ORDER NO. RD81071895C1

Service Manual

Radio

RF-3100/©

FM/MW/SW1~29 31-Band Portable Radio
with PLL Quartz-Synthesized Tuning

■ SPECIFICATIONS

Frequency Range:	FM	88~108 MHz
	MW	525~1610 kHz (571~186 m)
	SW1	1.6~2.0 MHz (186~150 m)
	SW2	2.0~3.0 MHz (150~100 m)
	⋮	⋮
	SW29	29.0~30.0 MHz (10.6~10 m)
Intermediate Frequency:	FM	10.7 MHz
	MW	455 kHz
	SW1~SW29	1st 10.695 MHz
		2nd 455 kHz
Sensitivity:	FM	2.5 μV (−3 dB, Limit, Sens)
	MW	40 μV/m (Max. Sens)
	SW1	2.5 μV/ (S/N 10 dB)
	SW2	2.2 μV (S/N 10 dB)
	⋮	⋮
	SW29	3.2 μV (S/N 10 dB)

Power Source:	AC 120 V, 60 Hz or DC 12 V (Eight "D" size Flashlight Batteries) (Panasonic UM-1 or equivalent)
Power Consumption:	15 W
Power Output:	2.0 mW ... RMS (Max.)
Speaker:	9 cm (3 1/2") PM Dynamic Speaker
Dimensions:	371 (W)×122 (H)×241 (D) mm (14 9/16×4 3/4×9 1/2)"
Weight:	3.2 kg (7 lb 1 oz.) without batteries
Impedance:	Speaker ..... 8Ω Recording Output Jack ..... 5 kΩ Earphone/External Speaker Jack ... 8Ω

Specifications are subject to change without notice.
Weights and dimensions shown are approximate.
(Les poids et dimensions mentionnes sont approximatifs.)

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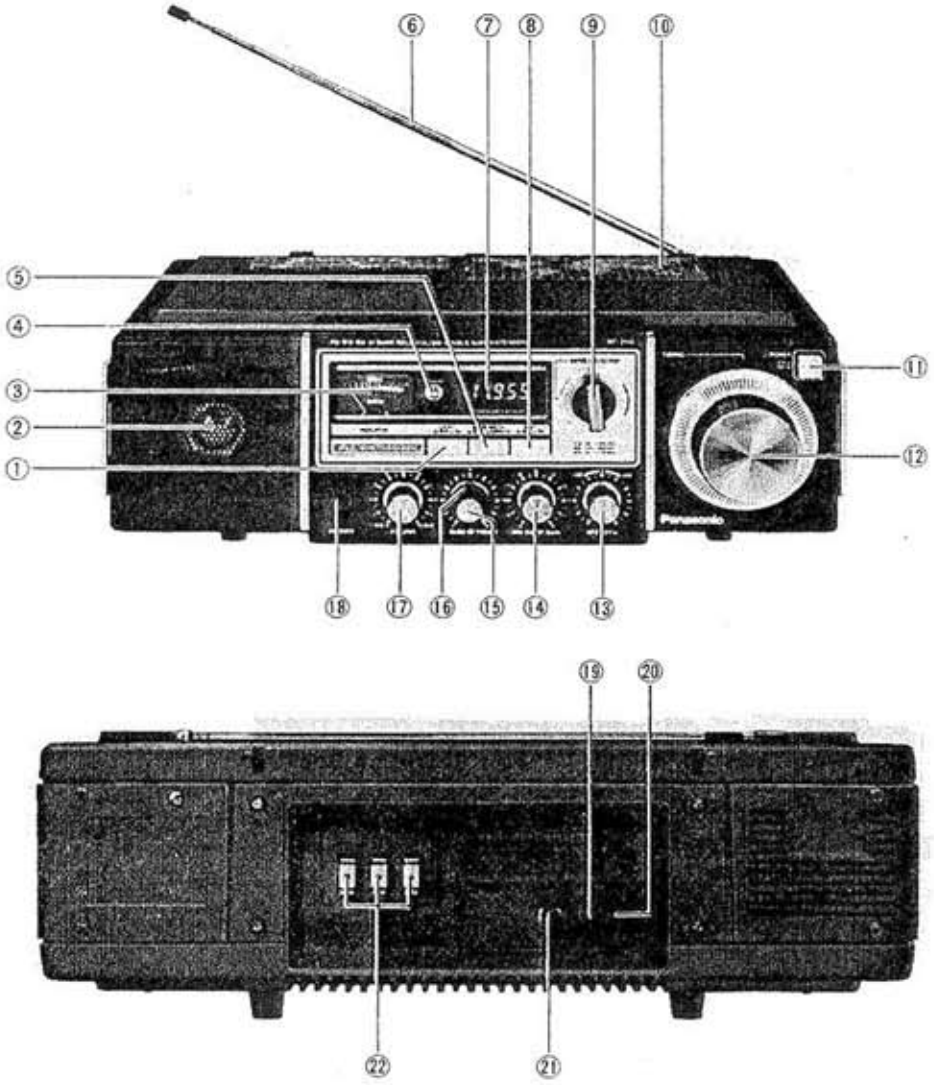
LOCATION OF CONTROLS AND COMPONENTS



① Light Switch
② Speaker [9 cm (3 1/2 "), 8Ω]
③ Signal/Tuning Indicator (INDICATOR)
④ Power Indicator (POWER)
⑤ Bandwidth Selector (BANDWIDTH)
⑥ Telescopic Antenna
⑦ Digital Frequency Display (FREQUENCY DISPLAY)
⑧ BFO On/Off Switch (BFO)
⑨ Band Selector (FM/MW/SW1/SW2 . . . SW29)
⑩ Battery Compartment Cover
⑪ Power Switch (POWER)
⑫ Tuning Control (TUNING)
⑬ BFO Pitch Control (BFO PITCH)
⑭ RF Gain Control (MW, SW RF GAIN)
⑮ Treble Control (TREBLE)
⑯ Bass Control (BASS)
⑰ Volume Control (VOLUME)
⑱ Headphone Jack (8Ω)
⑲ Recording Output Jack (5 kΩ)
⑳ Earphone/External Speaker Jack (8Ω)
㉑ Antenna Selector
㉒ External Antenna Terminals

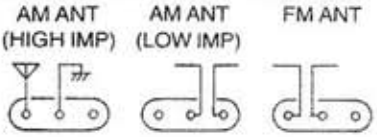


Fig. 1

DISASSEMBLY INSTRUCTIONS

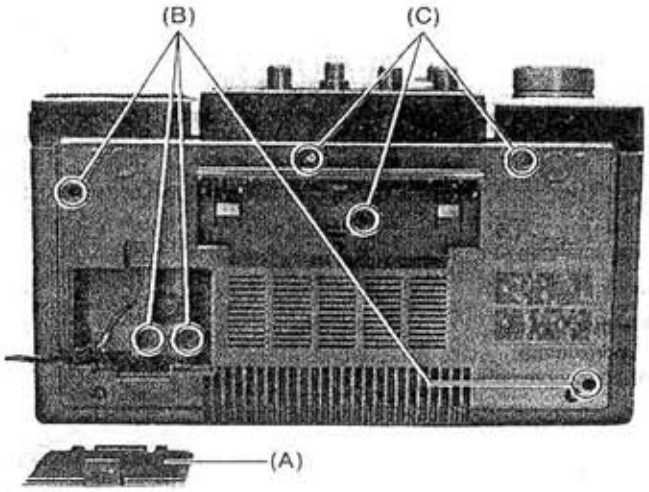


Fig. 2

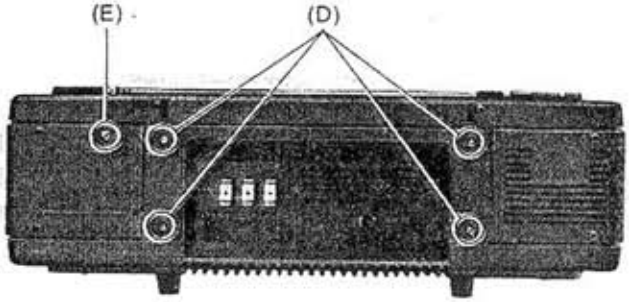


Fig. 3

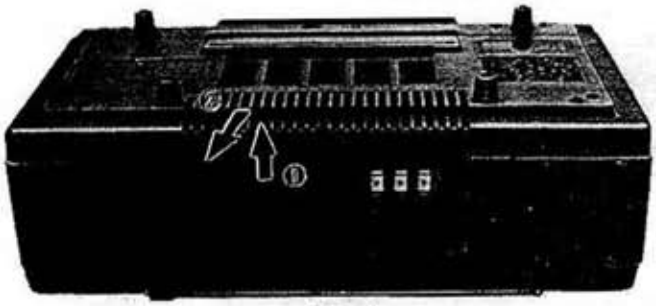


Fig. 4

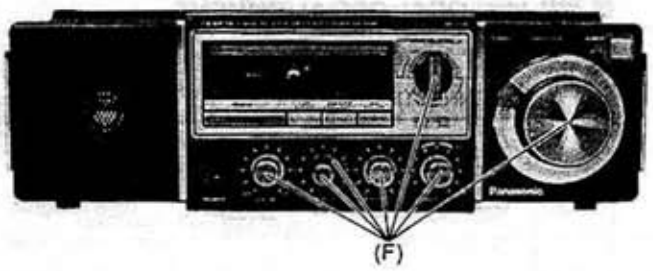


Fig. 5

Fig. 6

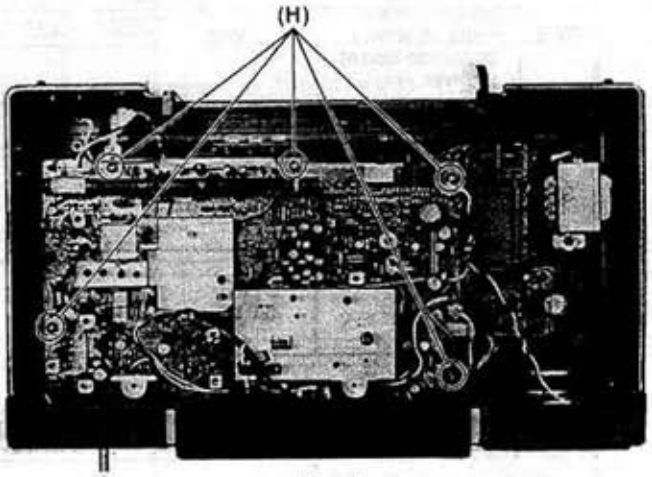


Fig. 7

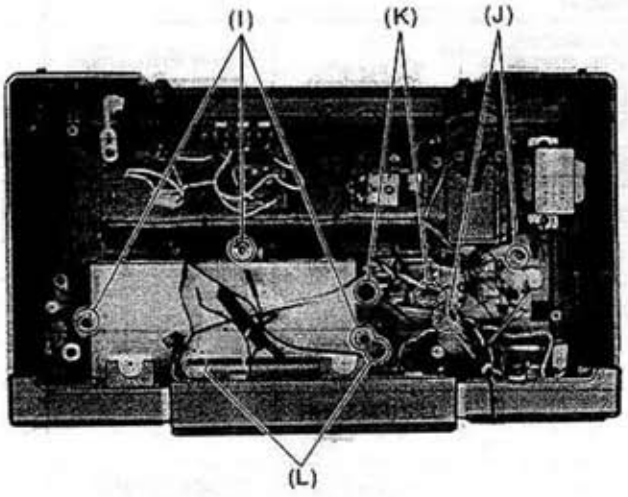


Fig. 8

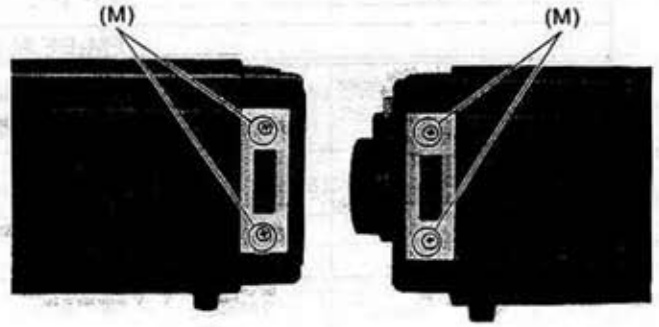


Fig. 9

DIAL THREADING

Dial Cord lengt: 110 cm (43 5/16")

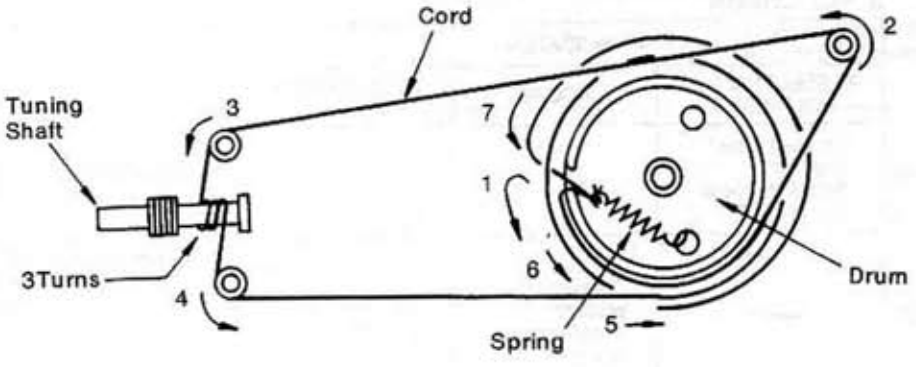


Fig. 10

Procedure	To remove—.	Remove—.	Shown in Fig.—.
1	Bottom Cabinet Ass'y	AC Cord Cover ..... (A)×1	2
2		Screw (3×12) ..... (B)×4	
3		Screw (3×8) ..... (C)×3	
4		Screw (3×12) ..... (D)×4	3
5		Remove the bottom cabinet in the direction of arrows ① and ②.	4
6	Telescopic Antenna	Screw (3×10) ..... (E)×1	3
7	Main Circuit Board	Knob ..... (F)×7	5
8		Screw (3×8) ..... (G)×2	6
9		Screw (3×12) ..... (H)×5	7
10	Display Circuit Board	Screw (3×12) ..... (I)×3	8
11	Circuit Board (Power, OSC Filter)	Screw (3×12) ..... (J)×2	8
12		Screw (3×12) ..... (K)×2	
13	Front Panel	Screw (3×10) ..... (L)×2	8
14		Screw (3×12) ..... (M)×4	9

■ CONNECTOR POSITION

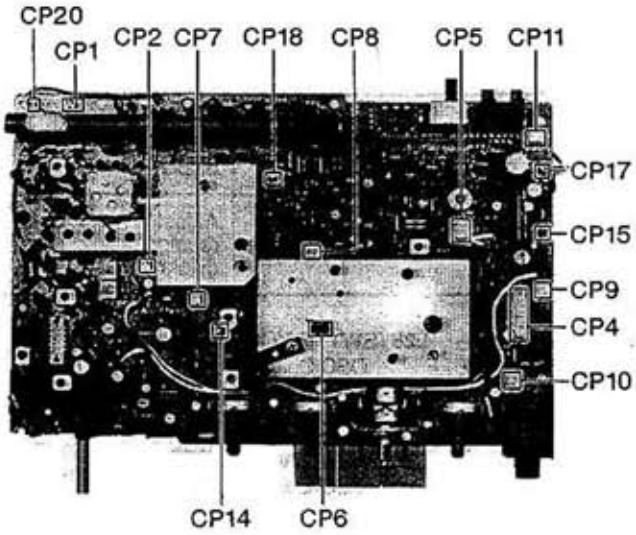


Fig. 11

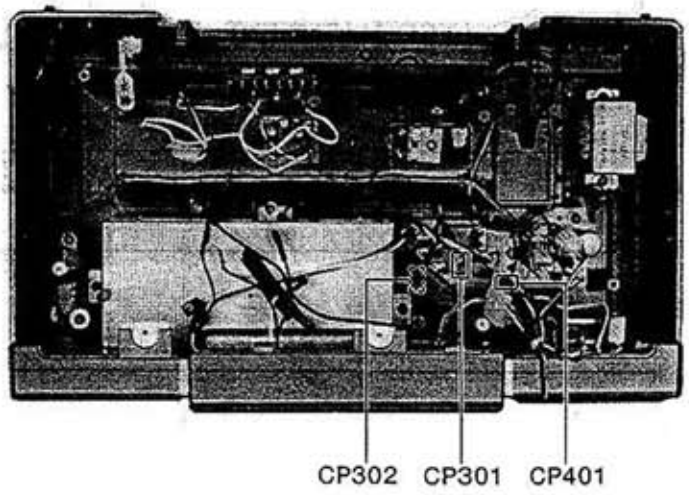


Fig. 12

CP1: EXT. ANT. Connector
CP2: FM LOCAL OSC Connector
CP4: Counter Block (1) Connector
CP5: VCO Control Connector
CP6: VCO Connector
CP7: VFO/MW LOCAL Connector
CP8: 10.24 MHz OUT Connector
CP9: Meter Connector
CP10: Pilot Lamp Connector
CP11: Speaker Connector
CP14: Counter Block (2) Connector
CP15: Counter Block (3) Connector
CP17: Counter Block (4) Connector
CP18: Counter Block (5) Connector
CP20: Counter Block (6) Connector
CP301: Requlator Block Connector
CP302: 2nd Local Connector
CP401: Power Supply Connector

MEASUREMENTS AND ADJUSTMENTS

■ ALIGNMENT INSTRUCTIONS

READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

Notes:

1. Set power switch to ON.
2. Set volume control to maximum.
3. Set bass and treble control to maximum.
4. Set AM RF gain control to minimum.
5. Set BFO pitch control to center.
6. Set band switch to MW, SW1~SW29 or FM.
7. Set BFO switch to OFF.
8. Set EXT. ANT. switch to low.
9. Set power source voltage to 12 V DC.
10. Output of signal generator should be no higher than necessary to obtain an output reading.

■ MW ALIGNMENT

	BAND	SIGNAL GENERATOR or SWEEP GENERATOR		RADIO DIAL SETTING (FREQUENCY DISPLAY (UNIT))	INDICATOR (ELECTRONICS VOLTMETER or SCOPE)	ADJUSTMENT	REMARKS
		CONNECTIONS	FREQUENCY				
		AM-IF ALIGNMENT					
(1)	MW	Fashion loop of several turns of wire and radiate signal into loop of receiver.	455 kHz 30% Mod. with 400 Hz.	Point of non-interference. (on/about 600 kHz).	Output meter across voice coil.	T3 (AM 1st IFT) T4 (AM 2nd IFT) T6 (AM 3rd IFT)	Adjust for maximum output.
		MW-RF ALIGNMENT					
(2)	MW	"	511 kHz	Tuning capacitor fully closed.	"	L33 (MW OSC Coil)	"
(3)	MW	"	1650 kHz	Tuning capacitor fully open.	"	CT4 (MW OSC Trimmer)	"
(4)	MW	"	600 kHz	"600"	"	(*1) L1 (MW ANT Coil)	Adjust for maximum output. Adjust L1 by moving coil bobbin along ferrite core.
(5)	MW	"	1500 kHz	"1500"	"	CT3 (MW ANT Trimmer)	Adjust for maximum output. Repeat steps (2)~(5).

(*1) Cement antenna bobbin with wax after completing alignment.

■ SW VFO and VCO ALIGNMENT

(1)	SW4	——	——	Tuning capacitor fully closed.	——	L34 (SW VFO, OSC Coil)	Adjust for "3,900" reading on frequency display (UNIT).
(2)	SW4	——	——	Tuning capacitor fully open.	——	CT5 (SW VFO, OSC Trimmer)	Adjust for "5,900" reading on frequency display (UNIT).
(3)	SW7	——	——	"	Connect to test point ▼. Negative side to test point ▼.	L26 (SW1~7 VCO, OSC Coil)	Adjust for 9±0.05 V reading on electronics voltmeter.
(4)	SW15	——	——	"	"	L27(SW8~15 VCO, OSC Coil)	Adjust for 8.5±0.05 V reading on electronics voltmeter.
(5)	SW29	——	——	"	"	L28(SW16~29 VCO, OSC Coil)	Adjust for 8.5±0.05 V reading on electronics voltmeter.

■ SW 2nd LOCAL OSC ALIGNMENT

BAND	SIGNAL GENERATOR or SWEEP GENERATOR		RADIO DIAL SETTING (FREQUENCY DISPLAY (UNIT))	INDICATOR (ELECTRONICS VOLTMETER or SCOPE)	ADJUSTMENT	REMARKS
	CONNECTIONS	FREQUENCY				
SW5	Connect to test point ▽. Negative side to test point ▽.	5 MHz (Mode 30%, 1000 kHz.)	Tune to signal.	Output meter across voice coil.	T1 (SW 1st OSC Coil) T2 (SW 2nd OSC Coil)	1. Set band width switch to narrow. 2. Set AM RF gain control to maximum. 3. Adjust for maximum output.

■ BFO ALIGNMENT

SW5	Fashion loop of several turns of wire and radiate signal into loop of receiver.	5 MHz	〃	EXT. SP. JACK	L37 (BFO OSC Coil)	1. Cut off moduration after tune to signal. 2. Set BFO switch to ON. 3. Adjust for "0" beat.

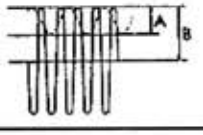
■ TUNING METER ALIGNMENT

SW5	Connect to test point ▽. Negative side to test point ▽.	5 MHz (99 dB/m)	〃	Tuning Meter	VR5 (Meter control)	Adjust VR5 so that the indication needle is at the position Ⓐ shown in fig. 16.
SW5	〃	5 MHz (20 dB/m)	〃	〃	VR6 (Meter control)	Adjust VR6 so that the indication needle is at the position Ⓑ shown in fig. 16.

■ FM ALIGNMENT

	FM-IF ALIGNEMENT						
(1)	FM	Connect to test point ▽ through 0.001μF. Negative side to test point ▽.	10.7 MHz	Point of non-interference. (on/about 90 MHz).	Connect vert. amp. of scope to test point ▽. Negative side to test point ▽.	T5 (FM IFT) (Secondary)	Adjust for maximum amplitude. (Refer to fig. 13.)
	FM-RF ALIGNMENT						
(2)	FM	Connect to test point ▽ through FM dummy antenna. Negative side to test point ▽. (Refer to fig. 14.)	87.2 MHz	Tuning capacitor fully closed.	Output meter across voice coil.	L29 (FM OSC Coil)	Adjust for maximum output.
(3)	FM	〃	109.2 MHz	Tuning capacitor fully open.	〃	CT2 (FM OSC Trimmer)	〃
(4)	FM	〃	90 MHz	Tune to signal.	〃	L22 (FM TUNE Coil)	〃
(5)	FM	〃	106 MHz	〃	〃	CT1 (FM TUNE Trimmer)	Adjust for maximum output. Repeat steps (2)~(5)

■ PLL CHECK

	INDICATOR			Items for confirmation
	RF ELECTRONICS VOLTMETER	SCOPE	ELECTRONICS VOLTMETER	
(1)	Connect to test point ▽. Negative side to test point ▽.	——	——	Set the VFO to fmax. Turn the dial from bands SW1 through SW29; the voltage should be between 100 mW and 650 mV.
(2)	——	Connect to test point ▽. Negative side to test point ▽.	Output terminal. (SCOPE)	The counter should read 60~88 MHz. The ratio A:B should be less than 6 dB. 

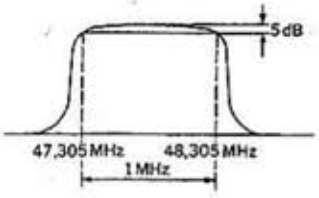
■ 2nd LOCAL FILTER ALIGNMENT

INDICATOR (RF ELECTRONICS VOLTMETER)	REMARKS
Connect to test point ▼. Negative side to test point ▼.	① Temporarily set VR301 in the mid-range and rotate T301 and T302; adjust such that the RF electronic voltmeter displays the maximum reading. (Repeat the adjustment of T301 and T302 two or three times.) ② Adjust VR301 such that the RF electronic voltmeter reads 44 mV~46 mV.

■ PLL AND COUNTER BLOCK ALIGNMENT

	BAND	INDICATOR (RF ELECTRONICS VOLTMETER AND ELECTRONICS COUNTER)	ADJUSTMENT	REMARKS
(1)	SW1	Connect to test point ▼. Negative side to test point ▼.	T505 [OSC Coil (10.24 MHz)]	1. Adjsut for 10.24 MHz ±400 Hz reading on electronics counter. 2. Adjust for maximum reading on RF electronics voltmeter.
(2)	SW1	Connect to test point ▼. Negative side to test point ▼.	T501 [OSC Coil (51.2 MHz)]	1. Adjust for 51.2 MHz (10.24 MHz×5) reading on electronics counter. 2. Adjust for maximum reading on RF electronics voltmeter.

■ 51.2 MHz and VFO MIX OUT (47.305~48.305 MHz) ALIGNMENT

BAND	SIGNAL GENERATOR or SWEEP GENERATOR		INDICATOR (RF ELECTRONICS VOLTMETER and ELECTRONICS COUNTER)	ADJUSTMENT	REMARKS
	CONNECTIONS	FREQUENCY			
SW1	Connect to point CS7 (BLUE). Negative side to test point ▼.	2.895~ 3.895 MHz (Mode 0% 100 dB/m)	Connect to test point ▼. Negative side to test point ▼.	T502 [OSC Coil (51.2 MHz)] T503 [OSC Coil (51.2 MHz)]	① Attach the RF electronic voltmeter; positive side to ▼ and negative side to ▼. Set the signal generator to 3.5 MHz. Insert the cores of T503 and T502. ② While withdrawing the core of T502, adjust such that the RF electronic voltmeter displays the maximum reading. (51.2 MHz−3.2 MHz=a value of 47.7 MHz) ③ While withdrawing the core of T503, adjust such that the RF electronic voltmeter displays the maximum reading. (51.2 MHz−3.5 MHz=a value of 47.7 MHz) ④ Vary the signal generator from 2.895~3.895 MHz; the reading of the RF electronic voltmeter should range ±0.5 dB. ⑤ When the signal generator is changed to 100±0.5 dB, operation should be normal. ⑥ When the counter is attached; positive side to ▼ and negative side to ▼, the frequency should range from 47.305~48.305 MHz. 

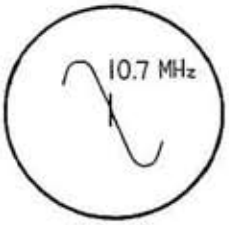


Fig. 13

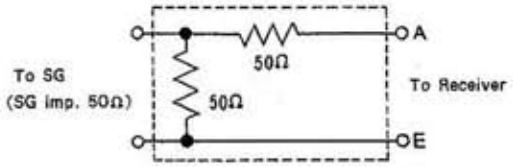


Fig. 14 FM Dummy Antenna

■ ALIGNMENT POINTS

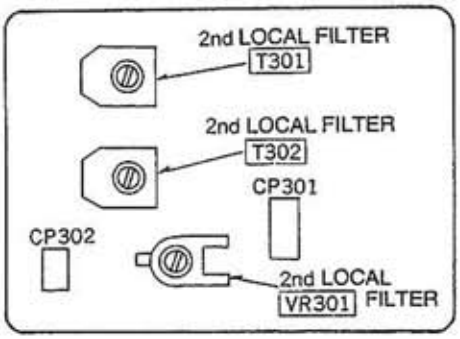


Fig. 15

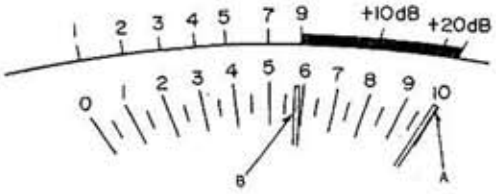


Fig. 16

●Please refer to Circuit Board (COUNTER) in which test point are located.

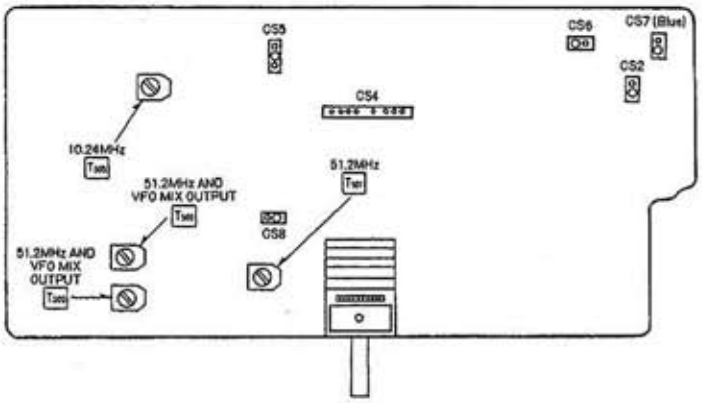


Fig. 17

●Please refer to Circuit Board (RADIO/AUDIO) in which test point 110 and 111 and located.

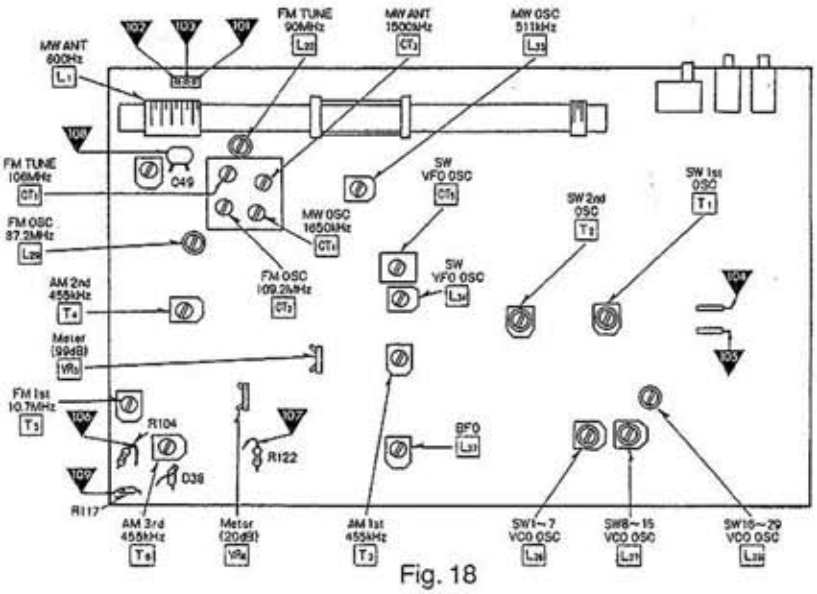


Fig. 18

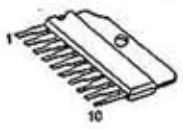
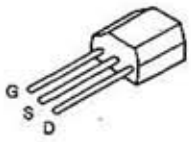
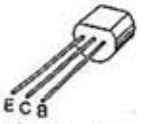
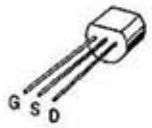
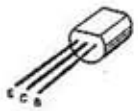
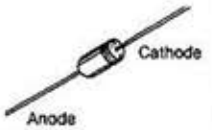
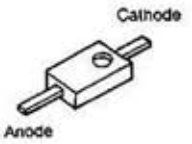
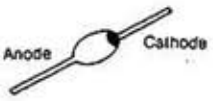
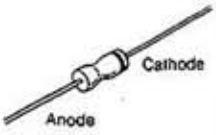
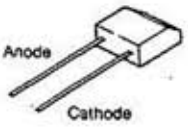
■ SWITCH POSITIONS

○ : ON, No mark: OFF

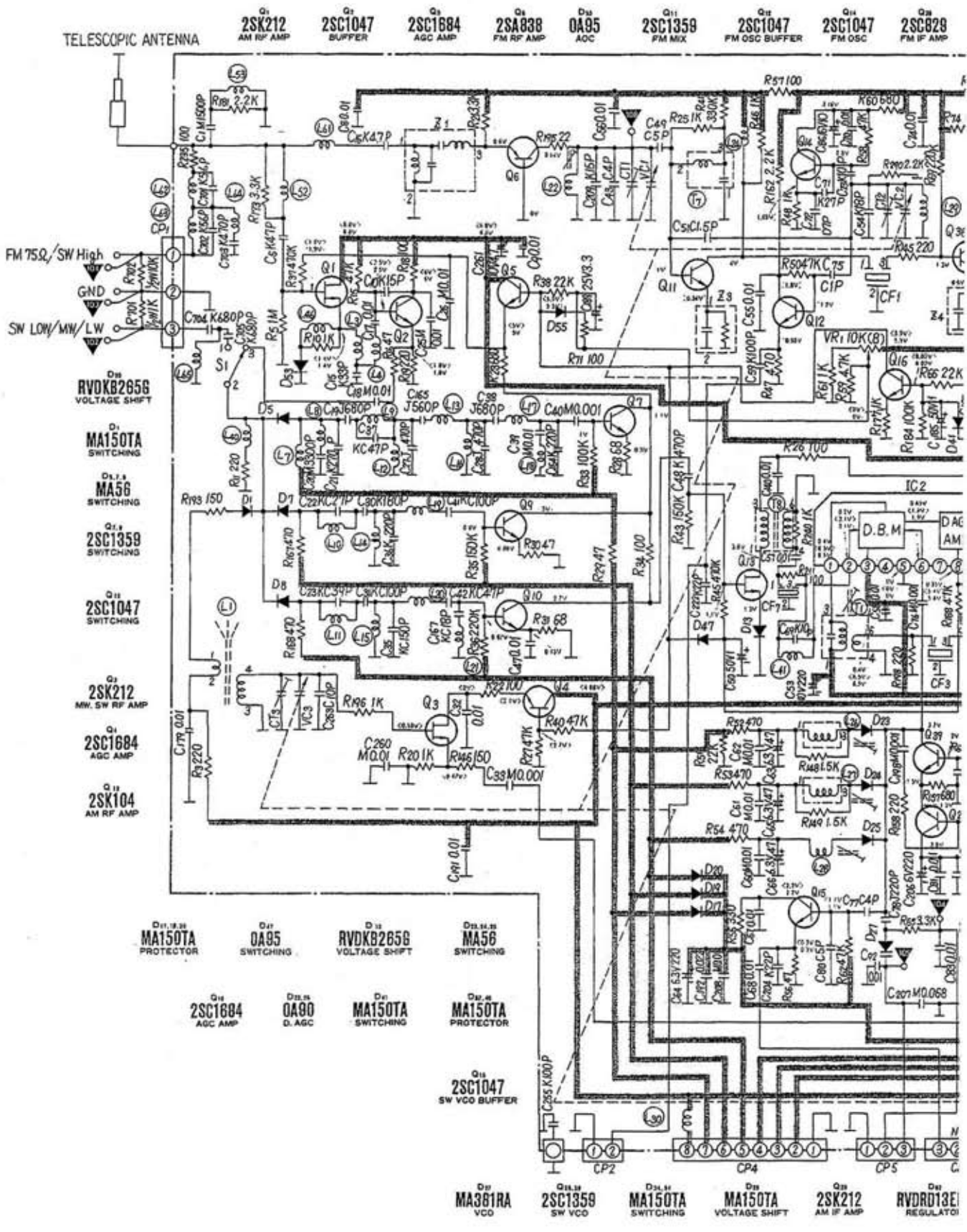
	S501-2							S501-1									
	1	2	3	4	5	6	7	1	2	3	4	5	6				
FM					○												
MW				○													
SW1			○							○	○	○	○				
SW2			○					○		○	○	○	○				
SW3			○						○	○	○	○	○				
SW4			○					○	○	○	○	○	○				
SW5			○														
SW6			○					○									
SW7			○						○								
SW8		○						○	○								
SW9		○								○							
SW10		○						○		○							
SW11		○							○	○							
SW12		○						○	○	○							
SW13		○									○						
SW14		○						○			○						
SW15		○							○		○						
SW16	○							○	○		○						
SW17	○									○	○						
SW18	○							○		○	○						
SW19	○								○	○	○						
SW20	○							○	○	○	○						
SW21	○											○					
SW22	○							○				○					
SW23	○								○			○					
SW24	○							○	○			○					
SW25	○									○		○					
SW26	○							○		○		○					
SW27	○								○	○		○					
SW28	○							○	○	○		○					
SW29	○										○	○					

Notes:

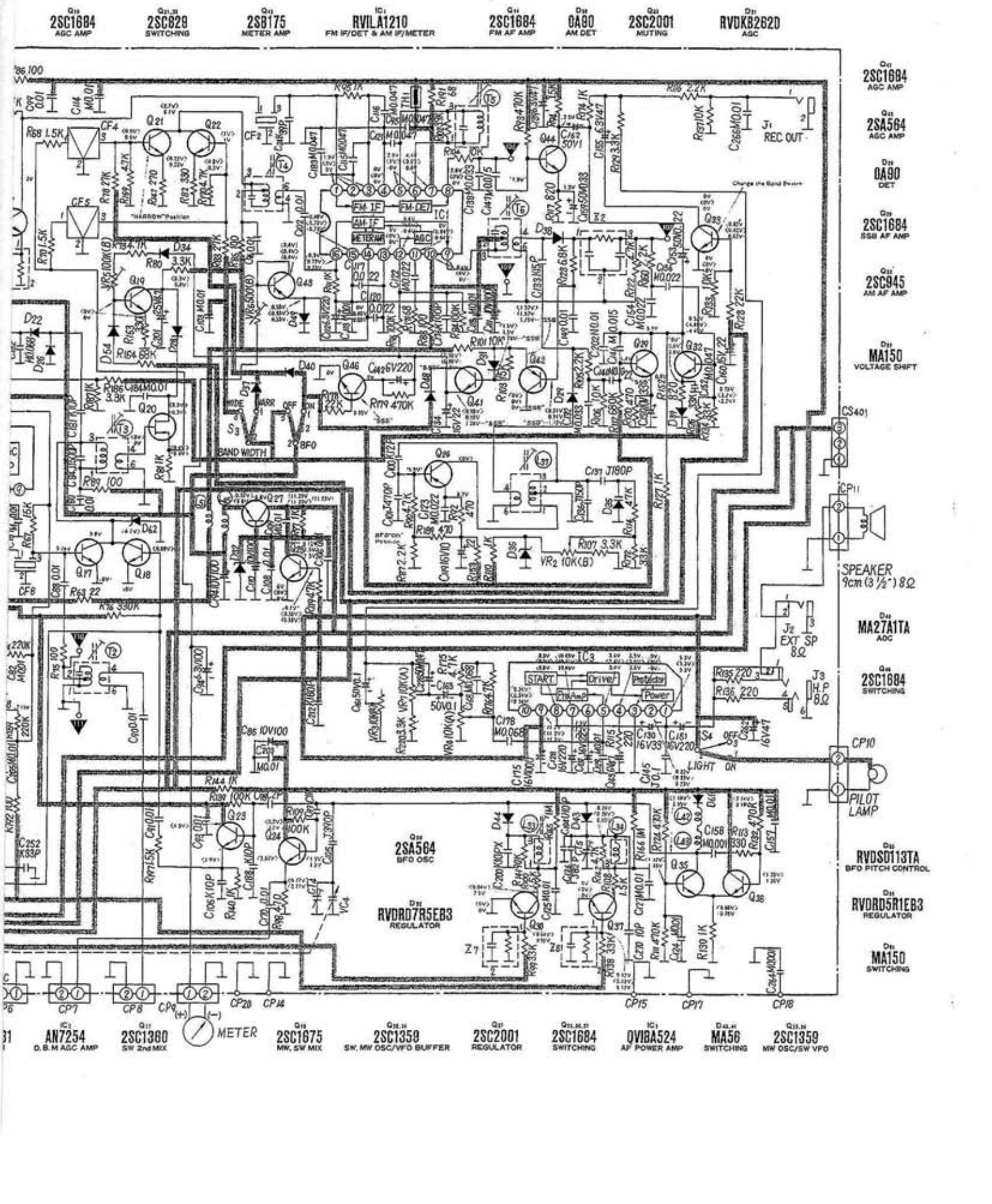
1. S1: Antenna select switch in "SW/MW LOW" position.
   (1 . . . SW/MW LOW, 2 . . . FM/SW HIGH)
2. S2: BFO ON/OFF switch in "OFF" position.
3. S3: Bandwidth select switch in "WIDE" position.
4. S4: Light ON/OFF switch in "OFF" position.
5. VR1: MW–SW RF gain control.
6. VR2: BFO pitch control.
7. VR3: Bass control.
8. VR4: Volume control.
9. VR5: Meter adjustment VR (+20 dB).
10. VR6: Meter adjustment VR (+9 dB).
11. VR7: Treble control.
12. DC voltage measurements are taken with electronics voltmeter from negative terminal of battery.
    (Light SW . . . OFF, Bandwidth SW . . . WIDE, BFO SW . . . OFF, Volume . . . MIN.,
    Bass and Treble . . . MIN, RF Gain . . . MIN, BFO Pitch . . . Center position.
    [ ] . . . FM position, 〈 〉 . . . MW position, ( ) . . . SW position.

 IC1	 IC2	 IC3	 Q1, 3, 20	 Q2,4~7, 9~12,14~16, 18, 19, 21~30, 32, 33, 35~39, 41, 42, 44, 46
 Q13	 Q17	 Q43	 D1, 3, 17, 19, 20, 28, 32, 34~37, 39~41, 48, 49, 62	 D4, 5, 7, 8, 23~25, 43, 44
 D13, 31, 53	 D22, 26, 29, 38, 47, 55	 D27		

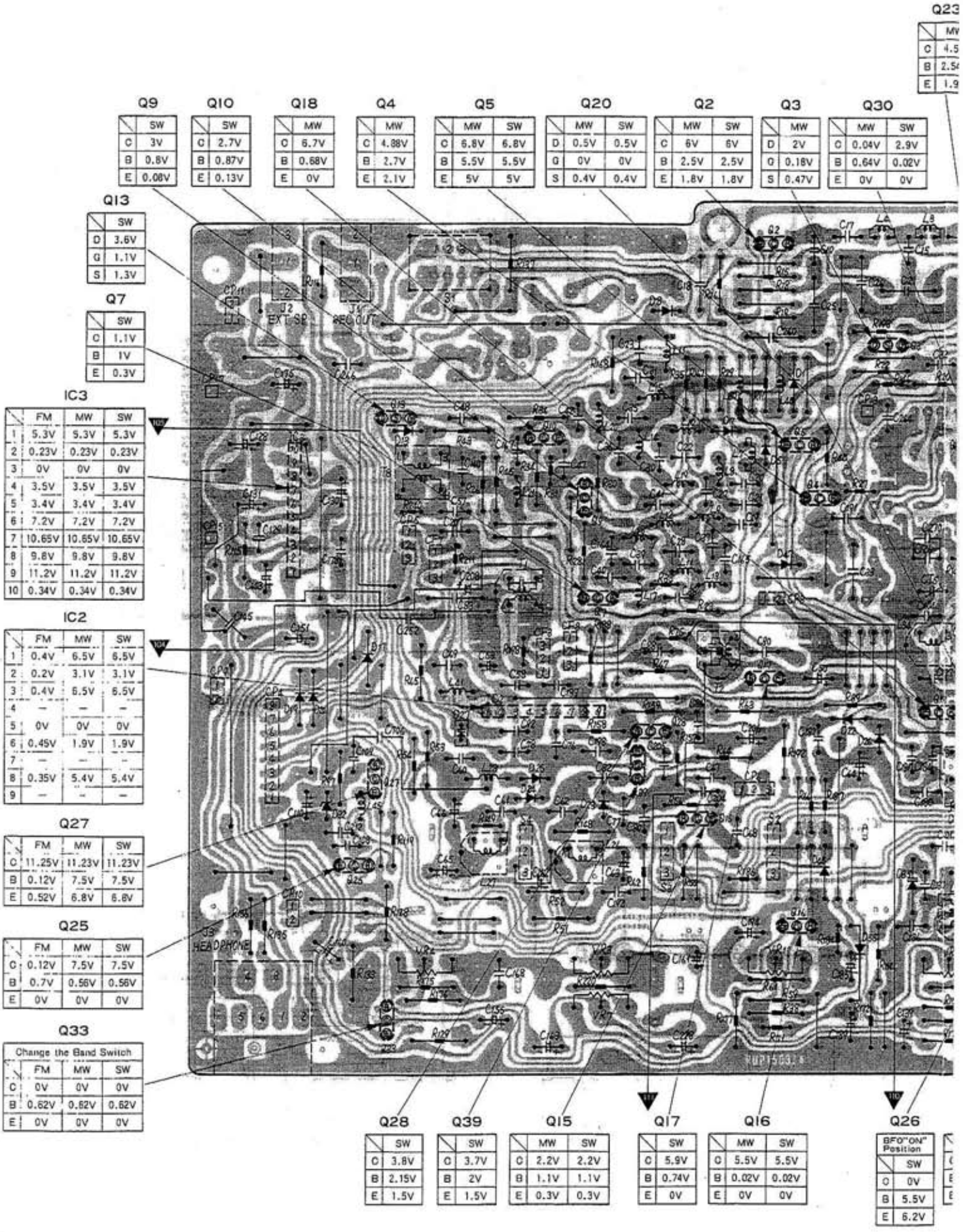
SCHEMATIC DIAGRAM (RADIO/AUD



)IO) MODEL RF-3100/©



CIRCUIT BOARD (RADIO/AUI



	SW
C	3V
B	0.8V
E	0.08V

	SW
C	2.7V
B	0.87V
E	0.13V

	MW
C	6.7V
B	0.68V
E	0V

	MW
C	4.88V
B	2.7V
E	2.1V

	MW	SW
C	6.8V	6.8V
B	5.5V	5.5V
E	5V	5V

	MW	SW
D	0.5V	0.5V
G	0V	0V
S	0.4V	0.4V

	MW	SW
C	6V	6V
B	2.5V	2.5V
E	1.8V	1.8V

	MW
D	2V
G	0.18V
S	0.47V

	MW	SW
C	0.04V	2.9V
B	0.64V	0.02V
E	0V	0V

	SW
D	3.6V
G	1.1V
S	1.3V

	SW
C	1.1V
B	1V
E	0.3V

	FM	MW	SW
1	5.3V	5.3V	5.3V
2	0.23V	0.23V	0.23V
3	0V	0V	0V
4	3.5V	3.5V	3.5V
5	3.4V	3.4V	3.4V
6	7.2V	7.2V	7.2V
7	10.65V	10.65V	10.65V
8	9.8V	9.8V	9.8V
9	11.2V	11.2V	11.2V
10	0.34V	0.34V	0.34V

	FM	MW	SW
1	0.4V	6.5V	6.5V
2	0.2V	3.1V	3.1V
3	0.4V	6.5V	6.5V
4	—	—	—
5	0V	0V	0V
6	0.45V	1.9V	1.9V
7	—	—	—
8	0.35V	5.4V	5.4V
9	—	—	—

	FM	MW	SW
C	11.25V	11.23V	11.23V
B	0.12V	7.5V	7.5V
E	0.52V	6.8V	6.8V

	FM	MW	SW
C	0.12V	7.5V	7.5V
B	0.7V	0.56V	0.56V
E	0V	0V	0V

Change the Band Switch			
	FM	MW	SW
C	0V	0V	0V
B	0.62V	0.62V	0.62V
E	0V	0V	0V

	SW
C	3.8V
B	2.15V
E	1.5V

	SW
C	3.7V
B	2V
E	1.5V

	MW	SW
C	2.2V	2.2V
B	1.1V	1.1V
E	0.3V	0.3V

	SW
C	5.9V
B	0.74V
E	0V

	MW	SW
C	5.5V	5.5V
B	0.02V	0.02V
E	0V	0V

BFO "ON" Position	
	SW
C	0V
B	5.5V
E	6.2V

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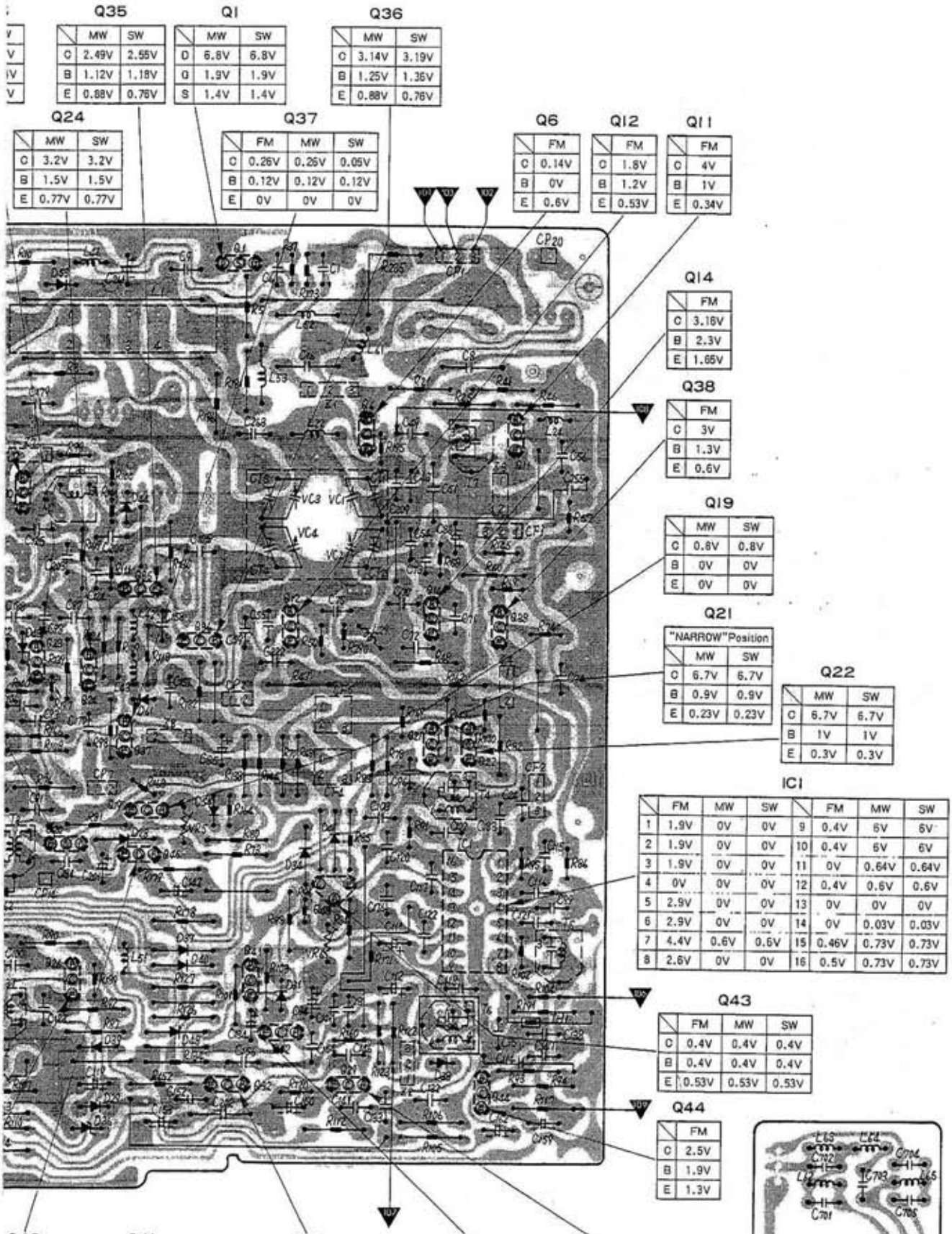


Q35

	MW	SW
C	2.49V	2.55V
B	1.12V	1.18V
E	0.88V	0.76V

Q1

	MW	SW
D	6.8V	6.8V
G	1.9V	1.9V
S	1.4V	1.4V

Q36

	MW	SW
C	3.14V	3.19V
B	1.25V	1.35V
E	0.88V	0.76V

Q24

	MW	SW
C	3.2V	3.2V
B	1.5V	1.5V
E	0.77V	0.77V

Q37

	FM	MW	SW
C	0.26V	0.26V	0.05V
B	0.12V	0.12V	0.12V
E	0V	0V	0V

Q6

	FM
C	0.14V
B	0V
E	0.6V

Q12

	FM
C	1.8V
B	1.2V
E	0.53V

Q11

	FM
C	4V
B	1V
E	0.34V

Q14

	FM
C	3.16V
B	2.3V
E	1.65V

Q38

	FM
C	3V
B	1.3V
E	0.6V

Q19

	MW	SW
C	0.8V	0.8V
B	0V	0V
E	0V	0V

Q21

"NARROW" Position		
	MW	SW
C	6.7V	6.7V
B	0.9V	0.9V
E	0.23V	0.23V

Q22

	MW	SW
C	6.7V	6.7V
B	1V	1V
E	0.3V	0.3V

IC1

	FM	MW	SW		FM	MW	SW
1	1.9V	0V	0V	9	0.4V	5V	5V
2	1.9V	0V	0V	10	0.4V	5V	5V
3	1.9V	0V	0V	11	0V	0.64V	0.64V
4	0V	0V	0V	12	0.4V	0.6V	0.6V
5	2.9V	0V	0V	13	0V	0V	0V
6	2.9V	0V	0V	14	0V	0.03V	0.03V
7	4.4V	0.6V	0.6V	15	0.46V	0.73V	0.73V
8	2.6V	0V	0V	16	0.5V	0.73V	0.73V

Q43

	FM	MW	SW
C	0.4V	0.4V	0.4V
B	0.4V	0.4V	0.4V
E	0.53V	0.53V	0.53V

Q44

	FM
C	2.5V
B	1.9V
E	1.3V

Q46

	SSB
	0V
	0.65V
	0V

Q41

	MW	SW	SSB
C	0.98V	0.98V	6.5V
B	1.5V	1.5V	1.75V
E	0.98V	0.98V	1.28V

Q32

	FM	MW	SW
C	0.52V	4.45V	4.45V
B	0.25V	3.2V	3.2V
E	0V	2.6V	2.6V

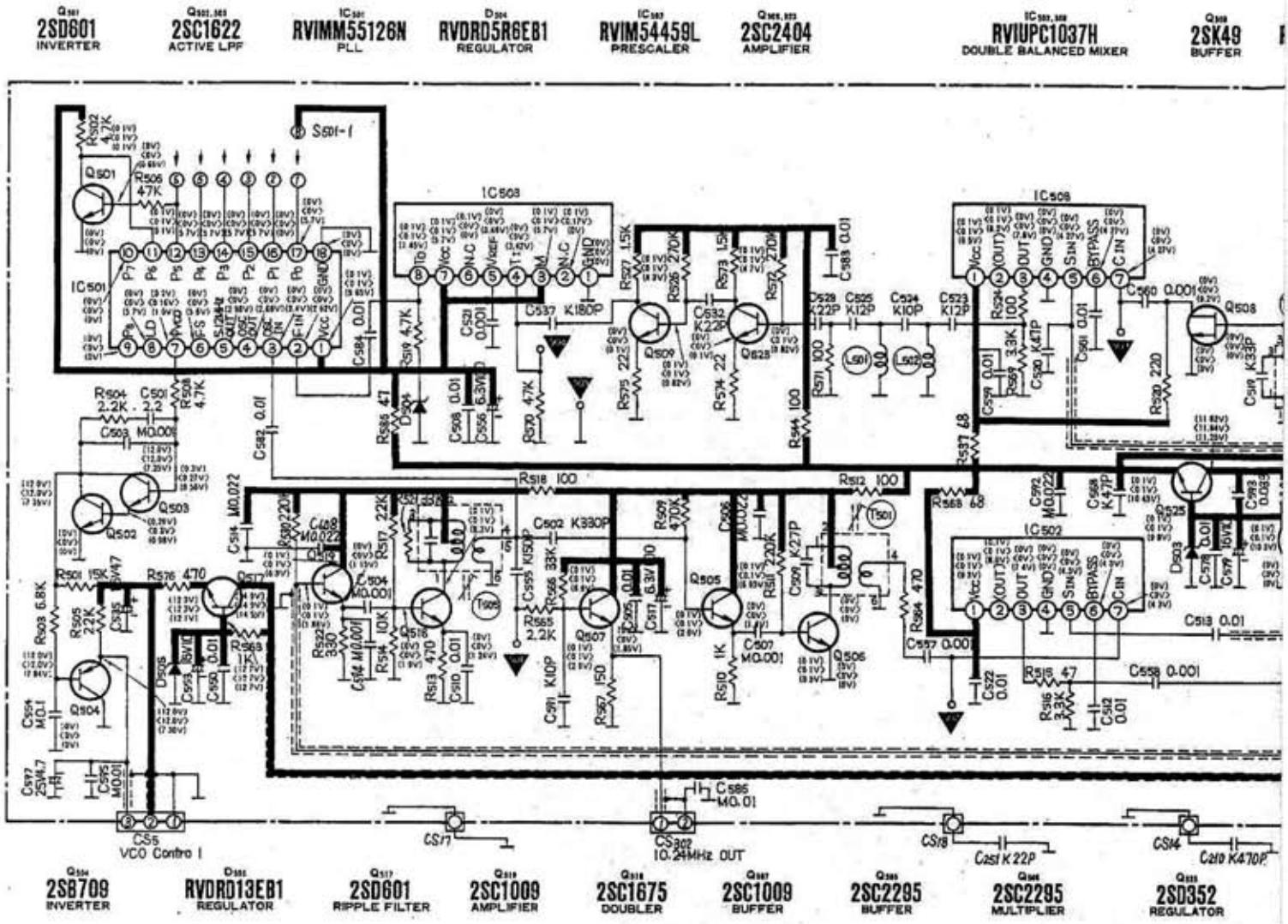
Q42

	MW	SW	SSB
C	0V	0V	0V
B	0.91V	0.91V	1.12V
E	1.52V	1.52V	1.75V

Q29

	SSB
C	5.1V
B	1.4V
E	0.8V

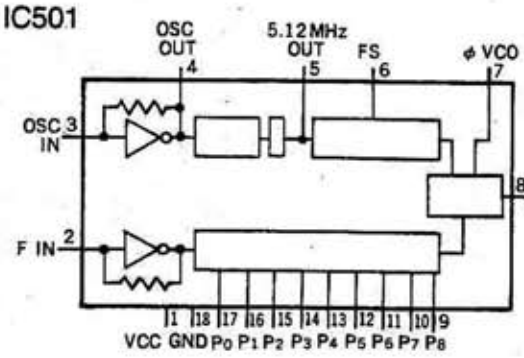
SCHEMATIC DIAGRAM (COUNT



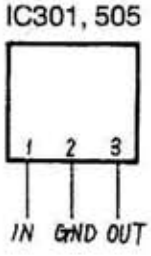
Notes:

1. S501-1, S501-2: Band select switch in "FM" position.
   (1 . . . SW16~29, 2 . . . SW8~15, 3 . . . SW1~7, 4 . . . MW, 5, 6 . . . FM)
2. DC voltage measurements are taken with electronics voltmeter from negative terminal of battery.
   (Light SW . . . OFF, Bandwidth SW . . . WIDE, BFO SW . . . OFF, Volume . . . MIN, Bass and Treble . . . MIN, RF Gain . . . MIN, BFO Pitch . . . Center position.
   [ ] . . . FM position, 〈 〉 . . . MW position, ( ) . . . SW position.

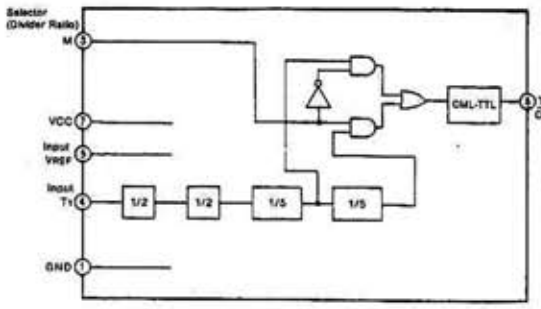
IC501



IC301, 505



IC503



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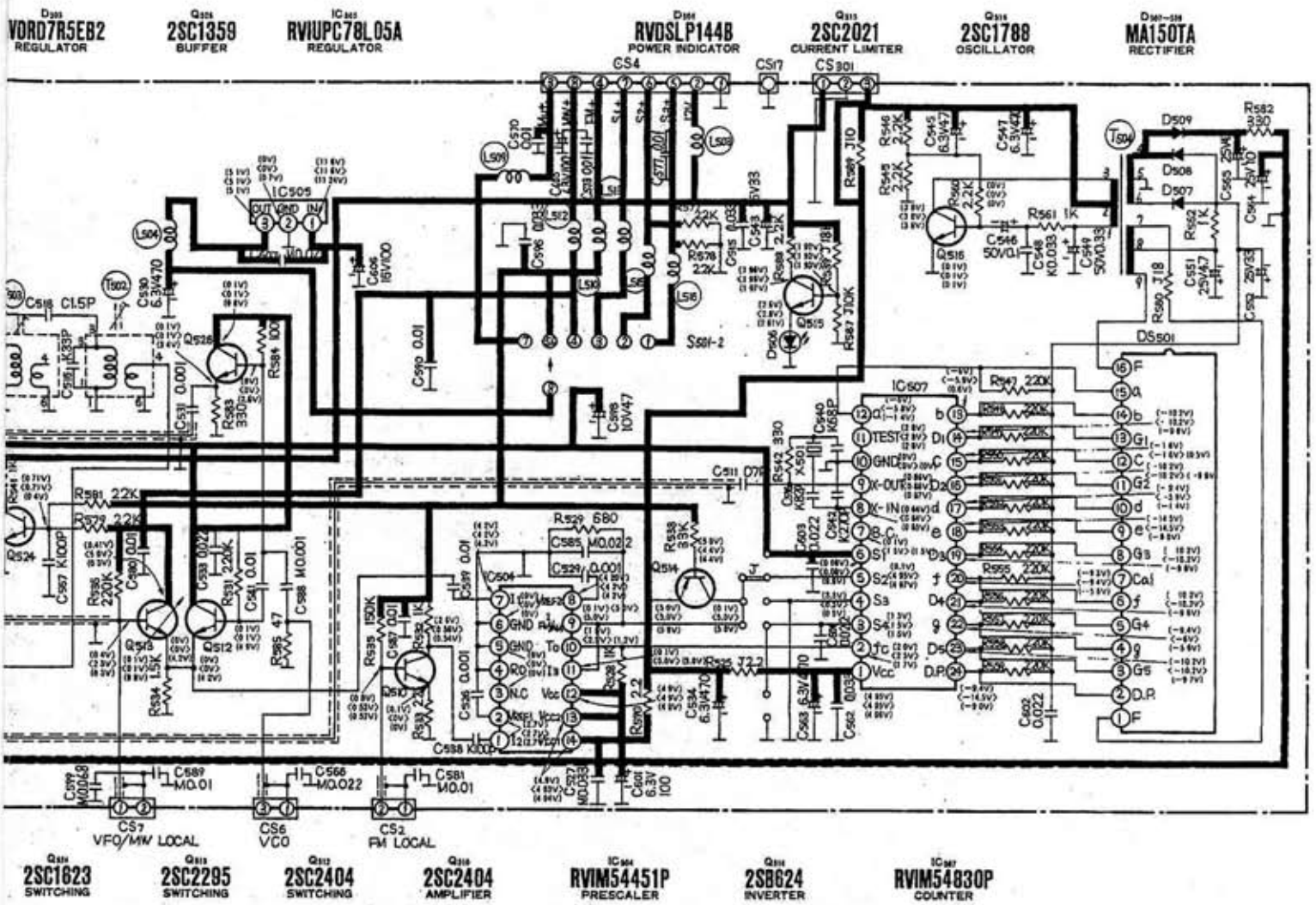
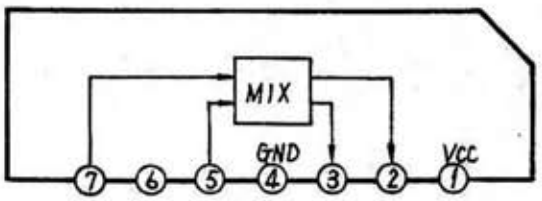
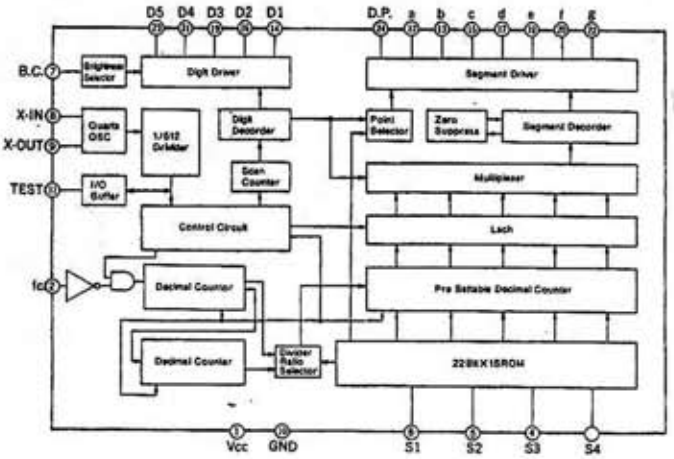


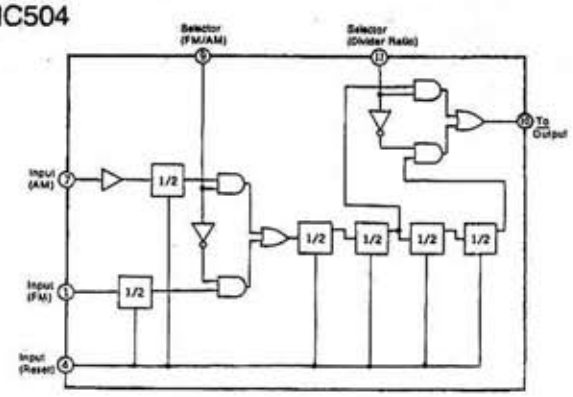
IC502, 508



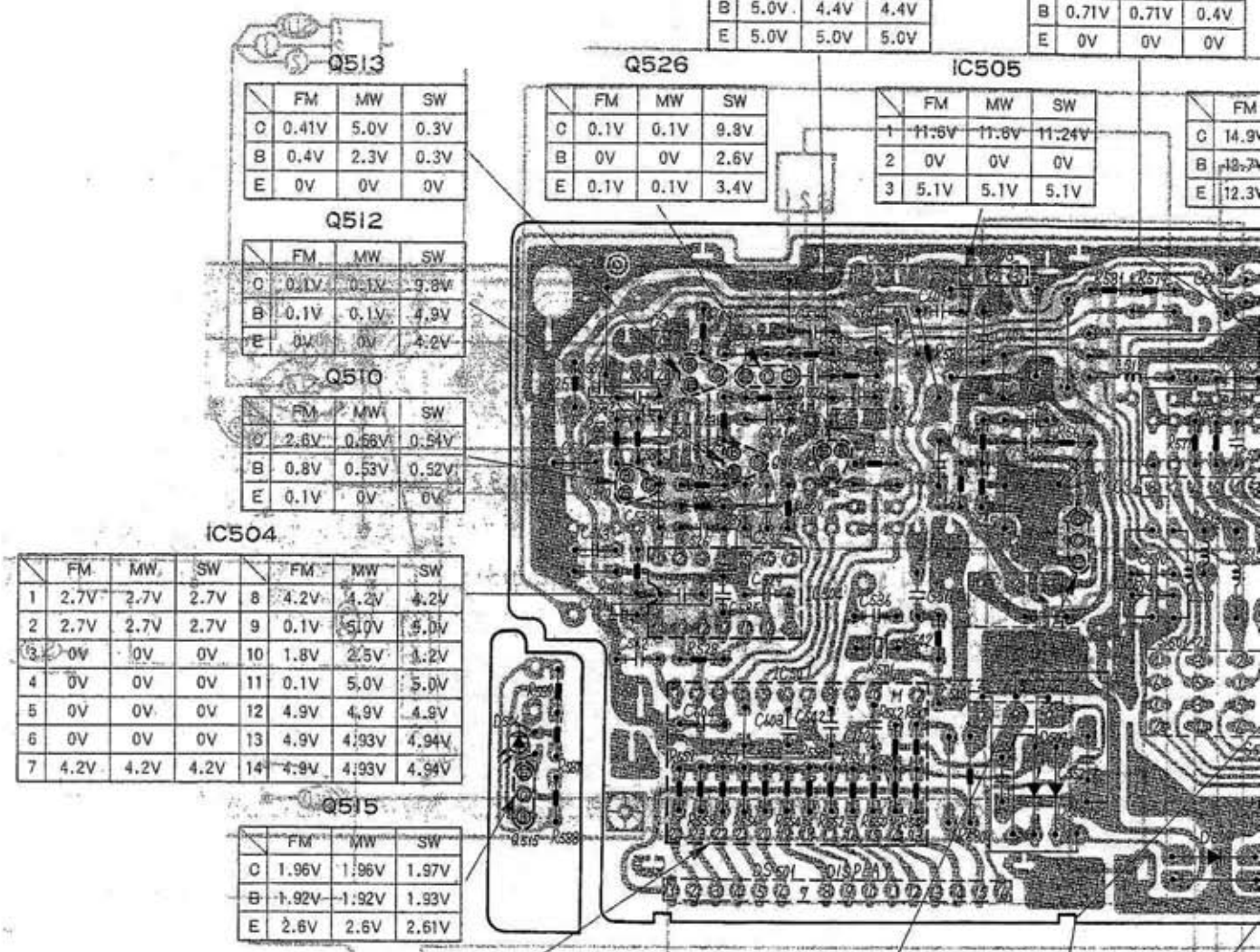
IC507



IC504



CIRCUIT BOARD SCHEMATIC DIAGRAM (C



Q514

	FM	MW	SW
C	0.1V	0.0V	5.0V
B	5.0V	4.4V	4.4V
E	5.0V	5.0V	5.0V

Q524

	FM	MW	SW
C	0.1V	0.1V	10.5V
B	0.71V	0.71V	0.4V
E	0V	0V	0V

Q513

	FM	MW	SW
C	0.41V	5.0V	0.3V
B	0.4V	2.3V	0.3V
E	0V	0V	0V

Q526

	FM	MW	SW
C	0.1V	0.1V	9.8V
B	0V	0V	2.6V
E	0.1V	0.1V	3.4V

IC505

	FM	MW	SW
1	11.6V	11.6V	11.24V
2	0V	0V	0V
3	5.1V	5.1V	5.1V

	FM
C	14.9
B	13.7
E	12.3

Q512

	FM	MW	SW
C	0.1V	0.1V	9.8V
B	0.1V	0.1V	4.9V
E	0V	0V	4.2V

Q510

	FM	MW	SW
C	2.6V	0.56V	0.54V
B	0.8V	0.53V	0.52V
E	0.1V	0V	0V

IC504

	FM	MW	SW		FM	MW	SW
1	2.7V	2.7V	2.7V	8	4.2V	4.2V	4.2V
2	2.7V	2.7V	2.7V	9	0.1V	5.0V	5.0V
3	0V	0V	0V	10	1.8V	2.5V	1.2V
4	0V	0V	0V	11	0.1V	5.0V	5.0V
5	0V	0V	0V	12	4.9V	4.9V	4.9V
6	0V	0V	0V	13	4.9V	4.93V	4.94V
7	4.2V	4.2V	4.2V	14	4.9V	4.93V	4.94V

Q515

	FM	MW	SW
C	1.96V	1.96V	1.97V
B	1.92V	1.92V	1.93V
E	2.6V	2.6V	2.61V

IC507

	FM	MW	SW		FM	MW	SW
1	4.95V	4.95V	4.96V	13	−6V	−5.9V	0.6V
2	2.0V	2.5V	1.7V	14	−10.2V	−10.2V	−9.8V
3	1.5V	1.5V	1.5V	15	−1.6V	−1.6V	0.5V
4	3.5V	0.5V	0.5V	16	−10.2V	−10.2V	−9.8V
5	0.1V	4.95V	4.97V	17	−9.4V	−5.9V	−1.4V
6	0.08V	0.08V	9.8V	18	−14.5V	−14.5V	−9.0V
7	0.1V	1.5V	1.5V	19	−10.2V	−10.2V	−9.8V
8	0.64V	0.64V	0.65V	20	−9.3V	−9.4V	−5.6V
9	0.86V	0.86V	0.87V	21	−10.2V	−10.2V	−9.6V
10	0V	0V	0V	22	−9.4V	−6V	−5.6V
11	2.8V	2.8V	2.8V	23	−10.2V	−10.2V	−9.7V
12	−6V	−5.8V	−1.4V	24	−9.4V	−14.5V	−9.0V

Q516

	FM	MW	SW
C	3.8V	3.8V	3.8V
B	0V	0V	0V
E	0.1V	0.1V	0.1V

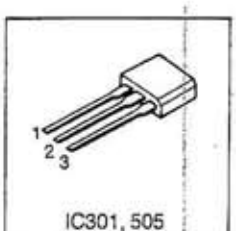
Q507

	FM	MW
C	0.1V	0.1V
B	0.1V	0.1V
E	0V	0V

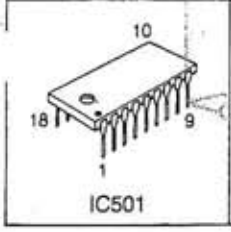
Q525

	FM	MW	SW
C	11.62V	11.64V	11.25V
B	0.1V	0.1V	9.8V
E	0.1V	0.13V	10.45V

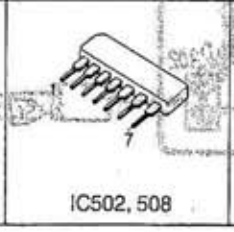
C	
B	0
E	



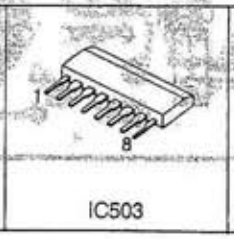
IC301, 505



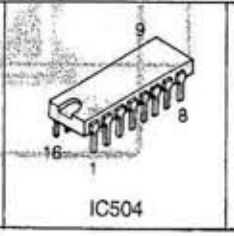
IC501



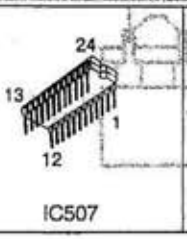
IC502, 508



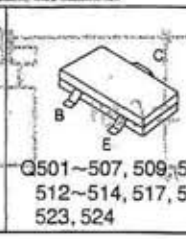
IC503



IC504



IC507



Q501~507, 509, 510, 512~514, 517, 519, 523, 524

Q508

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Q504

	FM	MW	SW
C	0V	0V	0V
B	12.0V	12.0V	7.94V
E	12.0V	12.0V	7.3V

Q503

	FM	MW	SW
C	12.0V	12.0V	7.35V
B	0.3V	0.27V	0.58V
E	0.26V	0.3V	0.98V

Q501

	FM	MW	SW
C	0.1V	0.1V	0.1V
B	0V	0V	0.66V
E	0V	0V	0V

17

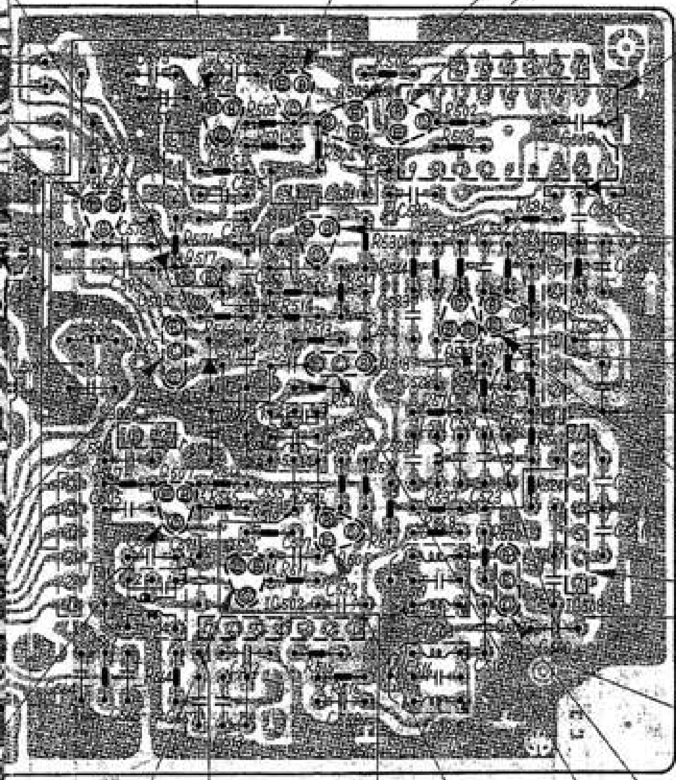
MW	SW
.9V	14.5V
.7V	12.7V
.3V	12.1V

Q502

	FM	MW	SW
C	12.0V	12.0V	7.35V
B	0.26V	0.3V	0.88V
E	0V	0V	0V

IC501

	FM	MW	SW		FM	MW	SW
1	0.1V	0.1V	5.65V	10	0V	0V	0V
2	0V	0V	2.62V	11	0.1V	0.1V	0.1V
3	0V	0V	2.4V	12	0V	0V	5.7V
4	0V	0V	2.68V	13	0V	0V	5.7V
5	0V	0V	2.38V	14	0V	0V	5.7V
6	0V	0V	5.6V	15	0V	0V	5.7V
7	0.2V	0.16V	1.0V	16	0V	0V	0V
8	0V	0V	5.7V	17	0V	0V	5.7V
9	0V	0V	0V	18	0V	0V	0V



Q519

	FM	MW	SW
C	0.1V	0.1V	6.3V
B	0.1V	0.1V	1.86V
E	0V	0V	1.15V

IC503

	FM	MW	SW
1	0V	0V	0V
2	0.1V	0.17V	0V
3	0.1V	0.1V	5.7V
4	0V	0V	3.42V
5	0V	0V	3.46V
6	0.1V	0V	0V
7	0.1V	0.1V	5.7V
8	0.1V	0.1V	1.45V

Q509

	FM	MW	SW
C	0.1V	0.1V	4.3V
B	0.1V	0.1V	0.82V
E	0V	0V	0.1V

IC508

	FM	MW	SW
1	0.1V	0.1V	9.5V
2	0.1V	0.1V	8.2V
3	0V	0V	7.6V
4	0V	0V	0V
5	0V	0V	4.27V
6	0V	0V	4.27V
7	0V	0V	4.27V

Q523

	FM	MW	SW
C	0.1V	0.1V	4.7V
B	0.1V	0.1V	0.82V
E	0V	0V	0.1V

Q508

	FM	MW	SW
S	0V	0V	0V
G	0V	0V	0V
D	0V	0V	9.2V

IC502

	FM	MW	SW
1	0.1V	0.1V	9.3V
2	0.1V	0.1V	8.0V
3	0V	0V	7.4V
4	0V	0V	0V
5	0V	0V	4.3V
6	0V	0V	4.3V
7	0V	0V	4.3V

Q506

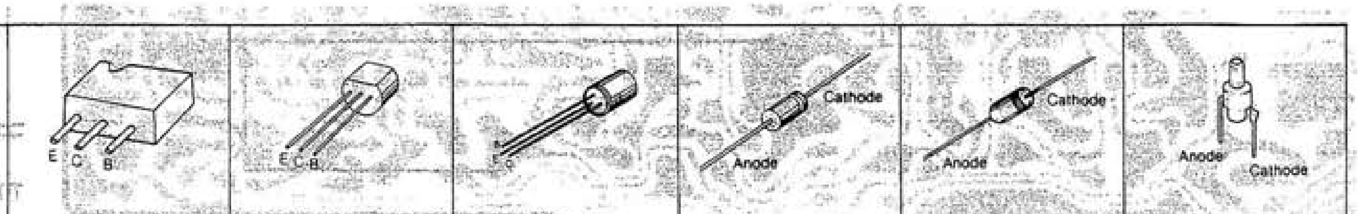
MW	SW
0V	0V
0.1V	0.5V
0V	0V

Q505

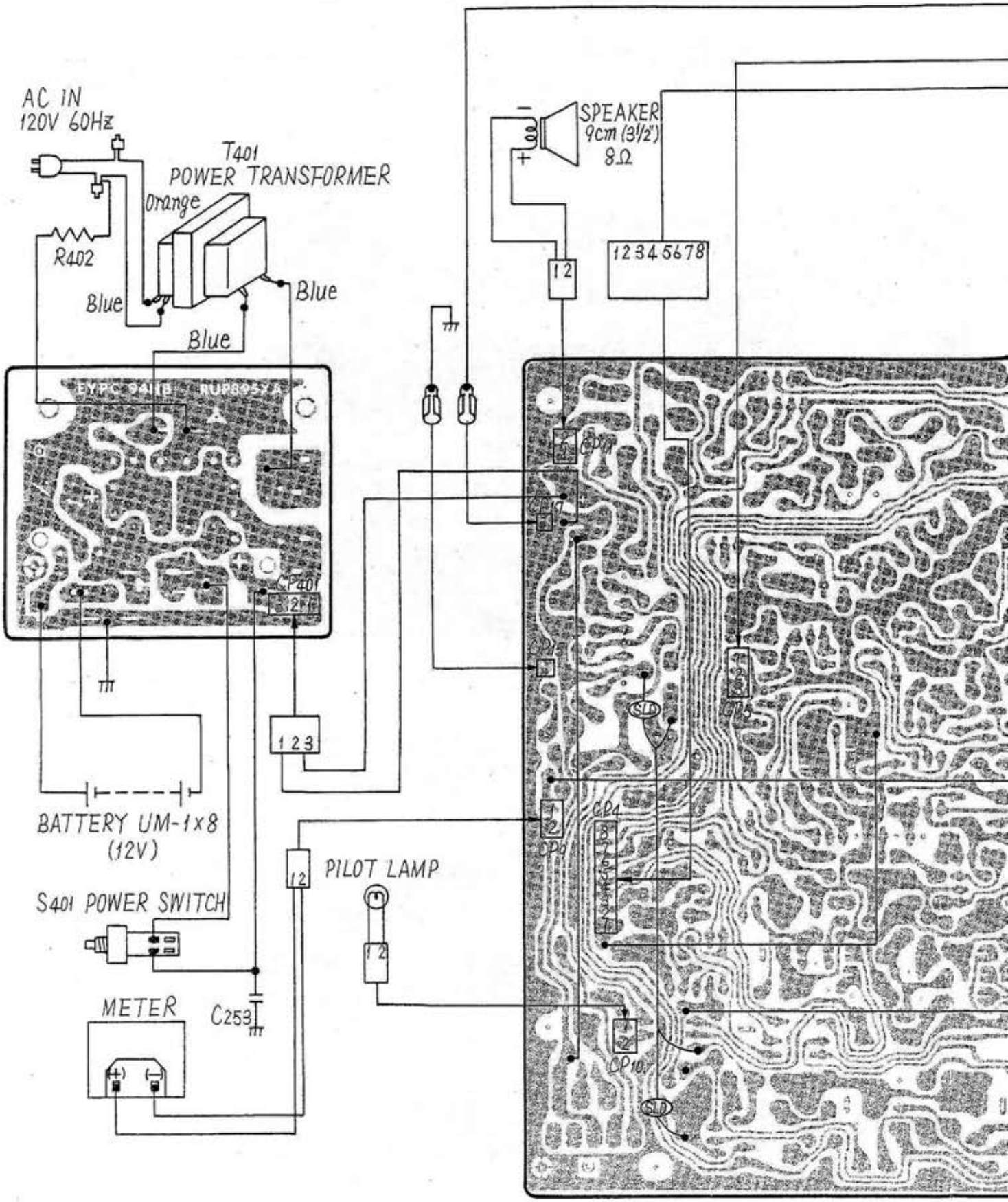
	FM	MW	SW
C	0.1V	0.1V	6.95V
B	0.1V	0.1V	2.0V
E	0V	0V	1.4V

Q518

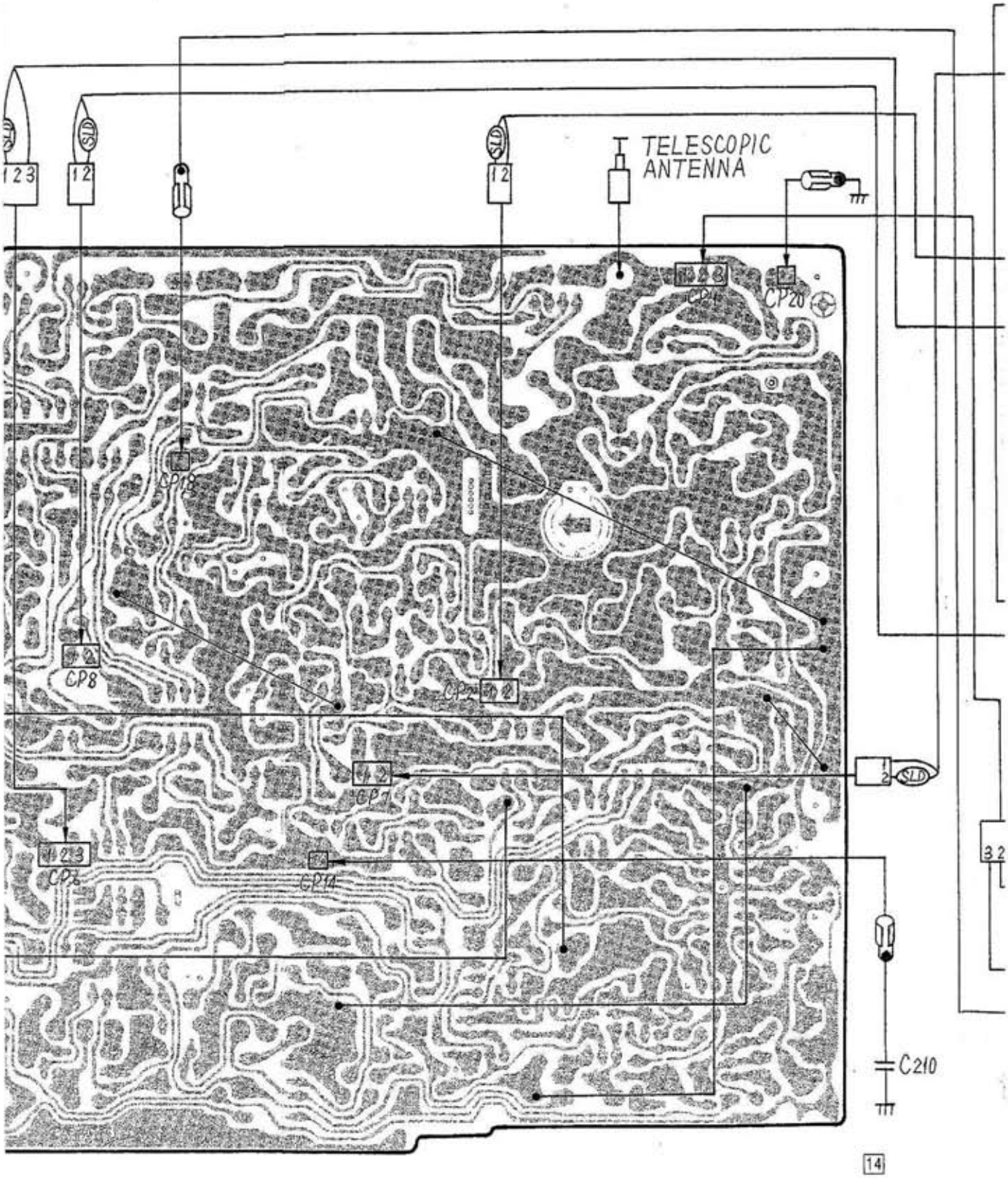
	FM	MW	SW
C	0.1V	0.1V	6.3V
B	0V	0V	1.9V
E	0V	0V	1.24V

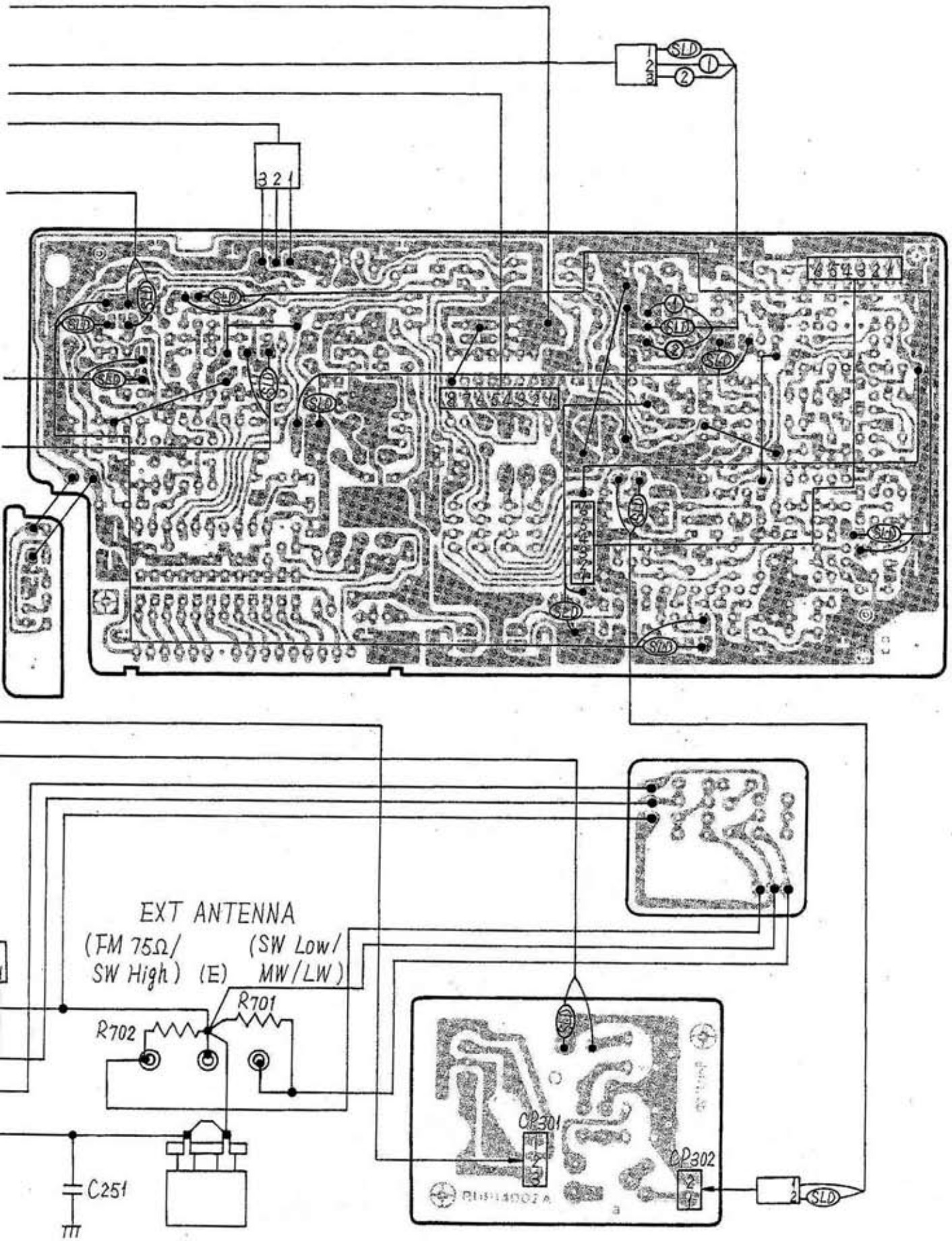


Q515 | Q516, 518, 526 | Q525 | D401~405 | D503~505, 507~509 | D506

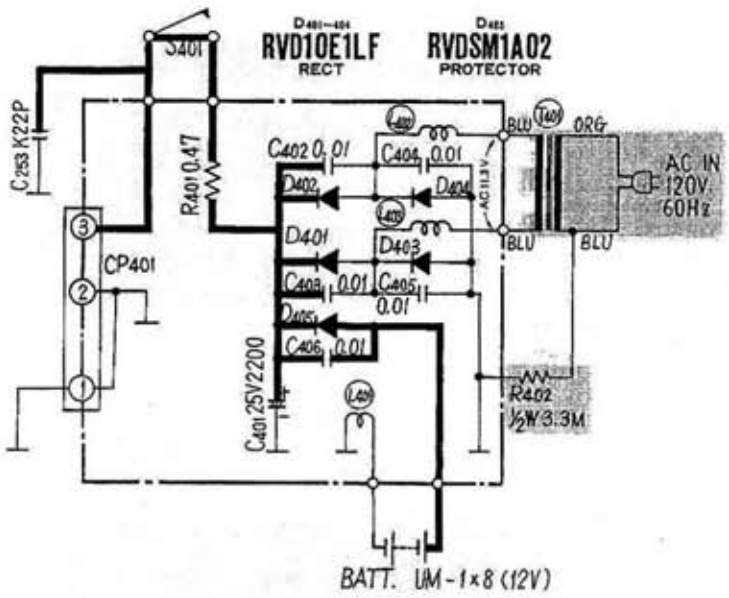

AC IN
120V 60Hz
T401
POWER TRANSFORMER
Orange
R402
Blue
Blue
Blue
SPEAKER
9cm (3½")
8Ω
12345678
P401
123
BATTERY UM-1x8
(12V)
S401 POWER SWITCH
PILOT LAMP
METER
C253
SLD
SLD

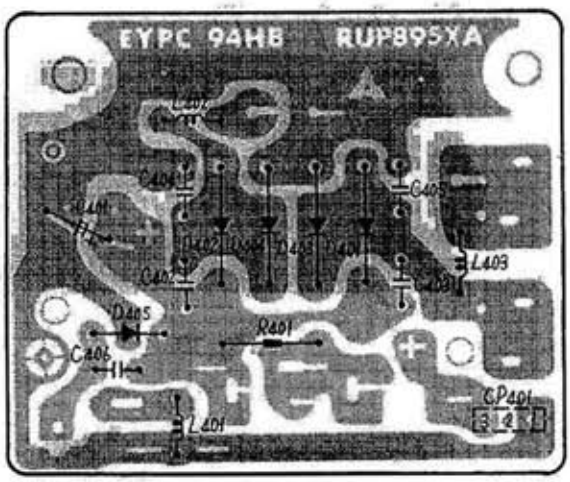
RING CONNECTION DIAGRAM MODEL RF-3100/©




SLD
3 2 1
EXT ANTENNA
(FM 75Ω/
SW High) (E)
(SW Low/
MW/LW)
R701
R702
CP301
CP302
C251

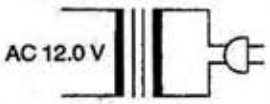
■ POWER SUPPLY CIRCUIT





Notes:

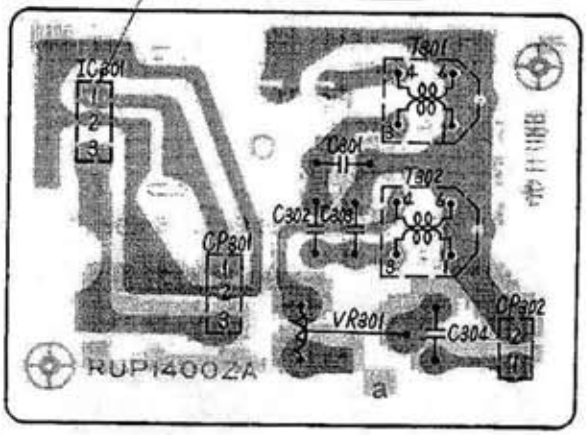
1. S401: Power ON/OFF switch in "OFF" position.
2. VR301: 2nd local OSC filter adjustment VR.
3. DC voltage measurements are taken with electronics voltmeter from negative terminal of battery.
   [ ] FM position, < > ... MW position,
   ( ) ... SW position.
4. Battery current: No signal (MW) ..... 270 mA
   No signal (FM) ..... 240 mA
   Maximum (MW) ..... 480 mA
   Maximum (FM) ..... 465 mA
5. Important safety notice
   The shaded area on this schematic diagram incorporates special features important for protection from fire and electrical shock hazards.
   When servicing it is essential that only manufacturer's specified parts be used for the critical components in the shaded areas of the schematic.
6. Special Notes:
   The secondary AC voltage of power transformer specification (without load).

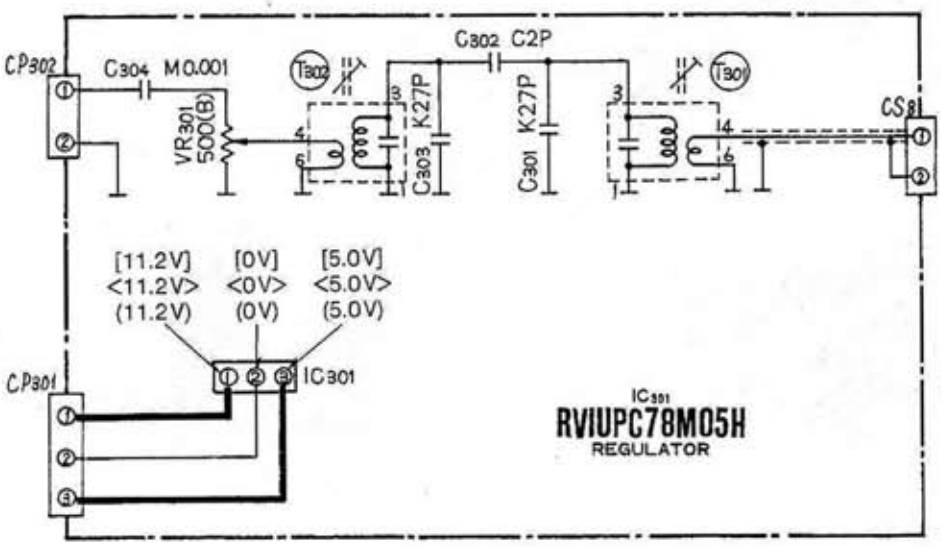


■ 2nd LOCAL FILTER CIRCUIT

IC301

	FM	MW	SW
1	11.2V	11.2V	11.2V
2	0V	0V	0V
3	5.0V	5.0V	5.0V





ELECTRICAL PARTS LOCATION

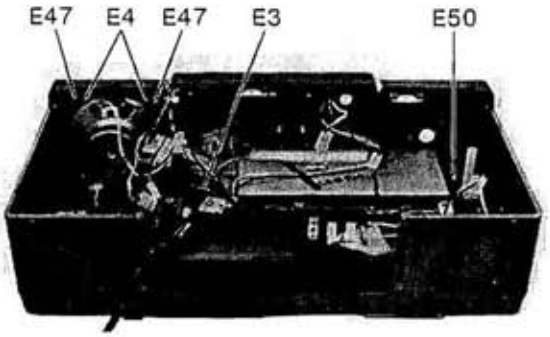


Fig. 19

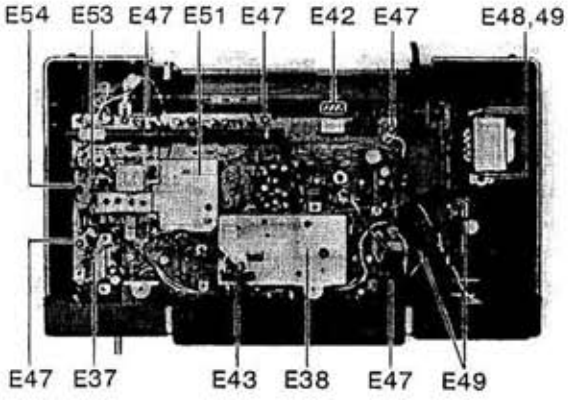


Fig. 20

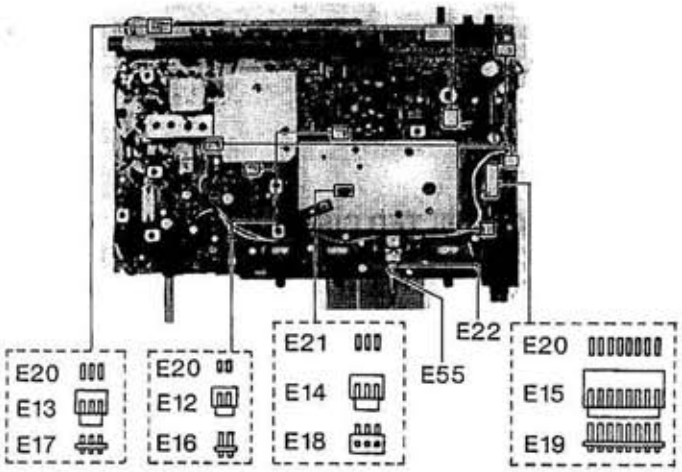


Fig. 21

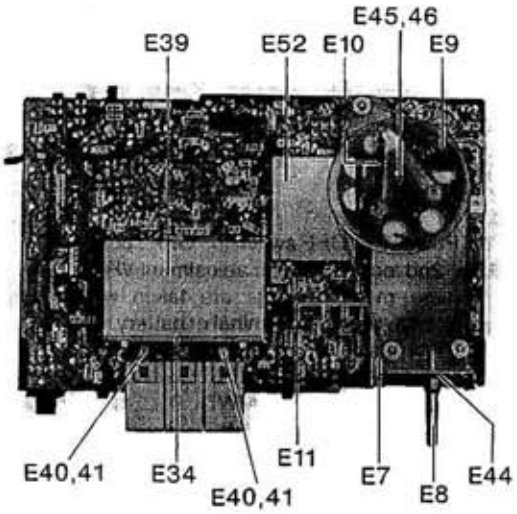


Fig. 22

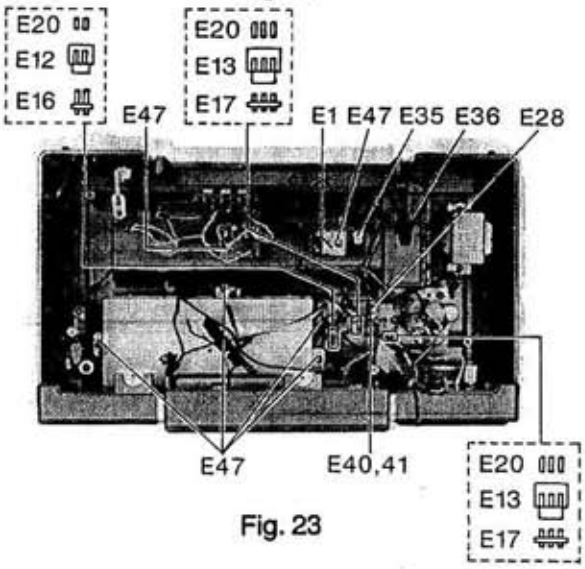


Fig. 23

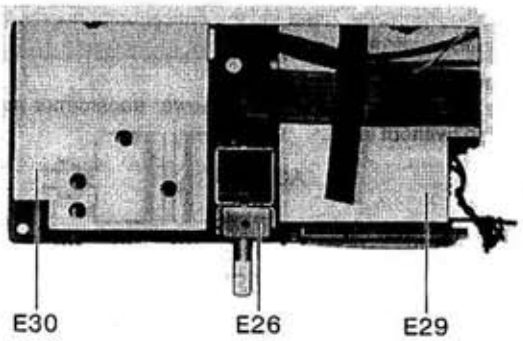


Fig. 24

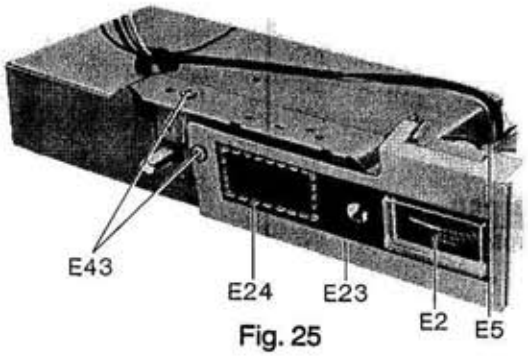


Fig. 25

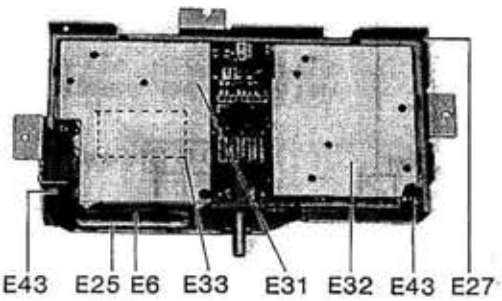


Fig. 26

CABINET PARTS LOCATION

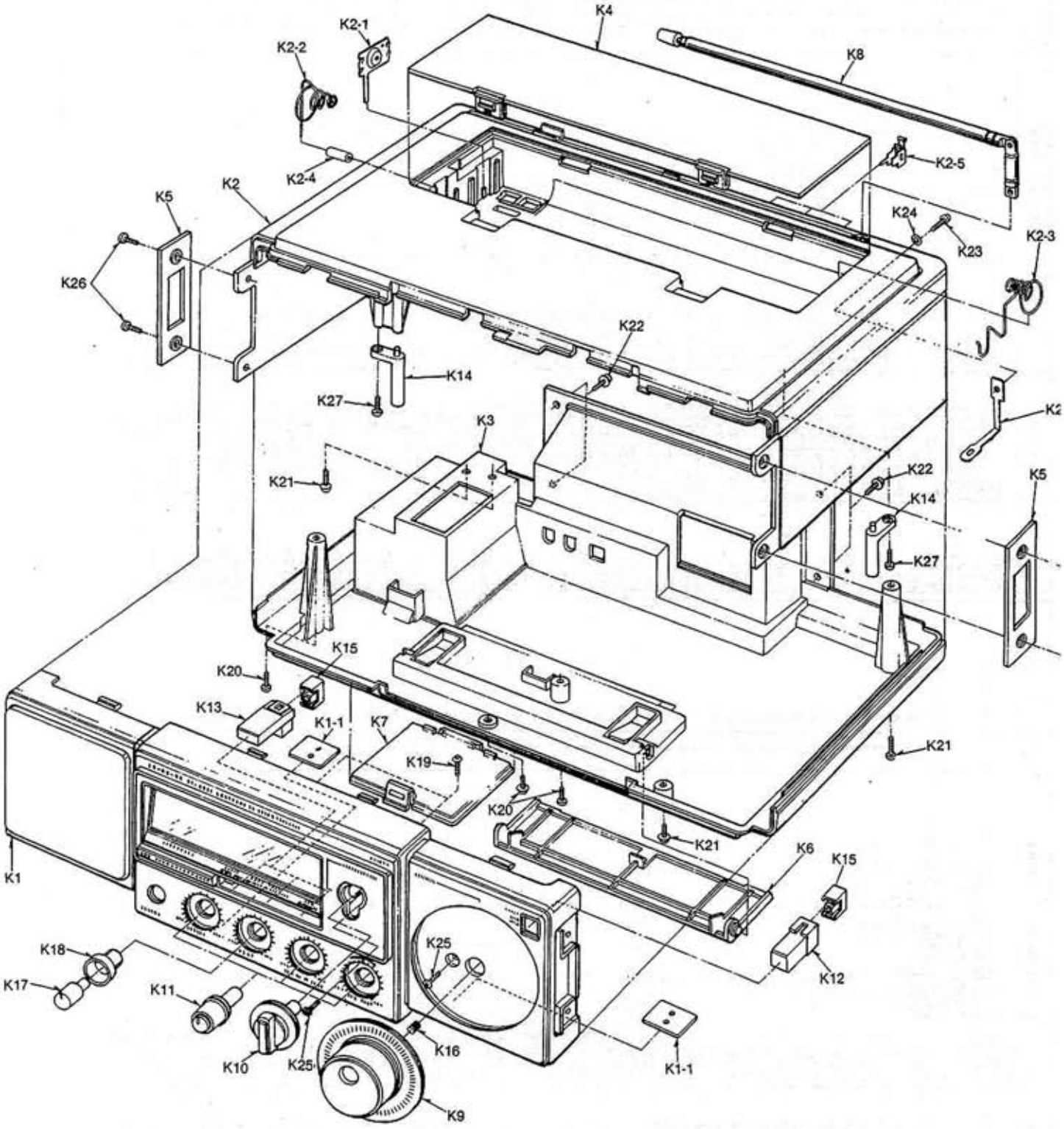


Fig. 27

[18] ■ REPLACEMENT PARTS LIST ..... Model RF-3100/©

(RD81071895C1)

NOTES: 1. Important safety notice.
Components identified by ⚠ mark have special characteristics important for safety.
When replacing any of these components, use only manufacturer's specified parts.
2. The S mark indicates service standard parts and may differ from production parts.

Ref. No.	Part No.	Part Name & Description	Per Set	Remarks
		INTEGRATED CIRCUITS, TRANSISTORS AND DIODES		
IC1	RVILA1210	IC	1	
IC2	AN7254	IC	1	
IC3	QVIBA524	IC	1	
IC301	RVIUPC78M05H	IC	1	
IC501	RVIMM55126N	IC	1	
IC502,508	RVIUPC1037H	IC	2	
IC503	RVIM54459L	IC	1	
IC504	RVIM54451P	IC	1	
IC505	RVIUPC78L05A	IC	1	
IC507	RVIM54830P	IC	1	
Q1,3,20	2SK212D	Transistor (Si)	3	
Q2,10,12,14,15	2SC1047-C	Transistor (Si)	5	S
Q4	2SC1684S	Transistor (Si)	1	S
Q5,16,19,25,29, 30,37,41,44,46	2SC1685-Q	Transistor (Si)	10	S
Q6	2SA838-B	Transistor (Ge)	1	S
Q7,9,11,23,24,28, 35,36,39,526	2SC1359B	Transistor (Si)	10	S
Q13	2SK104F	Transistor (Si)	1	S
Q17	2SC1360	Transistor (Si)	1	S
Q18	2SC1675	Transistor (Si)	1	
Q21,22,38	2SC829-B	Transistor (Si)	3	S
Q26,42	2SA722-S	Transistor (Ge)	2	S
Q27	2SC2001K2	Transistor (Si)	1	S
Q32	2SC945-Q	Transistor (Si)	1	S
Q33	2SC2001L1	Transistor (Si)	1	S
Q43	2SB175-B	Transistor (Ge)	1	S
Q501	2SD601Q	Transistor (Si)	1	S
Q502,503	2SC1622	Transistor (Si)	2	
Q504	2SB709Q	Transistor (Ge)	1	S
Q505,506,513	2SC2295B	Transistor (Si)	3	S
Q507	2SC1009F3	Transistor (Si)	1	S
Q508	2SK49F1	Transistor (Si)	1	S
Q509,510,512,523	2SC2404C	Transistor (Si)	4	S
Q514	2SB624BV3	Transistor (Ge)	1	S
Q515	2SC2021F	Transistor (Si)	1	
Q516	2SC1788RDR2	Transistor (Si)	1	S
Q517	2SD601R	Transistor (Si)	1	S
Q518	2SC1675K1	Transistor (Si)	1	S
Q519	2SC1009F4	Transistor (Si)	1	S

ACCESSORY AND PACKING MATERIALS

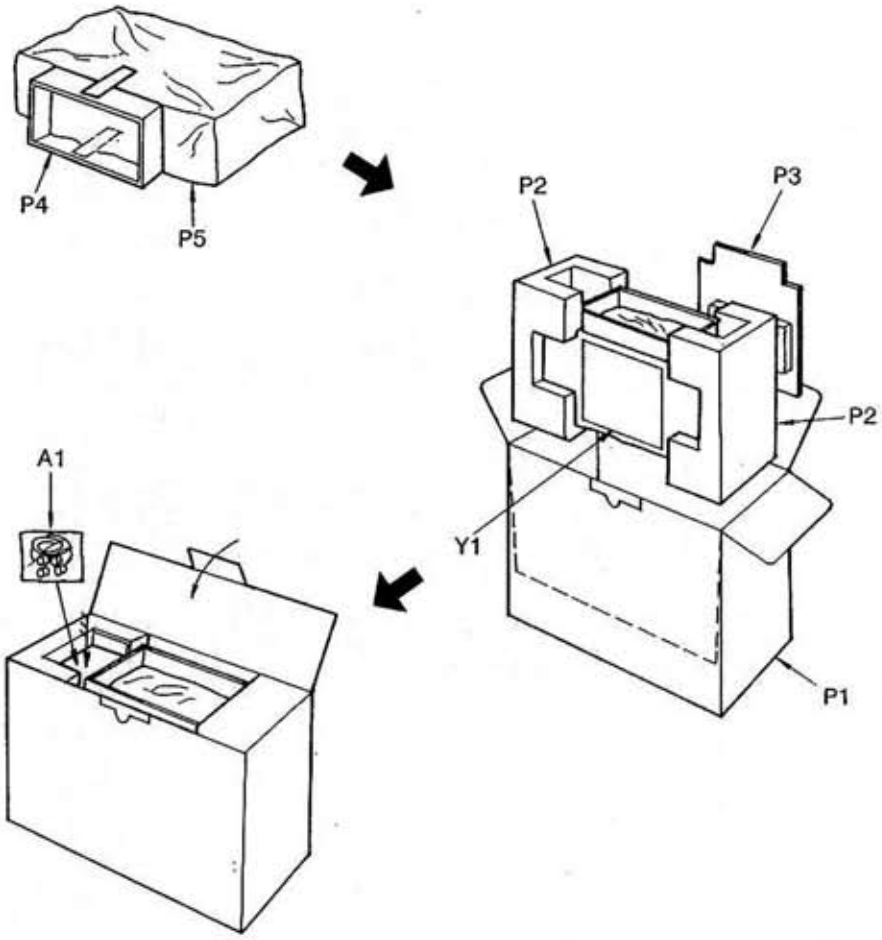


Fig. 28

Ref. No.	Part No.	Part Name & Description	Per Set	Remarks
Q524	2SC1623L5A	Transistor (Si)	1	S
Q525	2SD352E	Transistor (Si)	1	S
D1,17,19,20,28,34 37,39,40,41,48, 54,61,507∿509	MA161	Diode (Si)	16	S
D5,7,8,23,24,25,43,44	MA56	Diode (Si)	8	
D13,53	RVDKB265G	Diode (Si)	2	S
D22,26,29,38	20A90	Diode (Ge)	4	S
D27	MA381RA	Diode (Si)	1	
D31	RVDKB262D	Diode (Si)	1	S
D32	RVDRD7R5EB3	Diode (Si)	1	
D35	RVDSD113	Diode (Si)	1	
D36	RVDRD5R1EB3	Diode (Si)	1	
D47,55	0A95	Diode (Ge)	2	S
D49	MA27A1	Diode (Si)	1	S
D401∿404	SM112	Diode (Si)	4	S
D405	RVDSM1A02	Diode (Si)	1	
D503	RVDRD7R5EB2	Diode (Si)	1	
D504	RVDRD5R6EB1	Diode (Si)	1	
D62,505	RVDRD13EB1	Diode (Si)	2	
D506	RVDSLP144B	Diode (Si)	1	
		THERMISTOR		
TH1	RRT800	Thermistor	1	
		CRYSTAL		
X501	RVCX5120N5Z	Crystal	1	
		COILS AND TRANSFORMERS		
L1	RLF2F47	Coil, MW Antenna	1	
L7,46	RLQZG102K	Coil, Choke	2	
L8	RLQZB8R2KW	Coil, Choke	1	
L9	RLQZB2R2KW	Coil, Choke	1	
L10,20	RLQZB1R0KT	Coil, Choke	2	
L12,16	RLQZB3R9KW	Coil, Choke	2	
L13	RLQZB3R3KW	Coil, Choke	1	
L14,21	RLQZB1R0KW	Coil, Choke	2	
L17	RLQZB2R7KW	Coil, Choke	1	
L18	RLQZB6R8KW	Coil, Choke	1	
L19	RLQZB1R8KW	Coil, Choke	1	
L22	RLD4N30	Coil, Tuning	1	
L24	RLQZB101KW	Coil, Choke	1	
L26	RLO3M43	Coil, SW1 VCO Oscillator	1	
L27	RLO3M49	Coil, SW2 VCO Oscillator	1	
L28	RLA3N14	Coil, SW3 VCO Oscillator	1	
L29	RLO4N141	Coil, Oscillator	1	
L30,40	RLQZA331KW	Coil, Choke	2	
L33	RLO2M28	Coil, MW Oscillator	1	
L34	RLO3M41	Coil, SW VFO Oscillator	1	
L37	RLO9M8	Coil, BFO Oscillator	1	
L42,43	RLQZ102	Coil, Choke	2	
L51	RLQZB101KT	Coil, Choke	1	
L52	RLQZA5R6KW	Coil, Choke	1	

Ref. No.	Part No.	Part Name & Description	Per Set	Remarks
L53	RLQZA470KW	Coil, Choke	1	
L62,63	RLQG681K	Coil, Choke	2	
L64	RLQZB820K	Coil, Choke	1	
L65	RLQZB5R6K	Coil, Choke	1	
L503,504	RLQZ222	Coil, Choke	1	
L509,510,515,516	RLQZA101K	Coil, Choke	4	
L512	RLQZA331K	Coil, Choke	1	
L513	RLQZB101K	Coil, Choke	1	
T1,2,5,301,302,505	RLI4M101	IFT, 2nd Local 10.24MHz	6	S
T3	RLI2M214	IFT, AM 1st	1	S
T4	RLI2M205	IFT, AM 2nd	1	S
T6	RLI2M402	IFT, AM 3rd	1	S
T7	RLI4M103	IFT, FM	1	S
T8	RLA3Z9	IFT, Trap	1	
T401	RLT5J4M1A	Power Transformer, for USA	1	⚠
T401	RLT5J4C1A	Power Transformer, for Canada	1	⚠
T501∿503	RLI9M8	Transformer, 2nd Local Filter	3	
T504	RLT9F2	DC-DC Converter	1	
		VARIABLE RESISTORS		
VR1,2	EWHP0AF20B14	Variable Resistor, 10kΩ (B)	2	
VR3	EVKANAF32A14	Variable Resistor, 10kΩ (A)	1	
VR4	EWHP0AF20A14	Variable Resistor, 10kΩ (A)	1	
VR5	EVTT3AA00B15	Preset, 100kΩ (B)	1	S
VR6	EVTT3AA00B52	Preset, 500Ω (B)	1	S
VR301	EVNM4AA00B52	Preset, 500Ω (B)	1	S
		VARIABLE CAPACITORS		
VC1,2,3,4	RCV4RC2VK	Tuning Capacitor (CT1,2,3,4)	1	
CT5	RCVCTZ51F	Trimmer Capacitor	1	
		CERAMIC FILTERS		
CF1,2,3	RVF107NAR	Ceramic Filter,10.7MHz	3	
CF4	RVFSFP455K	Ceramic Filter,455kHz	1	
CF5	RVFSFP455H10	Ceramic Filter,455kHz	1	
CF7	RVFTPA107MB	Ceramic Filter,10.7MHz	1	
CF8	RVFSFA107MF5	Ceramic Filter,10.7MHz	1	
		COMPONENT COMBINATIONS		
Z1	RXABPWB5	Component Combination (L,C)	1	
Z2	EXAF203Z471F	Component Combination (C,R)	1	
Z3,4	EXRP103P471T	Component Combination (C,R)	2	
Z7,8	EXRP103P103T	Component Combination (C,R)	2	
		SPEAKER		
	RAS9P04Z	Speaker, 9cm (3-1/2"), 8Ω	1	
		SWITCHES		
S1	RSS2B20Z	Switch, Antenna Select	1	
S2,3,4	RSHX042Z	Switch, BFO, Band Width, Light	1	
S401	RSH1A10Z	Switch, Power	1	
S501	RSRX012Y	Switch, Band	1	

Ref. No.	Part No.	Part Name & Description	Per Set	Remarks
		JACKS		
J1,2	RJJ19Y	Jack, REC OUT, EXT SP	2	
J3	RJJ1E2Z	Jack, Headphone	1	
		RESISTORS (Value is in OHMS)		
R3	ERD25FJ221	220 1/4W Carbon	1	S
R5	ERD25TJ105	1 M " "	1	S
R10	ERD25FJ102	1 k " "	1	S
R11	ERD25FJ220	22 " "	1	S
R15	ERD25FJ473	47 k " "	1	S
R16	ERD25FJ470	47 " "	1	S
R18	ERD25FJ101	100 " "	1	S
R19	ERD25FJ221	220 " "	1	S
R20	ERD25FJ102	1 k " "	1	S
R21	ERD25FJ332	3.3 k " "	1	S
R22	ERD25FJ101	100 " "	1	S
R23	ERD25FJ681	680 " "	1	S
R25	ERD25FJ102	1 k " "	1	S
R26	ERD25FJ101	100 " "	1	S
R27	ERD25FJ473	47 k " "	1	S
R28	ERD25FJ680	68 " "	1	S
R29,30	ERD25FJ470	47 " "	2	S
R31	ERD25FJ680	68 " "	1	S
R33	ERD25TJ104	100 k " "	1	S
R34	ERD25FJ101	100 " "	1	S
R35	ERD25TJ154	150 k " "	1	S
R36	ERD25TJ224	220 k " "	1	S
R37	ERD25TJ474	470 k " "	1	S
R38	ERD25FJ223	22 k " "	1	S
R40	ERD25FJ473	47 k " "	1	S
R41	ERD25TJ334	330 k " "	1	S
R43	ERD25TJ154	150 k " "	1	S
R45	ERD25TJ474	470 k " "	1	S
R46	ERD25FJ102	1 k " "	1	S
R47	ERD25FJ471	470 " "	1	S
R48	ERD25FJ102	1 k " "	1	S
R50	ERD25FJ473	47 k " "	1	S
R51	ERD25FJ223	22 k " "	1	S
R52~54	ERD25FJ471	470 " "	3	S
R55	ERD25FJ331	330 " "	1	S
R56	ERD25FJ470	47 " "	1	S
R57	ERD25FJ101	100 " "	1	S
R58	ERD25FJ473	47 k " "	1	S
R59	ERD25FJ472	4.7 k " "	1	S
R60	ERD25FJ681	680 " "	1	S
R61	ERD25FJ102	1 k " "	1	S
R62	ERD25FJ473	47 k " "	1	S
R63	ERD25FJ220	22 " "	1	S
R64	ERD25TJ224	220 k " "	1	S
R65	ERD25FJ332	3.3 k " "	1	S
R66	ERD25FJ223	22 k " "	1	S
R67	ERD25FJ153	15 k " "	1	S
R68	ERD25FJ152	1.5 k " "	1	S
R69	ERD25TJ224	220 k " "	1	S
R70	ERD25FJ152	1.5 k " "	1	S
R71	ERD25FJ101	100 " "	1	S

Ref. No.	Part No.	Part Name & Description	Per Set	Remarks
R73	ERD25FJ472	4.7 k 1/4W Carbon	1	S
R74	ERD25FJ102	1 k " "	1	S
R75	ERD25FJ101	100 " "	1	S
R76	ERD25TJ334	330 k " "	1	S
R78	ERD25FJ273	27 k " "	1	S
R80	ERD25FJ332	3.3 k " "	1	S
R81	ERD25FJ102	1 k " "	1	S
R82	ERD25FJ331	330 " "	1	S
R83	ERD25FJ273	27 k " "	1	S
R84	ERD25TJ104	100 k " "	1	S
R85	ERD25FJ101	100 " "	1	S
R86	ERD25FJ101	100 " "	1	S
R87	ERD25FJ222	2.2 k " "	1	S
R88,89	ERD25FJ101	100 " "	2	S
R90	ERD25FJ472	4.7 k " "	1	S
R91	ERD25FJ102	1 k " "	1	S
R92	ERD25FJ471	470 " "	1	S
R93	ERD25TJ474	470 k " "	1	S
R94	ERD25FJ152	1.5 k " "	1	S
R95	ERD25FJ102	1 k " "	1	S
R96	ERD25TJ104	100 k " "	1	S
R97	ERD25FJ102	1 k " "	1	S
R98	ERD25FJ471	470 " "	1	S
R99	ERD25FJ333	33 k " "	1	S
R100	ERD25FJ152	1.5 k " "	1	S
R101	ERD25FJ103	10 k " "	1	S
R102	ERD25FJ392	3.9 k " "	1	S
R103	ERD25FJ153	15 k " "	1	S
R104	ERD25FJ103	10 k " "	1	S
R105	ERD25FJ222	2.2 k " "	1	S
R106	ERD25FJ103	10 k " "	1	S
R107	ERD25FJ332	3.3 k " "	1	S
R108	ERD25FJ152	1.5 k " "	1	S
R109	ERD25TJ104	100 k " "	1	S
R110	ERD25FJ102	1 k " "	1	S
R111	ERD25TJ474	470 k " "	1	S
R112	ERD25TJ684	680 k " "	1	S
R113	ERD25FJ331	330 " "	1	S
R114	ERD25FJ473	47 k " "	1	S
R115	ERD25FJ221	220 " "	1	S
R116	ERD25FJ222	2.2 k " "	1	S
R117	ERD25FJ821	820 " "	1	S
R119	ERD25FJ473	47 k " "	1	S
R120	ERD25FJ471	470 " "	1	S
R122	ERD25FJ472	4.7 k " "	1	S
R123	ERD25FJ682	6.8 k " "	1	S
R124	ERD25TJ474	470 k " "	1	S
R126	ERD25FJ333	33 k " "	1	S
R127	ERD25FJ102	1 k " "	1	S
R128	ERD25FJ223	22 k " "	1	S
R129	ERD25FJ332	3.3 k " "	1	S
R130	ERD25FJ102	1 k " "	1	S
R132	ERD25TJ474	470 k " "	1	S
R133	ERD25FJ103	10 k " "	1	S
R134	ERD25FJ333	33 k " "	1	S
R135,136	ERD25FJ221	220 " "	2	S

Ref. No.	Part No.	Part Name & Description	Per Set	Remarks
R137	ERD25FJ103	10 k 1/4W Carbon	1	S
R138	ERD25FJ333	33 k " "	1	S
R139	ERD25TJ104	100 k " "	1	S
R140	ERD25FJ102	1 k " "	1	S
R141	ERD25FJ103	10 k " "	1	S
R142	ERD25FJ472	4.7 k " "	1	S
R144	ERD25FJ102	1 k " "	1	S
R145	ERD25FJ221	220 " "	1	S
R146	ERD25FJ151	150 " "	1	S
R147	ERD25FJ271	270 " "	1	S
R148	ERD25FJ152	1.5 k " "	1	S
R149	ERD25FJ152	1.5 k " "	1	S
R152	ERD25FJ821	820 " "	1	S
R153	ERD25FJ220	22 " "	1	S
R157	ERD25FJ681	680 " "	1	S
R158	ERD25FJ221	220 " "	1	S
R159	ERD25TJ224	220 k " "	1	S
R160	ERD25FJ222	2.2 k " "	1	S
R162	ERD25FJ222	2.2 k " "	1	S
R163	ERD25FJ331	330 " "	1	S
R164	ERD25TJ683	68 k " "	1	S
R165,166	ERD25TJ105	1 M " "	2	S
R167,168	ERD25FJ471	470 " "	2	S
R169	ERD25FJ472	4.7 k " "	1	S
R170	ERD25FJ472	4.7 k " "	1	S
R171	ERD25FJ680	68 " "	1	S
R172	ERD25FJ333	33 k " "	1	S
R173	ERD25FJ332	3.3 k " "	1	S
R174	ERD25FJ102	1 k " "	1	S
R175,176	ERD25FJ472	4.7 k " "	2	S
R177	ERD25FJ102	1 k " "	1	S
R178	ERD25FJ223	22 k " "	1	S
R179	ERD25TJ474	470 k " "	1	S
R181	ERD25FJ222	2.2 k " "	1	S
R184	ERD25TJ104	100 k " "	1	S
R186	ERD25FJ332	3.3 k " "	1	S
R187	ERD25FJ102	1 k " "	1	S
R188	ERD25FJ473	47 k " "	1	S
R189	ERD25FJ471	470 " "	1	S
R191	ERD25FJ680	68 " "	1	S
R192	ERD25FJ101	100 " "	1	S
R193	ERD25FJ151	150 " "	1	S
R195	ERD25FJ220	22 " "	1	S
R196	ERD25FJ102	1 k " "	1	S
R197	ERD25FJ152	1.5 k " "	1	S
R198	ERD25FJ221	220 " "	1	S
R211	ERD25FJ101	100 " "	1	S
R220	ERD25FJ102	1 k " "	1	S
R235	ERD25FJ101	100 " "	1	S
R240	ERD25FJ102	1 k " "	1	S
R290	ERD25FJ222	2.2 k " "	1	S
R401	ERD2FCJR47	0.47 2W "	1	S
R402	ERC12ZGM335	3.3 M 1/2W Solid	1	
R501	RRD18XK153	15 k 1/8W Chip	1	
R502	RRD18XK472	4.7 k " "	1	
R503	RRD18XK682	6.8 k " "	1	

Ref. No.	Part No.	Part Name & Description	Per Set	Remarks
R504	RRD18XK222	2.2 k 1/8W Chip	1	
R505	RRD18XK223	22 k " "	1	
R506	RRD18XK473	47 k " "	1	
R508	RRD18XK472	4.7 k " "	1	
R509	RRD18XK474	470 k " "	1	
R510	RRD18XK102	1 k " "	1	
R511	RRD18XK224	220 k " "	1	
R512	RRD18XK101	100 " "	1	
R513	RRD18XK471	470 " "	1	
R514	RRD18XK103	10 k " "	1	
R515	RRD18XK470	47 " "	1	
R516	RRD18XK332	3.3 k " "	1	
R517	RRD18XK223	22 k " "	1	
R518	RRD18XK101	100 " "	1	
R519	RRD18XK472	4.7 k " "	1	
R520	RRD18XK221	220 " "	1	
R521	ERD25FJ333	33 k 1/4W Carbon	1	S
R522	RRD18XK331	330 1/8W Chip	1	
R524	RRD18XK101	100 " "	1	
R525	ERD25FJ2R2	2.2 1/4W Carbon	1	S
R526	RRD18XK274	270 k 1/8W Chip	1	
R527	RRD18XK152	1.5 k " "	1	
R528	RRD18XK102	1 k " "	1	
R529	ERD25FJ681	680 1/4W Carbon	1	S
R530,531	RRD18XK224	220 k 1/8W Chip	2	
R532	RRD18XK102	1 k " "	1	
R533	ERD25FJ220	22 1/4W Carbon	1	S
R534	RRD18XK152	1.5 k 1/8W Chip	1	
R535	RRD18XK154	150 k " "	1	
R536	RRD18XK224	220 k " "	1	
R537	ERD25FJ680	68 1/4W Carbon	1	S
R538	RRD18XK333	33 k 1/8W Chip	1	
R539	RRD18XK183	18 k " "	1	
R541	RRD18XK102	1 k " "	1	
R542	RRD18XK331	330 " "	1	
R544	RRD18XK101	100 " "	1	
R545,546	RRD18XK222	2.2 k " "	2	
R547~559	RRD18XK224	220 k " "	13	
R560	RRD18XK222	2.2 k " "	1	
R561~563	RRD18XK102	1 k " "	3	
R564	RRD18XK471	470 " "	1	
R565	RRD18XK222	2.2 k " "	1	
R566	RRD18XK333	33 k " "	1	
R567	RRD18XK151	150 " "	1	
R568	ERD25FJ680	68 1/4W Carbon	1	S
R569	RRD18XK332	3.3 k 1/8W Chip	1	
R570	RRD18XK473	47 k " "	1	
R571	RRD18XK101	100 " "	1	
R572	RRD18XK274	270 k " "	1	
R573	RRD18XK152	1.5 k " "	1	
R574,575	RRD18XK220	22 " "	2	
R576	RRD18XK471	470 " "	1	
R577~579	RRD18XK223	22 k " "	3	
R580	ERD25FJ180	18 1/4W Carbon	1	S
R581	RRD18XK223	22 k 1/8W Chip	1	
R582,583	RRD18XK331	330 " "	2	

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Ref. No.	Part No.	Part Name & Description	Per Set	Remarks
R584	RRD18XK104	100 k 1/8W Chip	1	
R585	RRD18XK470	47 " "	1	
R586	ERD25FJ470	47 1/4W Carbon	1	S
R587	RRD18XK103	10 k 1/8W Chip	1	
R588	RRD18XK222	2.2 k " "	1	
R589	ERD2FCJ100	10 2W Carbon	1	S
R590	RRD18XK2R2	2.2 1/8W Chip	1	
R701	ERD50FJ102	1 k 1/2W Carbon	1	S
R702	ERC12GM103	10 k " Solid	1	S
		CAPACITORS (Value is in MICRO FARADS except P.P=PICO FARADS)		
C1	ECKD1H152MD	0.0015 50V Ceramic	1	
C6	ECCD1H470K	47 P " "	1	
C8	ECBT1H103NM	0.01 " Ceramic(Cylinder)	1	
C9	ECKD1H103ZF	0.01 " Ceramic	1	
C10	ECCD1H150KC	15 P " "	1	
C15	ECCD1H330KC	33 P " "	1	
C16	ECBT1H4R7KC	4.7 P " Ceramic(Cylinder)	1	
C17	ECKD1H103ZF	0.01 " Ceramic	1	
C18	ECBT1H103NM	0.01 " Ceramic(Cylinder)	1	
C19	RCQP2A681JZ	680 P 100V Styrol	1	
C20	ECKD1H332MD	0.0033 50V Ceramic	1	
C21	ECCD1H271K	270 P " "	1	
C22	ECCD1H270KC	27 P " "	1	
C23,24	ECCD1H390KC	39 P " "	2	
C25,26	ECBT1H103NM	0.01 " Ceramic(Cylinder)	2	
C27,28	RCQP2A471JZ	470 P 100V Styrol	2	
C30	ECCD1H181K	180 P 50V Ceramic	1	
C31	ECCD1H101KC	100 P " "	1	
C32	ECKD1H103ZF	0.01 " "	1	
C33	ECBT1H102MD	0.001 " Ceramic(Cylinder)	1	
C35	ECCD1H151K	150 P " Ceramic	1	
C36	ECCD1H221K	220 " "	1	
C37	ECCD1H470KC	47 P " "	1	
C38	RCQP2A681JZ	680 P 100V Styrol	1	
C39	ECFVD103MD	0.01 25V Semi-Conductor	1	
C40	ECKD1H102MD	0.001 50V Ceramic	1	
C41	ECCD1H101KC	100 P " "	1	
C42	ECCD1H470KC	47 P " "	1	
C43	ECCD1H040C	4 P " "	1	
C47	ECKD1H103ZF	0.01 " "	1	
C48	ECKD1H471KB	470 P " "	1	
C49	ECCD1H050C	5 P " "	1	
C50	ECEA50Z1	1 " Electrolytic	1	S
C51	ECBT1H1R5ML	1.5 " Ceramic(Cylinder)	1	
C53	ECEA1AS221	220 10V Electrolytic	1	S
C54	ECCD1H180KC	18 P 50V Ceramic	1	
C55~58	ECKD1H103ZF	0.01 " "	4	
C59	ECCD1H101K	100 P " "	1	
C60	ECKD1H103MD	0.01 " "	1	
C61,62	ECFVD103MD	0.01 25V Semi-Conductor	2	
C63	ECEA1AS470	47 10V Electrolytic	1	S
C64	ECEA1AS221	220 " "	1	S
C65,66	ECEA1AS470	47 " "	2	S
C67,68	ECKD1H103ZF	0.01 50V Ceramic	2	

Ref. No.	Part No.	Part Name & Description	Per Set	Remarks
C69	ECCD1H100KC	10 P 50V Ceramic	1	
C70	ECKD1H103ZF	0.01 " "	1	
C71	ECCD1H270KC	27 P " "	1	
C72	ECCD1H070DC	7 P " "	1	
C73	ECCD1H100KC	10 P " "	1	
C74	ECKD1H103ZF	0.01 " "	1	
C75	ECCD1H010C	1 P " "	1	
C76	ECKD1H102MD	0.001 " "	1	
C77	ECCD1H040C	4 P " "	1	
C78	ECMS05221J	220 P " Mica	1	
C80	ECCD1H050C	5 P " Ceramic	1	
C81	ECKD1H103ZF	0.01 " "	1	
C82	ECKD1H103MD	0.01 " "	1	
C83	ECBT1E103NM	0.01 25V Ceramic(Cylinder)	1	
C84	RCQP2A152JZ	0.0015 100V Styrol	1	
C85	ECES1AS101	100 10V Electrolytic	1	S
C86	ECEA1HS100	10 50V "	1	S
C88	ECKD1H103ZF	0.01 " Ceramic	1	
C90~93	ECKD1H103ZF	0.01 " "	4	
C94	ECEA1AS101	100 10V Electrolytic	1	S
C95	ECFVD473MD	0.047 25V Semi-Conductor	1	
C96	ECKD1H103ZF	0.01 50V Ceramic	1	
C97	ECCD1H010C	1 P " "	1	
C98	ECCD1H020C	2 P " "	1	
C99	ECKD1H103ZF	0.01 " "	1	
C100	ECCD1H120KC	12 P " "	1	
C101	RCQP2A471JZ	470 P 100V Styrol	1	
C102	ECKD1H103ZF	0.01 50V Ceramic	1	
C103	ECKD1H103MD	0.01 " "	1	
C104	ECCD1H100KU	10 P " "	1	
C105	ECQS2B391JZ	390 P 100V Styrol	1	
C106	ECCD1H100KC	10 P 50V Ceramic	1	
C108	ECKD1H103ZF	0.01 " "	1	
C109	ECKD1H103MD	0.01 " "	1	
C110,111	ECEA1AS101	100 10V Electrolytic	2	S
C112	ECEA1AS221	220 " "	1	S
C113	ECFVD103MD	0.01 25V Semi-Conductor	1	
C114	ECKD1H103MD	0.01 50V Ceramic	1	
C115,116	ECFVD473MD	0.047 25V Semi-Conductor	2	
C117	ECKD1H223ZF	0.022 50V Ceramic	1	
C118	ECKD1H103MD	0.01 " "	1	
C119	ECEA1HS100	10 " Electrolytic	1	S
C120	ECKD1H223ZF	0.022 " Ceramic	1	
C121	ECFVD473MD	0.047 25V Semi-Conductor	1	
C122	ECFVD223MD	0.022 " "	1	
C123	ECFVD223MD	0.022 " "	1	
C124,125	ECKD1H103MD	0.01 50V Ceramic	2	
C126	ECMS05820K	82 P " Mica	1	
C127	ECKD1H103MD	0.01 " Ceramic	1	
C128	ECEA1CS221	220 16V Electrolytic	1	S
C129	ECFVD103MD	0.01 25V Semi-Conductor	1	
C130	ECEA1CS330	33 16V Electrolytic	1	S
C131	ECES1ES220	22 25V "	1	S
C132	ECFVD333MD	0.033 " Semi-Conductor	1	
C133	ECCD1H150KC	15 P 50V Ceramic	1	
C134	ECEA1ES220	22 25V Electrolytic	1	S

Ref. No.	Part No.	Part Name & Description			Per Set	Remarks
C136	ECMS05151J	150 P	50V	Mica	1	
C137	ECMS05181J	180 P	"	"	1	
C138	ECFVD333MD	0.033	25V	Semi-Conductor	1	
C139	ECEA1AS470	47	10V	Electrolytic	1	S
C140	ECKD1H103ZF	0.01	50V	Ceramic	1	
C141	ECFVD223MD	0.022	25V	Semi-Conductor	1	
C142	ECEA1AS221	220	10V	Electrolytic	1	S
C143	ECEA1AS470	47	"	"	1	S
C145	ECQV05104JZ	0.1	50V	Epoxy	1	
C146	ECKD1H152MD	0.0015	"	Ceramic	1	
C147	ECFVD153MD	0.015	25V	Semi-Conductor	1	
C149	ECKD1H103ZF	0.01	50V	Ceramic	1	
C150	ECEA1CS330	33	16V	Electrolytic	1	S
C151	ECEA1CS221	220	"	"	1	S
C152	ECFVD473MD	0.047	25V	Semi-Conductor	1	
C153	ECEA50ZR22	0.22	50V	Electrolytic	1	S
C154	ECFVD223MD	0.022	25V	Semi-Conductor	1	
C155	ECEA1AS470	47	10V	Electrolytic	1	S
C156	ECFVD223MD	0.022	25V	Semi-Conductor	1	
C157	ECKD1H103MD	0.01	50V	Carbon	1	
C158	ECKD1H102MD	0.001	"	"	1	
C159	ECEA50ZR33	0.33	"	Electrolytic	1	S
C160	ECEA1ES220	22	25V	"	1	S
C161	ECEA50ZR1	0.1	50V	"	1	S
C162	ECEA50Z1	1	"	"	1	S
C163	ECEA50ZR1	0.1	"	"	1	S
C164	ECCD1H221K	220 P	"	Ceramic	1	
C165	RCQP2A561JZ	560 P	100V	Styrol	1	
C167	ECCD1H180KC	18 P	50V	Ceramic	1	
C168	ECFVD683MD	0.068	25V	Semi-Conductor	1	
C170	ECCD1H103ZF	0.01	50V	Ceramic	1	
C175	ECEA1CS102	1000	16V	Electrolytic	1	S
C176	ECCD1H101K	100 P	50V	Ceramic	1	
C178	ECFVD683MD	0.068	25V	Semi-Conductor	1	
C179	ECKD1H103ZF	0.01	50V	Ceramic	1	
C180	ECCD1H103ZF	0.01	"	"	1	
C181	ECCD1H100KC	10 P	"	"	1	
C182	ECFVD683MD	0.068	25V	Semi-Conductor	1	
C183	ECFVD473MD	0.047	"	"	1	
C184	ECFVD103MD	0.01	"	"	1	
C185	ECEA50Z1	1	50V	Electrolytic	1	S
C187	ECKD1H103MD	0.01	"	Ceramic	1	
C188	ECCD1H100KC	10 P	"	"	1	
C189	ECEA50Z3R3	3.3	"	Electrolytic	1	S
C191	ECKD1H103ZF	0.01	"	Ceramic	1	
C192	ECKD1H223ZF	0.022	"	"	1	
C194	ECEA1AS101	100	10V	Electrolytic	1	S
C198	ECKD1H102MD	0.001	50V	Ceramic	1	
C200	ECCD1H100KX	10 P	"	"	1	
C201	ECEA25Z4R7	4.7	25V	Electrolytic	1	S
C202	ECBT1E103NM	0.01	"	Ceramic(Cylinder)	1	
C203	ECKD1H103MD	0.01	50V	Ceramic	1	
C204	ECCD1H220KC	22 P	"	"	1	
C205	ECKD1H103MD	0.01	"	"	1	
C206	ECEA1AS221	220	10V	Electrolytic	1	S
C207	ECFVD683MD	0.068	25V	Semi-Conductor	1	

Ref. No.	Part No.	Part Name & Description			Per Set	Remarks
C208	ECKD1H103MD	0.01	50V	Ceramic	1	
C209	ECCD1H150KC	15 P	"	"	1	
C210	ECKD1H471KB	470 P	"	"	1	
C212	ECCD1H181K	180 P	"	"	1	
C222	ECCD1H220K	22 P	"	"	1	
C228	ECEA50ZR47	0.47	"	Electrolytic	1	S
C251	ECCD1H220K	22 P	"	Ceramic	1	
C252	ECCD1H330K	33 P	"	"	1	
C253	ECCD1H220K	22 P	"	"	1	
C255	ECCD1H101K	100 P	"	"	1	
C260	ECBT1E103NM	0.01	25V	Ceramic(Cylinder)	1	
C261	ECEA1AS470	47	10V	Electrolytic	1	S
C262	ECES1ES470	47	25V	"	1	S
C263	ECCD1H100KC	10 P	50V	Ceramic	1	
C264	ECKD1H102MD	0.001	"	"	1	
C266	ECFVD103MD	0.01	25V	Semi-Conductor	1	
C270	ECCD1H100KC	10 P	50V	Ceramic	1	
C301	ECCD1H270KC	27 P	"	"	1	
C302	ECCD1H020C	2 P	"	"	1	
C303	ECCD1H270KC	27 P	"	"	1	
C304	ECKD1H102MD	0.001	"	"	1	
C401	ECEA1ES222	2200	25V	Electrolytic	1	S
C402~406	ECKD1H103ZF	0.01	50V	Ceramic	5	
C501	ECQE1225KN	2.2	100V	Styrol	1	
C502	ECUX1H331KD	330 P	50V	Chip	1	
C503,504	ECUX1H102MD	0.001	"	"	2	
C505	ECUX1H103ZF	0.01	"	"	1	
C506	ECUX1H223MD	0.022	"	"	1	
C507	ECUX1H102MD	0.001	"	"	1	
C508	ECUX1H103ZF	0.01	"	"	1	
C509	ECUX1H270KC	27 P	"	"	1	
C510	ECUX1H103ZF	0.01	"	"	1	
C511	ECUX1H070DC	7 P	"	"	1	
C512,513	ECUX1H103ZF	0.01	"	"	2	
C514	ECUX1H223MD	0.022	"	"	1	
C515	ECUX1H333ZF	0.033	"	"	1	
C516	ECUX1H330KC	33 P	"	"	1	
C517	ECEA1AS101	100	10V	Electrolytic	1	S
C518	ECUX1H1R5CC	1.5 P	50V	Chip	1	
C519	ECUX1H330KC	33 P	"	"	1	
C520	ECUX1H470KC	47 P	"	"	1	
C521	ECUX1H102ZF	0.001	"	"	1	
C522	ECUX1H103ZF	0.01	"	"	1	
C523	ECUX1H120KC	12 P	"	"	1	
C524	ECUX1H100KC	10 P	"	"	1	
C525	ECUX1H120KC	12 P	"	"	1	
C526	ECUX1H102ZF	0.001	"	"	1	
C527	ECUX1H333ZF	0.033	"	"	1	
C528	ECUX1H220KC	22 P	"	"	1	
C529	ECUX1H102ZF	0.001	"	"	1	
C530	ECEA0JS471	470	6.3V	Electrolytic	1	S
C531	ECUX1H102ZF	0.001	50V	Chip	1	
C532	ECUX1H220KC	22 P	"	"	1	
C533	ECUX1H223ZF	0.022	"	"	1	
C534	ECEA0JS471	470	6.3V	Electrolytic	1	S
C535	ECEA1ES470	47	25V	"	1	S

Ref. No.	Part No.	Part Name & Description	Per Set	Remarks
C536	ECUX1H820KC	82 P 50V Chip	1	
C537	ECUX1H181KD	180 P " "	1	
C538	ECUX1H101KD	100 P " "	1	
C539	ECUX1H103ZF	0.01 " "	1	
C540	ECUX1H680KC	68 P " "	1	
C541	ECUX1H103ZF	0.01 " "	1	
C542	ECUX1H271KD	270 P " "	1	
C543	ECEA1CS330	33 16V Electrolytic	1	S
C545	ECEA1AS470	47 10V "	1	S
C546	ECEA1HS0R1	0.1 50V "	1	S
C547	ECEA0JS471	470 6.3V "	1	S
C548	ECUX1H333ZF	0.033 50V Chip	1	
C549	ECEA1HSR33	0.33 " Electrolytic	1	S
C550	ECUX1H103ZF	0.01 " Chip	1	
C551	ECEA25Z4R7	4.7 25V Electrolytic	1	S
C552	ECEA1VS330	33 35V "	1	S
C553	ECEA1HS100	10 50V "	1	S
C554	ECFVD104MD	0.1 25V Semi-Conductor	1	
C555	ECUX1H151KD	150 P 50V Chip	1	
C556	ECEA1AS101	100 10V Electrolytic	1	S
C557	ECUX1H102ZF	0.001 50V Chip	1	
C558	ECUX1H102ZF	0.001 " "	1	
C559	ECUX1H103ZF	0.01 " "	1	
C560	ECUX1H102ZF	0.001 " "	1	
C561	ECUX1H103ZF	0.01 " "	1	
C562	ECUX1H333ZF	0.033 " "	1	
C563	ECEA0JS471	470 6.3V Electrolytic	1	S
C564	ECEA1HS100	10 50V "	1	S
C565	ECEA25Z4R7	4.7 25V "	1	S
C566	ECUX1H223MD	0.022 50V Chip	1	
C567	ECCD1H101K	100 P " Ceramic	1	
C568	ECCD1H470K	47 P " "	1	
C570	ECUX1H103ZF	0.01 " Chip	1	
C573	ECUX1H103ZF	0.01 " "	1	
C577,578	ECUX1H103ZF	0.01 " "	2	
C579	ECEA1HS100	10 " Electrolytic	1	S
C580	ECUX1H103ZF	0.01 " Chip	1	
C581	ECUX1H103MD	0.01 " "	1	
C582∿584	ECUX1H103ZF	0.01 " "	3	
C585	ECUX1H223ZF	0.022 " "	1	
C586	ECUX1H103MD	0.01 " "	1	
C587	ECKD1H103ZF	0.01 " Ceramic	1	
C588	ECUX1H102MD	0.001 " Chip	1	
C589	ECUX1H103MD	0.01 " "	1	
C590	ECUX1H103ZF	0.01 " "	1	
C591	ECCD1H100KC	10 P " Ceramic	1	
C592	ECUX1H223ZF	0.022 " Chip	1	
C593	ECUX1H333ZF	0.033 " "	1	
C594	ECKD1H102MD	0.001 " Ceramic	1	
C595	ECUX1H103MD	0.01 " Chip	1	
C596	ECUX1H333ZF	0.033 " "	1	
C597	ECEA25Z4R7	4.7 25V Electrolytic	1	S
C598	ECEA1AS470	47 10V "	1	S
C599	ECFVD683MD	0.068 25V Semi-Conductor	1	
C601	ECEA1AS101	100 10V Electrolytic	1	S
C602∿604	ECUX1H223ZF	0.022 50V Chip	3	

Ref. No.	Part No.	Part Name & Description	Per Set	Remarks
C605	ECEA1AS101	100 10V Electrolytic	1	S
C606	ECEA1ES101	100 25V "	1	S
C607,608	ECUX1H223MD	0.022 50V Chip	2	
C701,702	ECCD1H560K	56 P " Ceramic	2	
C703	RCQP2A471JZ	470 P 100V Styrol	1	
C704,705	ECKD1H681KB	680 P 50V Ceramic	2	
C706	ECKD1H103ZF	0.01 " "	1	
		CABINET PARTS		
K1	RYPF3100M	Front Panel Ass'y	1	
K1-1	RKX111Z	Plate, Front Panel Holding	6	
K2	RYMFB30N7	Upper Cabinet Ass'y	1	
K2-1	RJC111A	Terminal, Battery, + Side	1	
K2-2	RJC512Z	Terminal, Battery, - Side	1	
K2-3	RJC936Z	Terminal, Battery, + - Side	1	
K2-4	RJT398Y	Pipe, Battery Spring	1	
K2-5	RJF1065Z	Terminal, EXT, Antenna	3	
K2-6	RJT219Z	Terminal, Antenna	1	
K3	RYFF3100M7	Bottom Cabinet Ass'y	1	
K4	RYNFB30N7	Cover, Battery		
K5	RKT127Z	Plate, Handle Holding	1	
K6	RKL22Z	Stand	2	
K7	RKK92Z7	Cover, AC Cord	1	
K8	XEAQCR228FAK	Telescopic Antenna	1	
K9	RBN563Y	Knob, Tuning	1	
K10	RBS176Y	Knob, Band	1	
K11	RBN564Y	Knob, Volume, BFO, RF Gain	1	
K12	RBC331Z	Knob, Power	3	
K13	RBC330Z	Knob, BFO, LIGHT, BAND WIDTH	1	
K14	RHR1023X	Connecting Pipe	3	
K15	RBE29Z	Switch Connecting Pipe	2	
K16	RUS295Z	Spring, Tuning Knob	4	
K17	RBN565Y	Knob, Treble	1	
K18	RBN566Z	Knob, Bass	1	
K19	XTW3+10F	Screw, 3x10	1	
K20	XSB3+8BN	Screw, 3x8	2	
K21	XTV3+12G	Screw, 3x12	3	S
K22	XTB3+12BFZ	Screw, 3x12	4	
K23	XSN3+10S	Screw, 3x10	4	
K24	XWA3B	Washer	1	
K25	XTV3+8BFN	Screw, 3x8	1	
K26	XSB3+12BNS	Screw, 3x12	2	
K27	XTW3+12Q	Screw, 3x12	4	
			2	
		ELECTRICAL PARTS		
E1	RJR1B	Connecting Terminal	1	
E2	RSM2627Z	Meter	1	
E3	XAMR82R150A	Pilot Lamp	1	
E4	RMS12B	Plate, Speaker Holding	2	
E5	RUS436Z	Spring, Meter Holding	1	
E6	RAD5BT11	Display	1	
E7	RZAFB30N	Dial Chassis Ass'y	1	
E8	RDT2401Z	Shaft, Tuning	1	
E9	RDD700Z	Drum, Dial	1	

Ref. No.	Part No.	Part Name & Description	Per Set	Remarks
E10	RDS4170A	Spring, Dial	1	
E11	RDZ05Z	Cord, Dial (110cm)	1 ROLL	
E12	RJS2L1Z	Socket, 2P	7	
E13	RJS3L1Z	Socket, 3P	4	
E14	QJS1921TN	Socket, 3P	1	
E15	RJS8L1Z	Socket, 8P	1	
E16	RJP2G1Z	Plug, 2P	7	
E17	RJP3G1Z	Plug, 3P	4	
E18	QJP1921TN	Plug, 3P	1	
E19	RJP8G1Z	Plug, 8P	1	
E20	RJT462Z	Contact	33	
E21	QJT1054	Contact	2	
E22	RMR103Z	Angle, Tone	1	
E23	RZEFB30N	Polarization Plate Ass'y	1	
E24	RHR2014Z	Zebra	1	
E25	RHG223Z	Cushion, Display	1	
E26	RMW211Z	Angle, Band Switch	1	
E27	RJT202B	Terminal, Earth	3	
E28	RMY146Z	Heat Sink	1	
E29	RMC760Z	Shield Plate	1	
E30	RMC761Z	Shield Plate	1	
E31	RMC762Z	Shield Plate	1	
E32	RMC763Z	Shield Plate	1	
E33	RMC779Z	Shield Plate	1	
E34	RMW210Z	Angle, Switch	1	
E35	RHR108A	Wire Connector	2	⚠
E36	RJA9Y	Power Cord, AC	1	⚠
E37	RMC171Y	Shield Plate, IC	1	
E38	RMC764Z	Shield Plate	1	
E39	RMC765Z	Shield Plate	1	
E40	XSN3+6S	Screw	3	S
E41	XWA3B	Washer	3	S
E42	RUV293A	Cover, Antenna Switch	1	
E43	XTB3+6BFN	Screw	16	S
E44	XNS9	Nut	1	
E45	XSN26+5	Screw	1	S
E46	XWA26B	Screw	1	S
E47	XTV3+12G	Screw	14	
E48	XWT3	Washer	2	
E49	XTW3+12Q	Screw	4	
E50	XYER3+BG14	Screw	1	
E51	RMC781Z	Shield Plate	1	
E52	RMC782Y	Shield Plate	1	
E53	RMC807Z	Shield Plate	1	
E54	XTW3+6L	Screw	1	
E55	XWV9	Washer	1	S
		ACCESSORY		
A1	RQC9017Z	Belt	1	
		PACKING MATERIALS		
P1	RPK1162Z	Gift Box, for USA	1	
P1	RPK1218Z	Gift Box, for Canada	1	
P2	RPN3324Y	Pad, L, R Side	2	
P3	RPN3338Y	Pad, Rear	1	
P4	RPN3367Z	Spacer	1	
P5	XZB50X40A04	Poly Bag	1	S
		PRINTED MATERIALS		
Y1	RQX6758Z	Instruction Book, for USA	1	
Y1	RQX6806Z	Instruction Book, for Canada	1	