (Ground) Lines

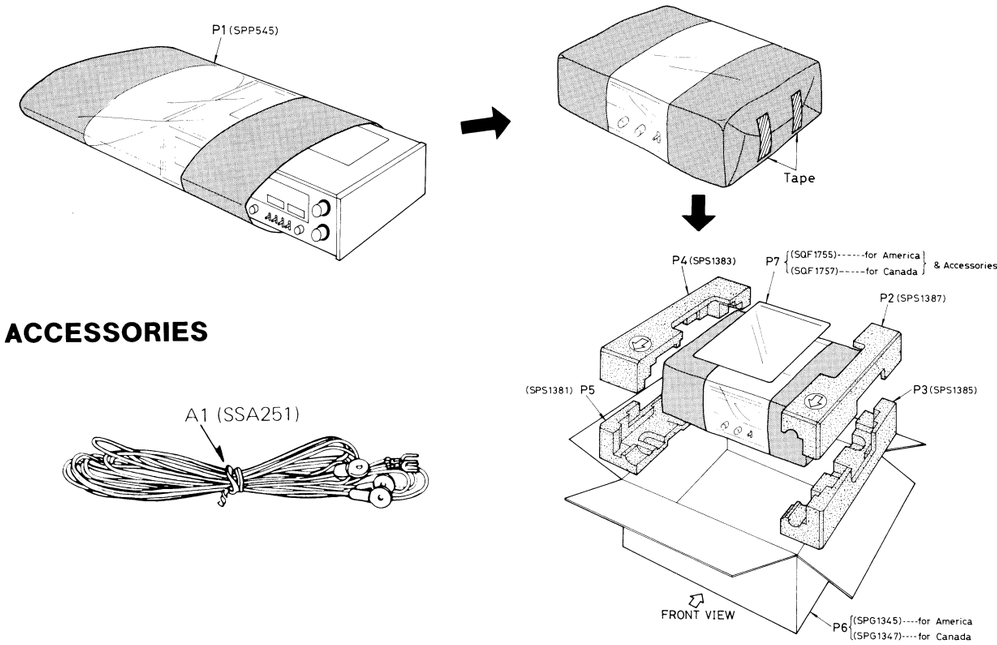


■ DIAL CORD INSTALLATION GUIDE

- For threading a fresh cord, proceed as follws.
  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.



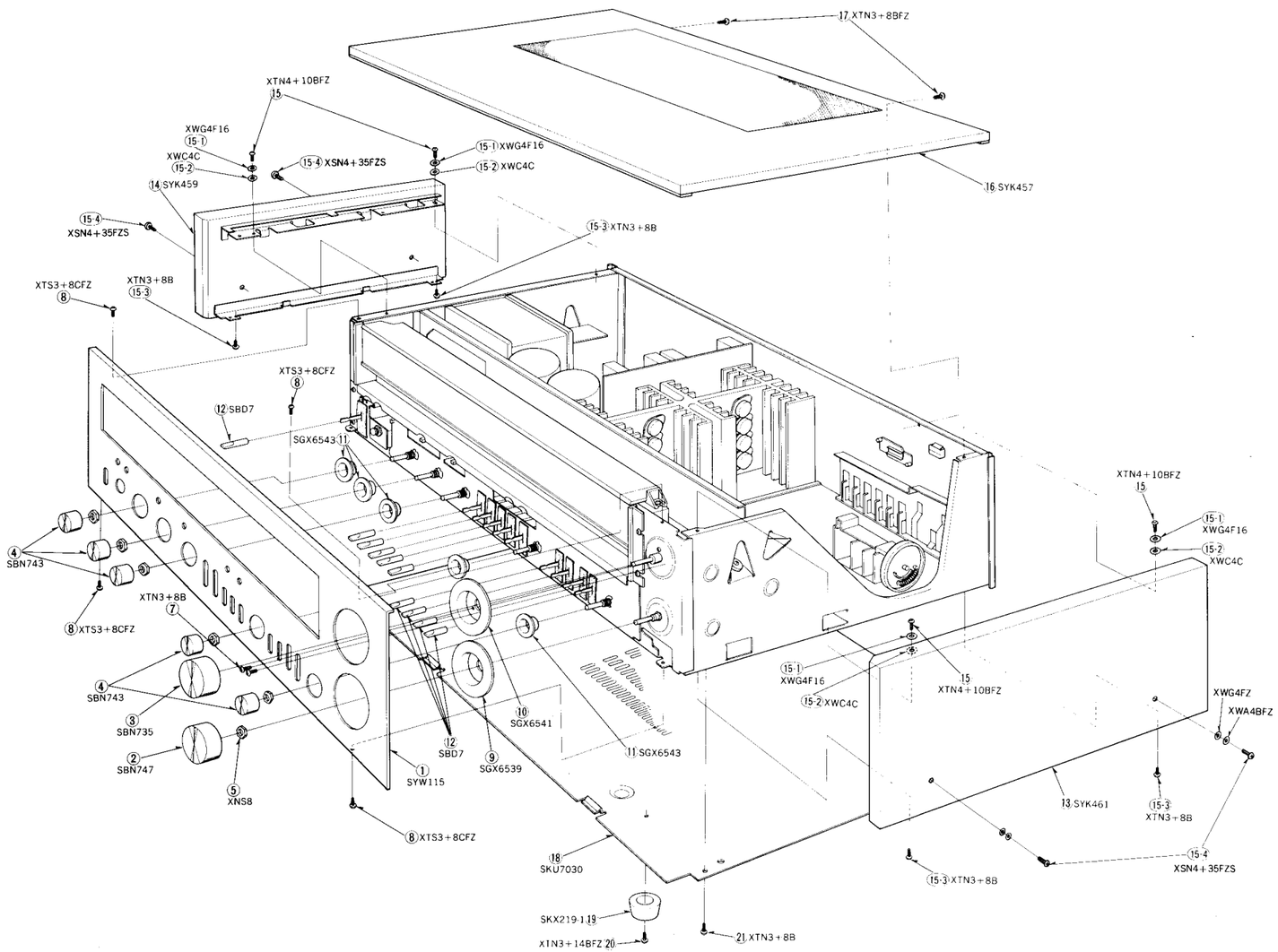
■ PACKINGS

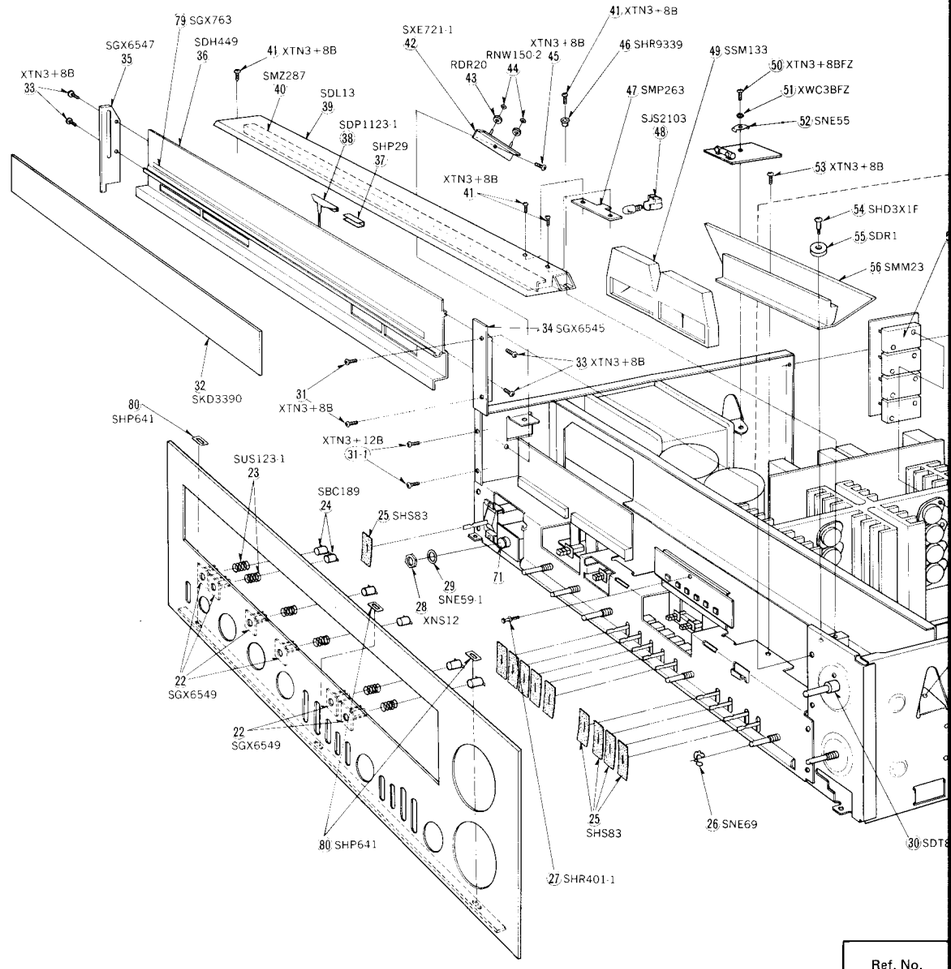


■ ACCESSORIES

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	○
11	SGX6543	Ornament, Selector, Balance, Treble, Mid Range and Bass	5	○
12	SBD7	Knob, Lever 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	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	Escutheon, 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.
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68 [MC]
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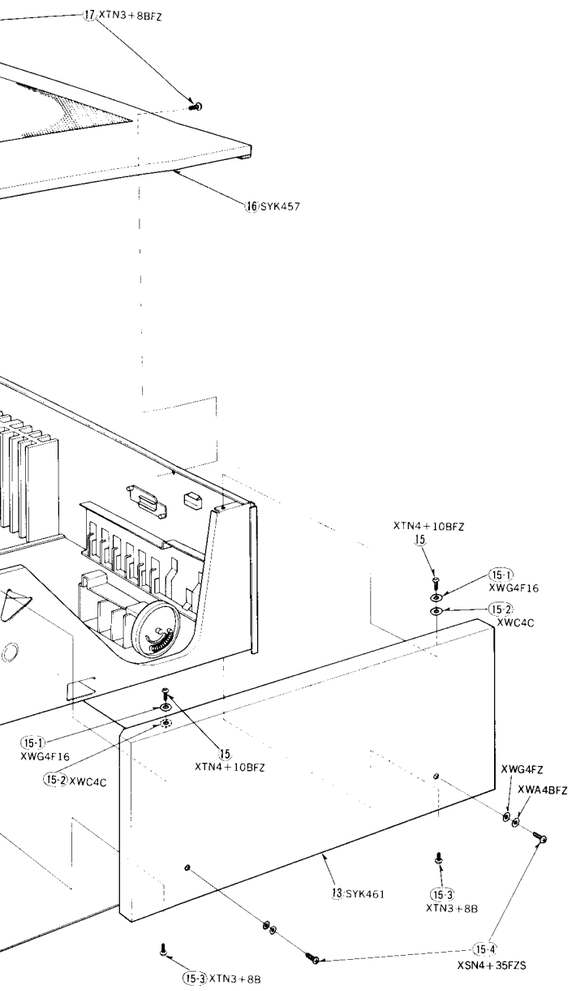
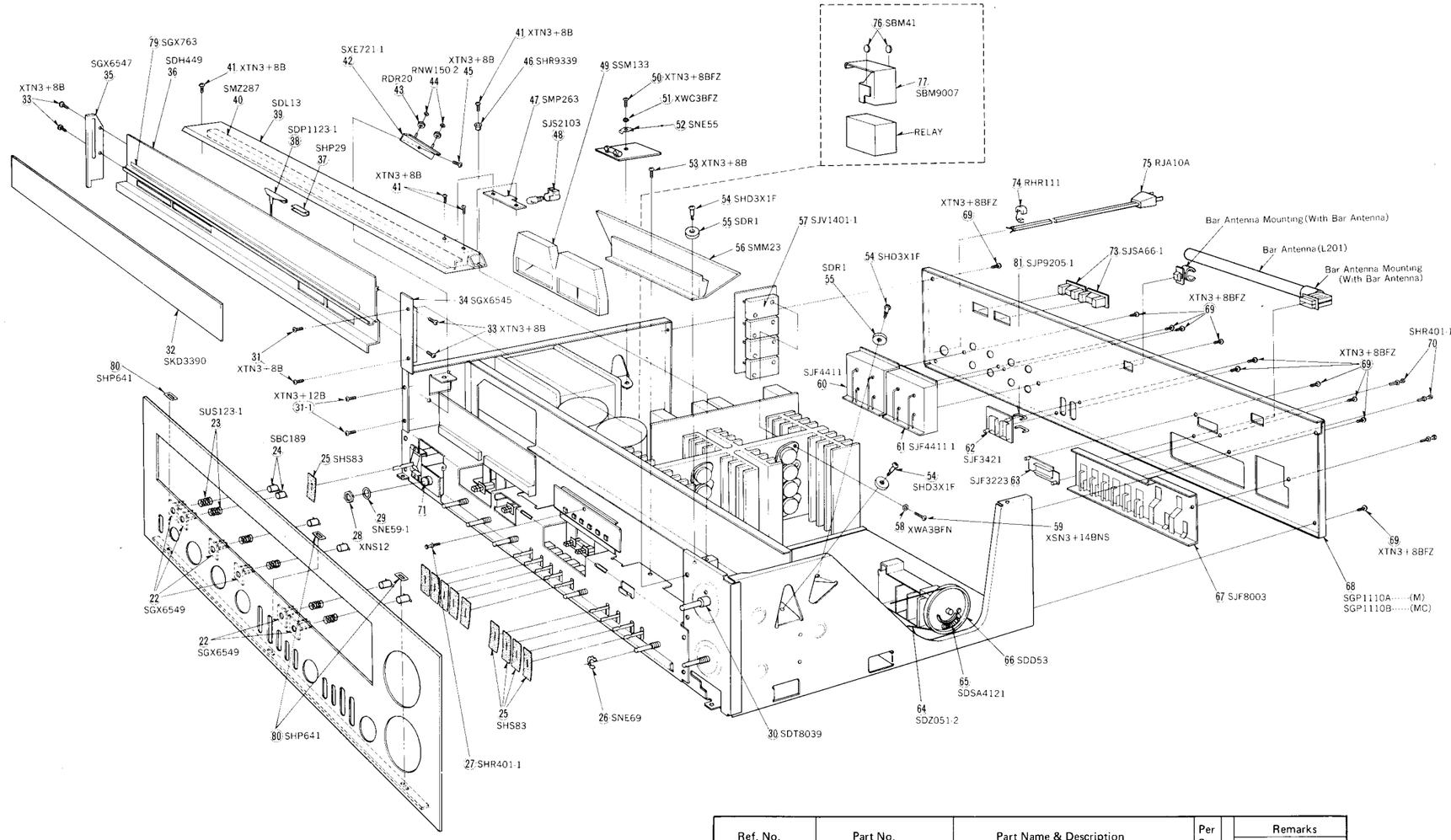




o.	Part No.	Part Name & Description	Per Set	Remarks
	SGX6543	Ornament, Selector, Balance, Treble, Mid Range and Bass	5	○
	SBD7	Knob, Lever Switch	10	
	SYK461	Side Board, Right	1	○
	SYK459	Side Board, Left	1	○
	XTN4+10BFZ	Screw, Side Board M'tg	4	
	XWG4F16	Washer, Side Board Screw	4	
	XWC4C	Washer, Side 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	Escutheon, 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	Terminla, 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 [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	
73	SJSA66-1	Socket, AC Outlet	2	
74	RHR111	Bushing, AC Cord	1	
75	RJA10A	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	

■ 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	
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	○
T202	SLI2C413	Transformer, AM IF	1	○
T701	SLT5R29	Transformer, Power	1	○
CERAMIC FILTERS				
CF101, 102	SVFE107MM-A	Ceramic Filter, Red, 10.7MHz	each 2	
	SVFE107MM-B	Ceramic Filter, Blue, 10.67MHz		
	SVFE107MM-C	Ceramic Filter, Orange, 10.73MHz		
	SVFE107MM-D	Ceramic Filter, Black, 10.64MHz		
	SVFE107MM-E	Ceramic Filter, White, 10.76MHz		
CF103	SVFE107ML-A	Ceramic Filter, Red, 10.7MHz	each 1	
	SVFE107ML-B	Ceramic, Filter, Blue, 10.67MHz		
	SVFE107ML-C	Ceramic Filter, Orange, 10.73MHz		
	SVFE107ML-D	Ceramic Filter, Black, 10.64MHz		
	SVFE107ML-E	Ceramic Filter, White, 10.76MHz		
	(Use pair ranks as same as CF101, CF102 and CF103.)			
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 Ceramic Filter, Blue, 10.67MHz Ceramic Filter, Orange, 10.73MHz Ceramic Filter, Black, 10.64MHz Ceramic Filter, White, 10.76MHz	each 2	
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	

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, 6.8kΩ, 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, 6.8kΩ, 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%		
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, 6.8kΩ, 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

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.

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.

• SIGNAL LINES

AF FM AM

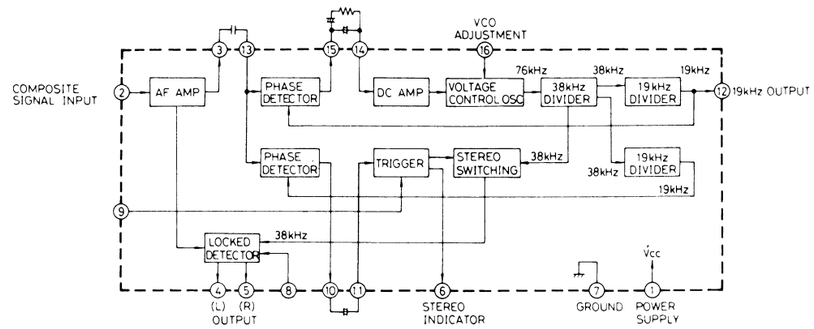
• TRANSISTORS AND INTEGRATED CIRCUITS TERMINAL GUIDE

See page 10

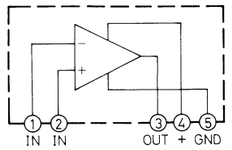
• SCHEMATIC DIAGRAM OF POWER LEVEL INDICATOR

See page 13

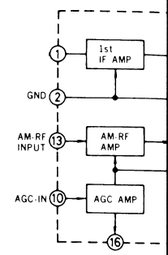
■ BLOCK

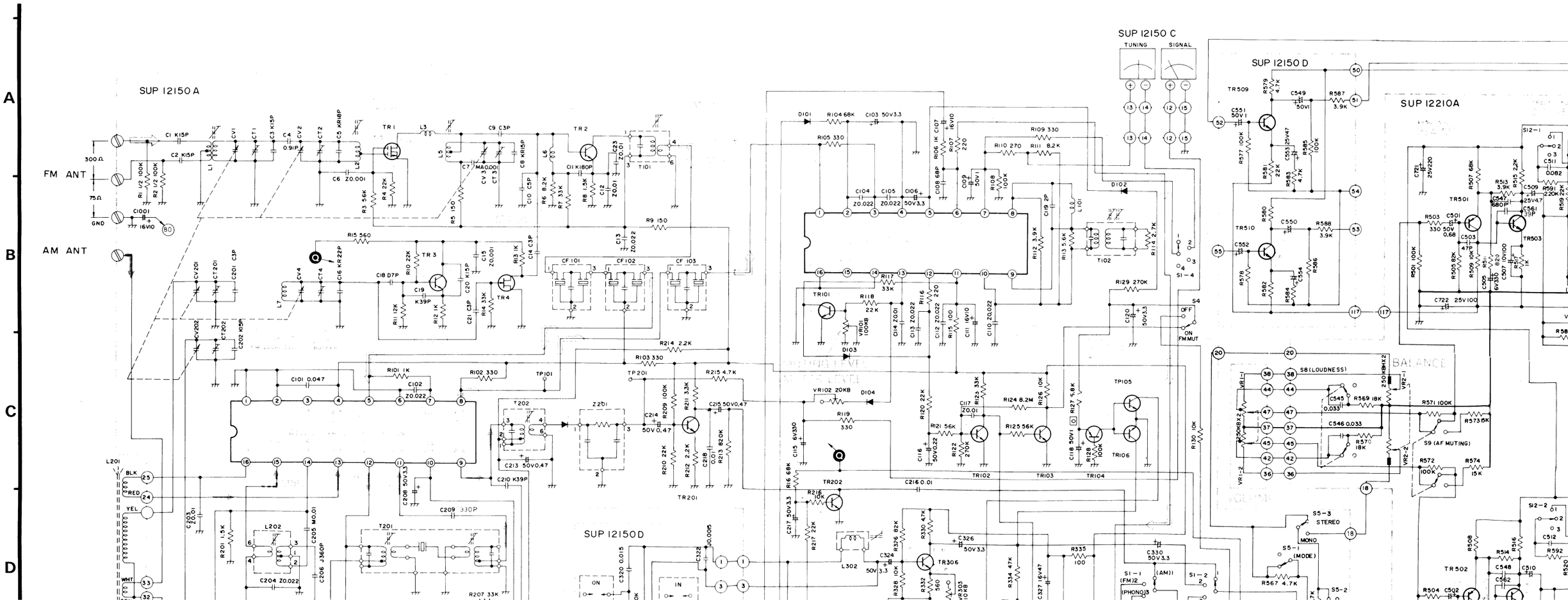


IC301 (AN363)
FM MPX

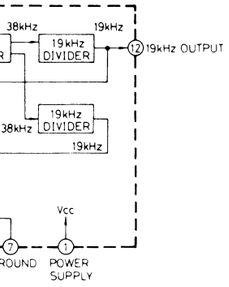


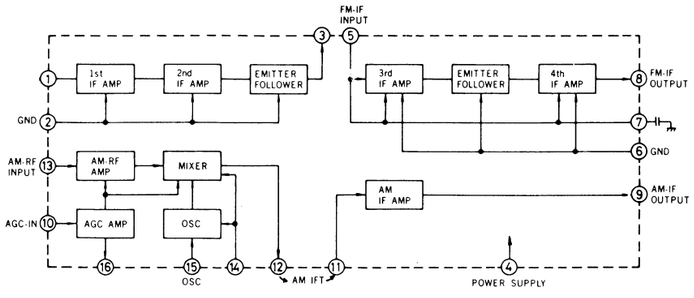
IC901, 902 (SVIM51202L)
COMPARATOR



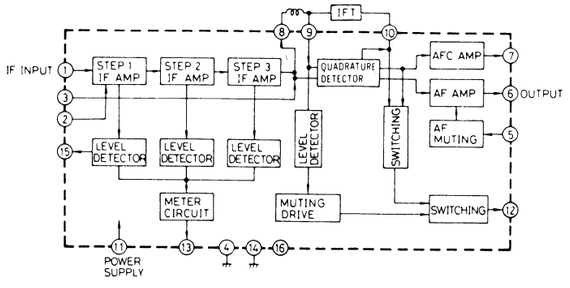


■ BLOCK DIAGRAMS OF INTEGRATED CIRCUITS

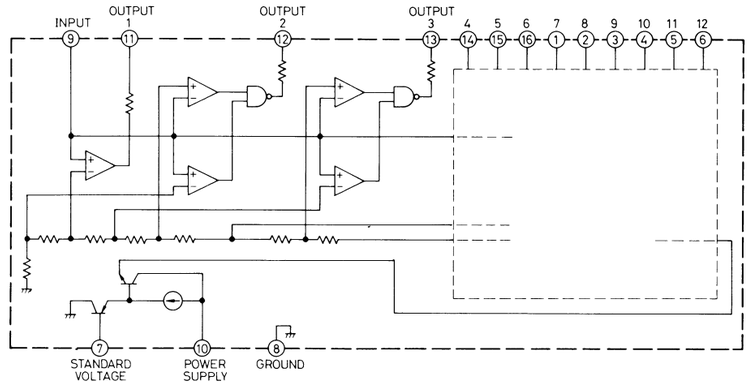




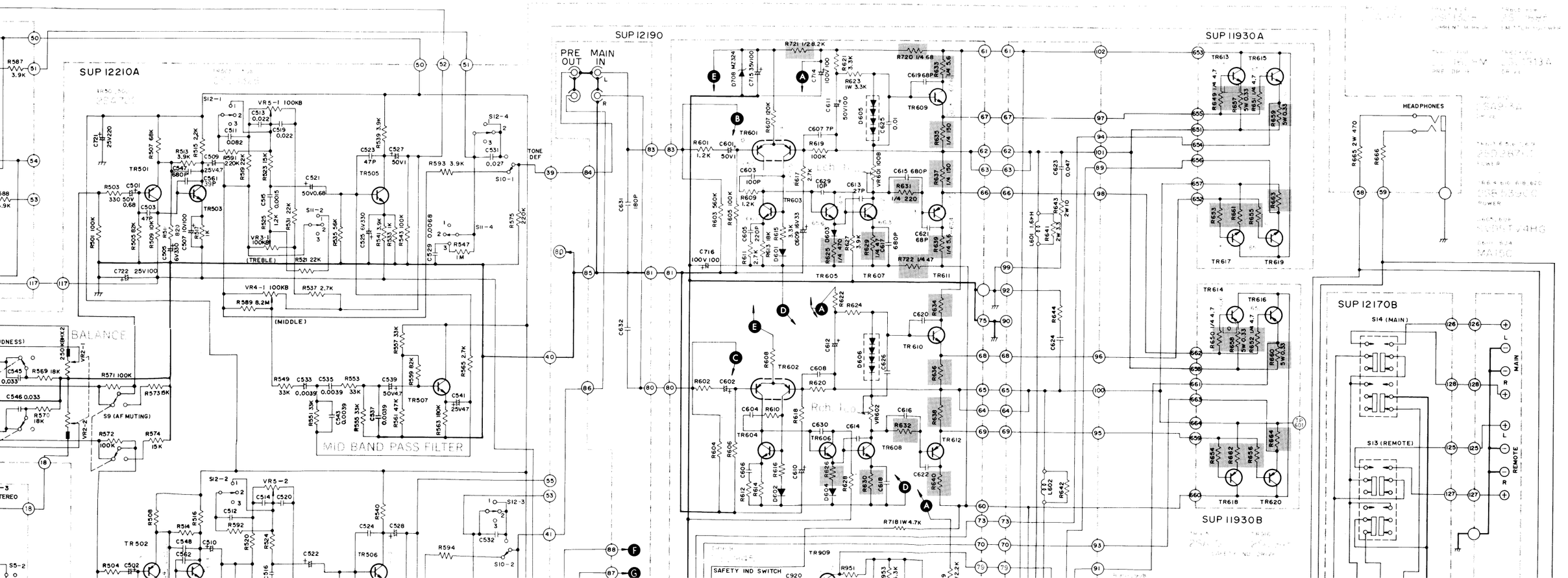
IC101 (AN217)
FM 2 STEPS IF AMPLIFIER
& AM CONVERTER

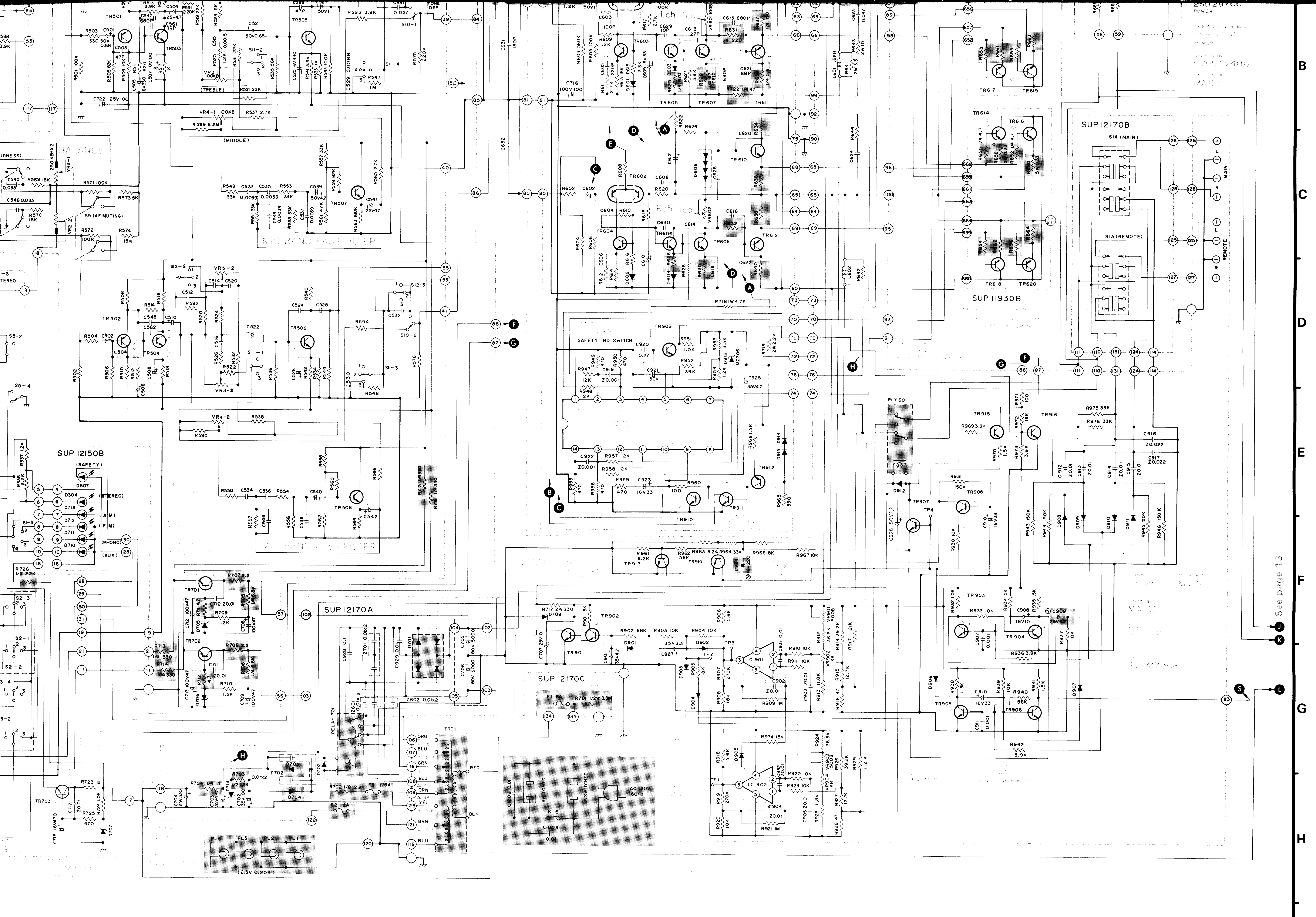


IC102 (AN377)
FM IF AMPLIFIER & DETECTOR

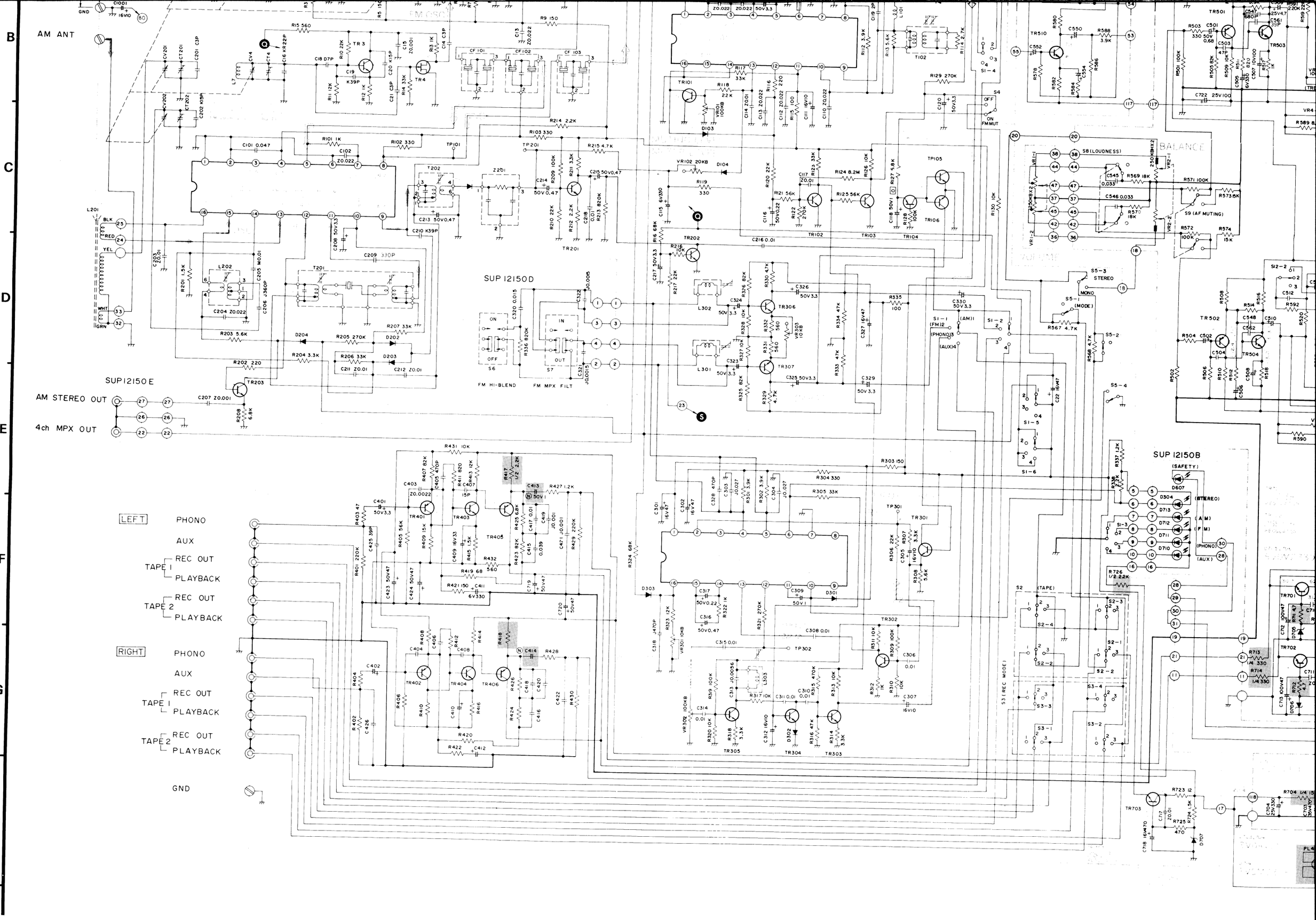


IC801, 802 (SVIMS1901P)
WINDOW COMPARATOR




SUP 12150B
SUP 12170A
SUP 12170B
SUP 12170C
SUP 11930B
BALANCE
MID BAND PASS FILTER
(TREBLE)
(MIDDLE)
S9 (AF MUTING)
SAFETY IND SWITCH
(SAFETY)
(STEREO)
(AM)
(FM)
(PHONO)
(AUX)
RELAY 701
RLY601
T701
S14 (MAIN)
S13 (REMOTE)
MAIN
REMOTE
SWITCHED
UNSWITCHED
AC 120V 60Hz
S16
F1 8A
F2 2A
F3 1.6A
PL4
PL3
PL2
PL1
(6.3V 0.25A)
IC 901
IC 902
Lch
Rch
B
C
D
E
F
G
H

See page 13


AM ANT
SUP12150E
AM STEREO OUT
4ch MPX OUT
SUP12150D
FM HI-BLEND
FM MPX FILT
SUP12150B
(SAFETY)
(STEREO)
(A M)
(F M)
(PHONO)
(AUX)
(TAPE)
S3 (REC MODE)
S5-3 STEREO
S5-(MODE)
MONO
S8 (LOUDNESS)
BALANCE
S9 (AF MUTING)
LEFT
PHONO
AUX
TAPE 1 REC OUT
TAPE 1 PLAYBACK
TAPE 2 REC OUT
TAPE 2 PLAYBACK
RIGHT
PHONO
AUX
TAPE 1 REC OUT
TAPE 1 PLAYBACK
TAPE 2 REC OUT
TAPE 2 PLAYBACK
GND

Ref. No.	Part No.	Part Name & Description	Per Set	Remarks
R589, 590	**ERC14GK825**	Solid, 8.2MΩ, 1/4W, ±10%	2	
R591, 592	**ERD25TJ224**	Carbon, 220kΩ, 1/4W, ± 5%	2	
R593, 594	**ERD25TJ392**	Carbon, 3.9kΩ, 1/4W, ± 5%	2	
R601, 602	**ERD25TJ122**	Carbon, 1.2kΩ, 1/4W, ± 5%	2	
R603, 604	**ERD25TJ564**	Carbon, 560kΩ, 1/4W, ± 5%	2	
R605, 606	**ERD25TJ104**	Carbon, 100kΩ, 1/4W, ± 5%	2	
R607, 608	**ERD25TJ124**	Carbon, 120kΩ, 1/4W, ± 5%	2	
R609, 610	**ERD25TJ122**	Carbon, 1.2kΩ, 1/4W, ± 5%	2	
R611, 612	**ERD25TJ272**	Carbon, 2.7kΩ, 1/4W, ± 5%	2	
R613, 614	**ERD25TJ183**	Carbon, 18kΩ, 1/4W, ± 5%	2	
R615, 616	**ERD25TJ332**	Carbon, 3.3kΩ, 1/4W, ± 5%	2	
R617, 618	**ERD25TJ272**	Carbon, 2.7kΩ, 1/4W, ± 5%	2	
R619, 620	**ERD25TJ104**	Carbon, 100kΩ, 1/4W, ± 5%	2	
R621, 622	**ERG1ANJ332**	Metal Film, 3.3kΩ, 1W, ± 5%	2	
R623, 624	**ERG1ANJ332**	Metal Film, 3.3kΩ, 1W, ± 5%	2	
R625, 626	**ERD14FJ471**	Carbon, 470Ω, 1/4W, ± 5%	2	
R627, 628	**ERD25TJ392**	Carbon, 3.9kΩ, 1/4W, ± 5%	2	
R629, 630	**ERD14FJ470**	Carbon, 47Ω, 1/4W, ± 5%	2	
R631, 632	**ERD14FJ221**	Carbon, 220Ω, 1/4W, ± 5%	2	
R633, 634	**ERD14FJ5R6**	Carbon, 5.6Ω, 1/4W, ± 5%	2	
R635, 636	**ERD14FJ151**	Carbon, 150Ω, 1/4W, ± 5%	2	
R637, 638	**ERD14FJ151**	Carbon, 150Ω, 1/4W, ± 5%	2	
R639, 640	**ERD14FJ5R6**	Carbon, 5.6Ω, 1/4W, ± 5%	2	
R641, 642	**ERX2ANJ3R3**	Metal Film, 3.3Ω, 2W, ± 5%	2	
R643, 644	**ERG2ANJ100**	Metal Film, 10Ω, 2W, ± 5%	2	
R649, 650	**ERD14FJ4R7**	Carbon, 4.7Ω, 1/4W, ± 5%	2	
R651, 652	**ERD14FJ4R7**	Carbon, 4.7Ω, 1/4W, ± 5%	2	
R653, 654	**ERD14FJ4R7**	Carbon, 4.7Ω, 1/4W, ± 5%	2	
R655, 656	**ERD14FJ4R7**	Carbon, 4.7Ω, 1/4W, ± 5%	2	
R657, 658	ERF5AKR33	Non-Flammable, 0.33Ω, 5W, ±10%	2	
R659, 660	ERF5AKR33	Non-Flammable, 0.33Ω, 5W, ±10%	2	
R661, 662	ERF5AKR33	Non-Flammable, 0.33Ω, 5W, ±10%	2	
R663, 664	ERF5AKR33	Non-Flammable, 0.33Ω, 5W, ±10%	2	
R665, 666	**ERG2ANJ471**	Metal Film, 470Ω, 2W, ± 5%	2	
R701	**ERC12ZGK335**	Solid, 3.3MΩ, 1/2W, ±10%	1	
R702	ERD18FAJ2R2	Carbon, 2.2Ω, 1/8W, ± 5%	1	
R703	ERD12FJ122	Carbon, 1.2kΩ, 1/2W, ± 5%	1	
R704	**ERD14FJ150**	Carbon, 15Ω, 1/4W, ± 5%	1	
R705, 706	**ERD14FJ682**	Carbon, 6.8kΩ, 1/4W, ± 5%	2	
R707, 708	ERD18FAJ2R2	Carbon, 2.2Ω, 1/8W, ± 5%	2	
R709, 710	**ERD25TJ122**	Carbon, 1.2kΩ, 1/4W, ± 5%	2	
R711, 712	ERD18FAJ4R7	Carbon, 4.7Ω, 1/8W, ± 5%	2	
R713, 714	**ERD14FJ331**	Carbon, 330Ω, 1/4W, ± 5%	2	
R715, 716	**ERD14FJ331**	Carbon, 330Ω, 1/4W, ± 5%	2	
R717	**ERG2ANJ331**	Metal Film, 330Ω, 2W, ± 5%	1	
R718	**ERG1ANJ472**	Metal Film, 4.7kΩ, 1W, ± 5%	1	
R719	**ERG2ANJ222**	Metal Film, 2.2kΩ, 2W, ± 5%	1	
R720	**ERD14FJ680**	Carbon, 68Ω, 1/4W, ± 5%	1	
R721	ERD12FJ822	Carbon, 8.2kΩ, 1/2W, ± 5%	1	
R722	**ERD14FJ470**	Carbon, 47Ω, 1/4W, ± 5%	1	
R723	**ERD25TJ120**	Carbon, 12Ω, 1/4W, ± 5%	1	
R724	**ERD25TJ152**	Carbon, 1.5kΩ, 1/4W, ± 5%	1	
R725	**ERD25TJ471**	Carbon, 470Ω, 1/4W, ± 5%	1	
R726	ERD12FJ222	Carbon, 2.2kΩ, 1/2W, ± 5%	1	
R801, 802	**ERG1ANJ152**	Metal Film, 1.5kΩ, 1W, ± 5%	2	
R803, 804	**ERD50TJ221**	Carbon, 220Ω, 1/2W, ± 5%	2	
R805, 806	**ERD25TJ101**	Carbon, 100Ω, 1/4W, ± 5%	2	
R807, 808	**ERD25TJ222**	Carbon, 2.2kΩ, 1/4W, ± 5%	2	
R809, 810	**ERD25TJ223**	Carbon, 22kΩ, 1/4W, ± 5%	2	
R811, 812	**ERD25TJ274**	Carbon, 270kΩ, 1/4W, ± 5%	2	
R813, 814	**ERD25TJ562**	Carbon, 5.6kΩ, 1/4W, ± 5%	2	
R815, 816	**ERD25TJ822**	Carbon, 8.2kΩ, 1/4W, ± 5%	2	
R817, 818	**ERD25TJ122**	Carbon, 1.2kΩ, 1/4W, ± 5%	2	
R819, 820	**ERD25TJ181**	Carbon, 180Ω, 1/4W, ± 5%	2	
R821, 822	**ERD25TJ101**	Carbon, 100Ω, 1/4W, ± 5%	2	
R823, 824	**ERD25TJ683**	Carbon, 68kΩ, 1/4W, ± 5%	2	
R825	ERD12FJ100	Carbon, 10Ω, 1/2W, ± 5%	1	
R826	**ERD25TJ332**	Carbon, 3.3kΩ, 1/4W, ± 5%	1	
R827	**ERD25TJ123**	Carbon, 12kΩ, 1/4W, ± 5%	1	
R828	**ERD25TJ682**	Carbon, 6.8kΩ, 1/4W, ± 5%	1	
R829	**ERD25TJ822**	Carbon, 8.2kΩ, 1/4W, ± 5%	1	
R831, 832	**ERD25TJ123**	Carbon, 12kΩ, 1/4W, ± 5%	2	
R837, 838	**ERD25TJ681**	Carbon, 680Ω, 1/4W, ± 5%	2	
R839, 840	**ERD25TJ681**	Carbon, 680Ω, 1/4W, ± 5%	2	
R841, 842	**ERD25TJ681**	Carbon, 680Ω, 1/4W, ± 5%	2	
R843, 844	**ERD25TJ681**	Carbon, 680Ω, 1/4W, ± 5%	2	
R845, 846	**ERD25TJ181**	Carbon, 180Ω, 1/4W, ± 5%	2	
R847, 848	**ERD25TJ181**	Carbon, 180Ω, 1/4W, ± 5%	2	
R849, 850	**ERD25TJ181**	Carbon, 180Ω, 1/4W, ± 5%	2	

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

VARIABLE RESISTORS

VR1	EWF22A029BF5	Volume Control, 250kΩ (B)	1	○
VR2	EWK4A029252	Balance Control, 250kΩ (BH)	1	○
VR3	EWK6GA029B15	Treble Control, 100kΩ (B)	1	○
VR4	EWK7KA029B15	Bass Control, 100kΩ (B)	1	○
VR5	EWK6GA029B15	Middle Control, 100kΩ (B)	1	

Ref. No.	Part No.	Part Name & Descripti	Per Set	Remarks
VR101	**EVLS3AA00B15**	Muting Level Adjustment, 100	1	
VR102	**EVLS3AA00B24**	FM Meter Adjustment, 20kΩ (B	1	
VR301	EVTS3MA00B14	PLL VCO Adjustment, 10kΩ (	1	
VR302	**EVLS3AA00B15**	19kHz Level Adjustment, 100	1	
VR303	**EVLS3AA00B14**	Separation Adjustment, 10kΩ	1	
VR601, 602	EVLS7AA00B12	ICQ Adjustment, 100Ω (B)	1	
VR801, 802	**EVLS3AA00B24**	LED Lighting Level Adjustmen	1	
VR901	EVTS3MA00B52	Comparator Adjustment, 500Ω	1	
VR902	EVTS3MA00B13	Comparator Adjustment, 1kΩ	1	
VR903	EVTS3MA00B52	Comparator Adjustment, 500Ω	1	
VR904	EVTS3MA00B13	Comparator Adjustment, 1kΩ	1	

CAPACITORS

C1, 2	ECCD1H150KC	Ceramic, 15pF, 50V	2	
C3	ECCD1H150KC	Ceramic, 15pF, 50V	1	
C4	ECGN5R91K	Ceramic, 0.91pF, 50V	1	
C5	ECCD1H180KR	Ceramic, 18pF, 50V	1	
C6	ECKD1H102ZF	Ceramic, 0.001μF, 50V	1	
C7	ECKD1H102MDA	Ceramic, 0.001μF, 50V	1	
C8	ECCD1H150KR	Ceramic, 15pF, 50V	1	
C9	ECCD1H030CC	Ceramic, 3pF, 50V	1	
C10	ECCD1H050CC	Ceramic, 5pF, 50V	1	
C11	ECCD1H181K	Ceramic, 180pF, 50V	1	
C12	ECKD1H103ZF	Ceramic, 0.01μF, 50V	1	
C13	ECKD1H223ZF	Ceramic, 0.022μF, 50V	1	
C14	ECCD1H030CC	Ceramic, 3pF, 50V	1	
C15	ECKD1H102ZF	Ceramic, 0.001μF, 50V	1	
C16	ECCD1H220KR	Ceramic, 22pF, 50V	1	
C17	ECCD1H030CC	Ceramic, 3pF, 50V	1	
C18	ECCD1H070DC	Ceramic, 7pF, 50V	1	
C19	ECCD1H390KC	Ceramic, 39pF, 50V	1	
C20	ECCD1H150KC	Ceramic, 15pF, 50V	1	
C21	ECCD1H030CC	Ceramic, 3pF, 50V	1	
C22	**ECEA16V47**	Electrolytic, 47μF, 16V	1	
C23	ECKD1H103ZF	Ceramic, 0.01μF, 50V	1	
C101	ECQM1H473JZ	Polyester, 0.047μF, 50V	1	
C102	ECKD1H223ZF	Ceramic, 0.022μF, 50V	1	
C103	**ECEA50Z3R3**	Electrolytic, 3.3μF, 50V	1	
C104, 105	ECKD1H223ZF	Ceramic, 0.022μF, 50V	2	
C106	**ECEA50Z3R3**	Electrolytic, 3.3μF, 50V	1	
C107	**ECEA16V10**	Electrolytic, 10μF, 16V	1	
C108	ECCD1H680KC	Ceramic, 68pF, 50V	1	
C109	**ECEA50Z1**	Electrolytic, 1μF, 50V	1	
C110	ECKD1H223ZF	Ceramic, 0.022μF, 50V	1	
C111	**ECEA16V10**	Electrolytic, 10μF, 16V	1	
C112, 113	ECKD1H223ZF	Ceramic, 0.022μF, 50V	2	
C114	ECKD1H103ZF	Ceramic, 0.01μF, 50V	1	
C115	**ECEA6V330V**	Electrolytic, 330μF, 6.3V	1	
C116	**ECEA50MR22R**	Electrolytic, 0.22μF, 50V	1	
C117	ECKD1H103ZF	Ceramic, 0.01μF, 50V	1	
C118	**ECEA50Z1**	Electrolytic, 1μF, 50V	1	
C119	ECCD1H020CC	Ceramic, 2pF, 50V	1	
C120	**ECEA50Z3R3**	Electrolytic, 3.3μF, 50V	1	
C201	ECCD1H030CC	Ceramic, 3pF, 50V	1	
C202	ECCD1H150KC	Ceramic, 15pF, 50V	1	
C203	ECKD1H103ZF	Ceramic, 0.01μF, 50V	1	
C204	ECKD1H223ZF	Ceramic, 0.022μF, 50V	1	
C205	ECKD1H103MD	Ceramic, 0.01μF, 50V	1	
C206	ECQS05361JZ	Styrol, 360pF, 50V	1	
C207	ECKD1H102ZF	Ceramic, 0.001μF, 50V	1	
C208	**ECEA50Z3R3**	Electrolytic, 3.3μF, 50V	1	
C209	ECKD1H331KB	Ceramic, 330pF, 50V	1	
C210	ECCD1H390KC	Ceramic, 39pF, 50V	1	
C211, 212	ECKD1H103ZF	Ceramic, 0.01μF, 50V	2	
C213, 214	**ECEA50VR47**	Electrolytic, 0.47μF, 50V	2	
C215	**ECEA50VR47**	Electrolytic, 0.47μF, 50V	1	
C216	ECQM1H103KZ	Polyester, 0.01μF, 50V	1	
C217	**ECEA50Z3R3**	Electrolytic, 3.3μF, 50V	1	
C218	ECQM1H103KZ	Polyester, 0.01μF, 50V	1	
C301, 302	**ECEA16V47**	Electrolytic, 47μF, 16V	2	
C303, 304	ECQM1H273JZ	Polyester, 0.027μF, 50V	2	
C305	**ECEA16V10**	Electrolytic, 10μF, 16V	1	
C306	ECQM1H103KZ	Polyester, 0.01μF, 50V	1	
C307	**ECEA16V10**	Electrolytic, 10μF, 16V	1	
C308	ECQM1H103KZ	Polyester, 0.01μF, 50V	1	
C309	**ECEA50M1R**	Electrolytic, 1μF, 50V	1	
C310, 311	ECQM1H103KZ	Polyester, 0.01μF, 50V	2	

o.	Part No.	Part Name & Description	Per Set	Remarks
	EVLS3AA00B15	Muting Level Adjustment, 100kΩ (B)	1	
	EVLS3AA00B24	FM Meter Adjustment, 20kΩ (B)	1	
	EVTS3MA00B14	PLL VCO Adjustment, 10kΩ (B)	1	
	EVLS3AA00B15	19kHz Level Adjustment, 100kΩ (B)	1	
	EVLS3AA00B14	Separation Adjustment, 10kΩ (B)	1	
	EVLS7AA00B12	ICQ Adjustment, 100Ω (B)	2	
	EVLS3AA00B24	LED Lighting Level Adjustment, 20kΩ (B)	2	
	EVTS3MA00B52	Comparator Adjustment, 500Ω (B)	1	○
	EVTS3MA00B13	Comparator Adjustment, 1kΩ (B)	1	○
	EVTS3MA00B52	Comparator Adjustment, 500Ω (B)	1	○
	EVTS3MA00B13	Comparator Adjustment, 1kΩ (B)	1	○
		CAPACITORS		
	ECCD1H150KC	Ceramic, 15pF, 50V, ±10%	2	
	ECCD1H150KC	Ceramic, 15pF, 50V, ±10%	1	
	ECGN5R91K	Ceramic, 0.91pF, 50V, ±10%	1	
	ECCD1H180KR	Ceramic, 18pF, 50V, ±10%	1	
	ECKD1H102ZF	Ceramic, 0.001μF, 50V, +80% −20%	1	
	ECKD1H102MDA	Ceramic, 0.001μF, 50V, ±20%	1	
	ECCD1H150KR	Ceramic, 15pF, 50V, ±10%	1	
	ECCD1H030CC	Ceramic, 3pF, 50V, ±0.25pF	1	
	ECCD1H050CC	Ceramic, 5pF, 50V, ±0.25pF	1	
	ECCD1H181K	Ceramic, 180pF, 50V, ±10%	1	
	ECKD1H103ZF	Ceramic, 0.01μF, 50V, +80% −20%	1	
	ECKD1H223ZF	Ceramic, 0.022μF, 50V, +80% −20%	1	
	ECCD1H030CC	Ceramic, 3pF, 50V, ±0.25pF	1	
	ECKD1H102ZF	Ceramic, 0.001μF, 50V, +80% −20%	1	
	ECCD1H220KR	Ceramic, 22pF, 50V, ±10%	1	
	ECCD1H030CC	Ceramic, 3pF, 50V, ±0.25pF	1	
	ECCD1H070DC	Ceramic, 7pF, 50V, ±0.5pF	1	
	ECCD1H390KC	Ceramic, 39pF, 50V, ±10%	1	
	ECCD1H150KC	Ceramic, 15pF, 50V, ±10%	1	
	ECCD1H030CC	Ceramic, 3pF, 50V, ±0.25pF	1	
	ECEA16V47	Electrolytic, 47μF, 16V	1	
	ECKD1H103ZF	Ceramic, 0.01μF, 50V, +80% −20%	1	
	ECQM1H473JZ	Polyester, 0.047μF, 50V, ± 5%	1	
	ECKD1H223ZF	Ceramic, 0.022μF, 50V, +80% −20%	1	
	ECEA50Z3R3	Electrolytic, 3.3μF, 50V	1	
	ECKD1H223ZF	Ceramic, 0.022μF, 50V, +80% −20%	2	
	ECEA50Z3R3	Electrolytic, 3.3μF, 50V	1	
	ECEA16V10	Electrolytic, 10μF, 16V	1	
	ECCD1H680KC	Ceramic, 68pF, 50V, ±10%	1	
	ECEA50Z1	Electrolytic, 1μF, 50V	1	
	ECKD1H223ZF	Ceramic, 0.022μF, 50V, +80% −20%	1	
	ECEA16V10	Electrolytic, 10μF, 16V	1	
	ECKD1H223ZF	Ceramic, 0.022μF, 50V, +80% −20%	2	
	ECKD1H103ZF	Ceramic, 0.01μF, 50V, +80% −20%	1	
	ECEA6V330V	Electrolytic, 330μF, 6.3V	1	
	ECEA50MR22R	Electrolytic, 0.22μF, 50V	1	
	ECKD1H103ZF	Ceramic, 0.01μF, 50V, +80% −20%	1	
	ECEA50Z1	Electrolytic, 1μF, 50V	1	
	ECCD1H020CC	Ceramic, 2pF, 50V, ±0.25pF	1	
	ECEA50Z3R3	Electrolytic, 3.3μF, 50V	1	
	ECCD1H030CC	Ceramic, 3pF, 50V, ±0.25pF	1	
	ECCD1H150KC	Ceramic, 15pF, 50V, ±10%	1	
	ECKD1H103ZF	Ceramic, 0.01μF, 50V, +80% −20%	1	
	ECKD1H223ZF	Ceramic, 0.022μF, 50V, +80% −20%	1	
	ECKD1H103MD	Ceramic, 0.01μF, 50V, ±20%	1	
	ECQS05361JZ	Styrol, 360pF, 50V, ± 5%	1	
	ECKD1H102ZF	Ceramic, 0.001μF, 50V, +80% −20%	1	
	ECEA50Z3R3	Electrolytic, 3.3μF, 50V	1	
	ECKD1H331KB	Ceramic, 330pF, 50V, ±10%	1	
	ECCD1H390KC	Ceramic, 39pF, 50V, ±10%	1	
	ECKD1H103ZF	Ceramic, 0.01μF, 50V, +80% −20%	2	
	ECEA50VR47	Electrolytic, 0.47μF, 50V	2	
	ECEA50VR47	Electrolytic, 0.47μF, 50V	1	
	ECQM1H103KZ	Polyester, 0.01μF, 50V, ±10%	1	
	ECEA50Z3R3	Electrolytic, 3.3μF, 50V	1	
	ECQM1H103KZ	Polyester, 0.01μF, 50V, ±10%	1	
	ECEA16V47	Electrolytic, 47μF, 16V	2	
	ECQM1H273JZ	Polyester, 0.027μF, 50V, ± 5%	2	
	ECEA16V10	Electrolytic, 10μF, 16V	1	
	ECQM1H103KZ	Polyester, 0.01μF, 50V, ±10%	1	
	ECEA16V10	Electrolytic, 10μF, 16V	1	
	ECQM1H103KZ	Polyester, 0.01μF, 50V, ±10%	1	
	ECEA50M1R	Electrolytic, 1μF, 50V	1	
	ECQM1H103KZ	Polyester, 0.01μF, 50V, ±10%	2	

Ref. No.	Part No.	Part Name & Description	Per Set	Remarks
C312	**ECEA16V10**	Electrolytic, 10μF, 16V	1	
C313	ECQS05562JZ	Styrol, 5600pF, 50V, ± 5%	1	
C314, 315	ECQM1H103KZ	Polyester, 0.01μF, 50V, ±10%	2	
C316	**ECEA50VR47**	Electrolytic, 0.47μF, 50V	1	
C317	**ECEA50MR22R**	Electrolytic, 0.22μF, 50V	1	
C318	ECQS05471JZ	Styrol, 470pF, 50V, ± 5%	1	
C320	ECQM1H153KZ	Polyester, 0.015μF, 50V, ±10%	1	
C321, 322	ECQM1H152KZ	Polyester, 0.0015μF, 50V, ±10%	2	
C323, 324	**ECEA50M3R3R**	Electrolytic, 3.3μF, 50V	2	
C325, 326	**ECEA50M3R3R**	Electrolytic, 3.3μF, 50V	2	
C327	**ECEA16V47**	Electrolytic, 47μF, 16V	1	
C328	ECKD1H471KB	Ceramic, 470pF, 50V, ±10%	1	
C329, 330	**ECEA50M3R3R**	Electrolytic, 3.3μF, 50V	2	
C401, 402	**ECEA50M3R3R**	Electrolytic, 3.3μF, 50V	2	
C403, 404	ECKD1H222ZF	Ceramic, 0.0022μF, 50V, +80% −20%	2	
C405, 406	ECKD1H471KB	Ceramic, 470pF, 50V, ±10%	2	
C407, 408	ECCD1H150KC	Ceramic, 15pF, 50V, ±10%	2	
C409, 410	**ECEA16V33**	Electrolytic, 33μF, 16V	2	
C411, 412	**ECEA6V330V**	Electrolytic, 330μF, 6.3V	2	
C413, 414	**ECEA50N1**	Non-Polar Electrolytic, 1μF, 50V, +80% −20%	2	
C415, 416	ECQF1393GZN	Polypropylene, 0.039μF, 100V, ± 2%	2	
C417, 418	ECQF1103GZN	Polypropylene, 0.01μF, 100V, ± 2%	2	
C419, 420	ECQM1H102JZ	Polyester, 0.001μF, 50V, ± 5%	2	
C421, 422	ECQM1H102JZ	Polyester, 0.001μF, 50V, ± 5%	2	
C423, 424	**ECEA50V47V**	Electrolytic, 47μF, 50V	2	
C425, 426	ECCD1H390KC	Ceramic, 39pF, 50V, ±10%	2	
C501, 502	**ECEA50MR68R**	Electrolytic, 0.68μF, 50V	2	
C503, 504	ECCD1H470K	Ceramic, 47pF, 50V, ±10%	2	
C505, 506	**ECEA6V330V**	Electrolytic, 330μF, 6.3V	2	
C507, 508	**ECEA10V100V**	Electrolytic, 100μF, 10V	2	
C509, 510	**ECEA25Z4R7**	Electrolytic, 4.7μF, 25V	2	
C511, 512	ECQM1H823KZ	Polyester, 0.082μF, 50V, ±10%	2	
C513, 514	ECQM1H223KZ	Polyester, 0.022μF, 50V, ±10%	2	
C515, 516	ECQM1H152KZ	Polyester, 0.0015μF, 50V, ±10%	2	
C519, 520	ECQM1H223KZ	Polyester, 0.022μF, 50V, ±10%	2	
C521, 522	**ECEA50MR68R**	Electrolytic, 0.68μF, 50V,	2	
C523, 524	ECCD1H470K	Ceramic, 47pF, 50V, ±10%	2	
C525, 526	**ECEA6V330V**	Electrolytic, 330μF, 6.3V	2	
C527, 528	**ECEA50M1R**	Electrolytic, 1μF, 50V	2	
C529, 530	ECQM1H682KZ	Polyester, 0.0068μF, 50V, ±10%	2	
C531, 532	ECQM1H273KZ	Polyester, 0.027μF, 50V, ±10%	2	
C533, 534	ECQM1H392KZ	Polyester, 0.0039μF, 50V, ±10%	2	
C535, 536	ECQM1H392KZ	Polyester, 0.0039μF, 50V, ±10%	2	
C537, 538	ECQM1H392KZ	Polyester, 0.0039μF, 50V, ±10%	2	
C539, 540	**ECEA50M4R7R**	Electrolytic, 4.7μF, 50V	2	
C541, 542	**ECEA25V47V**	Electrolytic, 47μF, 25V	2	
C543, 544	ECQM1H392KZ	Polyester, 0.0039μF, 50V, ±10%	2	
C545, 546	ECQM1H333KZ	Polyester, 0.033μF, 50V, ±10%	2	
C547, 548	ECKD1H681KB	Ceramic, 680pF, 50V, ±10%	2	
C549, 550	**ECEA50M1R**	Electrolytic, 1μF, 50V	2	
C551, 552	**ECEA50M1R**	Electrolytic, 1μF, 50V	2	
C553, 554	**ECEA25V47V**	Electrolytic, 47μF, 25V	2	
C561, 562	**ECCD1H390K**	Ceramic, 39pF, 50V, ±10%	2	
C601, 602	**ECEA50M1R**	Electrolytic, 1μF, 50V	2	
C603, 604	ECCD1H101K	Ceramic, 100pF, 50V, ±10%	2	
C605, 606	ECKD1H221KB	Ceramic, 220pF, 50V, ±10%	2	
C607, 608	ECCD2H070D	Ceramic, 7pF, 500V, ±0.5pF	2	
C609, 610	**ECEA16V33**	Electrolytic, 33μF, 16V	2	
C611, 612	**ECEA50V100V**	Electrolytic, 100μF, 50V	2	
C613, 614	ECCD2H270K	Ceramic, 27pF, 500V, ±10%	2	
C615, 616	ECKD1H681KB	Ceramic, 680pF, 50V, ±10%	2	
C617, 618	ECKD1H681KB	Ceramic, 680pF, 50V, ±10%	2	
C619, 620	ECCD2H680K	Ceramic, 68pF, 500V, ±10%	2	
C621, 622	ECCD2H680K	Ceramic, 68pF, 500V, ±10%	2	
C623, 624	ECQM1473KZ	Polyester, 0.047μF, 100V, ±10%	2	
C625, 626	ECKD1H103ZF	Ceramic, 0.01μF, 50V, +80% −20%	2	
C629, 630	ECCD1H100K	Ceramic, 10pF, 50V, ±10%	2	
C631, 632	ECCD1H181K	Ceramic, 180pF, 50V, ±10%	2	
C702	**ECEA35V100V**	Electrolytic, 100μF, 35V	1	
C703	**ECEA35V470V**	Electrolytic, 470μF, 35V	1	
C704	**ECEA25V330V**	Electrolytic, 330μF, 25V	1	
C705, 706	ECEM80R153Z	Electrolytic, 15000μF, 80V	2	○
C707	**ECEA25V10**	Electrolytic, 10μF, 25V	1	
C708, 709	**ECEA100V47V**	Electrolytic, 47μF, 100V	2	
C710, 711	ECKD1H103ZF	Ceramic, 0.01μF, 50V, +80% −20%	2	
C712, 713	**ECEA100V47V**	Electrolytic, 47μF, 100V	2	
C714	ECEA100V100A	Electrolytic, 100μF, 100V	1	
C715	**ECEA35V100V**	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, +80% −20%	1	
C718	ECSA1CS471	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, +80% −20%	1	
C808, 809	**ECEA16V10**	Electrolytic, 10μF, 16V	2	
C901	**ECEA35V4R7**	Electrolytic, 4.7μF, 35V	1	
C902, 903	ECKD1H103ZF	Ceramic, 0.01μF, 50V, +80% −20%	2	
C904, 905	ECKD1H103ZF	Ceramic, 0.01μF, 50V, +80% −20%	2	
C907	ECKD1H102ZF	Ceramic, 0.001μF, 50V, +80% −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, +80% −20%	1	
C912, 913	ECKD1H103ZF	Ceramic, 0.01μF, 50V, +80% −20%	2	
C914, 915	ECKD1H103ZF	Ceramic, 0.01μF, 50V, +80% −20%	2	
C916, 917	ECKD1H223ZF	Ceramic, 0.022μF, 50V, +80% −20%	2	
C918	**ECEA16V33**	Electrolytic, 33μF, 16V	1	
C919	ECKD1H102ZF	Ceramic, 0.001μF, 50V, +80% −20%	1	
C920	ECQM1H274KZ	Polyester, 0.27μF, 50V, ±10%	1	
C921	**ECEA50Z1**	Electrolytic, 1μF, 50V	1	
C922	ECKD1H102ZF	Ceramic, 0.001μF, 50V, +80% −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, +100% 0%	1	
C931, 932	ECKD1H103ZF	Ceramic, 0.01μF, 50V, +80% −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	○

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ORDER NO. HAD8710325S2

Service Manual

Supplement

Cassette Receiver

SA-X800

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
INTEGRATED CIRCUIT		
IC61	TA7770N	I.C, DOLBY-NR
RESISTORS		
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
CAPACITORS		
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

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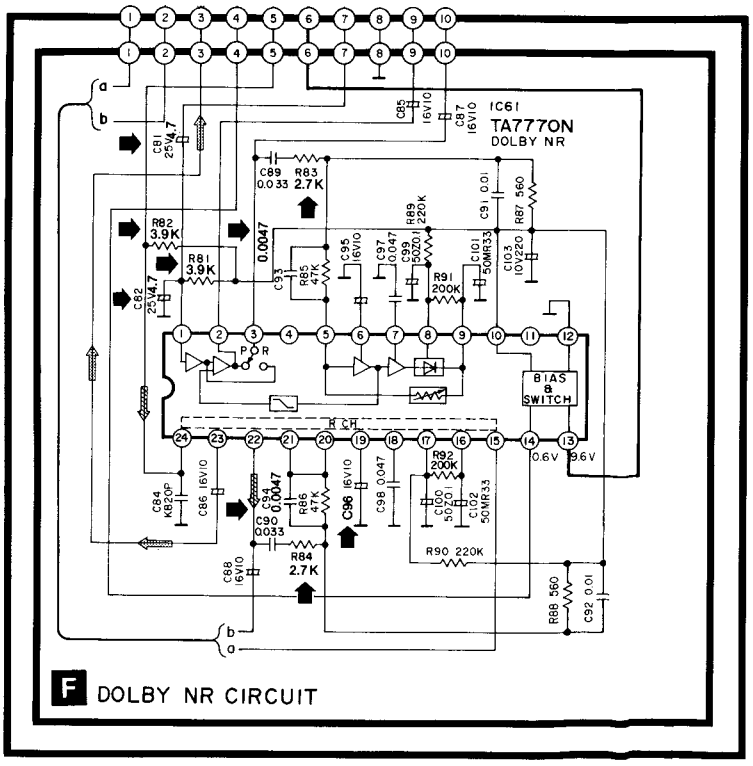

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Matsushita Electric Trading Co., Ltd.
P.O. Box 288, Central Osaka Japan

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H871-102300 IM

ORDER NO. HAD8710318S2

Service Manual

Supplement

Cassette Receiver

SA-X800L

Color

(K)...Black Type

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

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

Note:

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ADDITION

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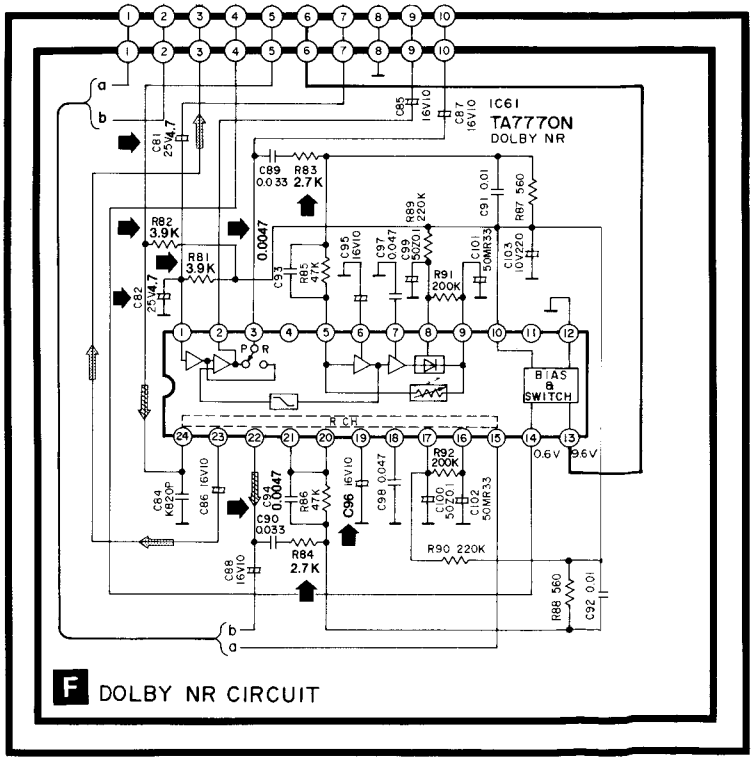
R83, R84	ERDS2TJ272	1/4W, 2.7kΩ
R85, R86	ERDS2TJ473	1/4W, 47kΩ
R87, R88	ERDS2TJ561	1/4W, 560Ω
R89, R90	ERDS2TJ224	1/4W, 220kΩ
R91, R92	ERDS2TJ204	1/4W, 200kΩ
CAPACITORS		
C81, C82	ECEA1EU4R7	25V, 4.7μF
C83, C84	RCBS1H821KBY	50V, 820pF
C85, C86	ECEA1CU100	16V, 10μF
C87, C88	ECEA1CU100	16V, 10μF
C89, C90	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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