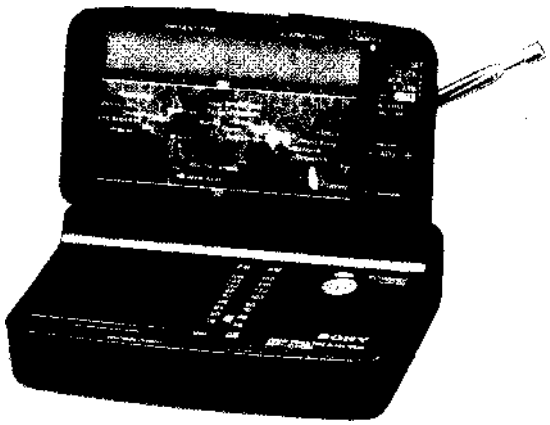
ICF-C1100

SERVICE MANUAL

Ver 1.1 2001.07



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

SPECIFICATIONS

Time display
24-hour system
Frequency range

	Band	Frequency
Italy	FM	87.5 – 108 MHz
	AM	526.5 – 1606.5 kHz
Other countries	FM	87.5 – 108 MHz
	AM	530 – 1605 kHz

Intermediate frequency
FM: 10.7 MHz
AM: 455 kHz
Speaker
Approx. 4.5 cm (1 13/16 inches) dia.
Power output
100 mW (at 10% harmonic distortion)
Output
⏀ jack (minijack)

Power requirements
Radio: 3V DC, two R03 (size AAA) batteries
Clock: 3V DC, one CR 2025 lithium battery
Battery life
Approx. 20 hours, using Sony batteries UM-4 (NU)
Approx. 1 years of clock operation, using Sony CR 2025 lithium battery
Dimensions
Approx. 102 x 29.5 x 76 mm (w/h/d) (4 x 1 3/16 x 3 inches) incl. projecting parts and controls (with the lid closed)
Mass
Approx. 180 g (6.4 oz.) incl. batteries
Accessory supplied
Sony CR 2025 lithium battery (1)

Design and specifications subject to change without notice.

FM/AM WORLD TIME CLOCK RADIO

9-960-379-12
2001G0500-1
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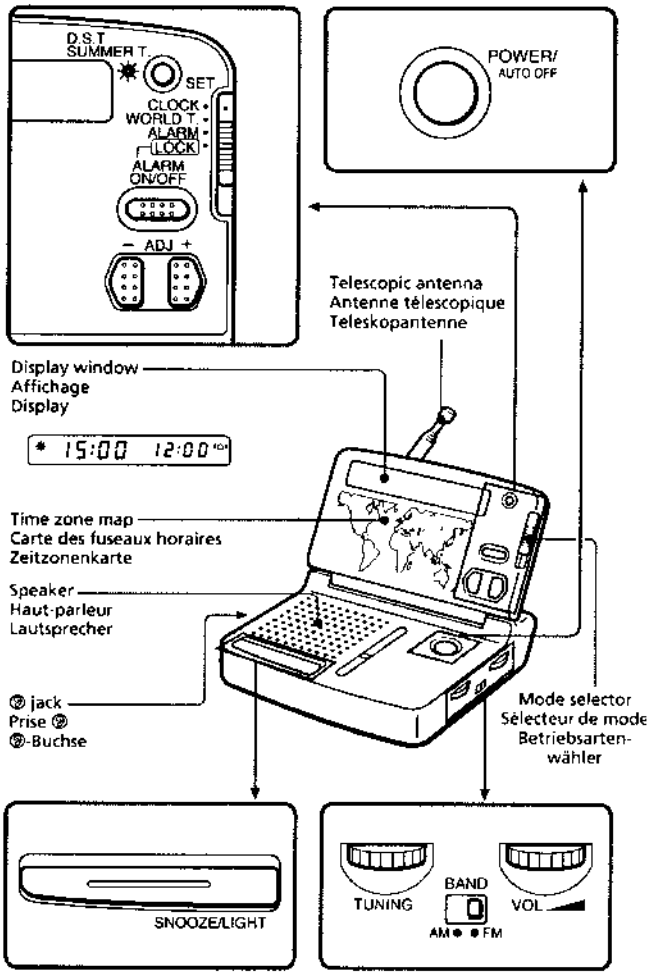
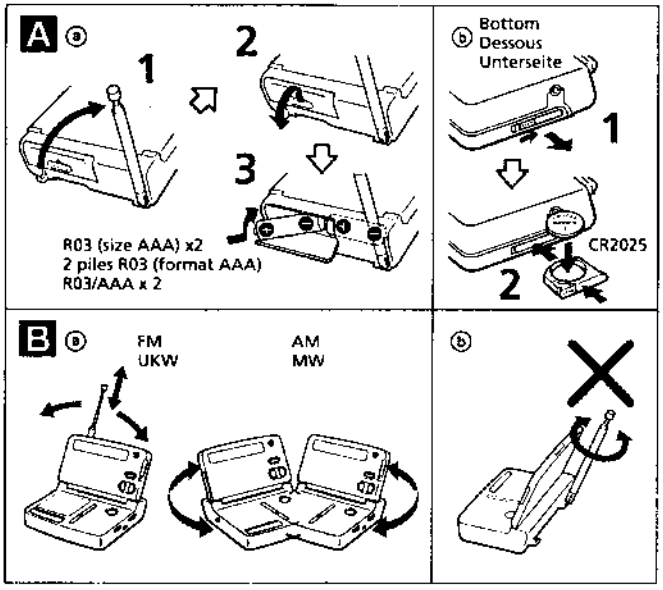
Sony Corporation
Personal Audio Company
Shinagawa Tec Service Manual Production Group

SONY®

SECTION 1
GENERAL

This section is extracted from instruction manual.





Setting the Clock

The display window will show a 12:00 (noon) indication when the CR2025 lithium battery is first installed.

1 Set the mode selector to **WORLD T.**
2 Press the **ADJ** + or – button to choose the area to which you want to set the time.

(For example, if you want to set the time to 8:15 AM in Tokyo, move the ▼ mark to the "+9" position.)

3 Set the mode selector to **CLOCK** and press the **ADJ** + or – button to set the time.
When the **ADJ** + or – button is held down, the minute digits advance rapidly. The hour digits advance one by one when the minute digits advance to "00" after "59".
4 Set the mode selector to **WORLD T.**, **ALARM** or **LOCK**. The " : " mark stops blinking and the clock will now start.

Note
If you remove the lithium battery after setting the clock, the display will be cleared. Set the clock again.

Note on LOCK function
Normally, set the mode selector to **LOCK** so that the **ADJ** + and – buttons do not function. This enables you to avoid misoperation.

To set the time to the second
After step 3, set the mode selector to **WORLD T.**, **ALARM** or **LOCK** such as step 4 simultaneously with the radio or telephone time signal.

To Check the Local Time of the Desired Time Zone

The numbers above and below the time zone map indicate the time differences from the UTC (Universal Time Coordinated) position. For example, the time difference in Tokyo is +9 hours.
The light grey areas indicate special time zones. These areas maintain special time differences (written beside them).

Example: To check the local time in New York.
Set the mode selector to **WORLD T.** and press the **ADJ** + or – button to move the ▼ mark to the "–5" position

If you want to know the local time and the difference in time in 30 minute units, add it to the present time (or subtract it from the present time). (For example, if the difference in time is five hours and 30 minutes, move the ▼ mark to the "+5" position and add 30 minutes to the displayed time

To see the clock in the dark
Press the **SNOOZE/LIGHT** button. The display window lights up for about ten seconds.

To change the display to the daylight saving time (summer time) indication

Press the **D.S.T./SUMMER T.** button
The ☀ mark appears on the display window and the time indication changes to summer time.

To cancel the summer time indication, press the **D.S.T./SUMMER T.** button again.

Operating the Radio

1 Press **POWER/AUTO OFF**.
2 Select **AM** or **FM** by **BAND** and tune in the desired station by **TUNING**.
3 Adjust the volume using **VOL** (volume).

To turn off the radio, press **POWER/AUTO OFF** again.

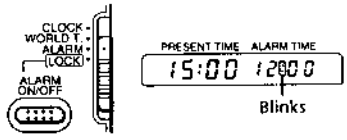
Note
Even if you forget to turn the radio off, it will turn itself off automatically after about 90 minutes. This function prevents needless battery consumption (**POWER/AUTO OFF** function).
If you want to continue radio reception, press **POWER/AUTO OFF** again.

To improve radio reception (See ill.B©)
FM: Extend the telescopic antenna and adjust the length
AM: A ferrite bar antenna is built into the unit. Since the reception is affected by the direction of the radio, rotate the radio horizontally for optimum reception. (If you use the unit on material such as steel, the reception may be poor.)

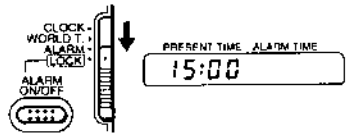
Note
You cannot rotate the telescopic antenna when you adjust it. (See ill.B©)

Setting the Alarm

1 Set the mode selector to **ALARM**.



2 Press the **ADJ** + or – button to set the alarm time.
3 Set mode selector to **LOCK**.



4 Press **ALARM ON/OFF**.

(When alarm is set, the alarm time appears in the display. If you press **ALARM ON/OFF** again, the alarm time is disappeared and is canceled.)

- The alarm sound will come on at the preset time and will automatically turn itself off after about 60 minutes, unless it is turned off manually.
- To stop the alarm sound, press **ALARM ON/OFF**.

To wake to the alarm sound at the same time the next day.
Press **ALARM ON/OFF** again. The time set yesterday will show up in the display

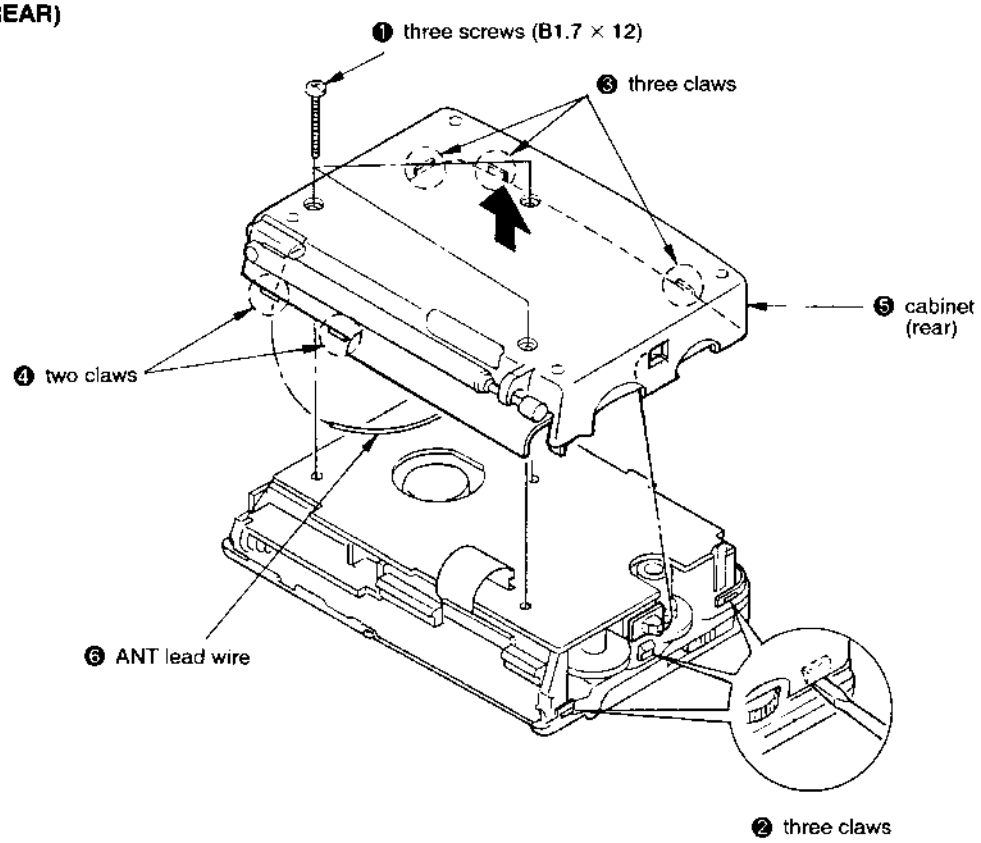
To doze for a few more minutes, press SNOOZE/LIGHT.
The alarm will shut off, but will come on again after about 9 minutes. You can repeat this process six times at the most in an hour.

Notes
- The buzzer sound level cannot be adjusted
- If the radio is on and earphone is connected to the Ø jack, the buzzer alarm is heard from both the speaker and earphone.
- If the radio is off and the earphone is connected to the Ø jack, the buzzer alarm is heard only from the speaker.
- The "⏰" mark blinks on the display window at the preset alarm time.

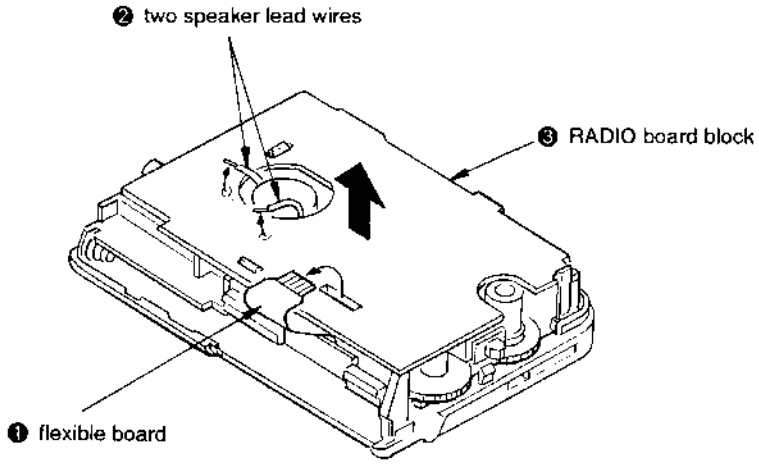
SECTION 2
DISASSEMBLY

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

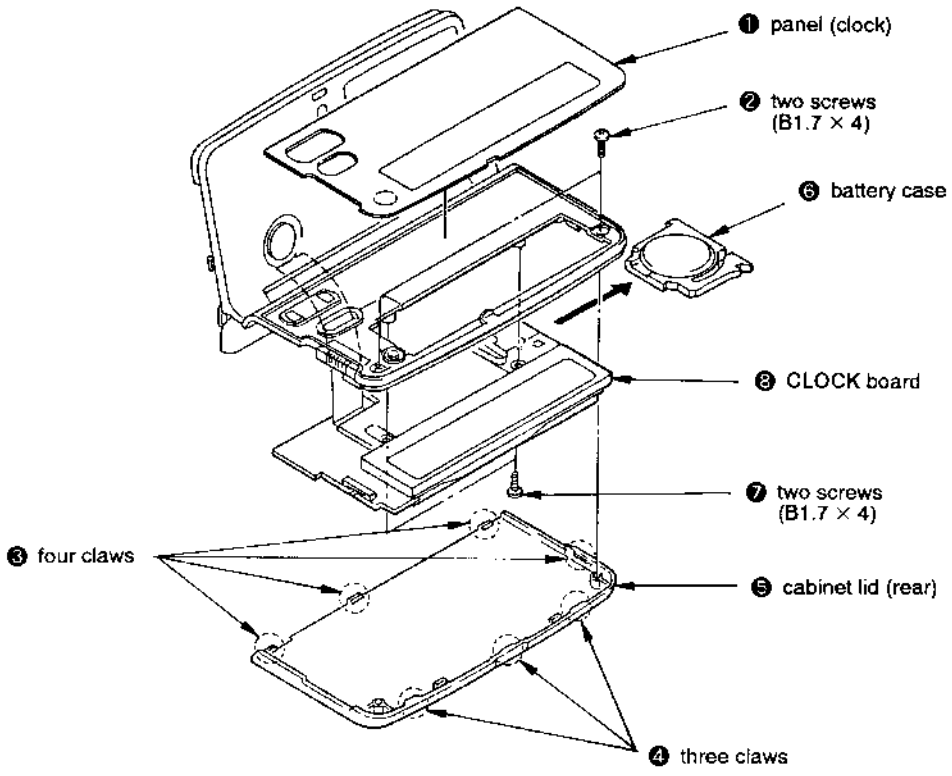
CABINET (REAR)



RADIO BOARD BLOCK

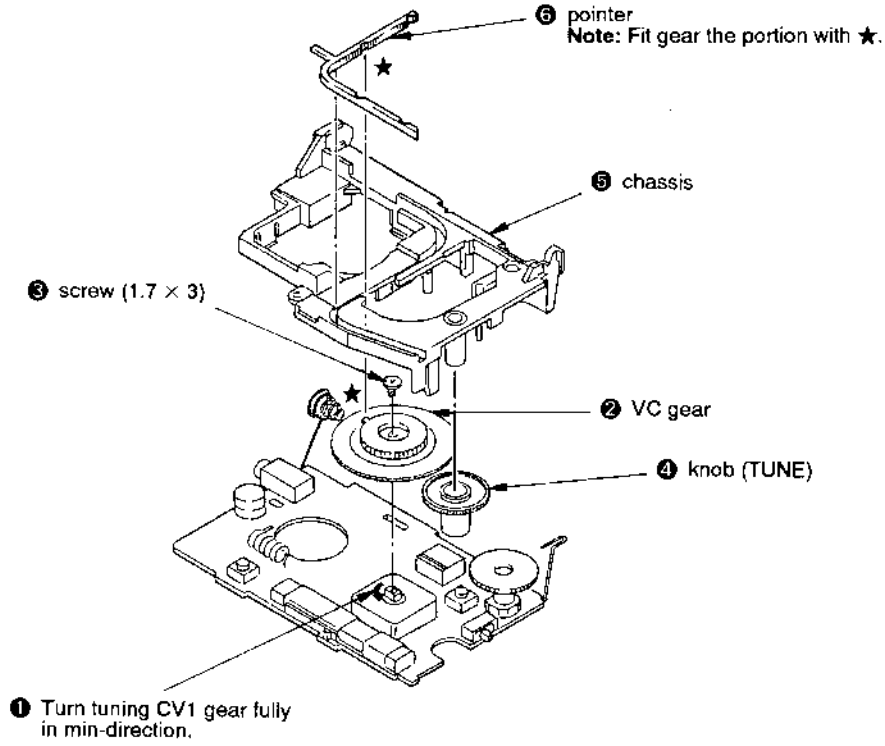


CLOCK BOARD



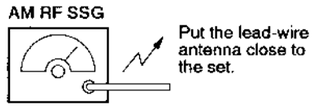
DIAL POINTER SETTING

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

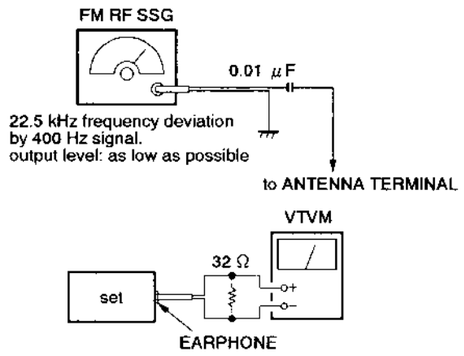


SECTION 3
ADJUSTMENTS

[AM]
BAND switch: AM



[FM]
BAND switch: 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 VTVM.	
T1	455 kHz

AM FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
L4	520 kHz (EXCEPT Italian) 516.5 kHz (Italian)
CT4	1,650 kHz (EXCEPT Italian) 1,631.5 kHz (Italian)

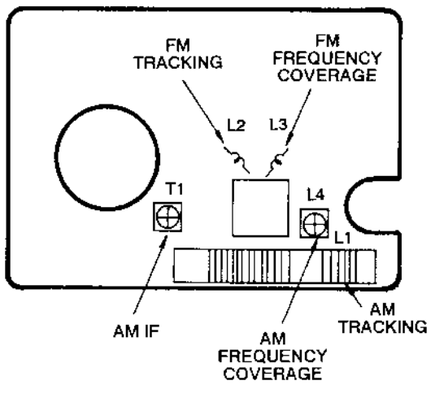
AM TRACKING ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
L1	600 kHz
CT1	1,400 kHz

FM FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
L3	86.5 MHz (US, CND, AEP, UK, E, AUS) 75.0 MHz (JE) 87.35 MHz (Italian)
CT3	109.5 MHz (EXCEPT Italian) 108.25 MHz (Italian)

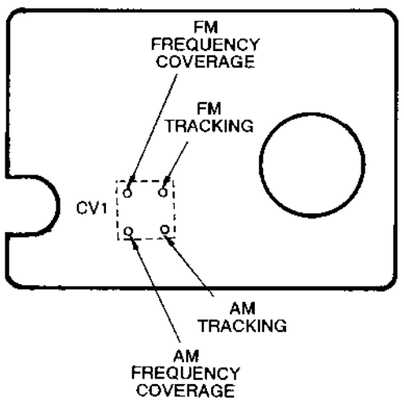
FM TRACKING ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
L2	86.5 MHz (US, CND, AEP, UK, E, AUS) 75.0 MHz (JE) 87.35 MHz (Italian)
CT2	109.5 MHz (EXCEPT Italian) 108.25 MHz (Italian)

- **Adjusting Parts Location**

[RADIO BOARD] – Component Side –

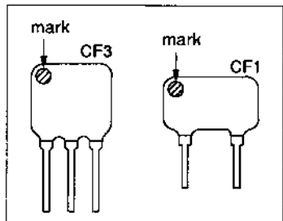


[RADIO BOARD] – Conductor Side –



- **HOW TO CHANGED THE CERAMIC FILTERS**

This model is used two ceramic filters of CF1, 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

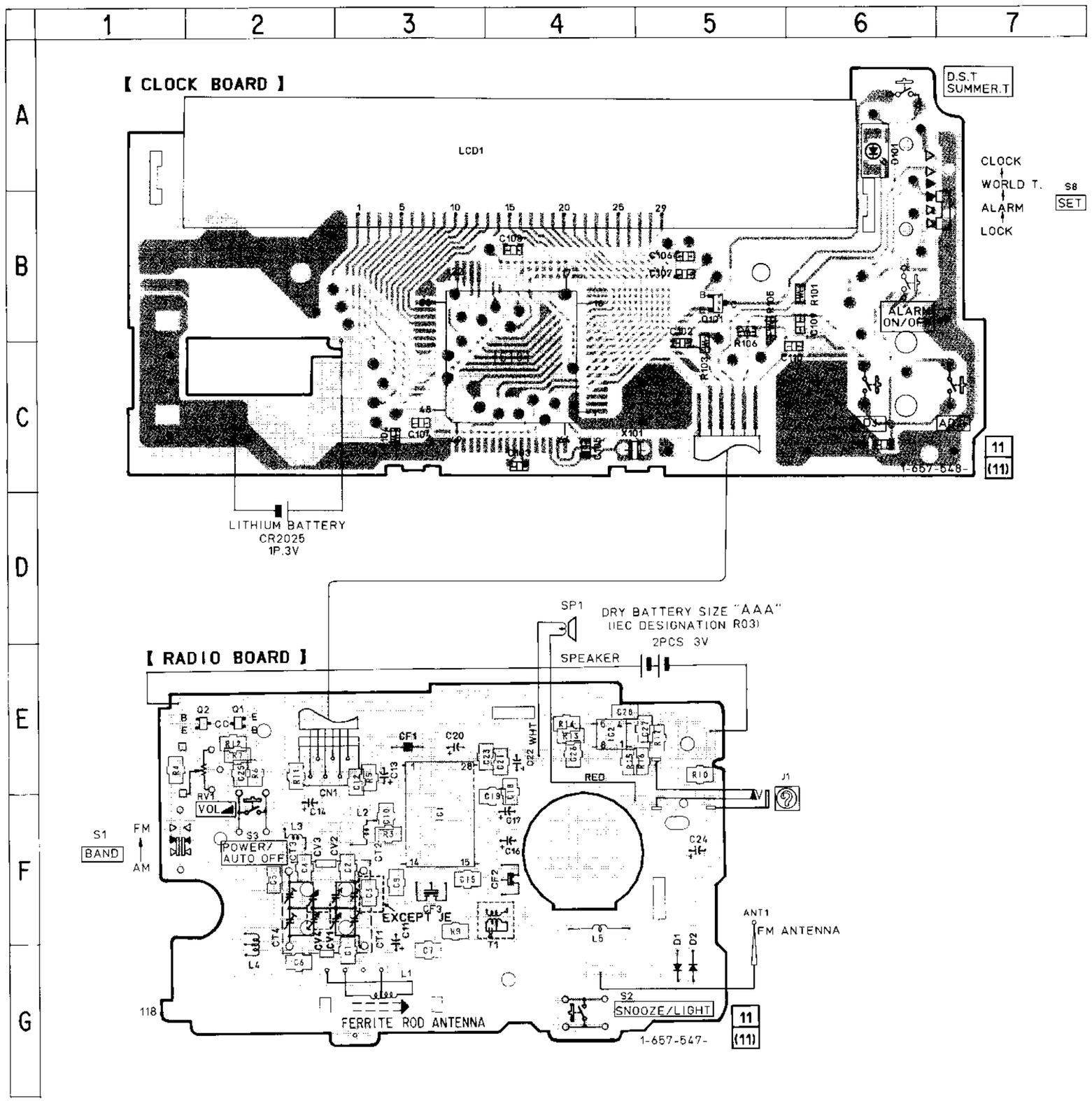
SECTION 4
DIAGRAMS

4-1. PRINTED WIRING BOARDS

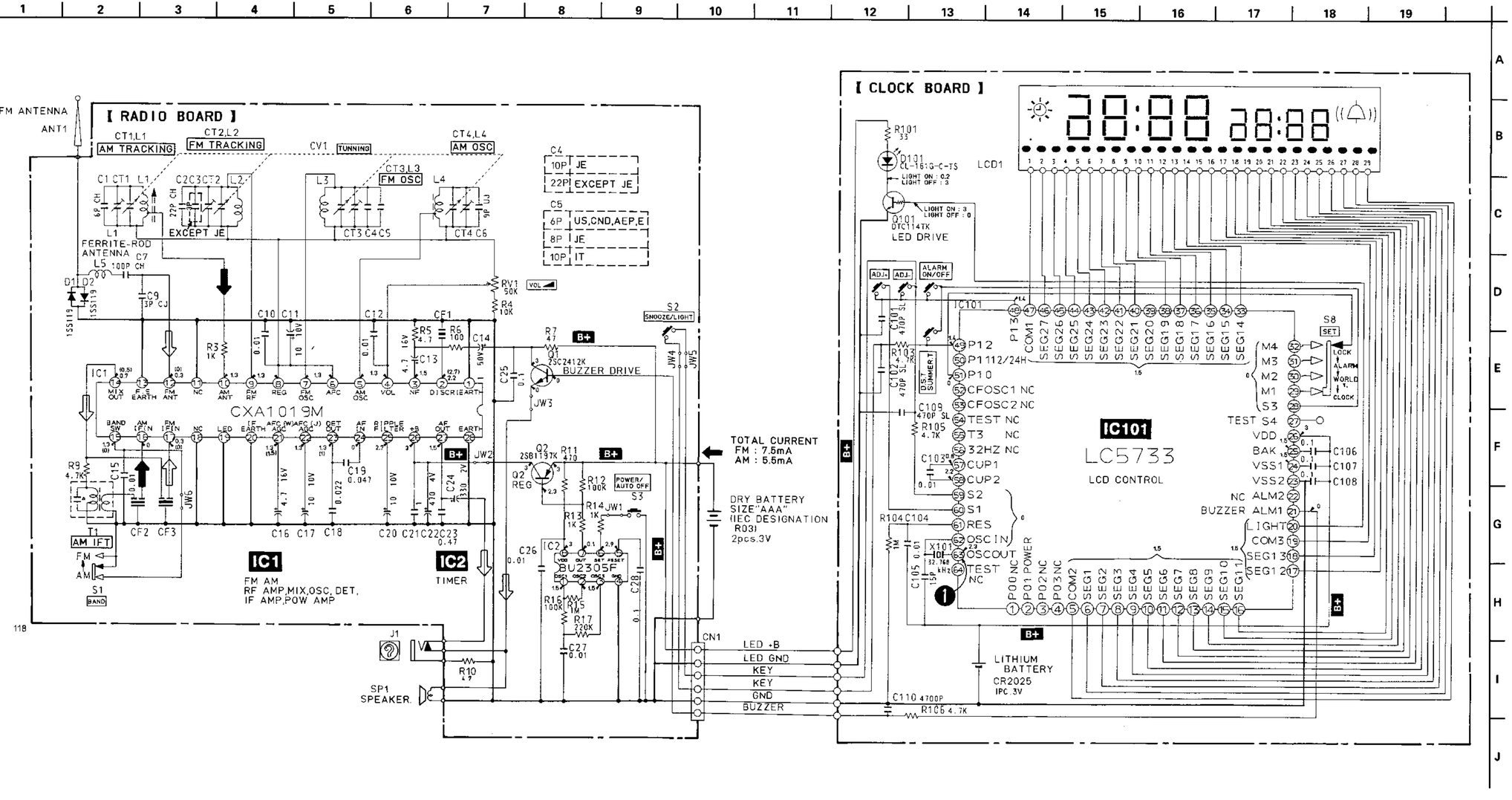
- **Semiconductor Location**

Ref. No.	Location
D1	G-5
D2	G 5
D101	A 6
IC1	F-3
IC2	E-4
IC101	C-4
Q1	E-2
Q2	E 2
Q101	B-5

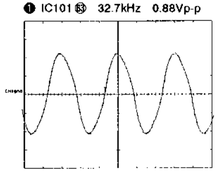
Note:
- ● : Through hole.
- : Pattern on the side which is seen.
- : Pattern on the rear side.



4-2. SCHEMATIC DIAGRAM • See page 12 for IC Block Diagrams.



• Waveform

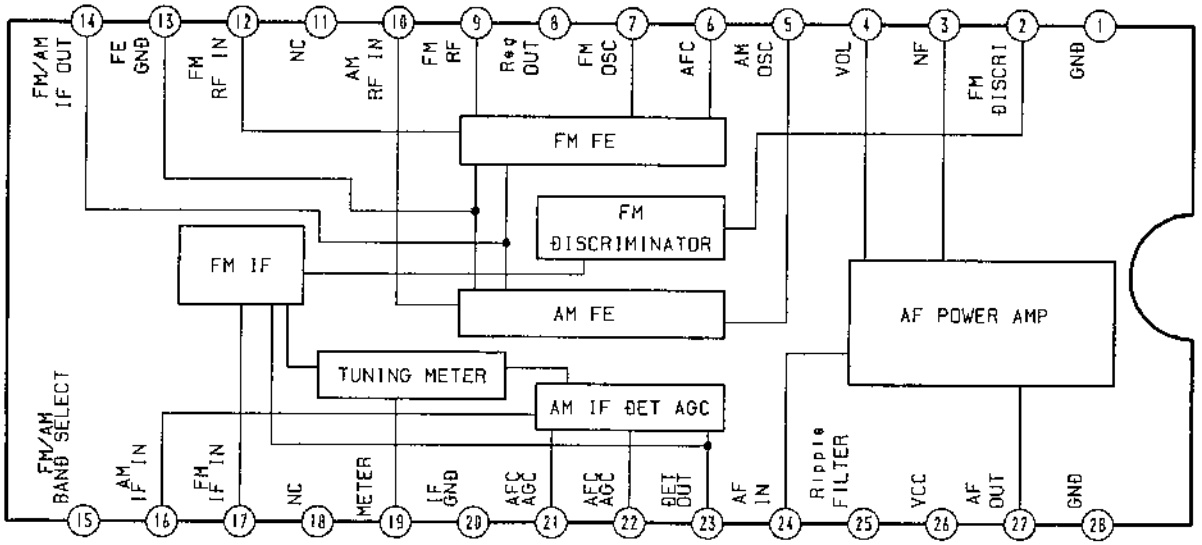


Note:

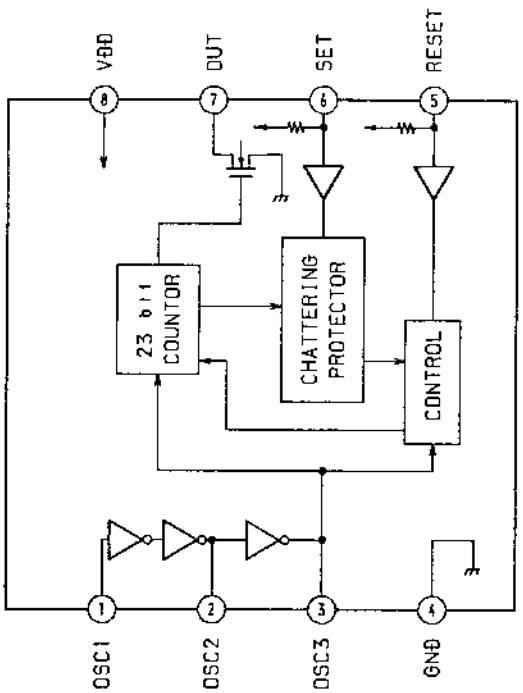
- All capacitors are in μF unless otherwise noted. pF: μμF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼ W or less unless otherwise specified.
- △ : internal component.
- B+ : B+ Line.
- : adjustment for repair.
- Total current is measured with no cassette installed.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark : FM
  ( ) : AM
- Voltages are taken with a VOM (10 MΩ/V).
  Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⇨ : FM
  ➡ : AM
- Abbreviation
  CND : Canadian
  IT : Italian
  JE : Tourist

• **IC Block Diagrams**

IC1 CXA1019M



IC2 BU2305F

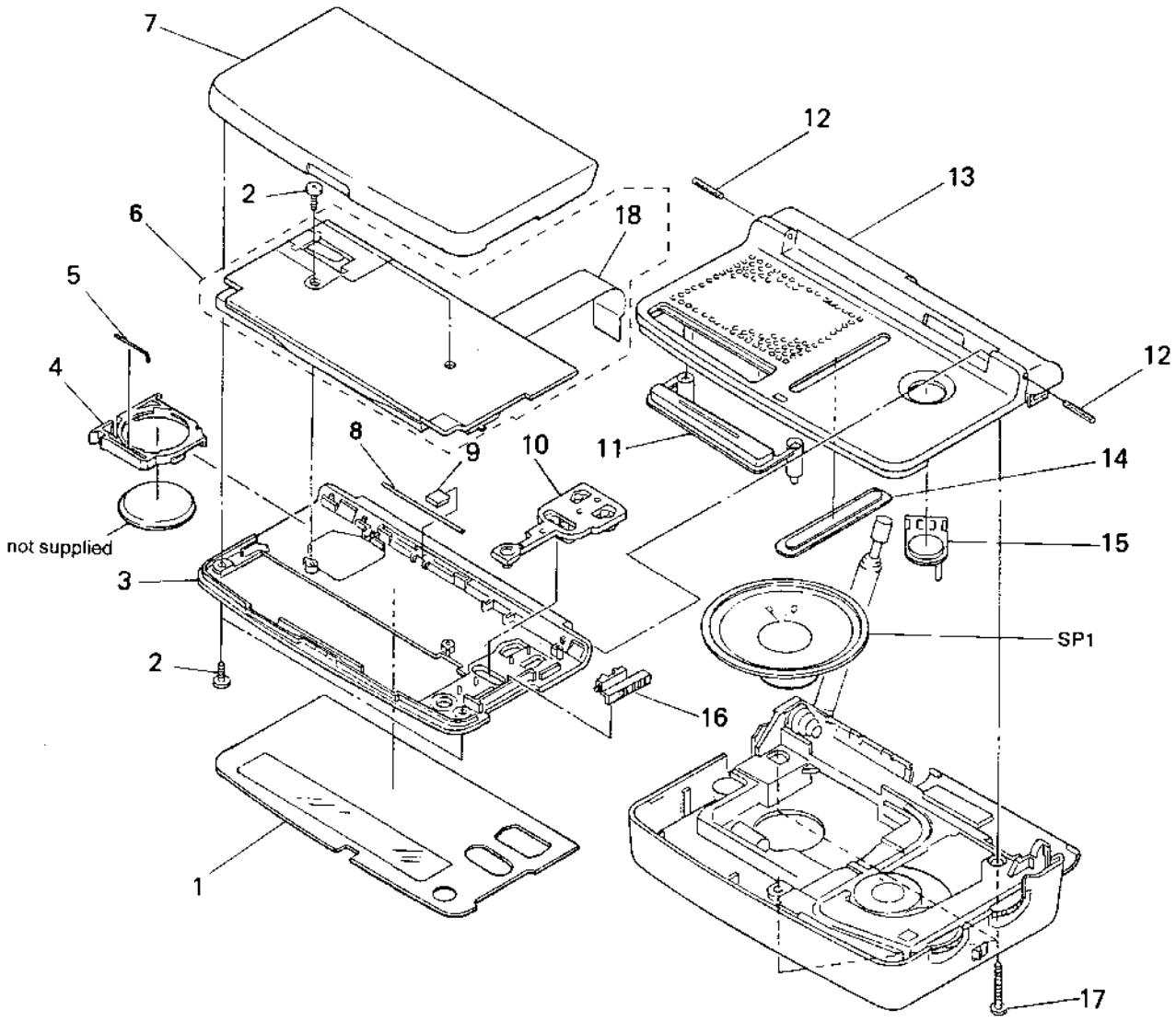


SECTION 5
EXPLODED VIEWS

NOTE:

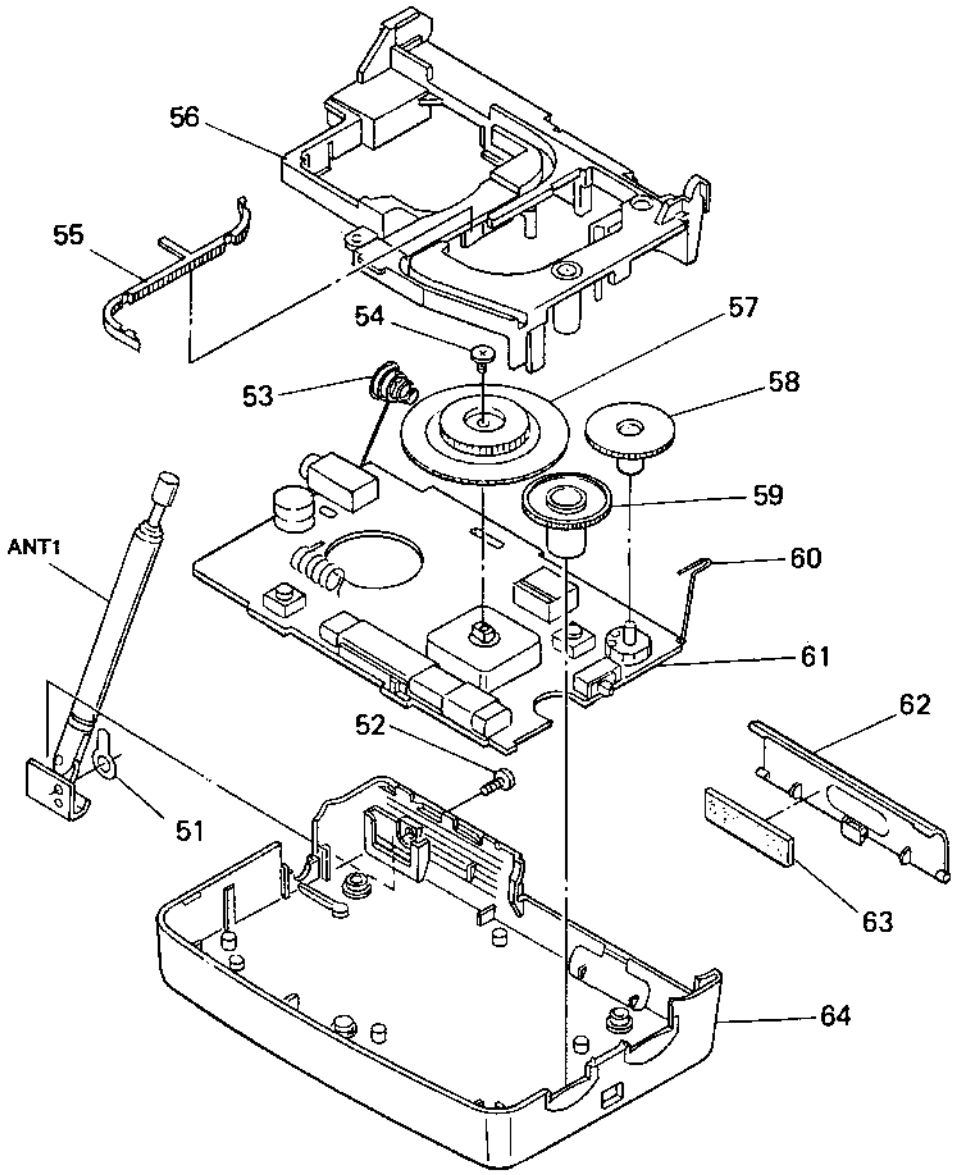
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts
  Example:
  KNOB, BALANCE (WHITE) . . . (RED)
  ↑ ↑
  Parts Color Cabinet's Color
- Abbreviation
  AUS : Australian
  IT : Italian
  JE : Tourist
- Items marked "*" are 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.
- Accessories and packing materials are given in the last of the electrical parts list.

(1) CABINET SECTION



Ref. No.	Part No.	Description	Remark
1	3 925 689 01	PANEL, (CLOCK)	
2	3-318-203-61	SCREW (B1.7X4), TAPPING	
3	3-925-687-01	LID (FRONT), CABINET	
4	3-925-690-01	LID (LITHIUM), BATTERY CASE	
5	3-927-644-01	SPRING, TENSION	
* 6	A-3679-711-A	CLOCK BOARD, COMPLETE	
7	3 925 688 01	LID (REAR), CABINET	
8	3 926-678 01	SPRING, WIRE	
9	3-925-693-01	PLATE, CLICK	
10	1-762-430-11	SWITCH, RUBBER KEY (D.S.T SUMMER T./ALARM ON/OFF/ADJ +, -)	
11	3-925-697-01	BUTTON (SNOOZE)	
12	3 927 653-01	PIN, SPRING	
13	3-925-694-01	CABINET (MAIN) (FRONT)	(US, Canadian, AEP, UK, E, IT, AUS)
13	3-925-694-11	CABINET (MAIN) (FRONT)	(JE)
14	3-925-703-01	PLATE, TRANSPARENT	
15	3-925-699-01	BUTTON (POWER)	
16	3-925-692-01	KNOB (MODE)	
17	3-318-203-51	SCREW (B1.7X12), TAPPING	
18	1-657-546-11	FLEXIBLE BOARD	
SP1	1 544 377-11	SPEAKER	

(2) CHASSIS SECTION



Ref. No.	Part No.	Description	Remark
51	7-623-508-01	LUG, 3	
52	3-370-476-01	SCREW (NYLOCK +B 2X5)	
53	3-925-706-01	TERMINAL (-), BATTERY	
54	3-880-990-00	SCREW (1.7X3), FLAT, (+) SPECIAL	
55	3-925-702-01	POINTER	
56	3-925-704-01	CHASSIS	
57	3-925-701-01	GEAR, VC	
58	3-925-700-01	KNOB (VOL)	
59	3-925-698-01	KNOB (TUNE)	
60	3-925-705-01	TERMINAL (+), BATTERY	

Ref. No.	Part No.	Description	Remark
* 61	A-3679-710-A	RADIO BOARD, COMPLETE	(US, Canadian, AEP, UK, E, AUS)
* 61	A-3679-712-A	RADIO BOARD, COMPLETE	(JE)
* 61	A-3679-713-A	RADIO BOARD, COMPLETE	(IT)
62	3-925-696-01	LID, BATTERY CASE	
63	9-911-815-01	CUSHION, MICROPHONE	
64	3-925-695-01	CABINET (MAIN) (REAR)	(US, Canadian, AUS)
64	3-925-695-11	CABINET (MAIN) (REAR)	(AEP, UK, E, IT)
64	3-925-695-21	CABINET (MAIN) (REAR)	(JE)
ANT1	1-501-785-11	ANTENNA, TELESCOPIC	

CLOCK RADIO

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
- Abbreviation
  AUS:Australian IT:Italian JE:Tourist
- 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..: μA.. uPA..: μPA..
  uPB..: μPB.. uPC..: μPC.. uPD..: μPD..
- CAPACITORS
  uF: μF
- COILS
  uH: μH

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

Ref. No.	Part No.	Description			Remark
*	A-3679-711-A	CLOCK BOARD, COMPLETE			
		**********			
	1-537-683-11	CONDUCTIVE BOARD, CONNECTION			
	1-657-546-11	FLEXIBLE BOARD			
	3-925 707 01	TERMINAL (B) (+), BATTERY			
	3-925-708-01	TERMINAL (B) (-), BATTERY			
		< CAPACITOR >			
C101	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C102	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C103	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C104	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C105	1-163-097-00	CERAMIC CHIP	15PF	5%	50V
C106	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C107	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C108	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C109	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C110	1-163-017-00	CERAMIC CHIP	0.0047uF	10%	50V
		< DIODE >			
D101	8-719 037 71	DIODE CL-181G-C			
		< IC >			
IC101	8-759-356-55	IC LC5733-1F14			
		< LIQUID CRYSTAL DISPLAY >			
LCD1	1-810-953-11	LIQUID CRYSTAL DISPLAY			
		< TRANSISTOR >			
Q101	8-729-902 99	TRANSISTOR DTC114TK			
		< RESISTOR >			
R101	1 216-013-00	METAL CHIP	33	5%	1/10W
R103	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R104	1-216-121-00	METAL GLAZE	1M	5%	1/10W
R105	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R106	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
		< SWITCH >			
S8	1-572-487-21	SWITCH, SLIDE (SET)			
		< VIBRATOR >			
X101	1-567-098-41	VIBRATOR, CRYSTAL (32.768kHz)			
**********					
*	A-3679-710 A	RADIO BOARD, COMPLETE (US, Canadian, AEP, UK, E, AUS)			
*	A-3679-712-A	RADIO BOARD, COMPLETE (JE)			
*	A-3679-713-A	RADIO BOARD, COMPLETE (IT)			
		**********			
		< CAPACITOR >			
C1	1-163-089 00	CERAMIC CHIP	6PF		50V
C2	1-163 235 11	CERAMIC CHIP	22PF	5%	50V
C3	1-163-220-11	CERAMIC CHIP	3PF	0.25PF	50V (US, Canadian, AEP, UK, E, IT, AUS)
C4	1-163-165-00	CERAMIC CHIP	22PF	5%	50V (US, Canadian, AEP, UK, E, IT, AUS)
C4	1-163-093 00	CERAMIC CHIP	10PF	5%	50V (JE)
C5	1-163-153-00	CERAMIC CHIP	6PF	0.25PF	50V (US, Canadian, AEP, UK, E, AUS)
C5	1-163-155-00	CERAMIC CHIP	8PF	0.25PF	50V (JE)
C5	1-163-093-00	CERAMIC CHIP	10PF	5%	50V (IT)
C6	1-163-156-00	CERAMIC CHIP	9PF	0.25PF	50V
C7	1-163-251 11	CERAMIC CHIP	100PF	5%	50V
C9	1-163-220-11	CERAMIC CHIP	3PF	0.25PF	50V
C10	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C11	1-126-157-11	ELECT	10uF	20%	16V

Ref. No.	Part No.	Description			Remark
C12	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C13	1-126-163-11	ELECT	4.7uF	20%	50V
C14	1-126-160-11	ELECT	1uF	20%	50V
C15	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C16	1-126-163-11	ELECT	4.7uF	20%	50V
C17	1-126-157-11	ELECT	10uF	20%	16V
C18	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C19	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C20	1-126-157-11	ELECT	10uF	20%	16V
C21	1-164-346-11	CERAMIC CHIP	1uF		16V
C22	1-104-483-11	ELECT	470uF	20%	4V
C23	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C24	1-126-117-11	ELECT	330uF	20%	2V
C25	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C26	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C27	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C28	1-163-038-00	CERAMIC CHIP	0.1uF		25V
		< FILTER >			
CF1	1-760-144-61	FILTER, CERAMIC			
CF2	1-567-090-00	FILTER, CERAMIC			
CF3	1-760-144-61	FILTER, CERAMIC			
		< CONNECTOR >			
CN1	1-774-282-11	SOCKET, CONNECTOR 6P			
		< VARIABLE CAPACITOR >			
CV1	1-141-532-11	CAP, VAR (TUNING) (US, Canadian, AEP, UK, E, IT, AUS)			
CV1	1-141-533-11	CAP, VAR (TUNING) (JE)			
		< DIODE >			
D1	8-719-911-19	DIODE 1SS119			
D2	8-719-911-19	DIODE 1SS119			
		< IC >			
IC1	8-752-050-16	IC CXA1019M			
IC2	8-759-044-56	IC BU2305F			
		< JACK >			
J1	1-573-548-11	JACK (Ⓟ)			
		< COIL >			
L1	1-501-795-11	ANTENNA, FERRITE ROD (MW)			
* L2	1-428-306-11	COIL, AIR CORE			
* L3	1-428-306-11	COIL, AIR-CORE (US, Canadian, AEP, UK, E, AUS)			
L3	1-428-780-11	COIL, AIR-CORE (JE)			
L3	1-459-954-21	COIL (WITH CORE) (IT)			
L4	1-406-255-11	COIL (OSC)			
L5	1-428-292-11	COIL, AIR CORE			
		< TRANSISTOR >			
Q1	8-729-920-74	TRANSISTOR 2SC2412K-QR			
Q2	8-729-904-87	TRANSISTOR 2SB1197K R			
		< RESISTOR >			
R3	1-216-049-11	METAL GLAZE	1K	5%	1/10W
R4	1-216-073-00	METAL CHIP	10K	5%	1/10W
R5	1-216-308-00	METAL CHIP	4.7	5%	1/10W
R6	1-216-025-00	METAL GLAZE	100	5%	1/10W
R7	1-216-017-00	METAL GLAZE	47	5%	1/10W
R9	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R10	1-216-017-00	METAL GLAZE	47	5%	1/10W
R11	1-216-041-00	METAL CHIP	470	5%	1/10W
R12	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R13	1-216-049-11	METAL GLAZE	1K	5%	1/10W
R14	1-216-049-11	METAL GLAZE	1K	5%	1/10W
R15	1-216-121-00	METAL GLAZE	1M	5%	1/10W
R16	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R17	1-216-105-00	METAL GLAZE	220K	5%	1/10W
		< VARIABLE RESISTOR >			
RV1	1-241-203-11	RES, VAR, CARBON 50K (VOL)			
		< SWITCH >			
S1	1-571-478-11	SWITCH, SLIDE (BAND)			
S2	1-554-303-21	SWITCH, TACTILE (SNOOZE/LIGHT)			
S3	1-554-303-21	SWITCH, TACTILE (POWER/AUTO OFF)			
		< TRANSFORMER >			
T1	1-404-444-31	TRANSFORMER, IF			
		**********			
		MISCELLANEOUS			
		**********			
10	1-762-430-11	SWITCH, RUBBER KEY (D.S.T SUMMER T./ALARM ON/OFF/ADJ +, -)			
ANT1	1-501-785-11	ANTENNA, TELESCOPIC			
SP1	1-544-377-11	SPEAKER			
		**********			

Ref.No.	Part No.	Description	Remark
		ACCESSORIES & PACKING MATERIALS	
		******	
	3-800-381-11	MANUAL, INSTRUCTION (ENGLISH, GERMAN, SPANISH, SWEDISH, PORTUGUESE) (US, IT)	
	3-800-381-21	MANUAL, INSTRUCTION (ENGLISH, FRENCH, GERMAN, DUTCH, ITALIAN) (Canadian, AEP, UK)	
	3-800-381-31	MANUAL, INSTRUCTION (ENGLISH, SPANISH, ARABIC) (E, AUS)	
	3-800-381-51	MANUAL, INSTRUCTION (JAPANESE, ENGLISH, KOREAN) (JE)	
*	3-926-679-01	INDIVIDUAL CARTON (US, Canadian, AUS, JE)	
*	3 926 679 11	INDIVIDUAL CARTON (AEP, UK, E, IT)	

MEMO

REVISION HISTORY

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Ver.	Date	Description of Revision
1.1	2001.07	Addition of Ref No. 18 FLEXIBLE BOARD (SPM-01021)
1.0	1995.08	New