

# ICF-B200

## SERVICE MANUAL

Ver 1.3 2001. 02

US Model  
Canadian Model  
AEP Model



### SPECIFICATIONS

#### Frequency range

FM : 87.5 – 108 MHz  
AM : 530 – 1,605 kHz

#### Speaker

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

#### Power output

60 mW (Using the built-in rechargeable battery)  
90 mW (Using size AA (R6) dry batteries, not supplied)

#### Output

Ⓞ jack (minijack)

#### Power requirements

Built-in nickel-cadmium (2.4 V, 300 mAh, Ni-Cd) battery or 3 V DC, two size AA (R6) dry batteries

#### Dimensions

Approx. 163 × 80 × 55 mm (w/h/d)  
(6 1/2 × 3 1/4 × 2 1/4 in)

#### Mass

Approx. 320 g (11.3 oz)  
Approx. 355 g (12.6 oz) incl. batteries and projecting parts

#### Supplied accessory

Hand strap (1)

Design and specifications are subject to change without notice.

### FEATURES

#### Self-powered emergency radio

- You may use the radio right away by turning the handle of the power generator, which charges the built-in nickel-cadmium (Ni-Cd) rechargeable battery. —Hand generating function
- You may also use size AA (R6) dry batteries (not supplied).
- Audio Beacon that alerts the surroundings.
- Useful dial light when tuning in the dark.
- Water-resistant for all weather operation\*.

#### \* Do not immerse in water

This product is designed to be water-resistant, but should not be immersed in water or come in continuous contact with water. Before installing the batteries, be sure to wipe off drops of water on the unit.

## FM/AM RADIO

9-925-744-13  
2001B0400-1  
© 2001. 2

Sony Corporation  
Audio Entertainment Group  
General Engineering Dept.

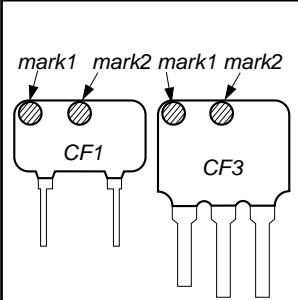
# SONY®

## HOW TO CHANGE THE CERAMIC FILTERS

This model is used two ceramic filters of CF1 and CF3.

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.

	mark1	mark2	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

## TABLE OF CONTENTS

### 1. GENERAL

Power Sources .....	3
Playing the Radio .....	3
Useful functions .....	3

### 2. SERVICE NOTE ..... 4

### 3. DISASSEMBLY

3-1. Cabinet (Rear) Assy .....	5
3-2. Main Board Assy .....	5
3-3. Main Board .....	6
3-4. Pointer Setting .....	6

### 4. ELECTRICAL ADJUSTMENTS ..... 7

### 5. DIAGRAMS

5-1. Printed Wiring Boards .....	9
5-2. Schematic Diagram .....	11

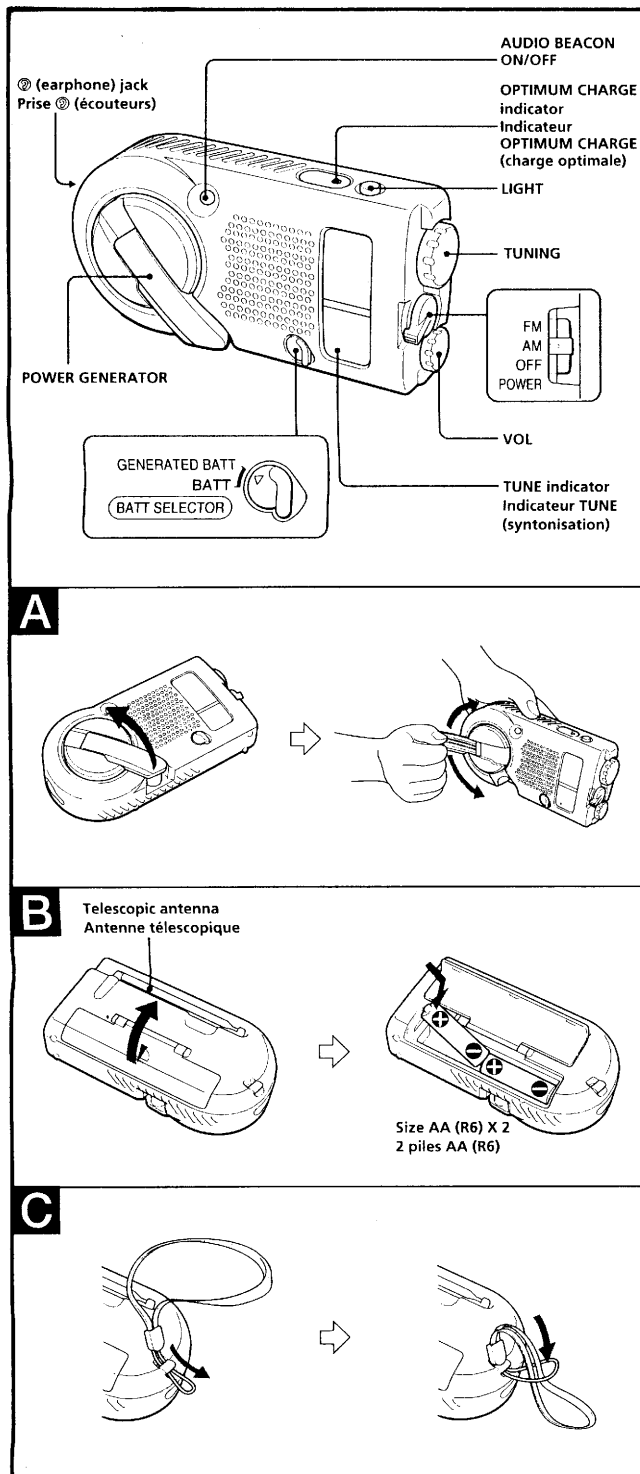
### 6. EXPLODED VIEWS

6-1. Cabinet (Rear) Section .....	13
6-2. Cabinet (Front) Section .....	14

### 7. ELECTRICAL PARTS LIST ..... 15

# SECTION 1 GENERAL

This section is extracted from instruction manual.



## Power Sources

### Using the installed rechargeable battery (see fig. A)

You may charge the built-in rechargeable battery and listen to the radio.

- 1 Pull out the handle of the **POWER GENERATOR**.
- 2 To charge, turn the handle one way to either direction.

Turn the handle slowly in the beginning, and speed up the turning little by little. Then, keep turning the handle continuously at the speed that lights the **OPTIMUM CHARGE** indicator.

#### Notes

- When you turn the handle, be careful not to put your finger into the groove for the knob of the handle. You may pinch your finger.
- Be sure to fold in the telescopic antenna when charging. If you leave the telescopic antenna unfolded, the telescopic antenna may hit the surroundings and it is dangerous.
- When you charge, the built-in rechargeable battery will be charged regardless of the setting of the **BATT SELECTOR** switch.
- If you turn the handle of the **POWER GENERATOR** while listening to the radio, there may be a noise interference. In this case, turn off the radio and then charge the battery.

#### On charging

When you turn the handle, the power generation starts and charges the built-in rechargeable battery. The generation capacity may vary depending on the speed.

At first, turn the handle slowly and then speed up the turning little by little and the **OPTIMUM CHARGE** indicator will light up. Keep on turning the handle for about a minute at the speed that lights the **OPTIMUM CHARGE** indicator, which will be about 30 minutes\* of listening to the radio. Use this as an charging standard.

Even when you turn the handle at the speed that the **OPTIMUM CHARGE** indicator does not light, it will charge the built-in rechargeable battery and you may listen to the radio. The **OPTIMUM CHARGE** indicator is not an indicator for charging capacity.

\* The listening time may defer depending on the operation of the unit.

When the rechargeable battery becomes exhausted.

The sound will become weak and distorted. If this occurs, turn the handle of the power generator to charge the rechargeable battery.

#### Notes

- When you use the rechargeable battery for the first time, after a long period of time of disuse, leaving the power on for a long time or the rechargeable battery is exhausted, the battery life may be short even after charging it. In this case, charge (for more than a minute) and discharge the battery several times. The battery life will be restored.
- If the rechargeable battery capacity becomes low in the normal life, please consult the nearest Sony dealer.

### Installing the dry batteries (see fig. B)

Insert two size AA (R6) batteries (not supplied).

- 1 Open the lid as illustrated.
- 2 Insert two size AA (R6) batteries with correct polarity.
- 3 Close the lid of the battery compartment.

#### Replacing dry batteries

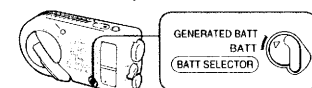
When the dry batteries become weak, the sound will become weak and distorted. Replace both dry batteries with new ones.

Battery Life	(Approx. hours)	
	FM	AM
Sony size AA (R6) batteries	37	44

#### Choosing the power source

Set the **BATT SELECTOR** switch to the source you want to use.

Nickel-cadmium battery: "GENERATED BATT"  
Size AA (R6) dry batteries: "BATT"



Check the rechargeable battery and the dry batteries once a year.  
Rechargeable battery: turn the handle of the **POWER GENERATOR** to charge, then confirm that you can listen to the radio.  
Dry batteries: turn on the radio to confirm if the sound is not weak or distorted.

## Playing the Radio

- 1 Set the **BATT SELECTOR** switch to choose the power source.
- 2 Turn on the radio and select **FM** or **AM** with **POWER**.
- 3 Tune in to a station with **TUNING**. When the station is tuned in, the **TUNE** indicator lights up.
- 4 Adjust volume using **VOL**.

#### To turn off the radio

Set **POWER** to **OFF**.

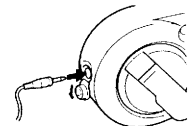
#### To improve radio reception

**FM:** Extend the telescopic antenna and adjust the length, angle and direction to obtain optimum reception.

**AM:** Rotate the unit horizontally for optimum reception. A ferrite bar antenna is built in the unit.

#### When using the earphone

Connect the earphone (not supplied) to ② (earphone) jack.  
When the earphone is connected, the speaker will not emit sound.



#### Notes

- Do not sound the alarm when using the earphone. The volume for the alarm cannot be adjusted.
- When the earphone is not connected to the ② (earphone) jack, be sure to close the earphone cover. If you do not close the earphone cover, the unit will not be water-resistant.

## Useful functions

### Using the Audio Beacon

Press the **AUDIO BEACON** button. Regardless of the **POWER** switch, the alarm will sound while the **AUDIO BEACON** button is depressed. To stop the alarm, press the **AUDIO BEACON** button again.

#### On the alarm sound

The alarm sound or the volume defers depending on the power source, the capacity of the power source and when the power source become weak or exhausted.

#### Alarm Sound Level:

Output SPL @ 12 in (30 cm) approx. 75 dB

#### Notes

- The built-in Audio Beacon is intended as a general purpose signaling device and is not intended for long distance signaling or signaling of an emergency or safety nature.
- The alarm volume cannot be adjusted. Since the volume is very loud, be careful on regular basis.
- Depending on the surrounding noise, the alarm may not be heard.

### Using the LIGHT

Press the **LIGHT** button, the dial light will be lit while this button is pressed.

### Attaching the hand strap (see Fig. C)

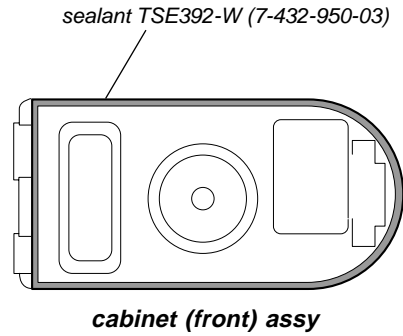
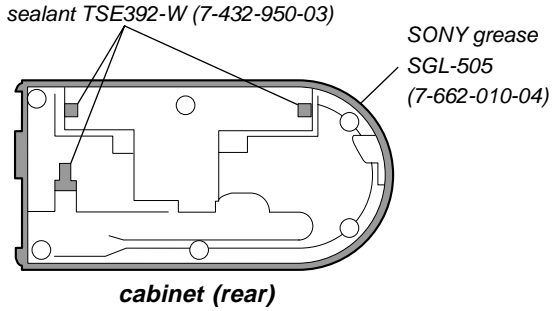
Attach the supplied hand strap to the strap hole at the side of the unit.

## SECTION 2 SERVICE NOTE

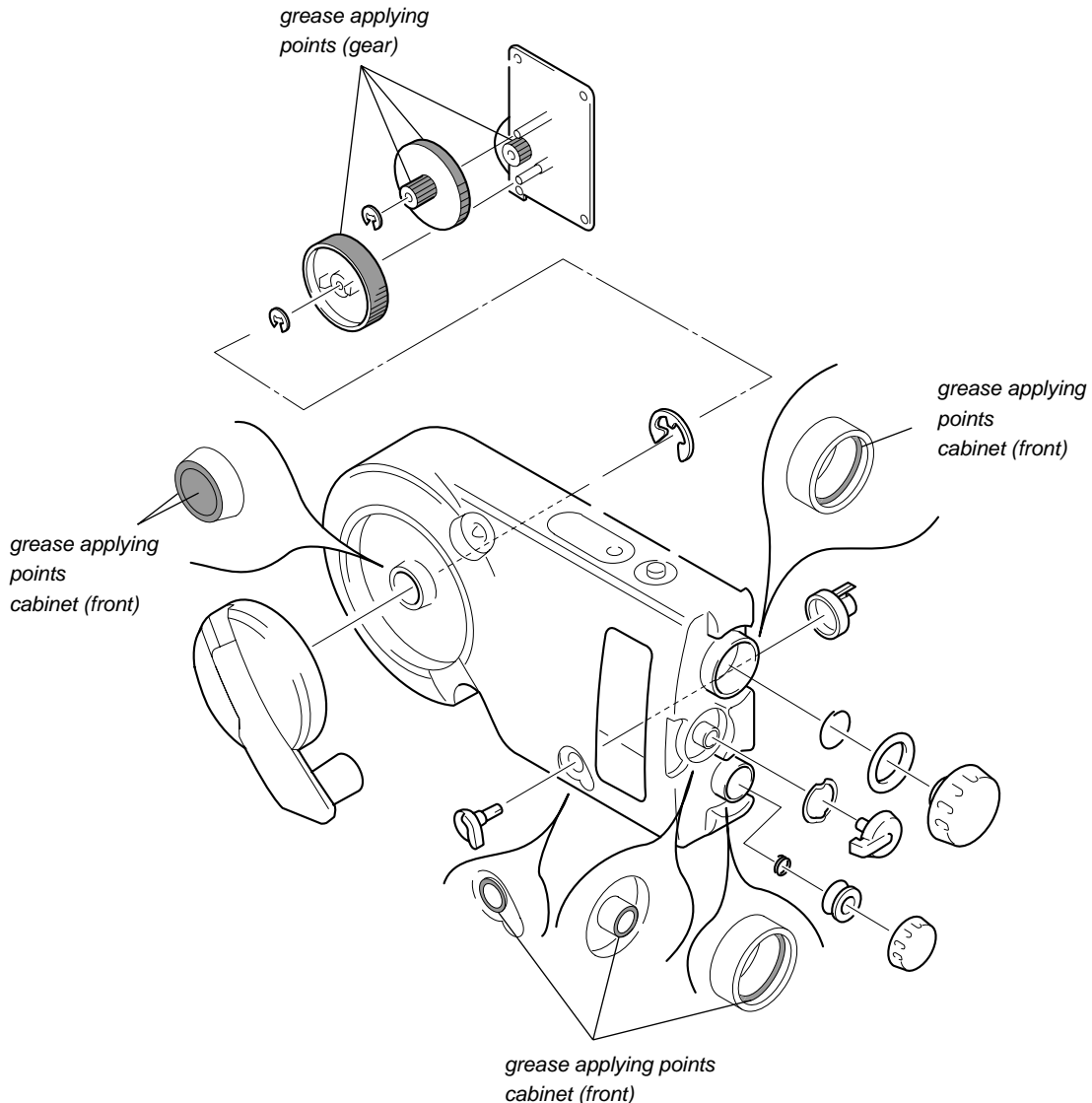
- **Moisture Resistant Treatment**

Be sure to perform the following work when the cabinet, telescopic antenna and knobs have been replaced in servicing :

Apply SONY grease SGL-505 (7-662-010-04) to all around the rib of the cabinet (rear) with an applicator or other means. Also, apply sealant TSE392-W (7-432-950-03) to the telescopic antenna mounting points on the cabinet (rear), the battery terminals, and all around the rib of the cabinet (front) assy.



Apply SONY grease SGL-505 (7-662-010-04) to the knobs and gears at the points specified in the figure with an applicator or other means.

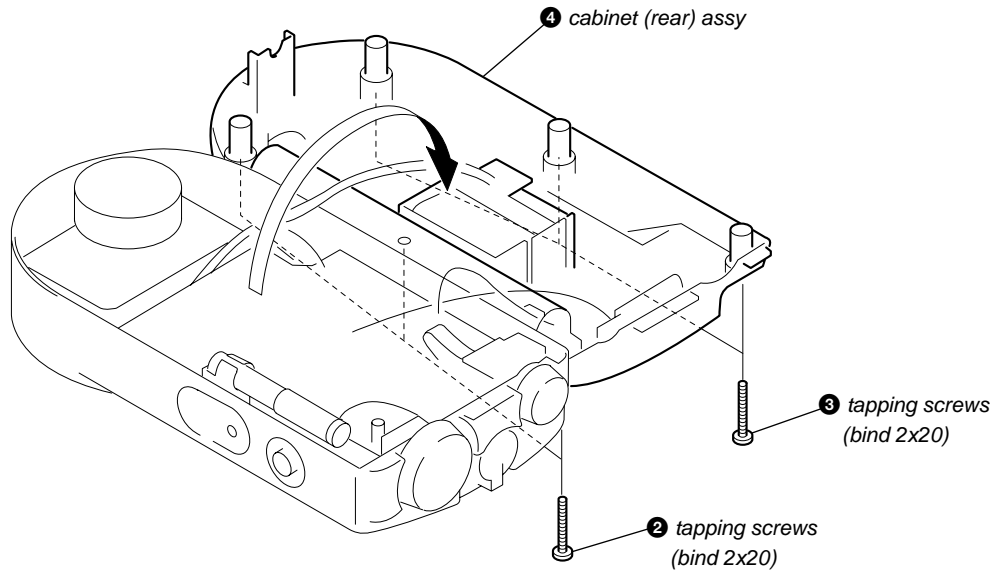


## SECTION 3 DISASSEMBLY

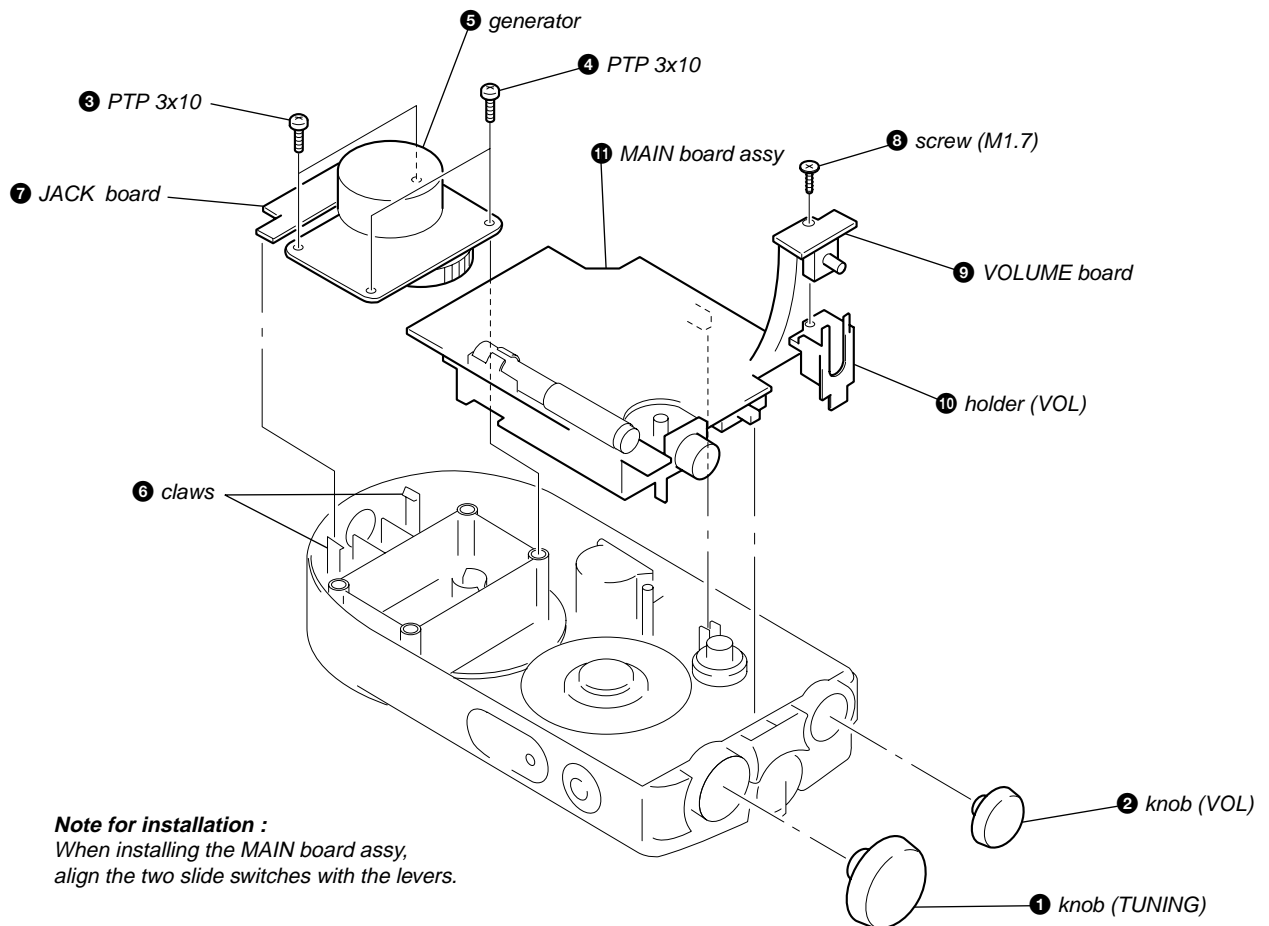
**Note :** Follow the disassembly procedure in the numerical order given.

### 3-1. CABINET (REAR) ASSY

❶ Open the battery case lid.

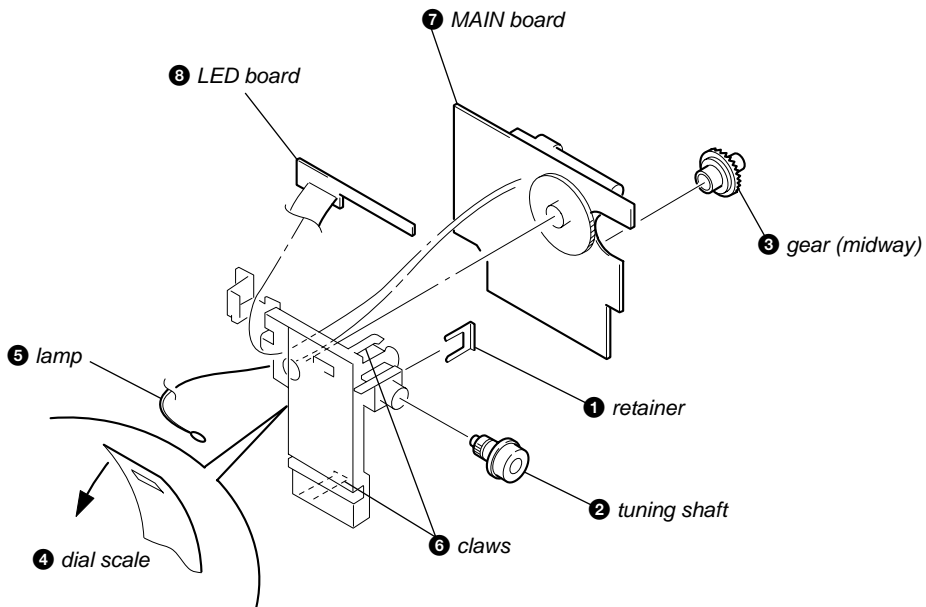


### 3-2. MAIN BOARD ASSY

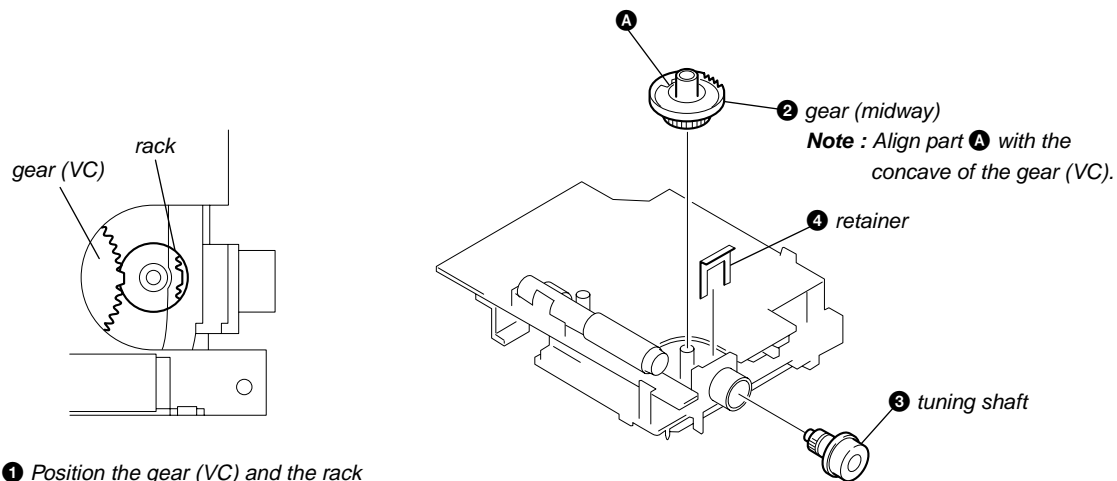


### 3-3. MAIN BOARD

**Note :** When installing, setting the pointer.



### 3-4. POINTER SETTING

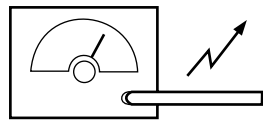


- 1 Position the gear (VC) and the rack as shown in the figure.  
**Note :** Engage the convex with the concave.

## SECTION 4 ELECTRICAL ADJUSTMENTS

### AM

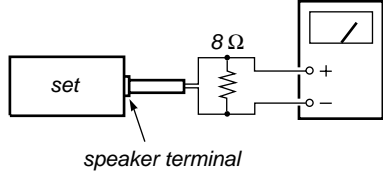
AM RF signal generator



Put the lead-wire antenna close to the set.

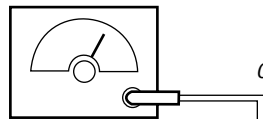
30 % amplitude modulation by 400 Hz signal

level meter (range : 0.5 – 5 V ac)



### FM

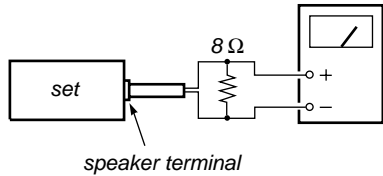
FM RF signal generator



to FM antenna terminal

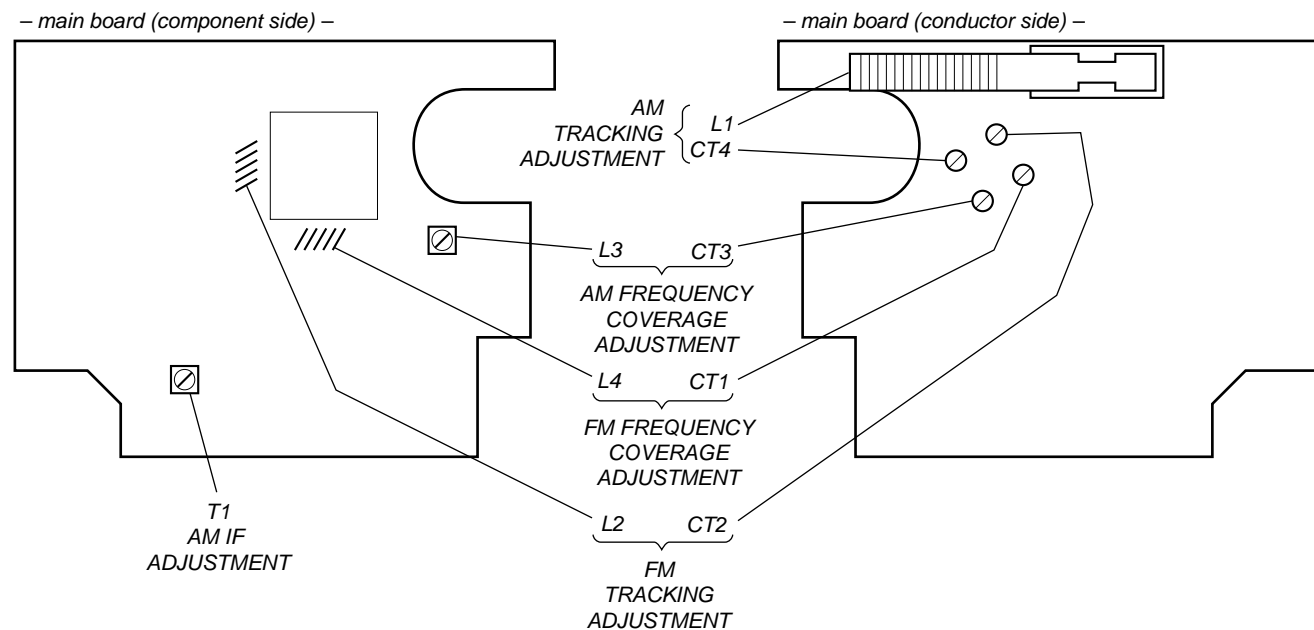
22.5 kHz frequency deviation by 400 Hz signal  
output level : as low as possible

level meter (range : 0.5 – 5 V ac)



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

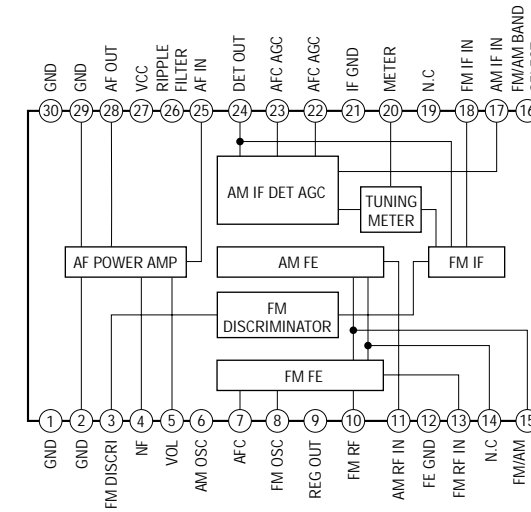
**Adjustment Location :** main board



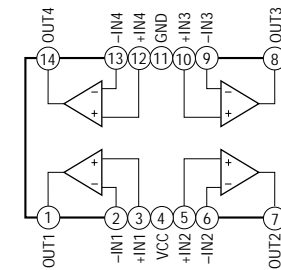
## SECTION 5 DIAGRAMS

### ● IC Block Diagrams

#### IC1 CXA1019S



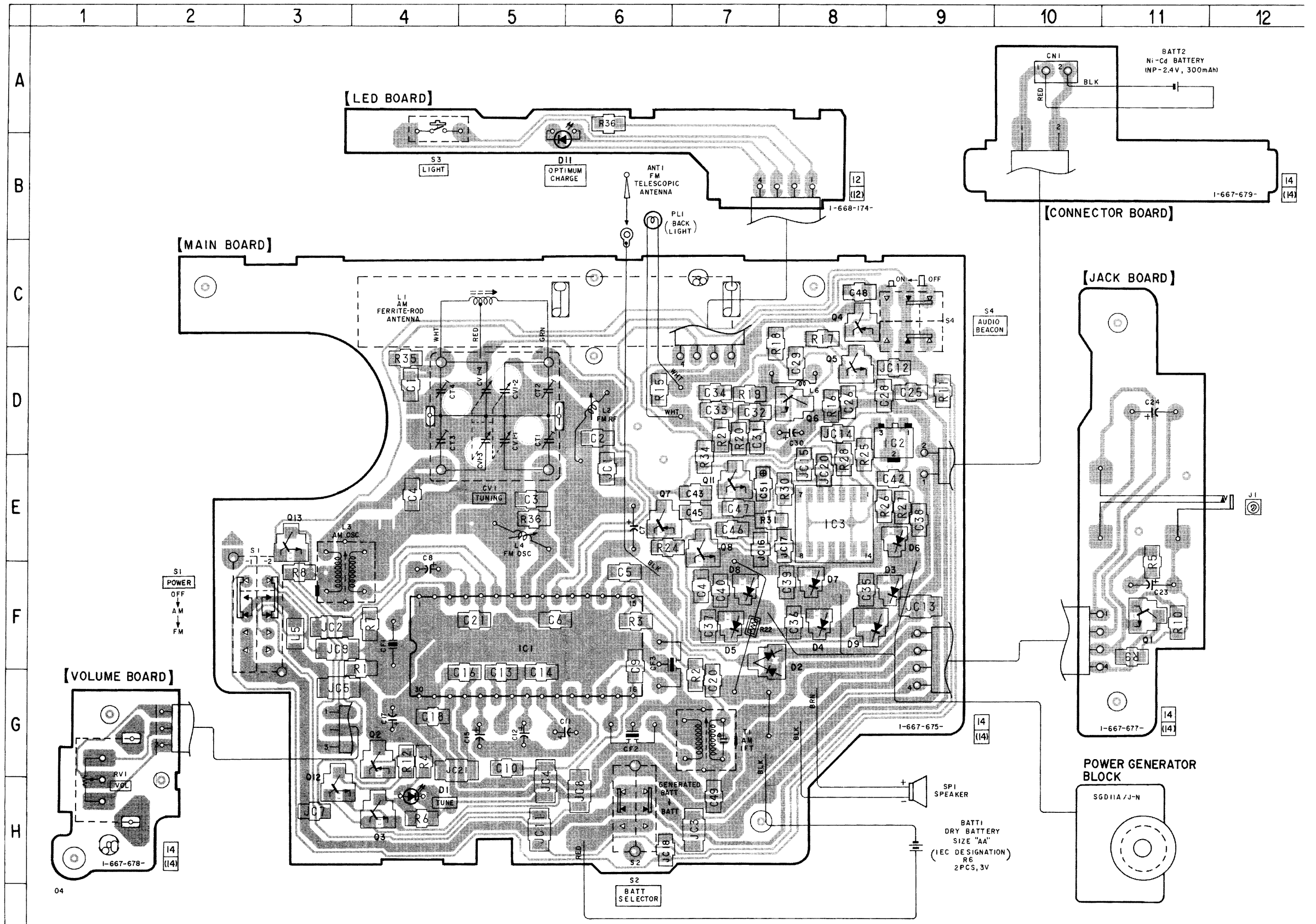
#### IC3 BA10324AF



5-1. PRINTED WIRING BOARDS

• Semiconductor Location

Ref. No.	Location
D1	H-4
D2	F-7
D3	F-9
D4	F-8
D5	F-7
D6	E-9
D7	F-8
D8	F-7
D9	F-8
D11	B-5
IC1	F-5
IC2	D-9
IC3	E-8
Q1	F-11
Q2	G-4
Q3	H-4
Q4	C-8
Q5	D-8
Q6	D-8
Q7	E-6
Q8	E-7
Q11	E-7
Q12	H-3
Q13	E-3

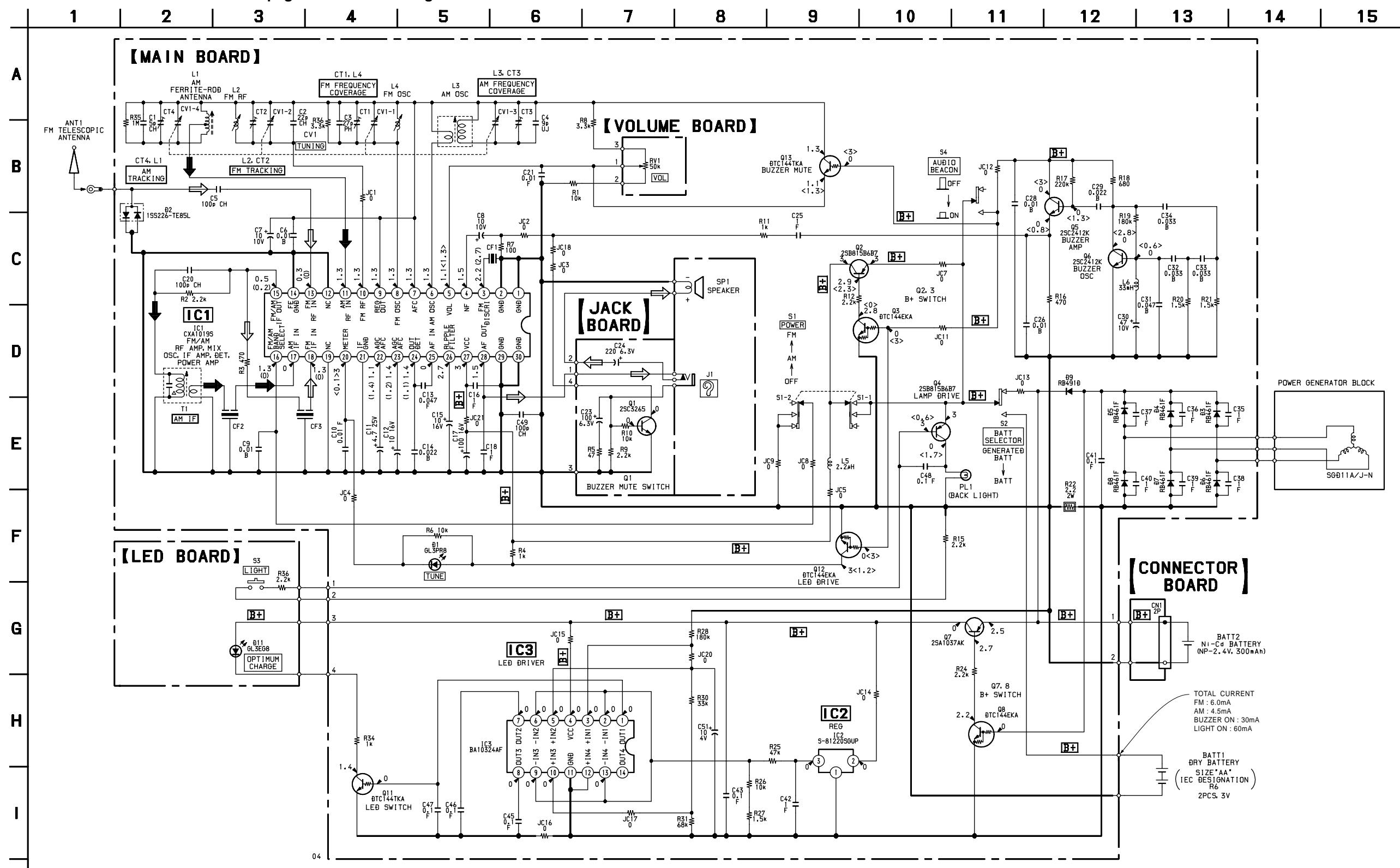


Note:

- : parts extracted from the component side.
- : parts extracted from the conductor side.
- : indicates side identified with part number.
- △ : internal component.
- ▨ : Pattern from the side which enables seeing.



5-2. SCHEMATIC DIAGRAM • Refer to page 8 for IC Block Diagrams.



**Note:**

- All capacitors are in  $\mu\text{F}$  unless otherwise noted. pF:  $\mu\text{F}$  50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in  $\Omega$  and  $\frac{1}{4}\text{W}$  or less unless otherwise specified.
- $\Delta$  : internal component.
- $\square$  : nonflammable resistor.
- $\square$  : panel designation.
- $\square$  : B+ Line.
- $\square$  : adjustment for repair.
- Power voltage is dc 3V and fed with regulated dc power supply from battery terminal.

- Voltage is dc with respect to ground under no-signal (detuned) condition.
- no mark : FM
- ( ) : AM
- < > : BUZZER ON
- Voltages are taken with a VOM (Input impedance 10 M $\Omega$ ). Voltage variations may be noted due to normal production tolerances.
- Signal path.
- $\square$  : FM
- $\blacktriangleright$  : AM

### SECTION 6 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

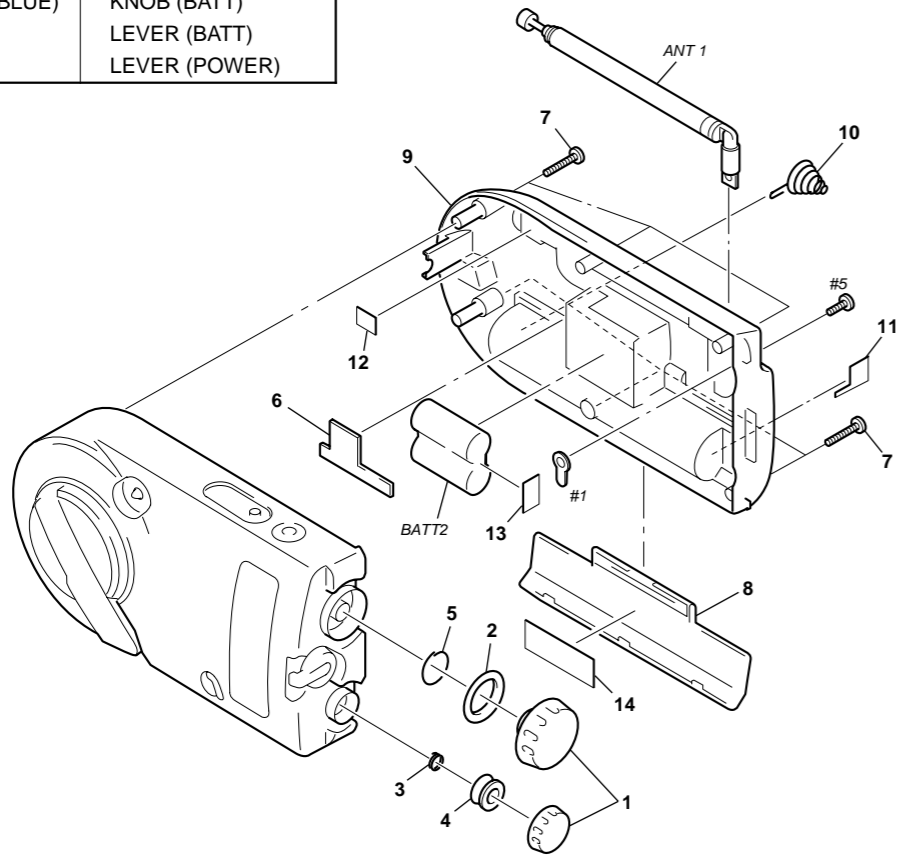
- Accessories and packing materials and hardware (# mark) list are given in the last of this parts list.

Example :  
 KNOB, BALANCE (WHITE) ... (RED)  
   ↑                                     ↑  
 Parts Color        Cabinet's Color

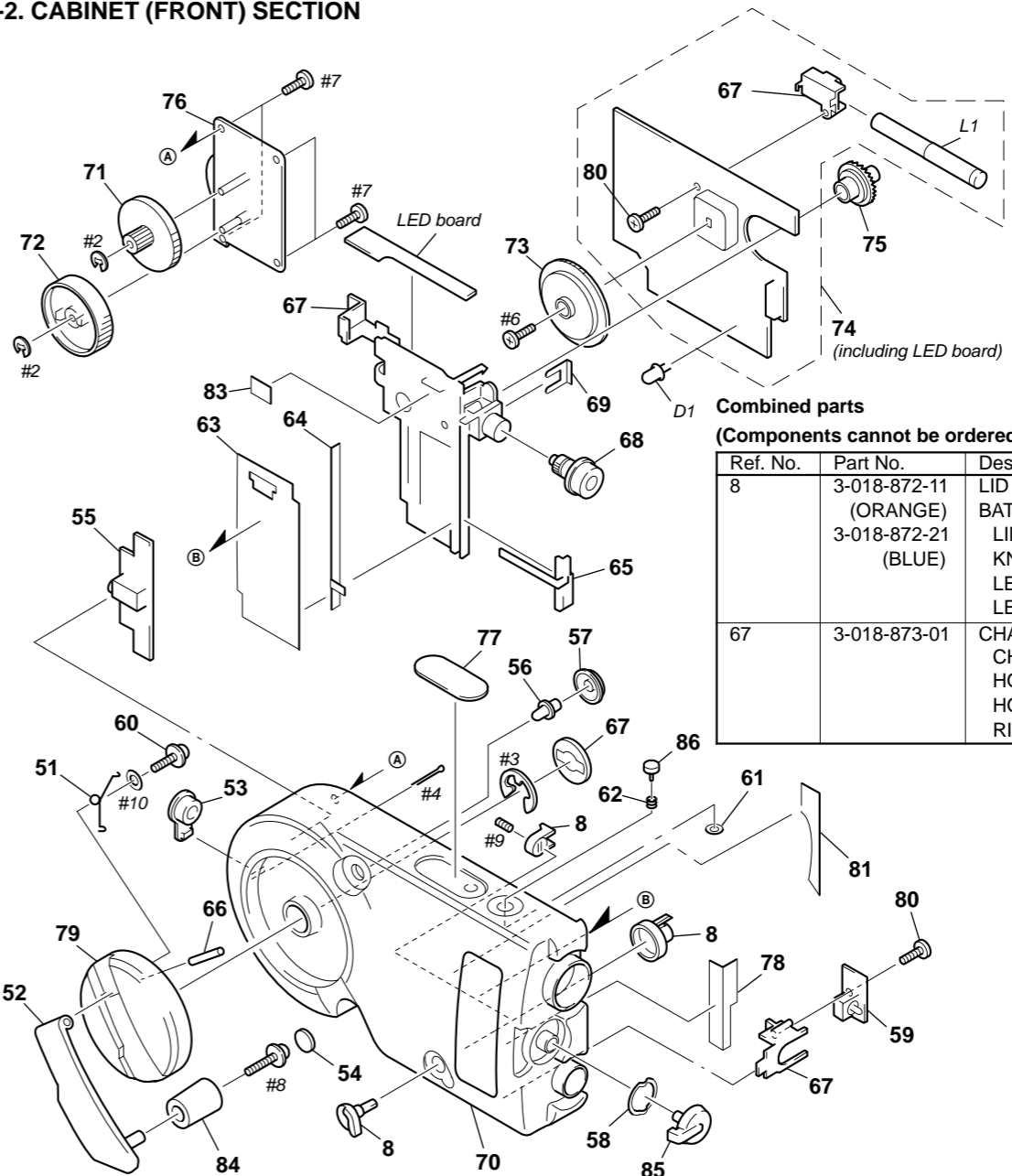
#### 6-1. CABINET (REAR) SECTION

Combined parts  
 (Components cannot be ordered as items.)

Ref. No.	Part No.	Description
1	3-018-874-01	KNOB (COMBINED) KNOB (TUNE) KNOB (VOL)
8	3-018-872-11 (ORANGE) 3-018-872-21 (BLUE)	LID (COMBINED), BATTERY CASE LID, BATTERY CASE KNOB (BATT) LEVER (BATT) LEVER (POWER)



#### 6-2. CABINET (FRONT) SECTION



Combined parts  
 (Components cannot be ordered as items.)

Ref. No.	Part No.	Description
8	3-018-872-11 (ORANGE) 3-018-872-21 (BLUE)	LID (COMBINED), BATTERY CASE LID, BATTERY CASE KNOB (BATT) LEVER (BATT) LEVER (POWER)
67	3-018-873-01	CHASSIS (COMBINED) CHASSIS HOLDER (ANT) HOLDER (VOL) RING (BASE)

Ref. No.	Part No.	Description	Remark
2	3-917-353-01	RING (BAND), O	
3	3-018-885-01	SPRING, RING	
4	3-898-411-01	PACKING, KNOB	
5	3-900-151-01	SPRING, RING	
* 6	1-667-679-11	CONNECTOR BOARD	
7	4-356-741-41	SCREW, TAPPING (BIND 2X20)	
9	3-018-849-11	CABINET (REAR) (ORANGE)	
9	3-018-849-21	CABINET (REAR) (BLUE)	
10	3-007-833-01	TERMINAL (-), BATTERY	

Ref. No.	Part No.	Description	Remark
11	3-919-944-01	TERMINAL (+), BATTERY	
* 12	3-020-493-01	SHEET	
13	3-020-951-01	CUSHION (Ni-Cd)	
14	3-021-019-01	CUSHION (BATTERY CASE LID)	
ANT1	1-501-432-11	ANTENNA, TELESCOPIC	
BATT2	1-528-831-21	BATTERY PACK (Ni-Cd) (300mAh/2.4V) (US, Canadian)	
BATT2	1-528-831-31	BATTERY PACK (Ni-Cd) (300mAh/2.4V) (AEP)	

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
51	3-018-950-01	SPRING (HANDLE)		71	3-018-856-01	GEAR (A)	
52	3-018-866-01	HANDLE		72	3-018-857-01	GEAR (B)	
53	3-898-406-01	LID, JACK		73	3-018-855-01	GEAR (VC)	
54	3-018-882-01	LID (KNOB)		* 74	A-3679-932-A	MAIN BOARD, COMPLETE	
* 55	1-667-677-11	JACK BOARD		75	3-018-853-01	GEAR (MIDWAY)	
56	3-018-858-01	BUTTON (BUZZER)		76	8-838-202-01	GENERATOR SGD11A/J-N	
57	3-018-879-01	PACKING (BUZZER)		77	3-020-905-01	WINDOW (MOTOR)	
58	3-372-834-01	PLATE, CLICK		78	3-023-214-01	PLATE (B), BLIND	
* 59	1-667-678-11	VOLUME BOARD		79	3-018-867-01	BASE (HANDLE)	
60	2-646-154-11	SCREW (M1.7X5)		80	3-363-895-01	SCREW (M1.7)	
61	3-018-881-01	SLIDER, POLYETHYLENE		81	3-023-216-01	PLATE (D), BLIND	
62	3-018-943-01	SPRING (LIGHT)		83	3-831-441-99	CUSHION, STOPPER	
63	3-018-884-11	SCALE, DIAL		84	3-018-868-01	KNOB (HANDLE)	
64	3-018-871-01	RACK		85	3-018-865-01	KNOB (POWER)	
65	3-018-870-01	POINTER		86	3-018-859-01	BUTTON (LIGHT)	
66	3-020-689-01	PIN, PARALLEL		D1	8-719-069-94	LED TLSU124 (TUNE)	
68	3-900-147-01	SHAFT, TUNING		L1	1-501-732-12	ANTENNA, FERRITE-ROD (AM)	
69	3-900-149-01	RETAINER					
70	X-3374-974-1	CABINET (FRONT) ASSY (INCLUDING SP1) (ORANGE)					
70	X-3380-348-1	CABINET (FRONT) ASSY (INCLUDING SP1) (BLUE)					

## SECTION 7 ELECTRICAL PARTS LIST

<b>CONNECTOR</b>	<b>JACK</b>
<b>LED</b>	<b>MAIN</b>

**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
*	1-667-679-11	CONNECTOR BOARD *****	
		< CONNECTOR >	
CN1	1-564-505-11	PLUG, CONNECTOR 2P	
*****			
*	1-667-677-11	JACK BOARD *****	
		< CAPACITOR >	
C23	1-126-382-11	ELECT      100uF    20%    6.3V	
C24	1-124-635-00	ELECT      220uF    20%    6.3V	
		< JACK >	
J1	1-573-548-11	JACK (⊙)	
		< TRANSISTOR >	
Q1	8-729-011-54	TRANSISTOR 2SC3265	
		< RESISTOR >	
R5	1-216-017-00	RES.CHIP    47        5%      1/10W	
R9	1-216-057-00	METAL CHIP 2.2K     5%      1/10W	
R10	1-216-073-00	METAL CHIP 10K      5%      1/10W	
*****			
		LED BOARD (SUPPLIED WITH MAIN BOARD, COMPLETE)	
		*****	
		< DIODE >	
D11	8-719-938-67	LED GL-3EG8 (OPTIMUM CHARGE)	
		< RESISTOR >	
R36	1-216-057-00	METAL CHIP 2.2K     5%      1/10W	
		< SWITCH >	
S3	1-572-596-11	SWITCH, KEY BOARD (LIGHT)	
*****			

Ref. No.	Part No.	Description	Remark
*	A-3679-932-A	MAIN BOARD, COMPLETE (INCLUDING LED BOARD) *****	
		< CAPACITOR >	
	3-018-873-01	CHASSIS (COMBINED)	
	3-314-712-01	SHEET, CHLORIDE VINYL	
	3-363-895-01	SCREW (M1.7)	
		< CAPACITOR >	
C1	1-163-222-11	CERAMIC CHIP 5PF      0.25PF    50V	
C2	1-163-235-11	CERAMIC CHIP 22PF     5%        50V	
C3	1-163-713-91	CERAMIC CHIP 27PF     5%        50V	
C4	1-163-092-00	CERAMIC CHIP 9PF      0.25PF    50V	
C5	1-163-251-11	CERAMIC CHIP 100PF    5%        50V	
C6	1-163-021-11	CERAMIC CHIP 0.01uF   10%       50V	
C7	1-124-261-00	ELECT      10uF      20%       50V	
C8	1-124-261-00	ELECT      10uF      20%       50V	
C9	1-163-021-11	CERAMIC CHIP 0.01uF   10%       50V	
C10	1-163-031-11	CERAMIC CHIP 0.01uF   50V	
C11	1-126-794-11	ELECT      4.7uF     20%       25V	
C12	1-104-396-11	ELECT      10uF      20%       16V	
C13	1-163-809-11	CERAMIC CHIP 0.047uF   10%       25V	
C14	1-163-037-11	CERAMIC CHIP 0.022uF   10%       25V	
C15	1-104-396-11	ELECT      10uF      20%       16V	
C16	1-164-346-11	CERAMIC CHIP 1uF       16V	
C17	1-126-382-11	ELECT      100uF     20%       16V	
C18	1-164-346-11	CERAMIC CHIP 1uF       16V	
C20	1-163-251-11	CERAMIC CHIP 100PF    5%        50V	
C21	1-163-031-11	CERAMIC CHIP 0.01uF   50V	
C25	1-164-346-11	CERAMIC CHIP 1uF       16V	
C26	1-163-021-11	CERAMIC CHIP 0.01uF   10%       50V	
C28	1-163-021-11	CERAMIC CHIP 0.01uF   10%       50V	
C29	1-163-037-11	CERAMIC CHIP 0.022uF   10%       25V	
C30	1-126-785-11	ELECT      47uF      20%       10V	
C31	1-163-809-11	CERAMIC CHIP 0.047uF   10%       25V	
C32	1-163-989-11	CERAMIC CHIP 0.033uF   10%       25V	
C33	1-163-989-11	CERAMIC CHIP 0.033uF   10%       25V	
C34	1-163-989-11	CERAMIC CHIP 0.033uF   10%       25V	
C35	1-164-346-11	CERAMIC CHIP 1uF       16V	
C36	1-164-346-11	CERAMIC CHIP 1uF       16V	
C37	1-164-346-11	CERAMIC CHIP 1uF       16V	
C38	1-164-346-11	CERAMIC CHIP 1uF       16V	
C39	1-164-346-11	CERAMIC CHIP 1uF       16V	
C40	1-164-346-11	CERAMIC CHIP 1uF       16V	
C41	1-163-038-00	CERAMIC CHIP 0.1uF     25V	

# MAIN

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
C42	1-164-346-11	CERAMIC CHIP 1uF	16V			< COIL >	
C43	1-163-038-00	CERAMIC CHIP 0.1uF	25V				
C45	1-163-038-00	CERAMIC CHIP 0.1uF	25V	L1	1-501-732-12	ANTENNA, FERRITE-ROD (AM)	
C46	1-163-038-00	CERAMIC CHIP 0.1uF	25V	L2	1-416-503-11	COIL, AIR-CORE	
C47	1-163-038-00	CERAMIC CHIP 0.1uF	25V	L3	1-406-028-00	COIL, OSC (AM)	
				L4	1-416-504-11	COIL, AIR-CORE	
C48	1-163-038-00	CERAMIC CHIP 0.1uF	25V	L5	1-412-943-11	INDUCTOR 2.2uH	
C49	1-163-251-11	CERAMIC CHIP 100PF	5% 50V				
C51	1-135-201-11	TANTALUM CHIP 10uF	20% 4V	L6	1-406-680-11	INDUCTOR 33mH	
		< FILTER >				< PILOT LAMP >	
CF1	1-579-632-51	FILTER, CERAMIC		PL1	1-517-710-11	LAMP, PILOT (BACK LIGHT)	
CF2	1-577-072-11	FILTER, CERAMIC				< TRANSISTOR >	
CF3	1-579-632-51	FILTER, CERAMIC					
		< VARIABLE CAPACITOR >		Q2	8-729-800-71	TRANSISTOR 2SB815B7-TB	
CT1-4	1-141-589-11	CAP, VAR		Q3	1-801-806-11	TRANSISTOR DTC144EKA-T146	
CV1-4	1-141-589-11	CAP, VAR (TUNING)		Q4	8-729-800-71	TRANSISTOR 2SB815B7-TB	
		< DIODE >		Q5	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
D2	8-719-800-76	DIODE 1SS226		Q6	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
D3	8-719-066-34	DIODE RB461F-T106		Q7	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R	
D4	8-719-066-34	DIODE RB461F-T106		Q8	1-801-806-11	TRANSISTOR DTC144EKA-T146	
D5	8-719-066-34	DIODE RB461F-T106		Q11	8-729-027-60	TRANSISTOR DTC144TKA-T146	
D6	8-719-066-34	DIODE RB461F-T106		Q12	1-801-806-11	TRANSISTOR DTC144EKA-T146	
				Q13	8-729-027-60	TRANSISTOR DTC144TKA-T146	
D7	8-719-066-34	DIODE RB461F-T106				< RESISTOR >	
D8	8-719-066-34	DIODE RB461F-T106		R1	1-216-073-00	METAL CHIP 10K 5%	1/10W
D9	8-719-066-16	DIODE RB491D-T146		R2	1-216-057-00	METAL CHIP 2.2K 5%	1/10W
		< IC >		R3	1-216-041-00	METAL CHIP 470 5%	1/10W
IC1	8-752-055-05	IC CXA1019S		R4	1-216-049-11	RES,CHIP 1K 5%	1/10W
IC2	8-759-486-72	IC S-81220SGUP-DQS-T1		R6	1-216-073-00	METAL CHIP 10K 5%	1/10W
IC3	8-759-058-50	IC XRA10324AF		R7	1-216-025-00	RES,CHIP 100 5%	1/10W
		< JUMPER RESISTOR >		R8	1-216-061-00	METAL CHIP 3.3K 5%	1/10W
JC1	1-216-295-00	SHORT 0		R11	1-216-049-11	RES,CHIP 1K 5%	1/10W
JC2	1-216-296-00	SHORT 0		R12	1-216-057-00	METAL CHIP 2.2K 5%	1/10W
JC3	1-216-296-00	SHORT 0		R15	1-216-057-00	METAL CHIP 2.2K 5%	1/10W
JC4	1-216-296-00	SHORT 0		R16	1-216-041-00	METAL CHIP 470 5%	1/10W
JC5	1-216-296-00	SHORT 0		R17	1-216-105-00	RES,CHIP 220K 5%	1/10W
				R18	1-216-045-00	METAL CHIP 680 5%	1/10W
JC7	1-216-295-00	SHORT 0		R19	1-216-103-00	METAL CHIP 180K 5%	1/10W
JC8	1-216-296-00	SHORT 0		R20	1-216-053-00	METAL CHIP 1.5K 5%	1/10W
JC9	1-216-296-00	SHORT 0		R21	1-216-053-00	METAL CHIP 1.5K 5%	1/10W
JC11	1-216-296-00	SHORT 0		R22	1-216-373-11	METAL OXIDE 2.2 5%	2W F
JC12	1-216-295-00	SHORT 0		R24	1-216-057-00	METAL CHIP 2.2K 5%	1/10W
				R25	1-216-089-00	RES,CHIP 47K 5%	1/10W
JC13	1-216-296-00	SHORT 0		R26	1-216-073-00	METAL CHIP 10K 5%	1/10W
JC14	1-216-295-00	SHORT 0		R27	1-216-053-00	METAL CHIP 1.5K 5%	1/10W
JC15	1-216-295-00	SHORT 0		R28	1-216-103-00	METAL CHIP 180K 5%	1/10W
JC16	1-216-296-00	SHORT 0		R30	1-216-085-00	METAL CHIP 33K 5%	1/10W
JC17	1-216-295-00	SHORT 0		R31	1-216-093-00	METAL CHIP 68K 5%	1/10W
				R34	1-216-049-11	RES,CHIP 1K 5%	1/10W
JC18	1-216-295-00	SHORT 0		R35	1-216-121-00	RES,CHIP 1M 5%	1/10W
JC20	1-216-295-00	SHORT 0		R36	1-216-061-00	METAL CHIP 3.3K 5%	1/10W
JC21	1-216-296-00	SHORT 0					

Ref. No.	Part No.	Description	Remark
		< SWITCH >	
S1	1-570-433-11	SWITCH, SLIDE (POWER)	
S2	1-572-552-31	SWITCH, SLIDE (BATT SELECT)	
@ S4	1-771-239-11	SWITCH, PUSH (1 KEY) (AUDIO BEACON)	
@ S4	1-771-367-11	SWITCH, PUSH (1 KEY) (AUDIO BEACON)	
		< TRANSFORMER >	
T1	1-404-790-11	TRANSFORMER, IF	
*****			
*	1-667-678-11	VOLUME BOARD	
*****			
		< VARIABLE RESISTOR >	
RV1	1-223-738-11	RES, VAR, CARBON 50K (VOL)	
*****			
		MISCELLANEOUS	
*****			
76	8-838-202-01	GENERATOR SGD11A/J-N	
ANT1	1-501-432-11	ANTENNA, TELESCOPIC	
BATT2	1-528-831-21	BATTERY PACK (Ni-Cd) (300mAh/2.4V)	
(US,Canadian)			
BATT2	1-528-831-31	BATTERY PACK (Ni-Cd) (300mAh/2.4V) (AEP)	
D1	8-719-812-41	LED GL3PR8 (TUNE)	
*****			
		ACCESSORIES & PACKING MATERIALS	
*****			
	3-019-238-01	STRAP (US,Canadian)	
	3-228-890-01	STRAP (AEP)	
	3-861-125-12	MANUAL, INSTRUCTION (ENGLISH) (US)	
	3-861-125-21	MANUAL, INSTRUCTION (ENGLISH,FRENCH)	
(Canadian)			
	3-861-125-31	MANUAL, INSTRUCTION (ENGLISH,FRENCH, GERMAN,SPANISH) (AEP)	
*****			
		*****	
		HARDWARE LIST	
		*****	
#1	7-623-507-01	LUG, 2.6	
#2	7-624-104-04	STOP RING 2.0, TYPE -E	
#3	7-624-113-04	STOP RING 9.0, TYPE -E	
#4	7-626-202-51	PIN, SPLIT 1X12	
#5	7-627-556-37	SCREW, PRECISION +P 2.6X4 TYPE1	
#6	7-627-852-08	SCREW, PRECISION +P 1.7X2.5	
#7	7-685-647-79	SCREW +P 3X10 TYPE2 NON-SLIT	
#8	7-685-902-21	SCREW +PTPWH 2.6X8 (TYPE2)	
#9	7-621-734-09	SET-SCT, HEX. 2.6X3	
#10	7-688-001-01	W 2, MIDDLE	

@ For the push switch S4 on the MAIN board, check the serial number for the set before replacing the switch by the appropriate part No.

Serial No.	Part No.
39430 and previous	1-771-239-11
39431 and later	1-771-367-11

