

Service Manual

Portable Stereo Component System

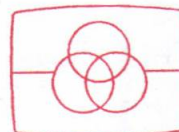
Radio Cassette
RX-CS710

Color

(K) Black Type

Area

Country Code	Area	Color
(E)	Continental Europe	(K)
(EB)	Great Britain	
(EG)	F.R. Germany/Italy	



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SG-20 MECHANISM SERIES

■ SPECIFICATIONS

General:

Power Requirement: AC; 230V, 50Hz...(E,EG)
230~240V, 50Hz...(EB)
Battery; 9V (Six UM-1 "D" Size Batteries)

Power Consumption: 15W (AC only)
Power Output: 20W (10W x 2)...PMPO

Speaker: Woofer; 12 cm PM Dynamic Speaker (2.7Ω) x 2
Tweeter; 2 cm Ceramic Speaker

Jacks: Input; CD/LINE IN; 398 mV, 47 kΩ
Output; EXT. SP; 2.7~8Ω

Dimensions: HEADPHONES; 32Ω, ø3.5
Total Size; 552(W)x199(H)x163(D) mm
Main Unit; 260(W)x199(H)x163(D) mm
Speaker Box; 150(W)x198(H)x154(D) mm

Weight: 3.2 kg without batteries

Radio Section:

Radio Frequency Range: FM; 87.5~108 MHz
LW; 148.5~285 kHz
MW; 520~1610 kHz
SW; 5.9~18 MHz

Intermediate Frequency: FM; 10.7 MHz
AM; 459 kHz

Sensitivity: FM; 5.6μV/50 mW output
(-3dB Limit Sens.)
LW; 250μV/m/50 mW output
MW; 280μV/m/50 mW output
SW; 16μV/50 mW output

Tape Deck Section:

Frequency Response: 70~9,000 Hz
Recording System: AC bias, Magnet erase
Tape Speed: 4.8 cm/s
Track System: 4-track 2-channel stereo recording and playback

Notes:

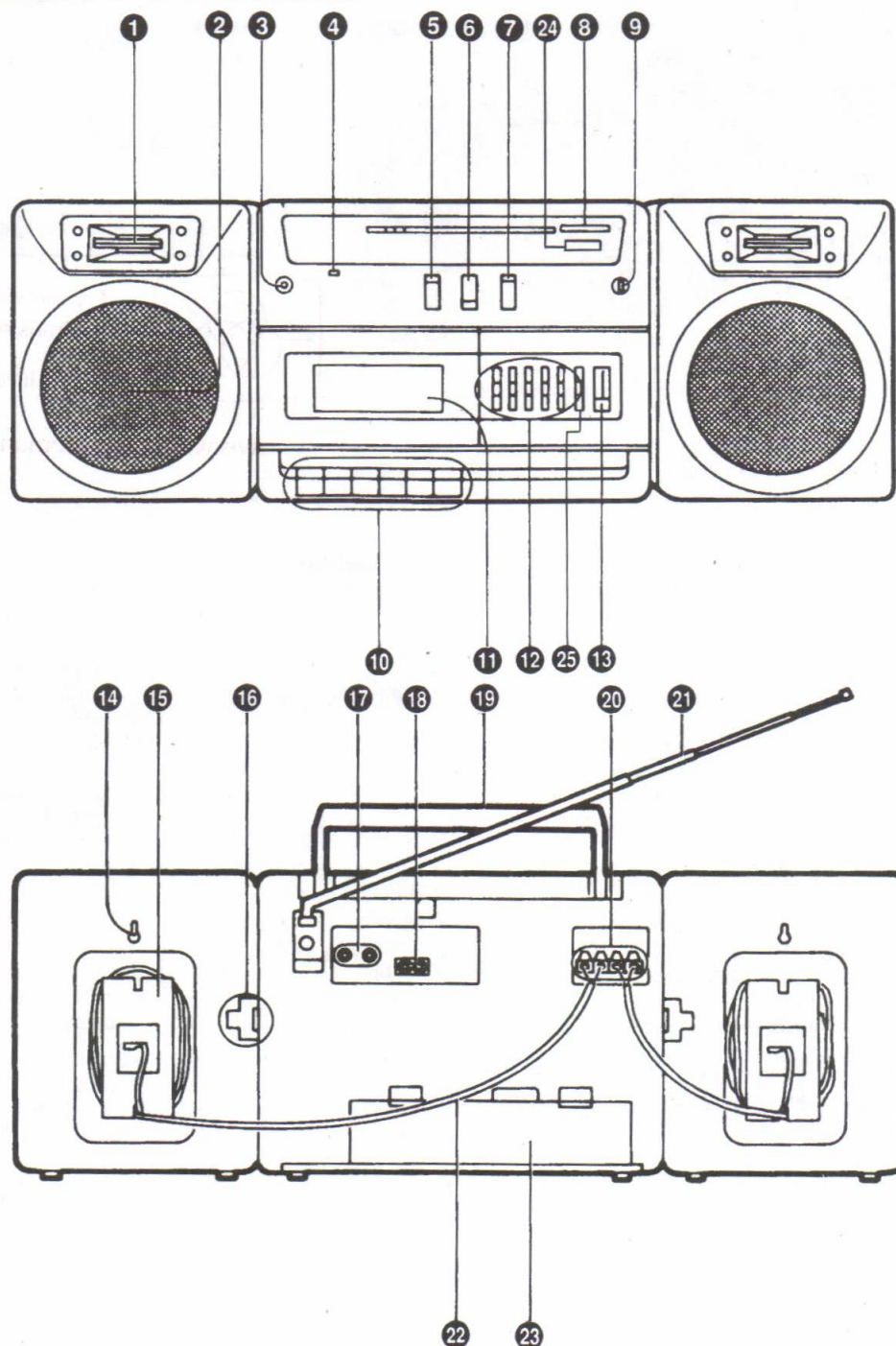
1. Weight and dimensions shown are approximate.
2. Design and specifications are subject to changes without notice.

Panasonic

■ CONTENTS

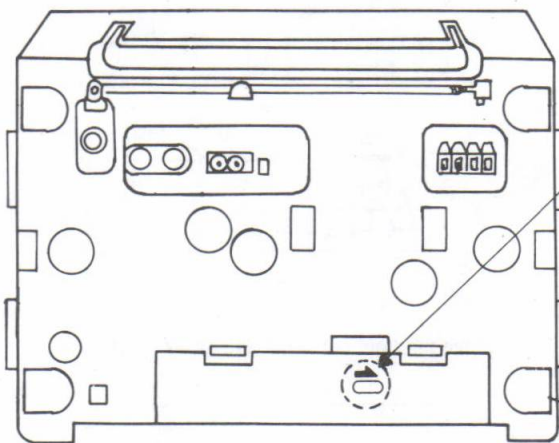
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■ LOCATION OF CONTROLS



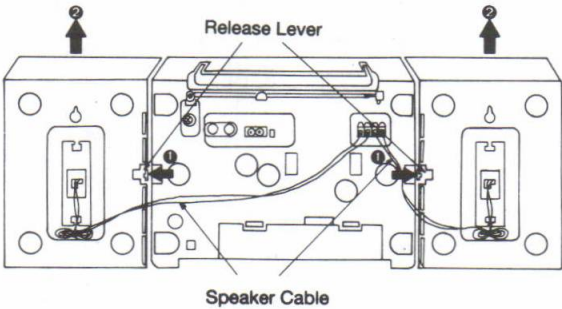
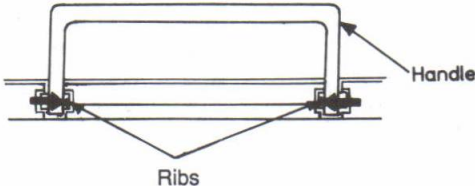
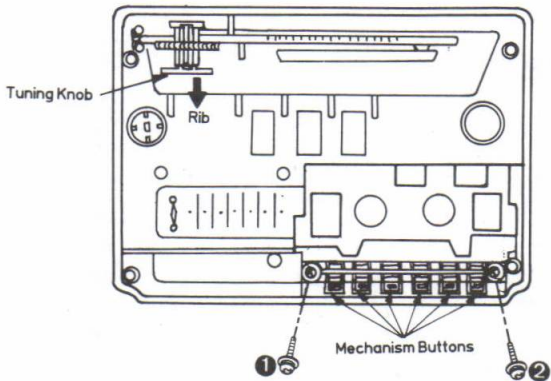
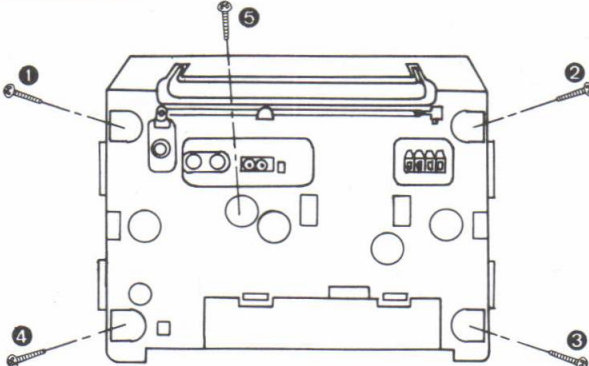
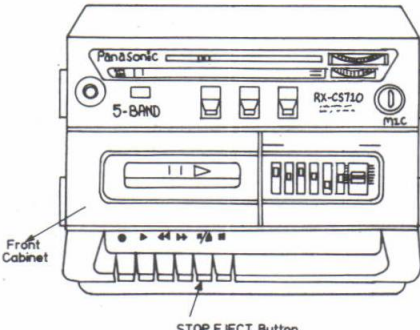
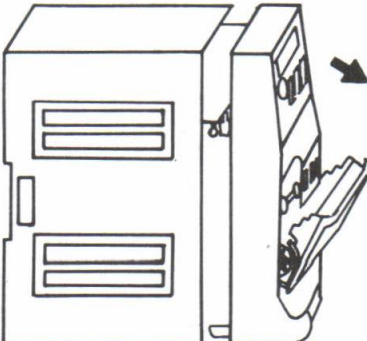
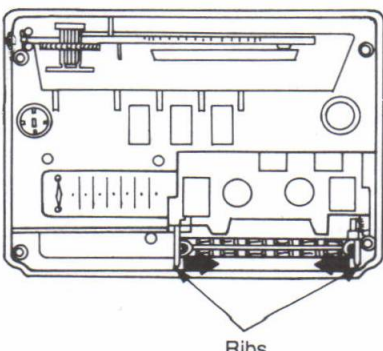
- | | | | |
|----|--|----|---|
| 1 | Speakers (Tweeter) | 11 | Cassette Compartment Cover |
| 2 | Speakers (Woofer) | 12 | Graphic Equalizer Controls (GRAPHIC EQUALIZER)
(10kHz, 3.3kHz, 1kHz, 330Hz, 100Hz) |
| 3 | Headphone Jack (PHONES) | 13 | Volume Control (VOLUME) |
| 4 | FM Stereo Indicator (FM STEREO) | 14 | Speaker Wall Mounts |
| 5 | FM Mode / Beat Proof Switch (FM MODE/B.P) | 15 | Speaker Cable Compartments |
| 6 | Function Selector (SELECTOR)
(<u>CD</u> /LINE, RADIO, TAPE/ <u>OFF</u>) | 16 | Speaker Release Levers (RELEASE) |
| 7 | Band Selector (BAND) (FM,LW, MW, SW) | 17 | CD/LINE input Jacks (CD/LINE IN) |
| 8 | Tuning Control (TUNING) | 18 | AC Socket (AC IN~) |
| 9 | Built-in Microphone (MIC) | 19 | Handle |
| 10 | Deck Controls (REC/PLAY) | 20 | Speaker Terminal [Speakers (Imp 2.7~8Ω)] |
| | Record Button (● <u>RECORD</u>) | 21 | Telescopic Antenna |
| | Playback Button (▶ PLAY) | 22 | Speaker Cable |
| | Rewind/Review Button (◀◀ REW/REV) | 23 | Battery Compartment Cover |
| | Fast Forward/Cue Button (▶▶ FF/CUE) | 24 | Fine Tuning Control (FINE TUNING) |
| | Stop/Eject Button (■▲ STOP/EJECT) | 25 | Balance Control (BALANCE) |
| | Pause Button (PAUSE) | | |

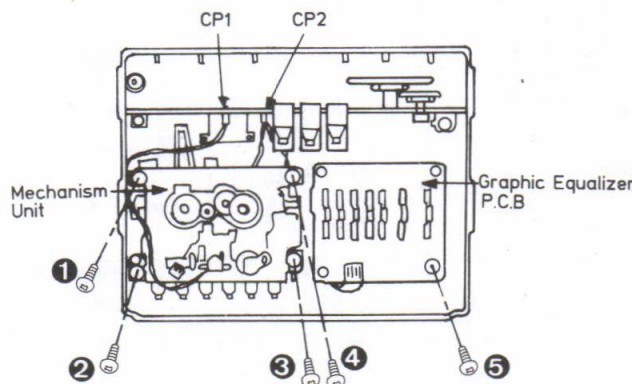
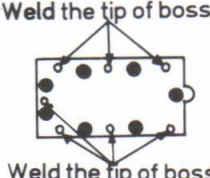
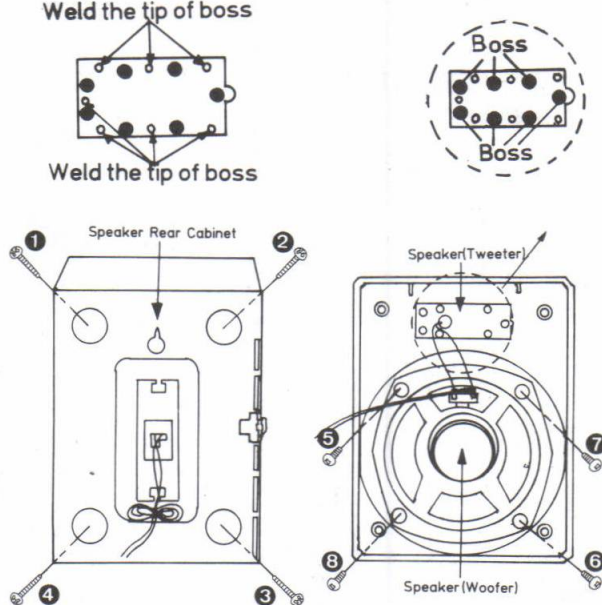
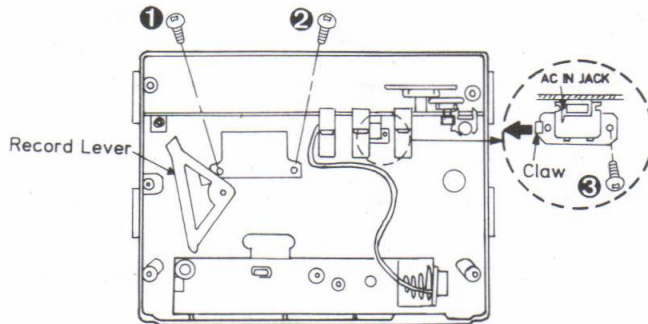
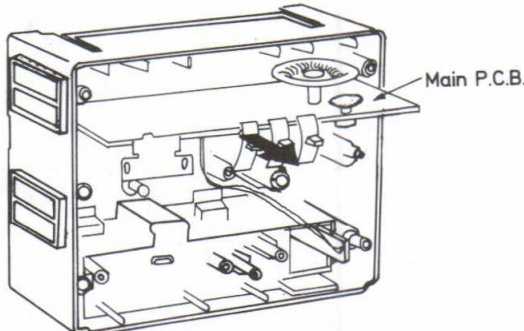
■ WHAT TO DO WHEN THE TAPE IS ENTANGLED



When the tape is caught in the pinch roller, etc. release the tape by turning the pulley on the motor with the screwdriver in the direction of the arrow.

DISASSEMBLY INSTRUCTIONS

Ref. No. 1	Detaching the Speaker Box	Ref. No. 2	Removal of the Handle
Procedure 1	1. Press the release lever in the direction of arrow ① 2. Lift up the speaker box in the direction of arrow ②	Procedure 1 → 2	1. Push the 2 ribs in the direction of arrow. 2. Slide out the handle.
			
Ref. No. 3	Removal of the Tuning Knob and Mechanism Button	Ref. No. 3	Removal of the Front Cabinet
Procedure 1 → 3 → 4	[Tuning Knob] • Push the rib in the direction of arrow. [Mechanism Button] • Remove the 2 screws (①, ②).	Procedure 1 → 3	1. Remove 5 screws (① ~ ⑤)
		 2. Press the STOP/EJECT button.	
Ref. No. 5	Removal of Cassette Compartment	 3. Remove the front cabinet in the direction of arrow.	
Procedure 1 → 3 → 5	• Release the ribs in the direction of arrow.		
			

Ref. No. 6	Removal of the Mechanism Unit and Graphic Equalizer P.C.B.	Ref. No. 7	Removal of the Speaker Rear Cabinet, Speaker (Woofer) and Speaker(Tweeter)
Procedure 1 → 3 → 6	[Mechanism Unit] 1. Remove the 4 screws (①~④) 2. Remove the 2 connectors (CP1,CP2) [Graphic Equalizer P.C.B.] • Remove the 1 screw (⑤) 	Procedure 7	[Speaker Rear Cabinet] [Speaker (Woofer)] [Speaker (Tweeter)] • Remove the 4 screws (①~④). • Remove the 4 screws (⑤~⑧). • Cut the tip of boss. • When replacing the tweeter, attach the tweeter to the speaker cabinet by welding it to the remainder of the boss. Weld the tip of boss  
Ref. No. 8	Removal of the Main P.C.B.		
Procedure 1 → 3 → 6 → 8	1.Remove the record lever. 2.Remove the 3 screws (①~③). 3.Release the claw in the direction of arrow. 4. Pull out the main P.C.B.  		

■ SW-RF ALIGNMENT

SIGNAL GENERATOR or SWEEP GENERATOR		RADIO DIAL SETTING	INDICATOR (ELECTRONIC AC VOLTMETER or SCOPE)	ADJUSTMENT	REMARKS
CONNECTIONS	FREQUENCY				
Connect to test point TP1 through ceramic capacitor (10pF) Negative side to test point TP2 .	5.75MHz	Tuning capacitor fully closed.	Output meter across voice coil.	L9 (SW OSC Coil)	Adjust for maximum output.
"	18.8MHz	Tuning capacitor fully open.	"	CT7 (SW OSC Trimmer)	"
"	5.9MHz	Tuning to signal.	"	L6 (SW ANT Coil)	Adjust for maximum output.

■ FM-IF ALIGNMENT

SIGNAL GENERATOR or SWEEP GENERATOR		RADIO DIAL SETTING	INDICATOR (ELECTRONIC AC VOLTMETER or SCOPE)	ADJUSTMENT	REMARKS
CONNECTIONS	FREQUENCY				
Connect to test point TP7 through ceramic capacitor (0.001μF) Negative side to test point TP2 .	10.7MHz (SWEEP)	Point of interference (on/about 90MHz)	Connect vert. amp. scope to test point TP3 . Negative side to test point TP2 .	T1 (FM 1st)	Adjust for maximum amplitude. (Refer to Fig. 2.)
"	"	"	"	T3 (FM 2nd)	Adjust for maximum amplitude. (Refer to Fig. 3.)

■ FM-RF ALIGNMENT

Connect to test point TP1 through FM dummy antenna. Negative side to test point TP2 .	86.2MHz... (E/EB) 87.35±0.05MHz ... (EG)	Variable capacitor fully closed.	Headphones Jack (32Ω) Fabricate the plug as shown in Fig. 4 and then connect the lead wires of the plug to the measuring instrument.	L10 (FM OSC coil)	(*2) Adjust for maximum output.
"	109.2MHz ... (E/EB) 108.3±0.05MHz ... (EG)	Variable capacitor fully open.	"	CT2 (FM OSC Trimmer)	"
"	106MHz	Tune to signal	"	CT1 (FM ANT Trimmer)	"

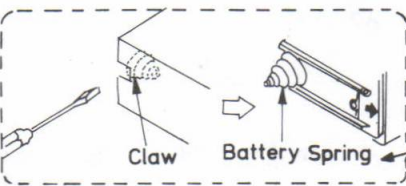
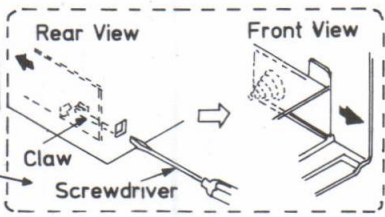
(*2) Three output responses will be present; proper tuning is the center frequency.

■ FM-RF ALIGNMENT

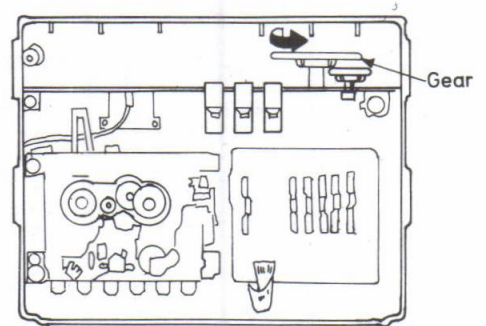
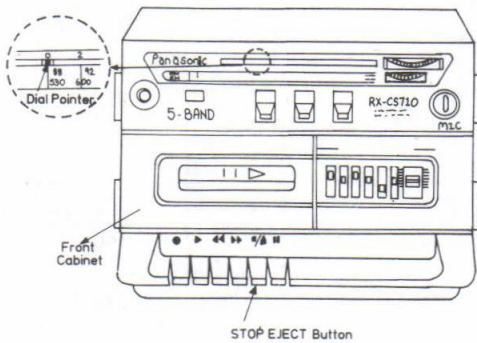
FM SIGNAL GENERATOR SOURCE CONNECTION	EQUIPMENT CONNECTION ELECTRONIC COUNTER	ADJUSTMENT	SPECIFICATION	REMARKS
98MHz, 60dB (CW) Connect to test point TP1 through FM dummy antenna. Negative side to TP2 .	TP6 (+) TP5 (-)	VR1	19kHz	Adjust VR1, for 19kHz±50Hz reading on frequency counter.

■ HEAD AZIMUTH ALIGNMENT

TEST TAPE	EQUIPMENT CONNECTION ELECTRONIC COUNTER	ADJUSTMENT	SPECIFICATION	REMARKS
QZZCFM (8kHz, -20dB)	Headphones Jack (32Ω) Fabricate the plug as shown in Fig. 4 and then connect the lead wires of the plug to the measuring instrument.	Azimuth screw (Shown in Fig. 5)	Maximum output	• Playback mode.

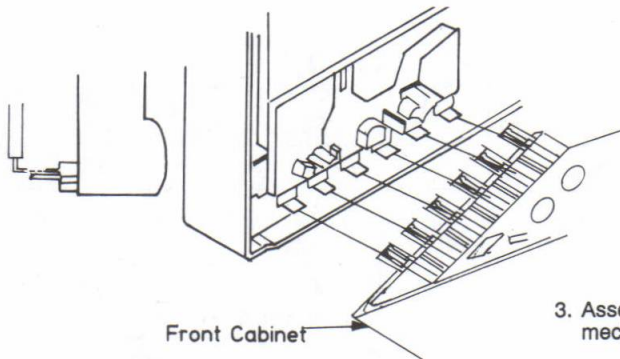
Ref. No. 9	Removal of the Battery P.C.B. and Battery Spring
Procedure 1 → 3 → 6 → 9	(Battery Spring) 1. Release the claw. 2. Pull out the battery spring.  (Battery Spring) 1. Release the claw in the direction of arrow. 2. Pull out the battery P.C.B. 

FRONT CABINET ASSEMBLY



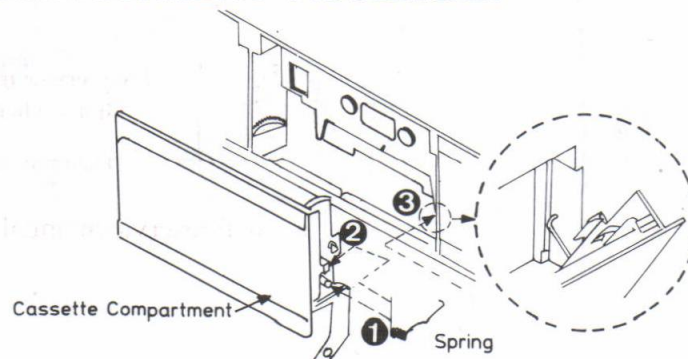
1. Line up the dial pointer in the front cabinet assembly with the "0" point graduation as shown in figure.

2. Turn the gear on the main P.C.B. all the way in the direction of arrow.



3. Assemble the front cabinet match mechanism button and mechanism lever.

CASSETTE COMPARTMENT ASSEMBLY



MEASUREMENTS AND ADJUSTMENTS

■ ALIGNMENT INSTRUCTIONS

READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

1. Set function selector to radio.
2. Set volume control to maximum.
3. Set FM mode selector to FM ST.
4. Set band switch to MW, LW, SW, or FM.
5. Set fine tuning to center.
6. Set graphic equalizer to center.
7. Set power source voltage to 9V DC.
8. Output of signal generator should be no higher than necessary to obtain an output reading.

■ MW-IF ALIGNMENT

SIGNAL GENERATOR or SWEEP GENERATOR		RADIO DIAL SETTING	INDICATOR (ELECTRONIC VOLTMETER or OSCILLOSCOPE)	ADJUSTMENT	REMARKS
CONNECTIONS	FREQUENCY				
Fashion a loop of several turns of wire and radiate a signal into the loop ant. of receiver.	455 kHz 30% Mod. at 400 Hz	Point of non-interference. (on/about 600 kHz)	Headphones Jack (32Ω) (Fabricate the plug as shown in Fig. 4 and then connect the lead wires of the plug to the measuring instrument.)	T2 (MW IFT)	Adjust for maximum output.

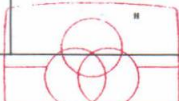
■ LW-RF ALIGNMENT

Fashion loop of several turns of wire and radiate signal into loop of receiver	136kHz... (E/EB) 137±4kHz... (EG)	Tuning capacitor fully closed.	Output meter across voice coil	L7 (LW OSC Coil)	Adjust for maximum output
"	297kHz... (E/EB) 297±4kHz... (EG)	Tuning capacitor fully open.	"	CT6 (LW OSC Trimmer)	"
"	145kHz	Tune to signal	"	(*1)L3-2 (LW ANT Coil)	Adjust for maximum output. Adjust L3-2 by moving coil bobbin along ferrite core.
"	285kHz	"	"	CT5 (LW ANT Trimmer)	Adjust for maximum output.

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

■ MW-RF ALIGNMENT

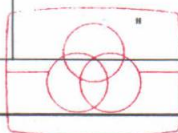
BAND	SIGNAL GENERATOR or SWEEP GENERATOR		RADIO DIAL SETTING	INDICATOR (ELECTRONIC AC VOLTMETER or SCOPE)	ADJUSTMENT	REMARKS
	CONNECTIONS	FREQUENCY				
MW-RF ALIGNMENT						
MW	"	511kHz (E/EB) 514±3kHz...(EG)	Tuning capacitor fully closed.	"	L8 (MW OSC Coil)	Adjust for maximum output.
MW	"	1650kHz...(E/EB) 1639±5kHz...(EG)	Tuning capacitor fully open.	"	CT4 (MW OSC Trimmer)	"
MW	"	550kHz	Tune to signal.	"	(*1) L3-1 (MW ANT Coil)	Adjust for maximum output. Adjust L3-1 by moving coil along ferrite core.
MW	"	1,500kHz	"	"	CT3 (MW ANT Trimmer)	Adjust for maximum output.



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(*1) Fix antenna Coil with wax after completing alignment.

(*1) Fix antenna Coil with wax after completing alignment.



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■ TAPE SPEED ADJUSTMENT

TEST TAPE	EQUIPMENT CONNECTION ELECTRONIC COUNTER	ADJUSTMENT	SPECIFICATION	REMARKS
QZZCWAT (3kHz)	Headphones Jack (32Ω) (Fabricate the plug as shown in Fig. 4 and then connect the lead wires of the plug to the measuring instrument.)	Motor VR (Shown in Fig. 6)	3000±90Hz	1. Playback mode. 2. Adjust motor VR, for 3000±90Hz reading on frequency counter.

■ ALIGNMENT POINT

- Please refer to Circuit Board and Wiring Connection Diagram for test point locations.

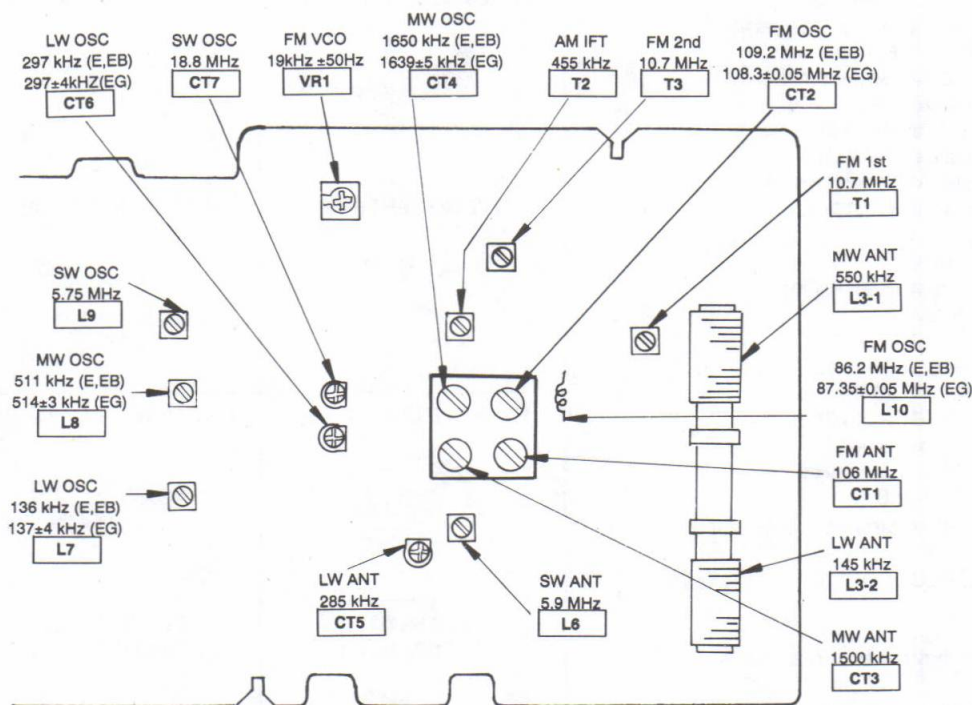


FIG.1

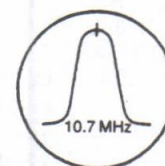


Fig. 2

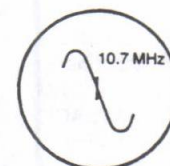


Fig. 3

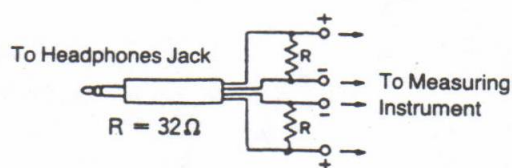


Fig. 4

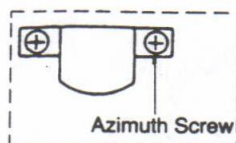


Fig. 5

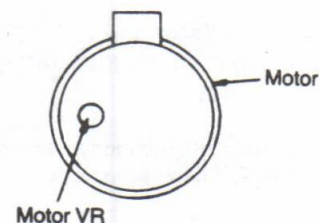


Fig. 6

■ SCHEMATIC DIAGRAM

Notes:

1. S1-1 ~ S1-2: FM Mode Selector/Beat Proof switch in "FM MONO/ I" position.
(M....FM/MONO/I, H....HIGH, N....NORMAL)
2. S2-1~S2-8: Band Selector switch in "FM" position.
(F....FM, L....LW, M....MW, S....SW).
3. S3-1~S3-4: Function selector switch in "TAPE/POWER OFF" position.
(T...TAPE/POWER OFF R...RADIO, L....CD/LINE)
4. S4-1~S4-6: Record/Playback selector switch in "PLAYBACK" position.
(P...PLAYBACK, R...RECORD)
5. S5: AC/DC selector switch in "AC" position.
6. S6: Motor switch in "OFF" position.
7. VR1: FM MPX VCO Adjustment VR.
8. VR301-1, VR301-2: Graphic equalizer VR (100Hz).
9. VR302-1, VR302-2: Graphic equalizer VR (330Hz).
10. VR303-1, VR303-2: Graphic equalizer VR (1kHz).
11. VR304-1, VR304-2: Graphic equalizer VR (3.3kHz).
12. VR305-1, VR305-2: Graphic equalizer VR (10kHz).
13. VR306: Balance control VR
14. VR307-1, VR307-2: Volume control VR
15. Battery current:
Vol. min.... **60mA** (Radio...FM)
130mA (PLAYBACK)
130mA (FM RECORDING)
Vol. max.... **450mA** (Radio...FM)
700mA (PLAYBACK)
530mA (FM RECORDING)
Measurement instruction
Radio: FM 60dB, 30% Mod.
Tape: 315Hz, 0dB
16. DC voltage measurement is taken with electronics voltmeter from negative terminal of battery.
< > ... FM () ... AM, [] ... RECORD.
No mark PLAYBACK
Important safety notice.
Components identified by $\triangle$ mark have special characteristics important safety.
When replacing any of these components, use only manufacturer's specified parts.

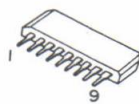
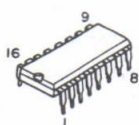
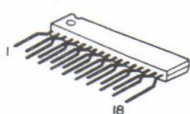
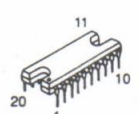
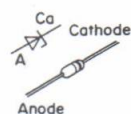
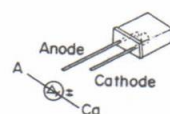
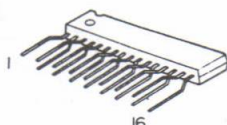
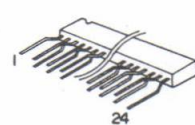
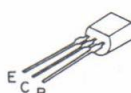
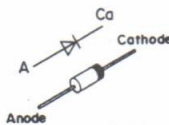


- This schematic diagram may be modified at any time with the development of new technology.

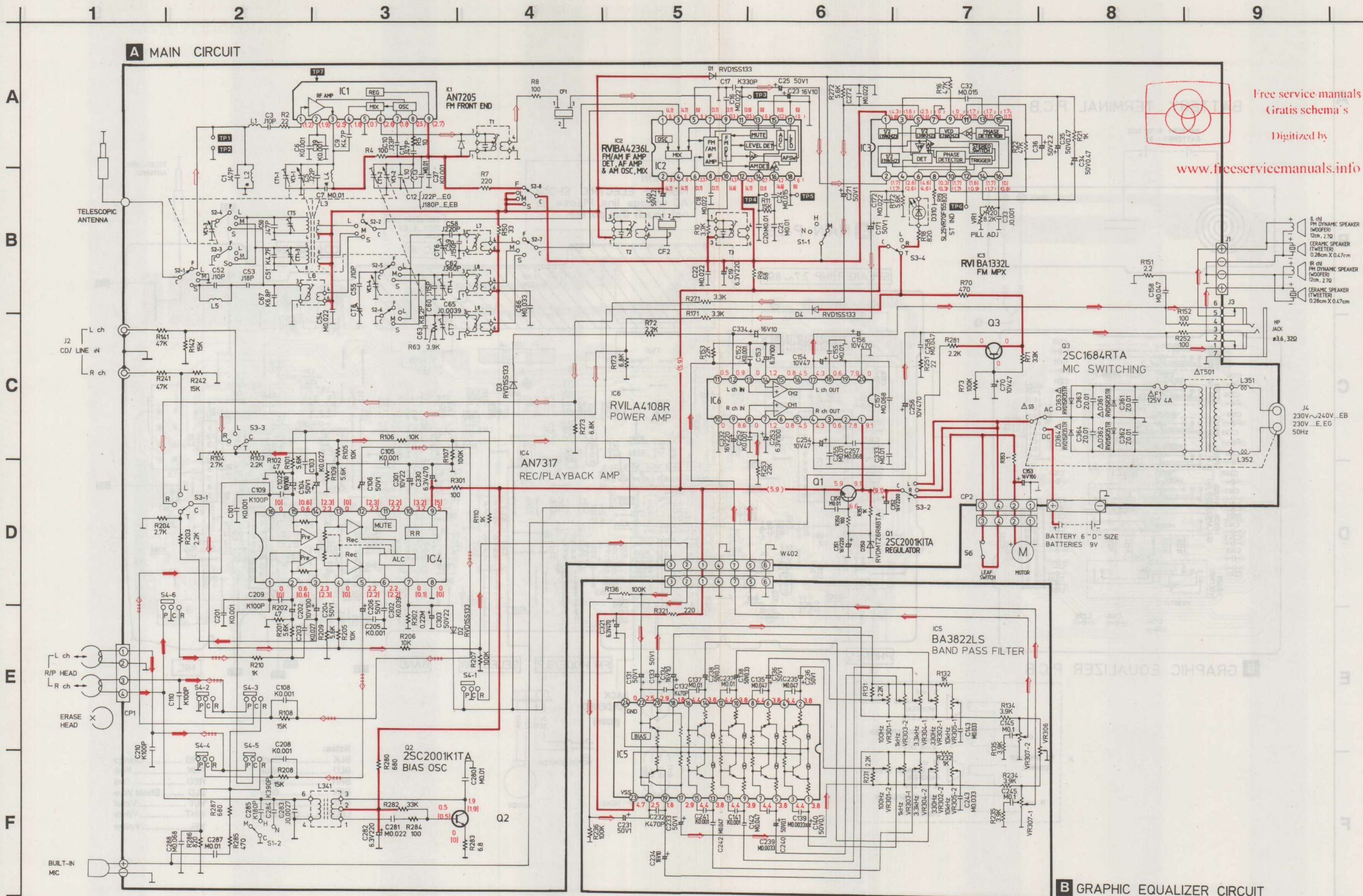
Caution!

- IC and LSI are sensitive to static electricity.
Secondary trouble can be provided by taking care during repair.
- Cover the parts boxes made of plastics with aluminium foil.
 - Ground the soldering iron.
 - Put a conductive mat on the work table.
 - Do not touch the pins of the IC or LSI with fingers directly.

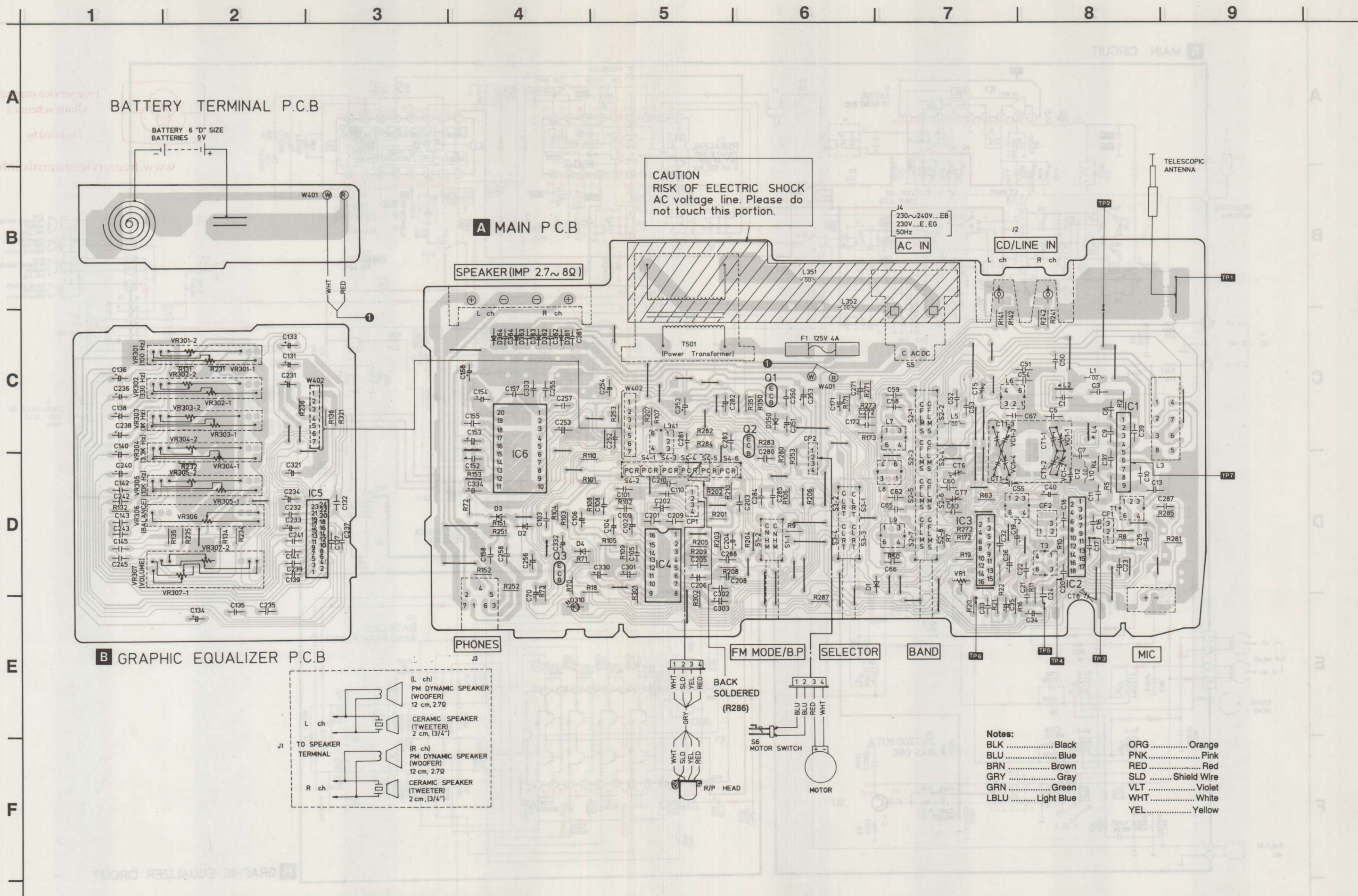
■ TERMINAL GUIDE OF IC's, TRANSISTORS AND DIODES

AN7205 9 PIN 	AN7317 16 PIN 
RVIBA4236L 18 PIN 	RVILA4108R 20 PIN 
RVDMTZ6R8BTA 	SL25VR70F155 
RVIBA1332L 16 PIN 	RVIBA3822LS 24 PIN 
2SC1684RTA 2SC2001KTA 	RVD1SR133TA RVD1SR35TR 

■ **SCHEMATIC DIAGRAM** (SEE PARTS LIST ON PAGE 15, 16, 21, 22)



CIRCUIT BOARD AND WIRING CONNECTION DIAGRAM



RESISTORS & CAPACITORS

Notes: * Capacitance values are in microfarads (μF) unless specified otherwise, P=Pico-farads (pF) F=Farads (F)

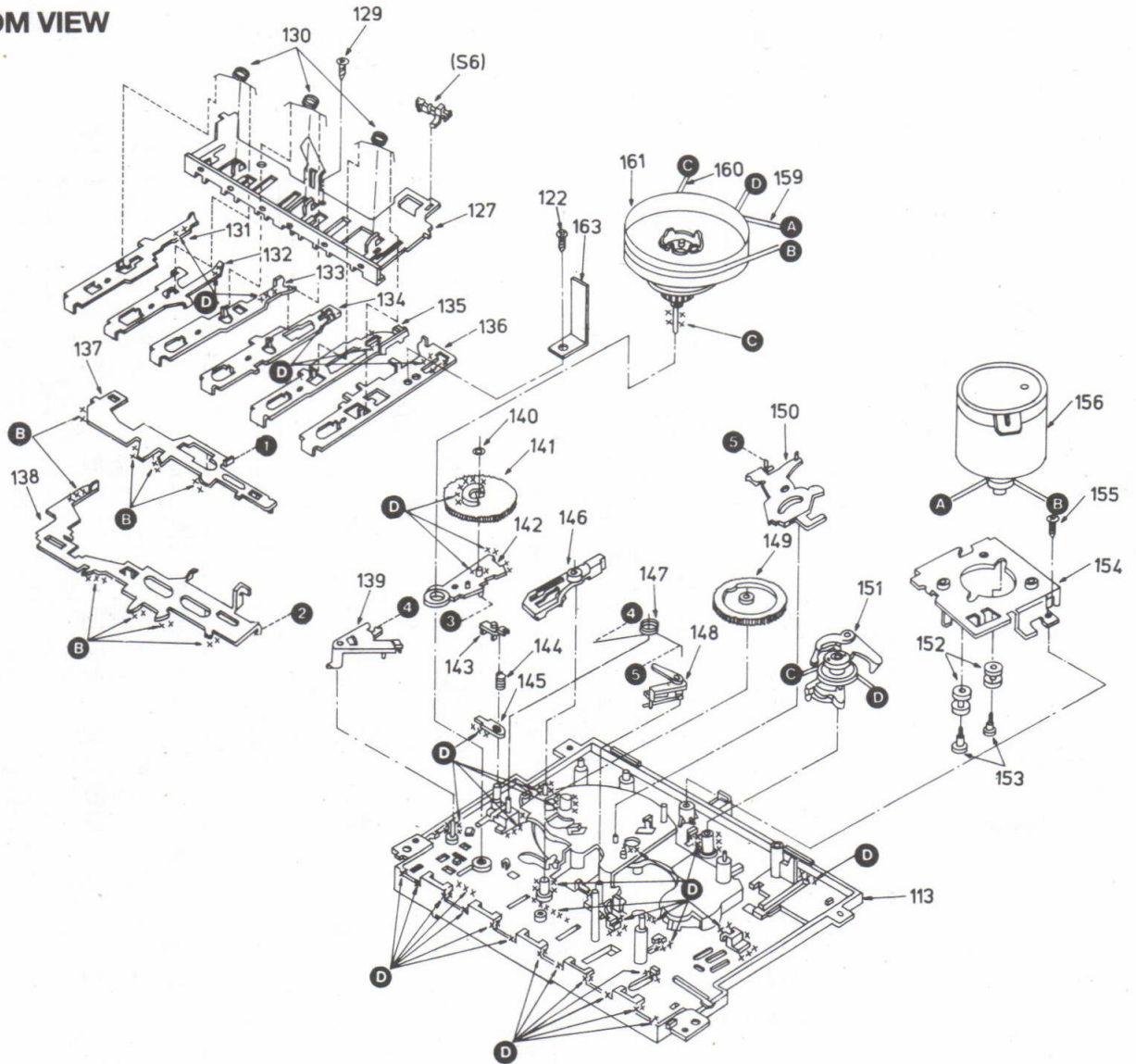
* Resistance values are in ohms, unless specified otherwise, 1K=1,000(OHM), 1M=1,000K (OHM)

* Bracketed indications in Ref. No. columns specify the area (Refer to the first page for area).

Parts without these indication can be used for all areas.

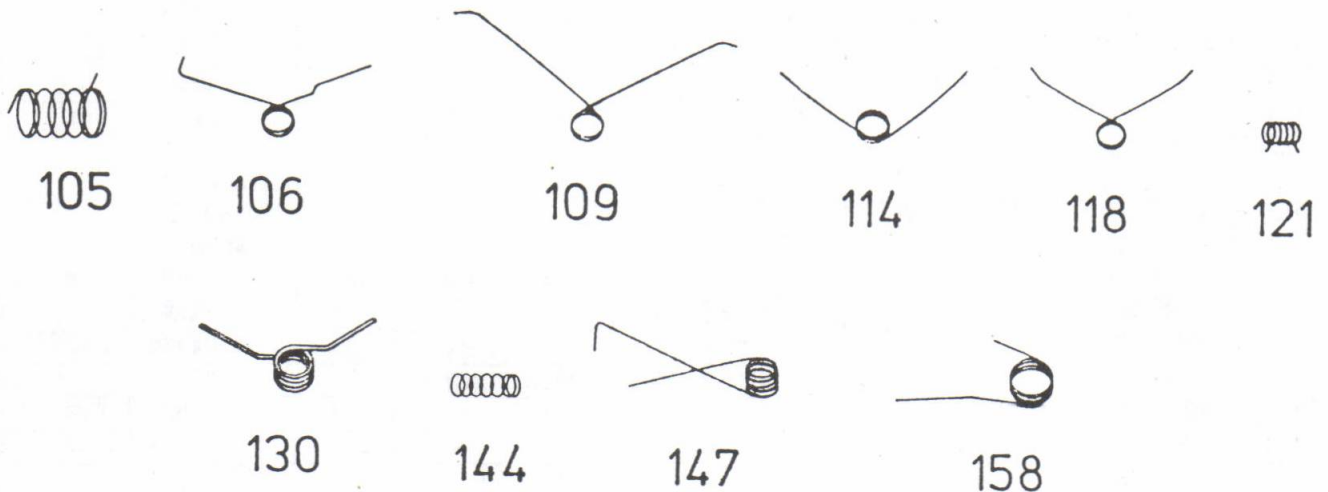
Ref. No.	Part No.	Values & Remarks	Ref. No.	Part No.	Values & Remarks	Ref. No.	Part No.	Values & Remarks
	RESISTORS							
R2	ERDS2TJ220T	22 1/4W	R201	ERDS2TJ562T	5.6K 1/4W	C10	ECBT1H330J5	33P 50V
R4	ERDS2TJ101T	100 1/4W	R202	ERDS2TJ470T	47 1/4W	C11	ECBT1H470J5	47P 50V
R5	ERDS2TJ100T	10 1/4W	R203	ERDS2TJ222T	2.2K 1/4W	C12	ECBT1H220JC5	22P 50V(EG)
R7	ERDS2TJ221T	220 1/4W	R204	ERDS2TJ272T	2.7K 1/4W	C12	ECBT1H180JC5	18P 50V(E,EB)
R8	ERDS2TJ101T	100 1/4W	R205	ERDS2TJ103T	10K 1/4W	C13	ECBT1C103MS5	0.01 16V
R9	ERDS2TJ680T	68 1/4W	R206	ERDS2TJ103T	10K 1/4W	C16	ECBT0J223NS5	0.022 6.3V
R10	ERDS2TJ332T	3.3K 1/4W	R207	ERDS2TJ104T	100K 1/4W	C17	ECBT1H331KB5	330P 50V
R11	ERDS2TJ153T	15K 1/4W	R208	ERDS2TJ153T	15K 1/4W	C18	ECBT0J223NS5	0.022 6.3V
R16	ERDS2TJ472T	4.7K 1/4W	R209	ERDS2TJ562T	5.6K 1/4W	C19	ECEA0JU221B	220 6.3V
R18	ERDS2TJ821T	820 1/4W	R210	ERDS2TJ102T	1K 1/4W	C20	ECBT1C103MS5	0.01 16V
R19	ERDS2TJ821T	820 1/4W	R231	ERDS2TJ222T	2.2K 1/4W	C21	ECBT1C103MS5	0.01 16V
R20	ERDS2TJ822T	8.2K 1/4W	R232	ERDS2TJ102T	1K 1/4W	C22	ECBT0J223NS5	0.022 6.3V
R21	ERDS2TJ102T	1K 1/4W	R234	ERDS2TJ392T	3.9K 1/4W	C23	ECEA1CU100B	10 16V
R22	ERDS2TJ473T	47K 1/4W	R235	ERDS2TJ392T	3.9K 1/4W	C24	ECBT0J153MS5	0.015 6.3V
R50	ERDS2TJ330T	33 1/4W	R236	ERDS2TJ104T	100K 1/4W	C25	ECEA1HU010B	1 50V
R63	ERDS2TJ392T	3.2K 1/4W	R241	ERDS2TJ473T	47K 1/4W	C32	ECBT0J153MS5	0.015 6.3V
R70	ERDS2TJ471T	470 1/4W	R242	ERDS2TJ153T	15K 1/4W	C33	ECQP2A102JZT	0.001 100V
R71	ERDS2TJ333T	33K 1/4W	R251	ERDS2TJ2R2T	2.2 1/4W	C34	ECEA1HUR47B	0.47 50V
R72	ERDS2TJ222T	2.2K 1/4W	R252	ERDS2TJ101T	100 1/4W	C35	ECEA1HUR47B	0.47 50V
R73	ERDS2TJ104T	100K 1/4W	R253	ERDS2TJ223T	22K 1/4W	C36	ECEA1HU2R2B	2.2 50V
R101	ERDS2TJ562T	5.6K 1/4W	R271	ERDS2TJ332T	3.3K 1/4W	C37	ECBT1H102KB5	0.001 50V
R102	ERDS2TJ470T	47 1/4W	R272	ERDS2TJ562T	5.6K 1/4W	C39	ECBT1H102KB5	0.001 50V
R103	ERDS2TJ222T	2.2K 1/4W	R273	ERDS2TJ682T	6.8K 1/4W	C40	ECEA1HU2R2B	2.2 50V
R104	ERDS2TJ272T	2.7K 1/4W	R280	ERDS2TJ681T	680 1/4W	C50	ECBT1H470J5	47P 50V
R105	ERDS2TJ103T	10K 1/4W	R281	ERDS2TJ222T	2.2K 1/4W	C51	ECBT1H47K5	4.7P 50V
R106	ERDS2TJ103T	10K 1/4W	R282	ERDS2TJ333T	33K 1/4W	C52	ECBT1H100JC5	10P 50V
R107	ERDS2TJ104T	100K 1/4W	R283	ERDS2TJ688T	6.8 1/4W	C53	ECBT1H180JC5	18P 50V
R108	ERDS2TJ153T	15K 1/4W	R284	ERDS2TJ101T	100 1/4W	C54	ECBT0J223NS5	0.022 6.3V
R109	ERDS2TJ562T	5.6K 1/4W	R285	ERDS2TJ471T	470 1/4W	C55	ECBT1H100JC5	10P 50V
R110	ERDS2TJ102T	1K 1/4W	R286	ERDS2TJ821T	820 1/4W	C58	ECQP2A221JZT	220P 100V
R131	ERDS2TJ222T	2.2K 1/4W	R287	ERDS2TJ681T	680 1/4W	C59	ECQP2A151JZT	150P 100V
R132	ERDS2TJ102T	1K 1/4W	R301	ERDS2TJ101T	100 1/4W	C60	ECBT1H150JC5	15P 50V
R134	ERDS2TJ392T	3.9K 1/4W	R302	ERDS2TJ225T	2.2M 1/4W	C62	ECQP2A361JZT	360P 100V
R135	ERDS2TJ392T	3.9K 1/4W	R321	ERDS2TJ221T	220 1/4W	C63	ECBT1H8R2KC5	8.2P 50V
R136	ERDS2TJ104T	100K 1/4W	R350	ERDS2TJ101T	100 1/4W	C65	ECQP1392JZ	0.0039 100V
R141	ERDS2TJ473T	47K 1/4W	R351	ERDS2TJ102T	1K 1/4W	C66	ECFR1C333MR	0.033 16V
R142	ERDS2TJ153T	15K 1/4W	R353	ERDS2TJ1R0T	1 1/4W	C67	ECBT1H6R8KC5	6.8P 50V
R151	ERDS2TJ2R2T	2.2 1/4W				C70	ECEA1AU470B	47 10V
R152	ERDS2TJ101T	100 1/4W		CAPACITORS		C101	ECBT1H102KB5	0.001 50V
R153	ERDS2TJ223T	22K 1/4W				C102	ECEA1AU101B	100 10V
R171	ERDS2TJ332T	3.3K 1/4W	C1	ECBT1H470J5	47P 50V	C103	ECFR1C273KR	0.027 16V
R172	ERDS2TJ562T	5.6K 1/4W	C3	ECBT1H100JC5	10P 50V	C104	ECEA1HU010B	1 50V
R173	ERDS2TJ682T	6.8K 1/4W	C5	ECBT1H220J5	22P 50V	C105	ECBT1H102KB5	0.001 50V
			C6	ECBT1H102KB5	0.001 50V	C106	ECEA1HU010B	1 50V
			C7	ECBT1C103MS5	0.01 16V	C108	ECBT1H102KB5	0.001 50V
			C9	ECBT1H47K5	4.7P 50V	C109	ECBT1H101KB5	100P 50V

BOTTOM VIEW



■ SPRING ILLUSTRATION

The illustration shows the actual size of the springs so it can be used to check their shapes.
(The illustration shows the springs separated from the mechanism.)



Ref. No.	Part No.	Values & Remarks
C110	ECBT1H101KB5	100P 50V
C131	ECEA1HU010B	1 50V
C132	ECBT1H471KB5	470P 50V
C133	ECEA1HU010B	1 50V
C134	ECEA1CU100B	10 16V
C135	ECFR1C473MR	0.047 16V
C136	ECEA1HU010B	1 50V
C137	ECBT1C103MS5	0.01 16V
C138	ECEA1HUR33B	0.33 50V
C139	ECBT1C332MR5	0.0033 16V
C140	ECEA1HU0R1B	0.1 50V
C141	ECBT1H102KB5	0.001 50V
C142	ECFR1C473MR	0.047 16V
C143	ECFR1C333MR	0.033 16V
C145	ECFR1C104MR	0.1 16V
C152	ECBT1H102KB5	0.001 50V
C153	ECEA0JU101B	100 6.3V
C154	ECEA1AU470B	47 10V
C155	ECKR1H103MD5	0.01 50V
C156	ECEA1AU471B	470 10V
C157	ECFR1C683MR	0.068 16V
C158	ECFR1C473MR	0.047 16V
C171	ECEA1HU010B	1 50V
C172	ECBT0J223NS5	0.022 6.3V
C201	ECBT1H102KB5	0.001 50V
C202	ECEA1AU101B	100 10V
C203	ECFR1C273KR	0.027 16V

Ref. No.	Part No.	Values & Remarks
C204	ECEA1HU010B	1 50V
C205	ECBT1H102KB5	0.001 50V
C206	ECEA1HU010B	1 50V
C208	ECBT1H102KB5	0.001 50V
C209	ECBT1H101KB5	100P 50V
C210	ECBT1H101KB5	100P 50V
C231	ECEA1HU010B	1 50V
C232	ECBT1H471KB5	470P 50V
C233	ECEA1HU010B	1 50V
C234	ECEA1CU100B	10 16V
C235	ECFR1C473MR	0.047 16V
C236	ECEA1HU010B	1 50V
C237	ECBT1C103MS5	0.01 16V
C238	ECEA1HUR33B	0.33 50V
C239	ECBT1C332MR5	0.0033 16V
C240	ECEA1HU0R1B	0.1 50V
C241	ECBT1H102KB5	0.001 50V
C242	ECFR1C473MR	0.047 16V
C243	ECFR1C333MR	0.033 16V
C245	ECFR1C104MR	0.1 16V
C252	ECBT1H102KB5	0.001 50V
C253	ECEA0JU101B	100 6.3V
C254	ECEA1AU470B	47 10V
C255	ECKR1H103MD5	0.01 50V
C256	ECEA1AU471B	470 10V
C257	ECFR1C683MR	0.068 16V
C258	ECFR1C473MR	0.047 16V

Ref. No.	Part No.	Values & Remarks
C271	ECEA1HU010B	1 50V
C272	ECBT0J223NS5	0.022 6.3V
C280	ECBT1C103MS5	0.01 16V
C281	ECFR1C223MR	0.022 16V
C282	ECEA0JU221B	220 6.3V
C283	ECQP1272JZ	0.0027 100V
C284	ECKR1H391KB5	390P 50V
C285	ECKR1H181KB5	180P 50V
C287	ECBT1C103MS5	0.01 16V
C288	ECFR1C683MR	0.068 16V
C301	ECEA1AU220B	22 10V
C302	ECFR1E393KR	0.039 25V
C303	ECEA1HU220B	22 50V
C321	ECEA0JU471B	470 6.3V
C330	ECEA0JU471B	470 6.3V
C332	ECEA1CU221B	220 16V
C333	ECKR1H103MD5	0.01 50V
C334	ECEA1CU100B	10 16V
C350	ECFR1C103MR	0.01 16V
C351	ECEA1CU221B	220 16V
C352	ECEA1CU222E	2200 16V
C353	ECEA1CU101B	100 16V
C361	ECKR1H103ZF5	0.01 50V
C362	ECKR1H103ZF5	0.01 50V
C363	ECKR1H103ZF5	0.01 50V
C364	ECKR1H103ZF5	0.01 50V

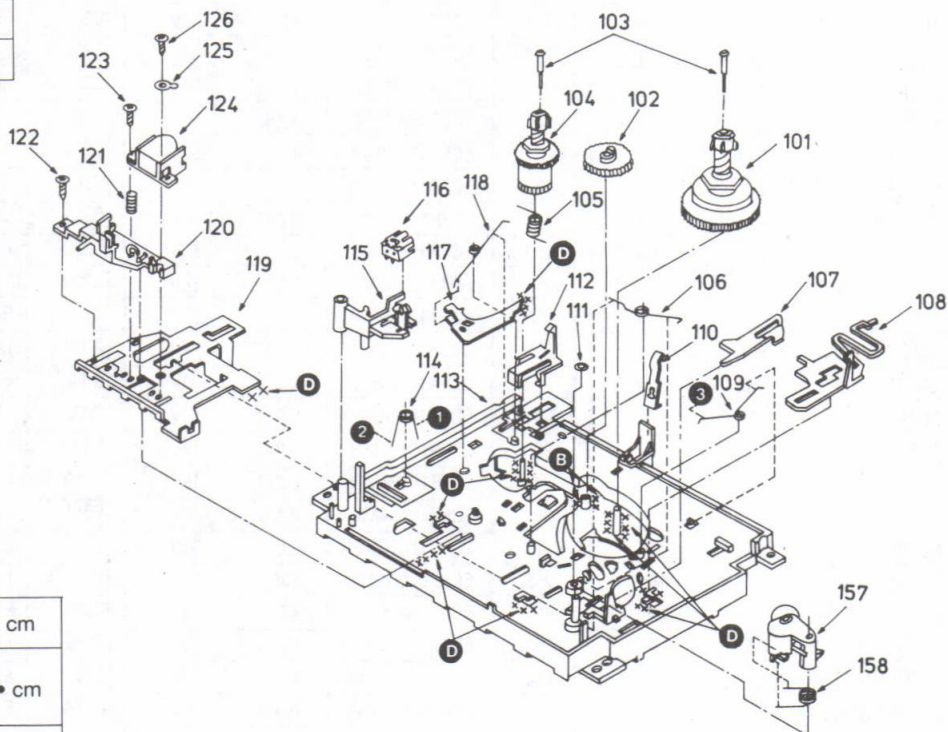
MECHANISM PARTS LOCATION

TOP VIEW

Note:

When changing mechanism parts, apply the specified grease to areas marked "XX" as shown in the drawing.

Ref. No.	Part Name	Part No.
B	Rocol Paste	RZGG0001
D	White Grease	RZGEM-30L

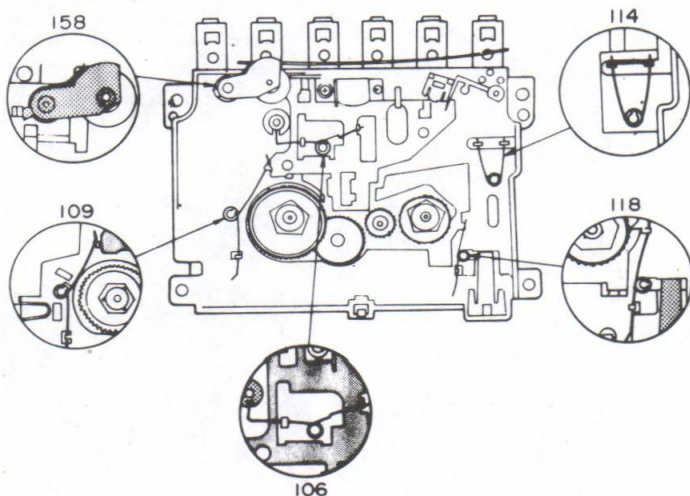


Specifications

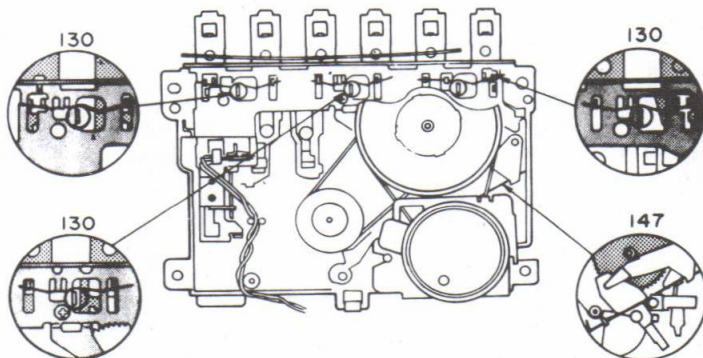
Playback torque	25~55 g • cm
Fast Forward torque	65~130 g • cm
Rewind torque	65~130 g • cm
Pressure of pinch roller	200~300 g • cm

■ SPRING LOCATION

TOP VIEW



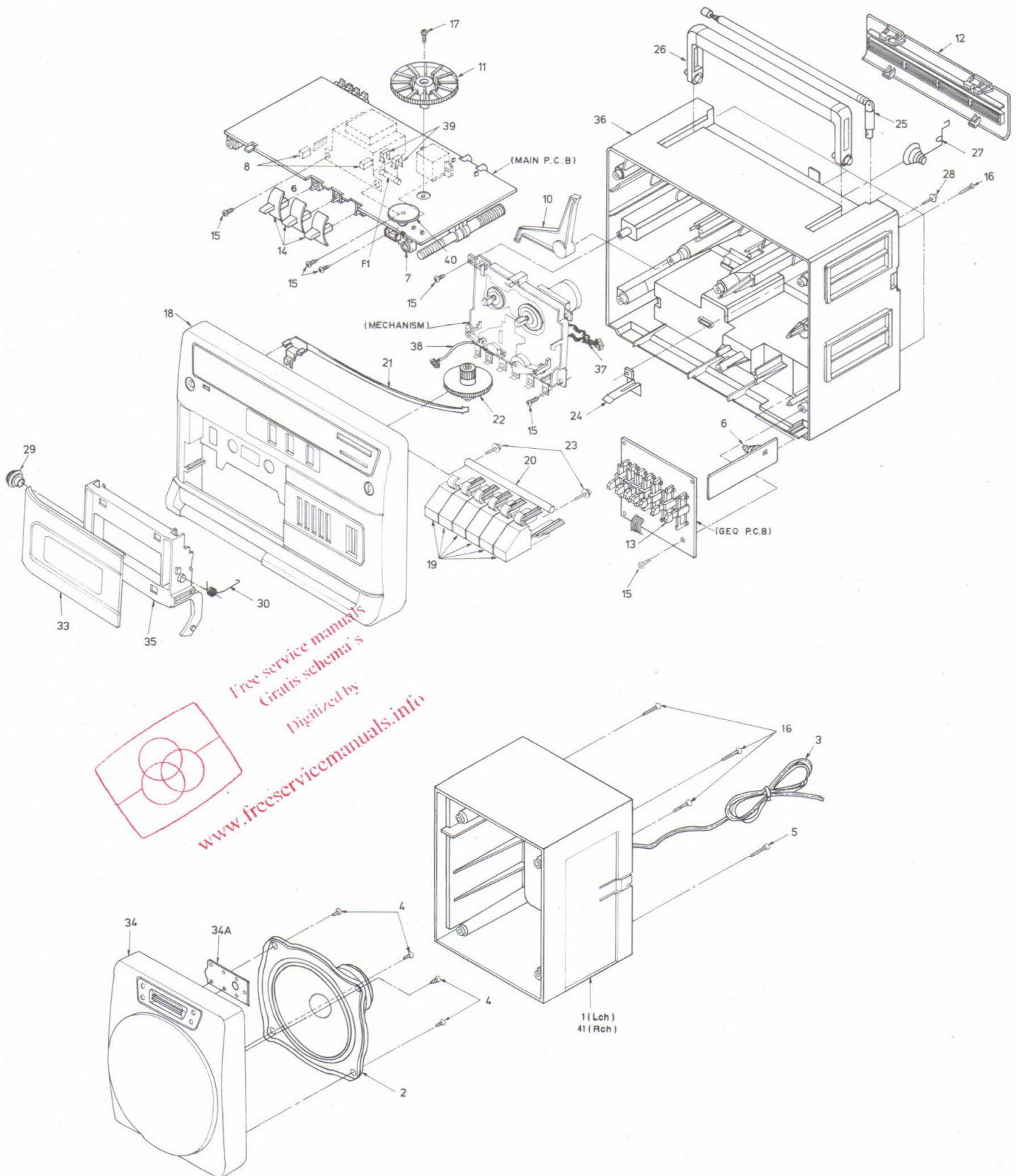
BOTTOM VIEW



Ref.No.	Part No.	Part Name & Description	Remarks
		MECHANISM PARTS	
101	RXR0004	TAKE UP REEL ASS'Y	[M]
102	RDG0059	FF RELAY GEAR	[M]
103	RMS0055	REEL SHAFT	[M]
104	RXR0005	SUPPLY REEL ASS'Y	[M]
105	RMB0125	SPRING	[M]
106	RMB0047	SPRING	[M]
107	RML0076	EJECT SELECTION LEVER	[M]
108	RMM0029	EJECT SLIDE LEVER	[M]
109	RMB0048	SPRING	[M]
110	RMCO061	SPRING	[M]
111	RHW16009	CAPSTAN WASHER	[M]
112	RML0081-1	RECORD SAFETY LEVER	[M]
113	RFU189ZA	MECHANISM BASE ASS'Y	[M]
114	RMB0046-1	SPRING	[M]
115	RML0080	ERASE HEAD ARM	[M]
116	RBR2CY009	ERASE HEAD	[M]
117	RML0116	BRAKE ARM	
118	RMB0109-1	SPRING	[M]
119	RMA0107	HEAD PANEL	[M]
120	RMR0149	HEAD BASE	[M]
121	RMB0059	SPRING	[M]
122	XTN2+4F	SCREW	
123	XTN2+8F	SCREW	
124	RJH4C29MZAS	R/P HEAD	[M]
125	RJR0033	EARTH LUG	[M]
126	RHD20003	SCREW	[M]
127	RMA0109	BACK PLATE	[M]
129	XTN2+6J	SCREW	
130	RMB0043-1	SPRING	[M]

Ref.No.	Part No.	Part Name & Description	Remarks
131	RMM0027	PAUSE ROD	[M]
132	RMM0026	STOP ROD	[M]
133	RMM0025	FF ROD	[M]
134	RMM0024	REW ROD	[M]
135	RMM0023	PLAY ROD	[M]
136	RMM0028	REC ROD	[M]
137	RML0078	FUNCTION PLATE	[M]
138	RML0077	LOCK PLATE	[M]
139	RML0072	AS RELEASE LEVER	[M]
140	RMR0227	IDLER GEAR BUSH	[M]
141	RDG0057	IDLER GEAR	[M]
142	RML0074	IDLER LEVER	[M]
143	RMR0211	PAUSE BUSH	[M]
144	RMB0053	SPRING	[M]
145	RML0082	PAUSE LEVER	[M]
146	RML0071	SWAY LEVER	[M]
147	RMB0045	AS SPRING	[M]
148	RXL0042	TRIGGER LEVER ASS'Y	[M]
149	RDK0005	CAM GEAR	[M]
150	RML0073-1	AS PROTECT LEVER	[M]
151	RXP0014	RF CLUTCH ASS'Y	[M]
152	RMG0102	MOTOR RUBBER CUSHION	[M]
153	RHD26002	SCREW	
154	RMA0108	MOTOR BRACKET	[M]
155	XTN26+8J	SCREW	
156	RFM179ZA	MOTOR ASS'Y	[M]
157	RXP0015	PINCH ROLLER ASS'Y	[M]
158	RMB0049	SPRING	[M]
159	RDV0007	BELT, MAIN	[M]
160	RDV0006-1	RF BELT	[M]
161	RXF0012	FLYWHEEL ASS'Y	[M]
163	RMCO076	RECORDING SPRING PLATE	[M]

■ CABINET PARTS LOCATION



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REPLACEMENT PARTS LIST

Notes: * Important safety notice:

Component identified by $\triangle$ mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.

* Bracketed indications in Ref. No. columns specify the area. (Refer to the first page for area).

Parts without these indications can be used for all areas.

* [M] Indicates parts that are supplied by MESA.

Ref. No.	Part No.	Part Name & Description	Remarks
		CABINET AND CHASSIS	
1	RKPX0002-K	SPEAKER BACK CABINET (R)	[M]
2	RAS12P18ZA-F	WOOFER	[M]
3	RJE297ZA	SPEAKER CORD	[M]
4	XTV3+8G	SPEAKER SCREW	
6	RJC511ZBS	BATTERY SPRING	[M]
7	RJM164YA	C MICROPHONE	[M]
8	RJP4G18ZA	CONNECTOR, MOTOR & TAPE HEAD	
10	RMLX0004	RECORDING LEVER	[M]
11	RDGX0005	VARICON GEAR	[M]
12	RKK2SZA-0	BATTERY COVER	[M]
13	RGVX0003-H	VOLUME KNOB	[M]
14	RBD562ZA-0	SELECTOR KNOB	[M]
15	XTV3+12G	GENERAL SCREWS	
16	XTV3+20G	CASING SCREW	
17	XYN26+C6	VARICON GEAR SCREW	
18	RFKXGCS710EK	FRONT CABINET ASS'Y	[M] (E,EB)
18	RFKXGCS710EG	FRONT CABINET ASS'Y	[M] (EG)
19	RGZX0003-K	MECHA. BUTTON	[M]
20	SUX102	MECHA. BUTTON HOLDING ROD	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
21	RGJX0001-W	POINTER	[M]
22	RGXX0006-K	TUNING KNOB	[M]
23	XTWS3+8T	MECHANISM BUTTON SCREW	
24	RMAX0002	ANT. PLATE	[M]
25	XEARR175FD-Y	ANT. ROD	[M]
26	RKX3SZA-0	HANDLE	[M]
27	RJC931ZC	BATTERY SPRING	
28	XYN3+F8FY	ANT ROD SCREW	
29	RDG5874ZB	DAMPER GEAR	[M]
30	RUS781YA	OPENING SPRING	[M]
33	RFKLXCS710PK	CASSETTE LID ASS'Y	[M]
34	RFKAXCT810PK	SPEAKER FRONT CABINET ASS'Y	[M]
34A	RAT0009	TWEETER	[M]
35	RFKLXCT810PK	CASSETTE HOLDER ASS'Y	[M]
36	RFKHXC710EK	REAR CABINET ASS'Y	[M] (E)
36	RFKHXC710EB	REAR CABINET ASS'Y	[M] (EB)
36	RFKHXC70EG	REAR CABINET ASS'Y	[M] (EG)
37	REX0197	REC/PLAY HEAD WIRE UNIT	[M]
38	2JSACS700ZA1	MOTOR WIRE UNIT	[M]
39	RJF28ZA	FUSE HOLDER	
40	RGXX0003-K	FINE TUNING KNOB	[M]
41	RKPX0003K	SPEAKER BACK CABINET (L)	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
		INTEGRATED CIRCUIT(S)	
IC 1	AN7205	I.C, FM FRONT END	
IC 2	RVIBA4236L	I.C, FM/AM IF	
IC 3	RVIBA1332L	I.C, FM MPX	
IC 4	AN7317	I.C, LINEAR	[M]
IC 5	BA3822LS	I.C, LINEAR	
IC 6	RVILA4108R	I.C, POWER AMP	
		TRANSISTOR(S)	
Q 1	2SC2001K1TA	TRANSISTOR	
Q 2	2SC2001K1TA	TRANSISTOR	
Q 3	2SC1684RTA	TRANSISTOR	
		DIODE(S)	
D 1	RVD1SS133	DIODE	
D 2	RVD1SS133	DIODE	

Ref. No.	Part No.	Part Name & Description	Remarks
D 3	RVD1SS133	DIODE	
D 4	RVD1SS133	DIODE	
D310	SL25VR70F155	DIODE	[M]
D350	RVDMT6R8BTA	DIODE	
D361	RVD1SR35TR	DIODE	
D362	RVD1SR35TR	DIODE	
D363	RVD1SR35TR	DIODE	
D364	RVD1SR35TR	DIODE	
		VARIABLE RESISTOR(S)	
VR1	RVNCA14B1T-A	V.R	[M]
VR301	RVV2I4G54A	V.R, GEQ (100Hz)	[M]
VR302	RVV2I4G54A	V.R, GEQ (330Hz)	[M]
VR303	RVV2I4G54A	V.R, GEQ (1kHz)	[M]
VR304	RVV2I4G54A	V.R, GEQ (3.3kHz)	[M]
VR305	RVV2I4G54A	V.R, GEQ (10kHz)	[M]
VR306	RVV1I5G15A	V.R, BALANCE	[M]
VR307	RRV20R03B54A	V.R, VOLUME	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
		VARIABLE CAPACITOR(S)	
VC1	RCV4RC2V2K-A	VARIABLE CAPACITOR	
CT5	RCV20AF1T-A	TRIMMING CAPACITOR	[M]
CT6	RCV20AF1T-A	TRIMMING CAPACITOR	[M]
CT7	RCV10AF1T-A	TRIMMING CAPACITOR	[M]
CT8	RCVMFTPC7B	TRIMMING CAPACITOR	
		COIL(S) & TRANSFORMER(S)	
L 1	RLQY30S1W	COIL, FM	[M]
L 3	RLF6W9-0Z	COIL, MW/LW BAR ANT	[M]
L 5	RLQY30S1W	COIL, FM	[M]
L 6	RLA3B41-M	COIL, SW ANT COIL	
L 7	RL01B13-M	COIL, LW OSC	
L 8	RL02B108-M	COIL, AM OSC	
L 9	RL03B87-M	COIL, SW OSC	
L10	RLD4Y53W	COIL, FM OSC	[M] (E,EB)
L10	RL04N233-0	COIL, FM OSC	[M] (EG)
L341	RL09B17-T	COIL, REC BIAS OSC	
L351	RLQZB470KT-D	COIL	
L352	RLQZB470KT-D	COIL	
T 1	RLI4B153-M	TRANSFORMER, FM IFT	
T 2	RLI2B458-M	TRANSFORMER, AM IFT	
T 3	RLI4B153-M	TRANSFORMER, FM IFT	
T501	RTP1K1B002-X	POWER TRANSFORMER	[M] (EB)
T501	RTP1K1E002-X	POWER TRANSFORMER	[M] (E,EG)
		CERAMIC FILTER(S)	
CF1	RVF107WDZT	CERAMIC FILTER, FM	
CF2	RVFSF459JL	CERAMIC FILTER, AM	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
		FUSE(S)	
F 1	XBA2C10TB0	FUSE	
		SWITCH(ES)	
S 1	RST3B35ZA-H	SWITCH, BEAT PROOF	[M]
S 2	RST4H18ZA-H	SWITCH, BAND	[M]
S 3	RST3D28ZA-H	SWITCH, FUNCTION	[M]
S 4	RSH2F18ZA-A	SWITCH, REC	
S 5	RJJ1SE01-H	JACK W/SW	
S 6	RSH1A003-U	LEAF SWITCH, MOTOR	[M]
		JACK(S)	
J 1	RJF1098ZA-H	JACK, SPEAKER	[M]
J 2	RJF1099YA	JACK, LINE IN	
J 3	RJJD7S2YA-C	JACK, HEADPHONE	
J4	RJJ1SE01-H	JACK, AC	
		PACKING MATERIAL(S)	
P 1	RPH657ZA	MIRAMAT SHEET	[M]
P 2	RPK0265	GIFT BOX	[M]
P 3	RPN0462	POLYFOAM	[M]
		ACCESSORIES	
A 1	RQT1179-G	INSTRUCTION MANUAL	[M] (EB,EG)
A 1	RFKSXCS710EK	INSTRUCTION MANUAL ASS'Y	[M] (E)
A 2	SFDAC05E03	AC CORD	(E,EG)
A 2	RJA86ZB-K	AC CORD	(EB)