

# ICF-B50

## SERVICE MANUAL

*Tourist Model*



### SPECIFICATIONS

#### Frequency range

FM : 76 – 108 MHz  
AM : 530 – 1,605 kHz

#### Speaker

Approx. 4.5 cm (1 3/4 inches) dia., 8 ohms

#### Power output

90 mW (at 10% harmonic distortion)

#### Output

Ⓞ jack (minijack)

#### Power requirements

3V DC, two R6 (size AA) batteries or CR-123A lithium battery

#### Dimensions

Approx. 126 x 98.5 x 50 mm (w/h/d)  
(5 x 4 x 2 in)

#### Mass

Approx. 220 g (7.8 oz)  
Approx. 295 g (10.4 oz) incl. batteries and projecting parts

#### Supplied accessories

Batteries (2)  
Earphone (1)  
Earphone case (1)  
Shoulder strap (1)

Design and specifications are subject to change without notice.

### FEATURES

#### A helpful emergency radio for emergencies and disasters

- Water-resistant against light rain and snow\*.
- Long-term preservative lithium battery installed\*\*.
- Useful at hand light attached.

\* This unit's water-resistance may be used in light rain or snow, do not use the unit in heavy rain or snow, or underwater. Avoid leaving the unit for a long period of time in a humid place like the bathroom which may lead the unit to a malfunction.

\*\* Preservation is better compared to the regular dry batteries, Long-term preservation is possible when not in use.

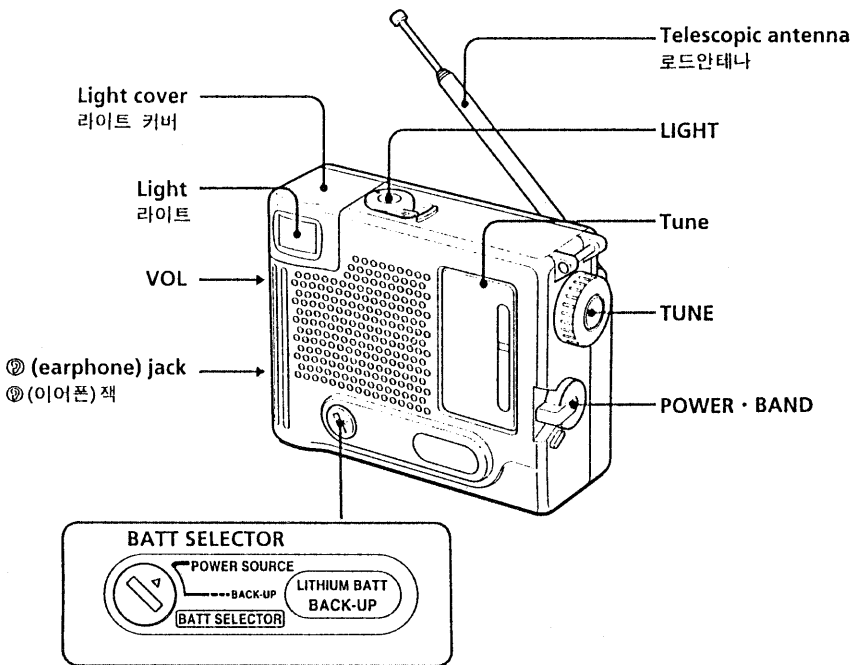
#### Notes on Chip Component Replacement

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

FM/AM RADIO  
**SONY**®

# SECTION 1 GENERAL

## 1-1. IDENTIFYING THE PARTS



### HOW TO CHANGE THE CERAMIC FILTERS

This model is used two ceramic filters of CF1 and 3.

You must use same type of color marked ceramic filters in order to meet same specifications.

Therefore, the ceramic filter must change two pieces together since it's supply two pieces in one package as a spare parts.

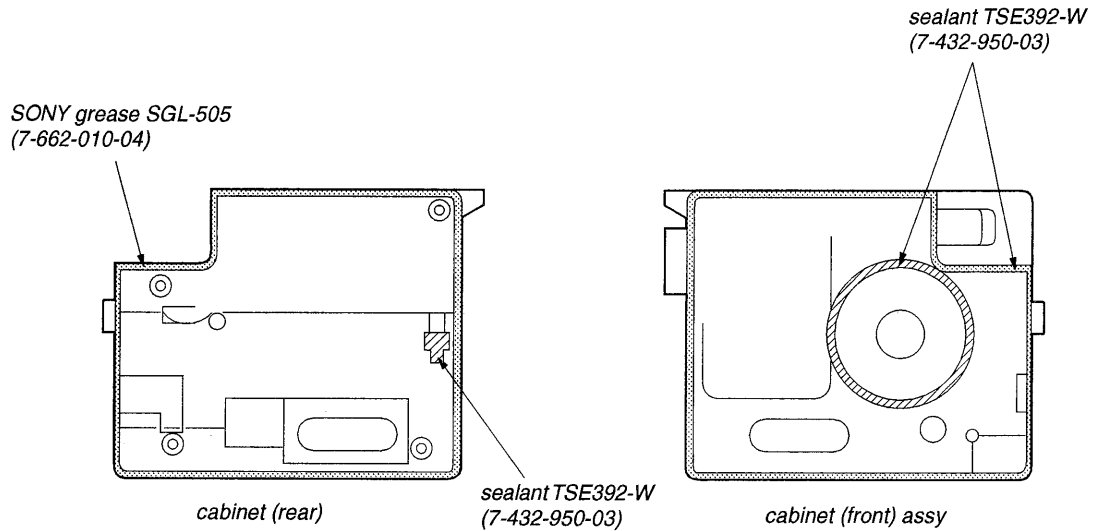
mark 1	mark 2	Center Frequency
red	-	10.70 MHz
blue	-	10.67 MHz
orange	-	10.73 MHz
black	-	10.64 MHz
white	-	10.76 MHz
white	white	10.75 MHz
yellow	-	10.79 MHz

## SECTION 2 SERVICE NOTE

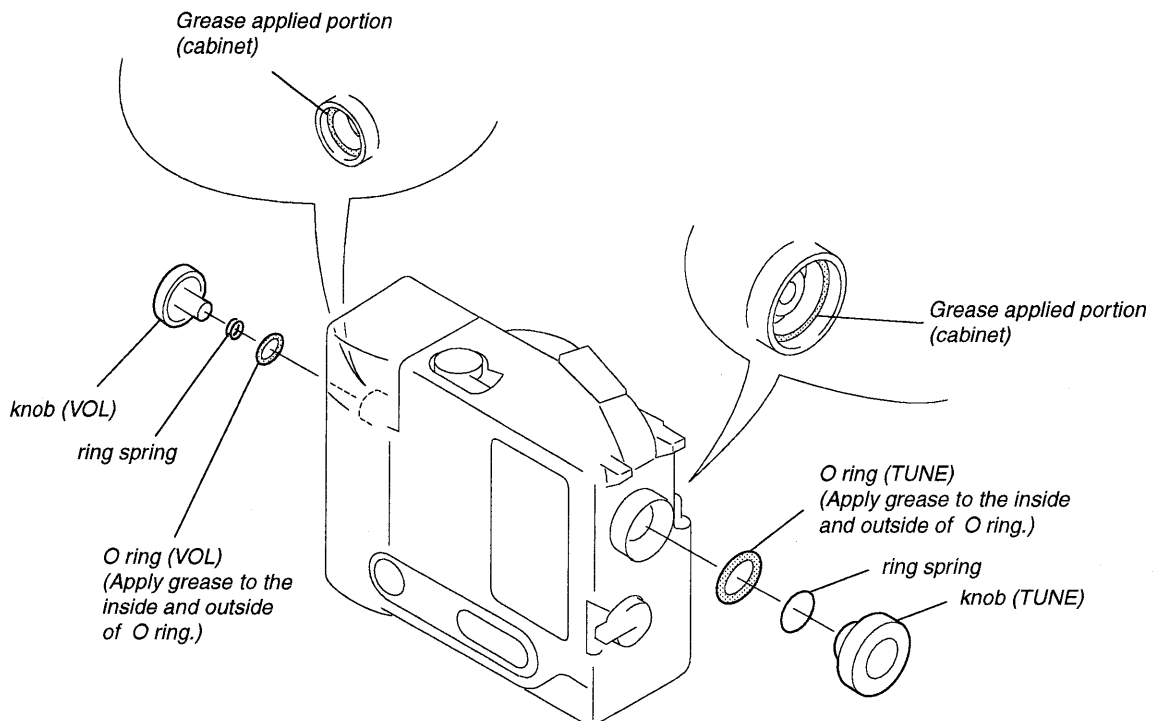
- **Drip prevention**

When the cabinet, telescopic antenna and knobs are removed in repairing, be sure to perform the following :

Apply Sony grease SGL-505 (7-662-010-04) to all along the ribs of the cabinet (rear) with an applicator. Apply sealant TSE392-W (7-432-950-03) to all along the ribs of the cabinet (front) assy and to all the perimeter of the speaker.

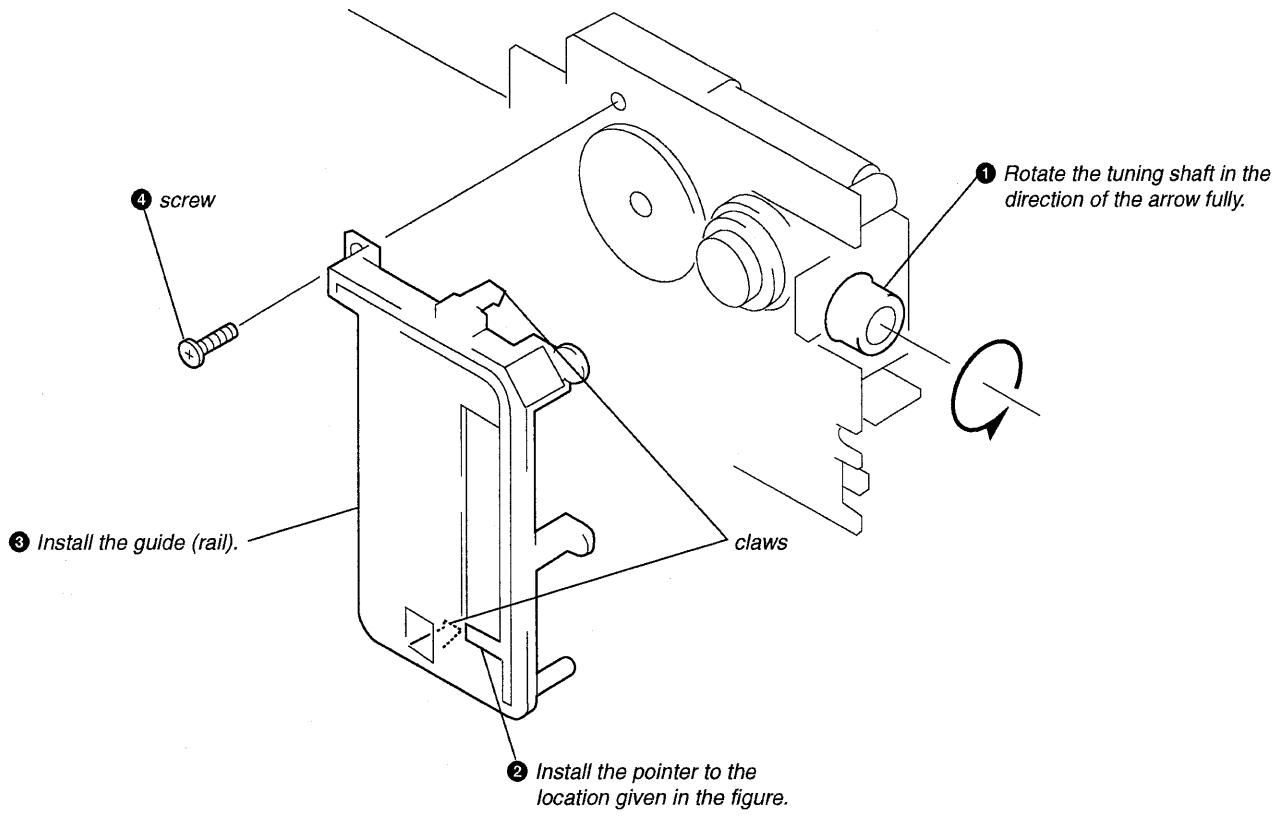


Apply Sony grease SGL-505 (7-662-010-04) to the specified portions of the knobs and packing as given below.



## Pointer Setting

Note : Follow the assembly procedure in the numerical order given.

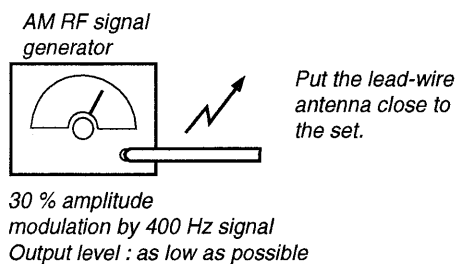


## SECTION 3 ELECTRICAL PARTS LIST

### • AM Section

Setting :

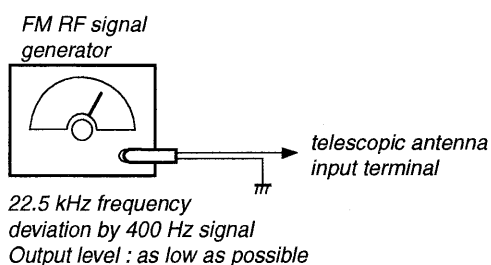
POWER • BAND switch : AM



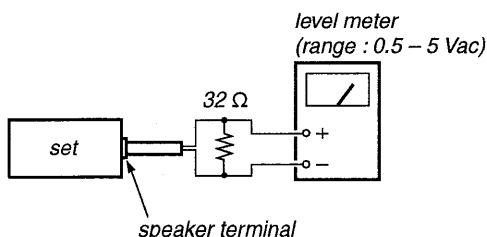
### • FM Section

Setting :

POWER • BAND switch : FM



### • Connecting Level Meter (AM and FM)



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

#### AM IF ADJUSTMENT

Adjust for a maximum reading on level meter.

T1

455 kHz

#### AM FREQUENCY COVERAGE ADJUSTMENT

Adjust for a maximum reading on level meter.

L3

CT3

520 kHz

1,650 kHz

#### AM TRACKING ADJUSTMENT

Adjust for a maximum reading on level meter.

L1

CT4

620 kHz

1,400 kHz

#### FM FREQUENCY COVERAGE ADJUSTMENT

Adjust for a maximum reading on level meter.

L4

CT1

75.0 MHz

109.5 MHz

#### FM TRACKING ADJUSTMENT

Adjust for a maximum reading on level meter.

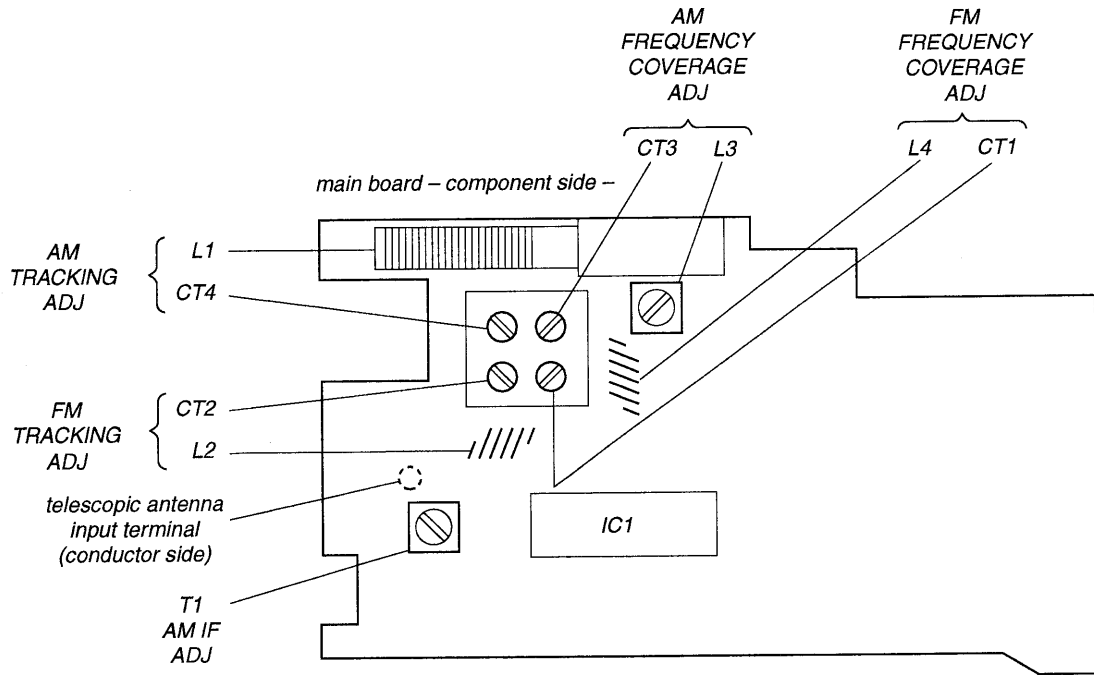
L2

CT2

75.0 MHz

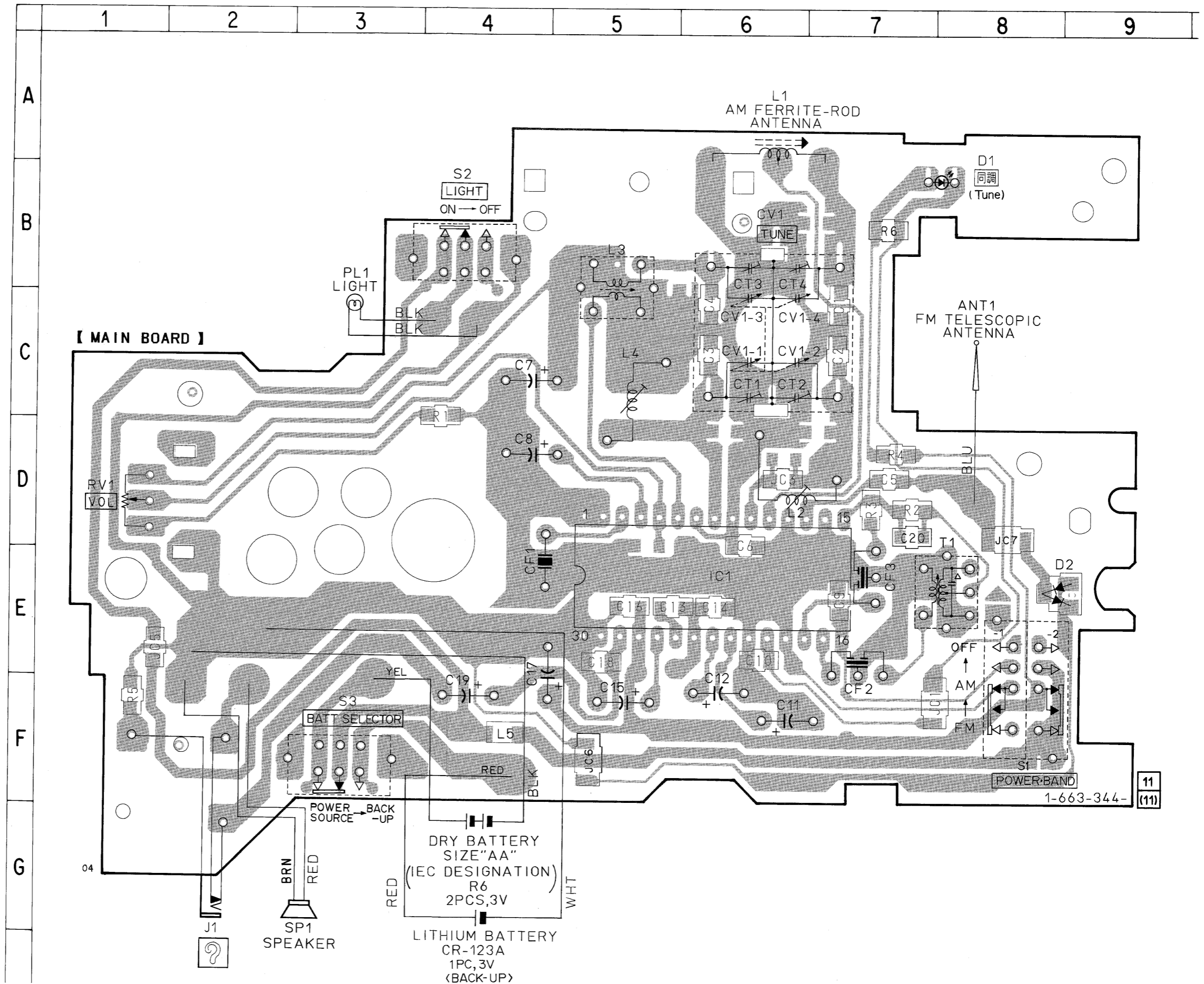
109.5 MHz

**Adjustment Location :**



SECTION 4  
DIAGRAMS

4-1. PRINTED WIRING BOARD



Note:  
 • — : parts extracted from the component side.  
 • — : parts extracted from the conductor side.





## SECTION 5 EXPLODED VIEWS

**NOTE:**

- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked "\*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

- -XX and -X mean standardized parts, so they may have some difference from the original one.

- Color Indication of Appearance Parts

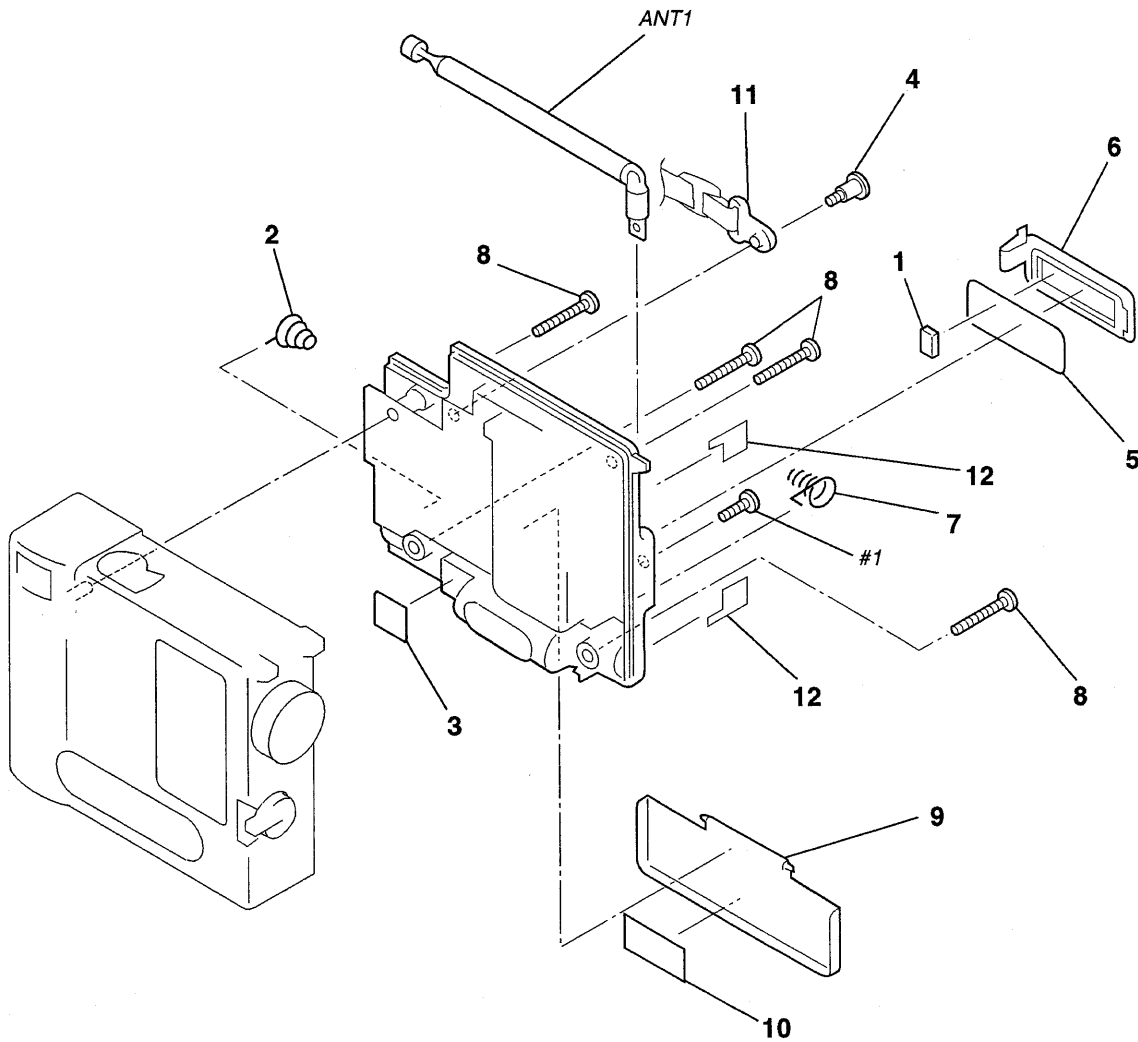
Example :

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

↑                    ↑  
 Parts Color    Cabinet's Color

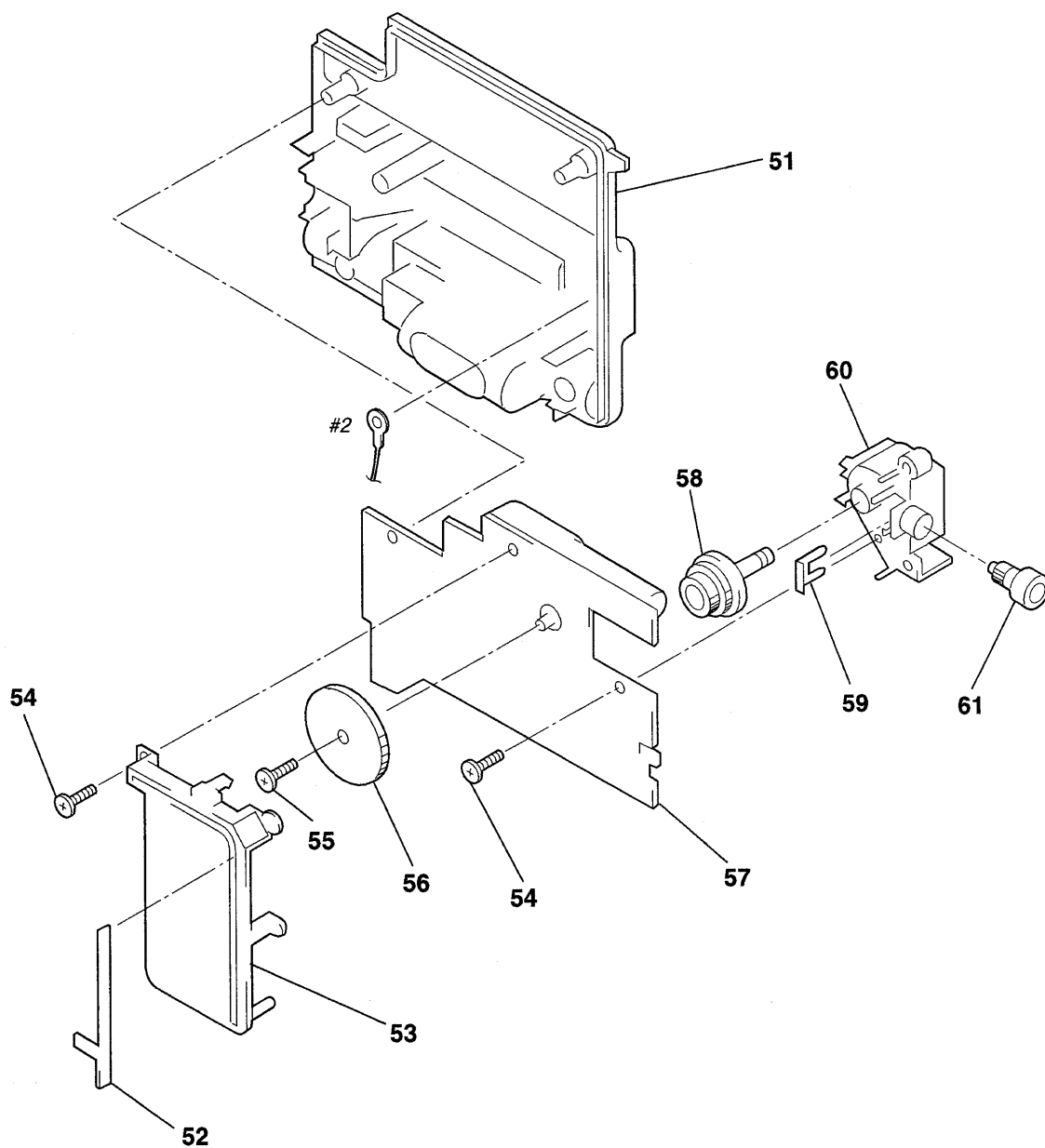
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.

### 5-1. CABINET (REAR) SECTION



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
1	3-009-271-01	CUSHION (LITHIUM)		8	4-356-741-41	SCREW, TAPPING (BIND 2X20)	
2	3-007-833-01	TERMINAL (-), BATTERY		9	3-007-385-01	LID, BATTERY CASE	
* 3	3-007-836-01	SHEET		10	3-009-270-01	CUSHION (BATTERY CASE LID)	
4	3-895-517-11	SCREW (2), TAPPING, STEP		11	3-007-020-01	ADAPTOR (STRAP)	
5	3-929-449-01	PACKING (SUB)		12	3-919-944-01	TERMINAL (+), BATTERY	
6	3-007-386-01	LID (LITHIUM), BATTERY CASE		ANT1	1-501-432-21	ANTENNA, TELESCOPIC (FM)	
7	3-007-834-01	TERMINAL (L) (-), BATTERY					

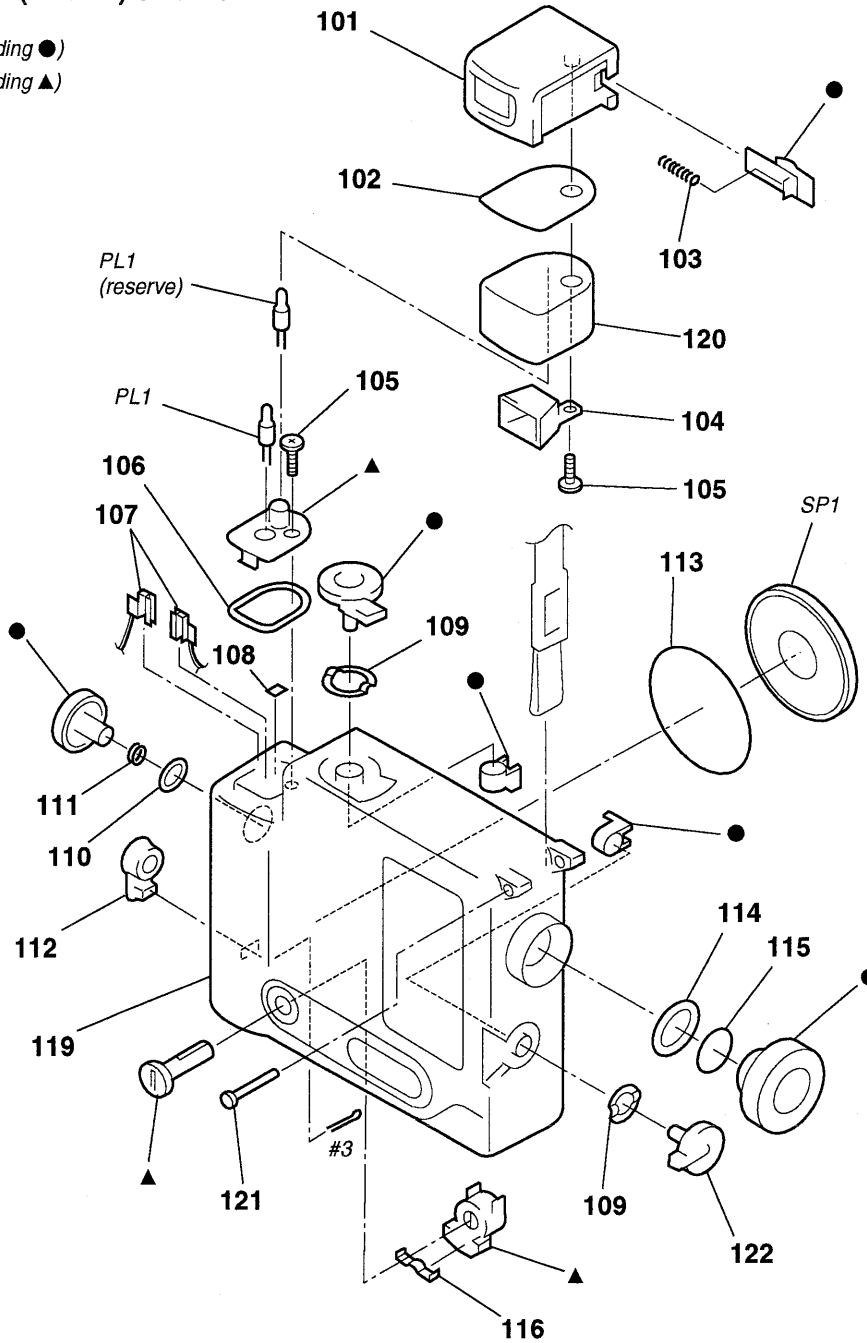
## 5-2. MAIN BOARD SECTION



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
51	3-007-371-01	CABINET (REAR)		* 57	A-3679-829-A	MAIN BOARD, COMPLETE	
52	3-007-388-01	POINTER		58	3-007-395-01	GEAR (MIDWAY)	
53	3-007-400-01	GUIDE (RAIL)		59	3-900-149-01	RETAINER	
54	3-363-895-01	SCREW (M1.7)		* 60	3-007-387-01	CHASSIS	
55	3-919-784-21	SCREW (M1.7X4 LOCK ACE)		61	3-900-147-01	SHAFT, TUNING	
56	3-007-394-01	GEAR (TUNING CAPACITOR)					

### 5-3. CABINET (FRONT) SECTION

117 (including ●)  
118 (including ▲)



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
101	3-007-372-01	CABINET (LIGHT)		113	3-007-399-01	NET (SP)	
* 102	3-007-835-01	SHEET, ADHESIVE		114	3-917-353-01	RING (BAND), O	
103	3-009-537-01	SPRING, COMPRESSION		115	3-900-151-01	SPRING, RING	
104	3-007-384-01	REFLECTOR		116	3-909-780-01	SPRING (B), CLICK	
105	3-363-895-01	SCREW (M1.7)		117	3-007-389-01	KNOB (COMBINED)	
106	3-007-397-01	O RING (LIGHT)		118	3-007-398-01	COVER (COMBINED)	
107	1-777-890-11	CORD (WITH CONNECTOR)		119	X-3372-902-1	CABINET (FRONT) ASSY	
* 108	3-009-269-01	CUSHION (LIGHT)		120	3-007-392-01	PLATE (LIGHT), TRANSPARENT	
109	3-372-834-01	PLATE, CLICK		121	3-887-214-01	PIN, HANDLE	
110	3-917-351-01	RING (VOL), O		122	3-007-376-01	KNOB (BAND)	
111	3-907-103-01	SPRING, RING		PL1	1-517-601-11	LAMP, PILOT	
112	3-898-406-01	LID, JACK		SP1	1-505-141-11	SPEAKER (4.5CM)	

## SECTION 6 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.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS  
All resistors are in ohms.  
METAL: Metal-film resistor.  
METAL OXIDE: Metal oxide-film resistor.  
F: nonflammable
- Items marked “\*” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS  
In each case, u :  $\mu$ , for example:  
uA.. :  $\mu$ A..    uPA.. :  $\mu$ PA..  
uPB.. :  $\mu$ PB..    uPC.. :  $\mu$ PC..    uPD.. :  $\mu$ PD..
- CAPACITORS  
uF :  $\mu$ F
- COILS  
uH :  $\mu$ H

When indicating parts by reference number, please include the board.

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
*	A-3679-829-A	MAIN BOARD, COMPLETE *****				< IC >	
	3-007-394-01	GEAR (TUNING CAPACITOR)		IC1	8-752-055-05	IC CXA1019S	
	3-919-784-21	SCREW (M1.7X4 LOCK ACE)				< JACK >	
		< CAPACITOR >		J1	1-573-548-11	JACK (⊙)	
C1	1-163-222-11	CERAMIC CHIP	5PF    0.25PF    50V			< JUMPER RESISTOR >	
C2	1-163-235-11	CERAMIC CHIP	22PF    5%    50V	JC1	1-216-296-00	CONDUCTOR, CHIP (3216)	
C3	1-163-099-00	CERAMIC CHIP	18PF    5%    50V	JC3	1-216-295-00	CONDUCTOR, CHIP (2012)	
C4	1-163-093-00	CERAMIC CHIP	10PF    5%    50V	JC5	1-216-295-00	CONDUCTOR, CHIP (2012)	
C5	1-163-251-11	CERAMIC CHIP	100PF    5%    50V	JC6	1-216-296-00	CONDUCTOR, CHIP (3216)	
C6	1-164-232-11	CERAMIC CHIP	0.01uF    50V	JC7	1-216-296-00	CONDUCTOR, CHIP (3216)	
C7	1-126-964-11	ELECT	10uF    20%    50V			< COIL >	
C8	1-126-964-11	ELECT	10uF    20%    50V	L1	1-501-732-12	ANTENNA, FERRITE-ROD (AM)	
C9	1-164-232-11	CERAMIC CHIP	0.01uF    50V	* L2	1-422-320-11	COIL, AIR-CORE	
C10	1-164-232-11	CERAMIC CHIP	0.01uF    50V	L3	1-406-028-00	COIL, OSC (AM)	
C11	1-126-963-11	ELECT	4.7uF    20%    50V	* L4	1-422-202-11	COIL (AIR-CORE)	
C12	1-126-964-11	ELECT	10uF    20%    50V	L5	1-412-947-11	INDUCTOR 4.7uH	
C13	1-163-035-00	CERAMIC CHIP	0.047uF    50V			< RESISTOR >	
C14	1-163-033-00	CERAMIC CHIP	0.022uF    50V	R1	1-216-073-00	METAL CHIP    10K    5%    1/10W	
C15	1-126-964-11	ELECT	10uF    20%    50V	R2	1-216-057-00	METAL CHIP    2.2K    5%    1/10W	
C16	1-164-346-11	CERAMIC CHIP	1uF    16V	R3	1-216-033-00	METAL CHIP    220    5%    1/10W	
C17	1-126-923-11	ELECT	220uF    20%    10V	R4	1-216-049-11	METAL GLAZE    1K    5%    1/10W	
C18	1-164-346-11	CERAMIC CHIP	1uF    16V	R5	1-216-017-00	METAL GLAZE    47    5%    1/10W	
C19	1-126-923-11	ELECT	220uF    20%    10V	R6	1-216-073-00	METAL CHIP    10K    5%    1/10W	
C20	1-163-251-11	CERAMIC CHIP	100PF    5%    50V			< VARIABLE RESISTOR >	
		< FILTER >		RV1	1-237-583-11	RES, VAR, CARBON 50K (VOL)	
CF1	1-579-632-51	FILTER, CERAMIC				< SWITCH >	
CF2	1-577-072-11	FILTER, CERAMIC		S1	1-554-061-00	SWITCH, SLIDE (POWER • BAND)	
CF3	1-579-632-51	FILTER, CERAMIC		S2	1-572-552-11	SWITCH, SLIDE (LIGHT)	
		< VARIABLE CAPACITOR >		S3	1-572-552-11	SWITCH, SLIDE (BATT SELECTOR)	
CT1-4	1-151-659-31	CAP, VAR				< DIODE >	
CV1	1-151-659-31	CAP, VAR (TUNE)		D1	8-719-812-41	LED TLR124 (同調 (Tune))	
		< DIODE >		D2	8-719-800-76	DIODE 1SS226	

REVISED

MAIN

Ref. No. Part No. Description Remark

< TRANSFORMER >

T1 1-404-790-11 TRANSFORMER, IF  
\*\*\*\*\*

MISCELLANEOUS  
\*\*\*\*\*

107 1-777-890-11 CORD (WITH CONNECTOR)  
ANT1 1-501-432-21 ANTENNA, TELESCOPIC (FM)  
PL1 1-517-601-11 LAMP, PILOT  
SP1 1-505-141-11 SPEAKER (4.5CM)  
\*\*\*\*\*

ACCESSORIES & PACKING MATERIALS  
\*\*\*\*\*

1-504-116-11 EARPHONE  
3-007-873-01 CARD, WARRANTY  
\* 3-007-925-01 INDIVIDUAL CARTON  
3-347-909-01 BELT, SHOULDER  
3-858-461-01 MANUAL, INSTRUCTION (JAPANESE,ENGLISH,  
3-007-907-01 CASE, EARPHONE KOREAN)  
\*\*\*\*\*

\*\*\*\*\*  
HARDWARE LIST  
\*\*\*\*\*

#1 7-627-556-37 SCREW, PRECISION +P 2.6X4 TYPE 1  
#2 7-623-507-01 LUG, 2.6  
#3 7-626-202-51 PIN, SPLIT 1X12



