

Service Manual

Radio Cassette RX-5012LS

FM/LW/MW/SW STEREO RADIO CASSETTE RECORDER



■ SPECIFICATIONS

General:

Power Requirement: AC; 220 V, 50/60 Hz
 Battery; 9 V (Six "D" Size Flashlight Batteries)
 (National UM-1 or equivalent)
 Power Consumption: 13 W (AC only)
 Power Output: 7 W (3.5 W×2) . . . RMS (max.)
 6.5 W . . . MPO (Music)
 Speaker: 12 cm (4²³/₃₂") PM Dynamic
 Speaker (3Ω)
 Input: MIC; sensitivity 0.32 mV/applicable
 microphone impedance 200~600Ω
 Output: EXT SP; 3~8Ω
 HEADPHONES; 8Ω
 Dimensions: 441 mm(W)×241 mm(H)×140 mm(D)
 (17³/₈×9¹/₂×5¹/₃")
 Weight: 3.2 kg (7 lb. 0.9 oz.) without batteries

Radio Section:

Radio Frequency
 Range:

FM; 87.5~108 MHz
 LW; 150~285 kHz (2000~1060 m)
 MW; 520~1610 kHz (577~186 m)
 SW; 5.9~18 MHz (50.8~16.7 m)

Intermediate Frequency:

FM; 10.7 MHz
 AM (LW/MW/SW); 455 kHz

Sensitivity:

FM; 2.8μV/50 mW output
 LW; 147μV/m/50 mW output
 MW; 117μV/m/50 mW output
 SW; 4.2μV/50 mW output

Tape Deck Section:

Frequency Response: 80~10,000 Hz (with normal tape)
 Recording system: DC bias, MAGNET erase
 Tape Speed: 4.8 cm/s, (1⁷/₈ ips)
 Wow and Flutter: 0.15% (WRMS)
 Program Time: 1 hour with C-60 cassette tape
 Track System: 4-track 2 channel stereo recording and playback

Specifications are subject to change without notice.

Panasonic

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

LOCATION OF CONTROLS AND COMPONENTS

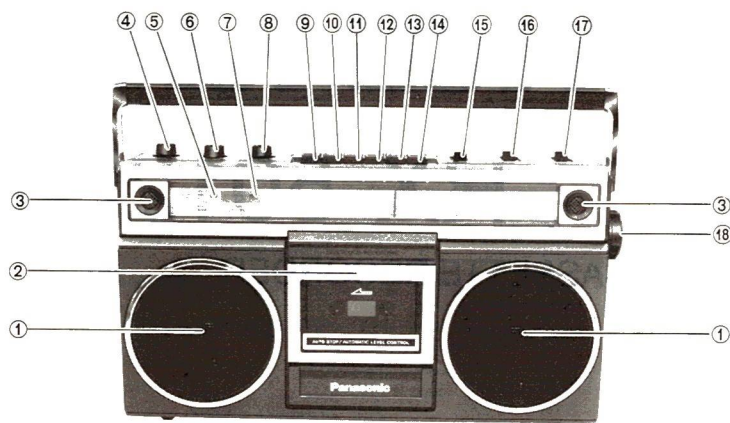


Fig. 1

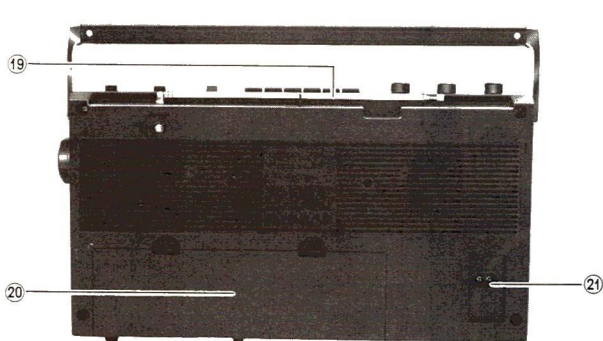


Fig. 2

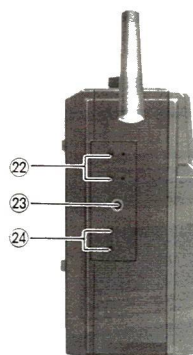


Fig. 3

- ① PM Dynamic Speakers [12 cm (4 $\frac{23}{32}$ ") 3 Ω]
- ② Cassette Compartment
- ③ Built-in Microphones
- ④ Tone Control (TONE)
- ⑤ Operation/Battery Indicator (OPERATION/BATTERY)
- ⑥ Balance Control (BALANCE)
- ⑦ FM Stereo Indicator (FM STEREO)
- ⑧ Volume Control (VOLUME)
- ⑨ Pause Button
- ⑩ Playback Button
- ⑪ Fast Forward Button
- ⑫ Rewind Button
- ⑬ Record Button
- ⑭ Stop/Eject Button
- ⑮ Function Switch (SELECTOR)
[SLEEP, RADIO, TAPE/OFF]
- ⑯ Band Switch (BAND) [FM, LW, MW, SW]
- ⑰ FM Mode Switch (FM MODE) [STEREO, MONO]
- ⑱ Tuning Control (TUNING)
- ⑲ Telescopic Antenna
- ⑳ Battery Compartment
- ㉑ AC IN Jack (AC IN ~)
- ㉒ Microphone Jacks (MIC) [0.32 mV, 200~600 Ω] $\varnothing$ 3.5
- ㉓ Headphone Jack (PHONES) [8 Ω] $\varnothing$ 6
- ㉔ External Speaker Jacks (EXT. SP) [3~8 Ω] $\varnothing$ 3.5

DISASSEMBLY INSTRUCTIONS

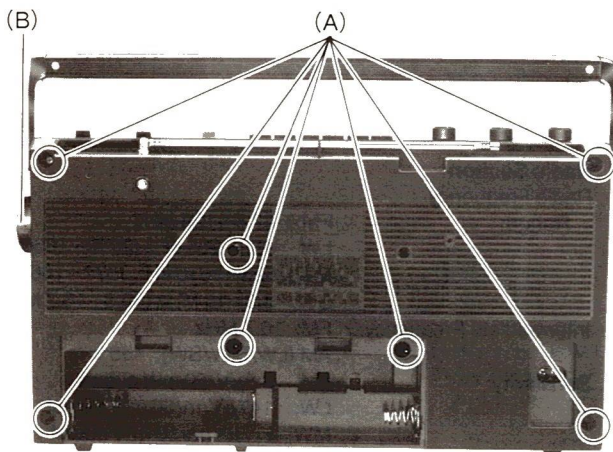


Fig. 4

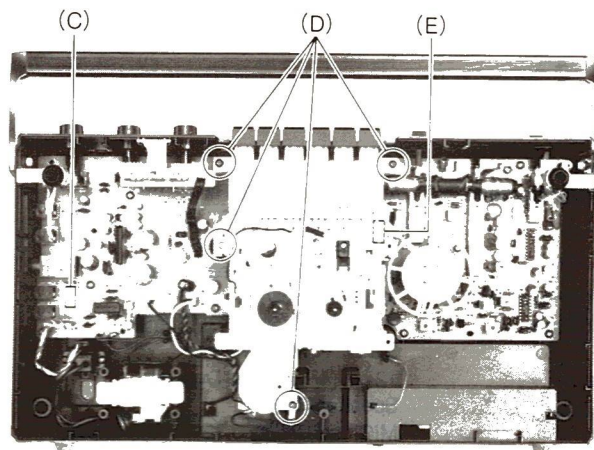


Fig. 5

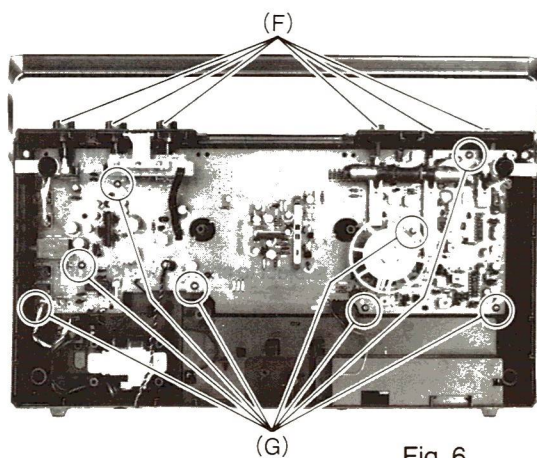


Fig. 6

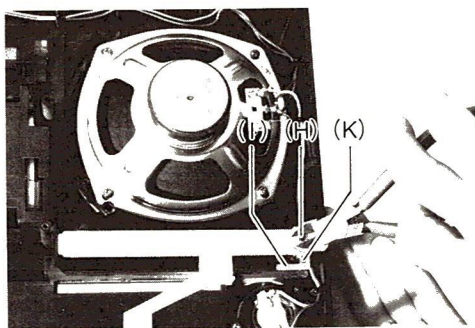


Fig. 7

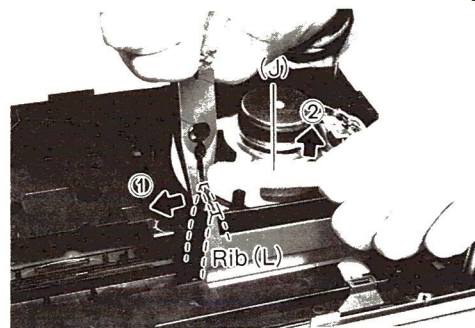


Fig. 8

Ref No.	Procedure	Shown in Fig.—	To remove—	Remove—
1	1~4	4	Front Cabinet (*1, 2)	Screw (3×45)(A)×7
2		4		Knob(B)×1
3		—		Push the Eject Button
4		5		Socket(C)×1
5	1~6	5	Mechanism	Screw (3×14)(D)×4
6		5		Socket(E)×1
7	1~8	6	Circuit Board	Knob(F)×6
8		6		Screw (3×14)(G)×8
9	1~4 9~12	7	Worm gear	Cut the Rib by nippers(H)
10		7		Stopper(I)
11		8		Open the Rib (L) by pliers in the direction of the arrow①, and remove the Worm gear in the direction of the arrow②(J)×1
12		7		Settle the Stopper with weld beads (K) after the exchange of the Worm gear.

*1. Turn the dial drum to fully counter-clockwise.

*2. Turn the tuning shaft to fully counter-clockwise.

MEASUREMENTS AND ADJUSTMENTS

■ ALIGNMENT INSTRUCTION

READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

- Set volume control to maximum.
- Set tone control to treble.
- Set band switch to LW, MW, SW or FM.
- Set balance control to center.
- Set function switch to radio.
- Set FM mode switch to stereo.
- Set power source voltage to 9 V DC.
- Output of signal generator should be no higher than necessary to obtain an output reading.

■ LW, MW, SW and FM ALIGNMENT

LW, MW, SW and FM ALIGNMENT							
BAND	SIGNAL GENERATOR or SWEEP GENERATOR		RADIO DIAL SETTING	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. at 400 Hz	Point of non-interference. (on/ about 600 kHz)	Output meter across voice coil.	T2 (AM IFT)	Adjust for maximum output.
LW-RF ALIGNMENT							
(2)	LW	''	136 kHz	Tuning capacitor fully closed.	''	L8 (LW OSC Coil)	''
(3)	LW	''	297 kHz	Tuning capacitor fully open.	''	CT6 (LW OSC Trimmer)	''
(4)	LW	''	145 kHz	Tune to signal.	''	(*1) L5 (LW ANT Coil)	Adjust for maximum output. Adjust L5 by moving coil bobbin along ferrite core.
(5)	LW	''	285 kHz	''	''	CT3 (LW ANT Trimmer)	Adjust for maximum output. Repeat steps (2)~(5).

	BAND	SIGNAL GENERATOR or SWEEP GENERATOR		RADIO DIAL SETTING	INDICATOR (ELECTRONICS VOLTMETER or SCOPE)	ADJUSTMENT	REMARKS
		CONNECTIONS	FREQUENCY				
MW-RF ALIGNMENT							
(6)	MW	Fashion loop of several turns of wire and radiate signal into loop of receiver.	511 kHz	Tuning capacitor fully closed.	Output meter across voice coil.	L9 (MW OSC Coil)	Adjust for maximum output.
(7)	MW		1,650 kHz	Tuning capacitor fully open.	''	CT5 (MW OSC Trimmer)	''
(8)	MW		550 kHz	Tune to signal.	''	(*1) L6 (MW ANT Coil)	Adjust for maximum output. Adjust L6 by moving coil bobbin along ferrite core.
(9)	MW		1,500 kHz	''	''	CT4 (MW ANT Trimmer)	Adjust for maximum output. Repeat steps (6)~(9).
(*1) Cement antenna bobbin with wax after completing alignment.							
SW-RF ALIGNMENT							
(10)	SW	Connect to test point ▼ through ceramic capacitor (10 pF) Negative side to test point ▼.	5.75 MHz	Tuning capacitor fully closed.	''	L10 (SW OSC Coil)	Adjust for maximum output.
(11)	SW		18.8 MHz	Tuning capacitor fully open.	''	CT7 (SW OSC Trimmer)	''
(12)	SW		5.9 MHz	Tune to signal.	''	L7 (SW ANT Coil)	Adjust for maximum output. Repeat steps (10)~(12).
FM-IF ALIGNMENT							
(13)	FM	High side thru. 0.001 μF to test point ▼, Negative side to test point ▼.	10.7 MHz (SWP.)	Point of non-interference. (on/ about 90 MHz)	Connect vert. amp. of scope to test point ▼. Negative side to test point ▼.	T1 (FM 1st IFT)	Adjust for maximum amplitude. (Refer to fig. 10).
(14)	FM	''	''	''	''	T3 (FM 2nd IFT)	Adjust for maximum amplitude. (Refer to fig. 11).
FM-RF ALIGNMENT							
(15)	FM	Connect to test point ▼ through FM dummy antenna. Negative side to test point ▼.	87.5 MHz	Variable capacitor fully closed.	Output meter across voice coil.	L4 (FM OSC Coil)	(*2) Adjust for maximum output.
(16)	FM		108 MHz	Variable capacitor fully open.	''	CT2 (FM OSC Trimmer)	''
(17)	FM		90 MHz	Tune to signal.	''	L3 (FM ANT Coil)	''
(18)	FM		106 MHz	''	''	CT1 (FM ANT Trimmer)	(*2) Adjust for maximum output. Repeat steps (15)~(18).
(*2) Three output responses will be present; proper tuning is the center frequency.							

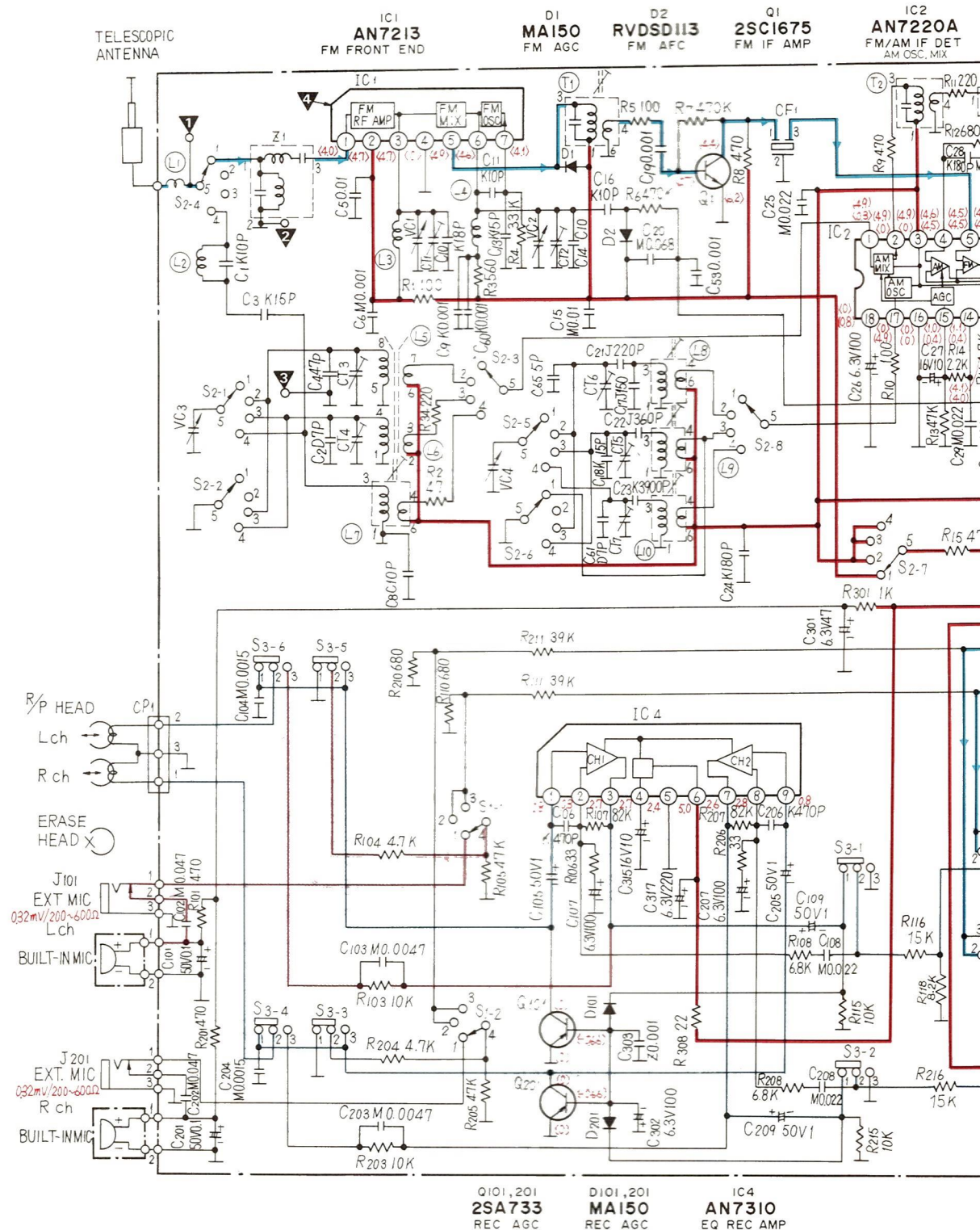
■ SEPARATION ALIGNMENT

ITEM	FM SIGNAL GENERATOR SOURCE CONNECTION	EQUIPMENT CONNECTION ELECTRONIC COUNTER	ADJUSTMENT	SPECIFICATION	REMARKS
Adjustment of pilot signal.	98 MHz, 60 dB (CW) Connect to test point ▼ through FM dummy antenna. Negative side to test point ▼.	▼... (+) ▲... (-)	VR1	19 kHz	Adjust VR1, for 19 kHz (± 150 Hz) reading on electronics counter.

■ AUDIO ADJUSTMENT

ITEM	INPUT	MEASUREMENT POINT	SPECIFICATION	ADJUSTMENT POINT	REMARKS
Azimuth	QZZCFM (6.3 kHz, -20 dB)	EXT SP	Maximum output.	Azimuth screw	Playback mode

SCHEMATIC DIAGRAM MO

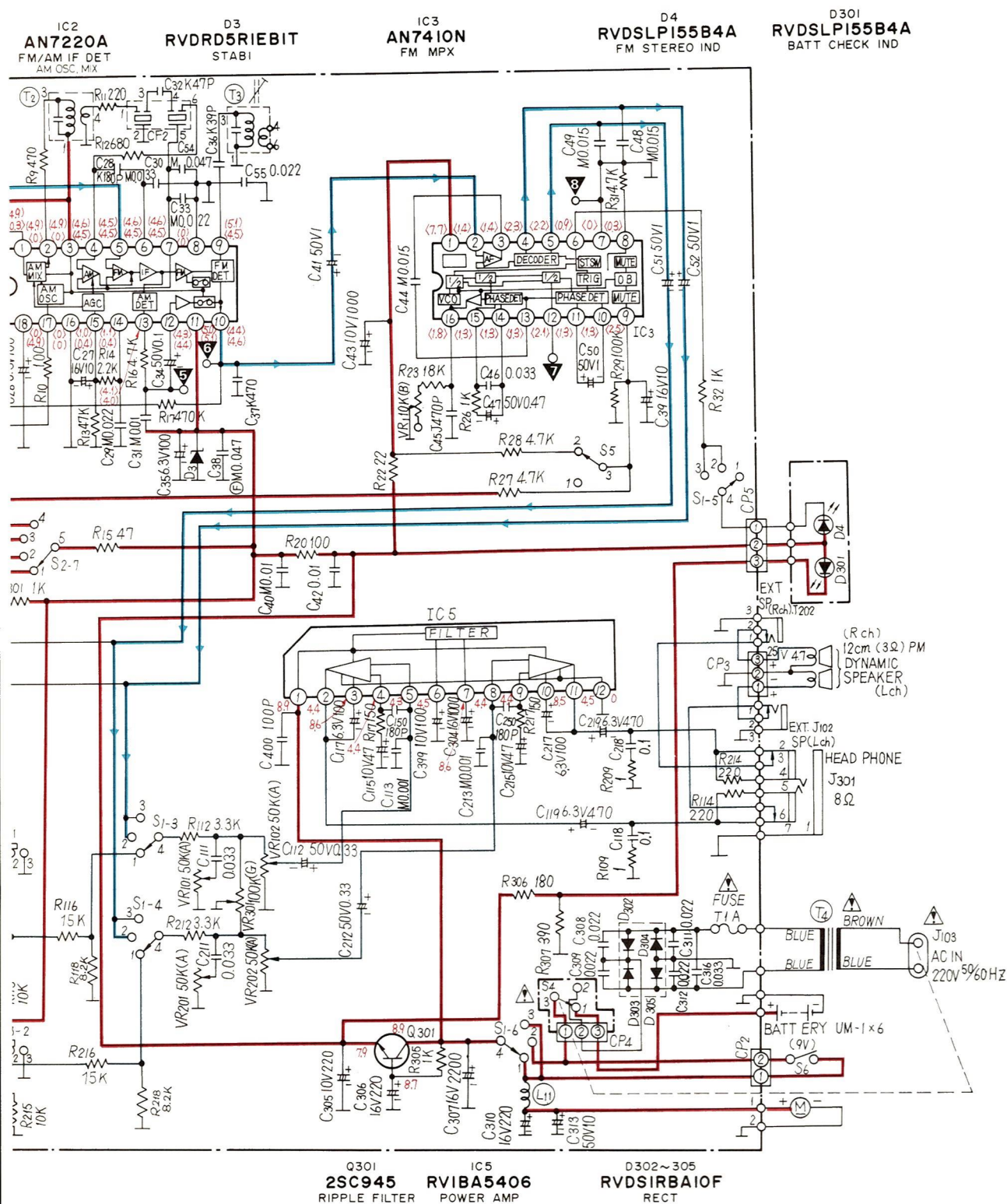


Notes:

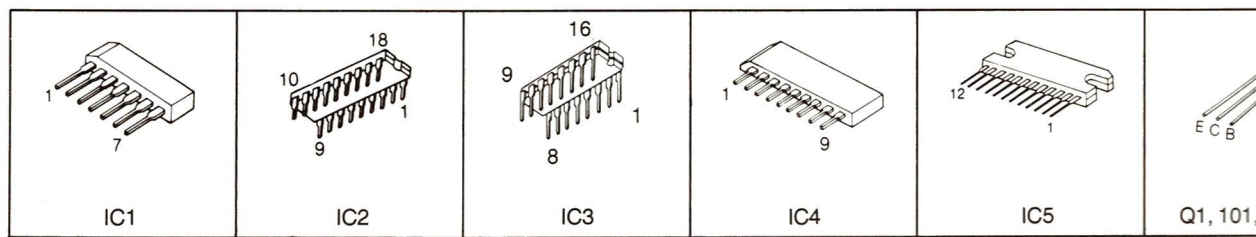
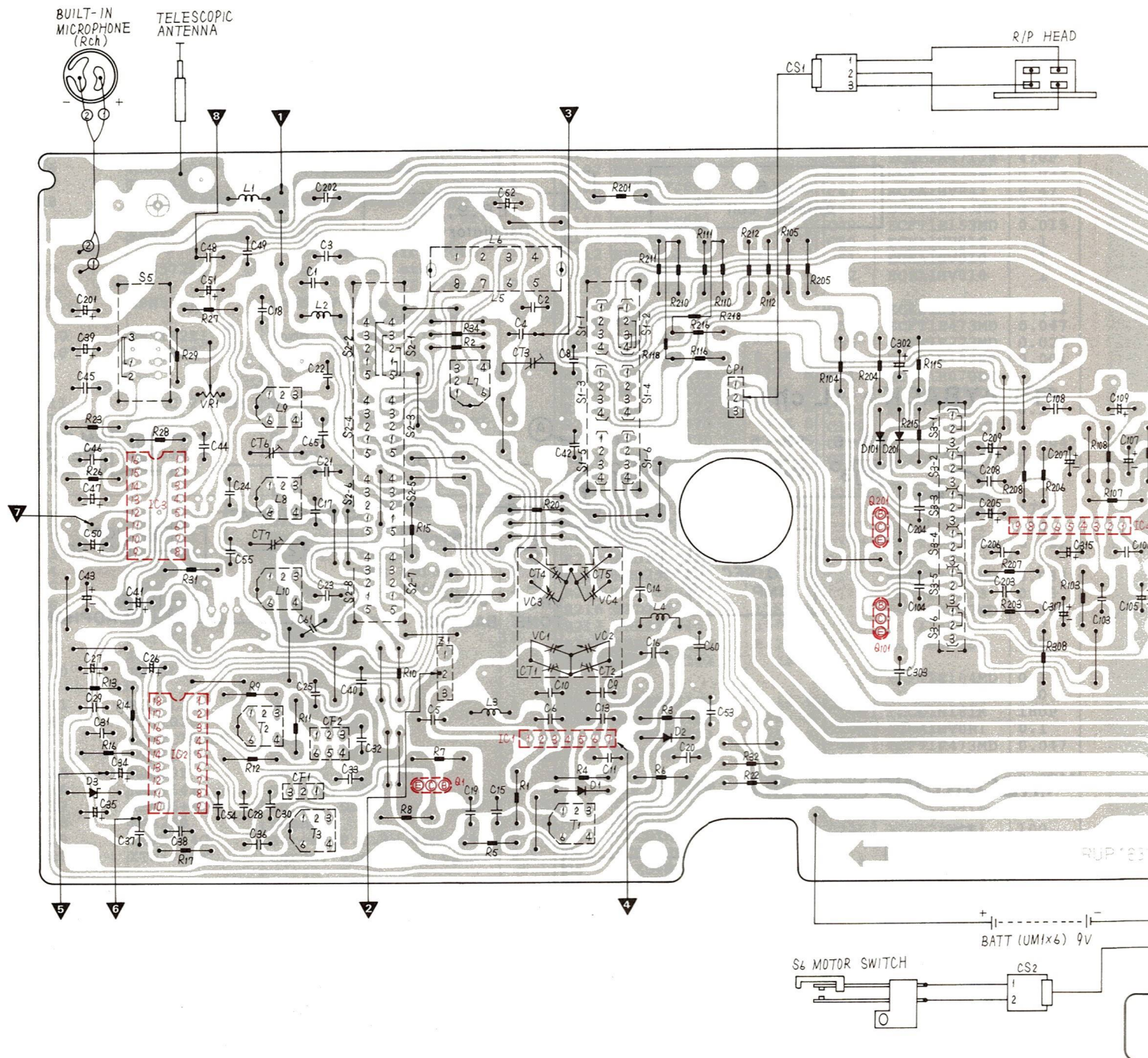
- S1-1~S1-6: Function switch in "TAPE/OFF" position.
(1... TAPE/OFF, 2... RADIO, 3... SLEEP)
- S2-1~S2-8: Band switch in "FM" position.
(1... FM, 2... LW, 3... MW, 4... SW)
- S3-1~S3-6: Record/playback switch in "playback" position.
(1... Playback, 3... Record)
- S4: AC/DC IN switch in "DC IN" position.
(1... DC, 2... AC)
- S5: FM Mode switch in "MONO" position.
(1... STEREO, 2... MONO)
- S6: Motor switch in "OFF" position.
- VR1: VCO oscillator frequency adjust VR.

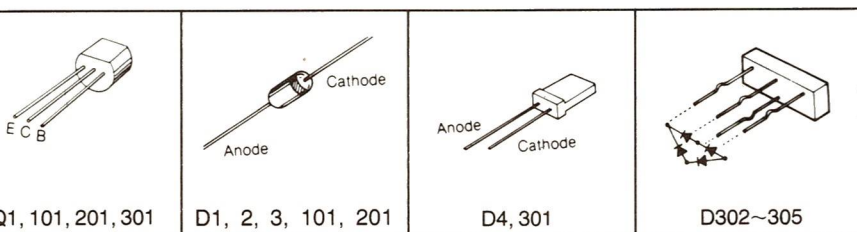
- VR101, 201: Tone control VR.
- VR102, 202: Volume control VR.
- VR301: Balance control VR.
- The mark (▼) shows test point e.g. ▼ = test point 1.
- DC voltage measurement are taken with electronics voltmeter from negative terminal of battery.
- < > ... FM position, () ... AM position, [] ... Recording position, No mark ... Playback position.
- Battery current: No signal 87 mA
Maximum output (radio) 850 mA
Maximum output (tape) 890 mA

IAM MODEL RX-5012LS



CIRCUIT BOARD AND WIRING CONNECTION





■ ALIGNMENT POINTS

*Please refer to Circuit Board and Wiring Connection Diagram which is located test point.

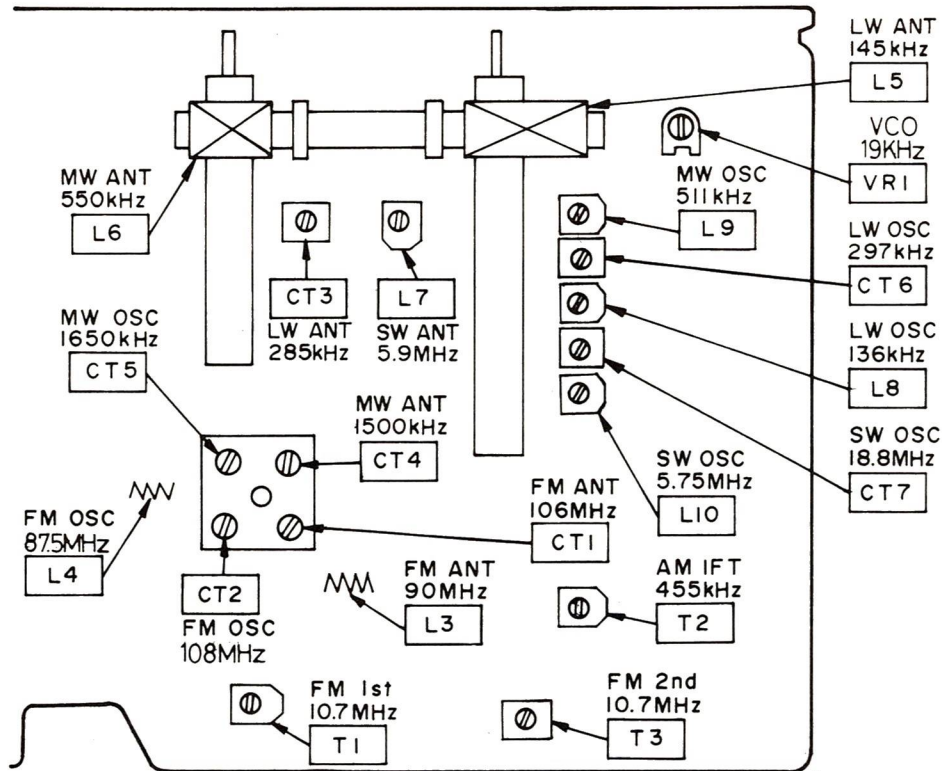


Fig. 9

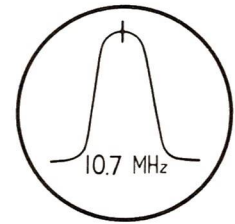


Fig. 10

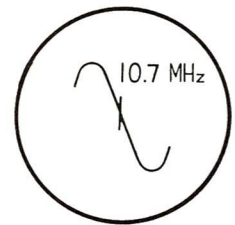


Fig. 11

CABINET PARTS LOCATION

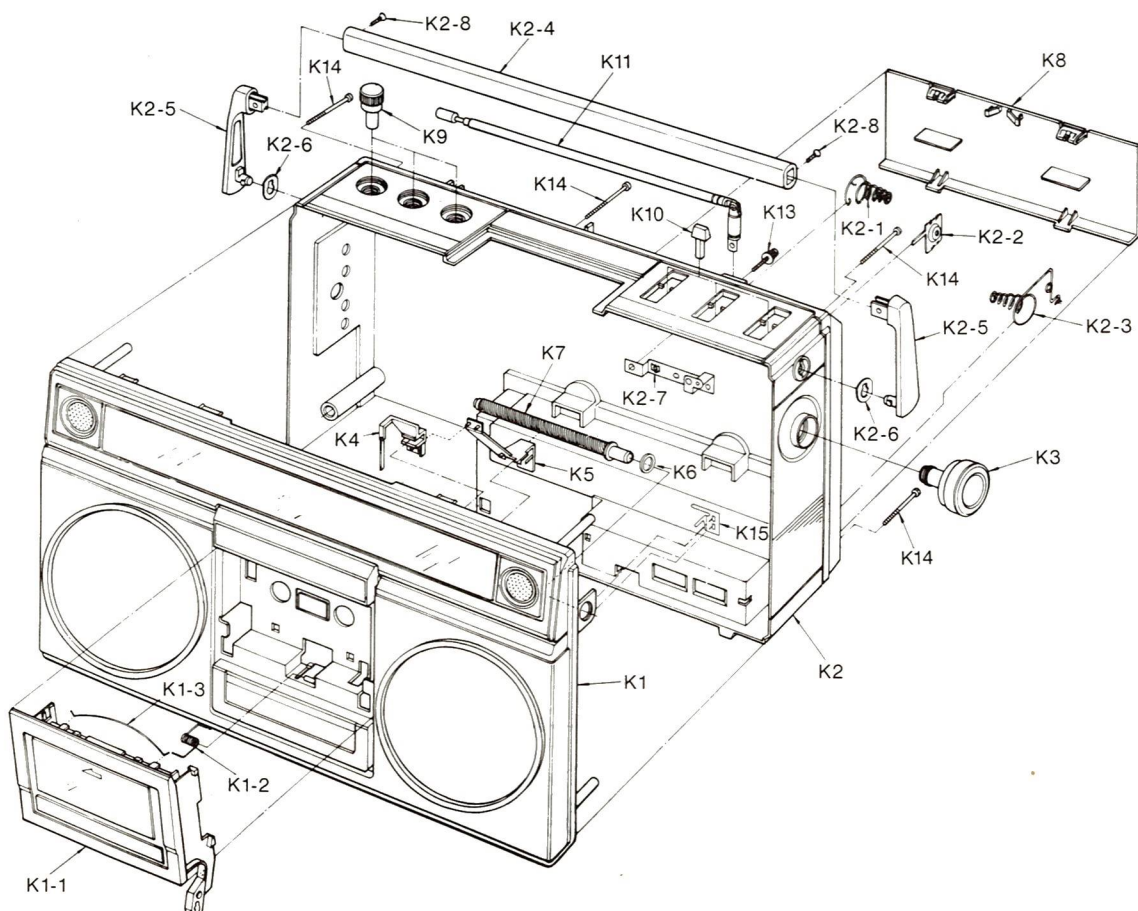
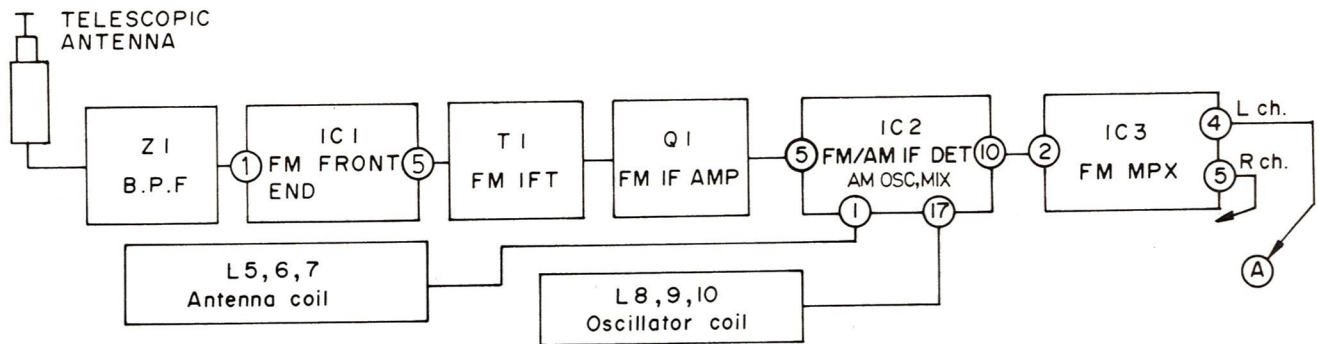


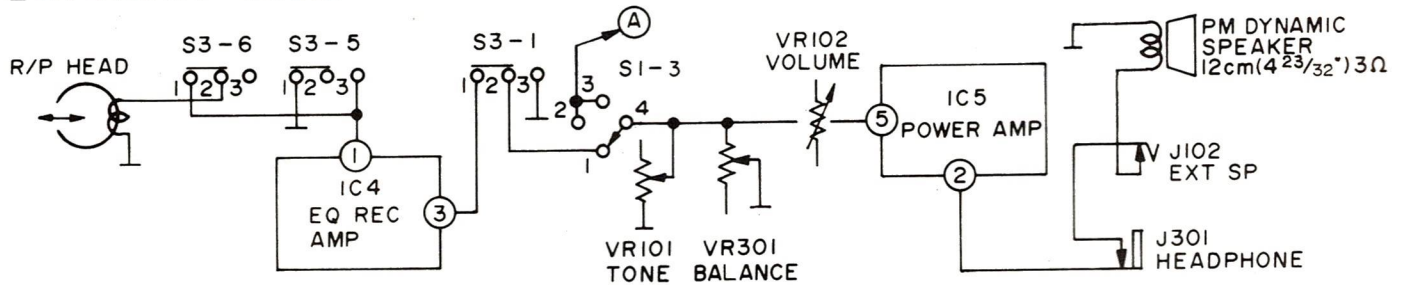
Fig. 12

BLOCK DIAGRAM

< RADIO >



< PLAYBACK > (L ch)



< RECORDING > (L ch)

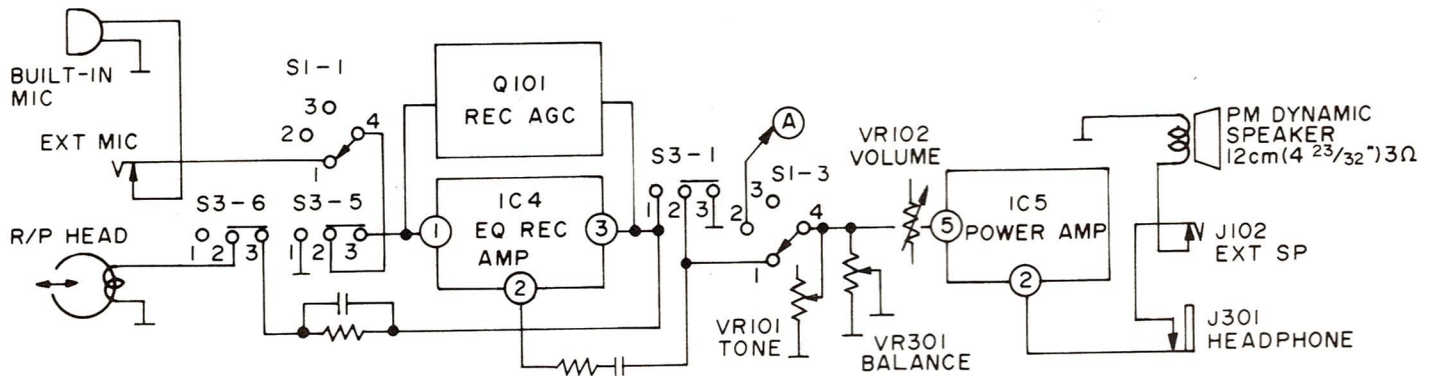


Fig. 13

MECHANISM PARTS LOCATION

Specifications

Take up Tension	50 ± 20 g-cm
FF Tension	$100 \pm \begin{matrix} 60 \\ 50 \end{matrix}$ g-cm
REW Tension	$100 \pm \begin{matrix} 60 \\ 50 \end{matrix}$ g-cm
Wow & flutter	Less than 0.15% (WRMS)
Tape speed	3000 ± 90 Hz
Pressure of Pressure roller	250 ± 30 gr

Mechanism Operation: Auto Stop

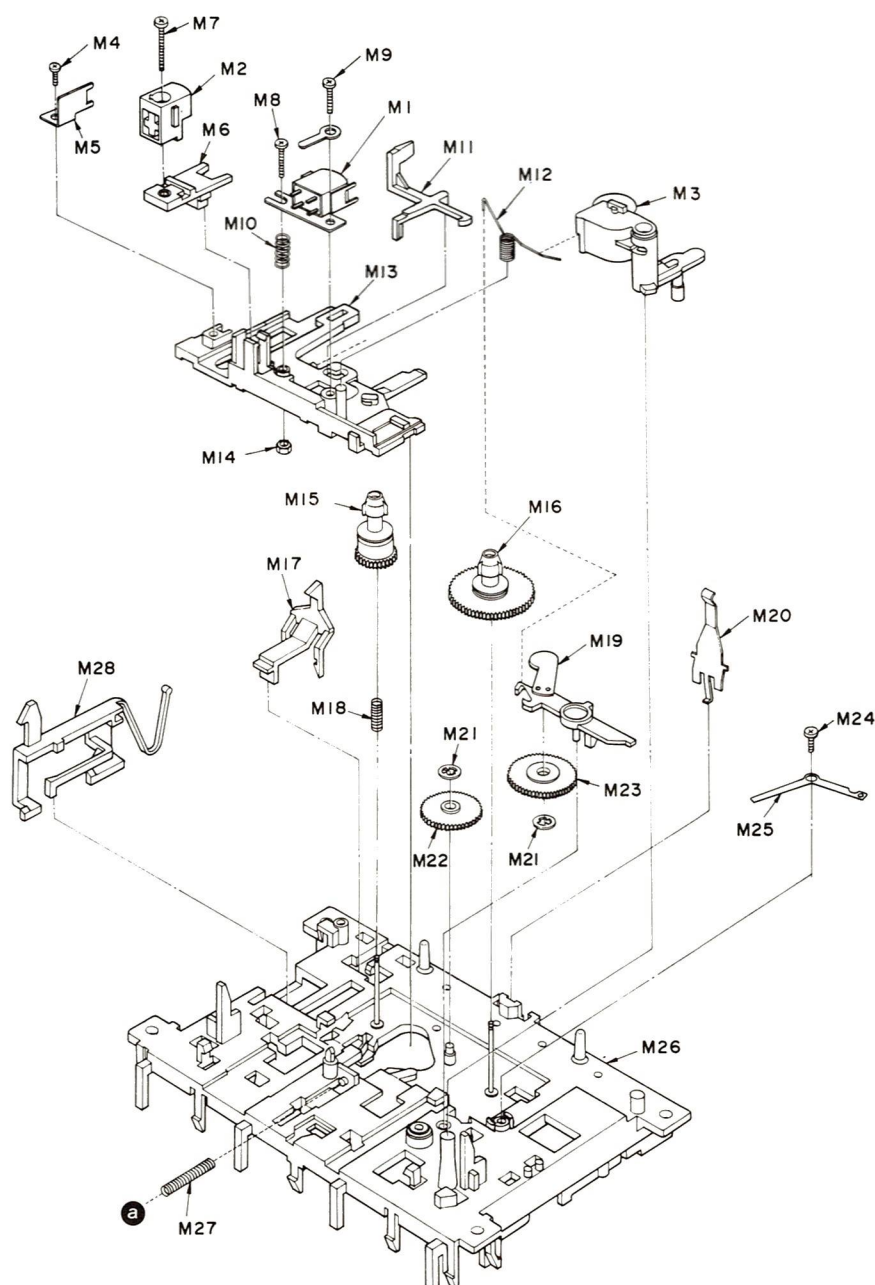


Fig. 14

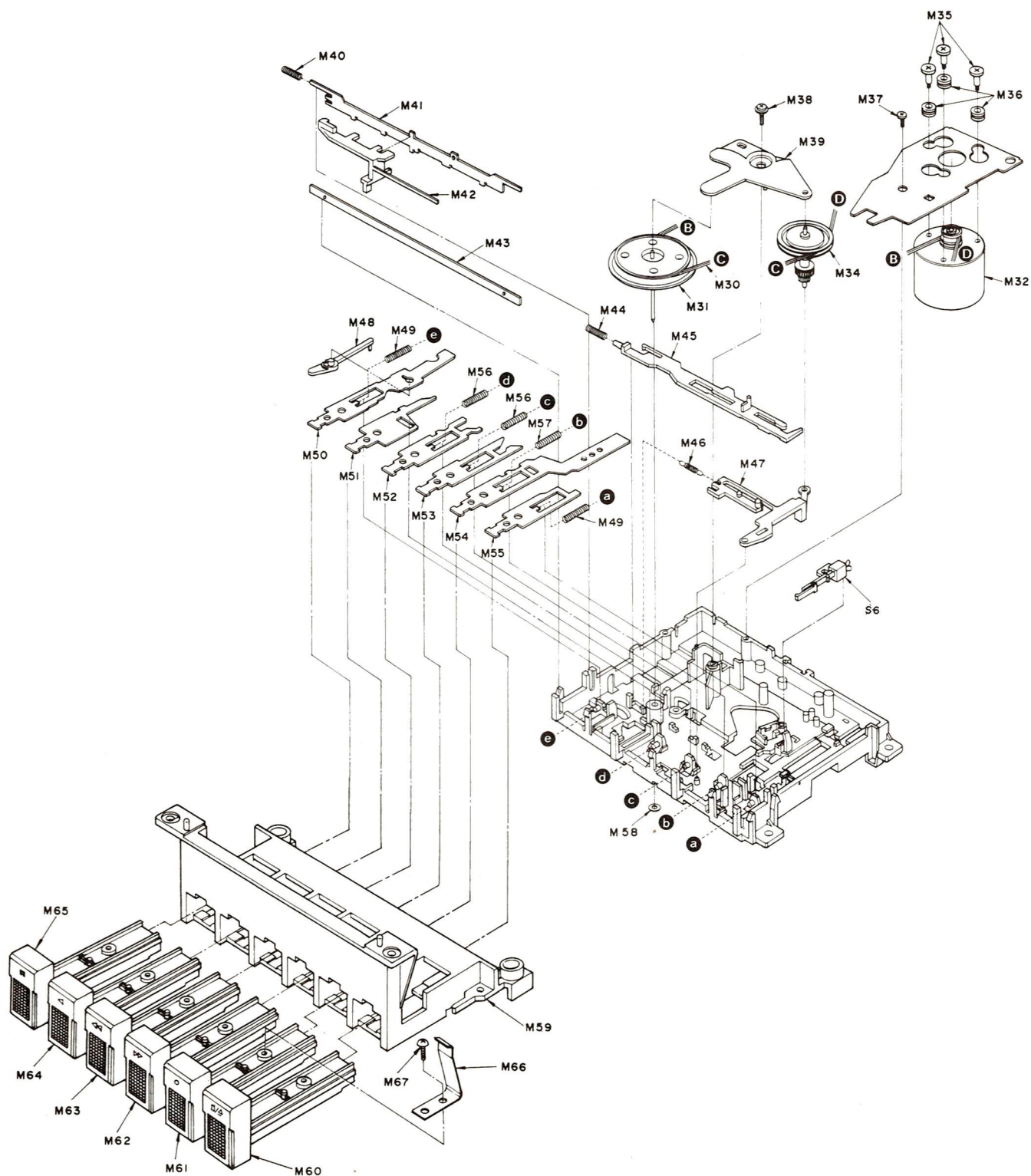


Fig. 15

ELECTRICAL PARTS LOCATION

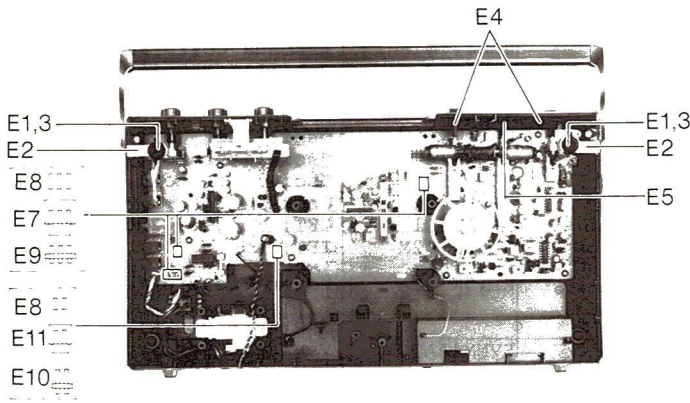


Fig. 16

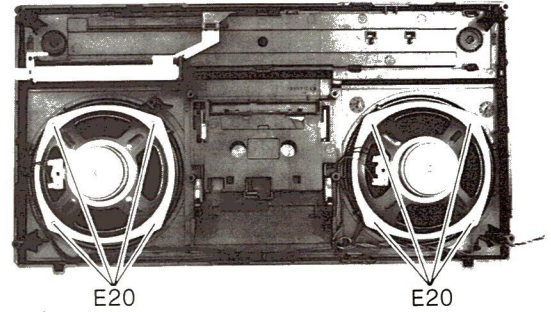


Fig. 17

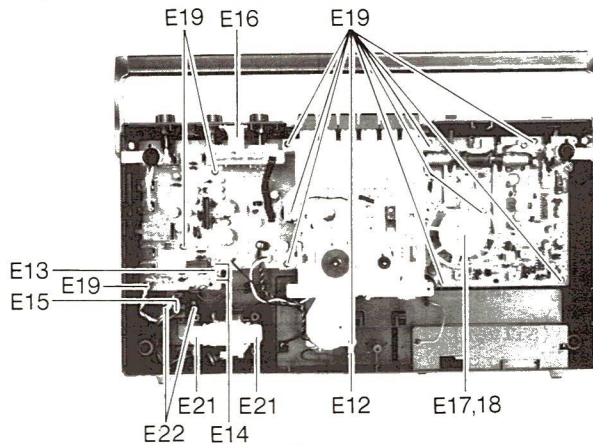


Fig. 18

REPLACEMENT PARTS LIST.....RX-5012LS

(RD83072121C2)

Notes:

- 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.
- The S mark indicates service standard parts and may differ from production parts.
- RESISTORS & CAPACITORS**
Unless otherwise specified.
All resistors are in OHMS (Ω) K=1000 Ω , M=1000k Ω
All capacitors are in MICRO FARADS (μ F) P= μ F

* Type & Wattage of Resister Type

ERC:Solid	ERX:Metal Film	ERW:Wirewound Resister
ERD:Carbon	ERG:Metal Oxide	ERS:Fusible Resister
RRD:Chip	ERO:Metal Film	ERF:Cement Resister

Wattage

10,16:1/8W	14,25:1/4W	12:1/2W	1:1W	2:2W	3:3W
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* Type & Voltage of Capacitor Type

ECFW:Semi-conductor	ECQD,ECKD,ECBT: Ceramic
ECQS:Styrol	ECQM,ECQV,ECQG: Polyester
ECUX:Chip	ECEA,ECSZ :Electrolytic
ECMS:Mica	ECQP :Polypropylene

Voltage

ECQ Type	ECQG, ECQV, Type	ECSZ Type	Others
1H: 50V	0,5: 50V	OF:3.15V	OJ :6.3V 1H,1V,50: 50V
2A:100V	1:100V	1A:10V	1A :10V 1J : 63V
2E:500V	2:200V	1V:35V	1C :16V 2A :100V
2H:500V		OJ:6.3V	1E,25:25V

Ref.No.	Part No.	Part Name & Description	Per Set
MECHANICAL PARTS			
M1	RJH2E4Y	Record/Playback Head	1
M2	QWY2127Z	Erase Head	1
M3	RFR16Z	Pinch Roller Ass'y	1
M4	XTN2+6B	Screw, Tape Guide M'tg	1 S
M5	RFD107Z	Tape Guide	1
M6	RFE32Z	Erase Head Base	1
M7	XTN26+15B	Screw, Erase Head M'tg	1
M8	XTN2+10B	Screw, Azimuth Adjust	1 S
M9	XTN2+8B	Screw, Record/Playback Head M'tg	1 S
M10	RFS338Z	Spring, Azimuth Adjust	1
M11	RFY91Z	Lever, Auto Stop	1
M12	RFS337Z	Spring, Arm	1
M13	RFU23Z	Head Base	1
M14	RFE122Z	Nut, Record/Playback Head M'tg	1
M15	RFJ31Z	Takeup Reel Table Ass'y	1
M16	RFJ32Z	Supply Reel Table Ass'y	1
M17	RFY279Z	Lever, Erase Safety	1
M18	RFS339Z	Spring, Back Tension	1
M19	RFY281Z	Playback Arm	1
M20	RFS341Z	Spring, Cassette Holder	1
M21	RFX39Y	Speed Nut, Fast Forward, Playback Gear	2
M22	RFG19Z	Fast Forward Gear	1
M23	RFG44Z	Playback Gear	1
M24	XTN26+6B	Screw, Earth Lug M'tg	1 S
M25	RFE123Z	Earth Lug	1
M26	RFU24Z	Mechanism Base Ass'y	1
M27	RFS153Z	Spring, Head Base	1
M28	RFY280Z	Lever, Eject Slide	1
M30	RFB32Z	Main Belt	1
M31	RFF21Z	Flywheel Ass'y	1
M32	RFM20Z	Motor Ass'y with Pulley	1
M34	RFK9Z	Idler Ass'y	1

Ref. No.	Part No.	Part Name & Description	Per Set	Ref. No.	Part No.	Part Name & Description	Per Set	Ref. No.
M35	QHQL223	Screw, Motor Ass'y M'tg	3			COILS AND TRANSFORMERS		K2-4
M36	QBG1539	Rubber, Motor Ass'y	3	L3	RLD4Y44	Antenna Coil, FM	1	K2-5
M37	XTN3+8B	Screw, Motor Bracket M'tg	1 S	L4	RLD4Y43	Oscillator Coil, FM	1	K2-6
M38	XTW26+10	Screw, Flywheel Holder M'tg	1	L5,6	RLF6W152	Antenna Coil, LW, MW	1	K2-7
M39	RFD155Z	Flywheel Holder	1	L7	RLA3M63	Antenna Coil, SW	1	
M40	RFS343Z	Spring, Lock Lever	1	L8	RLO1M4	Oscillator Coil, LW	1	K2-8
M41	RFY284Z	Lever, Lock	1	L9	RLO2M14	Oscillator Coil, MW	1	K3
M42	RFY285Z	Acting Plate	1	L10	RLO3M31	Oscillator Coil, SW	1	
				L11	RLQZ1001	Choke Coil	1	
M43	RFY286Z	Lever Holder	1	T1,3	RLI4M101	IFT, FM 1st, 2nd	2	K3
M44	RFS342Z	Spring, Lever Holder	1	T2	QLI2M102M	IFT, AM	1	
M45	RFY283Z	Lever Holder	1	T4	RLT5K3G2A	Power Transformer	1 Δ	K4
M46	RFS156Z	Spring, Fast Forward, Rewind Lever	1			VARIABLE RESISTORS		K5
M47	RFY282Z	Lever, Fast Forward, Rewind	1	VR1	EVNM4AA00B14	Variable Resistor, 10kΩ (B)	1 S	K6
M48	RFY287Z	Arm, Pause	1	VR101,201	EWCVAAF15A54	Variable Resistor, 50kΩ (A)	1	K7
M49	RFS340Z	Spring, Pause Lever etc	2	VR102,202	EWCS1AF15A54	Variable Resistor, 50kΩ (A)	1	K8
M50	RFY288Z	Lever, Pause	1	VR301	EWHP3AF15G15	Variable Resistor, 100kΩ (G)	1	K9
M51	RFY289Z	Lever, Playback	1			VARIABLE CAPACITORS		K9
M52	RFY290Z	Lever, Fast Forward	1					K10
M53	RFY291Z	Lever, Rewind	1	VC1~4	RCV4RC2RA	Tuning Capacitor, w/Trimmer Capacitor (CT1,2,4,5)	1	K10
M54	RFY292Z	Lever, Record	1	CT3	RCV1GT30A	Trimmer Capacitor	1	K11
M55	RFY293Z	Lever, Stop/Eject	1	CT6	RCV1GT20A	Trimmer Capacitor	1	K12
M56	RFS147Z	Spring, Rewind Lever etc	2	CT7	RCV1GT10A	Trimmer Capacitor	1	K13
M57	RFS344Z	Spring, Record Lever	1			CERAMIC FILTERS		K14
M58	RFE58Z	Oil Stopper	1	CF1	RVFSFE107MAZ	Ceramic Filter, 10.7MHz	1	K15
M59	RUA555Z	Holder, Mechanism Button	1	CF2	RVFSFZ455B	Ceramic Filter, 455kHz	1	
M60	RYT2X5012LS1	Button Ass'y, Stop/Eject (Silver)	1			COMPONENT COMBINATION		E1
M60	RYT2X5012LSX	Button Ass'y, Stop/Eject (Metallic Brown)	1	Z1	RXABPWB5W	Component Combination	1	E2
M61	RYT3X5012LS1	Button Ass'y, Record (Silver)	1			SPEAKER		E3
M61	RYT3X5012LSX	Button Ass'y, Record (Metallic Brown)	1		RAS12P07Z	Speaker, 12cm (4-23/32"), 3Ω PM Dynamic	2	E4
M62	RYT4X5012LS1	Button Ass'y, Rewind (Silver)	1			SWITCHES		E5
M62	RYT4X5012LSX	Button Ass'y, Rewind (Metallic Brown)	1	S1	RST3F15Z	Switch, Function	1	E6
M63	RYT5X5012LS1	Button Ass'y, Fast Forward (Silver)	1	S2	RST4H03Z	Switch, Band	1	E7
M63	RYT5X5012LSX	Button Ass'y, Fast Forward (Metallic Brown)	1	S3	RSH2F08Z	Switch, Record/Playback	1	E8
M64	RYT6X5012LS1	Button Ass'y, Playback (Silver)	1	S4	Refer to J103	Switch, AC/DC	1	E9
M64	RYT6X5012LSX	Button Ass'y, Playback (Metallic Brown)	1	S5	RST2A06Z	Switch, FM Mode	1	E10
M65	RYT7X5012LS1	Button Ass'y, Pause (Silver)	1	S6	RFA43Z	Switch, Motor	1	E11
M65	RYT7X5012LSX	Button Ass'y, Pause (Metallic Brown)	1			JACKS		E12
M66	RUS455Z	Spring, Record/Playback	1	J101,102				E13
M67	XTV3+8G	Screw, Record Playback Spring M'tg	1	201,202	QJA0172A	Jack, EXT, MIC/SP	4	E14
				J103	RJJ30Z	Jack, AC IN	1 Δ	E15
				J301	RJJ1E9Z	Jack, Headphone	1	E16
						CABINET PARTS		E17
IC1	AN7213	IC	1	K1	RYMX5012LSX8	Front Cabinet Ass'y (Silver)	1	E18
IC2	AN7220A	IC	1	K1	RYMX5012LSX1	Front Cabinet Ass'y (Metallic Brown)	1	E19
IC3	AN7410N	IC	1	K1-1	RYPX5012LSXG	Cassette Panel Ass'y	1	E20
IC4	AN7310	IC	1	K1-2	RUS441X	Spring, Eject	1	
IC5	RVIBA5406	IC	1	K1-3	RUS438Z	Spring, Cassette Panel	1	
Q1	2SC1675K1	Transistor (Si)	1	K2	RYFX5012LSX7	Rear Cabinet Ass'y (Silver)	1	
Q101,201	2SA733Q	Transistor (Ge)	2	K2	RYFX5012LSXG	Rear Cabinet Ass'y (Metallic Brown)	1	
Q301	2SC945-Q	Transistor (Si)	1 S	K2	RYFX5012LSF7	Rear Cabinet Ass'y (Silver)	1	
D1,101,201	MA161	Diode (Si)	3 S			(Marked with the country of origin)	1	
D2	RVDS113	Diode (Si)	1			Rear Cabinet Ass'y (Metallic Brown)	1	
D3	RVDRD5R1EB1	Diode (Si)	1			(Marked with the country of origin)	1	
D4,301	RVDSL155B4A	LED (OPE/BATT, FM ST)	2	K2-1	QBN8009	Spring, Battery - Side	1	
D302~305	RVDS1RBA10F	Diode (Si)	1	K2-2	RJC111Z	Terminal Battery + Side	1	
				K2-3	RJC931Z	Terminal Battery -, + Side	1	
				K2-4	RKX224Z	Handle (Silver)	1	

Ref. No.	RES
R1	ERD
R2	ERD
R3	ERD
R4	ERD
R5	ERD
R6	ERD
R7	ERD
R8	ERD
R9	ERD
R10	ERD

Ref. No.	Part No.	Part Name & Description	Per Set	Ref. No.	Part No.	Value	Ref. No.	Part No.	Value
K2-4	RKX224Z1	Handle (Metallic Brown)	1	R26	ERD25FJ102	1K S	C34	ECEALHV0R1	0.1
K2-5	RKX192Y	Arm, Handle	2	R27	ERD25FJ472	4.7K S	C35	ECEAOJV101	100
K2-6	RKX165Z	Spacer, Handle	2	R28	ERD25FJ472	4.7K S	C36	ECCDLH390KC	39P
K2-7	RJT740Z	Terminal, Telescopic Antenna	1	R29	ERD25TJ104	100K S	C37	ECKDLH471KB	470P
K2-8	XTB3+8CFY	Screw, Handle M'tg	2	R31	ERD25FJ472	4.7K S	C38	ECFTLE473MD	0.01
K3	RYTLX5012LS1	Knob Ass'y, Tuning (Silver)	1	R32	ERD25FJ102	1K S	C39	ECEALCV100	10
K3	RYTLX5010LS0	Knob Ass'y, Tuning (Metallic Brown)	1	R34	ERD25FJ221	220 S	C40	ECKDLH103MD	0.01
K4	RDP831Z	Pointer, Dial	1	R101	ERD25FJ471	470 S	C41	ECEALHV010	1
K5	RDA95Z	Holder, Pointer	1	R103	ERD25FJ103	10K S	C42	ECKDLH103ZF	0.01
K6	RNW1010Z	Washer, Worm Gear	1	R104	ERD25FJ472	4.7K S	C43	ECEALAV101	100
K7	RDG5807Y	Worm Gear	1	R105	ERD25FJ473	47K S	C44	ECFTLE153MD	0.015
K8	RYNX5015DLS7	Battery Cover Ass'y (Silver)	1	R106	ERD25FJ330	33 S	C45	ECQP2A471JZ	470P
K8	RYNX5015DLSK	Battery Cover Ass'y (Metallic Brown)	1	R107	ERD25TJ823	82K S	C46	ECFTLE333MD	0.033
K9	RBN572Z3	Knob, Volume etc (Silver)	3	R108	ERD25FJ682	6.8K S	C47	ECEALHVR47	0.47
K9	RBN572Z2	Knob, Volume etc (Metallic Brown)	3	R109	ERD25FJ1RO	1 S	C48	ECFTLE153MD	0.015
K10	RBS182Z1	Knob, Switch (Silver)	3	R110	ERD25FJ681	680 S	C49	ECFTLE153MD	0.015
K10	RBS182Z	Knob, Switch (Metallic Brown)	3	R111	ERD25FL393	39K S	C50	ECEALHV010	1
K11	XEAQCR228EBY	Telescopic Antenna	1	R112	ERD25FJ332	3.3K S	C51	ECEALHV010	1
K12	RME331Z	Cushion, Motor Bracket	1	R114	ERD25FJ221	220 S	C52	ECEALHV010	1
K13	XYN3+F15FY	Screw, Antenna M'tg	1	R115	ERD25FJ103	10K S	C53	ECKDLH102ZF	0.001
K14	XTB3+45C	Screw, Cabinet M'tg	7	R116	ERD25TJ153	15K S	C54	ECFTLE473MD	0.047
K15	RUL653Z	Stopper	1	R117	ERD25FJ151	150 S	C55	ECFTLE223MD	0.022
				R118	ERD25FJ822	8.2K S	C60	ECKDLH102KB	0.001
				R201	ERD25FJ471	470 S	C61	ECCDLH070DC	7P
				R203	ERD25FJ103	10K S	C65	ECCDLH050CC	5P
				R204	ERD25FJ472	4.7K S	C101	ECEALHV0R1	0.1
				R205	ERD25FJ473	47K S	C102	ECFTLE473MD	0.047
				R206	ERD25FJ330	33 S	C103	ECKDLH472MD	0.0047
				R207	ERD25TJ823	82K S	C104	ECKDLH152MD	0.0015
				R208	ERD25FJ682	6.8K S	C105	ECEALHV010	1
ELECTRICAL PARTS				R210	ERD25FJ681	680 S	C106	ECKDLH471KB	470P
E1	RJM144Z	Microphone	2	R211	ERD25FJ393	39K S	C107	ECEAOJV101	100
E2	RME262Z	Holder, Microphone	2	R212	ERD25FJ332	3.3K S	C108	ECFTLE223MD	0.022
E3	RHG553Z	Cover, Microphone	2	R214	ERD25FJ221	220 S	C109	ECEALHV010	1
E4	RUV627Z	Cover, Lever Switch	2	R215	ERD25FJ103	10K S	C111	ECFTLE333MD	0.033
E5	RUV643Z	Cover, Lever Switch	1	R216	ERD25TJ153	15K S	C112	ECEALHVR33	0.33
E6	RDG5699Z	Drum, Dial	1	R217	ERD25FJ151	150 S	C113	ECKDLH102MD	0.001
E7	RJS3L1Z	Socket, 3 Pin	3	R218	ERD25FJ822	8.2K S	C115	ECEALAV470	47
E8	RJT462Z	Terminal Socket	11	R301	ERD25FJ102	1K S	C117	ECEAOJV101	100
E9	RJP3G1Z	Plug, 3 Pin	3	R305	ERD25FJ102	1K S	C118	ECFTLE104MD	0.1
E10	RJP2G1Z	Plug, 2 Pin	1	R306	ERD25FJ181	180 S	C119	ECEAOJV471	470
E11	RJS2L1Z	Socket, 2 Pin	1	R307	ERD25FJ391	390 S	C150	ECCDLH181K	180P
E12	RJT202B	Motor Earth	1	R308	ERD25FJ220	22 S	C201	ECEALHV0R1	0.1
E13	XBA2C10TR0	Fuse, T1A	1	CAPACITORS			C202	ECFTLE473MD	0.047
E14	QTF1054	Holder, Fuse	2	C1	ECCDLH100KC	10P	C203	ECKDLH472MD	0.0047
E15	RJE10Z	Cover, AC Socket	1	C2	ECCDLH070DC	7P	C204	ECKDLH152MD	0.0015
E16	RMP164Y	Holder, LED	1	C3	ECCDLH150KC	15P	C205	ECEALHV010	1
E17	XSN26+8	Screw, Dial Drum M'tg	1	C4	ECCDLH470KC	47P	C206	ECKDLH471KB	470P
E18	XWA26B	Washer	1	C5	ECKDLH103ZF	0.01	C207	ECEAOJV101	100
E19	XTV3+14G	Screw, P.C.B. etc M'tg	12	C6	ECKDLH102KB	0.001	C208	ECFTLE223MD	0.022
E20	XTW3+10F	Screw, Speaker M'tg	8	C8	ECCDLH100KC	10P	C209	ECEALHV010	1
E21	XTW3+12F	Screw, Power Transformer M'tg	2	C9	ECKDLH102KB	0.001	C211	ECFTLE333MD	0.033
E22	XTV3+12G	Screw, AC Socket M'tg	2	C10	ECCDLH180KC	18P	C212	ECEALHVR33	0.33
ACCESSORY				C11	ECCDLH100KC	10P	C213	ECKDLH102MD	0.001
	RJA20Z	Power Cord, AC	1	C13	ECCDLH150KC	15P	C215	ECEALAV470	47
PACKING MATERIALS				C14	ECCDLH100KC	10P	C217	ECEAOJV101	100
	RPN3446Z	Pad	1	C15	ECKDLH103MD	0.01	C218	ECFTLE104MD	0.1
	RPN9372Z	Pad Complete	1	C16	ECCDLH100KC	10P	C219	ECEAOJV471	470
	RPK1680Z	Gift Box	1	C17	ECQS2B151JZ	150P	C250	ECCDLH181K	180P
	XZB45x60A01	Polyethylene Cover	1	C18	ECCDLH150KC	15P	C301	ECEALAV470	47
PRINTED MATERIAL				C19	ECKDLH102ZF	0.001	C302	ECEAOJV101	100
	RQX4187Z	Instruction Book	1	C20	ECFTLE683MD	0.068	C303	ECKDLH102ZF	0.001
				C21	ECQP2A221JZ	220P	C304	ECEALCV102	1000
				C22	ECQP2A361JZ	360P	C305	ECEALAV221	220
							C306	ECEALCV221	220
							C307	ECEALCV222	2200
							C308	ECKDLH223ZF	0.022
							C309	ECKDLH223ZF	0.022
							C310	ECEALCV221	220
							C311	ECKDLH223ZF	0.022
							C312	ECKDLH223ZF	0.022
							C313	ECEALHF100	10
							C315	ECEALCV100	10
							C316	ECKDLH333ZF	0.033
							C317	ECEAOJV221	220
							C399	ECEALAV101	100
							C400	ECCDLH101K	100P
Ref. No.	Part No.	Value	Ref. No.	Part No.	Value	C23	ECQP2A392JZ	3900P	
	RESISTORS		R11	ERD25FJ221	220 S	C24	ECCDLH181K	180P	
R1	ERD25FJ101	100 S	R12	ERD25FJ681	680 S	C25	ECFTLE223MD	0.022	
R2	ERD25FJ470	47 S	R13	ERD25FJ473	47K S	C26	ECEAOJV101	100	
R3	ERD25FJ561	560 S	R14	ERD25FJ222	2.2K S	C27	ECEALCV100	10	
R4	ERD25FJ333	33K S	R15	ERD25FJ470	47 S	C28	ECCDLH181K	180P	
R5	ERD25FJ101	100 S	R16	ERD25FJ472	4.7K S	C29	ECFTLE223MD	0.022	
R6	ERD25TJ474	470K S	R17	ERD25TJ474	470K S	C30	ECFTLE333MD	0.033	
R7	ERD25TJ474	470K S	R20	ERD25FJ101	100 S	C31	ECKDLH103MD	0.01	
R8	ERD25FJ471	470 S	R22	ERD25FJ220	22 S	C32	ECCDLH470KC	47P	
R9	ERD25FJ471	470 S	R23	ERD25FJ183	18K S	C33	ECFTLE223MD	0.022	
R10	ERD25FJ101	100 S							