

ICF-18

SERVICE MANUAL



US Model
Canadian Model
AEP Model
UK Model
E Model
Australian Model

SPECIFICATIONS

Frequency range

FM: 87.5 - 108.0 MHz

AM: 530 - 1605 kHz

Speaker

Approx. 9.2 cm dia.

Power output

300 mW (max.)

Output

② jack (minijack)

Power requirements

3 V DC, two size D (R20) batteries

Dimensions

Approx. 204 × 131.5 × 73.2 mm

(8 × 5 1/16 × 2 7/8 in.) (w/h/d)

incl. projecting parts and controls

Mass

Approx. 694 g (1lb 8 oz) incl. batteries

Accessory supplied

Carrying strap (1)

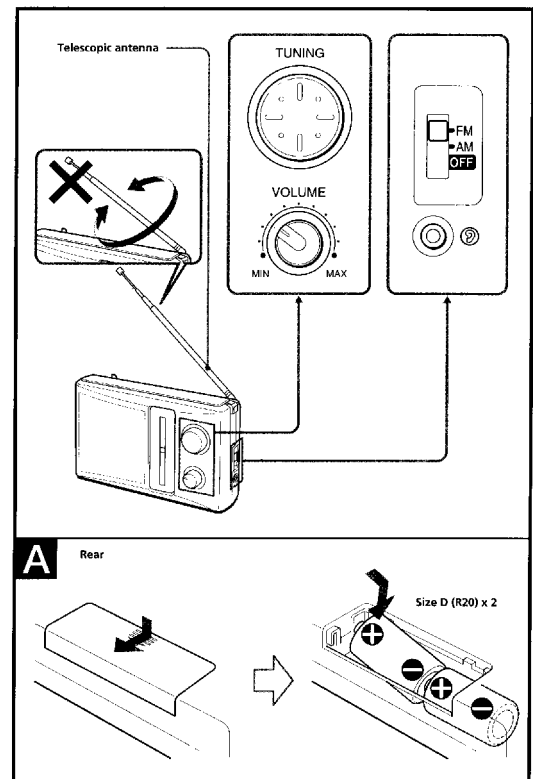
Design and specifications are subject to change without notice.

Features

- High power output radio.
- Long battery life with two R20 batteries.
- Easy to carry with the supplied carrying strap.

SECTION 1 GENERAL

This section is extracted from instruction manual.



FM/AM RADIO

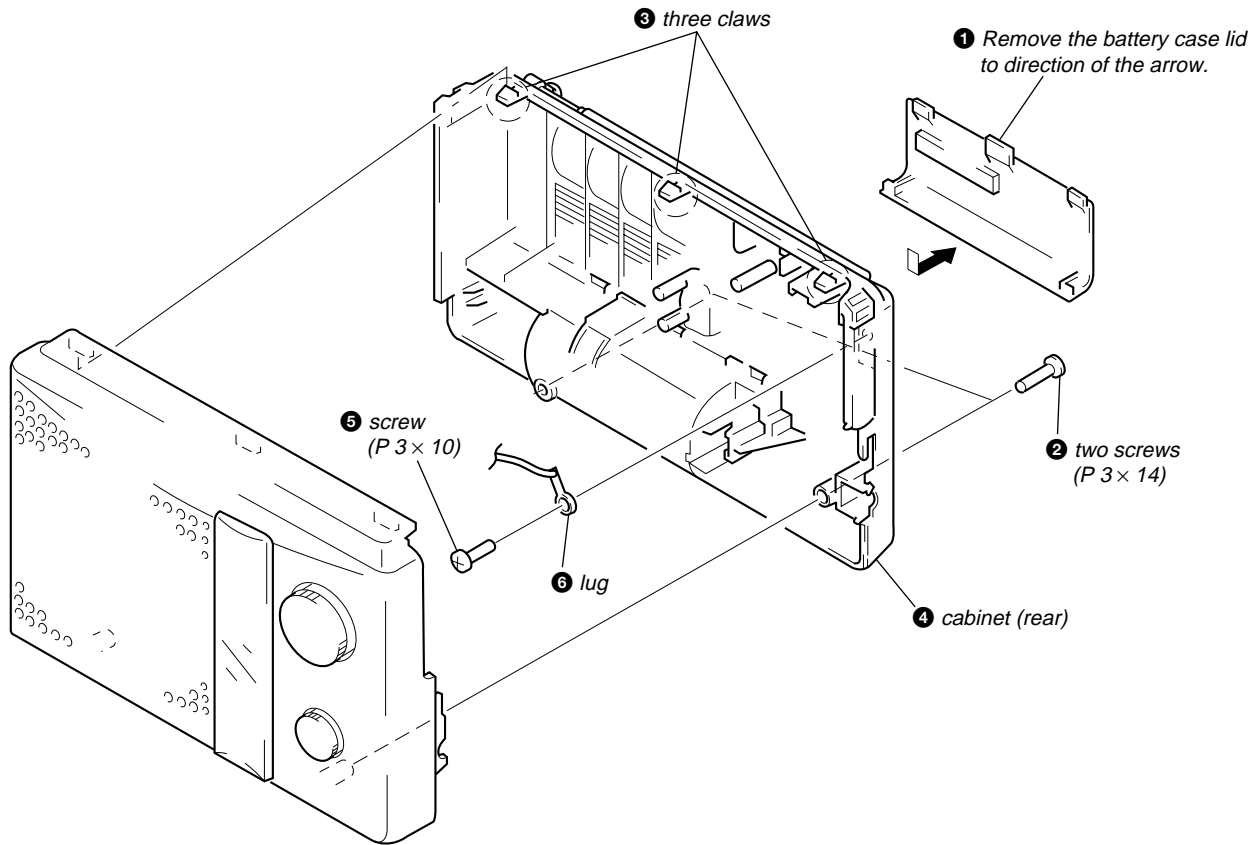
SONY®



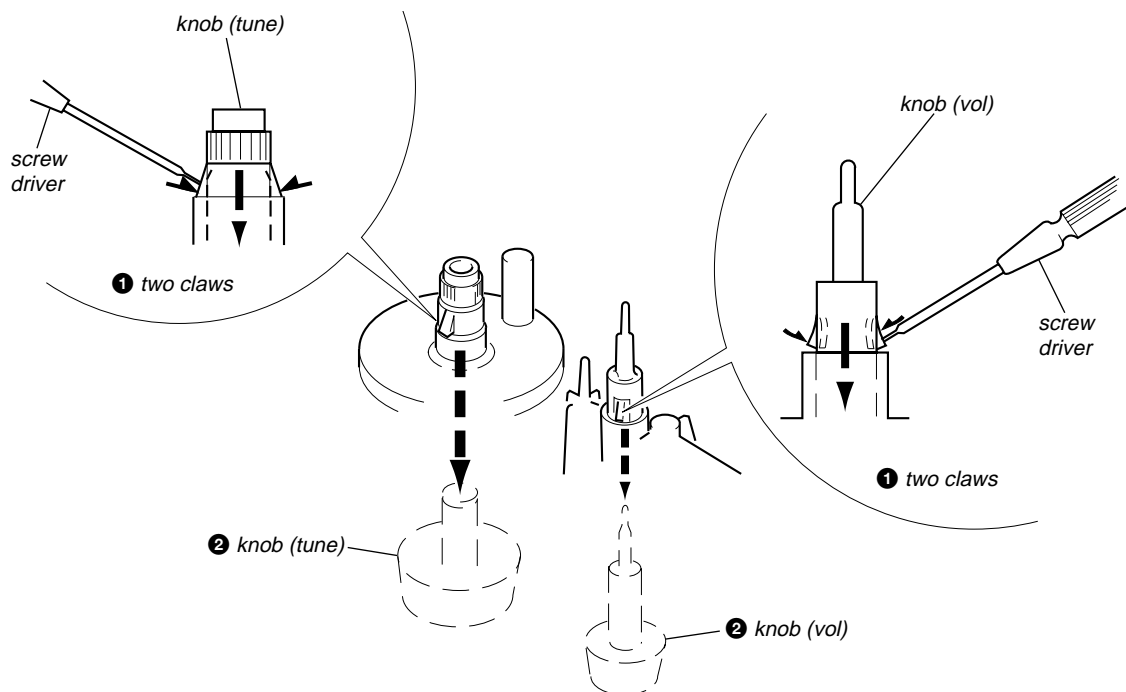
SECTION 2 DISASSEMBLY

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

CABINET (REAR)

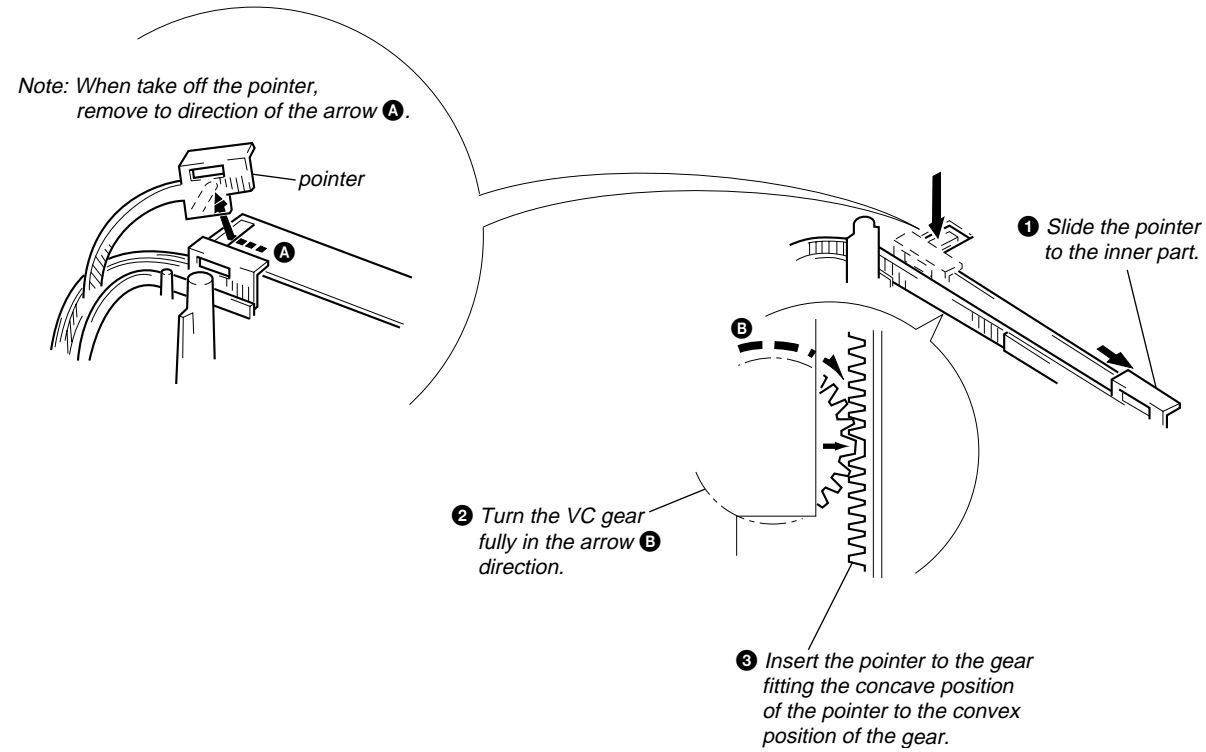


KNOB (VOL), KNOB (TUNE)



SECTION 3 DIAL POINTER SETTING

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



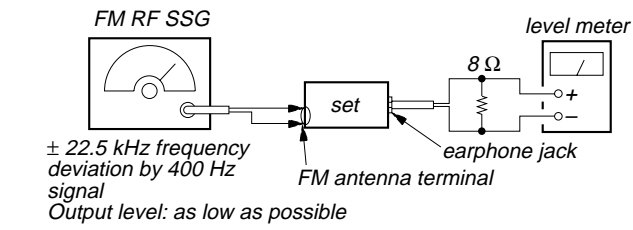
SECTION 4 ELECTRICAL ADJUSTMENTS

0dB=1 μV

[FM Section]

Setting:

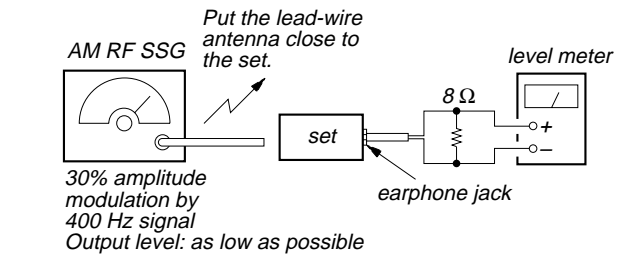
Band select switch: FM



[AM Section]

Setting:

Band select switch: AM



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

FM FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on level meter.	
L3	75.0 MHz
CT1	109.5 MHz

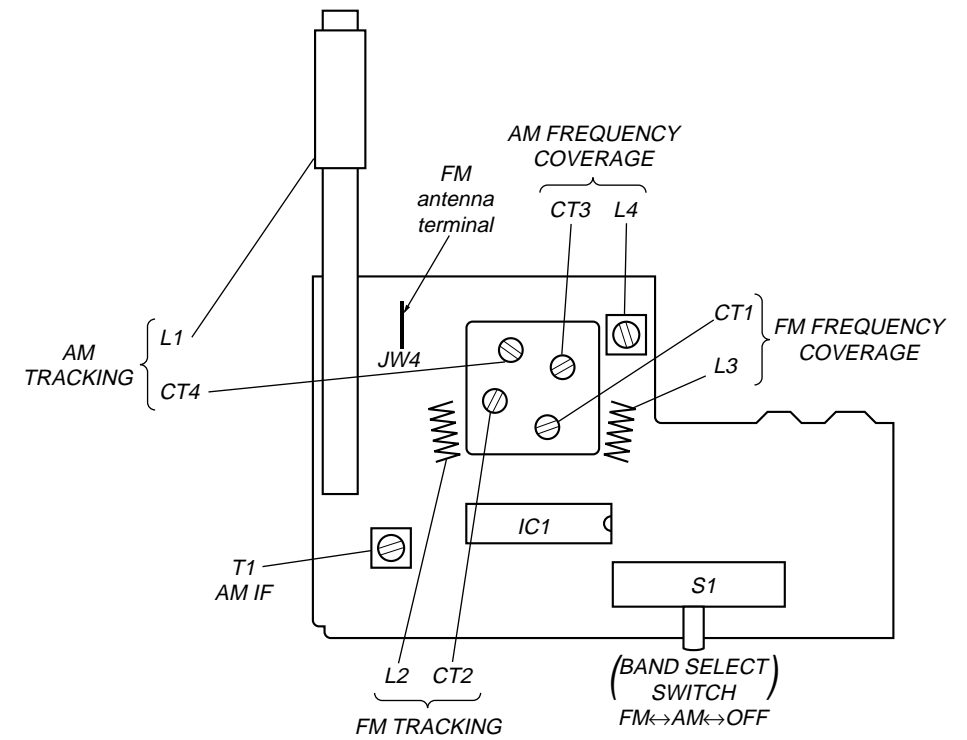
FM TRACKING ADJUSTMENT	
Adjust for a maximum reading on level meter.	
L2	75.0 MHz
CT2	109.5 MHz

AM FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on level meter.	
L4	520 kHz
CT3	1,650 kHz

AM TRACKING ADJUSTMENT	
Adjust for a maximum reading on level meter.	
L1	600 kHz
CT4	1,400 kHz

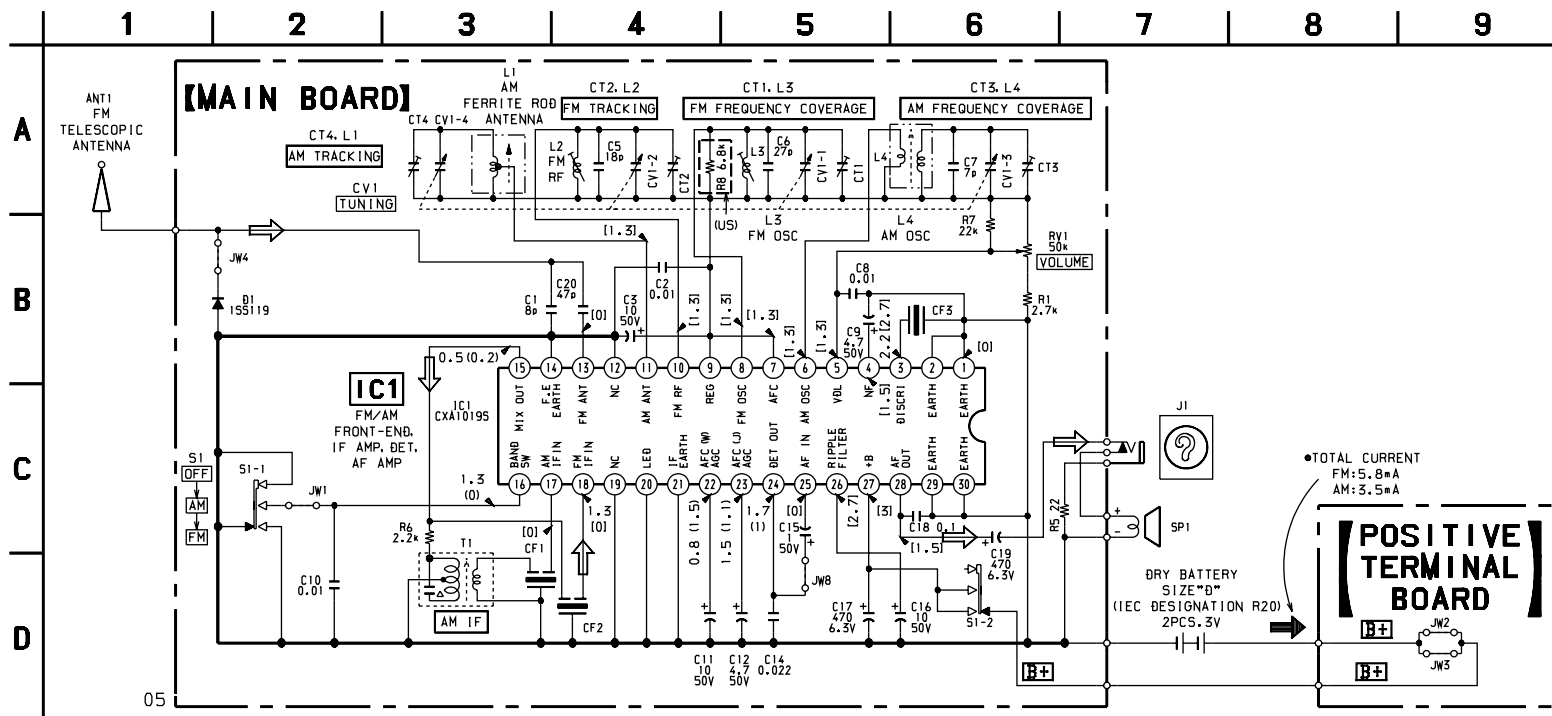
AM IF ADJUSTMENT	
Adjust for a maximum reading on level meter.	
T1	455 kHz

Adjustment Location: MAIN board (Component Side)



SECTION 5
DIAGRAMS

5-1. SCHEMATIC DIAGRAM

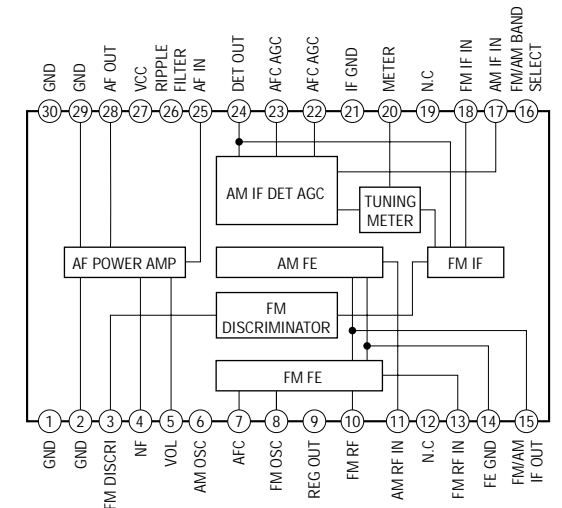


Note on Schematic Diagram:

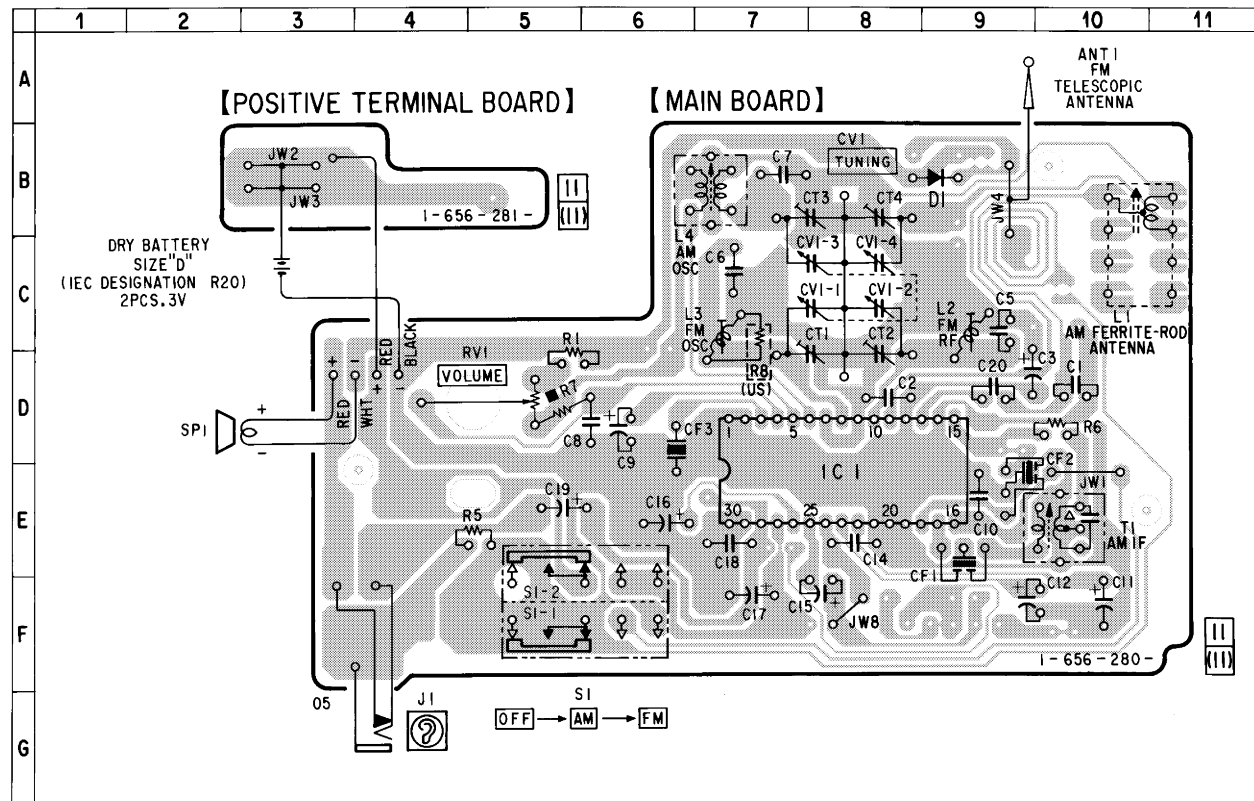
- All capacitors are in μF unless otherwise noted. pF : μF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $1/4\text{W}$ or less unless otherwise specified.
- Δ : internal component.
- \square : panel designation.
- B+** : B+ Line.
- \square : adjustment for repair.
- Power voltage is dc 3 V and fed with regulated dc power supply from battery terminal.
- Voltages are dc with respect to ground under no-signal (detuned) conditions.
- no mark : FM
- () : AM
- [] : FM/AM
- Voltages are taken with a VOM (Input impedance $10\text{M}\Omega$). Voltage variations may be noted due to normal production tolerances.
- Signal path.
- \Rightarrow : FM

• IC Block Diagram

IC1 CXA1019S



5-2. PRINTED WIRING BOARDS



HOW TO CHANGE THE CERAMIC FILTERS

This model is used two ceramic filters of CF2, 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.

Mark	Center frequency
red	10.70 MHz
blue	10.67 MHz
orange	10.73 MHz
black	10.64 MHz
white	10.76 MHz

Note on Printed Wiring Board:

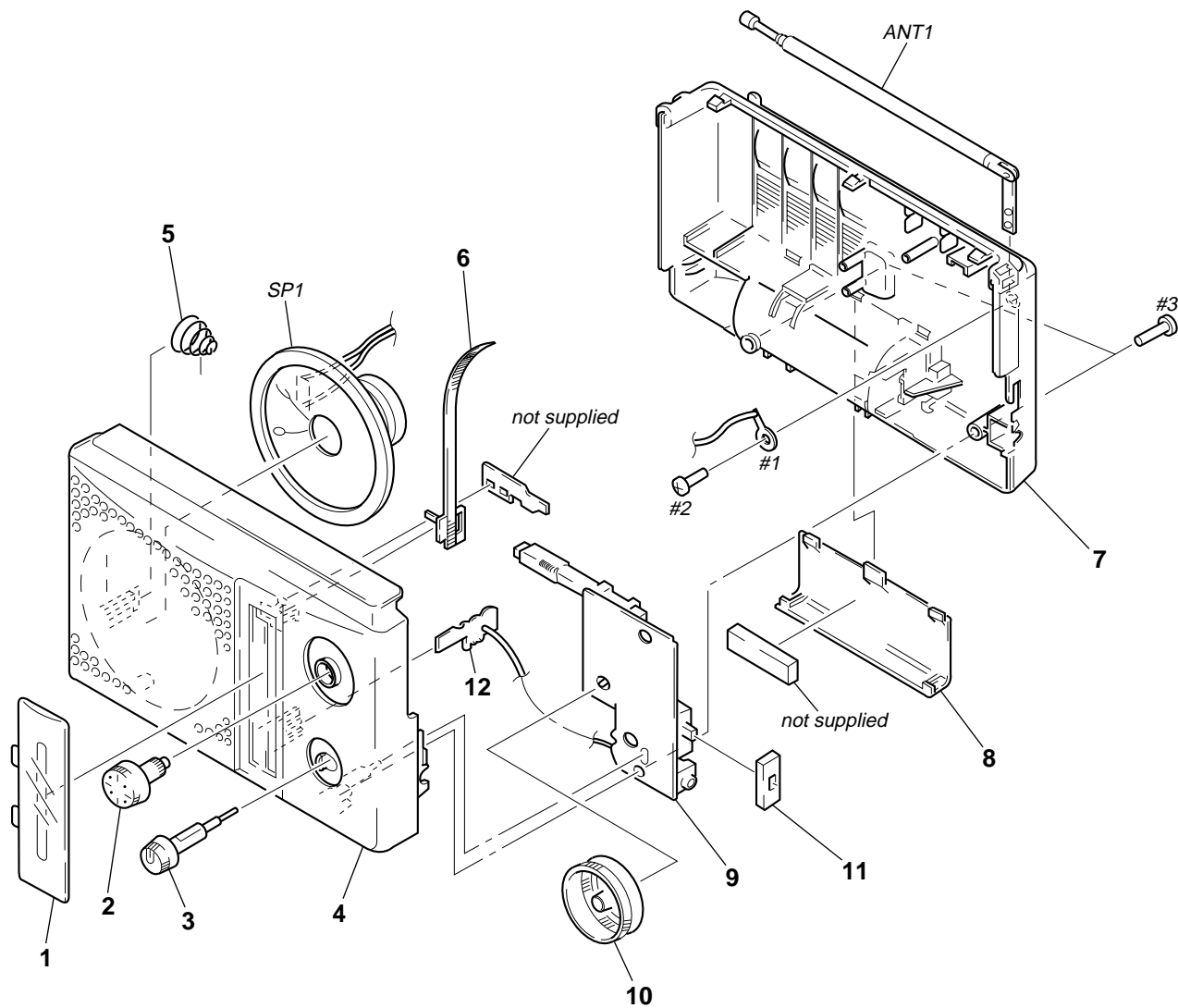
- \circ : parts extracted from the component side.
- \blacksquare : parts mounted on the conductor side.
- Δ : internal component.
- \square (with pattern) : Pattern from the side which enables seeing.

SECTION 6 EXPLODED VIEW

NOTE:

- -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

- Items marked “*” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of the electrical parts list.



<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>	<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>
1	3-017-750-01	PLATE, TRANSPARENT		* 9	A-3662-892-A	MAIN BOARD, COMPLETE (US)	
2	3-017-752-01	KNOB (TUNE)		* 9	A-3679-659-A	MAIN BOARD, COMPLETE (EXCEPT US)	
3	3-017-753-01	KNOB (VOL)		10	3-920-188-01	GEAR, VC	
4	3-017-749-01	CABINET (FRONT)		11	3-925-513-01	SHEET (BAND)	
5	3-920-194-01	TERMINAL (-), BATTERY		* 12	1-656-281-11	POSITIVE TERMINAL BOARD	
6	3-017-751-01	POINTER		ANT1	1-501-774-11	ANTENNA, TELESCOPIC (FM)	
7	3-920-185-01	CABINET (REAR)		SP1	1-504-861-11	SPEAKER (9.2CM)	
8	3-905-428-11	LID, BATTERY CASE					

**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.
- -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: μ , for example:
uA. . . : μ A. . . uPA. . . : μ PA. . .
uPB. . . : μ PB. . . uPC. . . : μ PC. . .
uPD. . . : μ PD. . .
- CAPACITORS
uF: μ F
- COILS
uH: μ H

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

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
*	A-3662-892-A	MAIN BOARD, COMPLETE (US)				< JACK >	
*	A-3679-659-A	MAIN BOARD, COMPLETE (Canadian, AEP, UK, E, A US)		J1	1-770-666-11	JACK (\odot)	
		*****				< COIL >	
		< CAP ACIT OR >		L1	1-501-770-11	ANTENNA, FERRITE-ROD (AM)	
C1	1-102-945-00	CERAMIC	8.0PF ± 0.5 PF 50V	L2	1-406-546-11	COIL, AIR-CORE (FM RF)	
C2	1-101-004-00	CERAMIC	0.01uF 50V	* L3	1-428-306-11	COIL, AIR-CORE (FM OSC)	
C3	1-124-907-11	ELECT	10uF 20% 50V	L4	1-406-028-00	COIL, OSC (AM OSC)	
C5	1-102-953-00	CERAMIC	18PF 5% 50V			< RESISTOR >	
C6	1-102-961-00	CERAMIC	27PF 5% 50V	R1	1-249-422-11	CARBON 2.7K 5% 1/4W	
C7	1-102-944-00	CERAMIC	7.0PF ± 0.5 PF 50V	R5	1-249-397-11	CARBON 22 5% 1/4W	
C8	1-101-004-00	CERAMIC	0.01uF 50V	R6	1-249-421-11	CARBON 2.2K 5% 1/4W	
C9	1-126-963-11	ELECT	4.7uF 20% 50V	R7	1-249-433-11	CARBON 22K 5% 1/4W	
C10	1-101-004-00	CERAMIC	0.01uF 50V	R8	1-249-427-11	CARBON 6.8K 5% 1/4W	
C11	1-124-907-11	ELECT	10uF 20% 50V			(US)	
C12	1-126-963-11	ELECT	4.7uF 20% 50V			< VARIABLE RESIST OR >	
C14	1-162-843-11	CERAMIC	0.022uF 10% 16V	RV1	1-228-790-00	RES, VAR, CARBON 50K (VOLUME)	
C15	1-124-903-11	ELECT	1uF 20% 50V			< SWITCH >	
C16	1-124-907-11	ELECT	10uF 20% 50V	S1	1-762-356-11	SWITCH, SLIDE (FM/AM/OFF)	
C17	1-126-941-11	ELECT	470uF 20% 6.3V			< TRANSFORMER >	
C18	1-162-851-11	CERAMIC	0.1uF 10% 16V	T1	1-404-790-11	TRANSFORMER, IF (AM IF)	
C19	1-126-941-11	ELECT	470uF 20% 6.3V			*****	
C20	1-101-880-00	CERAMIC	47PF 5% 50V			MISCELLANEOUS	
		< CERAMIC FIL TER >				*****	
CF1	1-577-072-11	FIL TER, CERAMIC		* 12	1-656-281-11	POSITIVE TERMINAL BOARD	
CF2	1-760-144-61	FIL TER, CERAMIC		ANT1	1-501-774-11	ANTENNA, TELESCOPIC (FM)	
CF3	1-760-144-61	FIL TER, CERAMIC		SP1	1-504-861-11	SPEAKER (9.2CM)	
		< VARIABLE CAP ACIT OR >				*****	
CV1	1-141-529-11	CAP, VAR (TUNING)				HARD WARE LIST	
CT1-4	1-141-529-11	CAP, VAR				*****	
		< DIODE >		#1	7-623-508-01	LUG, 3	
D1	8-719-911-19	DIODE 1SS119		#2	7-685-647-79	SCREW +P 3X10 TYPE2 NON-SLIT	
		< IC >		#3	7-685-649-79	SCREW +P 3X14 TYPE2 NON-SLIT	
IC1	8-752-055-05	IC CXA1019S				*****	

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>
		ACCESSORIES & PACKING MATERIALS *****	
	3-860-966-11	MANUAL, INSTRUCTION (ENGLISH, FRENCH, GERMAN, SPANISH, SWEDISH, PORTUGUESE, ARABIC, RUSSIAN) (EXCEPT US)	
	3-860-966-21	MANUAL, INSTRUCTION (ENGLISH) (US)	
	3-923-510-01	BELT (SHOULDER)	
	3-925-458-01	STOPPER, BELT	

