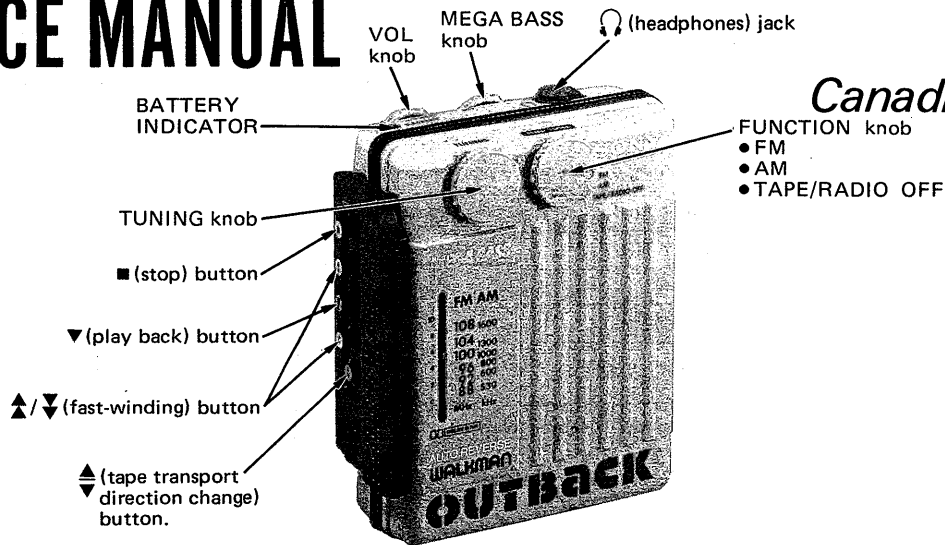


# WM-AF79

## SERVICE MANUAL



US Model  
Canadian Model

### SPECIFICATIONS

#### Radio section

Frequency range FM: 87.6 – 108 MHz  
AM: 530 – 1,605 kHz  
Antennas FM: Headphone cord antenna  
AM: Built-in ferrite bar antenna

#### Cassette player section and general

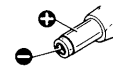
Frequency response 40 – 15,000 Hz  
(Dolby NR off)  
Power output 5 mW + 5 mW load impedance 16 Ω  
(headphones) at DC operation  
Power requirement 3 V DC  
Two size AA (R6) batteries  
DC IN 3 V jack accepts:  
Sony AC-D2L AC power adaptor  
for use on 120 V AC, 60 Hz  
Battery life Approx. 7 hours for tape playback  
Approx. 30 hours for FM reception  
Using Sony alkaline batteries AM3(N)  
Dimensions Approx. 103 x 120.6 x 54.7 mm  
(w/h/d) (4<sup>1</sup>/<sub>16</sub> x 4<sup>3</sup>/<sub>4</sub> x 2<sup>3</sup>/<sub>32</sub> inches)  
incl. belt clip, projecting parts, and  
controls  
Weight 370 g (13.1 oz) incl. batteries and  
belt clip  
Supplied accessories Stereo headphones (open-air type, 1)  
Belt clip (1)

#### Optional accessories

AC power adaptor AC-D2L  
Battery case EBP-500B  
Car battery cord DCC-70  
Rechargeable battery kit BPC-700K

Model Name Using Similar Mechanism	WM-F73
Tape Transport Mechanism Type	MF-WMF73-80



**Note:** Use only the recommended AC power adaptor or the car battery cord manufactured by Sony. Polarity of the plugs of other manufacturers may be different.



Polarity of the Sony plug.





FM/AM STEREO CASSETTE-PLAYER  
**SONY**®

On tape playback mode

Both sides once	Set MODE to  *.
Both sides repeatedly	Set MODE to  .


\* If playback begins on the reverse side, the unit will shut off automatically at the end of that side.

On tape operation

To change the side	Press  .
To wind rapidly	Depress  or  .
To stop	Press  .

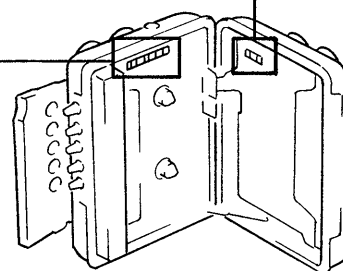
Getting the best performance from your tape

Tape type	DOLBY NR/TAPE
Dolby NR* processed	Set to ON.
NORMAL (TYPE I)	Set to NORM.
CrO <sub>2</sub> (TYPE II) METAL (TYPE IV)	Set to CrO <sub>2</sub> /METAL.

\*Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation. "DOLBY" and the double-D symbol  are trademarks of Dolby Laboratories Licensing Corporation.

On radio operation

LOCAL -DX



SERVICING NOTE

Flexible Circuit Board Repairing

- Keep the temperature of the soldering iron around 270°C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

Notes on chip component replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

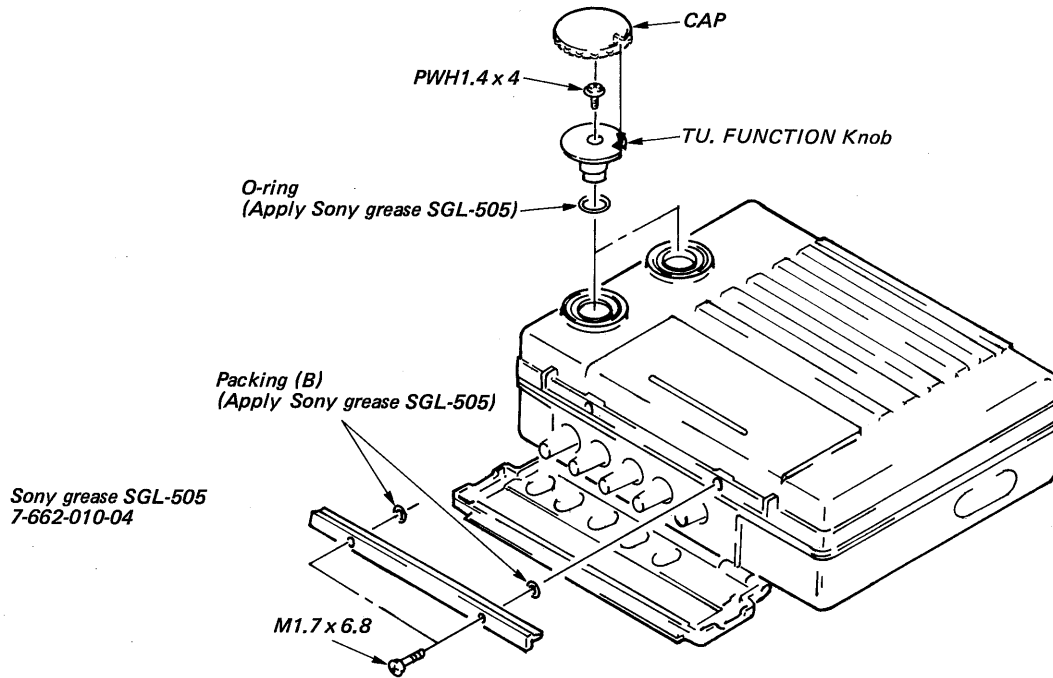
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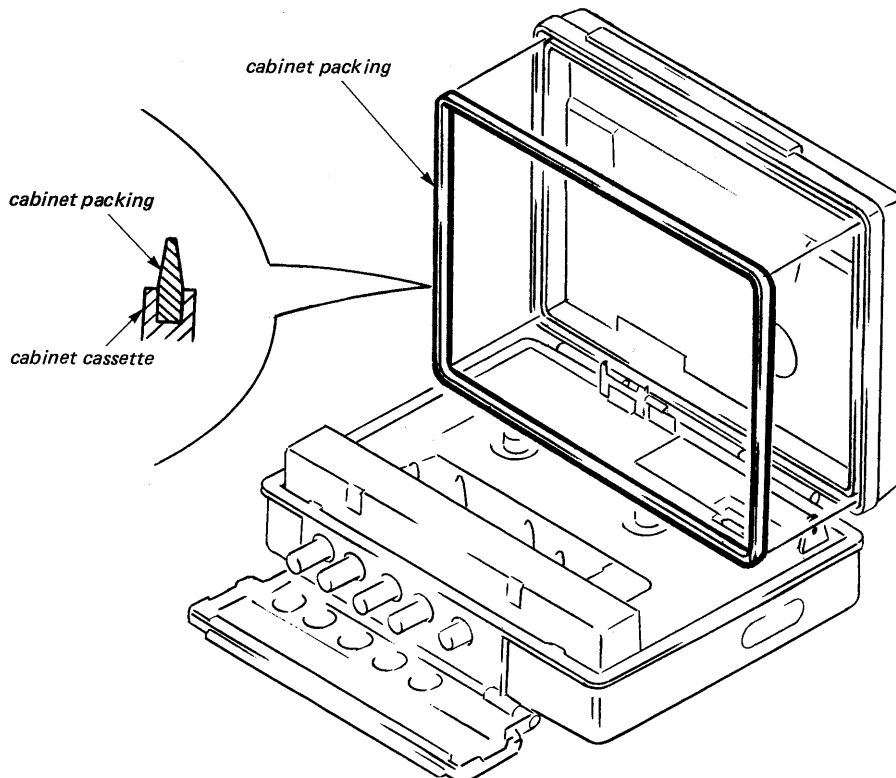
## SECTION 1 NOTE ON REPAIR

### 2-1. REMOVAL AND ASSEMBLY OF WATERPROOFED SECTIONS

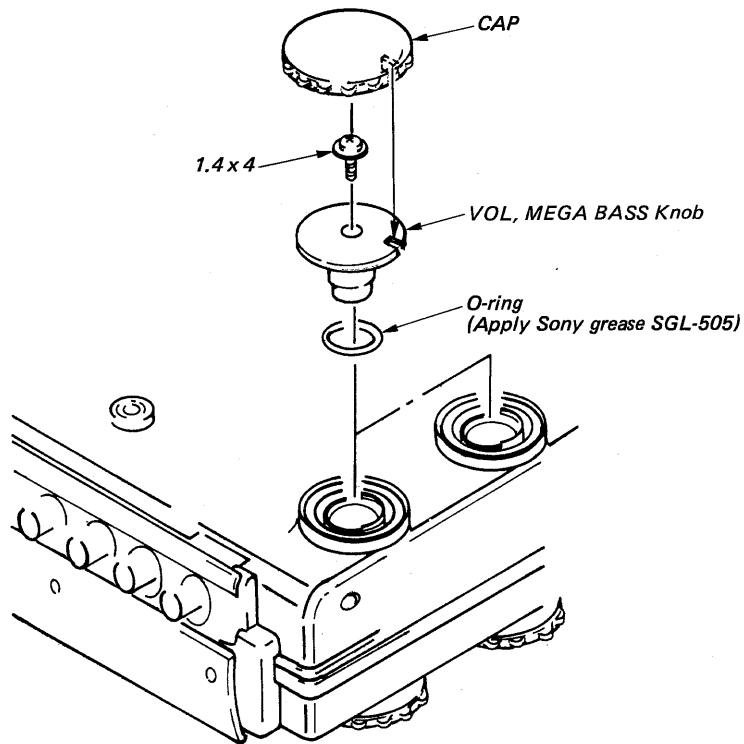
#### KNOB O-RING AND PACKING (B) REMOVAL



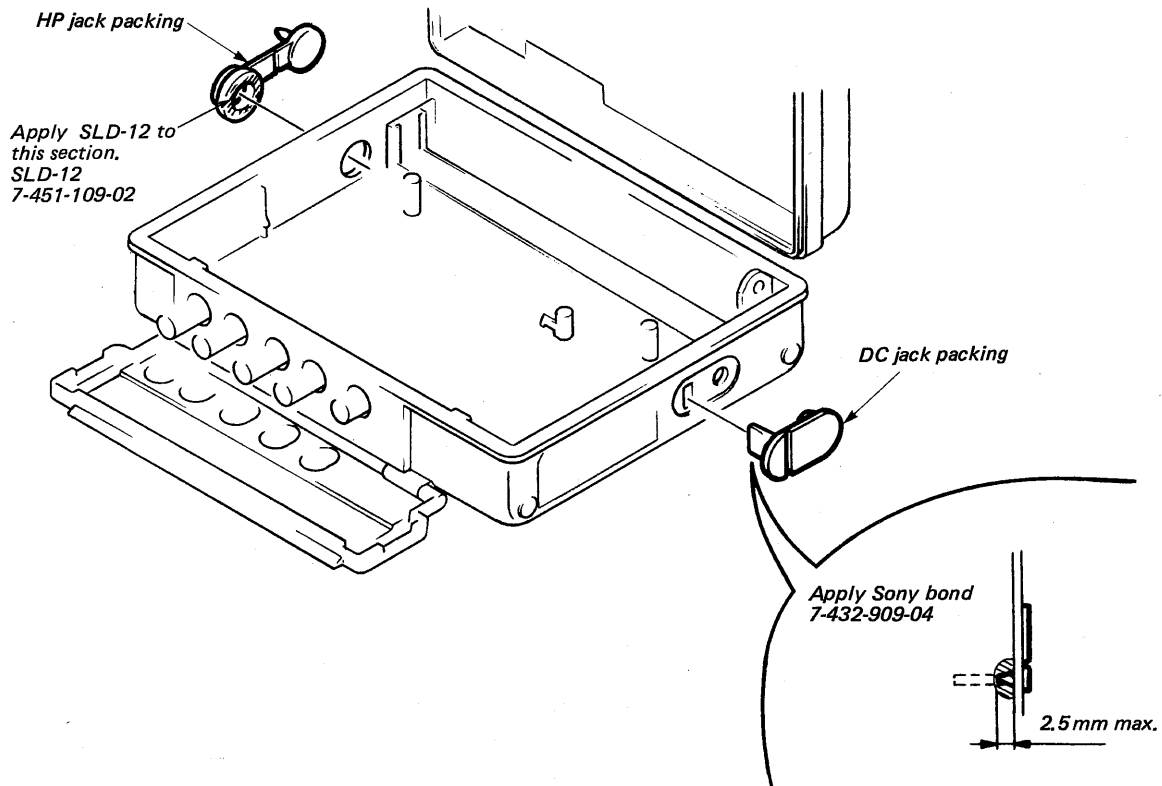
#### REPLACEMENT OF CABINET PACKING



REPLACEMENT OF KNOB AND O-RING



REPLACEMENT OF HP/DC JACK PACKING

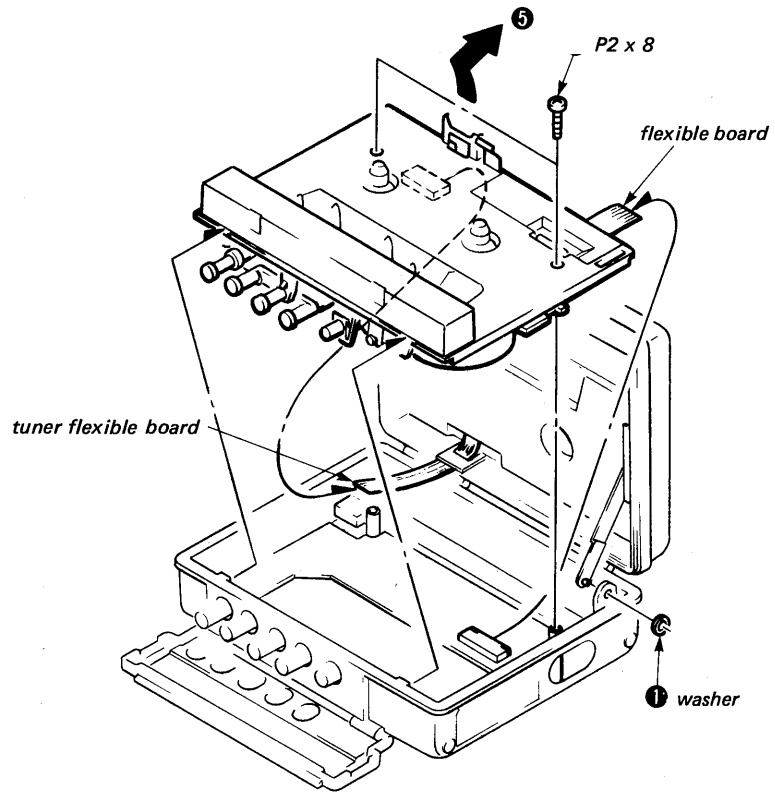
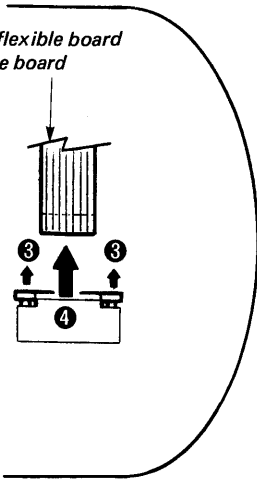


## SECTION 2 DISASSEMBLY

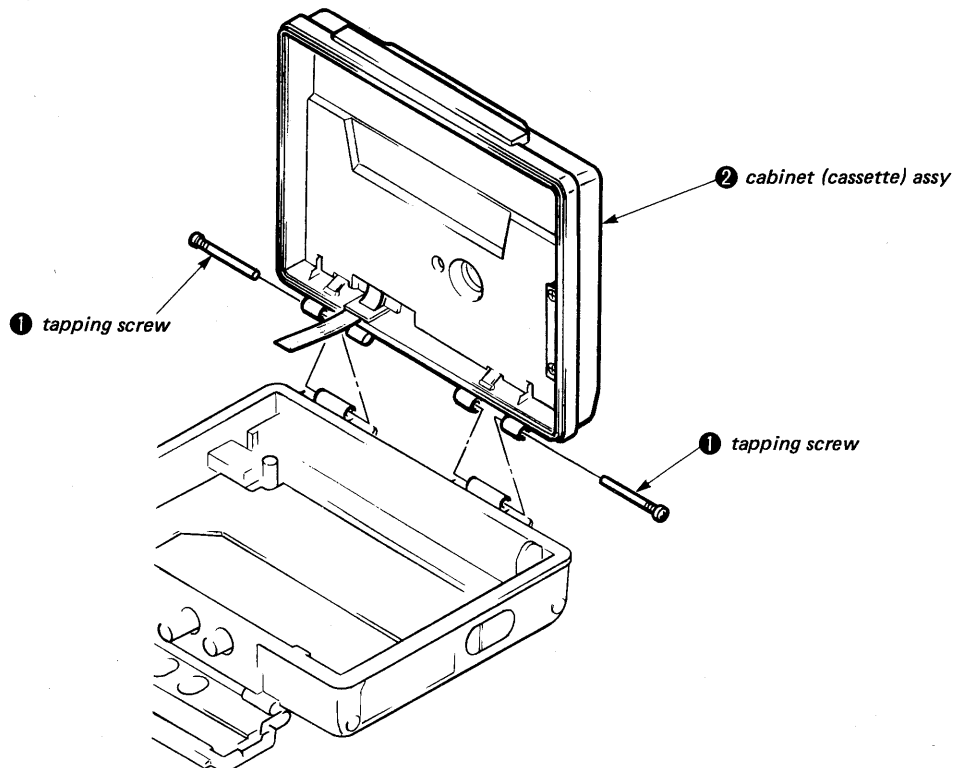
**Note:** Follow the disassembly procedure the numerical order given.

### UNIT REMOVAL

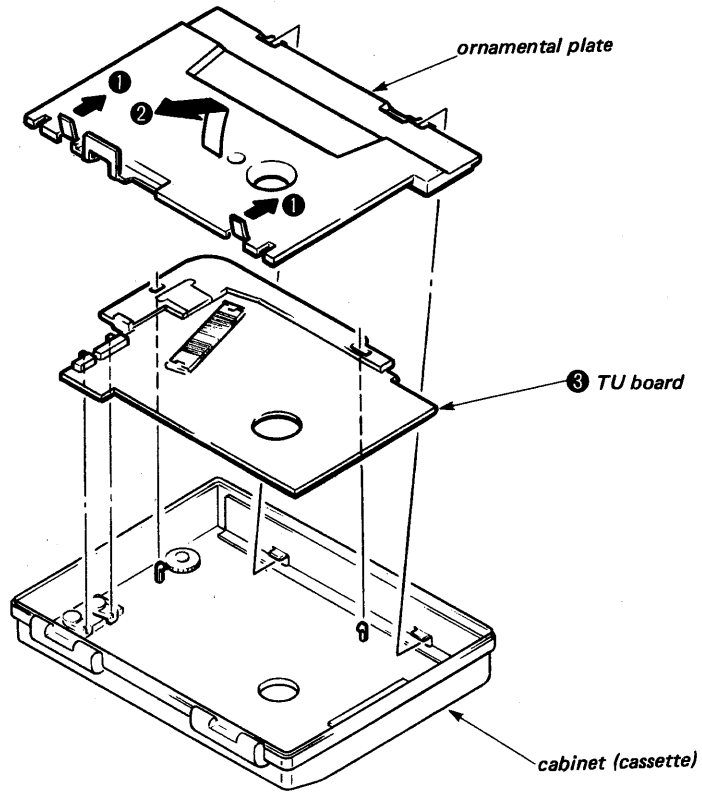
- tuner flexible board
- flexible board



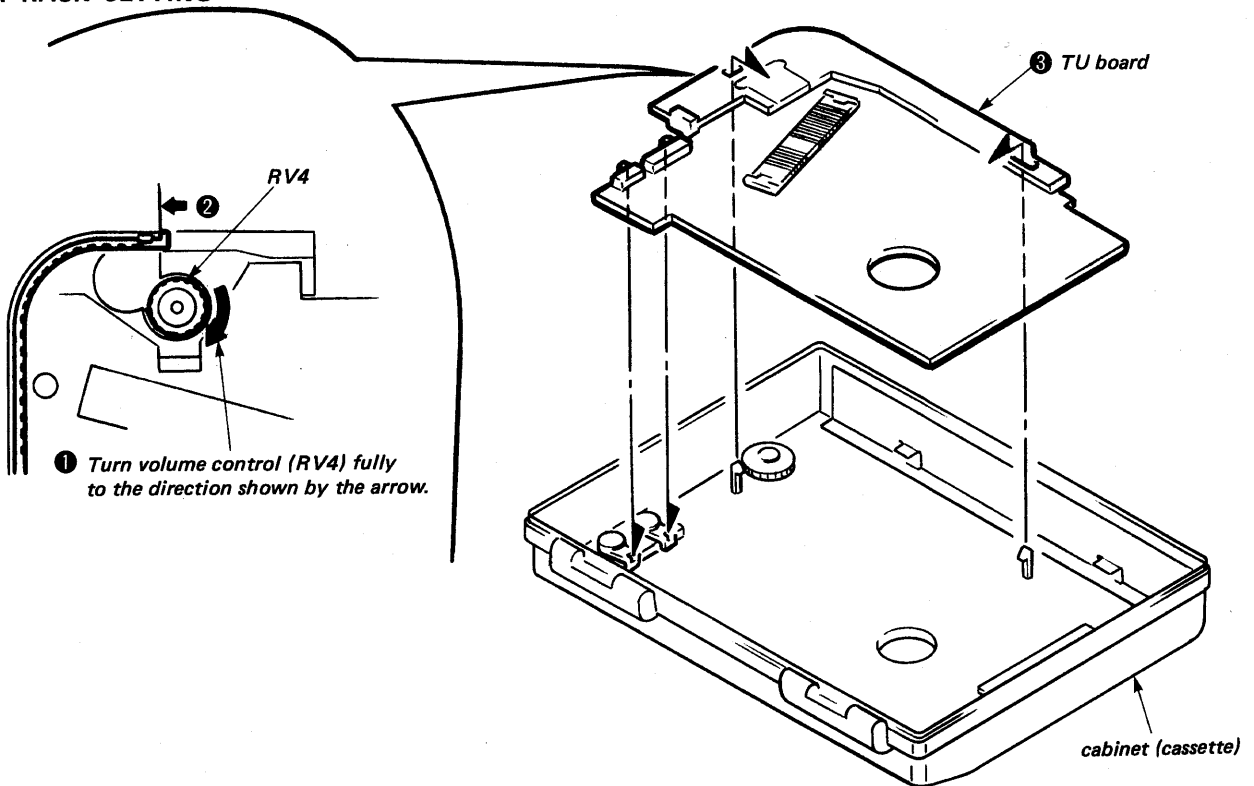
### CABINET (CASSETTE) ASSEMBLY REMOVAL



TUNER BOARD REMOVAL



POINTER RACK SETTING



## SECTION 3 MECHANICAL ADJUSTMENTS

### PRECAUTION

1. Clean the following parts with a denatured-alcohol-moistened swab:
 

playback head	pinch roller
capstan	rubber belts
2. Demagnetize the playback head with a head demagnetizer.
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply voltage (2.5V) unless otherwise noted.

### Torque Measurement

Mode	Torque meter	Meter reading
FWD	CQ-102C	22 – 55 g·cm (0.30 – 0.76 oz·inch)
FWD Back Tension		less than 3 g·cm (less than 0.04 oz·inch)
REV	CQ-102RB	22 – 55 g·cm (0.30 – 0.76 oz·inch)
REV Back Tension		less than 3 g·cm (less than 0.04 oz·inch)
FF, REW	CQ-201B	more than 60 g·cm (more than 0.83 oz·inch)

### Tape Tension Measurement

Mode	Torque meter	Meter reading
FWD	CQ-403A	more than 55 g·cm
REV	CQ-403R	(more than 0.76 oz·inch)

## SECTION 4 ELECTRICAL ADJUSTMENTS

### CASSETTE SECTION

#### Playback Head Azimuth Check

Perform this check both in FWD and REV mode.

DC Supply Voltage 2.5 V.

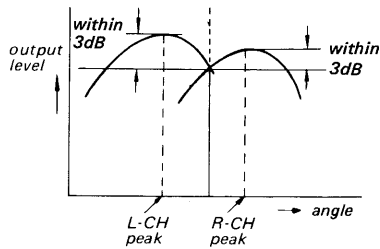
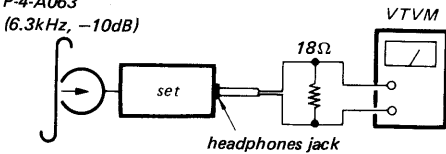
**Note:** This set is not featured the head azimuth adjustment.  
When replacing the head, check the both L-ch and R-ch output levels and also those phases.

#### Procedure:

##### 1. Level Check

Mode: playback

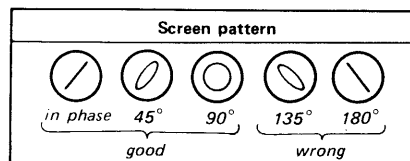
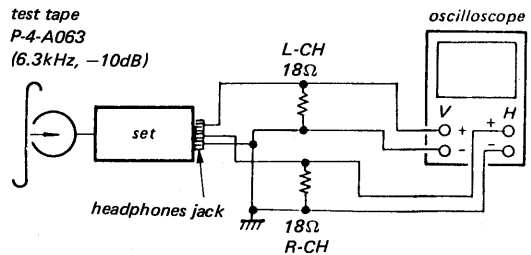
test tape  
P-4-A063  
(6.3kHz, -10dB)



##### 2. Phase Check

Mode: playback

test tape  
P-4-A063  
(6.3kHz, -10dB)

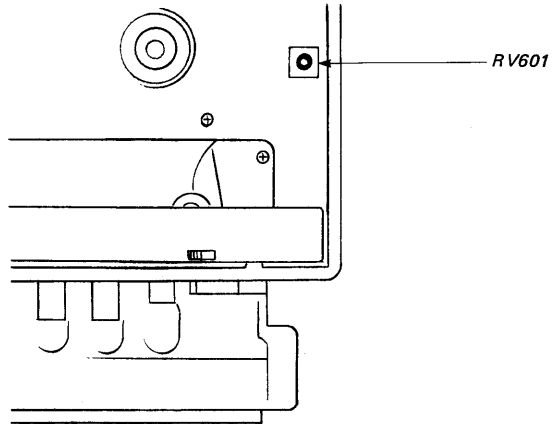
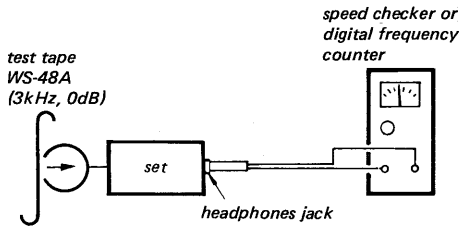


### Tape Speed Adjustment

**Procedure:**

Mode: playback

**Adjustment Location:**

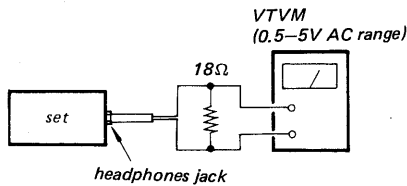
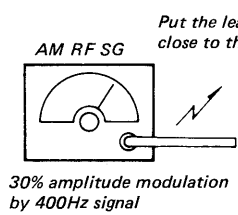


**Specification:**

speed checker	digital frequency counter
±1.5%	2,985 – 3,015 Hz

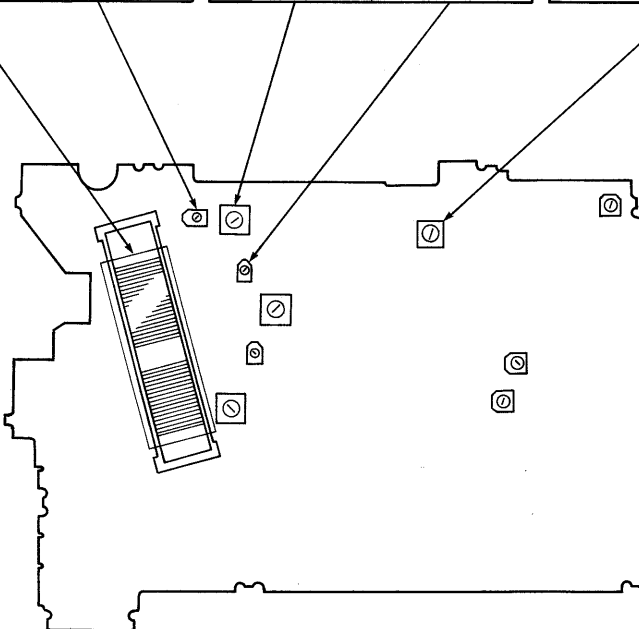
Frequency difference between the beginning and the end of the tape should be within ± 2.5% (±75%Hz).

### AM SECTION



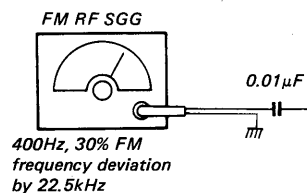
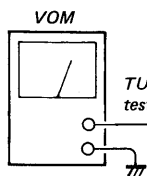
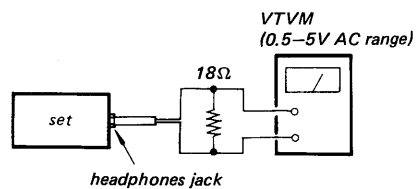
- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.

AM TRACKING ADJUSTMENT		AM FREQUENCY COVERAGE ADJUSTMENT		AM IF ADJUSTMENT
Adjust for a maximum reading on VTVM.				
620kHz	1,400kHz	T2	CT3	455kHz
L11	CT4	515kHz	1,680kHz	T1



**FM SECTION**

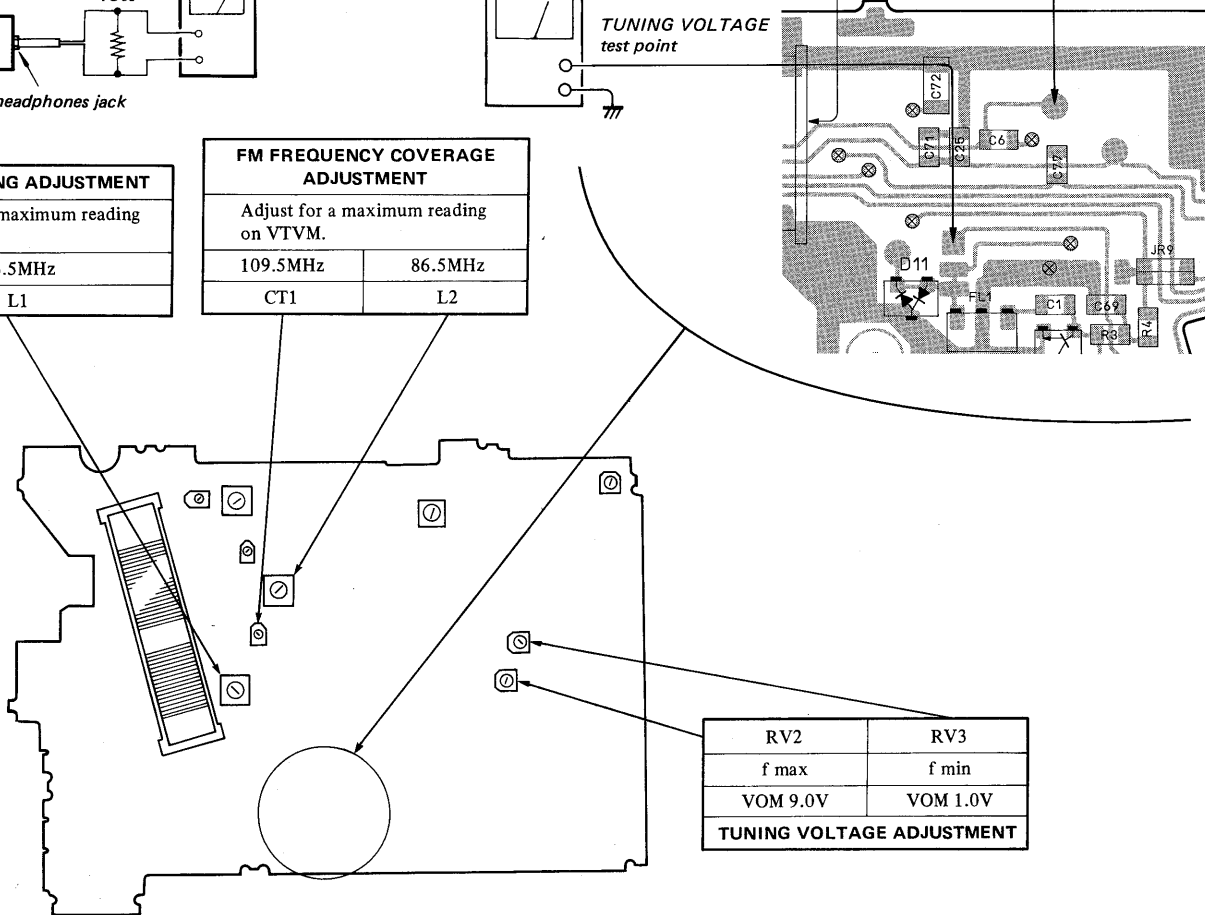
- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.



FM TRACKING ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
86.5MHz	
L1	

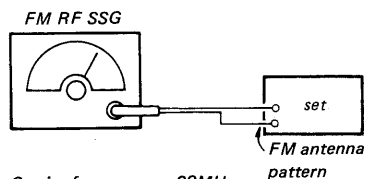
FM FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
109.5MHz	86.5MHz
CT1	L2

RV2	RV3
f max	f min
VOM 9.0V	VOM 1.0V
TUNING VOLTAGE ADJUSTMENT	



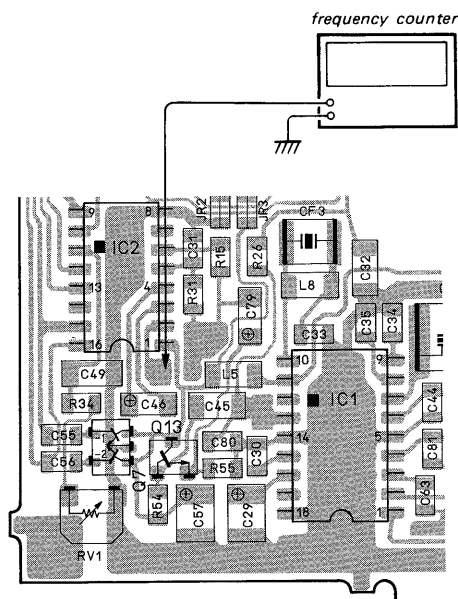
**VCO Adjustment**

**Procedure:**



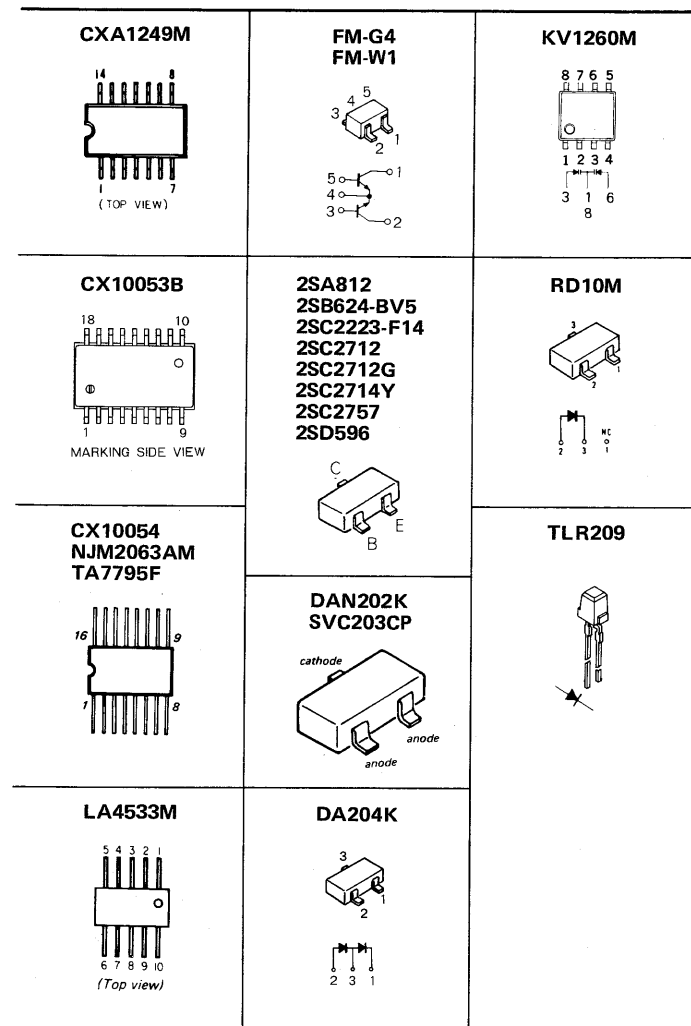
Carrier frequency 98MHz  
 Modulation: No modulation  
 Output level: 1mV (60dB)

1. Tune the set to 98MHz.
2. Adjust RV1 for 19kHz ±20Hz reading on the frequency counter.



**SECTION 5  
DIAGRAMS**

5-1. Semiconductor Lead Layouts



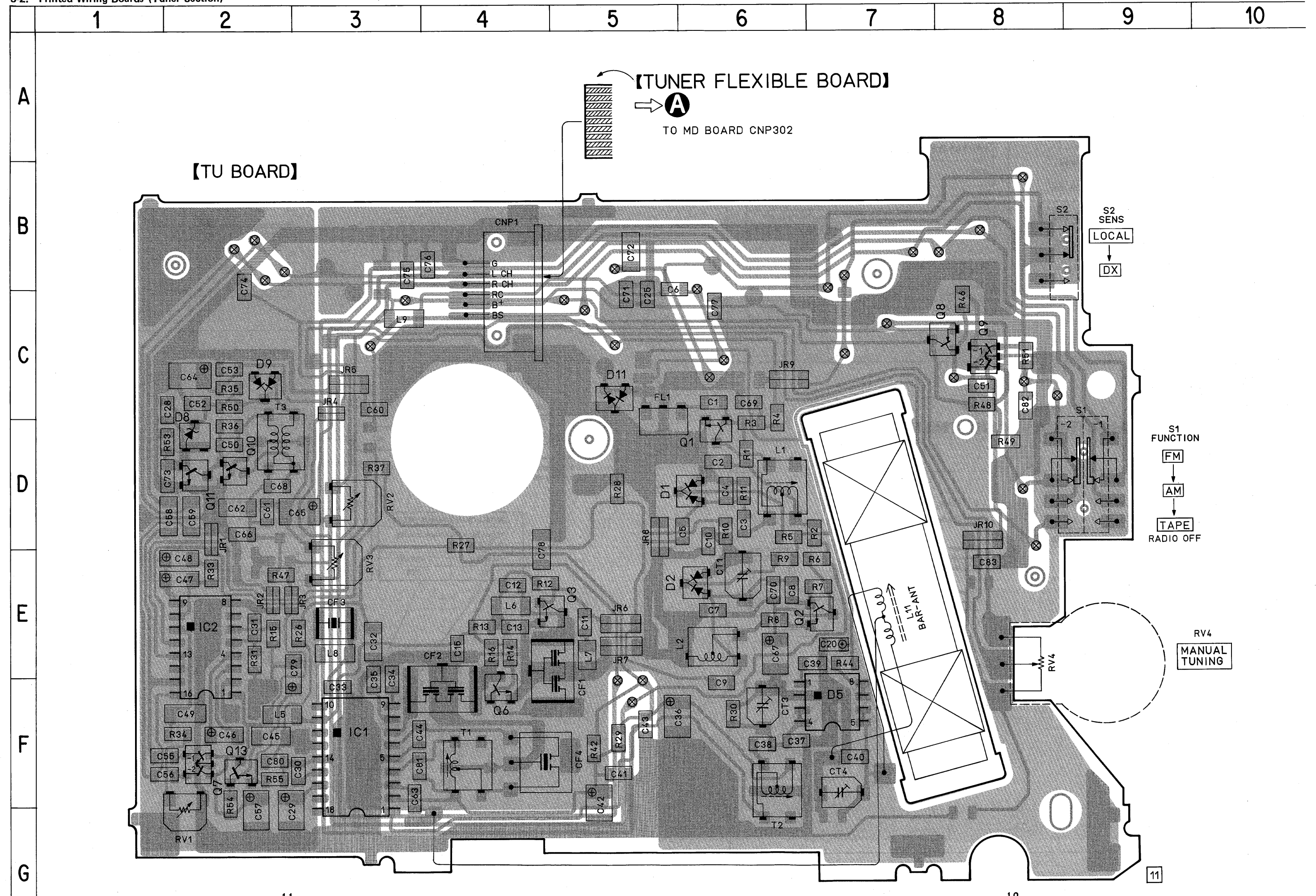
**Semiconductor Location**

Ref. No.	Location
D1	D-6
D2	E-6
D5	F-7
D8	D-2
D9	O-2
D11	O-5
IC1	F-3
IC2	E-2
Q1	D-6
Q2	E-7
Q3	E-5
Q6	F-4
Q7	F-2
Q8	C-8
Q9	O-8
Q10	D-2
Q11	D-2
Q13	F-2

**Note:**

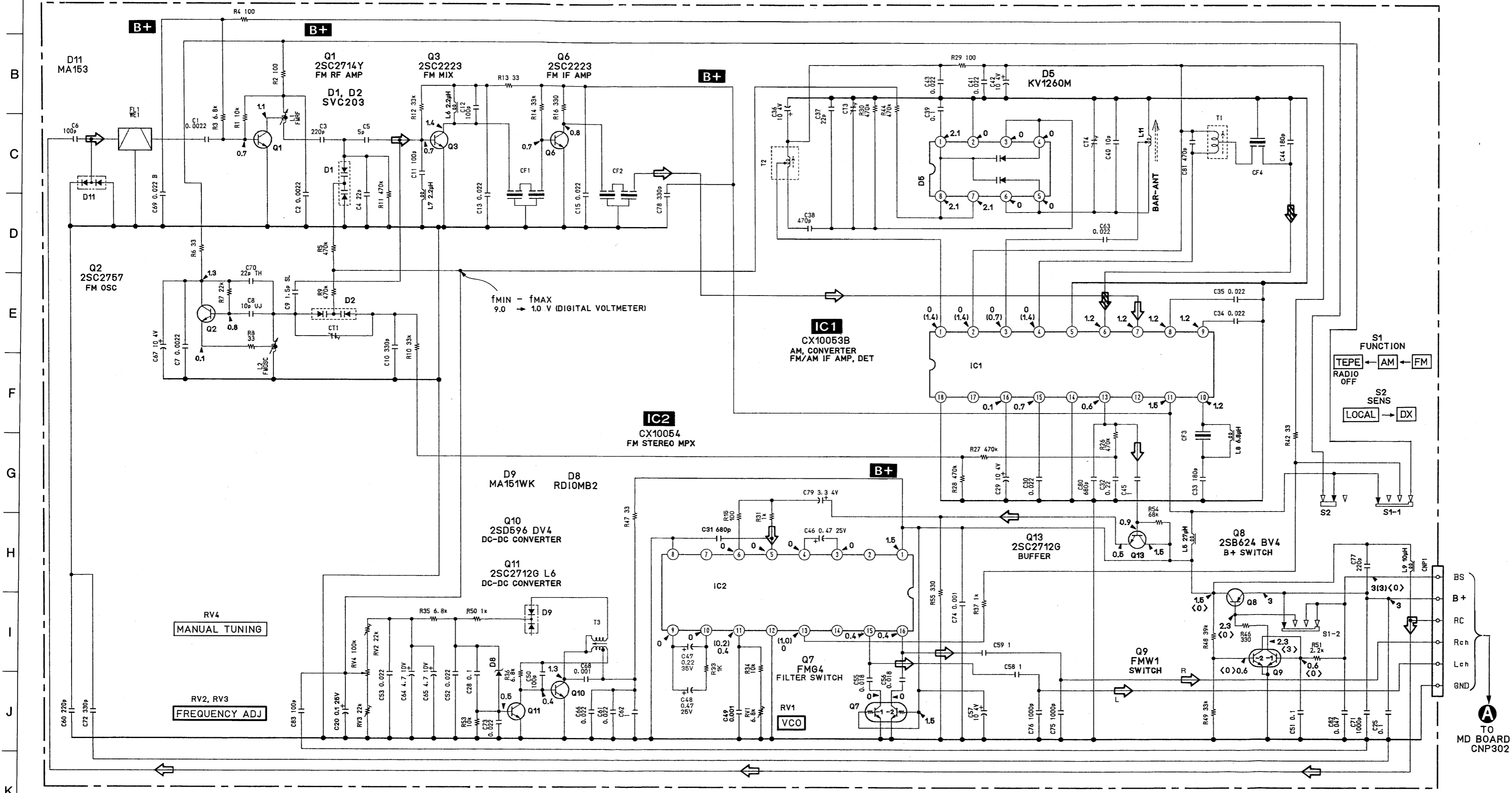
- : parts extracted from the component side.
- : parts extracted from the conductor side.
- : parts mounted on the conductor side.
- ⊗ : Through hole.
- ▨ : Pattern on the side which is seen.
- ▩ : Pattern of the rear side.

5-2. Printed Wiring Boards (Tuner Section)

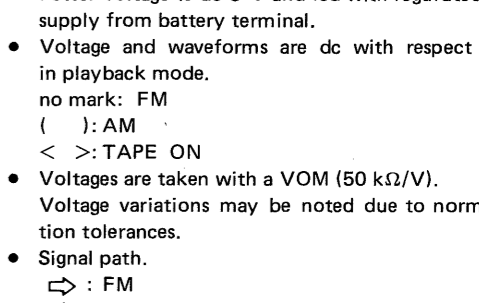
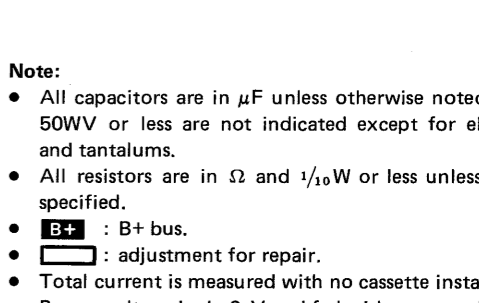
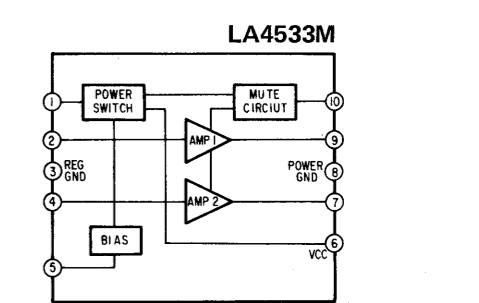
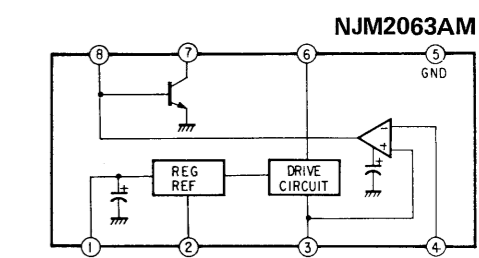
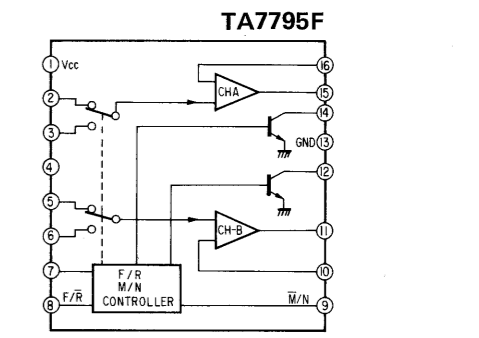


5-3. SCHEMATIC DIAGRAM (Tuner Section)

**[TU BOARD]**



**IC BLOCK DIAGRAMS**



Note:

- All capacitors are in  $\mu\text{F}$  unless otherwise noted. pF:  $\mu\text{pF}$  50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in  $\Omega$  and  $1/10\text{W}$  or less unless otherwise specified.
- B+**: B+ bus.
- : adjustment for repair.
- Total current is measured with no cassette installed.
- Power voltage is dc 3 V and fed with regulated dc power, supply from battery terminal.
- Voltage and waveforms are dc with respect to ground in playback mode.
- no mark: FM
- ( ): AM
- < >: TAPE ON
- Voltagages are taken with a VOM (50 k $\Omega$ /V). Voltage variations may be noted due to normal production tolerances.
- Signal path.
- : FM
- : AM
- Switches:

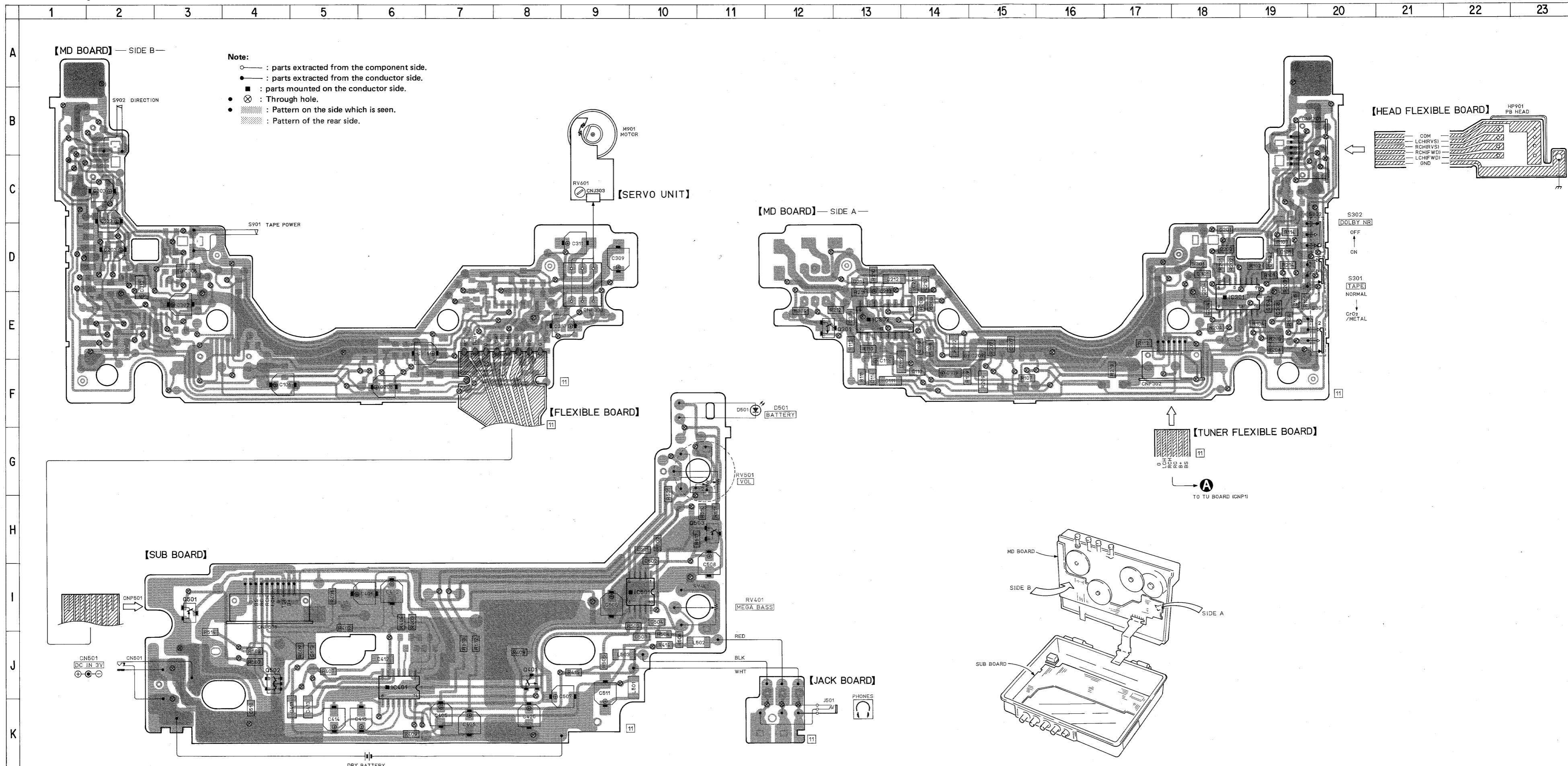
Ref. No.	Switch	Position
S1	FUNCTION	FM
S2	SENS	LOCAL



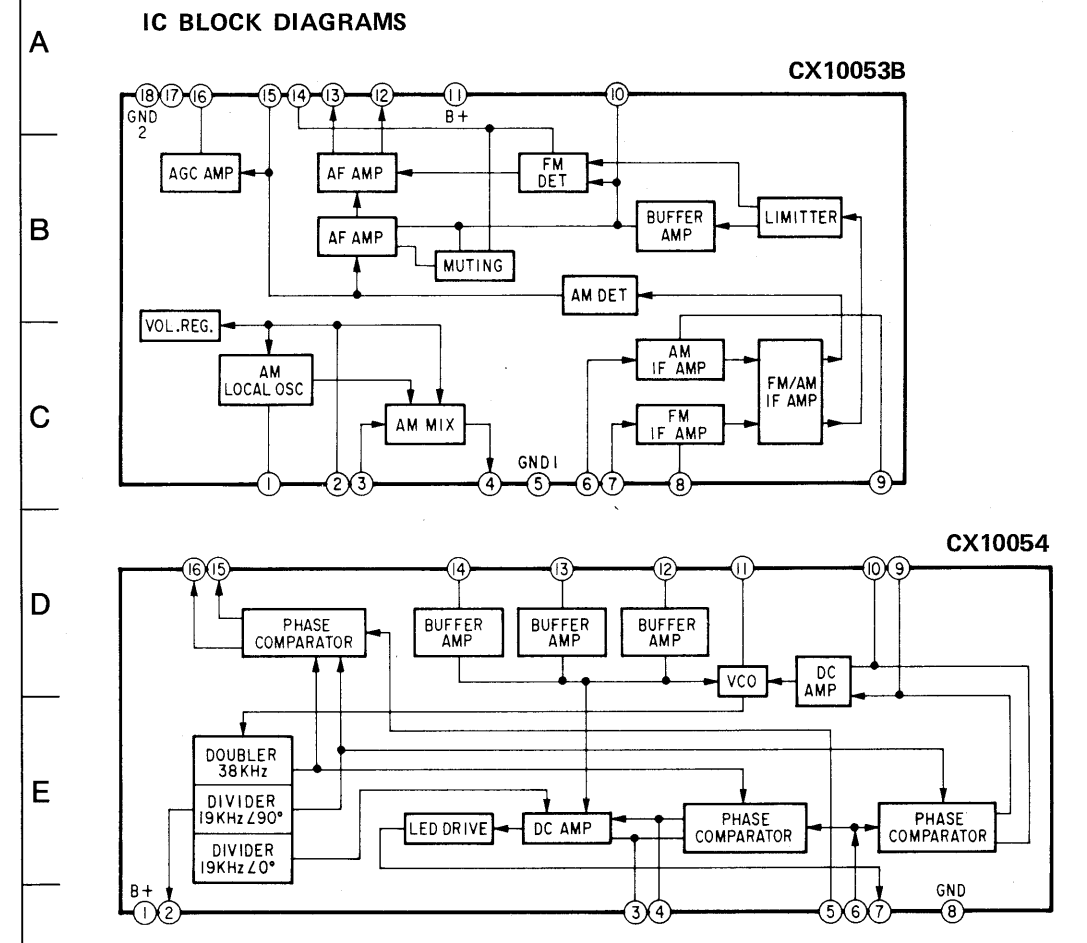
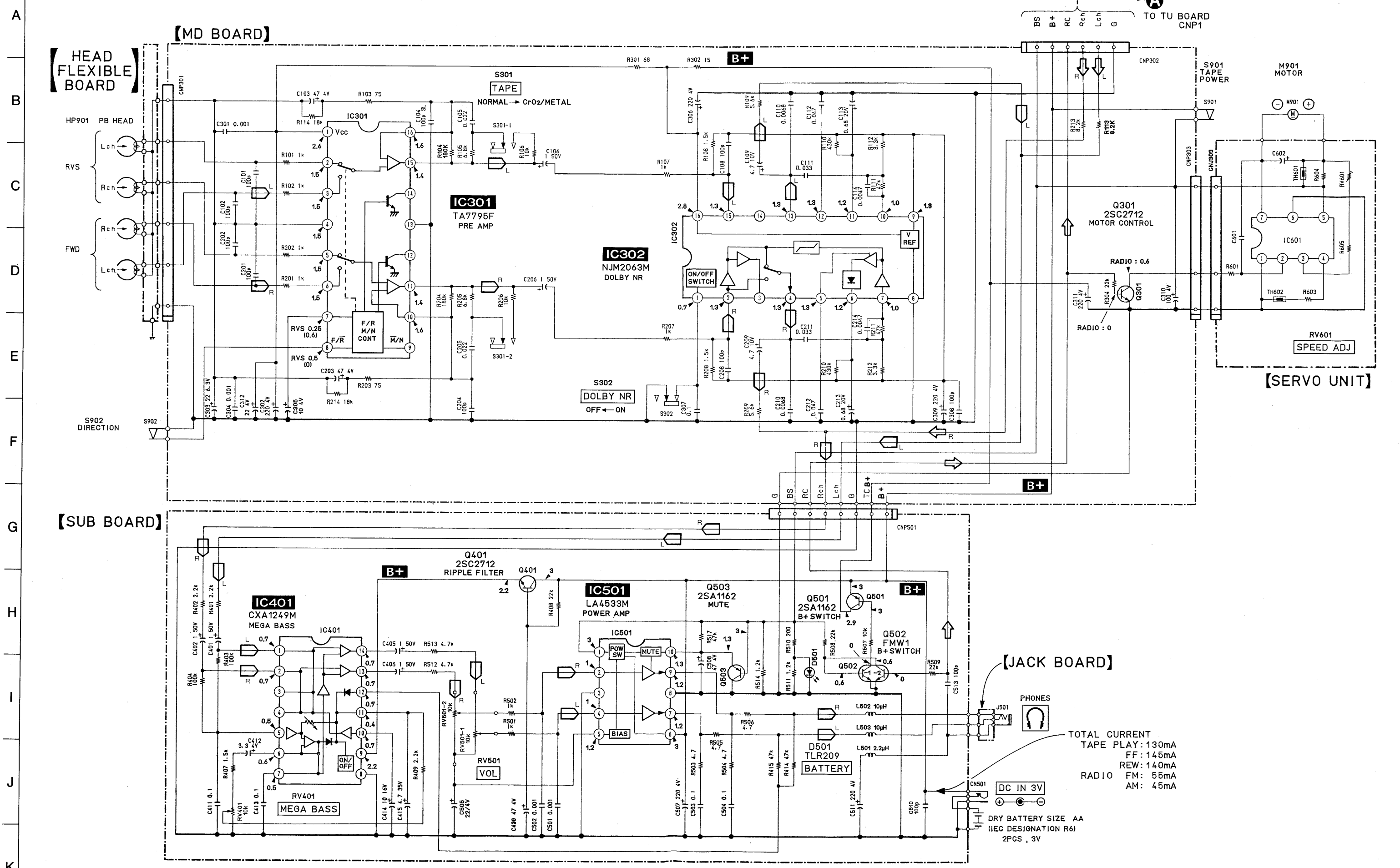
5-4. Printed Wiring Boards (Audio Section)

Semiconductor Location

Ref. No.	Location
D501	I-10
IC301	E-18
IC302	E-13
IC401	J-6
IC501	I-10
Q301	E-12
Q401	J-8
Q501	I-3
Q502	J-4
Q503	H-11



5-5. SCHEMATIC DIAGRAM (Audio Section)



- Note:**
- All capacitors are in  $\mu\text{F}$  unless otherwise noted. pF:  $\mu\text{pF}$  50WV or less are not indicated except for electrolytics and tantalums.
  - All resistors are in  $\Omega$  and  $1/10\text{W}$  or less unless otherwise specified.
  - B+**: B+ bus.
  - : adjustment for repair.
  - Total current is measured with no cassette installed.
  - Power voltage is dc 3 V and fed with regulated dc power, supply from battery terminal.
  - Voltage and waveforms are dc with respect to ground in playback mode.  
no mark: PLAY  
( ): FWD
  - Voltagess are taken with a VOM (50  $\text{k}\Omega/\text{V}$ ). Voltage variations may be noted due to normal production tolerances.
  - Signal path.  
→ : FM  
⇄ : PB
  - Switches:

Ref. No.	Switch	Position
S301	TAPE	NORMAL
S302	DOLBY NR	ON
S901	TAPE POWER	OFF
S902	DIRECTION	OFF

## SECTION 6 EXPLODED VIEWS

**NOTE:**

- The mechanical parts with no reference number in the exploded views are not supplied.

The construction parts of an assembled part are indicated with a collation number in the remark column.

Items marked "\*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

Due to standardization, parts with part number suffix -XX and -X may be different from the parts specified in the components used on the set.

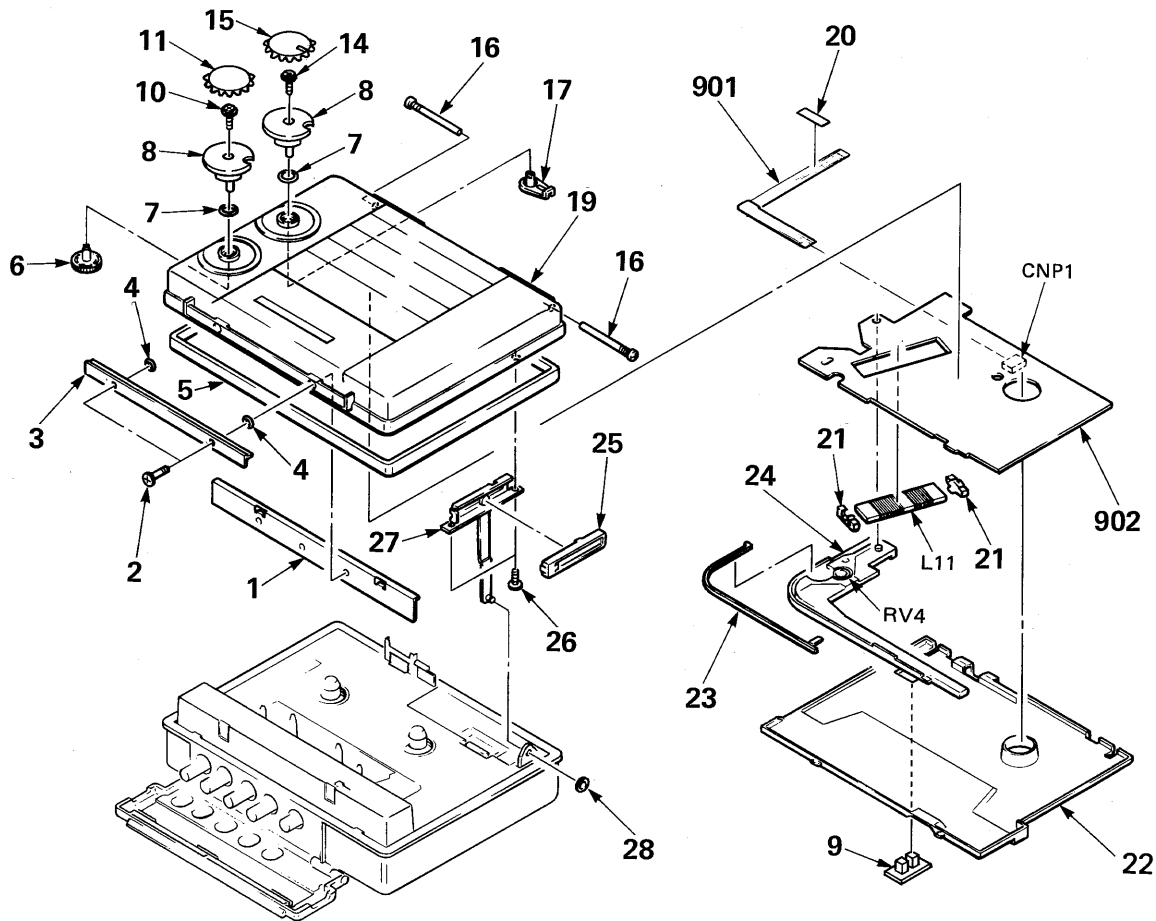
- Color Indication of Appearance Parts  
Example:

(RED) ... KNOB, BALANCE (WHITE)

↑  
Cabinet's Color

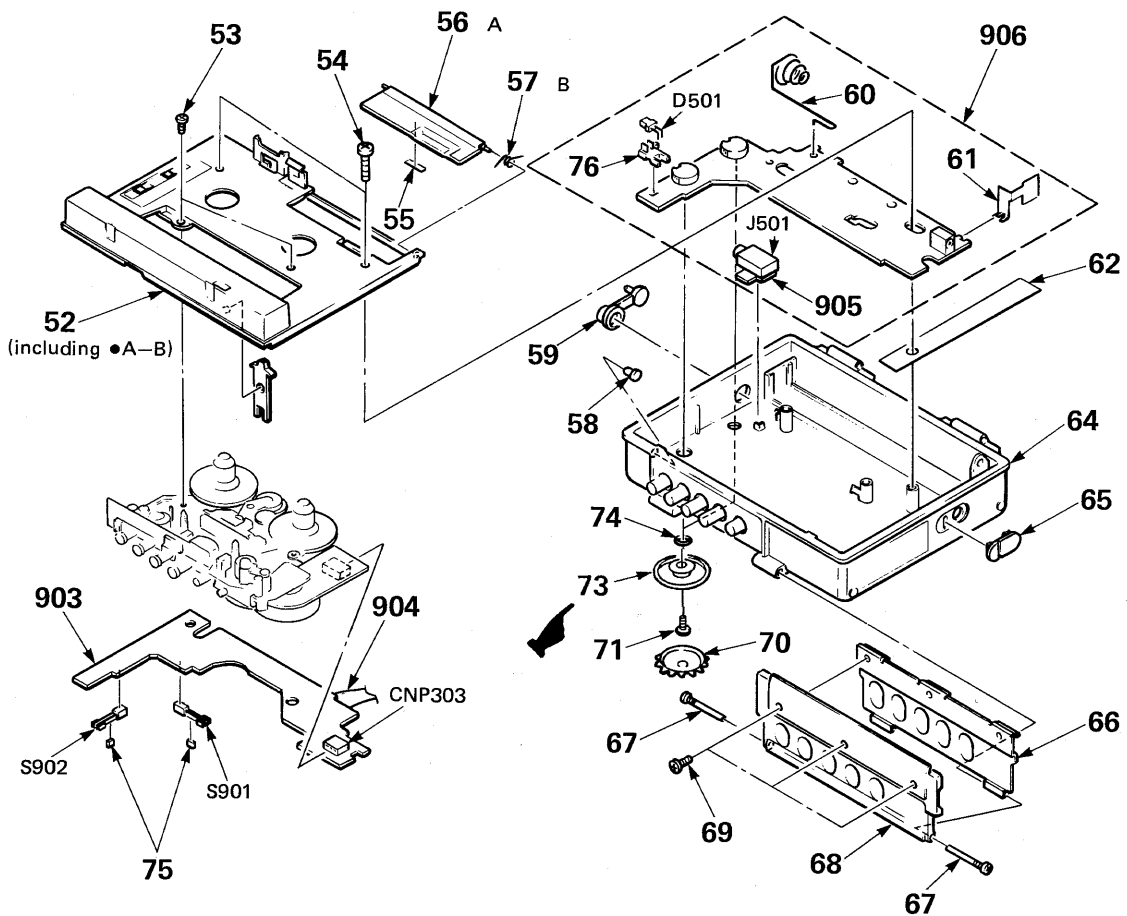
↑  
Parts Color

6-1.



No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
1	*3-348-432-01	REINFORCEMENT (B)		19	3-348-437-01	(US).....CABINET (CASSETTE)	
2	3-326-145-21	SCREW (M1.7X7.3)			3-348-437-11	(Canadian)..CABINET (CASSETTE)	
3	*3-326-121-01	RETAINER (A)		20	9-911-850-XX	FELT	
4	3-326-149-01	PACKING (B)		21	3-329-748-01	HOLDER, ANTENNA	
5	3-326-137-01	PACKING, CABINET		22	*3-348-436-01	PLATE, ORNAMENTAL	
6	3-334-817-01	GEAR, JOINT, TU		23	3-341-928-01	RACK, POINTER	
7	3-326-573-01	RING (DIA.4.9X DIA.7.1), 0		24	*3-348-433-01	CHASSIS, SUB	
8	3-348-429-01	KNOB (TUN)		25	3-341-924-01	SPRING (M)	
9	3-348-428-01	KNOB (BAND)		26	3-318-382-11	SCREW (1.7X4.5), TAPPING	
10	3-703-502-31	SCREW		27	X-3341-902-1	ARM ASSY, CLICK	
11	3-890-611-01	(US).....CAP (A)		28	3-578-242-11	WASHER	
	3-890-611-11	(Canadian)..CAP (A)		901	1-623-260-11	PC BOARD, TUNER FLEXIBLE	
14	3-318-201-41	SCREW (B) (1.4X4), TAPPING		902	A-3216-634-A	PC BOARD ASSY, TU	
15	3-890-612-01	(US).....CAP (B)		903	A-3289-527-A	MOUNTED PCB, MD	
	3-890-612-11	(Canadian)..CAP (B)		L11	1-402-182-11	ANTENNA, FERRITE-ROD (MW)	
16	3-326-536-11	SCREW, TAPPING		RV4	1-237-245-21	RES, VAR, CARBON LOOK (TUNING)	
17	3-348-427-01	ARM (FUN), SELECTION					

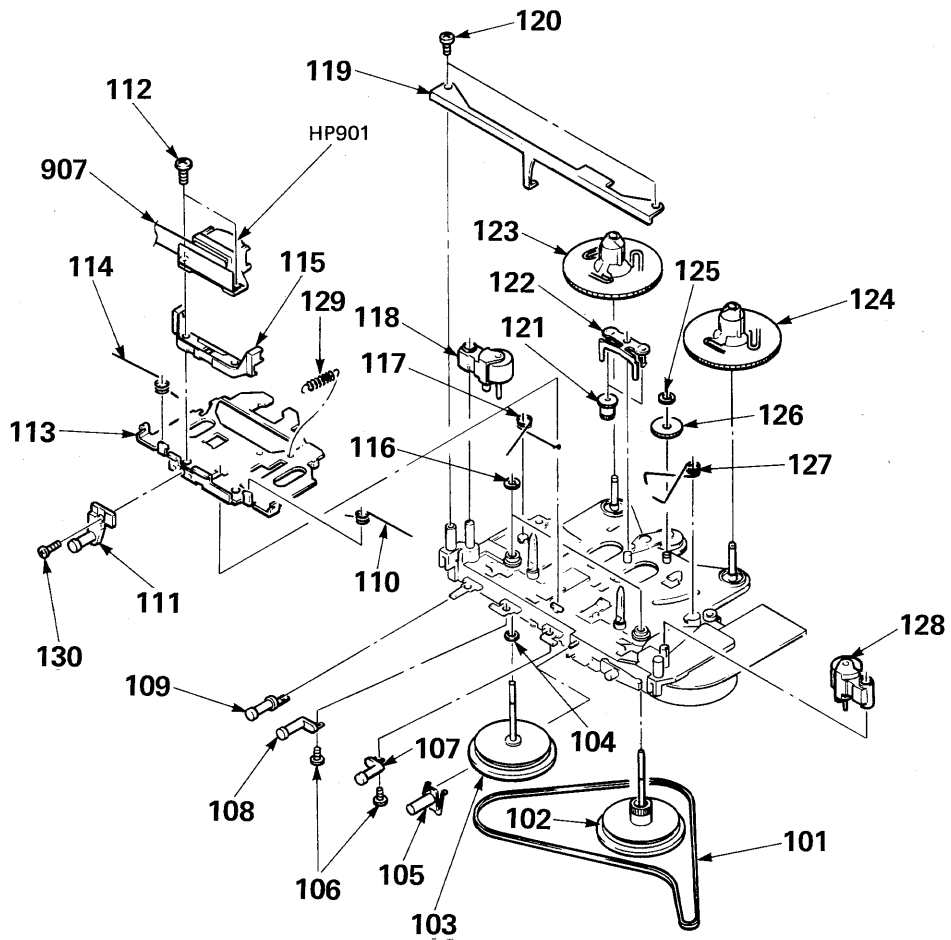
REVISED



No.	Part No.	Description	Remarks
52	X-3341-901-1	CABINET (FRONT) ASSY	
53	3-703-454-21	SCREW (1.7X6), TAPPING	
54	7-685-105-19	TAPPING +P 2X8 NON-SLIT	
55	9-911-850-XX	FELT	
56	3-341-925-01	LID, BATTERY CASE	
57	3-326-134-01	SPRING, TORSION	
58	3-326-519-01	WINDOW, LED	
59	3-326-520-01	PACKING, HP JACK	
60	3-341-926-01	SPRING	
61	3-341-920-01	TERMINAL BOARD, BATTERY	
62	9-911-816-01	RIBBON	
64	X-3346-597-1	CONTROL ASSY, CABINET	
65	3-312-826-00	PACKING, DC JACK	
66	3-341-929-01	BRACKET, BUCKLE	
67	3-334-819-01	SCREW, TAPPING	
68	3-348-434-01	(US).....BUCKLE	
	3-348-434-11	(Canadian)••BUCKLE	

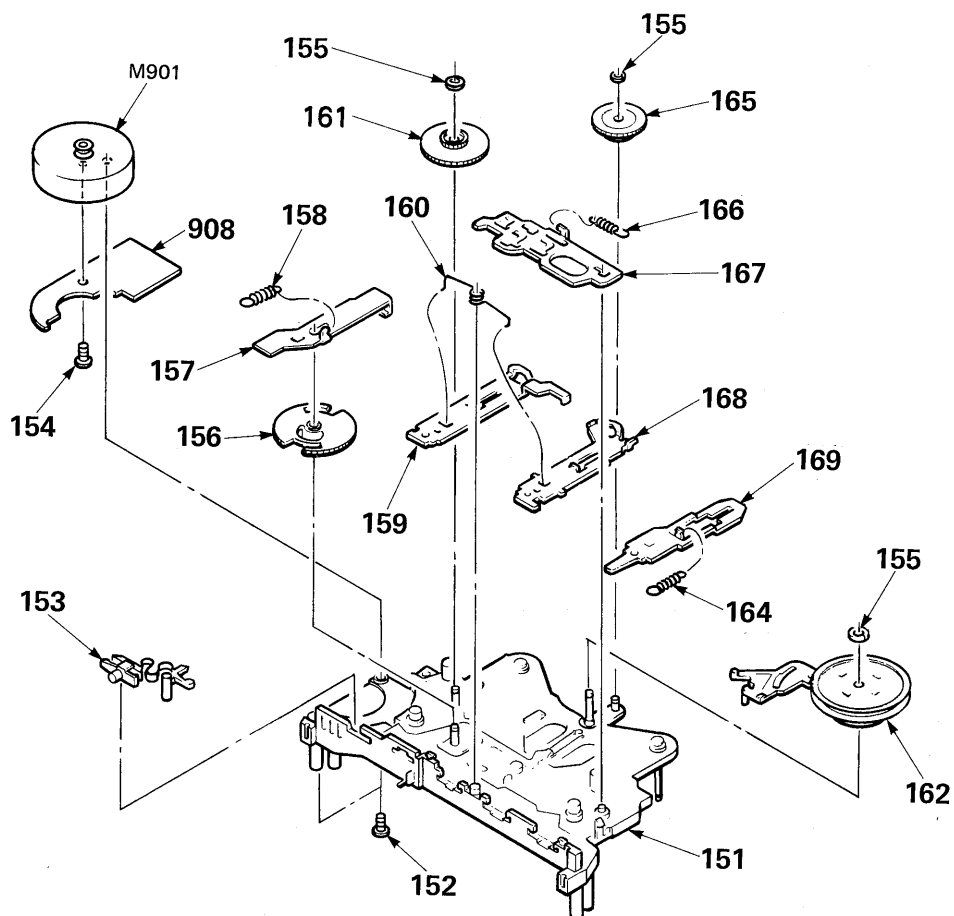
No.	Part No.	Description	Remarks
69	3-704-245-32	SCREW (P1.4X2.5)	
70	3-890-611-01	(US).....CAP (A)	
	3-890-611-11	(Canadian)••CAP (A)	
71	3-316-857-00	SCREW (M1.4X4.5)	
73	3-348-430-01	KNOB (VOL)	
74	3-326-573-01	RING (DIA.4.9X DIA.7.1), 0	
75	*3-341-947-01	RUBBER, LEAF SW	
76	*3-341-933-01	HOLDER, LED	
904	1-623-261-11	PC BOARD, FLEXIBLE	
905	*1-628-416-11	PC BOARD, JACK	
906	A-3216-633-A	PC BOARD ASSY, SUB	
D501	8-719-800-67	LED TLR209 (BATTERY)	
J501	1-563-298-11	JACK (SMALL TYPE) (DIA. 3.5)(PHONES)	
RV501	1-230-593-11	RES, VAR, CARBON 10K/10K (VOL)	
S901	1-571-149-11	SWITCH, LEAF	
S902	1-571-149-11	SWITCH, LEAF	

6-3. MECHANISM: MF-WMF 73-80



No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
101	3-341-267-01	BELT, CAPSTAN		117	3-341-270-01	SPRING (R)	
102	X-3335-635-1	FLYWHEEL (T) ASSY		118	X-3335-624-1	PINCH LEVER (R) ASSY	
103	X-3335-636-1	FLYWHEEL ASSY		119	*3-341-730-01	HOLDER, S	
104	3-701-437-11	WASHER (242T), TEFLON		120	3-893-942-61	SCREW (1.7X3), TAPPING (B)	
105	3-341-294-11	BUTTON, DIR		121	3-341-275-01	GEAR, FR	
106	3-704-358-07	SCREW (M1.4X2.5)		122	3-341-701-01	LEVER, FR	
107	3-341-943-01	BUTTON, FF		123	3-341-291-01	GEAR, S REEL	
108	3-341-942-01	BUTTON, REW		124	3-341-290-01	GEAR, T REEL	
109	3-341-944-01	BUTTON, STOP		125	3-341-752-01	WASHER, POLYETHYLENE (t=0.13)	
110	3-341-276-11	SPRING (N)			3-341-752-11	WASHER, POLYETHYLENE (t=0.25)	
111	3-341-945-01	BUTTON, PLAY		126	3-341-265-01	GEAR, R	
112	3-704-252-21	SCREW (M1.4X3.8)		127	3-341-763-01	SPRING	
113	3-341-711-11	LEVER, PLAY		128	X-3335-623-1	LEVER (N) ASSY, PINCH	
114	3-341-277-11	SPRING (R)		129	3-341-271-01	SPRING, TENSION	
115	3-341-702-01	GUIDE, TAPE		130	3-704-252-01	SCREW (M1.4X2.8)	
116	3-321-483-11	RING, RETAINING		HP901	1-543-439-11	HEAD, MAGNETIC (PLA BACK)	

6-4.



No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
151	A-3163-146-A	CHASSIS ASSY		161	3-341-289-01	GEAR, DECELERATION	
152	3-345-648-01	SCREW (M1.4X3.0), TOOTHED LOCK		162	A-3239-894-A	WHEEL ASSY, MIDWAY	
153	3-341-293-11	LEVER, MODE		164	3-341-273-01	SPRING, TENSION	
154	3-338-625-51	SCREW (M1.4X1.6), WASHER HEAD		165	3-341-266-01	GEAR, T	
155	3-341-753-01	WASHER, POLYETHYLENE (t=0.13)		166	3-341-272-01	SPRING, TENSION	
155	3-341-753-11	WASHER, POLYETHYLENE (t=0.25)		167	3-341-298-01	PLATE, LOCK	
156	3-341-292-01	GEAR, CAM		168	3-341-296-11	LEVER, REW	
157	3-341-299-01	LEVER, DIR		169	3-341-297-01	LEVER, STOP	
158	3-341-274-01	SPRING (POWER TENSION), TENSION		908	1-236-080-14	ENCAPSULATED COMPONENT	
159	3-341-295-11	LEVER, FF		M901	A-3133-336-A	MOTOR BLOCK ASSY	
160	3-341-268-01	SPRING					

## SECTION 7

### ELECTRICAL PARTS LIST

**NOTE:**

Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.

Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

**CAPACITORS:**

MF:  $\mu$ F, PF:  $\mu$ F.

**RESISTORS**

- All resistors are in ohms.
- F: nonflammable

**COILS**

- MMH: mH, UH:  $\mu$ H

**SEMICONDUCTORS**

In each case, U:  $\mu$ , for example:

UA...:  $\mu$ A..., UPA...:  $\mu$ PA...,  
UPC...:  $\mu$ PC, UPD...:  $\mu$ PD...

Ref.No.	Part No.	Description				Ref.No.	Part No.	Description			
901	1-623-260-11	PC BOARD, TUNER FLEXIBLE				C51	1-163-038-00	CERAMIC CHIP 0.1MF			25V
902	A-3216-634-A	PC BOARD ASSY, TU				C52	1-163-037-11	CERAMIC CHIP 0.022MF	10%		25V
903	A-3289-527-A	MOUNTED PCB, MD				C53	1-163-037-11	CERAMIC CHIP 0.022MF	10%		25V
904	1-623-261-11	PC BOARD, FLEXIBLE				C55	1-163-024-00	CERAMIC CHIP 0.018MF	10%		50V
905	*1-628-416-11	PC BOARD, JACK				C56	1-163-024-00	CERAMIC CHIP 0.018MF	10%		50V
906	A-3216-633-A	PC BOARD ASSY, SUB				C57	1-135-157-21	TANTAL. CHIP 10MF	10%		4V
908	1-236-080-14	ENCAPSULATED COMPONENT				C58	1-162-638-11	CERAMIC CHIP 1MF			16V
C1	1-164-161-11	CERAMIC CHIP 0.0022MF	10%			C59	1-162-638-11	CERAMIC CHIP 1MF			16V
C2	1-164-161-11	CERAMIC CHIP 0.0022MF	10%			C60	1-163-125-00	CERAMIC CHIP 220PF	5%		50V
C3	1-163-125-00	CERAMIC CHIP 220PF	5%			C61	1-163-037-11	CERAMIC CHIP 0.022MF	10%		25V
C4	1-163-101-00	CERAMIC CHIP 22PF	5%			C62	1-162-638-11	CERAMIC CHIP 1MF			16V
C5	1-163-088-00	CERAMIC CHIP 5PF	0.25PF			C63	1-163-037-11	CERAMIC CHIP 0.022MF	10%		25V
C6	1-163-117-00	CERAMIC CHIP 100PF	5%			C64	1-135-155-21	TANTAL. CHIP 4.7MF	10%		10V
C7	1-164-161-11	CERAMIC CHIP 0.0022MF	10%			C65	1-135-155-21	TANTAL. CHIP 4.7MF	10%		10V
C8	1-163-093-00	CERAMIC CHIP 10PF	5%			C66	1-163-037-11	CERAMIC CHIP 0.022MF	10%		25V
C9	1-163-084-00	CERAMIC CHIP 1.5PF	0.25PF			C67	1-135-157-21	TANTAL. CHIP 10MF	10%		4V
C10	1-163-129-00	CERAMIC CHIP 330PF	5%			C68	1-163-009-11	CERAMIC CHIP 0.001MF	10%		50V
C11	1-163-117-00	CERAMIC CHIP 100PF	5%			C69	1-163-037-11	CERAMIC CHIP 0.022MF	10%		25V
C12	1-163-117-00	CERAMIC CHIP 100PF	5%			C70	1-163-101-00	CERAMIC CHIP 22PF	5%		50V
C13	1-163-037-11	CERAMIC CHIP 0.022MF	10%			C71	1-163-009-11	CERAMIC CHIP 0.001MF	10%		50V
C15	1-163-037-11	CERAMIC CHIP 0.022MF	10%			C72	1-163-198-00	CERAMIC CHIP 330PF	10%		50V
C20	1-163-038-00	CERAMIC CHIP 0.1MF				C73	1-163-037-11	CERAMIC CHIP 0.022MF	10%		25V
C25	1-163-038-00	CERAMIC CHIP 0.1MF				C74	1-163-009-11	CERAMIC CHIP 0.001MF	10%		50V
C28	1-163-038-00	CERAMIC CHIP 0.1MF				C75	1-163-009-11	CERAMIC CHIP 0.001MF	10%		50V
C29	1-135-157-21	TANTAL. CHIP 10MF	10%			C76	1-163-009-11	CERAMIC CHIP 0.001MF	10%		50V
C30	1-163-037-11	CERAMIC CHIP 0.022MF	10%			C77	1-163-125-00	CERAMIC CHIP 220PF	5%		50V
C31	1-163-137-00	CERAMIC CHIP 680PF	10%			C78	1-163-198-00	CERAMIC CHIP 330PF	10%		50V
C32	1-163-081-00	CERAMIC CHIP 0.22MF				C79	1-135-103-00	TANTAL. CHIP 3.3MF	10%		4V
C33	1-163-123-00	CERAMIC CHIP 180PF	5%			C80	1-163-137-00	CERAMIC CHIP 680PF	10%		50V
C34	1-163-037-11	CERAMIC CHIP 0.022MF	10%			C81	1-163-133-00	CERAMIC CHIP 470PF	5%		50V
C35	1-163-037-11	CERAMIC CHIP 0.022MF	10%			C82	1-163-809-11	CERAMIC CHIP 0.047MF	10%		25V
C36	1-135-157-21	TANTAL. CHIP 10MF	10%			C83	1-163-117-00	CERAMIC CHIP 100PF	5%		50V
C37	1-163-101-00	CERAMIC CHIP 22PF	5%			C101	1-163-117-00	CERAMIC CHIP 100PF	5%		50V
C38	1-163-133-00	CERAMIC CHIP 470PF	5%			C102	1-163-117-00	CERAMIC CHIP 100PF	5%		50V
C39	1-163-038-00	CERAMIC CHIP 0.1MF				C103	1-126-208-11	CAP,ELECT 47MF	20%		4V
C40	1-163-093-00	CERAMIC CHIP 10PF	5%			C104	1-163-117-00	CERAMIC CHIP 100PF	5%		50V
C41	1-163-037-11	CERAMIC CHIP 0.022MF	10%			C105	1-163-037-11	CERAMIC CHIP 0.022MF	10%		25V
C42	1-135-157-21	TANTAL. CHIP 10MF	10%			C106	1-126-198-11	CAP,ELECT 1MF	20%		50V
C43	1-163-037-11	CERAMIC CHIP 0.022MF	10%			C108	1-163-117-00	CERAMIC CHIP 100PF	5%		50V
C44	1-163-123-00	CERAMIC CHIP 180PF	5%			C110	1-163-019-00	CERAMIC CHIP 0.0068MF	10%		50V
C45	1-162-638-11	CERAMIC CHIP 1MF				C111	1-163-078-11	CERAMIC CHIP 0.033MF	5%		25V
C46	1-135-145-11	TANTAL. CHIP 0.47MF	10%			C112	1-163-075-00	CERAMIC CHIP 0.047MF	10%		25V
C47	1-135-072-21	TANTAL. CHIP 0.22MF	10%			C113	1-135-087-21	TANTAL. CHIP 0.68MF	10%		20V
C48	1-135-145-11	TANTAL. CHIP 0.47MF	10%			C114	1-163-017-00	CERAMIC CHIP 0.0047MF	5%		50V
C49	1-163-205-00	CERAMIC CHIP 0.001MF	5%			C201	1-163-117-00	CERAMIC CHIP 100PF	5%		50V
C50	1-163-117-00	CERAMIC CHIP 100PF	5%								

Ref.No.	Part No.	Description				Ref.No.	Part No.	Description			
C202	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	CF1	1-567-338-65	FILTER, CERAMIC			
C203	1-126-208-11	CAP,ELECT	47MF	20%	4V	CF2	1-567-338-65	FILTER, CERAMIC			
C204	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	CF3	1-567-338-65	FILTER, CERAMIC			
C205	1-163-037-11	CERAMIC CHIP	0.022MF	10%	25V	CF4	1-567-693-11	FILTER, CERAMIC			
C206	1-126-193-11	CAP,ELECT	1MF	20%	50V	CN501	1-507-723-00	JACK, EXTENTION POWER (DC IN 3V)			
C208	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	CNJ303*1-566-742-11	PIN CONNECTOR 3P				
C209	1-135-155-21	TANTAL. CHIP	4.7MF	10%	10V	CNP1	*1-566-682-11	HOUSING, CONNECTOR 6P			
C210	1-163-019-00	CERAMIC CHIP	0.0068MF	10%	50V	CNP301*1-566-682-11	HOUSING, CONNECTOR 6P				
C211	1-163-078-11	CERAMIC CHIP	0.033MF	5%	25V	CNP302*1-566-682-11	HOUSING, CONNECTOR 6P				
C212	1-163-075-00	CERAMIC CHIP	0.047MF	10%	25V	CNP303	1-566-692-11	SOCKET, CONNECTOR 3P			
C213	1-135-087-21	TANTAL. CHIP	0.68MF	10%	20V	CNP501	1-566-683-11	HOUSING, CONNECTOR (FPC) 10P			
C214	1-163-017-00	CERAMIC CHIP	0.0047MF	5%	50V	CT1	1-141-313-11	CAP, VAR, TRIMMER (CHIP TYPE)			
C301	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V	CT3	1-141-313-11	CAP, VAR, TRIMMER (CHIP TYPE)			
C302	1-126-246-11	CAP,ELECT	220MF	20%	4V	CT4	1-141-313-11	CAP, VAR, TRIMMER (CHIP TYPE)			
C303	1-124-778-00	CAP,ELECT	22MF	20%	6.3V	D1	8-719-939-02	DIODE SVC203CP			
C304	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V	D2	8-719-939-02	DIODE SVC203CP			
C305	1-135-157-21	TANTAL. CHIP	10MF	10%	4V	D5	8-719-928-03	DIODE KV1260M			
C306	1-126-246-11	CAP,ELECT	220MF	20%	4V	D8	8-719-106-53	DIODE RD10MB2			
C307	1-163-038-00	CERAMIC CHIP	0.1MF		25V	D9	8-719-914-43	DIODE DAN202K			
C308	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	D11	8-719-914-42	DIODE DA204K			
C309	1-126-246-11	CAP,ELECT	220MF	20%	4V	D501	8-719-800-67	LED TLR209 (BATTERY)			
C310	1-126-209-11	CAP,ELECT	100MF	20%	4V	FL1	1-236-053-11	FILTER, BAND PASS			
C311	1-126-246-11	CAP,ELECT	220MF	20%	4V	HP901	1-543-439-11	HEAD, MAGNETIC (PLA BACK)			
C312	1-135-131-11	TANTAL. CHIP	22MF	10%	4V	IC1	8-759-923-96	IC CX10053B			
C401	1-126-193-11	CAP,ELECT	1MF	20%	50V	IC2	8-759-910-53	IC CX10054			
C402	1-126-193-11	CAP,ELECT	1MF	20%	50V	IC301	8-759-208-46	IC TA7795F			
C405	1-126-193-11	CAP,ELECT	1MF	20%	50V	IC302	8-759-701-07	IC NJM2063AM			
C406	1-126-193-11	CAP,ELECT	1MF	20%	50V	IC401	8-759-805-09	IC CXA1249M			
C411	1-163-077-00	CERAMIC CHIP	0.1MF		50V	IC501	8-759-802-75	IC LA4533M			
C412	1-135-103-00	TANTAL. CHIP	3.3MF	20%	4V	J501	1-563-298-11	JACK (SMALL TYPE) (DIA. 3.5)(PHONES)			
C413	1-163-077-00	CERAMIC CHIP	0.1MF		50V	JR1	1-216-295-00	METAL GLAZE 0 5% 1/10W			
C414	1-124-779-00	CAP,ELECT	10MF	20%	16V	JR2	1-216-295-00	METAL GLAZE 0 5% 1/10W			
C415	1-126-198-11	CAP,ELECT	4.7MF	20%	35V	JR3	1-216-295-00	METAL GLAZE 0 5% 1/10W			
C420	1-126-208-11	CAP,ELECT	47MF	20%	4V	JR4	1-216-295-00	METAL GLAZE 0 5% 1/10W			
C501	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V	JR5	1-216-296-00	METAL GLAZE 0 5% 1/8W			
C502	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V	JR6	1-216-296-00	METAL GLAZE 0 5% 1/8W			
C503	1-163-038-00	CERAMIC CHIP	0.1MF		25V	JR7	1-216-296-00	METAL GLAZE 0 5% 1/8W			
C504	1-163-038-00	CERAMIC CHIP	0.1MF		25V	JR8	1-216-296-00	METAL GLAZE 0 5% 1/8W			
C505	1-135-157-21	TANTAL. CHIP	10MF	10%	6.3V	JR9	1-216-296-00	METAL GLAZE 0 5% 1/8W			
C507	1-126-246-11	CAP,ELECT	220MF	20%	4V	JR10	1-216-296-00	METAL GLAZE 0 5% 1/8W			
C508	1-126-208-11	CAP,ELECT	47MF	20%	4V	L1	1-459-641-11	COIL (WITH CORE)(FM RF)			
C510	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	L2	1-459-642-11	COIL (WITH CORE)(FM OSC)			
C511	1-126-246-11	CAP,ELECT	220MF	20%	4V	L5	1-410-209-51	INDUCTOR CHIP 27UH			
C513	1-163-117-00	CERAMIC CHIP	100PF	5%	50V						

Ref.No.	Part No.	Description
L6	1-410-196-11	INDUCTOR CHIP 2.2UH
L7	1-410-196-11	INDUCTOR CHIP 2.2UH
L8	1-410-202-51	INDUCTOR CHIP 6.8UH
L9	1-410-204-31	INDUCTOR CHIP 10UH
L11	1-402-182-11	ANTENNA, FERRITE-ROD (MW)
L501	1-410-196-11	INDUCTOR CHIP 2.2UH
L502	1-410-204-31	INDUCTOR CHIP 10UH
L503	1-410-204-31	INDUCTOR CHIP 10UH
M901	A-3133-336-A	MOTOR BLOCK ASSY
Q1	8-729-200-87	TRANSISTOR 2SC2714Y
Q2	8-729-175-73	TRANSISTOR 2SC2757
Q3	8-729-102-08	TRANSISTOR 2SC2223-F14
Q6	8-729-102-08	TRANSISTOR 2SC2223-F14
Q7	8-729-902-93	TRANSISTOR FMG4
Q8	8-729-162-45	TRANSISTOR 2SB624BV4
Q9	8-729-903-10	TRANSISTOR FMW1
Q10	8-729-159-64	TRANSISTOR 2SD596
Q11	8-729-271-23	TRANSISTOR 2SC2712
Q13	8-729-271-23	TRANSISTOR 2SC2712
Q301	8-729-271-23	TRANSISTOR 2SC2712
Q401	8-729-271-23	TRANSISTOR 2SC2712
Q501	8-729-100-76	TRANSISTOR 2SA812
Q502	8-729-903-10	TRANSISTOR FMW1
Q503	8-729-100-76	TRANSISTOR 2SA812
R1	1-216-073-00	METAL GLAZE 10K 5% 1/10W
R2	1-216-025-00	METAL GLAZE 100 5% 1/10W
R3	1-216-069-00	METAL GLAZE 6.8K 5% 1/10W
R4	1-216-025-00	METAL GLAZE 100 5% 1/10W
R5	1-216-113-00	METAL GLAZE 470K 5% 1/10W
R6	1-216-013-00	METAL GLAZE 33 5% 1/10W
R7	1-216-081-00	METAL GLAZE 22K 5% 1/10W
R8	1-216-013-00	METAL GLAZE 33 5% 1/10W
R9	1-216-113-00	METAL GLAZE 470K 5% 1/10W
R10	1-216-085-00	METAL GLAZE 33K 5% 1/10W
R11	1-216-113-00	METAL GLAZE 470K 5% 1/10W
R12	1-216-085-00	METAL GLAZE 33K 5% 1/10W
R13	1-216-013-00	METAL GLAZE 33 5% 1/10W
R14	1-216-085-00	METAL GLAZE 33K 5% 1/10W
R15	1-216-025-00	METAL GLAZE 100 5% 1/10W
R16	1-216-037-00	METAL GLAZE 330 5% 1/10W
R26	1-216-113-00	METAL GLAZE 470K 5% 1/10W
R27	1-216-113-00	METAL GLAZE 470K 5% 1/10W
R28	1-216-113-00	METAL GLAZE 470K 5% 1/10W
R29	1-216-025-00	METAL GLAZE 100 5% 1/10W
R30	1-216-113-00	METAL GLAZE 470K 5% 1/10W

Ref.No.	Part No.	Description
R31	1-216-049-00	METAL GLAZE 1K 5% 1/10W
R33	1-216-049-00	METAL GLAZE 1K 5% 1/10W
R34	1-216-073-00	METAL GLAZE 10K 5% 1/10W
R35	1-216-069-00	METAL GLAZE 6.8K 5% 1/10W
R36	1-216-069-00	METAL GLAZE 6.8K 5% 1/10W
R37	1-216-049-00	METAL GLAZE 1K 5% 1/10W
R42	1-216-013-00	METAL GLAZE 33 5% 1/10W
R44	1-216-113-00	METAL GLAZE 470K 5% 1/10W
R46	1-216-037-00	METAL GLAZE 330 5% 1/10W
R47	1-216-013-00	METAL GLAZE 33 5% 1/10W
R48	1-216-748-11	METAL GLAZE 39K 5% 1/10W
R49	1-216-085-00	METAL GLAZE 33K 5% 1/10W
R50	1-216-049-00	METAL GLAZE 1K 5% 1/10W
R51	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W
R53	1-216-073-00	METAL GLAZE 10K 5% 1/10W
R54	1-216-093-00	METAL GLAZE 68K 5% 1/10W
R55	1-216-037-00	METAL GLAZE 330 5% 1/10W
R101	1-216-049-00	METAL GLAZE 1K 5% 1/10W
R102	1-216-049-00	METAL GLAZE 1K 5% 1/10W
R103	1-216-022-00	METAL GLAZE 75 5% 1/10W
R104	1-216-103-00	METAL GLAZE 180K 5% 1/10W
R105	1-216-069-00	METAL GLAZE 6.8K 5% 1/10W
R106	1-216-073-00	METAL GLAZE 10K 5% 1/10W
R107	1-216-049-00	METAL GLAZE 1K 5% 1/10W
R108	1-216-053-00	METAL GLAZE 1.5K 5% 1/10W
R109	1-216-067-00	METAL GLAZE 5.6K 5% 1/10W
R110	1-216-112-00	METAL GLAZE 430K 5% 1/10W
R111	1-216-089-00	METAL GLAZE 47K 5% 1/10W
R112	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W
R113	1-216-071-00	METAL GLAZE 8.2K 5% 1/10W
R114	1-216-079-00	METAL GLAZE 18K 5% 1/10W
R201	1-216-049-00	METAL GLAZE 1K 5% 1/10W
R202	1-216-049-00	METAL GLAZE 1K 5% 1/10W
R203	1-216-022-00	METAL GLAZE 75 5% 1/10W
R204	1-216-103-00	METAL GLAZE 180K 5% 1/10W
R205	1-216-069-00	METAL GLAZE 6.8K 5% 1/10W
R206	1-216-073-00	METAL GLAZE 10K 5% 1/10W
R207	1-216-049-00	METAL GLAZE 1K 5% 1/10W
R208	1-216-053-00	METAL GLAZE 1.5K 5% 1/10W
R209	1-216-216-00	METAL GLAZE 5.6K 5% 1/8W
R210	1-216-112-00	METAL GLAZE 430K 5% 1/10W
R211	1-216-089-00	METAL GLAZE 47K 5% 1/10W
R212	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W
R213	1-216-071-00	METAL GLAZE 8.2K 5% 1/10W
R214	1-216-079-00	METAL GLAZE 18K 5% 1/10W

Ref.No.	Part No.	Description
R301	1-216-021-00	METAL GLAZE 68 5% 1/10W
R302	1-216-154-00	METAL GLAZE 15 5% 1/8W
R304	1-216-081-00	METAL GLAZE 22K 5% 1/10W
R401	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W
R402	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W
R403	1-216-097-00	METAL GLAZE 100K 5% 1/10W
R404	1-216-097-00	METAL GLAZE 100K 5% 1/10W
R407	1-216-053-00	METAL GLAZE 1.5K 5% 1/10W
R408	1-216-081-00	METAL GLAZE 22K 5% 1/10W
R409	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W
R414	1-216-089-00	METAL GLAZE 47K 5% 1/10W
R415	1-216-089-00	METAL GLAZE 47K 5% 1/10W
R501	1-216-049-00	METAL GLAZE 1K 5% 1/10W
R502	1-216-049-00	METAL GLAZE 1K 5% 1/10W
R503	1-216-308-00	METAL GLAZE 4.7 5% 1/10W
R504	1-216-308-00	METAL GLAZE 4.7 5% 1/10W
R505	1-216-308-00	METAL GLAZE 4.7 5% 1/10W
R506	1-216-308-00	METAL GLAZE 4.7 5% 1/10W
R507	1-216-073-00	METAL GLAZE 10K 5% 1/10W
R508	1-216-081-00	METAL GLAZE 22K 5% 1/10W
R509	1-216-081-00	METAL GLAZE 22K 5% 1/10W
R510	1-216-032-00	METAL GLAZE 200 5% 1/10W
R511	1-216-051-00	METAL GLAZE 1.2K 5% 1/10W
R512	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W
R513	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W
R514	1-216-051-00	METAL GLAZE 1.2K 5% 1/10W
R517	1-216-089-00	METAL GLAZE 47K 5% 1/10W
RV1	1-237-766-11	RES, ADJ, METAL GLAZE 6.8K
RV2	1-228-356-00	RES, ADJ, METAL GLAZE 22K
RV3	1-228-356-00	RES, ADJ, METAL GLAZE 22K
RV4	1-237-245-21	RES, VAR, CARBON 10K (TUNING)
RV401	1-238-392-11	RES, VAR, CARBON 10K (MEGA BASS)
RV501	1-230-593-11	RES, VAR, CARBON 10K/10K (VOL)

Ref.No.	Part No.	Description
S1	1-571-723-11	SWITCH, SLIDE (FUNCTION)
S2	1-571-724-11	SWITCH, SLIDE (LOCAL/DX)
S301	1-570-087-11	SWITCH, SLIDE (DOLBY NR)
S302	1-570-397-11	SWITCH, SLIDE
S901	1-571-149-11	SWITCH, LEAF
S902	1-571-149-11	SWITCH, LEAF
T1	1-404-690-11	TRANSFORMER, IF (MW)
T2	1-406-177-11	COIL (MW)
T3	1-448-302-11	TRANSFORMER, DC-DC CONVERTER

#### ACCESSORY & PACKING MATERIAL

3-326-568-01	SPACER
*3-348-438-01	CUSHION, SPACER
*3-348-439-01	CUSHION
*3-348-440-01	(US) .....INDIVIDUAL CARTON
*3-352-738-01	(Canadian) ..INDIVIDUAL CARTON
3-701-622-00	BAG, POLYETHYLENE
3-786-585-21	(US) .....MANUAL, INSTRUCTION
3-786-585-31	(Canadian) ..MANUAL, INSTRUCTION
8-952-420-90	(US) .....HEADPHONE MDR-W501L/G SET
8-952-420-91	(Canadian) ..HEADPHONE MDR-W501L/B SET
X-3346-593-1	(US) .....CASE ASSY, CARRYING
X-3347-120-1	(Canadian) ..CASE ASSY, CARRYING

