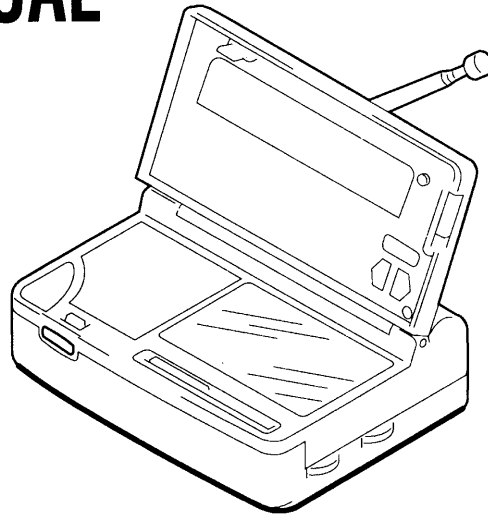


ICF-SW12

SERVICE MANUAL



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

SPECIFICATIONS

本资料由OKXIA视听皮带资源库www.okxia.cn提供

Time display	24-hour system
Frequency range	FM : 87.5 – 108 MHz SW1 : 4.750 – 5.060 MHz (60 meter band) SW2 : 5.900 – 6.200 MHz (49 meter band) SW3 : 7.100 – 7.350 MHz (41 meter band) SW4 : 9.400 – 9.990 MHz (31 meter band) SW5 : 11.600 – 12.100 MHz (25 meter band) SW6 : 13.570 – 13.870 MHz (22 meter band) SW7 : 15.100 – 15.800 MHz (19 meter band) SW8 : 17.480 – 17.900 MHz (16 meter band) SW9 : 21.450 – 21.750 MHz (13 meter band) MW : 530 – 1,605 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 R6 (size AA) batteries Clock : 3V DC, one CR2025 lithium battery
Dimensions	Approx. 111 x 30.5 x 80.3 mm (w/h/d) (4 ³ / ₈ x 1 ¹ / ₄ x 3 ¹ / ₄ inches) incl. projecting parts and controls (with the lid closed)
Mass	Approx. 233 g (8.2 oz.) incl. batteries
Accessory supplied	Sony CR2025 lithium battery (1) Short wave guide (1)

Design and specifications are subject to change without notice.

FM/SW1-9/MW 11 BAND RECEIVER



SONY®

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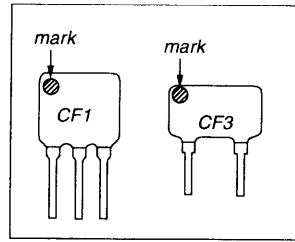
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● HOW TO CHANGED THE CERAMIC FILTERS

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

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

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

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

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.

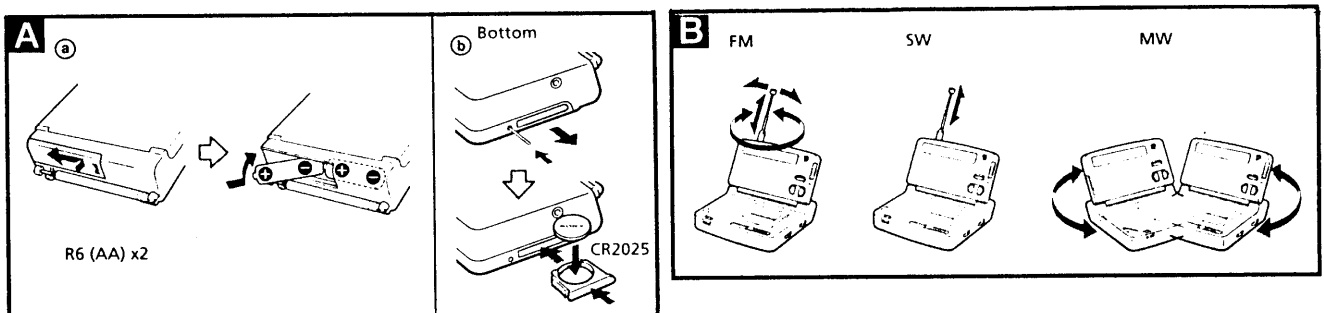
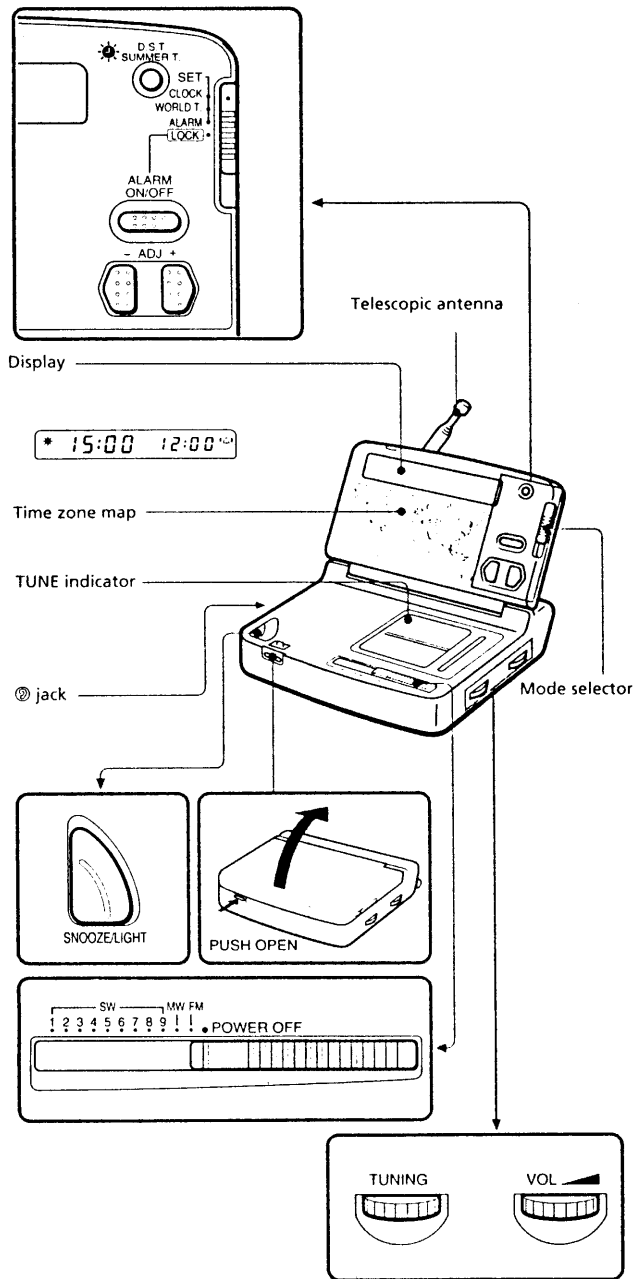
Notes on chip component replacement

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

SECTION 1 GENERAL

This section is extracted from instruction manual.

LOCATION AND FUNCTION OF CONTROLS



Power Sources

Installing Batteries (See Fig. A-a)

- 1 While pressing the lid, slide it in the direction of the arrow.
- 2 Insert two R6 (size AA) batteries (not supplied) with correct polarity.

Battery life

Approx. 35 hours, using Sony batteries R6 (AA)

Replacing batteries

When the sound of the radio becomes distorted or unstable and the alarm sound is getting lower, replace both R6 (size AA) batteries.

Note on dry battery

When the unit is not used for a long period of time, remove the batteries to avoid damage from battery leakage and corrosion.

Installing Lithium Battery for Clock Backup (See Fig. A-b)

- 1 Position the bottom of the radio upward and insert a tip of a ballpoint pen or something equivalent into the hole next to the lithium battery compartment and push. The battery holder comes out.
- 2 Insert the battery with the flat (+) side facing upwards, then insert the compartment until it is locked in position.

Lithium battery life

Approx. 1 year of clock operation, using Sony CR2025 lithium battery

Replacing lithium battery

When the display becomes dim, replace the CR2025 lithium battery.

Note

You cannot listen to the radio by only installing a lithium battery. You should use two R6 (size AA) batteries (not supplied).

Notes on batteries

- Keep the lithium battery out of reach of children. Should the battery be swallowed, immediately consult a doctor.
- Wipe the battery with a dry cloth to assure good contact.
- Be sure to install the battery in the correct polarity position.
- Do not hold the battery with metallic tweezers, as doing so may cause a short-circuit.
- Do not break up the battery or throw it into a fire, which might cause it to explode. Carefully dispose of the used battery.

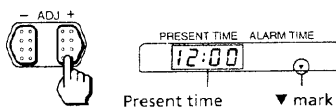
CAUTION

Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the equipment manufacturer. Discard used batteries according to manufacturer's instructions.

Setting the Clock

The display 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 **ADJ +** or **-** 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 **ADJ +** or **-** to set the time. When **ADJ +** or **-** 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 **ALARM** or **LOCK**. The " : " mark stops flashing and the clock will now start.

Note

If you remove the lithium battery after setting the clock, the memory will be canceled. Set the clock again.

Note on LOCK function

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

To set the time to the second

In step 4, set the mode selector to **ALARM** or **LOCK** 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 **ADJ +** or **-** 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 change the display to the daylight saving time (summer time) indication

Press **D.S.T. • SUMMER T.**

The ☀ mark appears in the display and the time indication changes to summer time.

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

Operating the Radio

- 1 Select a desired band (**FM**, **SW1-9** or **MW**).
- 2 Tune in a station using the **TUNING TUNE** (tuning indicator) lights up when a station is tuned in.
- 3 Adjust the volume using **VOL** (volume).

- To turn off the radio, set to **POWER OFF**.

To improve radio reception (See Fig. B)

FM: Extend the telescopic antenna for better reception.

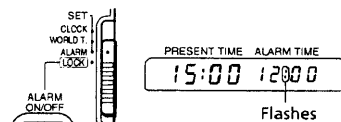
SW: Stand the telescopic antenna vertically.

MW: Rotate the unit horizontally for optimum reception.

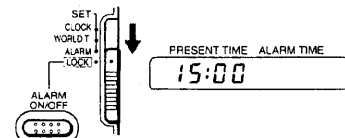
A ferrite bar antenna is built into the unit.

Setting the Alarm

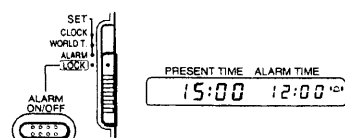
- 1 Set the mode selector to **ALARM**.



- 2 Press the **ADJ +** or **-** 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 Ⓜ jack, the buzzer alarm is heard from both the speaker and earphone.
- If the radio is off and the earphone is connected to the Ⓜ jack, the buzzer alarm is heard only from the speaker.
- The "Ⓜ" mark flashes in the display at the preset alarm time.

Lighting the Display -Light Function

Press **SNOOZE/LIGHT**.

The display lights up for about 10 seconds.

Precautions

Before operating the unit, be sure to install the CR2025 clock battery.

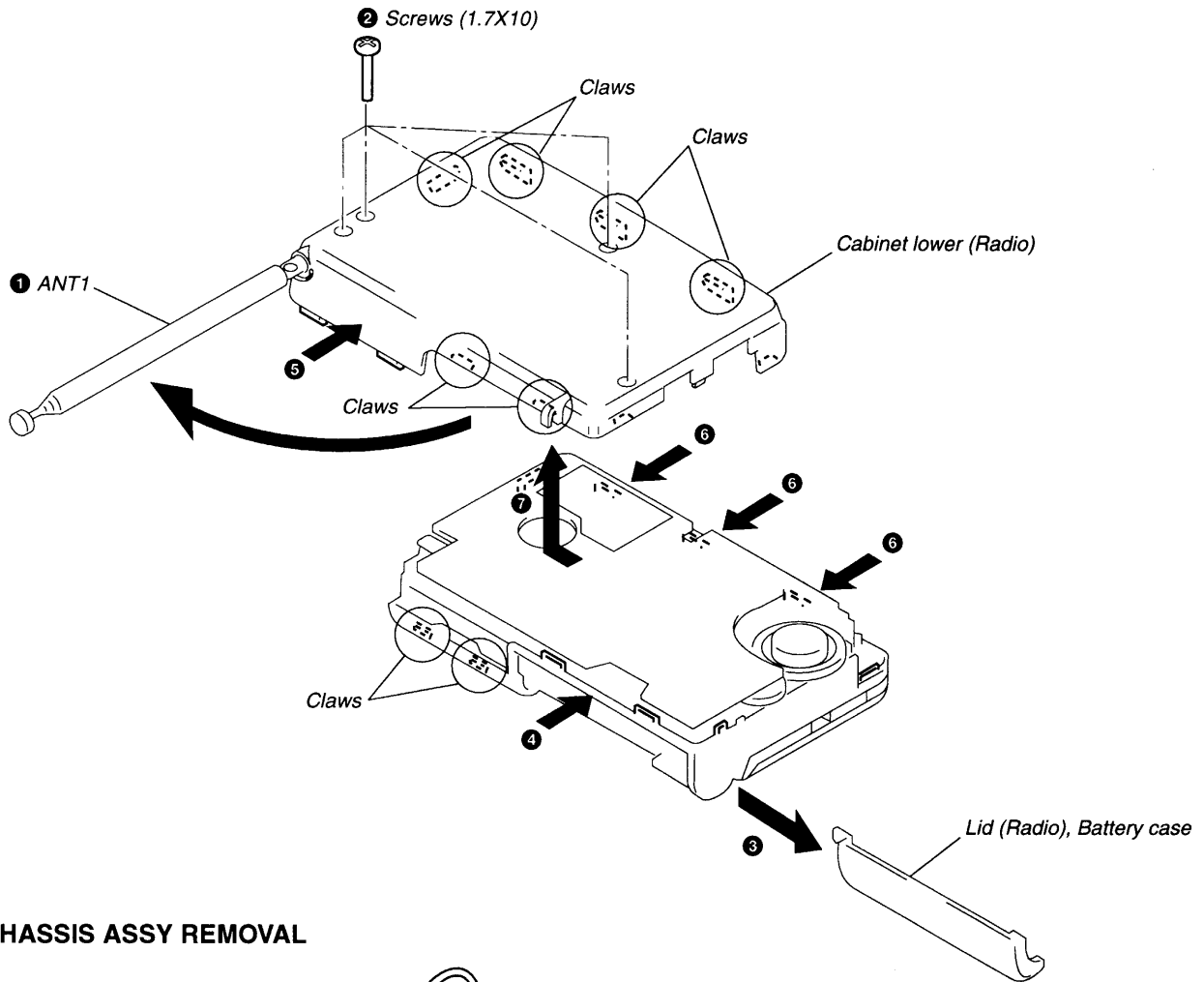
- Operate the unit on the following power sources: Radio: 3V DC, two R6 (size AA) batteries. Clock: 3V DC, one CR2025 lithium battery.
- Do not leave the unit in a location near heat sources, or in a place subject to direct sunlight, excessive dust, or mechanical shock, or in a car with its windows closed.
- Should any solid object or liquid fall into the unit, remove the batteries and have it checked by qualified personnel before operating it any further.
- When the casing becomes soiled, clean it with a soft cloth dampened with a mild detergent solution. Never use abrasive cleansers or chemical solvents, as they may mar the casing.
- Since a strong magnet is used for the speaker, keep personal credit cards with magnetic coding or spring-wound watches away from the unit to prevent them from possible damage caused by the magnet.
- In vehicles or in buildings, radio reception may be difficult or noisy. Try listening near a window.

If you have any questions or problems concerning your unit, please consult your nearest Sony dealer.

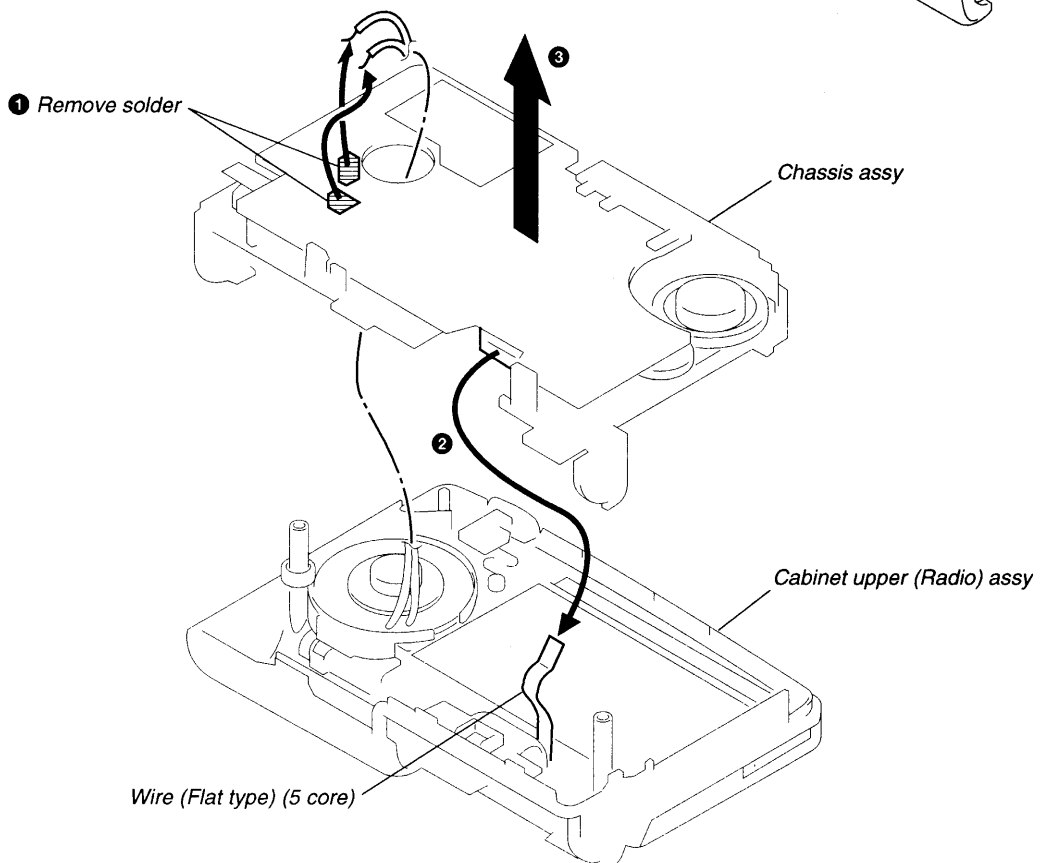
SECTION 2 DISASSEMBLY

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

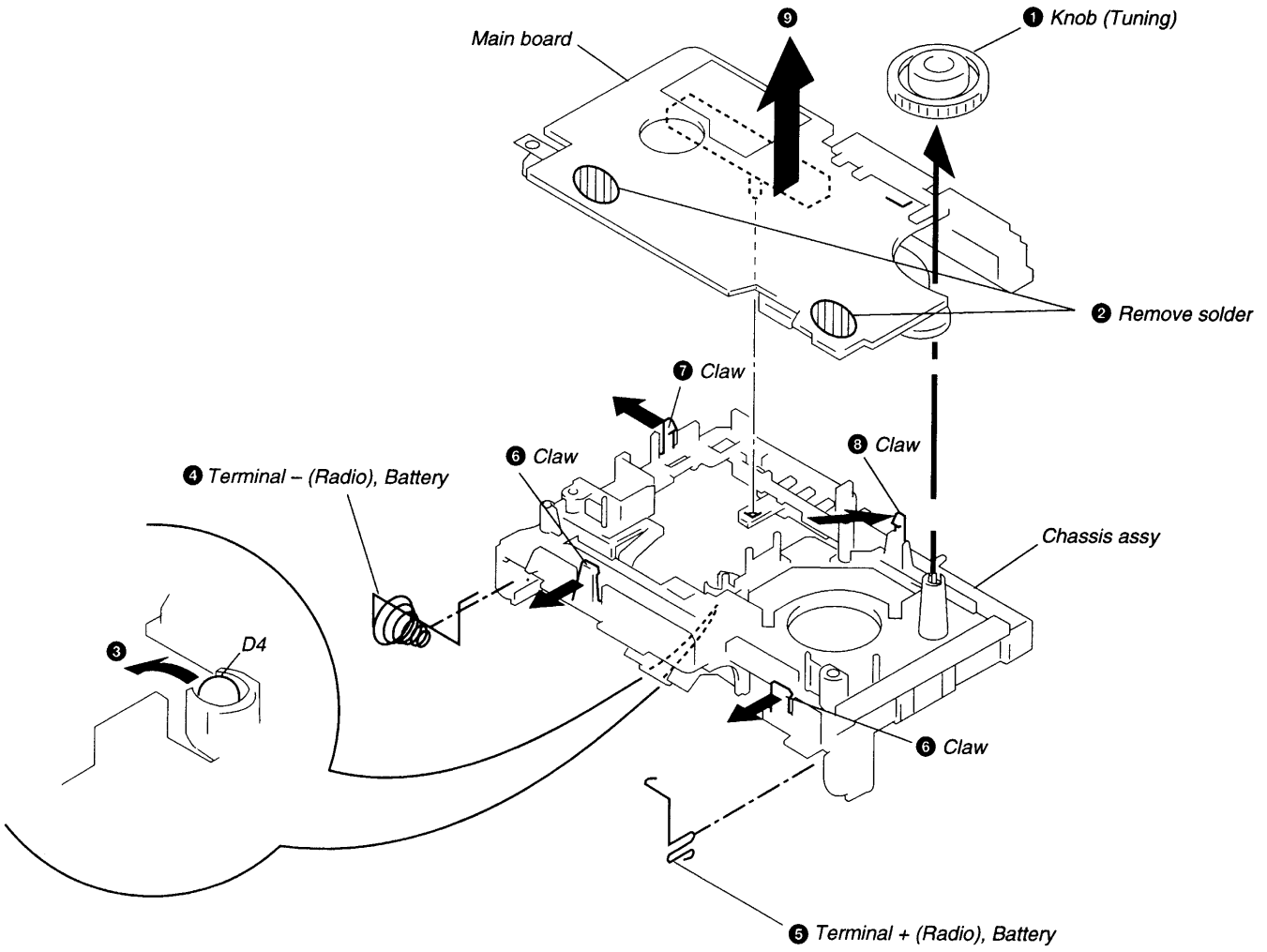
2-1. CABINET LOWER (RADIO) REMOVAL



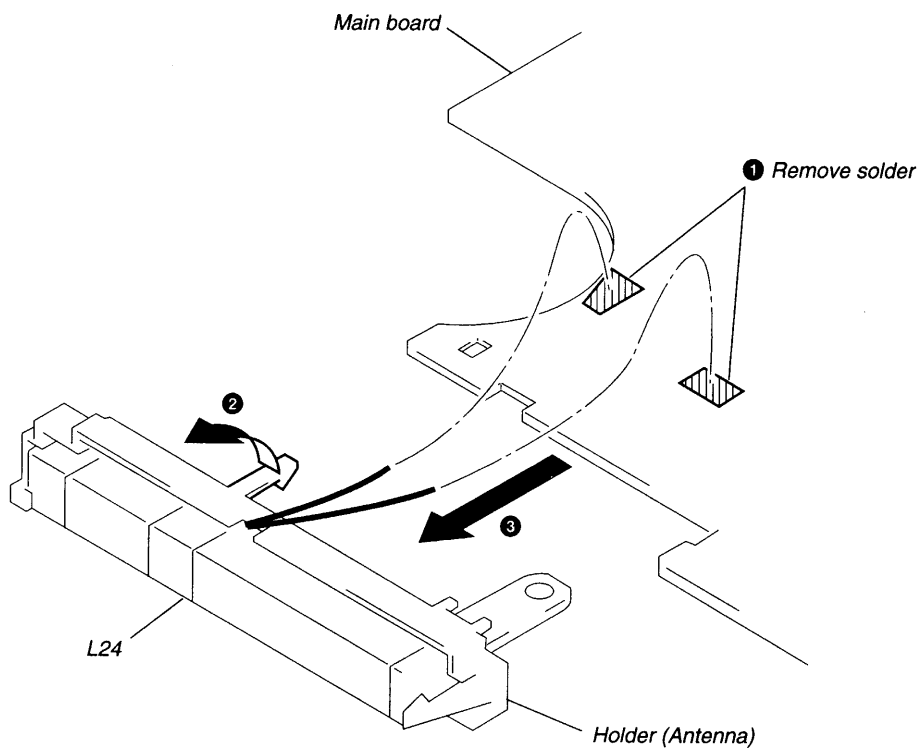
2-2. CHASSIS ASSY REMOVAL



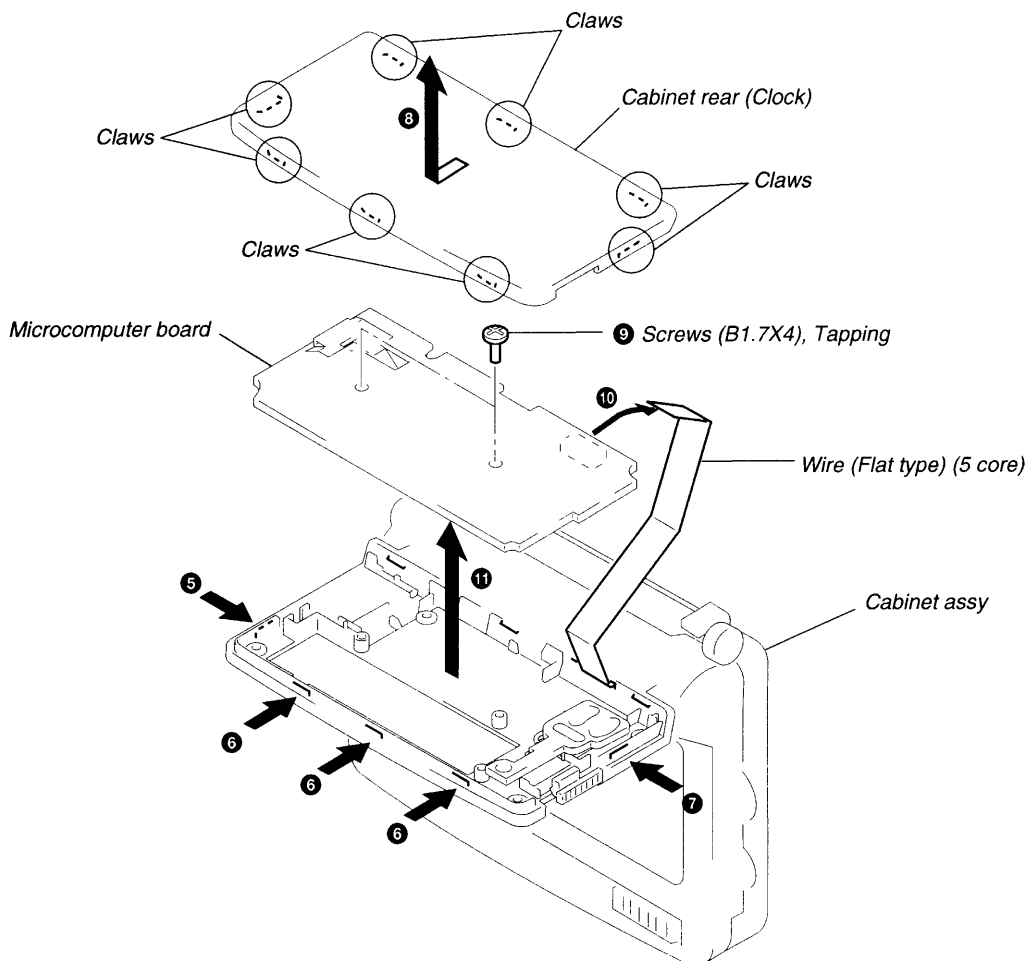
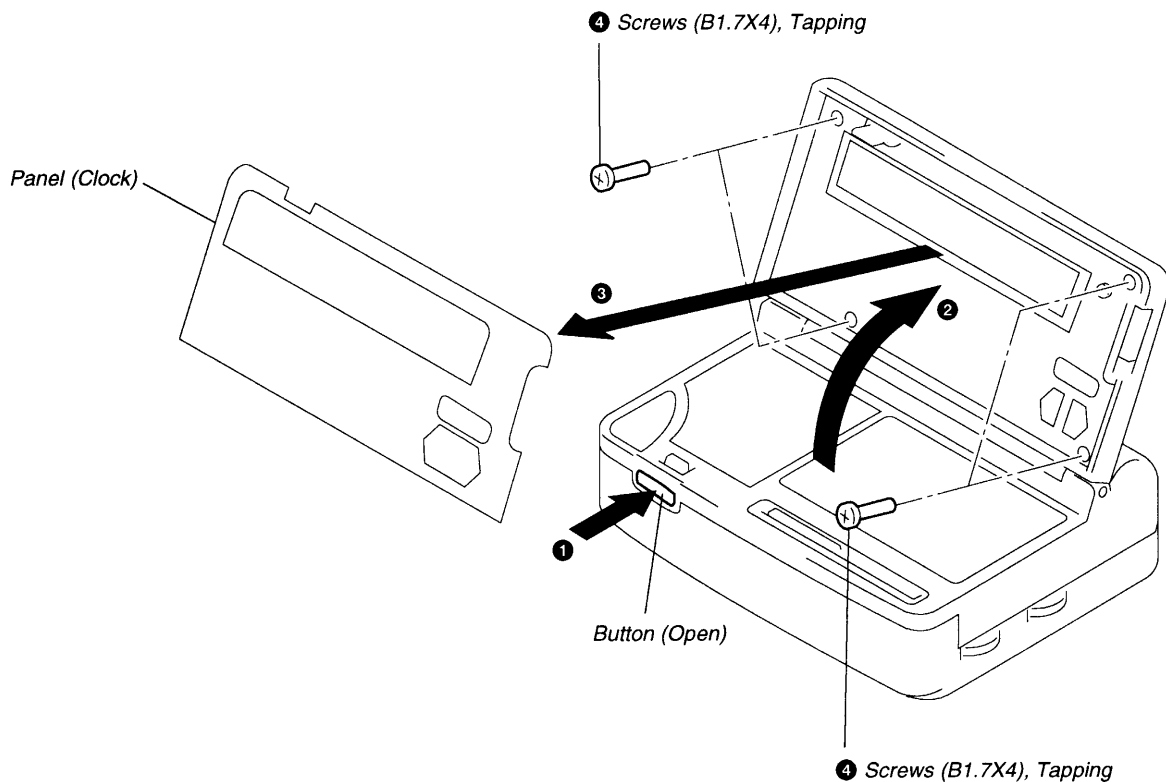
2-3. MAIN BOARD REMOVAL



2-4. HOLDER (ANTENNA) REMOVAL

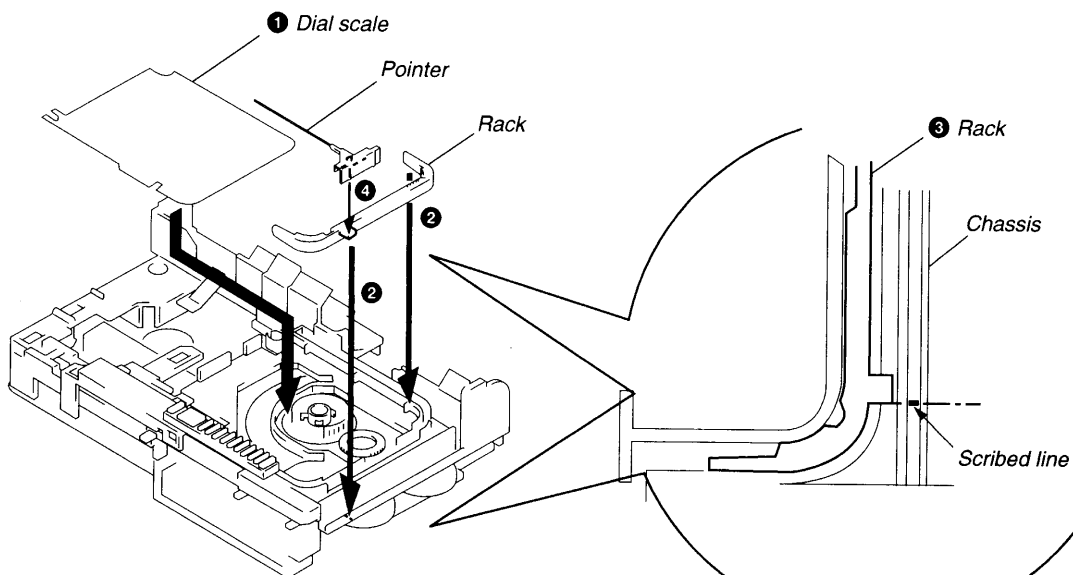
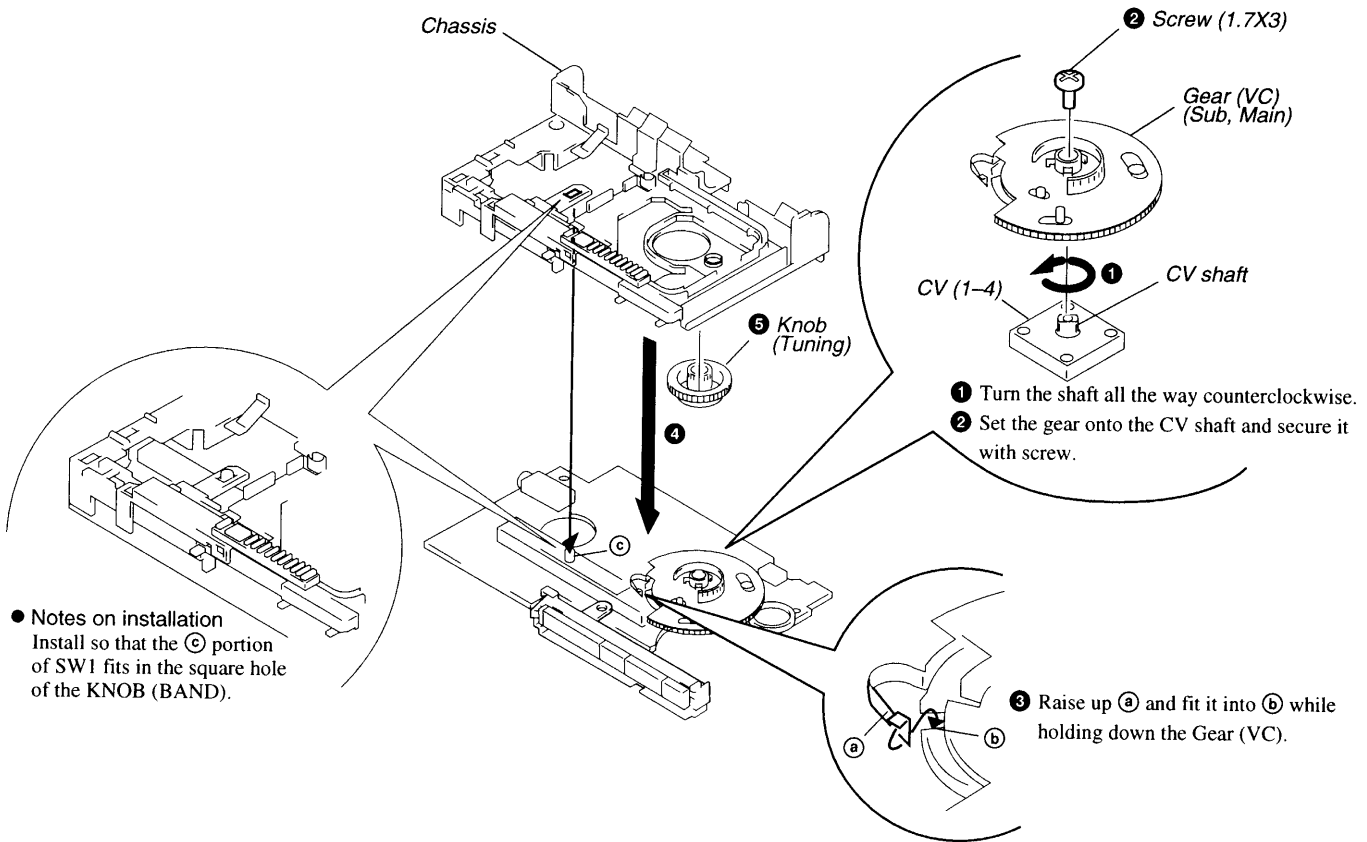


2-5. CABINET REAR (CLOCK), MICROCOMPUTER BOARD REMOVAL



SECTION 3 DIAL POINTER INSTALLATION

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



SECTION 4 ELECTRICAL ADJUSTMENTS

TUNER SECTION

MW Section

Procedure :

BAND switch (S1) : MW
Volume : MIN

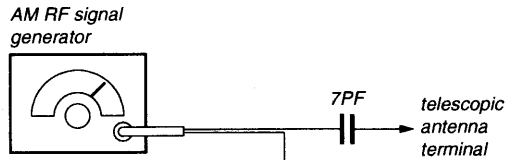


30% amplitude modulation by 400Hz signal.
Output level : as low as possible

SW Section

Procedure :

BAND switch (S1) : SW (1 - 9)
Volume : MIN

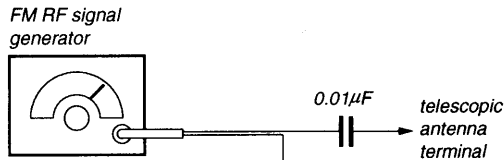


30% amplitude modulation by 400Hz signal.
Output level : as low as possible

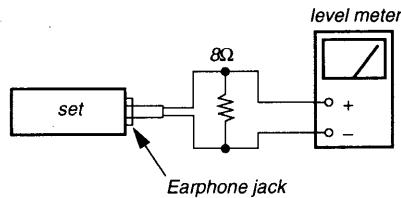
FM Section

Procedure :

BAND switch (S1) : FM
Volume : MIN



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



- 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 ALIGNMENT

Adjust for a maximum reading on level meter.

T1	455kHz
----	--------

MW FREQUENCY COVERAGE ADJUSTMENT

Adjust for a maximum reading on level meter.

L26	520kHz
CT4	1,650kHz

MW TRACKING ADJUSTMENT

Adjust for a maximum reading on level meter.

L24	620kHz
CT2	1,400kHz

SW1 FREQUENCY COVERAGE ADJUSTMENT

Adjust for a maximum reading on level meter.

L10	4.68MHz
-----	---------

SW2 FREQUENCY COVERAGE ADJUSTMENT

Adjust for a maximum reading on level meter.

L11	5.80MHz
-----	---------

SW3 FREQUENCY COVERAGE ADJUSTMENT

Adjust for a maximum reading on level meter.

L12	6.99MHz
-----	---------

SW4 FREQUENCY COVERAGE ADJUSTMENT

Adjust for a maximum reading on level meter.

L13	9.26MHz
-----	---------

SW5 FREQUENCY COVERAGE ADJUSTMENT

Adjust for a maximum reading on level meter.

L14	11.49MHz
-----	----------

SW6 FREQUENCY COVERAGE ADJUSTMENT

Adjust for a maximum reading on level meter.

L15	13.38MHz
-----	----------

SW7 FREQUENCY COVERAGE ADJUSTMENT

Adjust for a maximum reading on level meter.

L16	14.92MHz
-----	----------

SW8 FREQUENCY COVERAGE ADJUSTMENT

Adjust for a maximum reading on level meter.

L17	17.31MHz
-----	----------

SW9 FREQUENCY COVERAGE ADJUSTMENT

Adjust for a maximum reading on level meter.

L18	21.26MHz
-----	----------

FM FREQUENCY COVERAGE ADJUSTMENT

Adjust for a maximum reading on level meter.

L25	87.3MHz
CT3	108.3MHz

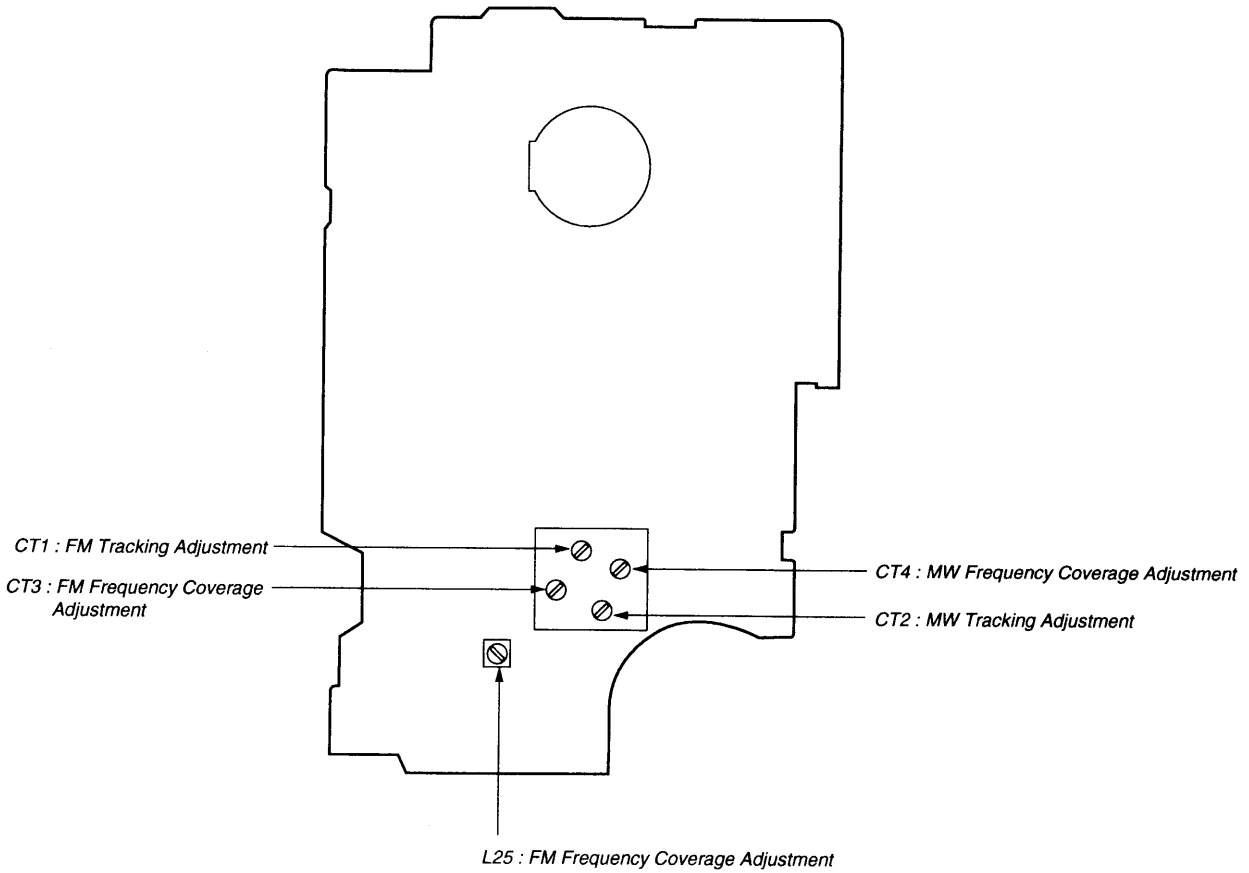
FM TRACKING ADJUSTMENT

Adjust for a maximum reading on level meter.

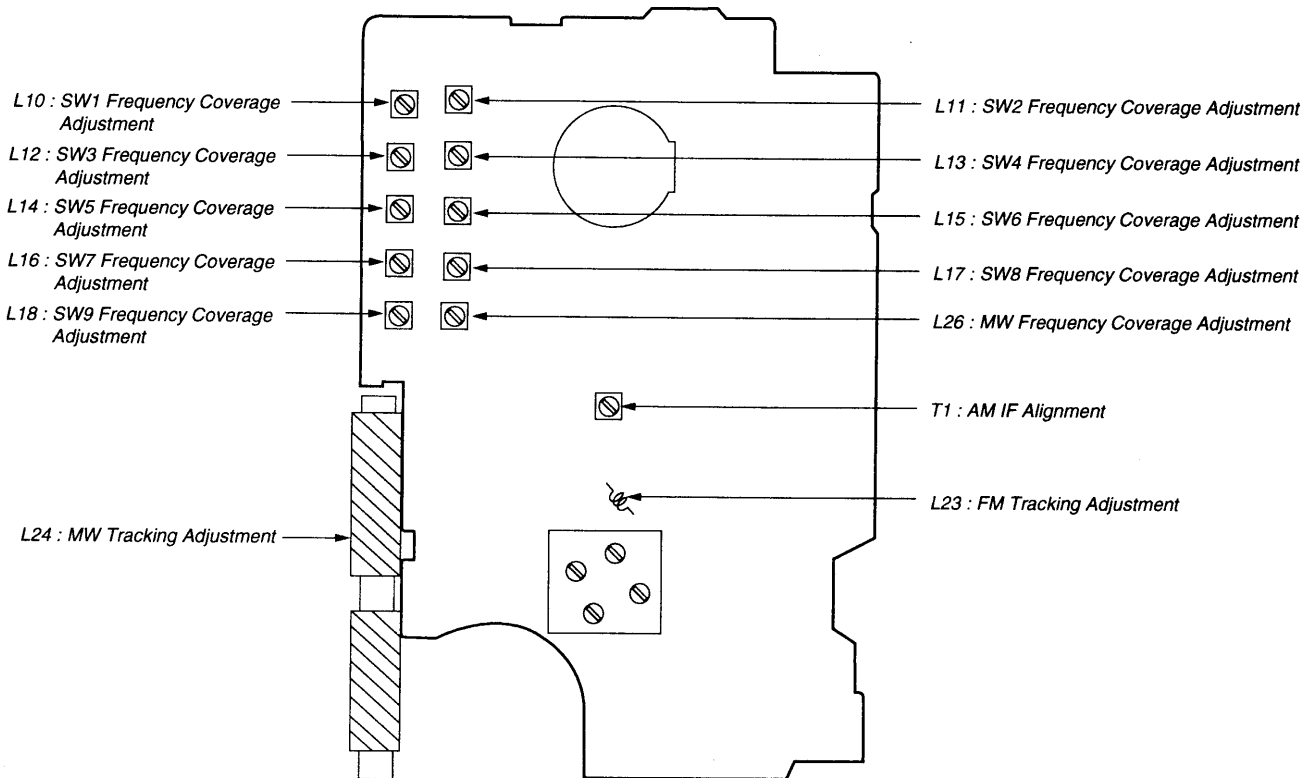
L23	87.3MHz
CT1	108.3MHz

Adjustment Location : Main board (See page 10)

[MAIN BOARD] (Conductor side)



[MAIN BOARD] (Component side)



SECTION 5
EXPLANATION OF IC TERMINALS

IC101 LC5733

Pin No.	Pin name	I/O	Description
1	P00	-	Not used (Open).
2	P01	-	Not used (Open).
3	P02	-	Not used (Open).
4	P03	-	Not used (Open).
5	COM 2	O	LCD common drive.
6	SEG 1	O	LCD segment drive.
7	SEG 2	O	LCD segment drive.
8	SEG 3	O	LCD segment drive.
9	SEG 4	O	LCD segment drive.
10	SEG 5	O	LCD segment drive.
11	SEG6	O	LCD segment drive.
12	SEG 7	O	LCD segment drive.
13	SEG 8	O	LCD segment drive.
14	SEG 9	O	LCD segment drive.
15	SEG 10	O	LCD segment drive.
16	SEG 11	O	LCD segment drive.
17	SEG 12	O	LCD segment drive.
18	SEG 13	O	LCD segment drive.
19	COM 3	O	LCD common drive.
20	LIGHT	O	LED drive output for the back-light.
21	BUZZER ALM1	O	Buzzer output terminal.
22	ALM2	-	Not used (Open).
23	VSS2	-	Ground.
24	VSS1	-	Power supply for LCD drive.
25	BAK	-	Power supply back-up terminal.
26	VDD	-	Power supply terminal.
27	TEST S4	I	Test mode terminal. Open : Normal
28	S3	I	Key retern input.
29	M1	I	Key (CLOCK) input.
30	M2	I	Key (WORLD) input.
31	M3	I	Key (ALARM) input.
32	M4	I	Key (LOCK) input.
33	SEG 14	O	LCD segment drive.
34	SEG 15	O	LCD segment drive.
35	SEG 16	O	LCD segment drive.
36	SEG 17	O	LCD segment drive.
37	SEG 18	O	LCD segment drive.
38	SEG 19	O	LCD segment drive.
39	SEG 20	O	LCD segment drive.
40	SEG 21	O	LCD segment drive.
41	SEG 22	O	LCD segment drive.
42	SEG 23	O	LCD segment drive.
43	SEG 24	O	LCD segment drive.
44	SEG 25	O	LCD segment drive.
45	SEG 26	O	LCD segment drive.

Pin No.	Pin name	I/O	Description
46	SEG 27	O	LCD segment drive.
47	COM 1	O	LCD common drive.
48	P13	O	Key source output.
49	P12	O	Key source output.
50	P11	-	Not used (Open).
51	P10	O	Key source output.
52	CFOSC1	-	Not used (Open).
53	CFOSC2	-	Not used (Open).
54	TEST	-	Not used.
55	T3	-	Not used (Open).
56	32Hz	-	Not used (Open).
57	CUP1	I	Coupling terminal.
58	CUP2	O	Coupling terminal.
59	S2	I	Key retern input.
60	S1	I	Key retern input.
61	RES	I	System reset terminal.
62	OSC IN	I	Clock oscillator (32.768 kHz).
63	OSC OUT	O	Clock oscillator (32.768 kHz).
64	TEST	-	Not used (Open).

SECTION 6
DIAGRAMS

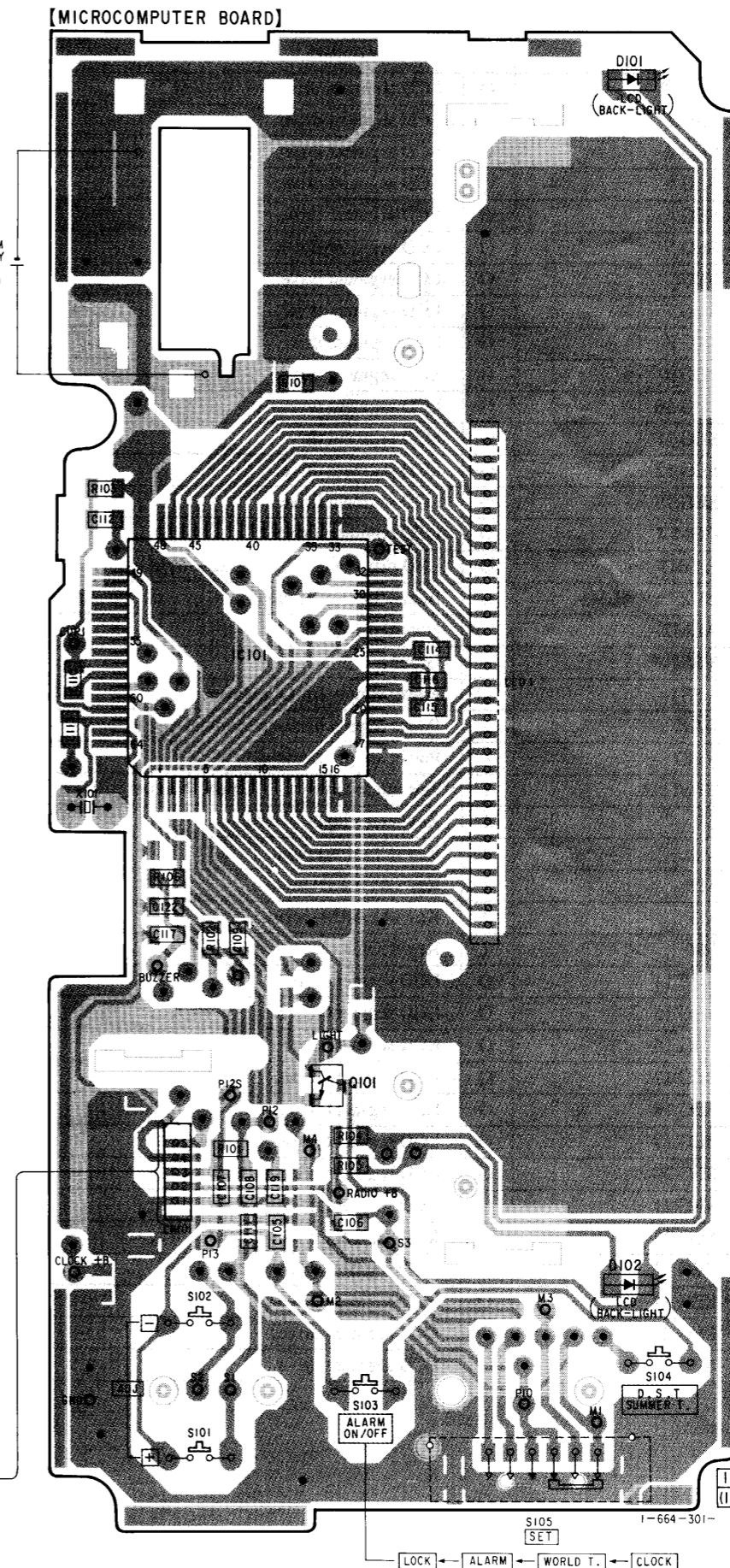
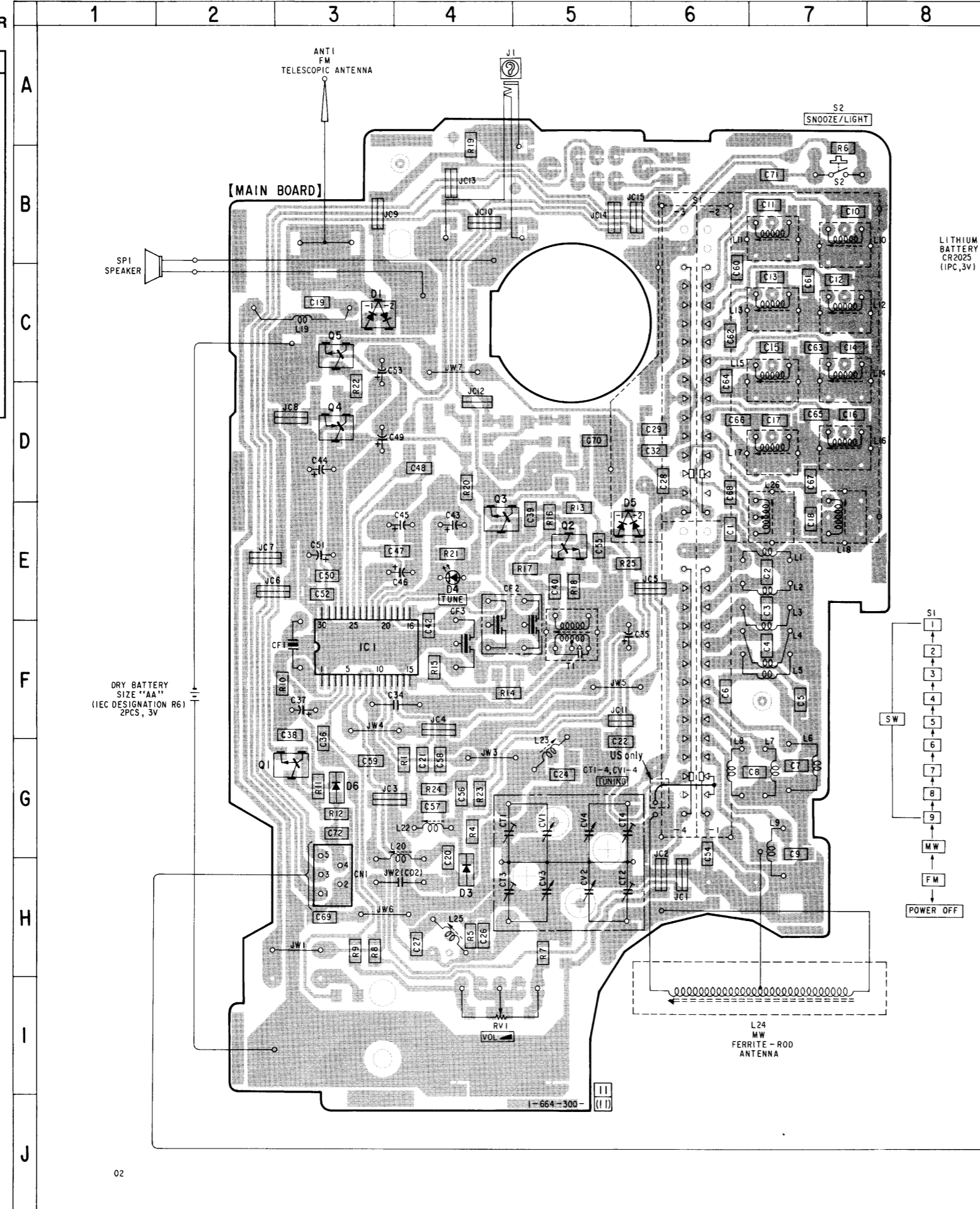
SEE ADDITIONAL
INFORMATION

6-1. PRINTED WIRING BOARDS

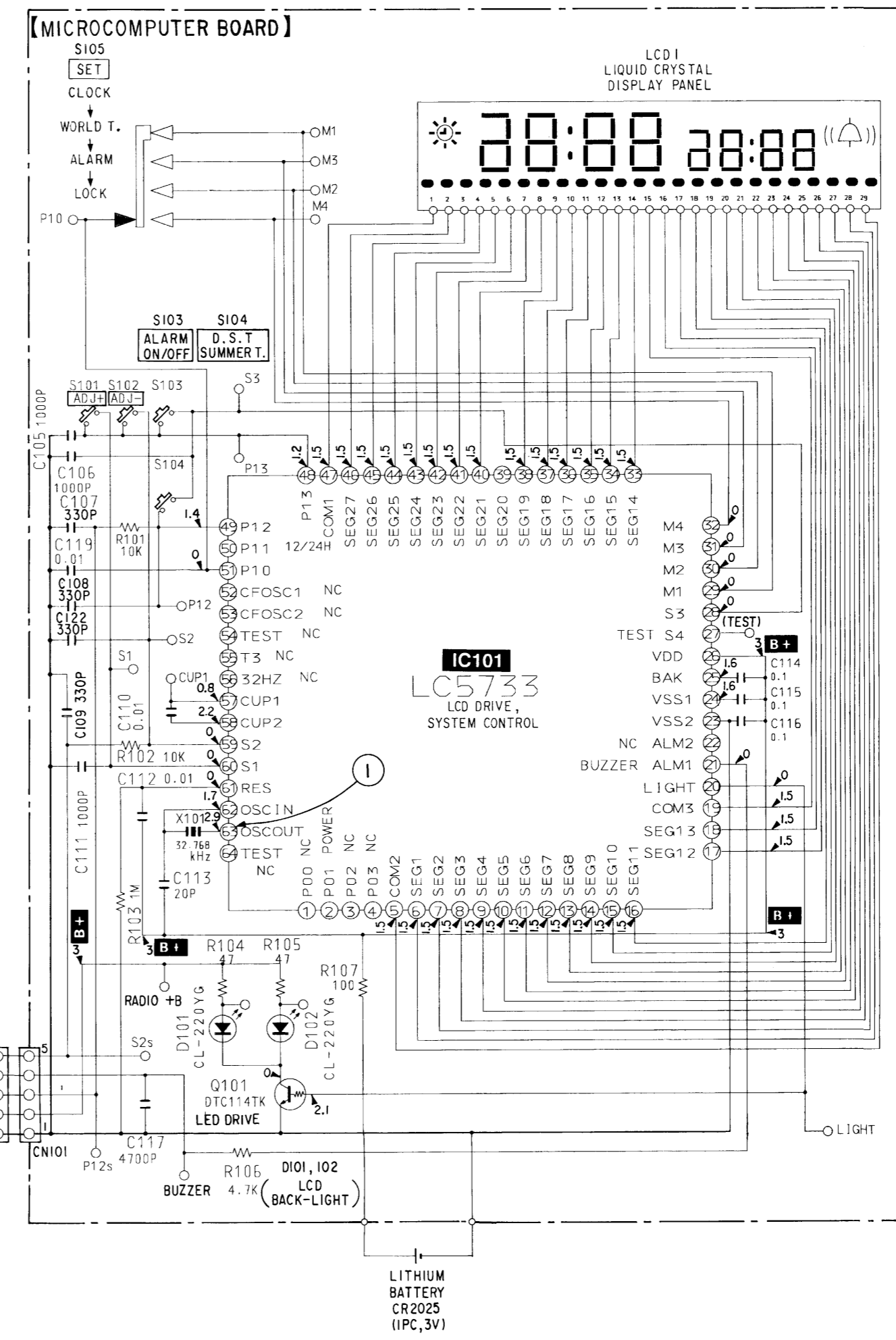
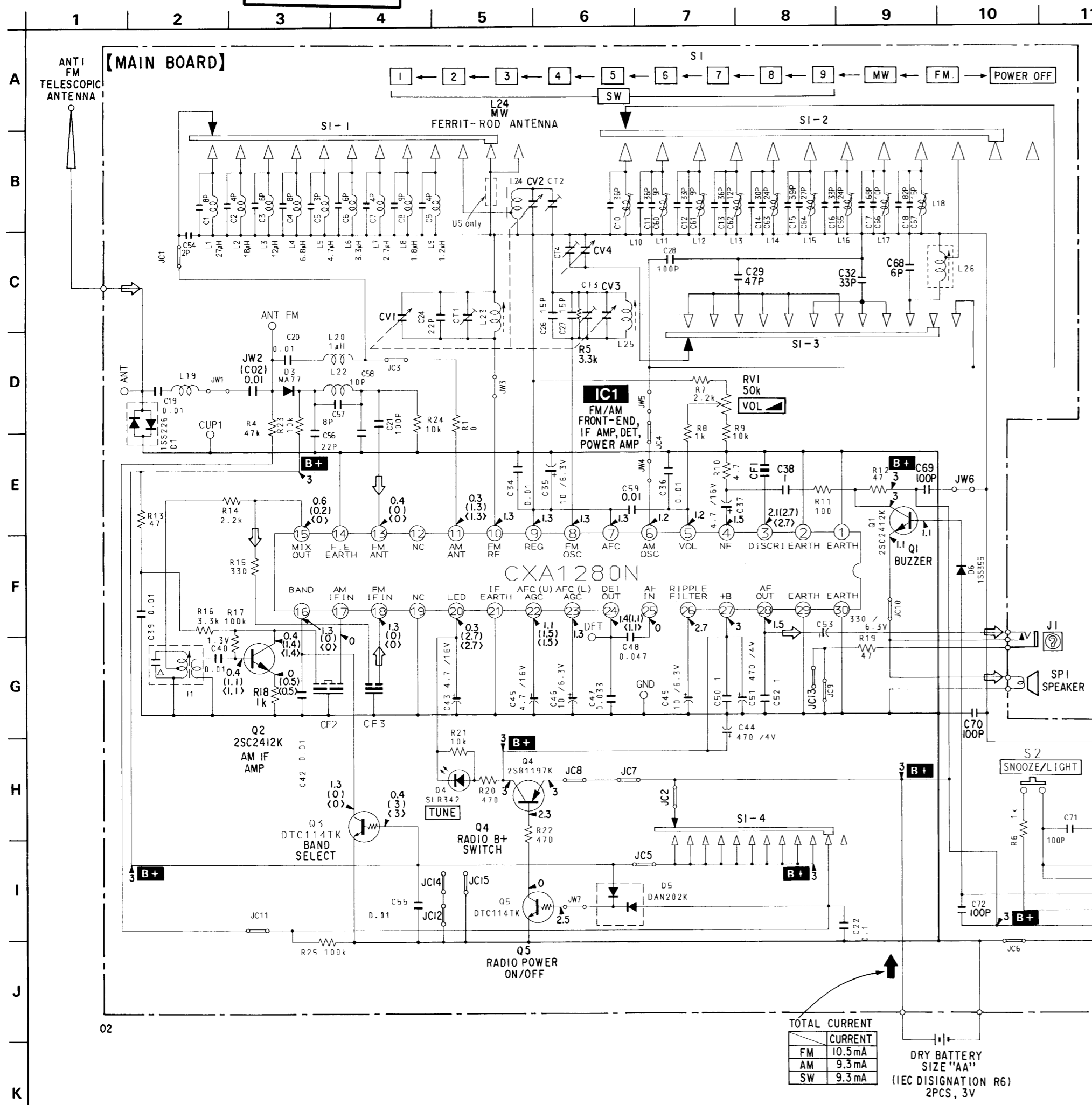
Note:
 ○ — : parts extracted from the component side.
 ● : Through hole.
 ■ : Pattern on the side which is seen.

● SEMICONDUCTOR
LOCATION

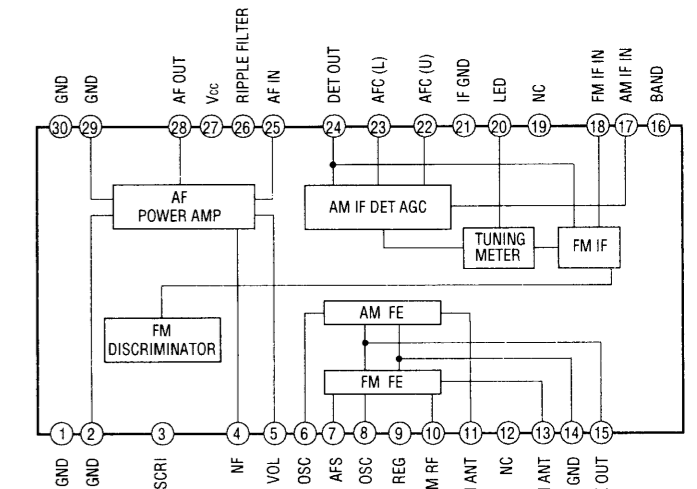
Ref. No.	Location
D1	C-3
D3	H-4
D4	E-4
D5	E-5
D6	G-3
D101	A-12
D102	I-12
IC1	F-3
IC101	E-10
Q1	G-3
Q2	E-5
Q3	E-4
Q4	D-3
Q5	C-3
Q101	H-10



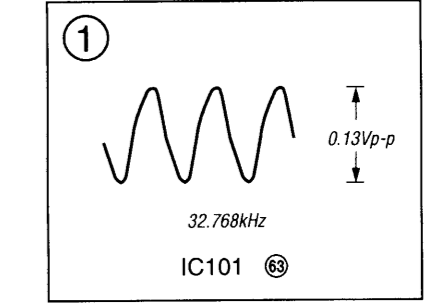
SEE ADDITIONAL INFORMATION



● IC BLOCK DIAGRAM IC2 CXA1280N



● WAVEFORM



- Note :
- All capacitors are in μF unless otherwise noted. pF : μpF 50VW 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.
 - B+**: B+ Line
 - \square : adjustment for repair.
 - Power voltage is dc 3V and fed with regulated dc power supply from external power voltage jack.
 - Voltage and waveforms are dc with respect to ground under no-signal (detuned) conditions.
 - no mark : FM
 - (): AM
 - < > : SW
 - Voltagess are taken with a VOM (Input impedance $10\text{M}\Omega$). Voltage variations may be noted due to normal production tolerances.
 - Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
 - Circled numbers refer to waveforms.
 - Signal path.
 - \Rightarrow : FM

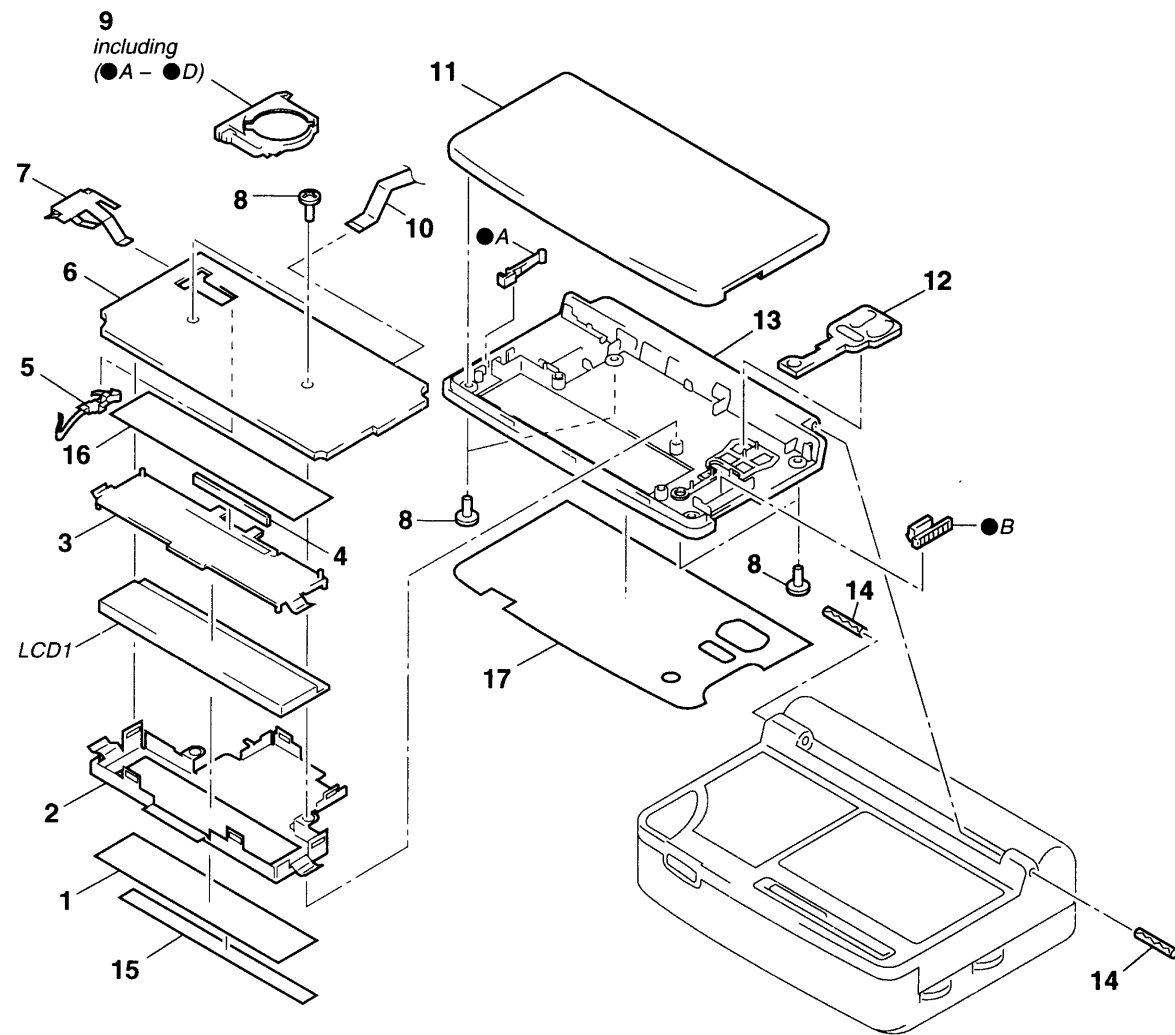
**SECTION 7
EXPLODED VIEWS**

NOTE :

- -XX, -X mean standardized parts, so they may have some difference from the original one.
- 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.
- Abbreviation
EA : Saudi Arabia
IT : Italian

7-1. CABINET (CLOCK) SECTION

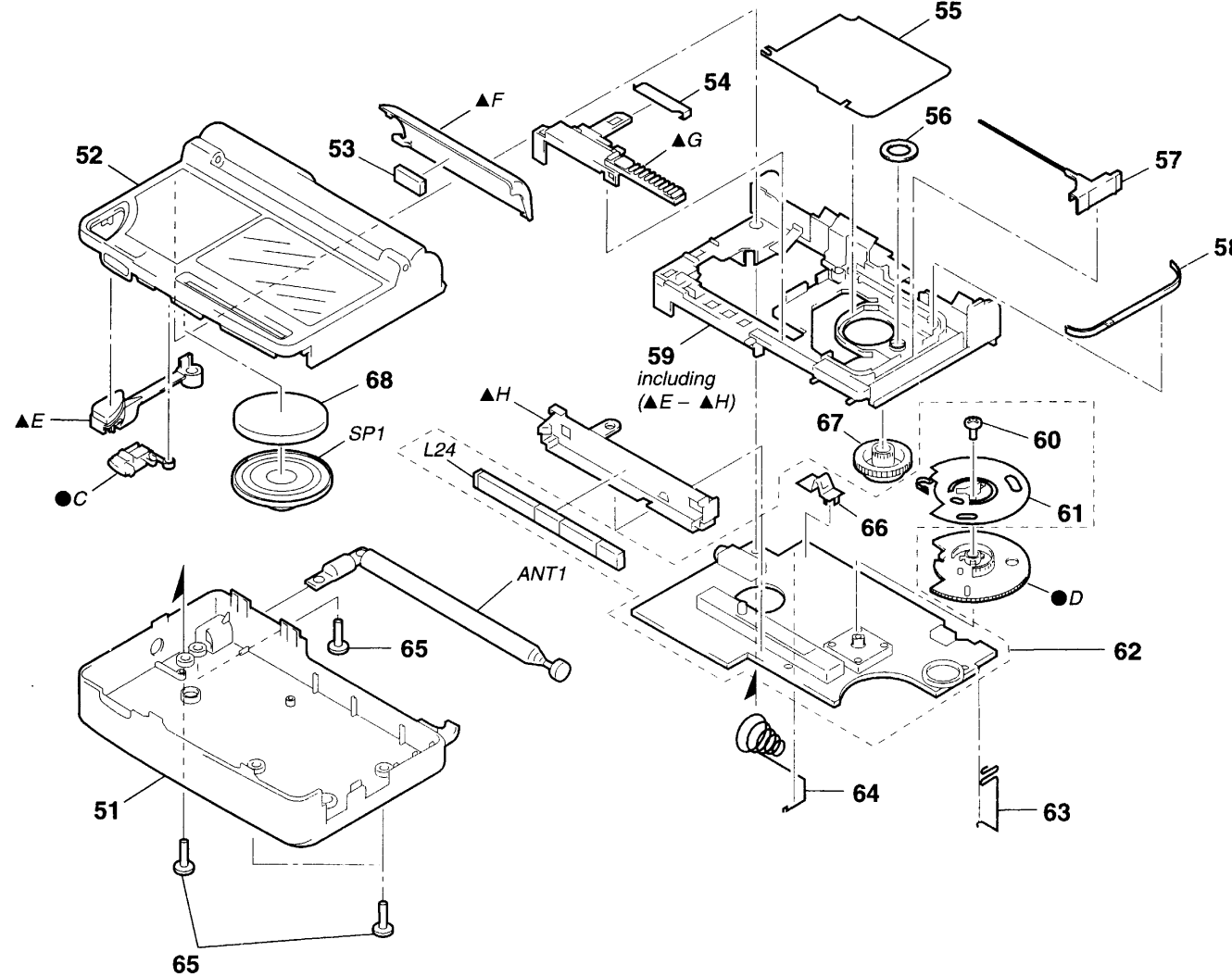
- A : BUTTON (LITHIUM)
- B : KNOB (MODE)



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
* 1	3-009-803-01	SHEET (LCD)		11	3-009-770-01	CABINET REAR (CLOCK)	
* 2	3-009-795-01	CASE (LCD), SHIELD		12	1-771-058-11	SWITCH, RUBBER KEY	
* 3	3-009-774-01	HOLDER (LCD)		13	3-009-769-01	CABINET FRONT (CLOCK)	
4	1-537-683-11	CONDUCTIVE BOARD, CONNECTION		14	3-009-802-01	PIN, SPRING	
5	3-009-796-01	TERMINAL (+ LITHIUM), BATTERY		* 15	3-014-730-01	CUSHION (LCD)	
* 6	A-3662-706-A	MICROCOMPUTER BOARD, COMPLETE		* 16	3-014-731-01	SHEET, DIFFUSION	
7	3-009-797-01	TERMINAL (- LITHIUM), BATTERY		17	3-009-792-01	PANEL (CLOCK)	
8	3-318-203-61	SCREW (B1.7X4), TAPPING		LCD1	1-810-953-11	DISPLAY PANEL, LIQUID CRYSTAL	
9	3-009-790-01	LID, BATTERY CASE (COMBINED)					
10	1-782-339-11	WIRE (FLAT TYPE) (5 CORE)					

7-2. CABINET (RADIO) SECTION

- C : BUTTON (OPEN)
- D : GEAR (VC) (MAIN)
- ▲ E : BUTTON (SNOOZE)
- ▲ F : LID (RADIO), BATTERY CASE
- ▲ G : KNOB (BAND)
- ▲ H : HOLDER (ANTENNA)



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
51	3-009-772-01	CABINET LOWER (RADIO) (AEP,IT,E,EA)		61	3-009-794-01	GEAR (VC) SUB	
51	3-009-772-11	CABINET LOWER (RADIO) (US,Canadian)		* 62	A-3679-854-A	MAIN BOARD, COMPLETE	
52	X-3373-557-1	CABINET UPPER (RADIO) ASSY		63	3-009-799-01	TERMINAL + (RADIO), BATTERY	
53	9-911-815-02	CUSHION		64	3-009-800-01	TERMINAL - (RADIO), BATTERY	
54	3-013-492-01	SPRING (BAND), TENSION		65	3-910-063-01	SCREW (1.7X10)	
55	3-009-793-01	SCALE, DIAL		66	3-012-018-01	TERMINAL BOARD, ANTENNA	
56	3-009-787-01	GEAR, IDLE		67	3-009-775-01	KNOB (TUNING)	
57	3-009-786-01	POINTER		* 68	3-014-732-01	SHEET, SPEAKER	
58	3-009-789-01	RACK		ANT1	1-501-432-11	ANTENNA, TELESCOPIC	
59	3-009-791-01	CHASSIS (COMBINED)		L24	1-501-892-11	ANTENNA, FERRITE-ROD (MW)	
60	3-880-990-00	SCREW (1.7X3),FLAT,(+) SPECIAL		SP1	1-505-141-11	SPEAKER (4.5cm)	

**SECTION 8
ELECTRICAL PARTS LIST**

SEE ADDITIONAL INFORMATION

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

MAIN

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, -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

Abbreviation

EA : Saudi Arabia

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
* A-3679-854-A	MAIN BOARD, COMPLETE			C47	1-163-989-11	CERAMIC CHIP 0.033uF 10%	25V
3-009-794-01	GEAR (VC) SUB			C48	1-163-035-00	CERAMIC CHIP 0.047uF	50V
3-012-018-01	TERMINAL BOARD, ANTENNA			C49	1-126-157-11	ELECT 10uF	20% 16V
3-880-990-00	SCREW (1.7X3),FLAT,(+) SPECIAL			C50	1-164-346-11	CERAMIC CHIP 1uF	16V
	< CAPACITOR >			C51	1-104-483-11	ELECT 470uF	20% 4V
C1	1-163-091-00	CERAMIC CHIP 8PF	50V	C52	1-164-346-11	CERAMIC CHIP 1uF	16V
C2	1-163-087-00	CERAMIC CHIP 4PF	50V	C53	1-128-057-11	ELECT 330uF	20% 6.3V
C3	1-163-089-00	CERAMIC CHIP 6PF	50V	C54	1-163-085-00	CERAMIC CHIP 2PF	50V
C4	1-163-091-00	CERAMIC CHIP 8PF	50V	C55	1-163-031-11	CERAMIC CHIP 0.01uF	50V
C5	1-163-220-11	CERAMIC CHIP 3PF	0.25PF 50V	C56	1-163-235-11	CERAMIC CHIP 22PF	5% 50V
C6	1-163-089-00	CERAMIC CHIP 6PF	50V	C57	1-163-091-00	CERAMIC CHIP 8PF	50V
C7	1-163-087-00	CERAMIC CHIP 4PF	50V	C58	1-163-227-11	CERAMIC CHIP 10PF	0.5PF 50V
C8	1-163-092-00	CERAMIC CHIP 9PF	0.25PF 50V	C59	1-163-031-11	CERAMIC CHIP 0.01uF	50V
C9	1-163-087-00	CERAMIC CHIP 4PF	50V	C60	1-163-465-11	CERAMIC CHIP 9PF	0.25PF 50V
C10	1-163-106-00	CERAMIC CHIP 36PF	5% 50V	C61	1-163-465-11	CERAMIC CHIP 9PF	0.25PF 50V
C11	1-163-106-00	CERAMIC CHIP 36PF	5% 50V	C62	1-163-095-00	CERAMIC CHIP 12PF	5% 50V
C12	1-163-105-00	CERAMIC CHIP 33PF	5% 50V	C63	1-163-102-00	CERAMIC CHIP 24PF	5% 50V
C13	1-163-106-00	CERAMIC CHIP 36PF	5% 50V	C64	1-163-103-00	CERAMIC CHIP 27PF	5% 50V
C14	1-163-104-00	CERAMIC CHIP 30PF	5% 50V	C65	1-163-102-00	CERAMIC CHIP 24PF	5% 50V
C15	1-163-107-00	CERAMIC CHIP 39PF	5% 50V	C66	1-163-093-00	CERAMIC CHIP 10PF	5% 50V
C16	1-163-105-00	CERAMIC CHIP 33PF	5% 50V	C67	1-163-097-00	CERAMIC CHIP 15PF	5% 50V
C17	1-163-113-00	CERAMIC CHIP 68PF	5% 50V	C68	1-163-089-00	CERAMIC CHIP 6PF	50V
C18	1-163-115-00	CERAMIC CHIP 82PF	5% 50V	C69	1-163-251-11	CERAMIC CHIP 100PF	5% 50V
C19	1-163-031-11	CERAMIC CHIP 0.01uF	50V	C70	1-163-251-11	CERAMIC CHIP 100PF	5% 50V
C20	1-163-031-11	CERAMIC CHIP 0.01uF	50V	C71	1-163-251-11	CERAMIC CHIP 100PF	5% 50V
C21	1-163-251-11	CERAMIC CHIP 100PF	5% 50V	C72	1-163-251-11	CERAMIC CHIP 100PF	5% 50V
	< FILTER >			CF1	1-579-632-51	FILTER, CERAMIC	
C22	1-163-038-00	CERAMIC CHIP 0.1uF	25V	CF2	1-577-317-11	FILTER, CERAMIC	
C24	1-163-235-11	CERAMIC CHIP 22PF	5% 50V	CF3	1-579-632-51	FILTER, CERAMIC	
C26	1-163-097-00	CERAMIC CHIP 15PF	5% 50V		< CONNECTOR >		
C27	1-163-097-00	CERAMIC CHIP 15PF	5% 50V	CN1	1-779-000-11	CONNECTOR, FFC/FPC 5P	
C28	1-163-251-11	CERAMIC CHIP 100PF	5% 50V		< TRIMMER >		
C29	1-163-243-11	CERAMIC CHIP 47PF	5% 50V	CT1	1-141-554-11	CAP, VAR (TUNING)	
C32	1-163-239-11	CERAMIC CHIP 33PF	5% 50V	CT2	1-141-554-11	CAP, VAR (TUNING)	
C34	1-101-004-00	CERAMIC 0.01uF	50V	CT3	1-141-554-11	CAP, VAR (TUNING)	
C35	1-126-157-11	ELECT 10uF	20% 16V	CT4	1-141-554-11	CAP, VAR (TUNING)	
C36	1-163-031-11	CERAMIC CHIP 0.01uF	50V		< VARIABLE CAPACITOR >		
C37	1-126-163-11	ELECT 4.7uF	20% 50V	CV1	1-141-554-11	CAP, VAR (TUNING)	
C38	1-164-346-11	CERAMIC CHIP 1uF	16V	CV2	1-141-554-11	CAP, VAR (TUNING)	
C39	1-164-232-11	CERAMIC CHIP 0.01uF	50V	CV3	1-141-554-11	CAP, VAR (TUNING)	
C40	1-163-031-11	CERAMIC CHIP 0.01uF	50V	CV4	1-141-554-11	CAP, VAR (TUNING)	
C42	1-164-232-11	CERAMIC CHIP 0.01uF	50V				
C43	1-126-163-11	ELECT 4.7uF	20% 50V				
C44	1-104-483-11	ELECT 470uF	20% 4V				
C45	1-126-163-11	ELECT 4.7uF	20% 50V				
C46	1-126-157-11	ELECT 10uF	20% 16V				

SEE ADDITIONAL INFORMATION

MAIN MICROCOMPUTER

Ref. No.	Part No.	Description	Remark
< DIODE >			
D1	8-719-800-76	DIODE 1SS226	
D3	8-719-421-40	DIODE MA77	
D4	8-719-989-85	LED SLR-342VR3FM.N (TUNE)	
D5	8-719-914-43	DIODE DAN202K	
D6	8-719-988-62	DIODE 1SS355	
< IC >			
IC1	8-752-036-29	IC CXA1280N	
< JACK >			
J1	1-573-548-11	JACK (⊗)	
< JUMPER RESISTOR >			
JC1	1-216-296-00	METAL CHIP	0 5% 1/8W
JC2	1-216-296-00	METAL CHIP	0 5% 1/8W
JC3	1-216-296-00	METAL CHIP	0 5% 1/8W
JC4	1-216-296-00	METAL CHIP	0 5% 1/8W
JC5	1-216-296-00	METAL CHIP	0 5% 1/8W
JC6	1-216-296-00	METAL CHIP	0 5% 1/8W
JC7	1-216-296-00	METAL CHIP	0 5% 1/8W
JC8	1-216-296-00	METAL CHIP	0 5% 1/8W
JC9	1-216-296-00	METAL CHIP	0 5% 1/8W
JC10	1-216-296-00	METAL CHIP	0 5% 1/8W
JC11	1-216-295-00	METAL CHIP	0 5% 1/10W
JC12	1-216-295-00	METAL CHIP	0 5% 1/10W
JC13	1-216-296-00	METAL CHIP	0 5% 1/8W
JC14	1-216-296-00	METAL CHIP	0 5% 1/8W
JC15	1-216-296-00	METAL CHIP	0 5% 1/8W
< JUMPER >			
JW2 (C02)	1-101-004-00	CERAMIC CHIP	0.01uF Z% 50V
< COIL >			
L1	1-410-514-11	INDUCTOR	27uH
L2	1-410-512-11	INDUCTOR	18uH
L3	1-410-510-11	INDUCTOR	12uH
L4	1-410-507-11	INDUCTOR	6.8uH
L5	1-408-405-00	INDUCTOR	4.7uH
L6	1-410-503-11	INDUCTOR	3.3uH
L7	1-410-502-11	INDUCTOR	2.7uH
L8	1-410-500-11	INDUCTOR	1.8uH
L9	1-410-498-11	INDUCTOR	1.2uH
L10	1-416-050-11	COIL (OSC)	
L11	1-416-051-11	COIL (OSC)	
L12	1-416-052-11	COIL (OSC)	
L13	1-416-053-11	COIL (OSC)	
L14	1-416-054-11	COIL (OSC)	
L15	1-416-055-11	COIL (OSC)	
L16	1-416-056-11	COIL (OSC)	
L17	1-416-057-11	COIL (OSC)	
L18	1-416-058-11	COIL (OSC)	
L19	1-428-292-11	COIL, AIR-CORE	
L20	1-414-142-11	INDUCTOR	1uH
L22	1-402-941-11	COIL, AIR-CORE	
* L23	1-428-306-11	COIL, AIR-CORE	
L24	1-501-892-11	ANTENNA, FERRITE-ROD (MW)	
L25	1-416-049-11	COIL (WITH CORE)	
L26	1-406-255-11	COIL (OSC)	

Ref. No.	Part No.	Description	Remark
< TRANSISTOR >			
Q1	8-729-920-74	TRANSISTOR 2SC2412K-QR	
Q2	8-729-920-74	TRANSISTOR 2SC2412K-QR	
Q3	8-729-902-99	TRANSISTOR DTC114TK	
Q4	8-729-904-87	TRANSISTOR 2SB1197K-R	
Q5	8-729-902-99	TRANSISTOR DTC114TK	
< RESISTOR >			
R1	1-216-295-00	METAL CHIP	0 5% 1/10W
R4	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R5	1-216-061-00	METAL CHIP	3.3K 5% 1/10W
R6	1-216-049-11	METAL GLAZE	1K 5% 1/10W
R7	1-216-057-00	METAL CHIP	2.2K 5% 1/10W
R8	1-216-049-11	METAL GLAZE	1K 5% 1/10W
R9	1-216-073-00	METAL CHIP	10K 5% 1/10W
R10	1-216-308-00	METAL CHIP	4.7 5% 1/10W
R11	1-216-025-00	METAL GLAZE	100 5% 1/10W
R12	1-216-017-00	METAL GLAZE	47 5% 1/10W
R13	1-216-017-00	METAL GLAZE	47 5% 1/10W
R14	1-216-057-00	METAL CHIP	2.2K 5% 1/10W
R15	1-216-037-00	METAL CHIP	330 5% 1/10W
R16	1-216-061-00	METAL CHIP	3.3K 5% 1/10W
R17	1-216-097-00	METAL GLAZE	100K 5% 1/10W
R18	1-216-049-11	METAL GLAZE	1K 5% 1/10W
R19	1-216-017-00	METAL GLAZE	47 5% 1/10W
R20	1-216-041-00	METAL CHIP	470 5% 1/10W
R21	1-216-073-00	METAL CHIP	10K 5% 1/10W
R22	1-216-041-00	METAL CHIP	470 5% 1/10W
R23	1-216-073-00	METAL CHIP	10K 5% 1/10W
R24	1-216-073-00	METAL CHIP	10K 5% 1/10W
R25	1-216-097-00	METAL GLAZE	100K 5% 1/10W
< VARIABLE RESISTOR >			
RV1	1-225-451-11	RES, VAR, CARBON 50K (VOL ▲)	
< SWITCH >			
S1	1-762-932-11	SWITCH, SLIDE (SW/MW/FM/POWER OFF)	
S2	1-692-444-11	SWITCH, KEY BOARD (SNOOZE/LIGHT)	
< TRANSFORMER >			
T1	1-404-444-31	TRANSFORMER, IF	

*	A-3662-706-A	MICROCOMPUTER BOARD, COMPLETE	*****
	1-537-683-11	CONDUCTIVE BOARD, CONNECTION	
*	3-009-774-01	HOLDER (LCD)	
*	3-009-795-01	CASE (LCD), SHIELD	
	3-009-796-01	TERMINAL (+ LITHIUM), BATTERY	
	3-009-797-01	TERMINAL (- LITHIUM), BATTERY	
*	3-009-803-01	SHEET (LCD)	
*	3-014-730-01	CUSHION (LCD)	
*	3-014-731-01	SHEET, DIFFUSION	
< CAPACITOR >			
C105	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V
C106	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V
C107	1-163-129-00	CERAMIC CHIP	330PF 5% 50V
C108	1-163-129-00	CERAMIC CHIP	330PF 5% 50V

MICROCOMPUTER

SEE ADDITIONAL INFORMATION

Ref. No.	Part No.	Description	Remark
C109	1-163-129-00	CERAMIC CHIP 330PF 5%	50V
C110	1-163-031-11	CERAMIC CHIP 0.01uF	50V
C111	1-163-009-11	CERAMIC CHIP 0.001uF 10%	50V
C112	1-163-031-11	CERAMIC CHIP 0.01uF	50V
C113	1-163-234-11	CERAMIC CHIP 20PF 5%	50V
C114	1-163-038-00	CERAMIC CHIP 0.1uF	25V
C115	1-163-038-00	CERAMIC CHIP 0.1uF	25V
C116	1-163-038-00	CERAMIC CHIP 0.1uF	25V
C117	1-163-017-00	CERAMIC CHIP 0.0047uF 5%	50V
C119	1-163-031-11	CERAMIC CHIP 0.01uF	50V
C122	1-163-129-00	CERAMIC CHIP 330PF 5%	50V
< CONNECTOR >			
CN101	1-770-688-11	CONNECTOR, FFC/FPC 5P	
< DIODE >			
D101	8-719-064-22	LED CL-220YG-C-TU (LCD BACK-LIGHT)	
D102	8-719-064-22	LED CL-220YG-C-TU (LCD BACK-LIGHT)	
< IC >			
IC101	8-759-356-55	IC LC5733-1F14	
< LIQUID CRYSTAL DISPLAY >			
LCD1	1-810-953-11	DISPLAY PANEL, LIQUID CRYSTAL	
< TRANSISTOR >			
Q101	8-729-902-99	TRANSISTOR DTC114TK	
< RESISTOR >			
R101	1-216-073-00	METAL CHIP 10K 5%	1/10W
R102	1-216-073-00	METAL CHIP 10K 5%	1/10W
R103	1-216-121-00	METAL GLAZE 1M 5%	1/10W
R104	1-216-017-00	METAL GLAZE 47 5%	1/10W
R105	1-216-017-00	METAL GLAZE 47 5%	1/10W
R106	1-216-065-00	METAL CHIP 4.7K 5%	1/10W
R107	1-216-025-00	METAL GLAZE 100 5%	1/10W
< SWITCH >			
S105	1-572-487-21	SWITCH, SLIDE (SET)	
< VIBRATOR >			
X101	1-567-098-41	VIBRATOR, CRYSTAL (32.768kHz)	

MISCELLANEOUS			

4	1-537-683-11	CONDUCTIVE BOARD, CONNECTION	
10	1-782-339-11	WIRE (FLAT TYPE) (5 CORE)	
12	1-771-058-11	SWITCH, RUBBER KEY	
ANT1	1-501-432-11	ANTENNA, TELESCOPIC	
L24	1-501-892-11	ANTENNA, FERRITE-ROD (MW)	
LCD1	1-810-953-11	DISPLAY PANEL, LIQUID CRYSTAL	
SP1	1-505-141-11	SPEAKER (4.5cm)	

Ref. No.	Part No.	Description	Remark
ACCESSORIES & PACKING MATERIALS			

3-859-292-11		MANUAL, INSTRUCTION (ENGLISH,SPANISH, ITALIAN,PORTUGUESE)	
3-859-292-21		MANUAL, INSTRUCTION(FRENCH,GERMAN, DUTCH,SWEDISH) (Canadian,AEP)	
3-859-292-31		MANUAL, INSTRUCTION(CHINESE,KOREAN, ARABIC) (E,EA)	
3-912-863-04		GUIDE, SHORT WAVE	

ICF-SW12

SONY.

SERVICE MANUAL

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

SUPPLEMENT - 1

File this Supplement with the Service Manual.

Subject :
• CHANGE OF MAIN BOARD

(ECN : TR700308)

TABLE OF CONTENTS

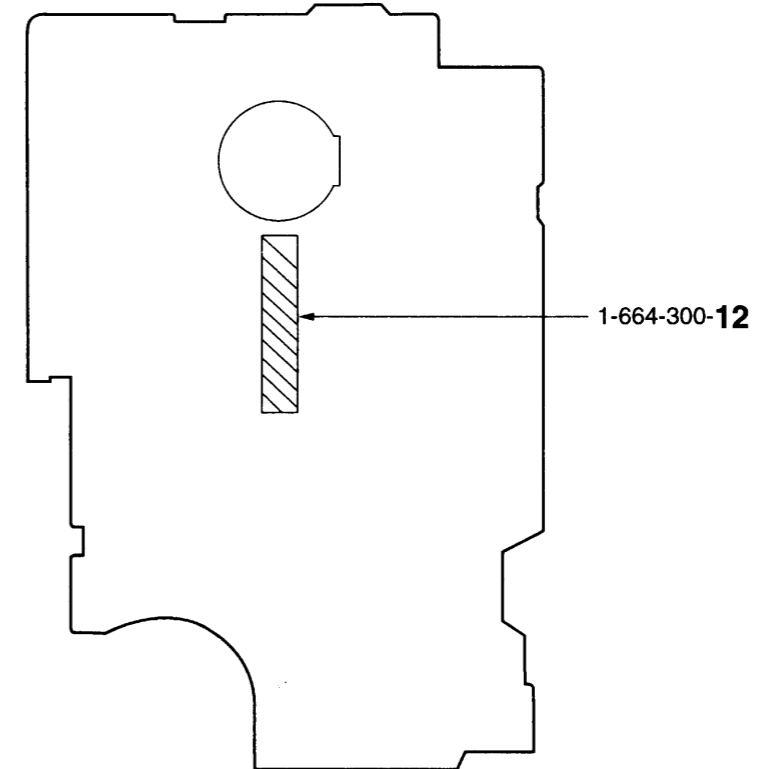
CHANGE OF MAIN BOARD	2
PRINTED WIRING BOARD	3
SCHEMATIC DIAGRAM	5
EXPLODED VIEWS	8
ELECTRICAL PARTS LIST	10

• CHANGE OF MAIN BOARD

The main board have been changed.
Main section printed wiring boards and schematic diagram of new type, and changed parts list are described in this supplement-1.
Refer to original service manual previously issued for the other information.

NEW TYPE IDENTIFICATION

[MAIN BOARD] (Component side)



Note : The last two digits of -11 and -12 are compatible.

MAIN (Service Manual see page 20 - 21)

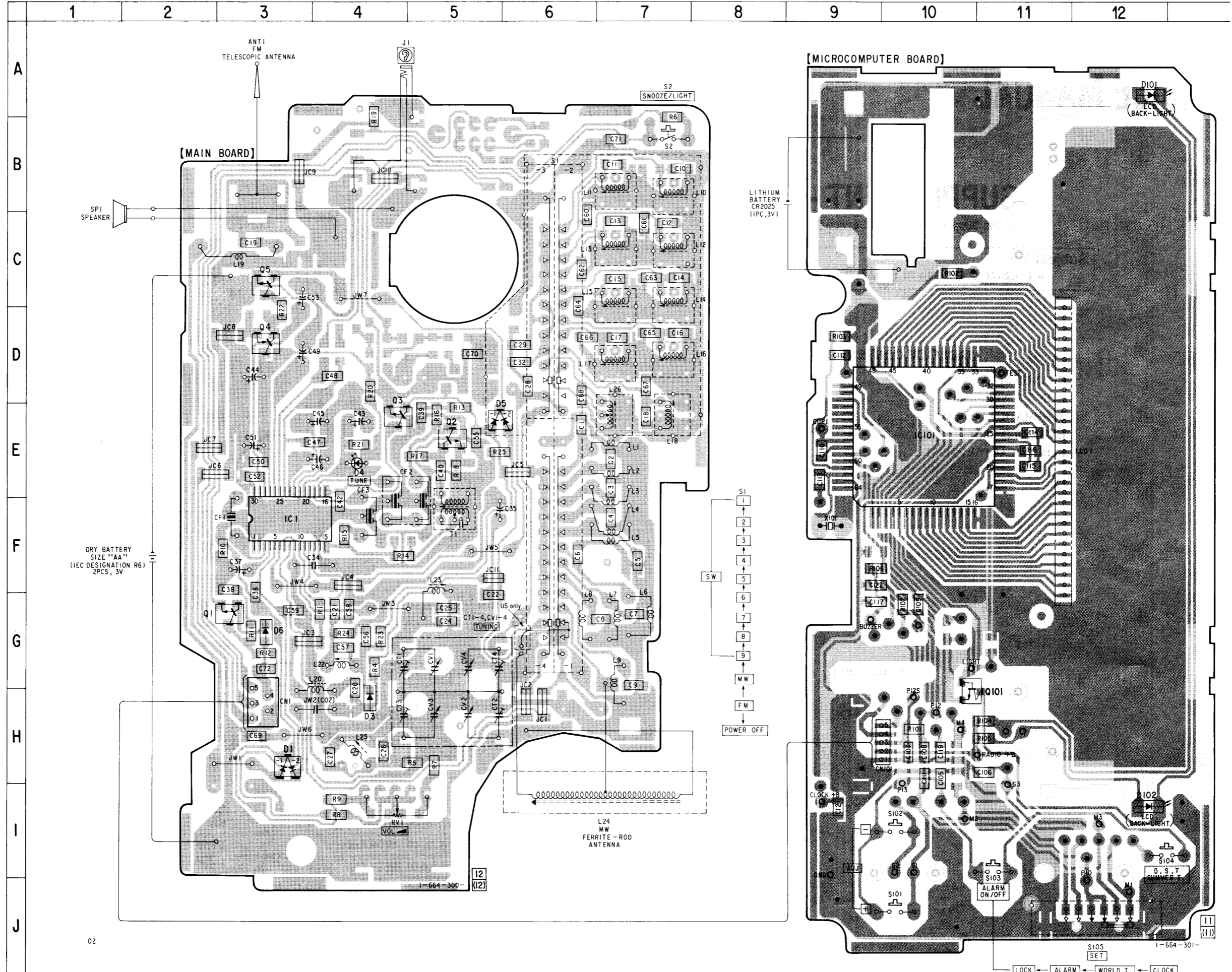
Ref. No.	Former Type (-11)					New Type (-12)					Remark
	Part No.	Description				Part No.	Description				
C2	1-163-087-00	CERAMIC CHIP	4PF	50V	1-163-222-11	CERAMIC CHIP	5PF	0.25PF	50V	Changed	
C3	1-163-089-00	CERAMIC CHIP	6PF	50V	1-163-224-11	CERAMIC CHIP	7PF	0.25PF	50V	Changed	
C4	1-163-091-00	CERAMIC CHIP	8PF	50V	1-163-089-00	CERAMIC CHIP	6PF	0.5PF	50V	Changed	
C5	1-163-220-00	CERAMIC CHIP	3PF	0.25PF	50V	1-163-087-00	CERAMIC CHIP	4PF	0.25PF	50V	Changed
C8	1-163-092-00	CERAMIC CHIP	9PF	0.25PF	50V	1-163-091-00	CERAMIC CHIP	8PF	0.25PF	50V	Changed
C25					1-163-085-00	CERAMIC CHIP	2PF	0.25PF	50V	Added	
C27	1-163-097-00	CERAMIC CHIP	15PF	5%	50V	1-163-095-00	CERAMIC CHIP	12PF	5%	50V	Changed
C54	1-163-085-00	CERAMIC CHIP	2PF	50V						Deleted	
JC12	1-216-295-00	METAL CHIP	0	5%	1/10W					Deleted	
JC13	1-216-296-00	METAL CHIP	0	5%	1/8W					Deleted	
JC14	1-216-296-00	METAL CHIP	0	5%	1/8W					Deleted	
JC15	1-216-296-00	METAL CHIP	0	5%	1/8W					Deleted	

Note:
 ○ : parts extracted from the component side.
 ● : Through hole.
 ■ : Pattern on the side which is seen.
 * : Pattern on the back side.

● PRINTED WIRING BOARDS

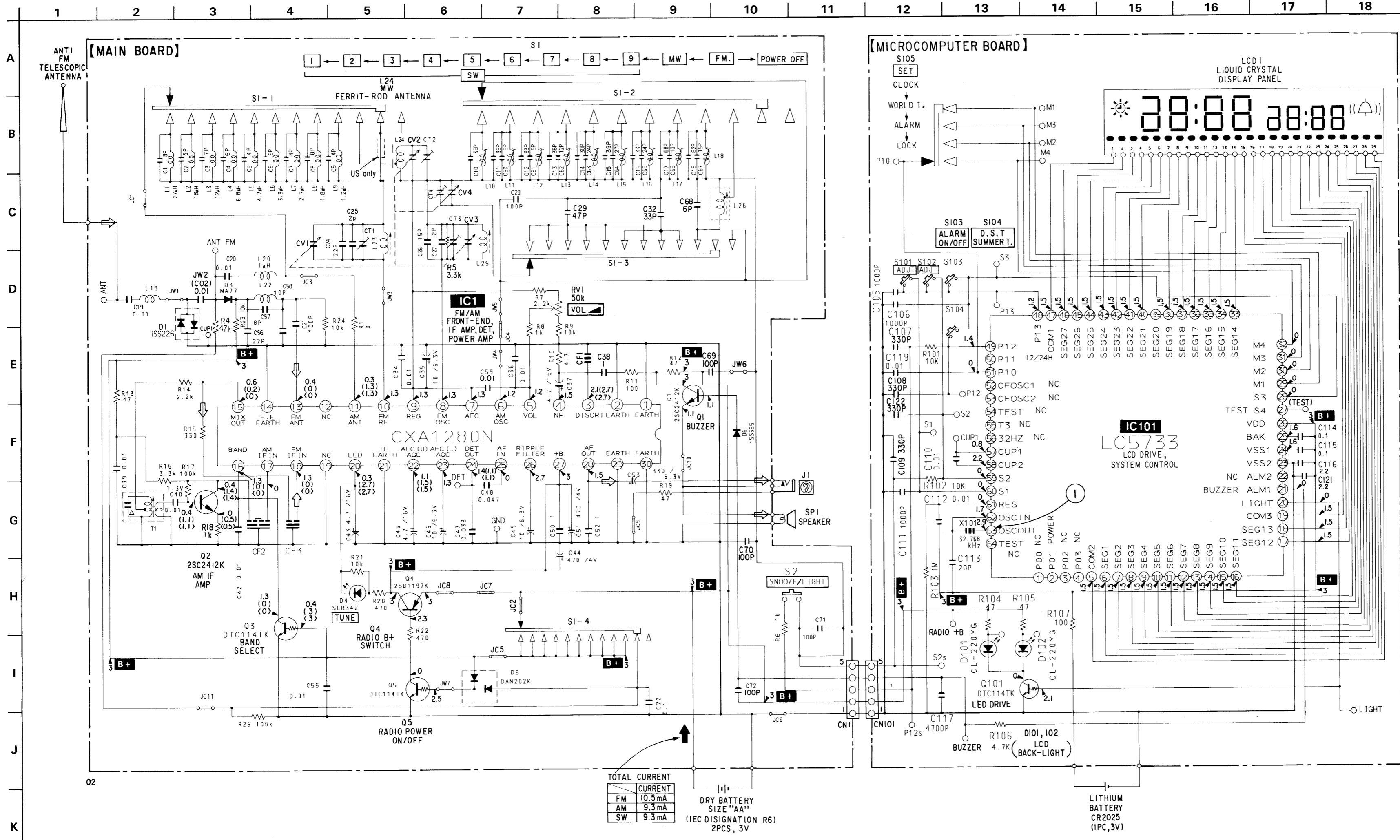
● SEMICONDUCTOR LOCATION

Ref. No.	Location
D1	H-3
D3	H-4
D4	E-4
D5	E-5
D6	G-3
D101	A-12
D102	I-12
IC1	F-3
IC101	E-10
Q1	G-3
Q2	E-5
Q3	E-4
Q4	D-3
Q5	C-3
Q101	H-10

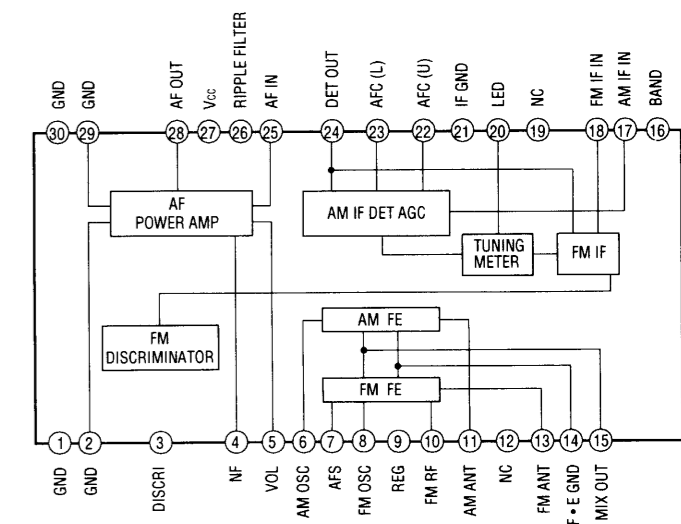


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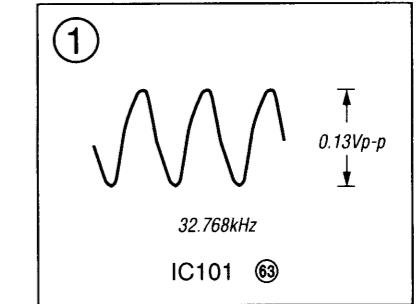
SCHEMATIC DIAGRAM



IC BLOCK DIAGRAM IC2 CXA1280N



WAVEFORM



Note:

- All capacitors are in μF unless otherwise noted. pF: μF 50VW 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.
- B+: B+ Line
- \square : adjustment for repair.
- Power voltage is dc 3V and fed with regulated dc power supply from external power voltage jack.
- Voltage and waveforms are dc with respect to ground under no-signal (detuned) conditions.
- no mark: FM
- (): MW
- < >: SW
- Voltages are taken with a VOM (Input impedance 10M Ω). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with an oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.

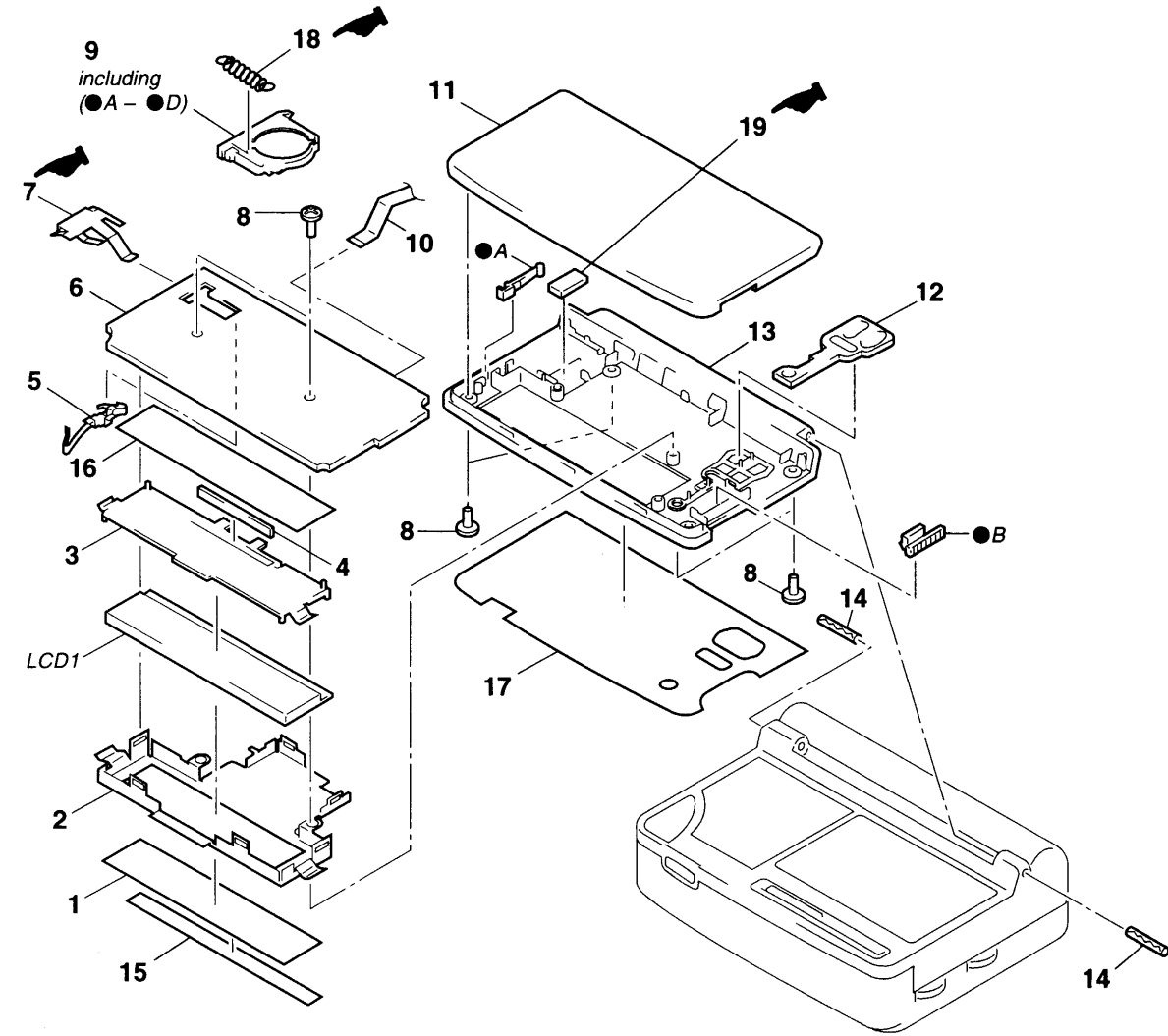
• EXPLODED VIEWS

Page 18

•  : Added portion

7-1. CABINET (CLOCK) SECTION

- A : BUTTON (LITHIUM)
- B : KNOB (MODE)



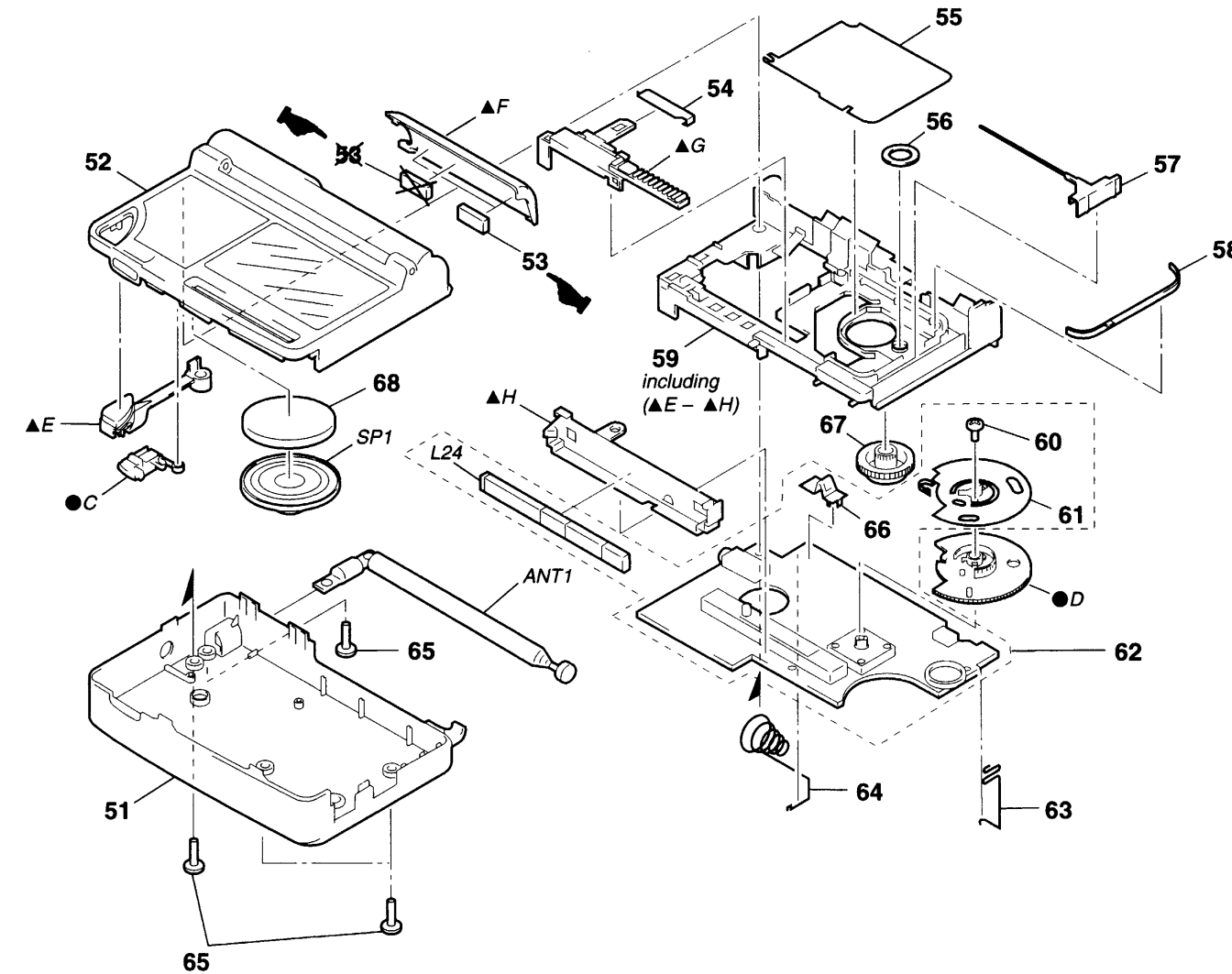
Ref. No.	Former Type		New Type		Remark
	Part No.	Description	Part No.	Description	
7	3-009-797-01	TERMINAL (- LITHIUM), BATTERY	3-009-797-02	TERMINAL (- LITHIUM), BATTERY	Changed
18			3-014-924-01	SPRING (LITHIUM), TENSION	Added
19			3-553-567-00	CUSHION	Added

Page 19

•  : Changed portion

7-2. CABINET (RADIO) SECTION

- C : BUTTON (OPEN)
- D : GEAR (VC) (MAIN)
- ▲ E : BUTTON (SNOOZE)
- ▲ F : LID (RADIO), BATTERY CASE
- ▲ G : KNOB (BAND)
- ▲ H : HOLDER (ANTENNA)



• ELECTRICAL PARTS LIST

MICROCOMPUTER (Service Manual see page 22)

Ref. No.	Former Type			New Type			Remark
	Part No.	Description		Part No.	Description		
C116	1-163-038-00	CERAMIC CHIP	0.1uF 25V	1-164-505-11	CERAMIC CHIP	2.2uF 16V	Changed
C121				1-164-505-11	CERAMIC CHIP	2.2uF 16V	Added

ICF-SW12

SONY[®]

SERVICE MANUAL

Ver 1.0 1999.06

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

SUPPLEMENT-2

File this supplement with the service manual.

Subject:

1. Addition of Chinese Model
2. Correction

(ENG-99006)

1. Addition of Chinese Model

Chinese Model has been added.

This is the same as E model which is not described in this supplement-2.

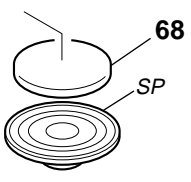
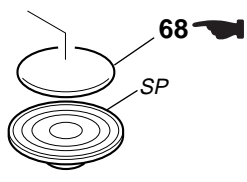
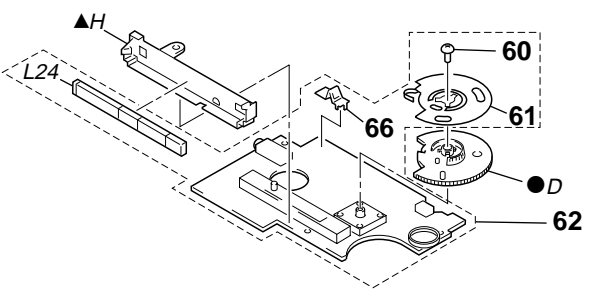
Refer to ICF-SW12 original service manual (9-923-972-00) for other information.

• DIFFERENCE PARTS LIST ACCESSORIES & PACKING MATERIAL

Page	E model				Chinese model			
	Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
22		3-859-292-31	MANUAL, INSTRUCTION (CHINESE, KOREAN, ARABIC) (E, EA)			3-859-292-51	MANUAL, INSTRUCTION (CHINESE) (Chinese)	

2. Correction EXPLODED VIEWS

 : Indicates corrected portion.

Page	Before change				After change			
	Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
18	9	3-009-790-01	LID, BATTERY CASE		9	3-009-790-03	LID, BATTERY CASE	
	55	3-009-793-01	SCALE, DIAL		55	3-009-793-02	SCALE, DIAL	
	68	3-014-732-01	SHEET, SPEAKER		68	3-007-399-01	SPEAKER NET	
								
19					<p>69 3-892-542-01 CUSHION</p> 