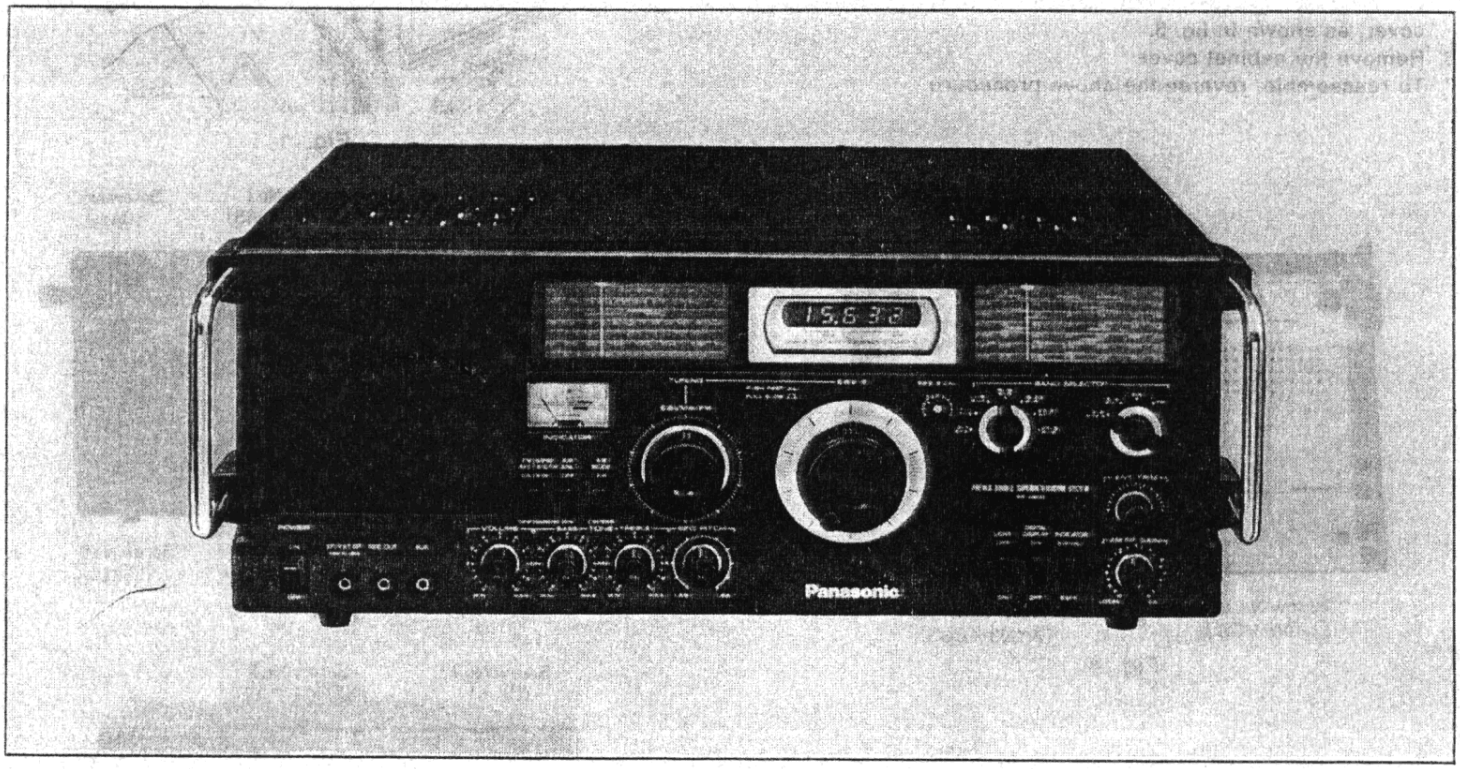
ORDER NO. RD7710-1509

Service Manual

Radio

10-BAND
COMMUNICATION RECEIVER

RF-4800



SPECIFICATIONS

Frequency Range:	FM 88～108 MHz
	MW 525～1605 kHz (571～187m)
	SW_1 1.6～3 MHz (187～100m)
	SW_2 3～7 MHz (100～42.9m)
	SW_3 7～11 MHz (42.9～27.3m)
	SW_4 11～15 MHz (27.3～20m)
	SW_5 15～19 MHz (20～15.8m)
	SW_6 19～23 MHz (15.8～14.7m)
	SW_7 23～27.3 MHz (14.7～11m)
	SW_9 27～31 MHz (11.1～9.7m)
Intermediate Frequency:	FM 10.7 MHz
	MW/SW_1 455 kHz
	SW_2～$_8$ 1st IF 2 MHz
	2nd IF 455 kHz
Sensitivity:	FM 3μV (S/N 26 dB)
	MW 60μV/m (S/N 10 dB)
	SW_1 1μV (S/N 10 dB)
	SW_2 1.3μV (S/N 10 dB)
	SW_3 0.8μV (S/N 10 dB)
	SW_4 1.2μV (S/N 10 dB)
	SW_5 1.2μV (S/N 10 dB)
	SW_6 1.2μV (S/N 10 dB)
	SW_7 1.3μV (S/N 10 dB)
	SW_8 1.3μV (S/N 10 dB)

Power Source:	AC 120V 60 Hz or 12V (Eight "D" Size Flash-light Batteries) (Panasonic UM-1 or equivalent)
Power Consumption:	10W (AC Only)
Speaker:	10 cm (4") PM Dynamic Speaker
Dimensions:	$18\frac{31}{32}$(Wide) × $7\frac{7}{8}$(High) × $13\frac{15}{16}$(Deep) (482 × 200 × 354 mm)
Weight:	9 kg (19 lb 13.5 oz) with batteries
Impedance:	Speaker 4Ω
	AUX Jack 300kΩ (20mV)
	REC OUT Jack 4kΩ (400mV)
	Earphone Jack .....4～8Ω
	FM EXT ANT 300Ω
	SW_1/MW 75Ω
	SW_2～$_8$ 75Ω

Specifications are subject to change without notice for further improvement.

Panasonic®

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40 Ronson Drive, Rexdale, Ont. M9W 1B5

■ TO REMOVE CABINET COVER

1. Remove the four (4) covers for the handle in the direction of arrow, as shown in fig. 1.
2. Remove the six (5) screws (nos. 1~5) for the handle and cabinet cover, as shown in fig. 2.
3. Remove the six (5) screws (nos. 1~5) for the handle and cabinet cover, as shown in fig. 3.
4. Remove the eight (8) screws (nos. 1~8) for the cabinet cover, as shown in fig. 4.
5. Remove the nine (9) screws (nos. 1~9) for the cabinet cover, as shown in fig. 5.
6. Remove the cabinet cover.
7. To reassemble, reverse the above procedure.

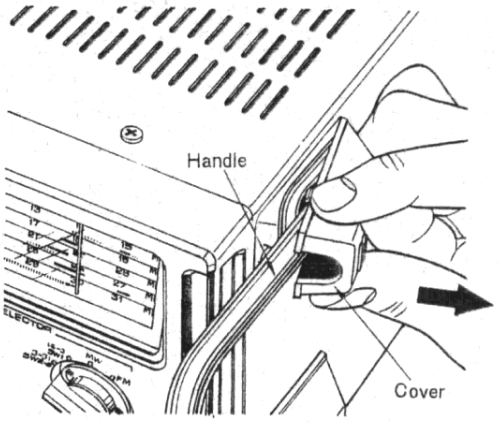


Fig. 1

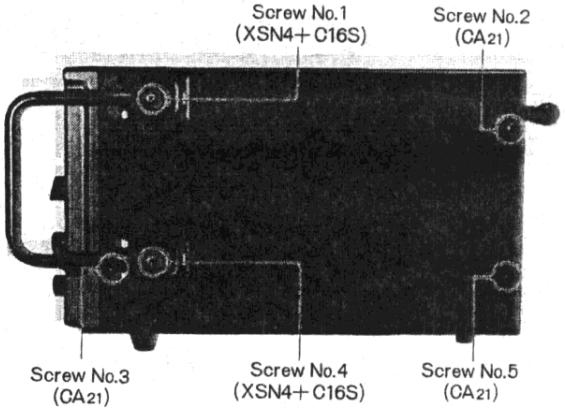


Fig. 2

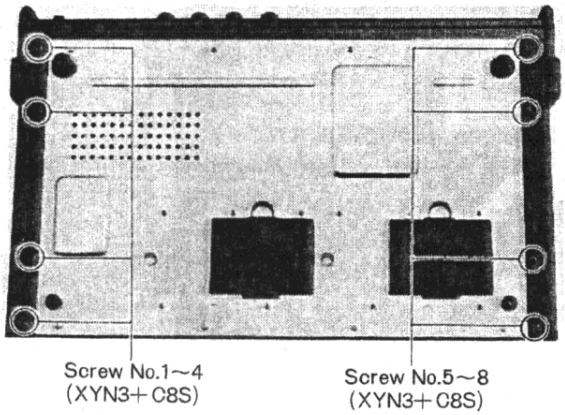


Fig. 4

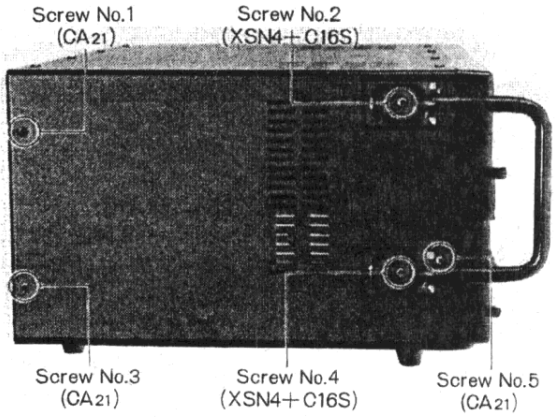


Fig. 3

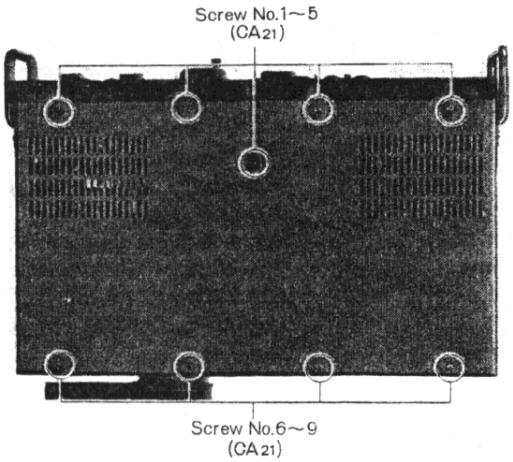


Fig. 5

■ TO REMOVE BOTTOM COVER

1. Remove the cabinet cover. (Refer to cabinet cover removal instruction.)
2. Remove the eight (8) screws (nos. 1~8) for the bottom cover as shown in fig. 6.
3. Remove the bottom cover.
4. Remove the socket from power source PC board.
5. To reassemble, reverse the above procedure.

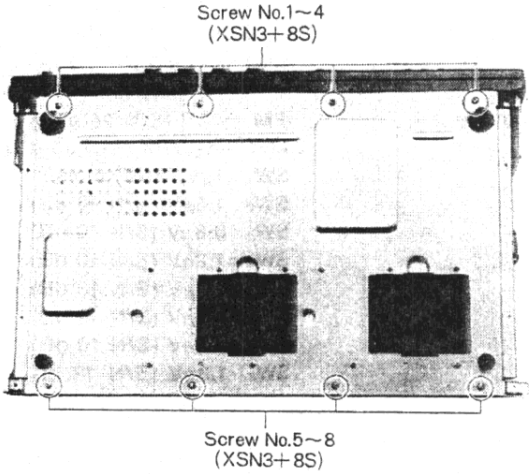


Fig. 6

■ TO REMOVE FREQUENCY COUNTER

1. Remove the cabinet cover. (Refer to cabinet cover removal instruction.)
2. Remove the socket from PC board.
3. Remove the three (3) screws (nos. 1~3) for the frequency counter, as shown in fig. 7.
4. Remove the frequency counter.
5. To reassemble, reverse the above procedure.

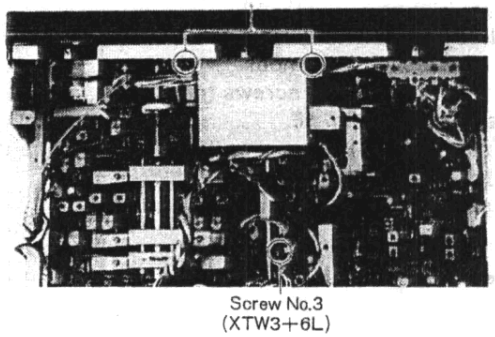


Fig. 7

■ TO REMOVE PC BOARD (Frequency Counter)

1. Remove the frequency counter.
2. Remove the two (2) screws (nos. 1 & 2) for the shield cover, as shown in fig. 8.
3. Remove the two (2) screws (nos. 1 & 2) for the PC board, as shown in fig. 9.
4. Remove the PC board.
5. To reassemble, reverse the above procedure.

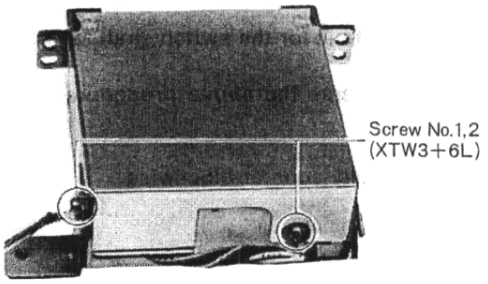


Fig. 8

■ TO REMOVE PC BOARD (VFO Circuit)

1. Remove the bottom cover. (Refer to bottom cover removal instruction.)
2. Loosen the two (2) screws (nos. 1 & 2) for the tuning capacitor shaft, as shown in fig. 10.
3. Remove the one (1) screw for the PC board, as shown in fig. 11.
4. Remove the three (3) screws (nos. 1~3) for the PC board, as shown in fig. 12.
5. To remove PC board completely unsolder lead wires from the other PC board.
6. To reassemble, reverse the above procedure and read the following notes.

Notes:
1. Set tuning capacitor to maximum capacity.
2. Turn tuning shaft fully counter-clockwise.

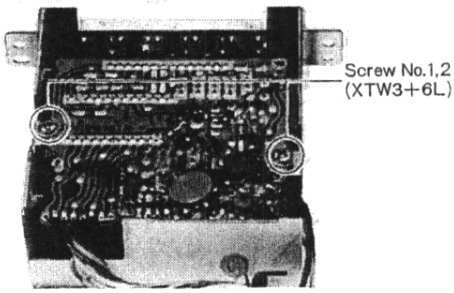


Fig. 9

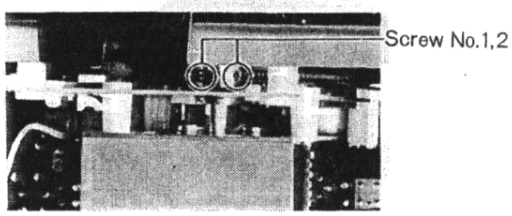


Fig. 10

■ TO REMOVE FERRITE ANTENNA

1. Remove the bottom cover. (Refer to the bottom cover removal instruction.)
2. Unsolder lead wires from PC board.
3. Push the catches in the direction of arrows, as shown in fig. 13 and remove the holder.
4. Push the holder in the direction of arrows ① and ② and open the holder in the direction of arrow ③ and ④, as shown in fig. 14.
5. Remove the ferrite antenna.
6. To reassemble, reverse the above procedure and read the following note.

Note:
1. Insert the lead wires in the slit of holder, as shown in fig. 15.

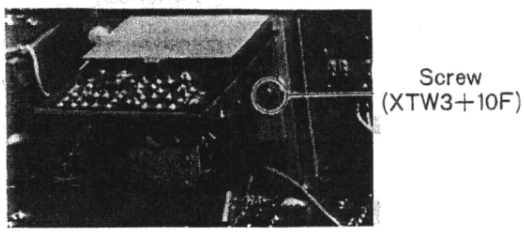


Fig. 11

■ TO REMOVE FRONT PANEL

1. Remove the bottom cover. (Refer to the bottom cover removal instruction.)
2. Pull out sockets from speaker.
3. Pull out socket from PC board.
4. Remove the eleven (11) knobs.
5. Remove the three (3) red screws (nos. 1~3) for the front panel, as shown in fig. 16.
6. Remove the three (3) red screws (nos. 1~3) for the front panel, as shown in fig. 17.
7. To reassemble, reverse the above procedure.

■ TO REMOVE BAND SWITCH SHAFT ($SW_2 \sim _8$, SW_1, MW, FM)

1. Remove the front panel. (Refer to the front panel removal instruction.)
2. Set band switch to "$SW_2 \sim _8$" position.
3. Remove the switch wire in the direction of arrow, as shown in fig. 18.
4. Remove the one (1) nut for the switch shaft, as shown in fig. 19.
5. To reassemble, reverse the above procedure and read the following note.

Note:

1. Turn switch shaft fully counter-clockwise.

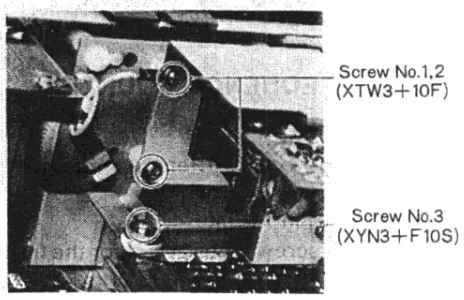


Fig. 12

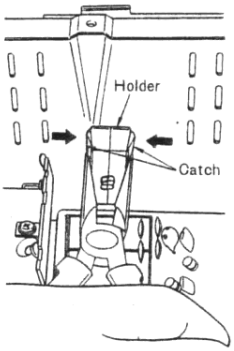


Fig. 13

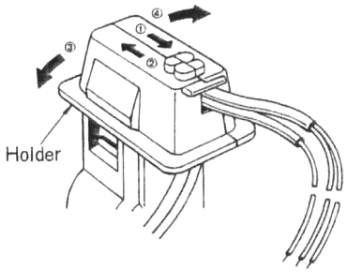


Fig. 14

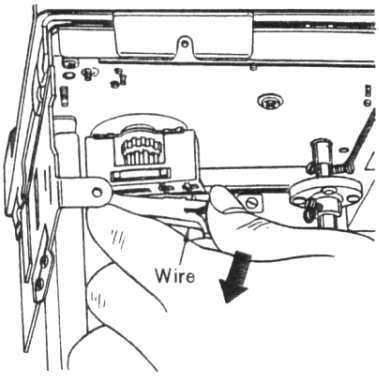


Fig. 18

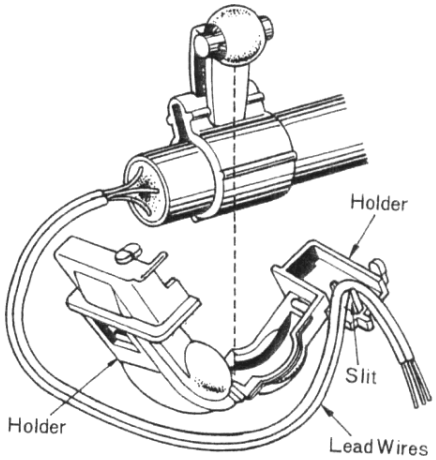


Fig. 15

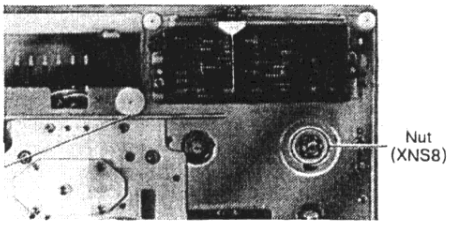


Fig. 19

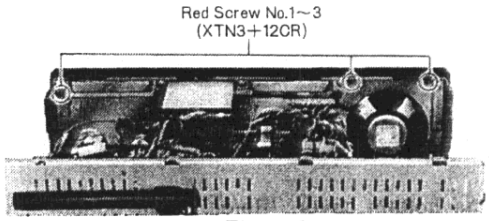


Fig. 16

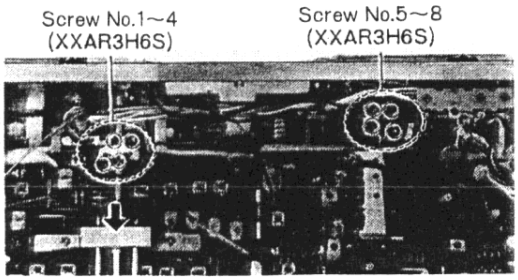


Fig. 20

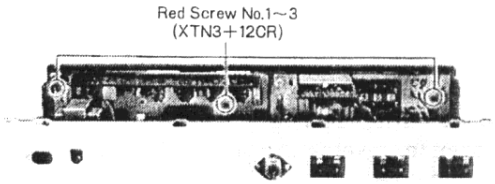


Fig. 17

■ TO REMOVE BAND SWITCH SHAFT ($SW_2 \sim 8$)

1. Remove the frequency counter. (Refer to the frequency counter removal instruction.)
2. Loosen the four (4) screws (nos. 1~4) for the joint, as shown in fig. 20.
3. Slide the joint in the direction of arrow, as shown in fig. 20.
4. Remove the six (6) screws (nos. 1~6) for the shaft, as shown in fig. 21.
5. Remove the shaft.
6. To reassemble, reverse the above procedure and read the following notes.

Notes:

1. Turn switch shaft fully counter-clockwise.
2. Set the switch lever at the position, as shown in fig. 23.

■ TO REMOVE PC BOARD (FM, MW RF Circuit)

1. Remove the frequency counter. (Refer to the frequency counter removal instruction.)
2. Remove the front panel. (Refer to the front panel removal instruction.)
3. Remove the dial scale.
4. Remove the dial cord.
5. Turn dial drum fully counter-clockwise.
6. Loosen the four (4) screws (nos. 5~8) for the joint, as shown in fig. 20.
7. Remove the dial drum.
8. Set the band switch to "$SW_2 \sim 8$" position.
9. Remove the switch wire in the direction of arrow, as shown in fig. 22.
10. Remove the six (6) screws (nos. 7~12) for the PC board, as shown in fig. 21.
11. Remove the PC board.
12. To reassemble, reverse the above procedure and read the following notes.

Notes:

1. Set the tuning capacitor to maximum capacity.
2. Set the dial drum at the position, as shown in fig. 24.
3. Set the switch lever at the position, as shown in fig. 25.
4. Refer to dial cord installation (SW_1/MW/FM).

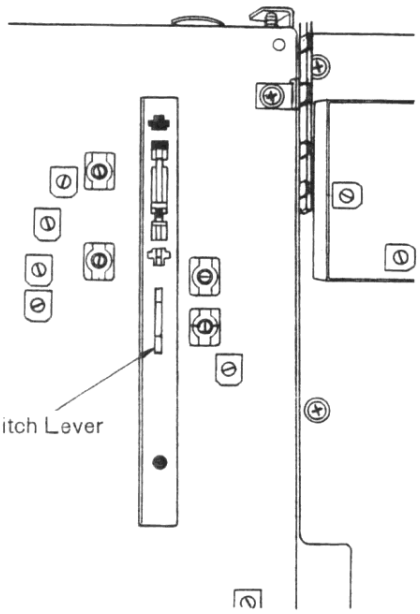


Fig. 25

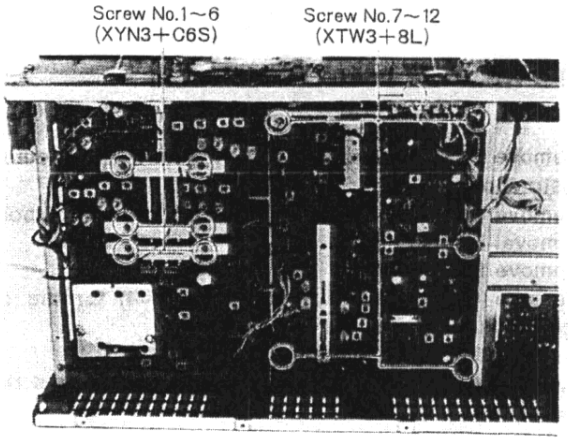


Fig. 21

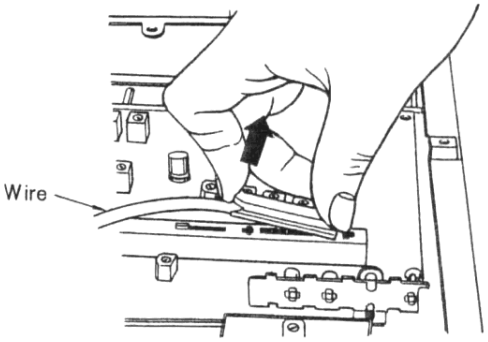


Fig. 22

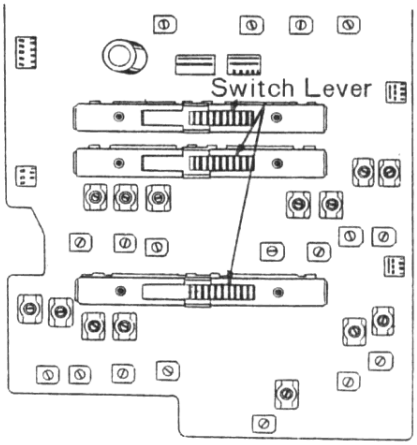


Fig. 23

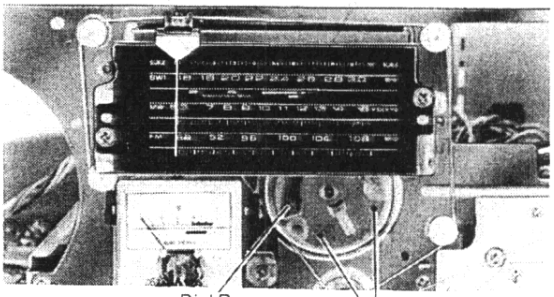


Fig. 24

■ TO REMOVE DIAL MECHANISM

1. Remove the front panel. (Refer to the front panel removal instruction.)
2. Remove the PC board (VFO circuit). (Refer to PC board removal instruction.)
3. Remove the dial cord.
4. Remove the four (4) screws (nos. 1~4) for the dial mechanism, as shown in fig. 26.
5. Remove the dial mechanism.
6. To reassemble, reverse the above procedure and read the following notes.

Note:

1. Refer to dial cord installation (SW_2~$_8$).

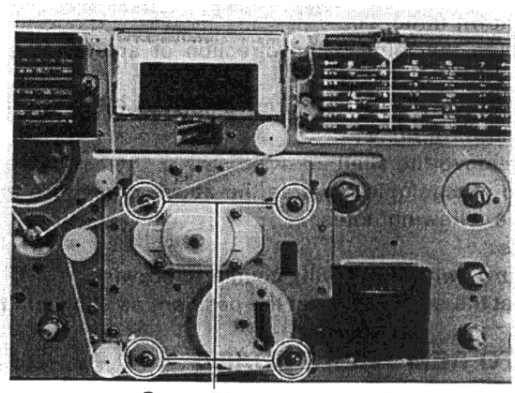


Fig. 26

■ DIAL CORD INSTALLATION GUIDE

• SW_1 /MW/FM

1. Remove the front panel. (Refer to the front panel removal instruction.)
2. Remove the dial scale.
3. Turn the dial drum fully counter-clockwise.
4. Cord length is 90 cm ($35\frac{7}{16}$").
5. Arrows (1~10) indicate correct order and direction of cord installation, as shown in fig. 27.
6. Cement cord ends.
7. Turn tuning shaft fully counter-clockwise.
8. Attach pointer to cord.
9. Set pointer to "0" point of dial scale.

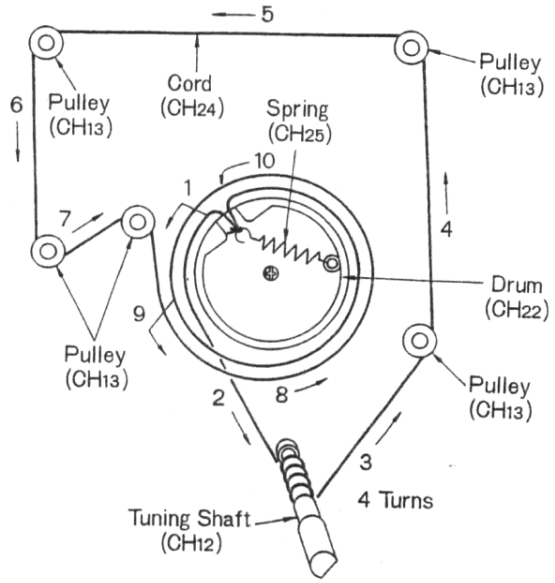


Fig. 27

• SW_2 ~SW_8

1. Remove the front panel. (Refer to the front panel removal instruction.)
2. Turn tuning shaft fully clockwise.
3. Cord length is 115 cm ($47\frac{1}{4}$").
4. Arrows (1~9) indicate correct order and direction of cord installation, as shown in fig. 28.
5. Turn tuning shaft fully counter-clockwise.
6. Attach pointer to cord.
7. Set pointer to start point of dial scale.

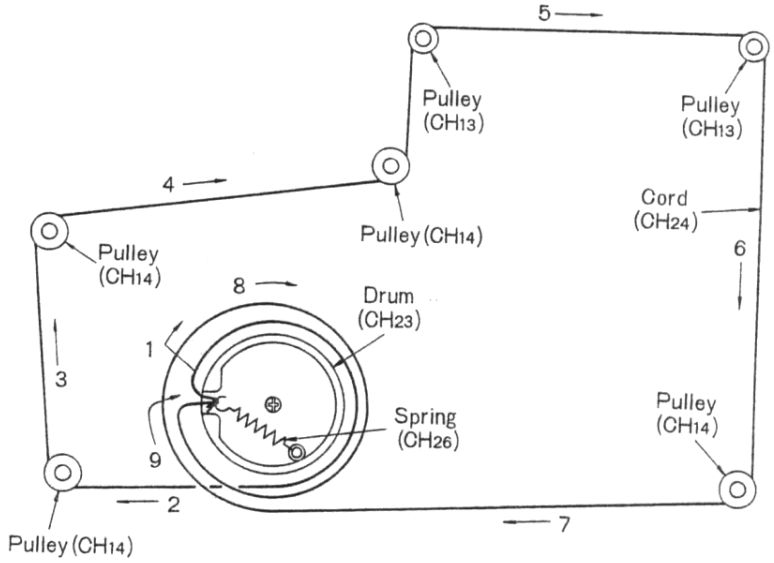


Fig. 28

■ HOW TO REPLACE CHIP

1. Remove solder for chip completely.
2. Remove chip by nippers, as shown in fig. 29.
3. Use tube for service parts as shown in fig. 30 and solder service parts according to following table. (please refer to Circuit Board Wiring View for the value of resistor and capacitor).

Color	Original Parts Name	Service Parts Name
Black	Chip Resistor	Carbon Resistor
Brown	Chip Capacitor	Ceramic Capacitor
Blue	Chip Jumper	Lead Wire

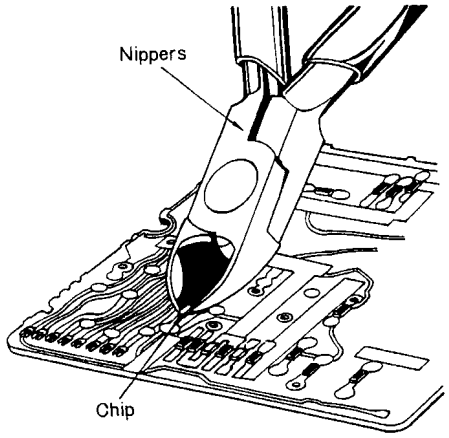


Fig. 29

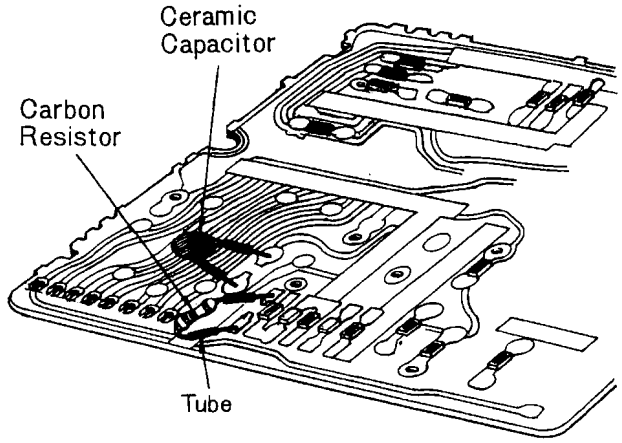


Fig. 30

■ CABINET PARTS LOCATION

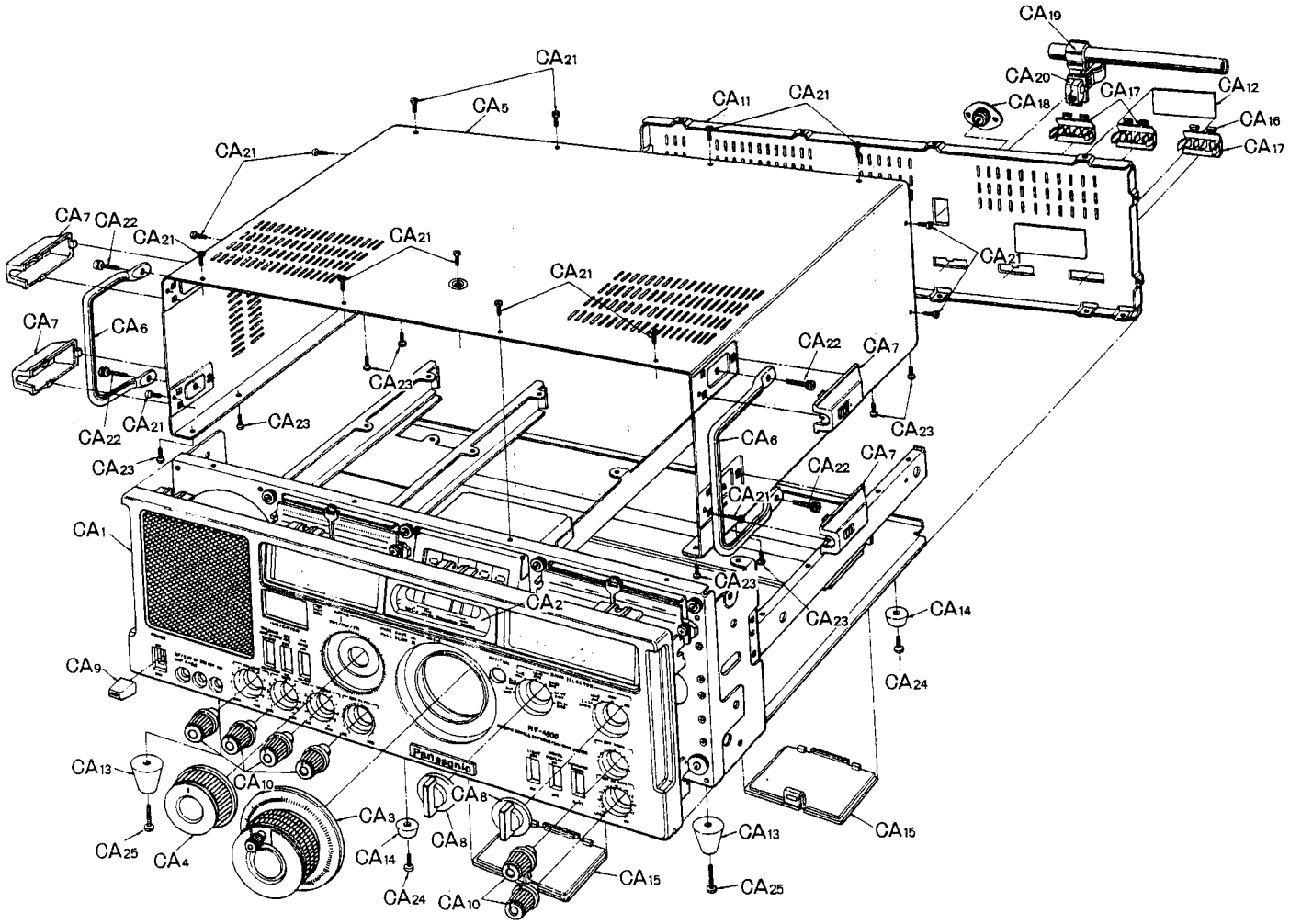


Fig. 31

■ VOLTAGE

TR1	SW2~7
S	0V
G	0V
D	1.6V
Id	2.5mA

TR2	SW2~7
C	0V
B	4.1V
E	5V
Ie	1mA

TR3	SW2~7
C	1.25V
B	3.7V
E	4.6V
Ie	1.3mA

TR4	SW4~8
C	0V
B	4.1V
E	5V
Ie	0.4mA

TR5	SW2~7
C	0V
B	4.1V
E	5V
Ie	0.4mA

TR6	SW2~7
C	0V
B	4.1V
E	5V
Ie	0.7mA

TR7	SW4
C	5.5V
B	1V
E	0.7V
Ie	0.4mA

TR8	SW5,6
C	5.5V
B	1V
E	0.6V
Ie	0.33mA

TR9	SW7,8
C	5.2V
B	0.95V
E	0.55V
Ie	0.38mA

TR10	SW4~8
C	0.75V
B	4V
E	5V
Ie	0.36mA

TR11	SW4~8
C	5.4V
B	0.95V
E	0.6V
Ie	0.36mA

TR12	SW2~7 COUNTER "ON"
C	11V
B	5.5V
E	4.9V
Ie	68mA

TR13	SW4~8
C	0V
B	4V
E	5V
Ie	0.34mA

TR14	SW2~7
C	0V
B	4.2V
E	5.2V
Ie	1.1mA

TR15	SW2~7
C	0V
B	4.4V
E	5.1V
Ie	0.33mA

TR16	FM
S	0V
G	0V
D	3.8V
Ie	0.2mA

TR17	FM
C	0V
B	1V
E	2V
Ie	0.2mA

TR18	MW, SW1
S	0.2V
G	0V
D	2.15V
Id	0.3mA

TR19	MW, SW
C	4.8V
B	2.7V
E	2.15V
Ie	0.3mA

TR20	SW2	SW3
C	0V	0V
B	0.7V	−0.1V
E	0V	0V
Ie	—	—

TR21	
C	5.05V
B	0.8V
E	0.8V
Ie	4.15mA

TR22	
C	2.1V
B	0.38V
E	0.8V
Ie	1.38mA

TR23	
C	1.17V
B	0.6V
E	0V
Ie	2.9mA

TR24	FM
C	0V
B	4V
E	5V
Ie	0.8mA

TR25~29	
C	11V
B	——
E	——

TR30	FM
C	1.6V
B	4V
E	5V
Ie	0.8mA

TR31	FM
C	1.6V
B	4V
E	5V
Ie	0.76mA

IC1	FM	MW
1	0V	4.8V
2	0.65V	0V
3	0V	0V
4	3.4V	0V
5	3.8V	0V
6	5V	0V
7	5V	0V
8	3.8V	0V
9	0V	0.6V
10	0V	4.8V
11	0V	0.65V
12	0V	0.4V
13	0V	4.8V
14	0V	4.8V
15	0V	0.75V
16	0V	0V

IC2	
1	12V
2	9.5V
3	9V
4	7V
5	1.4V
6	5.5V
7	4.5V
8	2.8V
9	2.8V
10	4.6V
11	1.15V
12	0V
13	0V
14	8V

IC4	
1	1.85V
2	0V
3	0V
4	——
5	5.05V
6	0V
7	0V
8	——
9	——
10	0V
11	1.9V
12	——
13	——
14	1.15V

TR32	MW, SW
C	0V
B	3.5V
E	4.4V
Ie	0.8mA

TR33	SSB, CW
C	0V
B	3.4V
E	4.2V
Ie	1.2mA

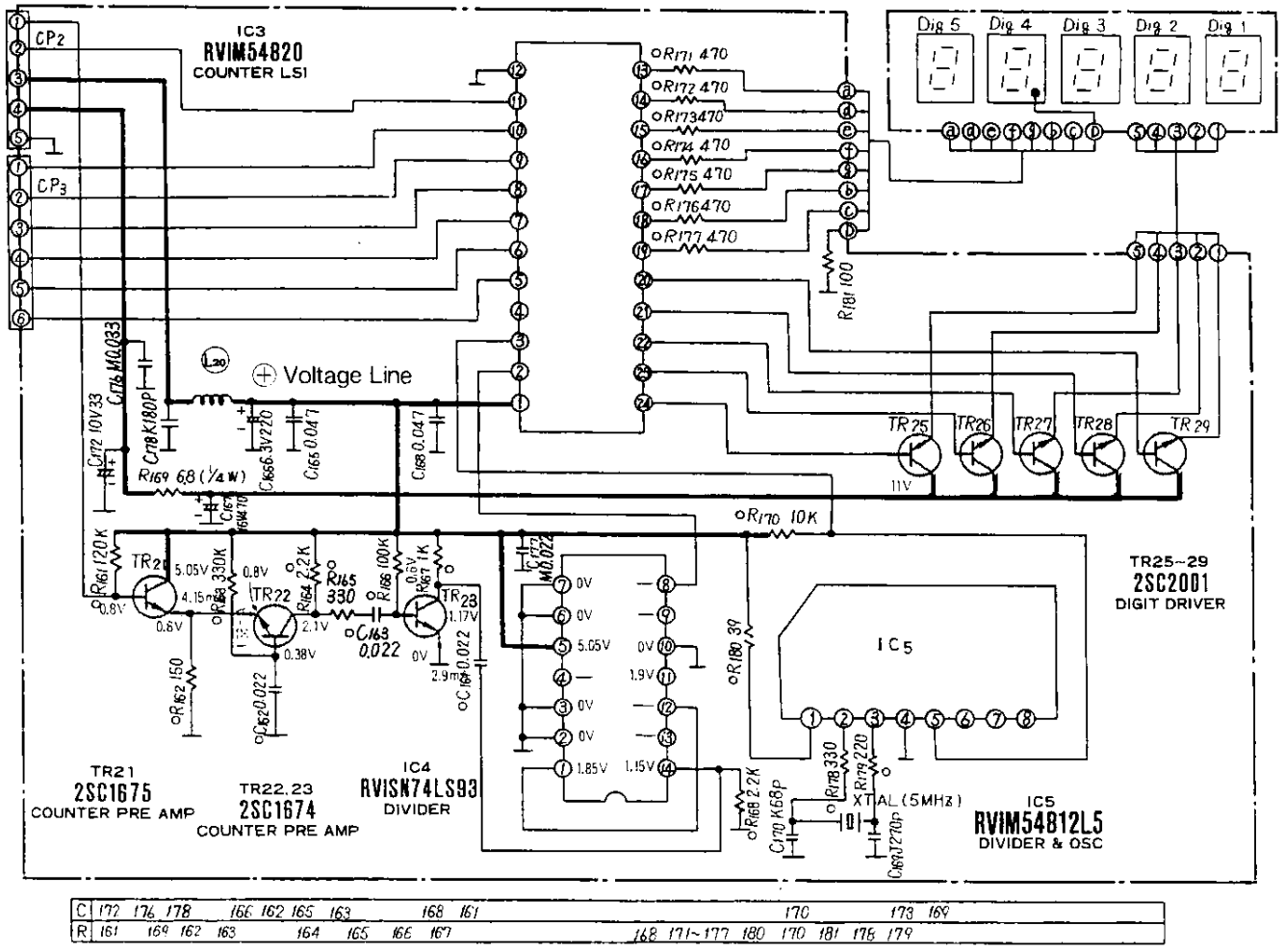
TR34	SSB, CW
C	2.7V
B	0.2V
E	0.15V
Ie	0.7mA

TR35	
C	5.2V
B	0.25V
E	0V
Ie	0.04mA

TR36	
C	2.1V
B	0.4V
E	0.35V
Ie	0.8mA

TR37	
C	12V
B	8.2V
E	8.6V
Ie	52mA

Schematic Diagram (Counter Circuit)-Model RF-4800



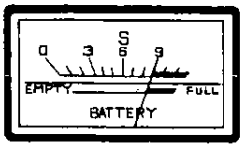
C	172	176	178	166	162	165	163	168	161	170	173	169
R	161	169	162	163	164	165	166	167	168	171~177	180	170	181	176	179

Note: ○Mark.....Chip resistor and capacitor.

■ TUNE/BATT METER ADJUSTMENT

1. RADIO RECEIVER SETTING
   - Set band switch to MW.
   - Set volume control MIN.
   - Set indicator switch to BATT.
   - Set AM mode switch to AM.
   - Set power source voltage to 7.2 volts DC.

2. REMARKS
   - Adjust R_{274} so that the pointer of meter stays as shown in figure right.



■ ALIGNMENT INSTRUCTIONS

READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

Notes:

1. Set power switch to ON.
2. Set volume control to MAX.
3. Set bass and treble control to center.
4. Set band switch to MW, SW_1~SW_8 or FM.
5. Set SW cal control to center.
6. Set AM RF gain control to DX.
7. Set FM AFC/Band width switch to WIDE or OFF (FM).
8. Set light switch to OFF.
9. Set AM ANL switch to OFF.
10. Set BFO pitch control to center.
11. Set digital display switch to OFF.
12. Set AM mode switch to AM or SSB/CW.
13. Set indicator switch to signal.
14. Set ANT trim control to center.
15. Output of signal generator should be no higher than necessary to obtain an output reading.

■ MW, SW ALIGNMENT

	BAND	SIGNAL GENERATOR or SWEEP GENERATOR		RADIO DIAL	INDICATOR	ADJUSTMENT	REMARKS
		CONNECTIONS	FREQUENCY	SETTING	(VTVM or SCOPE)		
	AM-IF ALIGNMENT						
(1)	MW	Fashion loop of several turns of wire and radiate signal into loop of receiver.	455 kHz 30% Mod. at 400 Hz	Point of non-interference.	Output meter across voice coil.	T_4 (AM 1st IFT) T_5 (AM 2nd IFT) T_9 (AM 3rd IFT) T_{10} (AM 4th IFT) T_8 (AM 5th IFT)	Adjust for maximum output.
	BFO ALIGNMENT **Note:** Set band width switch to "Narrow".						
	MW	〃	600 kHz	Tune to signal.	Audio output from speaker.	L_{52}(BFO OSC Coil)	1. Cut off modulation after tune signal. 2. Set AM mode switch to CW/SSB. 3. Adjust for zero beat.
	SW-1st IF and 2nd OSC ALIGNMENT						
(3)	SW2	Connect EXT ANT (SW_2~$_8$) terminal.	2 MHz	Point of non-interference.	Output meter across voice coil.	L_{48}(SW 2nd OSC Coil) T_1 (SW 1st IFT) T_2 (SW 1st IFT)	Adjust for maximum output.
	SW3	〃	〃	〃	〃	L_{49}(SW 2nd OSC Coil)	〃
	MW-RF ALIGNMENT						
(4)	MW	Fashion loop of several turns of wire and radiate signal into loop of receiver.	550 kHz	550 kHz 2.4 mm ($\frac{3}{32}$")	Output meter across voice coil	L_{50}(MW OSC Coil) L_{43}(MW ANT Coil)	Adjust for maximum output.
(5)	MW	〃	1500 kHz	1500 kHz 57 mm ($2\frac{1}{4}$")	〃	C_{227}(MW OSC Trimmer) C_{201}(MW ANT Trimmer)	Adjust for maximum output. Repeat steps (4) and (5).

■ SW4~7 X' tal ALIGNMENT **Note:** Pull out socket [CP6].

BAND	CONNECTIONS	ADJUSTMENT	REMARKS
SW4	Connect RF voltmeter: ⊕ side to [TP1] ⊖ side to [E]	C_{101} (Trimmer) L_{39} (39 MHz Coil)	1. Turn C_{101} to its center position. 2. Adjust L_{39} (Turn to upper) until 25 mV ±1 mV is read on RF voltmeter.
SW4	Connect frequency counter: ⊕ side to [TP1] ⊖ side to [E]	C_{101} (Trimmer)	Adjust C_{101} until 39, 100 MHz ±100 Hz is read on RF voltmeter.
SW4	Connect RF voltmeter: ⊕ side to [TP3] ⊖ side to [E]	L_{30} (31 MHz Coil)	Adjust L_{30} (Turn to upper) until 30 mV ±1 mV is read on RF voltmeter.
SW5	〃	L_{31} (27 MHz Coil)	Adjust L_{31} (Turn to upper) until 30 mV ±1 mV is read on RF voltmeter.
SW7	〃	L_{32} (19 MHz Coil)	Adjust L_{32} (Turn to upper) until 30 mV ±1 mV is read on RF voltmeter.

■ 44~48 MHz BPF ALIGNMENT **Note:** Pull out socket [CP6].

BAND	SWEEP GENERATOR		SWEEP SCOPE	ADJUSTMENT	REMARKS
	CONNECTIONS	FREQUENCY			
SW4	Connect to test point [TP1] through ceramic capacitor (0.01μF) negative side to point [E]	44.48 MHz	Connect to test point [TP2] negative side to point [E]	L_{35} (BPF Coil) L_{36} (BPF Coil) L_{37} (BPF Coil)	1. Turn L_{35} to lower before adjustment. 2. Adjust L_{36} and L_{37} for maximum amplitude.

■ TRAP ALIGNMENT **Note:** Pull out socket [CP6].

BAND	CONNECTIONS	ADJUSTMENT	REMARKS
SW4	Connect RF voltmeter: ⊕ side to [TP2] ⊖ side to [E]	L_{35} (Trap Coil)	Adjust L_{35} for minimum RF voltmeter reading.
SW5	Connect RF voltmeter: ⊕ side to [TP4] ⊖ side to [E]	L_{28} (Trap Coil)	Adjust L_{28} for minimum RF voltmeter reading.
SW7	〃	L_{29} (Trap Coil)	Adjust L_{29} for minimum RF voltmeter reading.

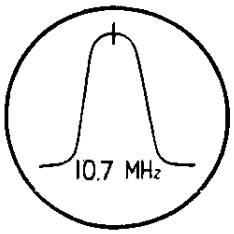


Fig. 32

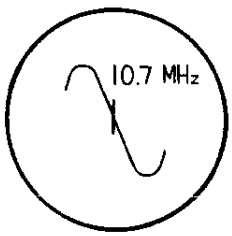


Fig. 33

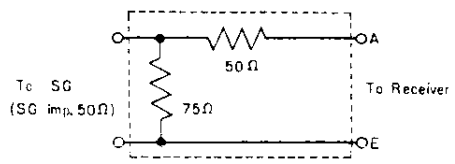
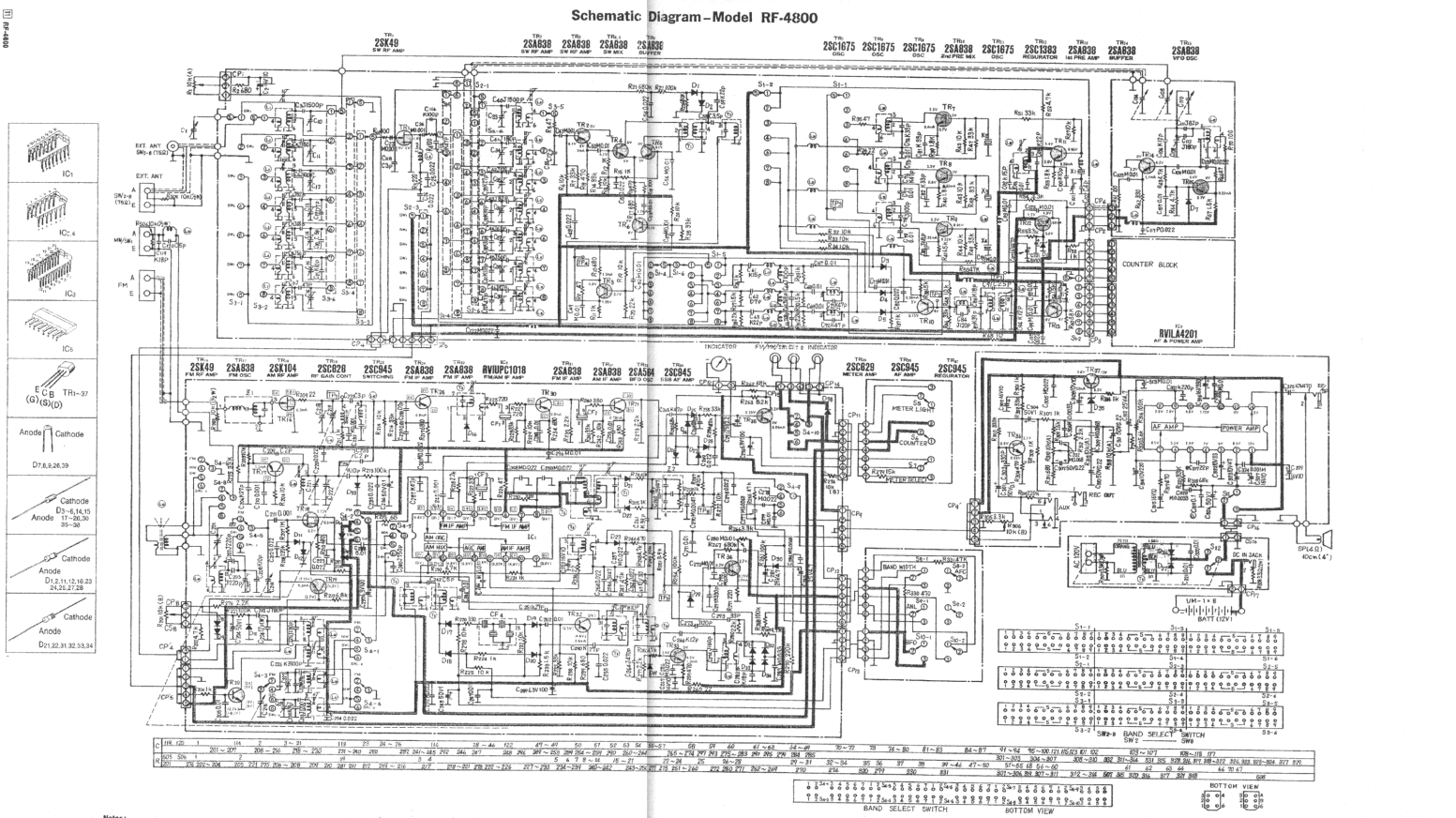


Fig. 34 FM Dummy Antenna

Schematic Diagram – Model RF-4800



Notes:

1. S_{1-1}~S_{1-6}: Band switch (SW_{2-1}~$_{-6}$) in "SW_1" position.
2. S_{2-1}~S_{2-6}: Band switch (SW_{2-1}~$_{-6}$, SW_{3-1}, MW, FM) in "FM" position.
3. S_3: Light switch in "OFF" position.
4. S_4: Digital display switch in "OFF" position.
5. S_5: Indicator switch in "SIGNAL" position.
6. S_{6-1}, S_{6-2}: FM AFC/Band Width switch in "NARROW" "OFF" position.
7. S_8: AM ANL switch in "OFF" position.
8. S_{9-1}, S_{9-2}: AM mode switch in "AM" position.
9. S_{11}: Power switch in "OFF" position.
10. S_{12}: AC-BATTERY selector in "BATTERY" position.
11. DC voltage measurements are taken with circuit tester 10kΩ/V from negative side of batteries.
    [ ]..... FM position, ( )..... MW, SW position.
    ( )..... SW_2 position, [ ]..... SW_3 position.
    $TR_{1-3, 5, 13, 20}$...SW_{1-3} position TR_{21}...SW_4 position TR_{22}...SW_{5-1} position $TR_{23, 24}$...SW_{5-2} position $TR_{25, 26}$...SW_{6-1} position TR_{27}...Display ON position TR_{28}...MW, SW_1 position $TR_{29, 30}$...MW, SW position $TR_{33, 34}$...CW/SSB position
12. Battery current: No signal 45mA
    Maximum output 600mA

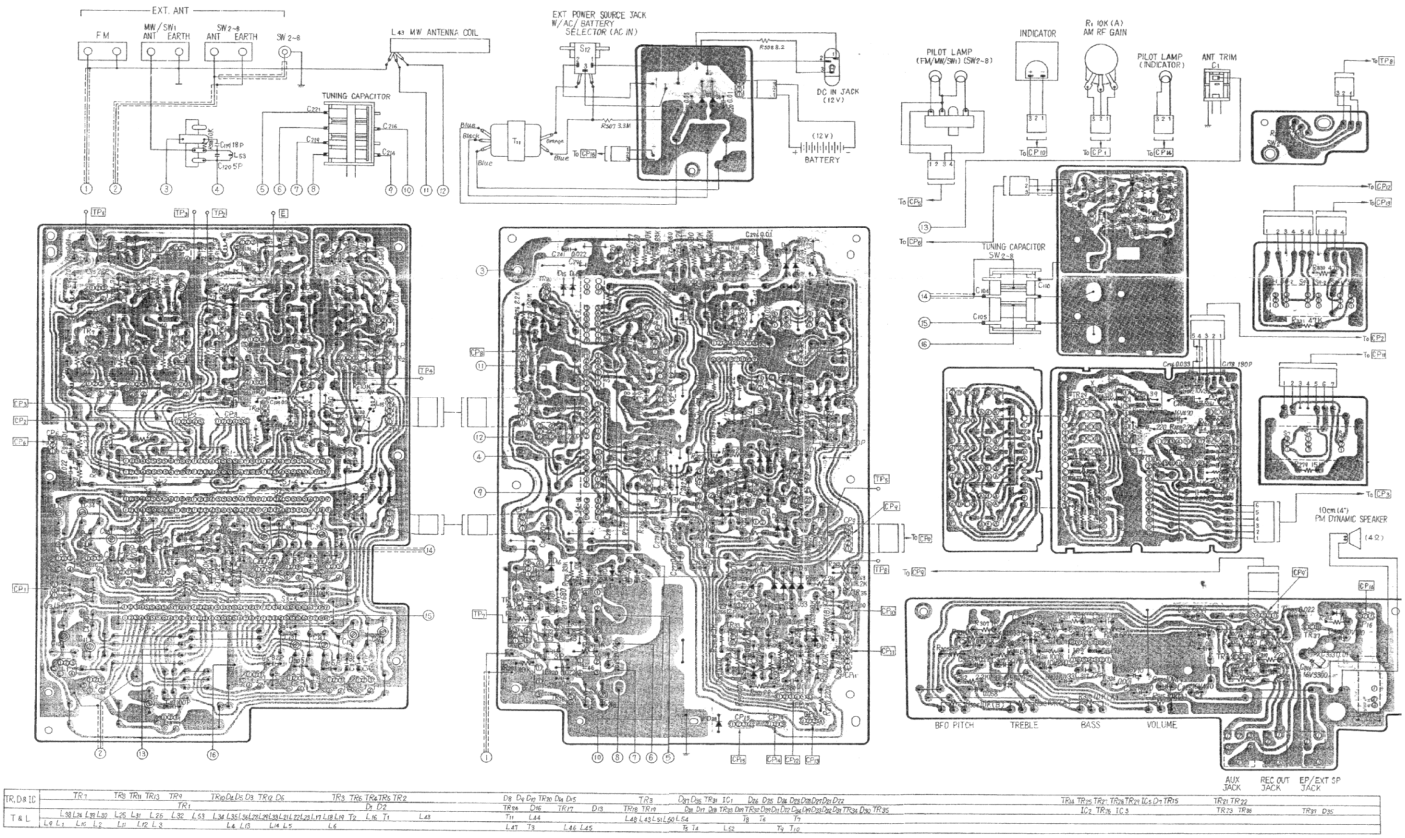
IMPORTANT SAFETY NOTICE
THE SHADED AREA ON THIS SCHEMATIC DIAGRAM INCORPORATES SPECIAL FEATURES IMPORTANT FOR SAFETY. WHEN SERVICING IT IS ESSENTIAL THAT ONLY MANUFACTURER'S SPECIFIED PARTS BE USED FOR THE CRITICAL COMPONENTS IN THE SHADED AREAS OF THE SCHEMATIC.

D_{1-4}	OA90	SW AGC
D_{5-7}	MA150	SWITCHING
D_8	RVDEQG106HF	ZENER
D_{11}	RVDVD1251M	AGC
$D_{12, 13}$	RVDVD1252L	AGC
D_{15}	RVDSG113	COUNT ADJUST
$D_{16, 17}$	OA90	AM AGC
D_{18}	RVDSG113	FM AFC

$D_{19, 20}$	MA150	SWITCHING
D_{21}	OA90	FM AGC
$D_{22~25}$	MA150	SWITCHING
$D_{26, 28}$	S-OA90	FM DET
$D_{27~29}$	OA90	AM METER RECT
D_{30}	RVDVD1150L	AGC
$D_{31, 32}$	OA90	FM METER RECT
D_{33}	RVDSD113	BFO DET

D_{34}	MA150	ANL
$D_{35~37}$	2-OA90	BFO DET
D_{38}	RVDMZ226	Zener
$D_{39, 51}$	RVD10E1LF	RECT
D_{40}	MA150	SWITCHING
D_{50}	RVDVD1251M	AGC

Circuit Board Wiring View–Model RF-4800



RF-4800

■ SW RF ALIGNMENT

	BAND	SIGNAL GENERATOR or SWEEP GENERATOR		RADIO DIAL SETTING	INDICATOR (VTVM or SCOPE)	ADJUSTMENT	REMARKS
		CONNECTIONS	FREQUENCY				
	SW1-RF ALIGNMENT						
(1)	SW1	Connect to EXT ANT (MW/SW1) terminal.	1.6 MHz	1.6 MHz 3 mm ($\frac{1}{8}$")	Output meter across voice coil.	L_{51} (SW1 OSC Coil) L_{44} (SW1 ANT Coil)	Adjust for maximum output.
(2)	SW1	〃	3 MHz	3 MHz 58.7mm($2\frac{4}{16}$")	〃	C_{229} (SW1 OSC Trimmer) C_{207} (SW1 ANT Trimmer)	Adjust for maximum output. Repeat steps (1) and (2).
	SW2-RF ALIGNMENT						
(3)	SW2	Connect to EXT ANT (SW2～SW8) terminal.	3 MHz	3 MHz 3mm ($\frac{1}{8}$")	〃	L_{42}(SW2 OSC Coil) L_9 (SW2 TUNE Coil) L_1 (SW2 ANT Coil)	Adjust for maximum output.
(4)	SW2	〃	7 MHz	7 MHz 60.5mm($2\frac{3}{8}$")	〃	C_{108}(SW2 OSC Trimmer) C_{33} (SW2 TUNE Trimmer) C_{10} (SW2 ANT Trimmer)	Adjust for maximum output. Repeat steps (3) and (4).
	SW3-RF ALIGNMENT						
(5)	SW3	〃	7 MHz	7 MHz 3mm ($\frac{1}{8}$")	〃	L_{10}(SW3 TUNE Coil) L_2 (SW3 ANT Coil)	Adjust for maximum output.
(6)	SW3	〃	11.01 MHz	11.01 MHz 60.5mm ($2\frac{3}{8}$")	〃	C_{34} (SW2 TUNE Trimmer) C_{11} (SW2 ANT Trimmer)	Adjust for maximum output. Repeat steps (5) and (6).
	SW4-RF ALIGNMENT						
(7)	SW4	〃	11.01 MHz	11.01 MHz 3mm ($\frac{1}{8}$")	〃	L_{11} (SW4 TUNE Coil) L_3 (SW4 ANT Coil)	Adjust for maximum output.
(8)	SW4	〃	15.01 MHz	15.01 MHz 60.5mm ($2\frac{3}{8}$")	〃	C_{35} (SW4 TUNE Trimmer) C_{12} (SW4 ANT Trimmer)	Adjust for maximum output. Repeat steps (7) and (8).
	SW5-RF ALIGNMENT						
(9)	SW5	〃	15.01 MHz	15.01 MHz 3mm ($\frac{1}{8}$")	〃	L_{12}(SW5 TUNE Coil) L_4 (SW5 ANT Coil)	Adjust for maximum output.
(10)	SW5	〃	19.01 MHz	19.01 MHz 60.5mm ($2\frac{3}{8}$")	〃	C_{36} (SW6 TUNE Trimmer) C_{13} (SW5 ANT Trimmer)	Adjust for maximum output. Repeat steps (9) and (10).
	SW6-RF ALIGNMENT						
(11)	SW6	〃	19.01 MHz	19.01 MHz 3mm ($\frac{1}{8}$")	〃	L_{13}(SW6 TUNE Coil) L_5 (SW6 ANT Coil)	Adjust for maximum output.
(12)	SW6	〃	23.01 MHz	23.01 MHz 60.05mm ($2\frac{3}{8}$")	〃	C_{37} (SW6 TUNE Trimmer) C_{14} (SW6 ANT Trimmer)	Adjust for maximum output. Repeat steps (11) and (12).
	SW7-RF ALIGNMENT						
(13)	SW7	〃	23.01 MHz	23.01 MHz 3mm ($\frac{1}{8}$")	〃	L_{14}(SW7 TUNE Coil) L_6 (SW7 ANT Coil)	Adjust for maximum output.
(14)	SW7	〃	27.01 MHz	27.01 MHz 60.5mm ($2\frac{3}{8}$")	〃	C_{38} (SW7 TUNE Trimmer) C_{15} (SW7 ANT Trimmer)	Adjust for maximum output. Repeat steps (13) and (14).
	SW8-RF ALIGNMENT						
(15)	SW8	〃	27.01 MHz	27.01 MHz 3mm ($\frac{1}{8}$")	〃	L_{15}(SW8 TUNE Coil) L_7 (SW8 ANT Coil)	Adjust for maximum output.
(16)	SW8	〃	31.01 MHz	31.01 MHz 60.5mm ($2\frac{3}{8}$")	〃	C_{39} (SW8 TUNE Trimmer) C_{16} (SW8 ANT Trimmer)	Adjust for maximum output. Repeat steps (15) and (16).

■ FM ALIGNMENT

	SIGNAL GENERATOR or SWEEP GENERATOR		RADIO DIAL SETTING [DISTANCE]	INDICATOR (VTVM or SCOPE)	ADJUSTMENT	REMARKS
	CONNECTIONS	FREQUENCY				
	FM-IF ALIGNMENT					
(1)	High side thru. 0.001μF to point TP7. Negative side to point E.	10.7 MHz (400 kHz SWP.)	Point of non-interference. (on/about 90 MHz).	Connect vert. amp. of scope to point TP5. Negative side to point E.	T3 (FM 1st IFT) T6 (FM 2nd IFT) (Primary)	Adjust for maximum amplitude. (Refer to fig. 32).
(2)	〃	〃	〃	〃	T7 (FM 2nd IFT) (Secondary)	Adjust for maximum amplitude. (Refer to fig. 33).
	FM-RF ALIGNMENT					
(3)	Connect to EXT ANT (FM) terminal through FM dummy antenna. (Refer to fig. 34).	87.2 MHz	Variable capacitor fully closed.	Output meter across voice coil.	L45 (FM OSC Coil)	(*) Adjust for maximum output.
(4)	〃	90 MHz	Tune to signal.	〃	L46 (FM TUNE Coil)	(*) Adjust for maximum output.
(5)	〃	106 MHz	106 MHz 53.1mm (2 3/32")	〃	C222(FM OSC Trimmer) C218(FM TUNE Trimmer)	(*) Adjust for maximum output. Repeat steps (3)~(5).
	(*) Three output responses will be present; proper tuning is the center frequency.					

■ ALIGNMENT POINTS

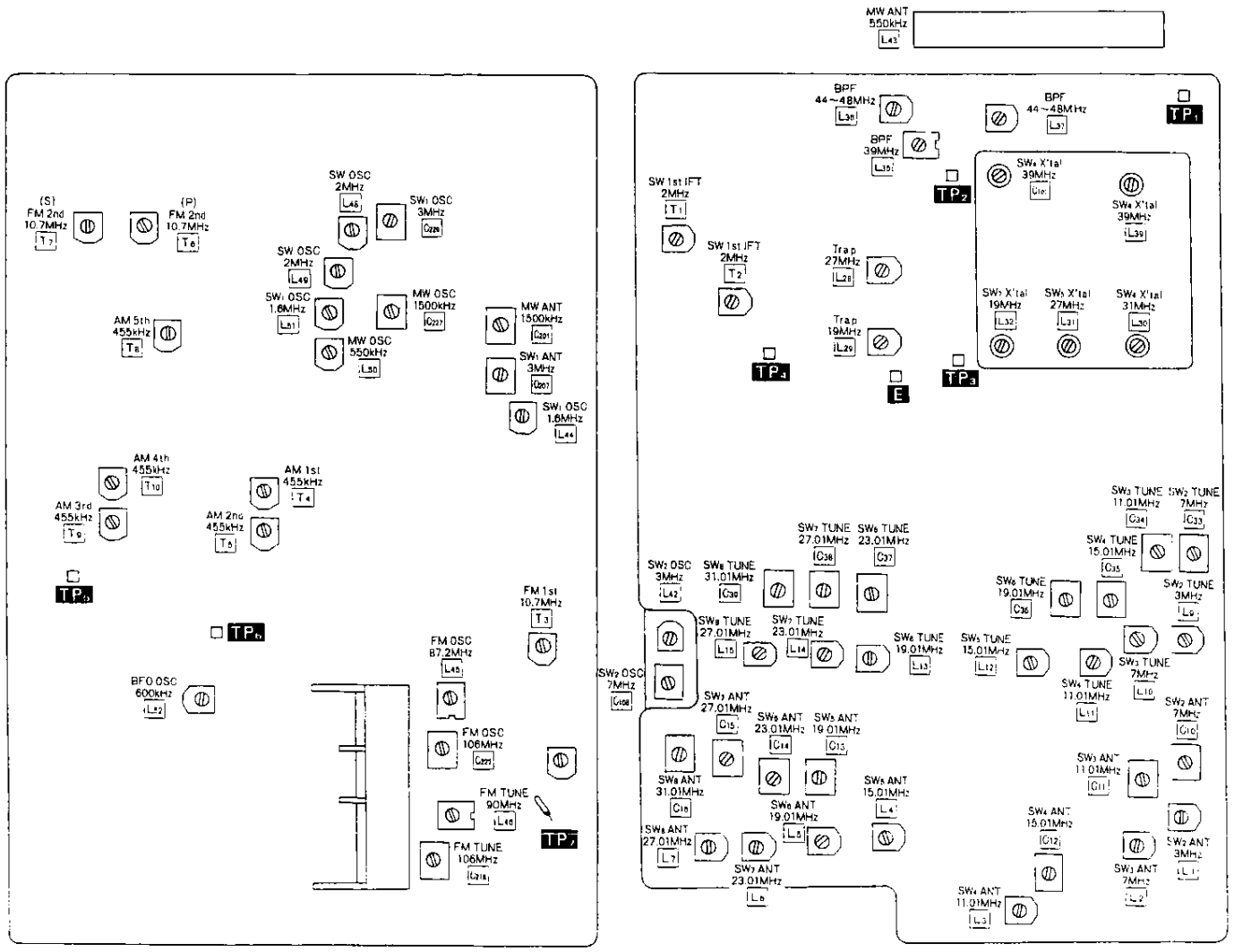


Fig. 35

■ BLOCK DIAGRAM

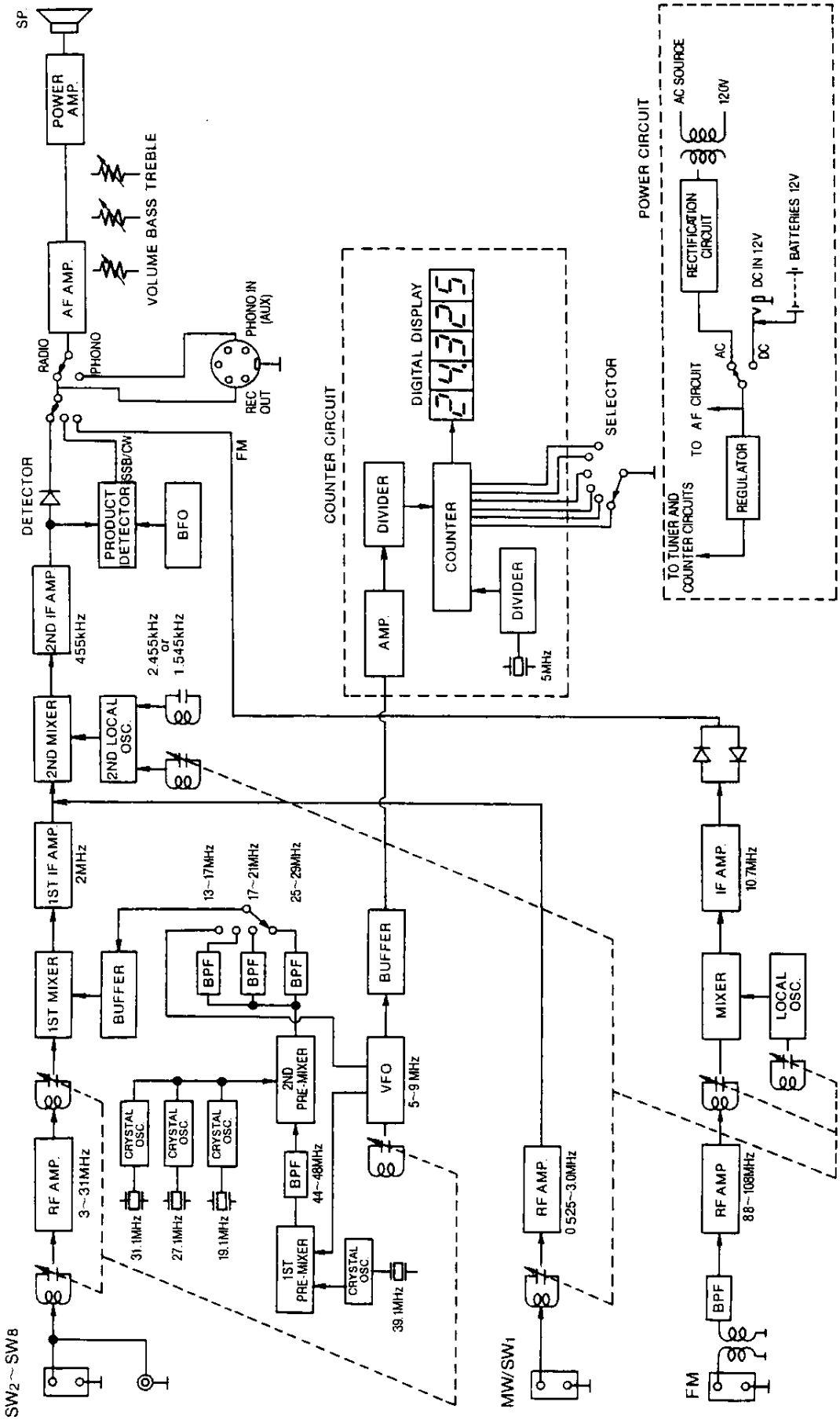


Fig. 36

■ IC3 (RVIM54820) BLOCK DIAGRAM

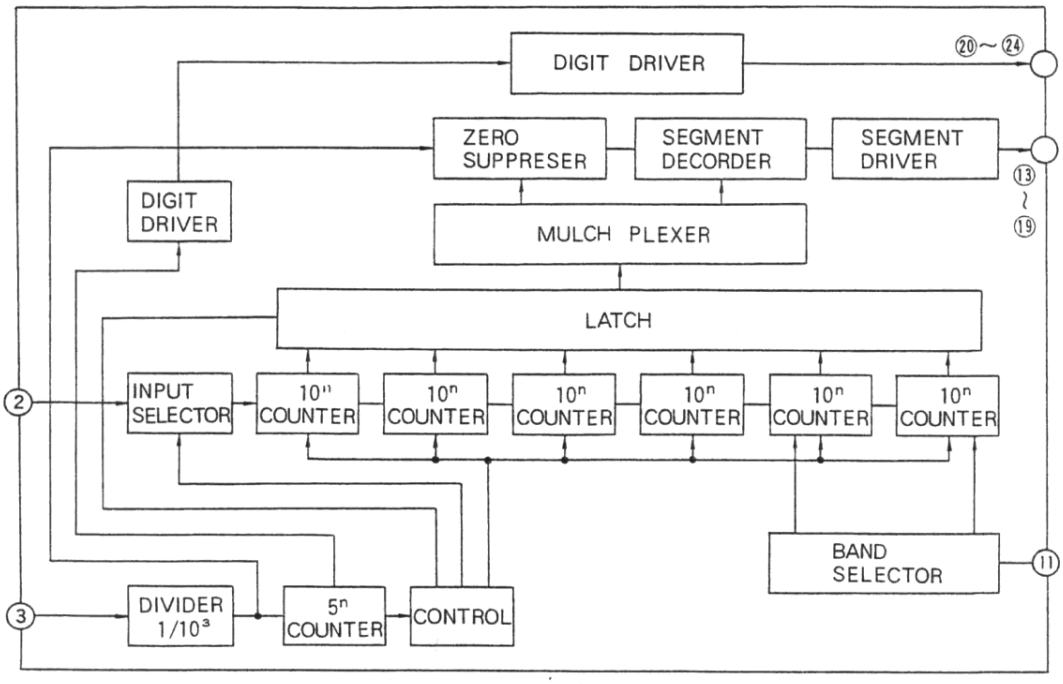


Fig. 37

■ CHASSIS PARTS LOCATIONS

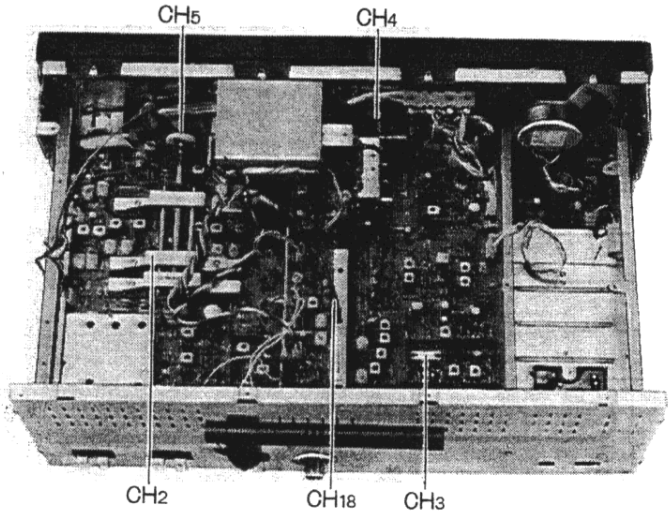


Fig. 38

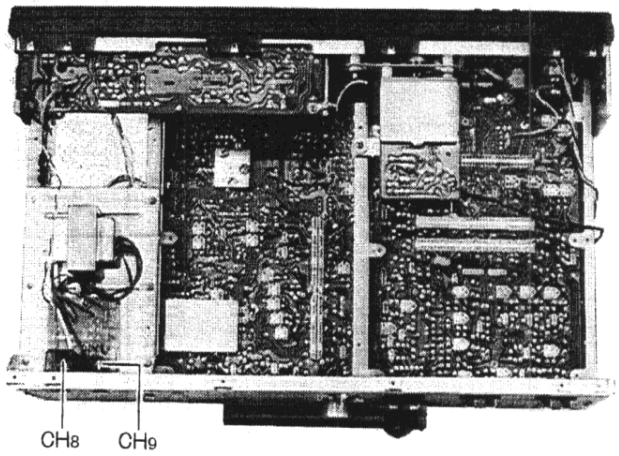


Fig. 39

■ PACKING MATERIALS & ACCESSORIES

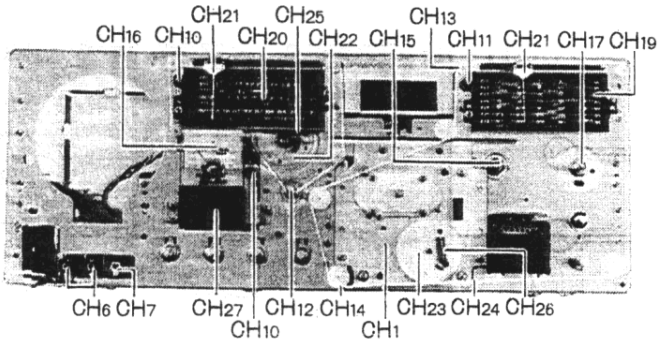


Fig. 40

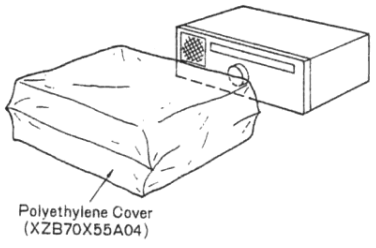


Fig. 41

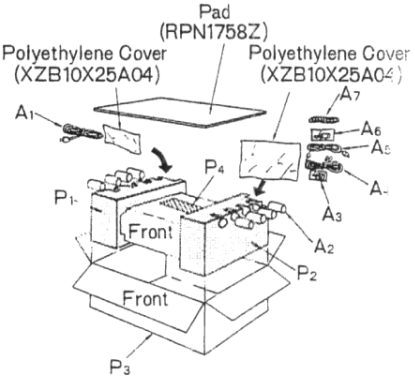


Fig. 42

■REPLACEMENT PARTS LIST····· Model RF-4800

(RD7710-1509)

NOTES: 1. Part numbers are indicated on most mechanical parts. Please use this part number for parts orders.
2. Components identified by shaded area have special characteristic important for safety. When replacing any of these components use only manufacturer's specified parts.
3. Part numbers shown in bold letters are service standard parts and may differ from production parts.
4. The O mark is used by the manufacturing plant only.

Ref. No.	Part No.	Part Name & Description	Per Set		Remarks
INTEGRATED CIRCUITS, TRANSISTORS AND DIODES					
IC1	RVIUPC1018	IC, FM/AM IF Amp.	1		
IC2	RVILA4201	IC, AF & Power Amp.	1		O
IC3	RVIM54820	IC, Counter LSI	1		
IC4	RVISN74LS93	IC, Divider	1		
IC5	RVIM54812L5	IC, Divider & Oscillator	1		
TR1,16	2SK49	Transistor (Si), SW RF Amp., FM RF Amp.	2		
TR2,3,4,5,6, 10,13,14, 15,17,24, 30,31,32	2SA838	Transistor (Ge), SW RF Amp., SW Mixer, Buffer, 2nd Pre Mix, 1st Pre Mix, VFO Oscillator, FM Oscillator., FM IF Amp., AM IF Amp.	14		
TR7,8,9,11	2SC1675	Transistor (Si), Oscillator	4		
TR12	2SC1383	Transistor (Si), Regulator	1		
TR18	2SK104	Transistor (Si), AM RF Amp.	1		
TR19	2SC828	Transistor (Si), RF Gain Control	1		
TR20,34,36, 37	2SC945	Transistor (Si), Switching, SSB AF Amp., AF Amp., Regulator	4		
TR21	2SC1675	Transistor (Si), Counter Pre Amp.	1		
TR22,23	2SC1674	Transistor (Si), Counter Pre Amp.	2		
TR25,26,27, 28,29	2SC2001	Transistor (Si), Digit Driver	5		
TR33	2SA564	Transistor (Ge), BFO Oscillator	1		
TR35	2SC829	Transistor (Si), Meter Amp.	1		
D1,2,11,12,16 23,24,25,27, 28	OA90	Diode (Ge), SW AGC, AM AGC, FM AGC, AM Meter Rectifier	10		
D3,4,5,14,15, 17,18,19,20, 30,38	MA150	Diode (Si), Switching, ANL	3		
D6	RVDEQA0106RF	Diode (Si), Zener	1		
D8,9	RVDVD1252L	Diode (Si), AOC	2		
D10,13,29	RVDSD113	Diode (Si), Count Ajust, FM AFC, BFO Detector	3		
D21,22,31,32, 33,34	2-OA90	Diode (Ge), FM Detector, BFO Detector	6		
D26	RVDVD1150L	Diode (Si), AOC	1		
D35	RVDMZ206	Diode (Si), Zener	1		
D36,37	**RVD10E1LF**	**Diode (Si), Rectifier**	**2**		
D39	RVDVD1251M	Diode (Si), AOC	1		
D7	RVDVD1251L	Diode (Si), AOC	1		
Dig.1,2,3,4,5	RADGL9P034	LED (Refer to Page 22)	5		

Ref. No.	Part No.	Part Name & Description	Per Set		Remarks
CERAMIC FILTERS, COILS AND TRANSFORMERS					
CF1,2,3	RVF107MFR	Ceramic Filter	3		
CF4	RVFLFB4	Ceramic Filter	1		O
L1,9	RLA3M32	Antenna Coil or Tuning Coil, SW2	2		O
L2,10	RLA3M33	Antenna Coil or Tuning Coil, SW3	2		O
L3,11	RLA3M34	Antenna Coil or Tuning Coil, SW4	2		O
L4,12,29	RLA3M35	Antenna Coil or Tuning Coil, SW5	3		O
L5,7,14,28	RLA3M37	Antenna Coil, SW6, SW8 Tuning Coil, SW7	3		O
L6,15	RLA3M38	Tuning Coil, SW7, SW8	2		O
L13	RLA3M36	Tuning Coil, SW6	1		O
L30,31,32,36, 37,39	RLO9M7	Oscillator Coil, Xtal BPF Coil	6		O
L35	RLD4M5	Coil, Trap	1		O
L42	RLO3M52	Oscillator Coil, SW2	1		O
L43	RLF2E41	Antenna Coil, MW	1		O
L44	RLA3M31	Antenna Coil, SW1	1		O
L45	RLD4M1	Oscillator Coil, FM	1		
L46	RLD4M8	Antenna Coil, FM	1		
L47	RLI4M103	Coil, Trap	1		
L48,51	RLO3M51	Oscillator Coil, 2nd Local & SW1	2		O
L49	RLO9M6	Oscillator Coil, 2nd Local	1		O
L50	RLO2M16	Oscillator Coil, MW	1		O
L52	RLO9M8	Oscillator Coil, BFO	1		O
T1	RLI9M3	IFT, SW 1st	1		
T2	RLI9M4	IFT, SW 1st	1		
T3	RLI4M101	IFT, FM 1st	1		
T4,9,10	RLI2M212	IFT, AM 1st, 3rd, 4th	3		O
T5	RLI2M208	IFT, AM 2nd	1		
T6	RLI4M504	IFT, FM 2nd (Primary)	1		
T7	RLI4M506	IFT, FM 2nd (Secondary)	1		
T8	RLI2M402	IFT, AM 5th	1		
T11	**RLT5K331A**	**Power Transformer**	1		O
VARIABLE RESISTORS					
R1	EVHCMA088A14	Variable Resistor, 10KΩ (A), RF Gain Control	1		O
R201	EVLD8AT12B14	Variable Resistor, 10KΩ (B), SW2~8 CAL	1		
R274	EVLTOAA00B14	Variable Resistor, 10KΩ (B), Preset, Meter Control	1		
R306	EVH8SA029B14	Variable Resistor, 10KΩ (B), BFO Pitch	1		O
R310,313,315	EVH8SA029A14	Variable Resistor, 10KΩ (A), Bass, Treble & Volume Control	3		O
VARIABLE CAPACITORS					
C1	RCVC321A152	Tuning Capacitor	1		O
C10,201,218,	RCV1PX10AG	Trimmer Capacitor	3		
C11~16,33~39 108,207,222 227,229	RCV1PX20AG	Trimmer Capacitor	18		
C214,216,219 221	RCVCV45D112	Tuning Capacitor	1		

Ref. No.	Part No.	Part Name & Description	Per Set		Remarks
C104,105,110	RCVCV35D112	Tuning Capacitor	1		○
COMPONENT COMBINATIONS AND CRYSTAL					
Z1	RXABPMF1	Component Combination, Coils & Capacitors	1		○
Z2	EXA5DL04C	Component Combination, 330PF×3, 4.7KΩ×2	1		
X1	RVCX39100N3R	Crystal	1		○
X2	RVCX31100N3R	Crystal	1		○
X3	RVCX27100N3R	Crystal	1		○
X4	RVCX19100N3R	Crystal	1		○
X5	RVCX5000N5Z	Crystal, 5MHz	1		○
SPEAKER					
SP	EAS10P72S	Speaker, Imp.4Ω, 10cm(4"), PM Dynamic	1		○
SWITCHES					
S1-1~S3-6	ESRK68S1	Switch, Band(SW2~8)	3		
S4-1~S4-10	ESA2625	Switch, Band(FM/MW/SW1/SW2~8)	1		○
S5~7, S8-1, S8-2, S9, S10-1, S10-2	RSTX003Y-A	Switch, Light, Digital Display, Indicator, FM AFC/Band Width, MW ANL or AM Mode	2		
S11	RST51YS-H	Switch, Power	1		
RESISTORS					
R2	ERD25TJ681	680Ω, ¼Watt, ±5%, Carbon	1		
R3	ERD25TJ221	220Ω, ¼Watt, ±5%, Carbon	1		
R4	ERD25TJ101	100Ω, ¼Watt, ±5%, Carbon	1		
R5	ERD25TJ470	47Ω, ¼Watt, ±5%, Carbon	1		
R6	ERD25TJ103	10KΩ, ¼Watt, ±5%, Carbon	1		
R7	ERD25TJ333	33KΩ, ¼Watt, ±5%, Carbon	1		
R8	ERD25TJ471	470Ω, ¼Watt, ±5%, Carbon	1		
R9	ERD25TJ470	47Ω, ¼Watt, ±5%, Carbon	1		
R10	ERD25TJ681	680Ω, ¼Watt, ±5%, Carbon	1		
R11	ERD25TJ102	1KΩ, ¼Watt, ±5%, Carbon	1		
R12	ERD25TJ102	1KΩ, ¼Watt, ±5%, Carbon	1		
R13	ERD25TJ103	10KΩ, ¼Watt, ±5%, Carbon	1		
R14	ERD25TJ333	33KΩ, ¼Watt, ±5%, Carbon	1		
R15	ERD25TJ102	1KΩ, ¼Watt, ±5%, Carbon	1		
R16	ERD25TJ471	470Ω, ¼Watt, ±5%, Carbon	1		
R17	ERD25TJ681	680Ω, ¼Watt, ±5%, Carbon	1		
R18	ERD25TJ101	100Ω, ¼Watt, ±5%, Carbon	1		
R19	ERD25TJ103	10KΩ, ¼Watt, ±5%, Carbon	1		
R20	ERD25TJ223	22KΩ, ¼Watt, ±5%, Carbon	1		
R21	ERD25TJ684	680KΩ, ¼Watt, ±5%, Carbon	1		
R22	ERD25TJ104	100KΩ, ¼Watt, ±5%, Carbon	1		
R23	ERD25TJ684	680KΩ, ¼Watt, ±5%, Carbon	1		
R24	ERD25TJ103	10KΩ, ¼Watt, ±5%, Carbon	1		
R25	ERD25TJ333	33KΩ, ¼Watt, ±5%, Carbon	1		
R28	ERD25TJ222	2.2KΩ, ¼Watt, ±5%, Carbon	1		
R31	ERD25TJ222	2.2KΩ, ¼Watt, ±5%, Carbon	1		
R32	ERD25TJ103	10KΩ, ¼Watt, ±5%, Carbon	1		
R33	ERD25TJ103	10KΩ, ¼Watt, ±5%, Carbon	1		

Ref. No.	Part No.	Part Name & Description	Per Set		Remarks
R34	ERD25TJ103	10KΩ, ¼Watt, ±5%, Carbon	1		
R35	ERD25TJ470	47Ω, ¼Watt, ±5%, Carbon	1		
R36	ERD25TJ220	22Ω, ¼Watt, ±5%, Carbon	1		
R37	ERD25TJ102	1KΩ, ¼Watt, ±5%, Carbon	1		
R38	ERD25TJ152	1.5KΩ, ¼Watt, ±5%, Carbon	1		
R39	ERD25TJ182	1.8KΩ, ¼Watt, ±5%, Carbon	1		
R40	ERD25TJ182	1.8KΩ, ¼Watt, ±5%, Carbon	1		
R41	ERD25TJ152	1.5KΩ, ¼Watt, ±5%, Carbon	1		
R42	ERD25TJ103	10KΩ, ¼Watt, ±5%, Carbon	1		
R43	ERD25TJ103	10KΩ, ¼Watt, ±5%, Carbon	1		
R44	ERD25TJ103	10KΩ, ¼Watt, ±5%, Carbon	1		
R45	ERD25TJ103	10KΩ, ¼Watt, ±5%, Carbon	1		
R46	ERD25TJ333	33KΩ, ¼Watt, ±5%, Carbon	1		
R47	ERD25TJ333	33KΩ, ¼Watt, ±5%, Carbon	1		
R48	ERD25TJ333	33KΩ, ¼Watt, ±5%, Carbon	1		
R49	ERD25TJ333	33KΩ, ¼Watt, ±5%, Carbon	1		
R50	ERD25TJ472	4.7KΩ, ¼Watt, ±5%, Carbon	1		
R51	ERD25TJ333	33KΩ, ¼Watt, ±5%, Carbon	1		
R52	ERD25TJ472	4.7KΩ, ¼Watt, ±5%, Carbon	1		
R53	ERD25TJ182	1.8KΩ, ¼Watt, ±5%, Carbon	1		
R54	ERD25TJ332	3.3KΩ, ¼Watt, ±5%, Carbon	1		
R55	ERD25TJ332	3.3KΩ, ¼Watt, ±5%, Carbon	1		
R56	ERD25TJ152	1.5KΩ, ¼Watt, ±5%, Carbon	1		
R57	ERD25TJ103	10KΩ, ¼Watt, ±5%, Carbon	1		
R58	ERD25TJ102	1KΩ, ¼Watt, ±5%, Carbon	1		
R59	ERD25TJ103	10KΩ, ¼Watt, ±5%, Carbon	1		
R60	ERD25TJ333	33KΩ, ¼Watt, ±5%, Carbon	1		
R61	ERD25TJ101	100Ω, ¼Watt, ±5%, Carbon	1		
R62	ERD25TJ331	330Ω, ¼Watt, ±5%, Carbon	1		
R63	ERD25TJ472	4.7KΩ, ¼Watt, ±5%, Carbon	1		
R64	ERD25TJ472	4.7KΩ, ¼Watt, ±5%, Carbon	1		
R66	ERD25TJ152	1.5KΩ, ¼Watt, ±5%, Carbon	1		
R67	ERD25TJ152	1.5KΩ, ¼Watt, ±5%, Carbon	1		
R68	ERX1ANJ100	10Ω, 1Watt, ±5%, Metal Oxide	1		
R69	ERD25TJ101	100Ω, ¼Watt, ±5%, Carbon	1		
R70	ERD25TJ101	100Ω, ¼Watt, ±5%, Carbon	1		
R161	ERD25TJ124	120KΩ, ¼Watt, ±5%, Carbon	1		
R162	ERD25TJ151	150Ω, ¼Watt, ±5%, Carbon	1		
R163	ERD25TJ334	330KΩ, ¼Watt, ±5%, Carbon	1		
R164	ERD25TJ222	2.2KΩ, ¼Watt, ±5%, Carbon	1		
R165	ERD25TJ331	330Ω, ¼Watt, ±5%, Carbon	1		
R166	ERD25TJ104	100KΩ, ¼Watt, ±5%, Carbon	1		
R167	ERD25TJ102	1KΩ, ¼Watt, ±5%, Carbon	1		
R168	ERD25TJ222	2.2KΩ, ¼Watt, ±5%, Carbon	1		
R169	ERD25TJ6R8	6.8Ω, ¼Watt, ±5%, Carbon	1		
R170	ERD25TJ103	10KΩ, ¼Watt, ±5%, Carbon	1		
R171	ERD25TJ471	470Ω, ¼Watt, ±5%, Carbon	1		
R172	ERD25TJ471	470Ω, ¼Watt, ±5%, Carbon	1		
R173	ERD25TJ471	470Ω, ¼Watt, ±5%, Carbon	1		
R174	ERD25TJ471	470Ω, ¼Watt, ±5%, Carbon	1		
R175	ERD25TJ471	470Ω, ¼Watt, ±5%, Carbon	1		
R176	ERD25TJ471	470Ω, ¼Watt, ±5%, Carbon	1		
R177	ERD25TJ471	470Ω, ¼Watt, ±5%, Carbon	1		
R178	ERD25TJ331	330Ω, ¼Watt, ±5%, Carbon	1		
R179	ERD25TJ221	220Ω, ¼Watt, ±5%, Carbon	1		
R180	ERD25TJ390	39Ω, ¼Watt, ±5%, Carbon	1		
R181	ERD25TJ101	100Ω, ¼Watt, ±5%, Carbon	1		

Ref. No.	Part No.	Part Name & Description	Per Set	Remarks
R202	ERD25TJ472	4.7KΩ, ¼Watt, ±5%, Carbon	1	
R203	ERC12GK203	20KΩ, ½Watt, ±10%, Solid	1	
R204	ERD25TJ102	1KΩ, ¼Watt, ±5%, Carbon	1	
R205	ERD25TJ103	10KΩ, ¼Watt, ±5%, Carbon	1	
R206	ERD25TJ103	10KΩ, ¼Watt, ±5%, Carbon	1	
R207	ERD25TJ105	1MΩ, ¼Watt, ±5%, Carbon	1	
R208	ERD25TJ224	220KΩ, ¼Watt, ±5%, Carbon	1	
R209	ERD25TJ220	22Ω, ¼Watt, ±5%, Carbon	1	
R210	ERD25TJ681	680Ω, ¼Watt, ±5%, Carbon	1	
R211	ERD25TJ102	1KΩ, ¼Watt, ±5%, Carbon	1	
R212	ERD25TJ682	6.8KΩ, ¼Watt, ±5%, Carbon	1	
R213	ERD25TJ104	100KΩ, ¼Watt, ±5%, Carbon	1	
R214	ERD25TJ103	10KΩ, ¼Watt, ±5%, Carbon	1	
R215	ERD25TJ680	68Ω, ¼Watt, ±5%, Carbon	1	
R216	ERD25TJ333	33KΩ, ¼Watt, ±5%, Carbon	1	
R217	ERD25TJ681	680Ω, ¼Watt, ±5%, Carbon	1	
R218	ERD25TJ222	2.2KΩ, ¼Watt, ±5%, Carbon	1	
R219	ERD25TJ472	4.7KΩ, ¼Watt, ±5%, Carbon	1	
R220	ERD25TJ331	330Ω, ¼Watt, ±5%, Carbon	1	
R221	ERD25TJ104	100KΩ, ¼Watt, ±5%, Carbon	1	
R222	ERD25TJ331	330Ω, ¼Watt, ±5%, Carbon	1	
R223	ERD25TJ221	220Ω, ¼Watt, ±5%, Carbon	1	
R224	ERD25TJ102	1KΩ, ¼Watt, ±5%, Carbon	1	
R225	ERD25TJ103	10KΩ, ¼Watt, ±5%, Carbon	1	
R226	ERD25TJ470	47Ω, ¼Watt, ±5%, Carbon	1	
R227	ERD25TJ221	220Ω, ¼Watt, ±5%, Carbon	1	
R228	ERD25TJ333	33KΩ, ¼Watt, ±5%, Carbon	1	
R229	ERD25TJ103	10KΩ, ¼Watt, ±5%, Carbon	1	
R230	ERD25TJ681	680Ω, ¼Watt, ±5%, Carbon	1	
R231	ERD25TJ102	1KΩ, ¼Watt, ±5%, Carbon	1	
R232	ERD25TJ103	10KΩ, ¼Watt, ±5%, Carbon	1	
R233	ERD25TJ152	1.5KΩ, ¼Watt, ±5%, Carbon	1	
R234	ERD25TJ681	680Ω, ¼Watt, ±5%, Carbon	1	
R235	ERD25TJ222	2.2KΩ, ¼Watt, ±5%, Carbon	1	
R236	ERD25TJ220	22Ω, ¼Watt, ±5%, Carbon	1	
R237	ERD25TJ333	33KΩ, ¼Watt, ±5%, Carbon	1	
R238	ERD25TJ103	10KΩ, ¼Watt, ±5%, Carbon	1	
R239	ERD25TJ681	680Ω, ¼Watt, ±5%, Carbon	1	
R240	ERD25TJ331	330Ω, ¼Watt, ±5%, Carbon	1	
R241	ERD25TJ333	33KΩ ¼Watt, ±5%, Carbon	1	
R242	ERD25TJ103	10KΩ, ¼Watt, ±5%, Carbon	1	
R243	ERD25TJ681	680Ω, ¼Watt, ±5%, Carbon	1	
R244	ERD25TJ102	1KΩ, ¼Watt, ±5%, Carbon	1	
R245	ERD25TJ102	1KΩ, ¼Watt, ±5%, Carbon	1	
R246	ERD25TJ471	470Ω, ¼Watt, ±5%, Carbon	1	
R248	ERD25TJ472	4.7KΩ, ¼Watt, ±5%, Carbon	1	
R249	ERD25TJ103	10KΩ, ¼Watt, ±5%, Carbon	1	
R250	ERD25TJ472	4.7KΩ, ¼Watt, ±5%, Carbon	1	
R251	ERD25TJ392	3.9KΩ, ¼Watt, ±5%, Carbon	1	
R252	ERD25TJ682	6.8KΩ, ¼Watt, ±5%, Carbon	1	
R254	ERD25TJ104	100KΩ, ¼Watt, ±5%, Carbon	1	
R255	ERD25TJ333	33KΩ, ¼Watt, ±5%, Carbon	1	
R256	ERD25TJ473	47KΩ, ¼Watt, ±5%, Carbon	1	
R257	ERD25TJ474	470KΩ, ¼Watt, ±5%, Carbon	1	
R258	ERD25TJ102	1KΩ, ¼Watt, ±5%, Carbon	1	
R260	ERD25TJ220	22Ω, ¼Watt, ±5%, Carbon	1	
R261	ERD25TJ104	100KΩ, ¼Watt, ±5%, Carbon	1	

Ref. No.	Part No.	Part Name & Description	Per Set	Remarks
R262	ERD25TJ683	68KΩ, ¼Watt, ±5%, Carbon	1	
R263	ERD25TJ822	8.2KΩ, ¼Watt, ±5%, Carbon	1	
R265	ERD25TJ473	47KΩ, ¼Watt, ±5%, Carbon	1	
R266	ERD25TJ332	3.3KΩ, ¼Watt, ±5%, Carbon	1	
R267	ERD25TJ684	680KΩ, ¼Watt, ±5%, Carbon	1	
R268	ERD25TJ104	100KΩ, ¼Watt, ±5%, Carbon	1	
R269	ERD25TJ472	4.7KΩ, ¼Watt, ±5%, Carbon	1	
R270	ERD25TJ224	220KΩ, ¼Watt, ±5%, Carbon	1	
R271	ERD25TJ221	220Ω, ¼Watt, ±5%, Carbon	1	
R272	ERD25TJ103	10KΩ, ¼Watt, ±5%, Carbon	1	
R273	ERD25TJ222	2.2KΩ, ¼Watt, ±5%, Carbon	1	
R275	ERD25TJ333	33KΩ, ¼Watt, ±5%, Carbon	1	
R276	ERD25TJ222	2.2KΩ, ¼Watt, ±5%, Carbon	1	
R277	ERD25TJ222	2.2KΩ, ¼Watt, ±5%, Carbon	1	
R278	ERD25TJ103	10KΩ, ¼Watt, ±5%, Carbon	1	
R279	ERD25TJ153	15KΩ, ¼Watt, ±5%, Carbon	1	
R280	ERD25TJ222	2.2KΩ, ¼Watt, ±5%, Carbon	1	
R281	ERD25TJ333	33KΩ, ¼Watt, ±5%, Carbon	1	
R301	ERD25TJ102	1KΩ, ¼Watt, ±5%, Carbon	1	
R302	ERD25TJ332	3.3KΩ, ¼Watt, ±5%, Carbon	1	
R303	ERD25TJ334	330KΩ, ¼Watt, ±5%, Carbon	1	
R304	ERD25TJ471	470Ω, ¼Watt, ±5%, Carbon	1	
R305	ERD25TJ332	3.3KΩ, ¼Watt, ±5%, Carbon	1	
R307	ERD25TJ102	1KΩ, ¼Watt, ±5%, Carbon	1	
R308	ERD25TJ102	1KΩ, ¼Watt, ±5%, Carbon	1	
R309	ERD25TJ152	1.5KΩ, ¼Watt, ±5%, Carbon	1	
R311	ERD25TJ681	680Ω, ¼Watt, ±5%, Carbon	1	
R312	ERD25TJ222	2.2KΩ, ¼Watt, ±5%, Carbon	1	
R314	ERD25TJ102	1KΩ, ¼Watt, ±5%, Carbon	1	
R316	ERD25TJ104	100KΩ, ¼Watt, ±5%, Carbon	1	
R317	ERD25TJ471	470Ω, ¼Watt, ±5%, Carbon	1	
R318	ERD25TJ683	68KΩ, ¼Watt, ±5%, Carbon	1	
R319	ERD25TJ224	220KΩ, ¼Watt, ±5%, Carbon	1	
R320	ERD25TJ562	5.6KΩ, ¼Watt, ±5%, Carbon	1	
R321	ERD25TJ333	33KΩ, ¼Watt, ±5%, Carbon	1	
R330	ERD25TJ471	470Ω, ¼Watt, ±5%, Carbon	1	
R331	ERD25TJ473	47KΩ, ¼Watt, ±5%, Carbon	1	
R505	ERC12GK103	10KΩ, ½Watt, ±10%, Solid	1	
R506	ERC12GK103	10KΩ, ½Watt, ±10%, Solid	1	
R507	ERC12ZGM335	3.3MΩ, ½Watt, ±20%, Solid	1	
R508	ERX2ANJ3R3	3.3Ω, 2Watt, ±5%, Metal Oxide	1	
		CAPACITORS		
C2	ECEA16V10	10μF, 16WV, Electrolytic	1	
C3	ECQS05152JZ	1500PF, 50WV, ±5%, Styrol	1	
C4	ECMS05181JH	180PF, 50WV, ±5%, Mica	1	
C5	ECMS05101JH	100PF, 50WV, ±5%, Mica	1	
C6	ECMS05820JH	82PF, 50WV, ±5%, Mica	1	
C7	ECMS05680JH	68PF, 50WV, ±5%, Mica	1	
C8	ECMS05560JH	56PF, 50WV, ±5%, Mica	1	
C9	ECMS05470JH	47PF, 50WV, ±5%, Mica	1	
C19	ECCD1H070DC	7PF, 50WV, ±0.5PF, Ceramic	1	
C20	ECCD1H050CC	5PF, 50WV, ±0.25PF, Ceramic	1	
C21	ECCD1H100KC	10PF, 50WV, ±10%, Ceramic	1	
C23	ECKD1H102MD	0.001μF, 50WV, ±20%, Ceramic	1	
C24	ECKD1H102MD	0.001μF, 50WV, ±20%, Ceramic	1	

Ref. No.	Part No.	Part Name & Description	Per Set	Remarks
C25	ECKD1H223PF	0.022μF, 50WV,±10%, Ceramic	1	
C26	ECKD1H223PF	0.022μF, 50WV,±10%, Ceramic	1	
C28	ECCD1H270KC	27PF, 50WV,±10%, Ceramic	1	
C29	ECCD1H390KC	39PF, 50WV,±10%, Ceramic	1	
C30	ECCD1H330KC	33PF, 50WV,±10%, Ceramic	1	
C31	ECCD1H330KC	33PF, 50WV,±10%, Ceramic	1	
C32	ECCD1H470KC	47PF, 50WV,±10%, Ceramic	1	
C40	ECQS05152JZ	1500PF, 50PF,±5%, Styrol	1	
C41	ECMS05181JH	180PF, 50WV,±5%, Mica	1	
C42	ECMS05121JH	120PF, 50WV,±5%, Mica	1	
C43	ECMS05820JH	82PF, 50WV,±5%, Mica	1	
C44	ECMS05680JH	68PF, 50WV,±5%, Mica	1	
C45	ECMS05560JH	56PF, 50WV,±5%, Mica	1	
C46	ECMS05470JH	47PF, 50WV,±5%, Mica	1	
C47	ECKD1H103MD	0.01μF, 50WV,±20%, Ceramic	1	
C48	ECKD1H223PF	0.022μF, 50WV,±10%, Ceramic	1	
C49	ECKD1H103MD	0.01μF, 50WV,±20%, Ceramic	1	
C50	ECKD1H103MD	0.01μF, 50WV,±20%, Ceramic	1	
C51	ECKD1H223PF	0.022μF, 50WV,±10%, Ceramic	1	
C52	ECKD1H103MD	0.01μF, 50WV,±20%, Ceramic	1	
C53	ECKD1H103MD	0.01μF, 50WV,±20%, Ceramic	1	
C54	ECKD1H223PF	0.022μF, 50WV,±10%, Ceramic	1	
C55	ECCD1H120KC	12PF, 50WV,±10%, Ceramic	1	
C56	ECKD1H103MD	0.01μF, 50WV,±20%, Ceramic	1	
C57	ECKD1H103MD	0.01μF, 50WV,±20%, Ceramic	1	
C58	ECCD1H3R5C	3.5PF, 50WV,±0.25PF,Ceramic	1	
C59	ECCD1H220KC	22PF, 50WV,±10%, Ceramic	1	
C61	ECCD1H150KC	15PF, 50WV,±10%, Ceramic	1	
C62	ECCD1H070DC	7PF, 50WV,±0.5PF, Ceramic	1	
C63	ECCD1H030C	3PF, 50WV,±0.25PF,Ceramic	1	
C64	ECMS05101JH	100PF, 50WV,±5%, Mica	1	
C65	ECMS05680JH	68PF, 50WV,±5%, Mica	1	
C66	ECCD1H390KC	39PF, 50WV,±10%, Ceramic	1	
C67	ECKD1H103PF	0.01μF, 50WV,±10%, Ceramic	1	
C68	ECKD1H103PF	0.01μF, 50WV,±10%, Ceramic	1	
C69	ECKD1H103PF	0.01μF, 50WV,±10%, Ceramic	1	
C71	ECCD1H470KC	47PF, 50WV,±10%, Ceramic	1	
C72	ECCD1H470KC	47PF, 50WV,±10%, Ceramic	1	
C73	ECKD1H103MD	0.01μF, 50WV,±20%, Ceramic	1	
C74	ECCD1H330KC	33PF, 50WV,±10%, Ceramic	1	
C75	ECKD1H103PF	0.01μF, 50WV,±10%, Ceramic	1	
C76	ECMS05470JH	47PF, 50WV,±5%, Ceramic	1	
C77	ECKD1H103PF	0.01μF, 50WV,±10%, Ceramic	1	
C78	ECMS05101JH	100PF, 50WV,±5%, Mica	1	
C79	ECKD1H103PF	0.01μF, 50WV,±10%, Ceramic	1	
C80	ECKD1H223PF	0.022μF, 50WV,±10%, Ceramic	1	
C81	ECCD1H330KC	33PF, 50WV,±10%, Ceramic	1	
C82	ECCD1H330KC	33PF, 50WV,±10%, Ceramic	1	
C83	ECMS05680JH	68PF, 50WV,±5%, Mica	1	
C84	ECMS05121JH	120PF, 50WV,±5%, Mica	1	
C85	ECKD1H103MD	0.01μF, 50WV,±20%, Ceramic	1	
C86	ECCD1H180KC	18PF, 50WV,±10%, Ceramic	1	
C87	ECCD1H390KC	39PF, 50WV,±10%, Ceramic	1	
C91	ECCD1H2R5C	2.5PF, 50WV,±0.25PF,Ceramic	1	
C92	ECCD1H150KC	15PF, 50WV,±10%, Ceramic	1	
C93	ECKD1H103MD	0.01μF, 50WV,±20%, Ceramic	1	
C94	ECCD1H120KC	0.01μF, 50WV,±10%, Ceramic	1	

Ref. No.	Part No.	Part Name & Description	Per Set	Remarks
C95	ECCD1H220KC	22PF, 50WV,±10%, Ceramic	1	
C96	ECKD1H103PF	0.01μF, 50WV,±10%, Ceramic	1	
C97	**ECEA16V470**	470μF, 16WV, Electrolytic	1	
C98	ECKD1H103PF	0.01μF, 50WV,±10%, Ceramic	1	
C99	ECKD1H103MD	0.01μF, 50WV,±20%, Ceramic	1	
C100	ECCD1H100KC	10PF, 50WV,±10%, Ceramic	1	
C102	ECCD1H040C	4PF, 50WV,±0.25PF,Ceramic	1	
C103	ECKD1H103MD	0.01μF, 50WV,±20%, Ceramic	1	
C106	ECCD1H120KC	12PF, 50WV,±10%, Ceramic	1	
C107	ECKD1H103PF	0.01μF, 50WV,±10%, Ceramic	1	
C109	ECKD1H103MD	0.01μF, 50WV,±20%, Ceramic	1	
C111	ECMS05820JH	82PF, 50WV,±5%, Mica	1	
C112	ECMS05181JH	180PF, 50WV,±5%, Mica	1	
C113	ECKD1H222MD	0.0022μF,50WV,±20%, Ceramic	1	
C114	ECCD1H101K	100PF, 50WV,±10%, Ceramic	1	
C115	ECKD1H223PF	0.022μF, 50WV,±10%, Ceramic	1	
C116	ECCD1H470KC	47PF, 50WV,±10%, Ceramic	1	
C117	ECKD1H223PF	0.022μF, 50WV,±10%, Ceramic	1	
C118	ECCD1H030C	3PF, 50WV,±0.25PF,Ceramic	1	
C119	ECCD1H180KC	18PF, 50WV,±10%, Ceramic	1	
C120	ECCD1H050CC	5PF, 50WV,±0.25PF,Ceramic	1	
C121	**ECEA10V100**	100μF, 10WV, Electrolytic	1	
C122	ECKD1H223MD	0.022μF, 50WV,±20%, Ceramic	1	
C123	ECKD1H103MD	0.01μF, 50WV,±20%, Ceramic	1	
C161	ECKD1H223PF	0.022μF, 50WV,±10%, Ceramic	1	
C162	ECKD1H223PF	0.022μF, 50WV,±10%, Ceramic	1	
C163	ECKD1H223PF	0.022μF, 50WV,±10%, Ceramic	1	
C165	ECFVD473MD	0.047μF, 25WV,±20%, Semi-Conductor	1	
C166	**ECEA6V220**	220μF, 6.3WV, Electrolytic	1	
C167	**ECEA16V470**	470μF, 16WV, Electrolytic	1	
C168	ECFVD473MD	0.047μF, 25WV,±20%, Semi-Conductor	1	
C169	ECQS1271JZ	270PF, 50WV,±5%, Styrol	1	
C170	ECCD1H680K	68PF, 50WV,±10%, Ceramic	1	
C172	**ECEA16V33**	33μF, 16WV, Electrolytic	1	
C176	ECFVD333MD	0.033μF, 25WV,±20%, Semi-Conductor	1	
C177	ECKD1H223MD	0.022μF, 50WV,±20%, Ceramic	1	
C178	ECCD1H181K	180PF, 50WV,±10%, Ceramic	1	
C202	ECQS05221JZ	220PF, 50WV,±5%, Styrol	1	
C203	ECQS05221JZ	220PF, 50WV,±5%, Styrol	1	
C204	**ECEA50V1**	1μF, 50WV, Electrolytic	1	
C205	ECKD1H103PF	0.01μF, 50WV,±10%, Ceramic	1	
C206	ECCD1H270KC	27PF, 50WV,±10%, Ceramic	1	
C208	ECCD1H100KC	10PF, 50WV,±10%, Ceramic	1	
C209	ECCD1H020C	2PF, 50WV,±0.25PF,Ceramic	1	
C210	ECKD1H102PF	0.001μF, 50WV,±10%, Ceramic	1	
C211	ECKD1H102PF	0.001μF, 50WV,±10%, Ceramic	1	
C212	ECKD1H223PF	0.022μF, 50WV,±10%, Ceramic	1	
C213	ECQS05122JZ	1200PF, 50WV,±5%, Styrol	1	
C215	ECMS05181JH	180PF, 50WV,±5%, Mica	1	
C220	ECKD1H223PF	0.022μF, 50WV,±10%, Ceramic	1	
C223	ECKD1H223PF	0.022μF, 50WV,±10%, Ceramic	1	
C224	ECCD1H120KW	12PF, 50WV,±10%, Ceramic	1	
C225	ECMS05131JH	130PF, 50WV,±5%, Mica	1	
C226	ECQS05392KZ	3900PF, 50WV,±10%, Styrol	1	
C228	ECCD1H180KC	18PF, 50WV,±10%, Ceramic	1	
C230	ECCD1H390KC	39PF, 50WV,±10%, Ceramic	1	
C231	ECCD1H030C	3PF, 50WV,±0.25PF,Ceramic	1	

Ref. No.	Part No.	Part Name & Description	Per Set		Remarks
C233	ECCD1H020C	2PF, 50WV, ±0.25PF, Ceramic	1		
C234	ECCD1H100KC	10PF, 50WV, ±10%, Ceramic	1		
C235	ECKD1H223PF	0.022μF, 50WV, ±10%, Ceramic	1		
C236	**ECEA50ZR1**	0.1μF, 50WV, Electrolytic	1		
C237	**ECEA10V100**	100μF, 10WV, Electrolytic	1		
C238	ECCD1H070DC	7PF, 50WV, ±0.5PF, Ceramic	1		
C239	ECKD1H103PF	0.01μF, 50WV, ±10%, Ceramic	1		
C240	ECQS05751JZ	750PF, 50WV, ±5%, Styrol	1		
C241	ECFTD223MD	0.022μF, 25WV, ±20%, Semi-Conductor	1		
C242	ECCD1H050CC	5PF, 50WV, ±0.25PF, Ceramic	1		
C243	ECKD1H102PF	0.01μF, 50WV, ±10%, Ceramic	1		
C244	ECKD1H103PF	0.01μF, 50WV, ±10%, Ceramic	1		
C245	ECKD1H102MD	0.001μF, 50WV, ±20%, Ceramic	1		
C246	ECKD1H103MD	0.01μF, 50WV, ±20%, Ceramic	1		
C247	ECKD1H103PF	0.01μF, 50WV, ±10%, Ceramic	1		
C248	ECFTD223MD	0.022μF, 25WV, ±20%, Semi-Conductor	1		
C249	ECKD1H103PF	0.01μF, 50WV, ±10%, Ceramic	1		
C250	ECFTD223MD	0.022μF, 25WV, ±20%, Semi-Conductor	1		
C251	ECCD1H270KC	27PF, 50WV, ±10%, Ceramic	1		
C252	ECKD1H103PF	0.01μF, 50WV, ±10%, Ceramic	1		
C253	**ECEA16V10**	10μF, 16WV, Electrolytic	1		
C254	ECKD1H223PF	0.022μF, 50WV, ±10%, Ceramic	1		
C255	ECKD1H223PF	0.022μF, 50WV, ±10%, Ceramic	1		
C256	ECKD1H103PF	0.01μF, 50WV, ±10%, Ceramic	1		
C257	ECFTD223MD	0.022μF, 25WV, ±20%, Semi-Conductor	1		
C258	**ECEA10V47**	47μF, 10WV, Electrolytic	1		
C259	ECCD1H100KC	10PF, 50WV, ±10%, Ceramic	1		
C260	**ECEA35V4R7**	4.7μF, 35WV, Electrolytic	1		
C261	ECCD1H390KC	39PF, 50WV, ±10%, Ceramic	1		
C262	ECKD1H223PF	0.022μF, 50WV, ±10%, Ceramic	1		
C263	**ECEA16V33**	33PF, 16WV, Electrolytic	1		
C264	ECQS05471JZ	470PF, 50WV, ±5%, Styrol	1		
C265	ECCD1H470KC	47PF, 50WV, ±10%, Ceramic	1		
C266	ECCD1H120KC	12PF, 50WV, ±10%, Ceramic	1		
C267	**ECEA16V10**	10μF, 16WV, Electrolytic	1		
C268	ECKD1H223PF	0.022μF, 50WV, ±10%, Ceramic	1		
C269	ECKD1H223PF	0.022μF, 50WV, ±10%, Ceramic	1		
C270	ECKD1H472MD	0.0047μF, 50WV, ±20%, Ceramic	1		
C271	ECKD1H103PF	0.01μF, 50WV, ±10%, Ceramic	1		
C272	ECFVD103MD	0.01μF, 25WV, ±20%, Semi-Conductor	1		
C273	ECMS05121JH	120PF, 50WV, ±5%, Mica	1		
C274	ECMS05161JH	160PF, 50WV, ±5%, Mica	1		
C275	ECKD1H223PF	0.022μF, 50WV, ±10%, Ceramic	1		
C276	**ECEA10V100**	100μF, 10WV, Electrolytic	1		
C277	ECKD1H682MD	0.0068μF, 50WV, ±20%, Ceramic	1		
C278	ECFTD223MD	0.022μF, 25WV, ±20%, Semi-Conductor	1		
C279	ECKD1H103MD	0.01μF, 50WV, ±20%, Ceramic	1		
C280	ECKD1H103MD	0.01μF, 50WV, ±20%, Ceramic	1		
C281	**ECEA35V4R7**	4.7μF, 35WV, Electrolytic	1		
C282	ECCD1H180KC	18PF, 50WV, ±10%, Ceramic	1		
C283	ECFTD333MD	0.033μF, 25WV, ±20%, Semi-Conductor	1		
C284	ECKD1H682MD	0.0068μF, 50WV, ±20%, Ceramic	1		
C285	**ECEA35V4R7**	4.7μF, 35WV, Electrolytic	1		
C286	ECFTD223MD	0.022μF, 25WV, ±20%, Semi-Conductor	1		
C287	ECCD1H470KC	47PF, 50WV, ±10%, Ceramic	1		
C288	ECKD1H103PF	0.01μF, 50WV, ±10%, Ceramic	1		
C289	**ECEA10V100**	100μF, 10WV, Electrolytic	1		

Ref. No.	Part No.	Part Name & Description	Per Set		Remarks
C290	ECCD1H270KC	27PF, 50WV, ±10%, Ceramic	1		
C291	**ECEA50V2R2**	2.2PF, 50WV, Electrolytic	1		
C292	ECKD1H223PF	0.022μF, 50WV, ±10%, Ceramic	1		
C293	ECCD1H330KC	33PF, 50WV, ±10%, Ceramic	1		
C294	ECKD1H223PF	0.022μF, 50WV, ±10%, Ceramic	1		
C296	ECKD1H103MD	0.01μF, 50WV, ±20%, Ceramic	1		
C297	ECCD1H331K	330PF, 50WV, ±10%, Ceramic	1		
C301	**ECEA50ZR1**	0.1μF, 50WV, Electrolytic	1		
C302	**ECEA16V10**	10μF, 16WV, Electrolytic	1		
C303	ECCD1H331K	330PF, 50WV, ±10%, Ceramic	1		
C304	**ECEA50V1**	1μF, 50WV, Electrolytic	1		
C305	ECFTD223MD	0.022μF, 25WV, ±20%, Semi-Conductor	1		
C306	ECKD1H332MD	0.0033μF, 50WV, ±20%, Ceramic	1		
C307	**ECEA50ZR22**	0.22μF, 50WV, Electrolytic	1		
C308	**ECEA10V100**	100μF, 10WV, Electrolytic	1		
C309	ECKD1H682MD	0.0068μF, 50WV, ±20%, Ceramic	1		
C310	**ECEA50ZR22**	0.22μF, 50WV, Electrolytic	1		
C311	**ECEA50ZR22**	0.22μF, 50WV, Electrolytic	1		
C312	**ECEA35V4R7**	4.7μF, 35WV, Electrolytic	1		
C313	ECFTD103MD	0.01μF, 25WV, ±20%, Semi-Conductor	1		
C314	**ECEA16V220**	220μF, 16WV, Electrolytic	1		
C315	**ECEA16V10**	10μF, 16WV, Electrolytic	1		
C316	ECEA16V3300	3300μF, 16WV, Electrolytic	1		
C317	ECCD1H220KC	22PF, 50WV, ±10%, Ceramic	1		
C319	ECFVD104MD	0.1μF, 25WV, ±20%, Semi-Conductor	1		
C320	ECKD1H103PF	0.01μF, 50WV, ±10%, Ceramic	1		
C321	ECKD1H103PF	0.01μF, 50WV, ±10%, Ceramic	1		
C322	**ECEA16V33**	33μF, 16WV, Electrolytic	1		
C323	**ECEA10V47**	47μF, 10WV, Electrolytic	1		
C324	ECKD1H102MD	0.001μF, 50WV, ±20%, Ceramic	1		
C325	**ECEA16V470**	470μF, 16WV, Electrolytic	1		
C326	**ECEA50V1**	1μF, 50WV, Electrolytic	1		
C327	**ECEA16V10**	10μF, 16WV, Electrolytic	1		
C328	ECKD1H332MD	0.0033μF, 50WV, ±20%, Ceramic	1		
C329	**ECEA16V10**	10μF, 16WV, Electrolytic	1		
C331	ECCD1H221K	220PF, 50WV, ±10%, Ceramic	1		
C332	ECKD1H102MD	0.001μF, 50WV, ±20%, Ceramic	1		
C333	ECKD1H103MD	0.01μF, 50WV, ±20%, Ceramic	1		
C334	ECCD1H070DC	7PF, 50WV, ±0.5PF, Ceramic	1		
		CABINET			
CA1	RYPF4800M	Front Panel Assembly	1		○
CA2	RYEJX4800N	Indicating Plate Assembly	1		○
	RWBJX4800N	Battery Case Assembly	1		○
	RJC505Z	Terminal Spring, Battery ⊖ Side	4		
	RJT398A	Connecting Pipe, Terminal Spring	4		
	RJC111A	Terminal, Battery ⊕ Side	4		
CA3	RYT1JX4800N	Knob Assembly, SW2~8 Tuning	1		○
CA4	RYT2JX4800N	Knob Assembly, SW1/MW/FM Tuning	1		○
CA5	RKF367Z	Cabinet Cover	1		○
CA6	RKH5076Z	Handle, Cabinet	2		○
CA7	RKX125Z	Cover, Handle	4		○
	RHG886Z	Rubber Cushion, Speaker	1		○
CA8	RBS103ZK	Knob, Band Selector	2		○
CA9	RBE15Y	Knob, Power	1		○
CA10	RBN381Z	Knob, Volume, Bass, Treble, BFO Pich, Ant. Trim & AM RF Gain	6		○

Ref. No.	Part No.	Part Name & Description	Per Set	Remarks
CA11	RKU267ZS	Rear Panel	1	O
CA12	RGT576V	Name Plate	1	O
CA13	RHG309C	Rubber Leg (Large), Cabinet	2	
CA14	RHG325Z	Rubber Leg (Small), Cabinet	2	
CA15	RKK92Z	Cover, Battery Compartment	2	
CA16	RJF1065Z	Terminal, EXT. Ant.	6	
CA17	RJF2002Z	Terminal Board, EXT. Ant.	3	
CA18	RJS258Y-R	Socket, SW Ant.	1	
CA19	SMA205	Holder, Core Antenna	1	O
CA20	SMA207	Holder, Core Antenna	1	O
	RBE4Y	Knob, SW2~8 Cal	1	
	RHE5005A	Screw, Knob M'tg	1	
CA21	XSB3+8BVS	Screw, Cabinet Cover M'tg	15	
		CHASSIS		
CH1	RSG9ZS	Dial Mechanism Assembly	1	O
CH2	ESRK68S1	Shaft, Switch (SW2~8)	1	O
CH3	RMC171Y	Shield Plate, IC1	1	
CH4	RHE37Z	Joint, Tuning Capacitor	1	O
CH5	RDE75ZS	Joint, Switch Shaft	1	
	XXAR3H6S	Screw, Joint M'tg	8	
CH6	**RJJ87Y-C**	Jack, Rec. Out & EXT. EP, SP.	2	
CH7	**RJJ82Z-C**	Jack, Aux	1	
CH8	**RJJ122Z-H**	Jack, AC IN	1	
CH9	RJJ104Z-C	Jack, DC IN	1	
CH10	XAMR48S100A	Pilot Lamp, 12V, 40mA	2	O
CH11	XAMR48S250A	Pilot Lamp, 12V, 40mA	1	O
CH12	RDT9091Z	Shaft, Tuning	1	O
	RUM39Z	Bracket, Dial Scale	2	O
	RUM40Z	Bracket, Dial Scale	2	O
CH13	RDR20-3	Pulley (Small), Dial	7	
CH14	RDR23-1	Pulley (Large), Dial	4	
	RNW150-2	Washer, Pulley	11	
CH15	RDF803Z-K	Shaft, SW2~8 Switch	1	O
CH16	RSM2617Z-K	Meter, Tune/Battery	1	O
CH17	ESA23407	Shaft, Switch	1	O
CH18	ESA20813B	Wire, Switch	1	O
CH19	RKD456X	Scale, SW2~8	1	O
CH20	RKD455X	Scale, SW1/MW/FM	1	O
CH21	RDP170Z	Pointer, Dial	2	O
CH22	RDD4012Z	Drum, Dial (SW1/MW/FM)	1	O
CH23	RDD441Z	Drum, Dial (SW2~8)	1	
CH24	RDZ05Z	Cord, Dial	1 Roll	
CH25	RDS4060Z	Spring, Drum (RDD4012Z)	1	
CH26	RDS3090Z	Spring, Drum (RDD441Z)	1	
CH27	RBE17Z	Knob, Switch	6	
	XNS9FZ	Nut, SW Switch Shaft & Ant. Trim. M'tg	2	
	XNS8	Nut, Volume, Bass, Treble & etc. M'tg	7	
		ACCESSORIES		
A1	**RJA22Z**	Power Cord; AC	1	
A2	UM-1DEP	Battery	8	
A3	RJP97Z	Plug, SW2~8 Antenna	1	O
A4	RSA205Z-M	FM Antenna	1	O

Ref. No.	Part No.	Part Name & Description	Per Set	Remarks
A5	**XEH15A1-B**	Magnetic Earphone	1	
A6	RJP169Z-E	Plug, Headphone	1	
A7	WRLO1000bb	Lead Wire, Antenna	1	O
		PACKING MATERIALS		
	RPN9237Z	Pad Complete	1	
P1	(Not Available, Order RPN9237Z)	Pad, Left Side	(1)	
P2		Pad, Right Side	(1)	
P3	RPG1836Z	Packing Case	1	O
P4	RQX6167Z	Instruction Book	1	O

Ref. No.	Part No.	Part Name & Description	Per Set	Remarks
Dig 1,2,3,4,5	RADGL9P034 RADGL9P035 RADGL9P036 RADGL9P037 RADGL9P038	When replacing the LED, Please be sure to use the LED of the same rank as is used in the Unit.	5	O