ICF-C630

SERVICE MANUAL

Australian Model

Ver 1.0 2003. 06

SPECIFICATIONS

Time display:
12-hour system
Frequency range:
FM: 87.5 - 108 MHz
AM: 530 - 1710 kHz
Speaker:
Approx. 5.7 cm dia., 4 ohm
Power output:
120 mW (at 10% harmonic distortion)
Power requirements:
3 V DC, two R6 (size AA) batteries
External power source:
DC IN 4.5 V
Dimensions:
Approx. 94 × 104 × 82 mm (w/h/d)
incl. projecting parts and controls
Mass:
Approx. 313 g incl. batteries
Accessories supplied:
AC power adaptor (1)

Design and specifications are subject to change without notice.

FM/AM CLOCK RADIO

9-877-483-01
2003F04-1

Sony Corporation
Personal Audio Company
Published by Sony Engineering Corporation

SONY®

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.

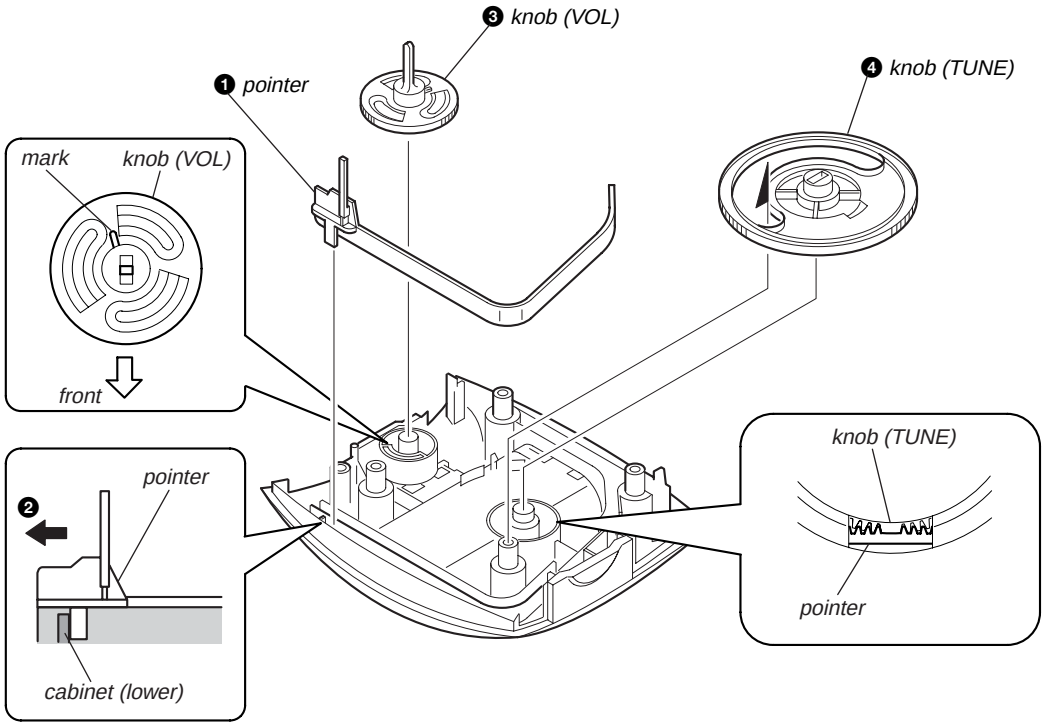
TABLE OF CONTENTS

SAFETY-RELATED COMPONENT WARNING!!

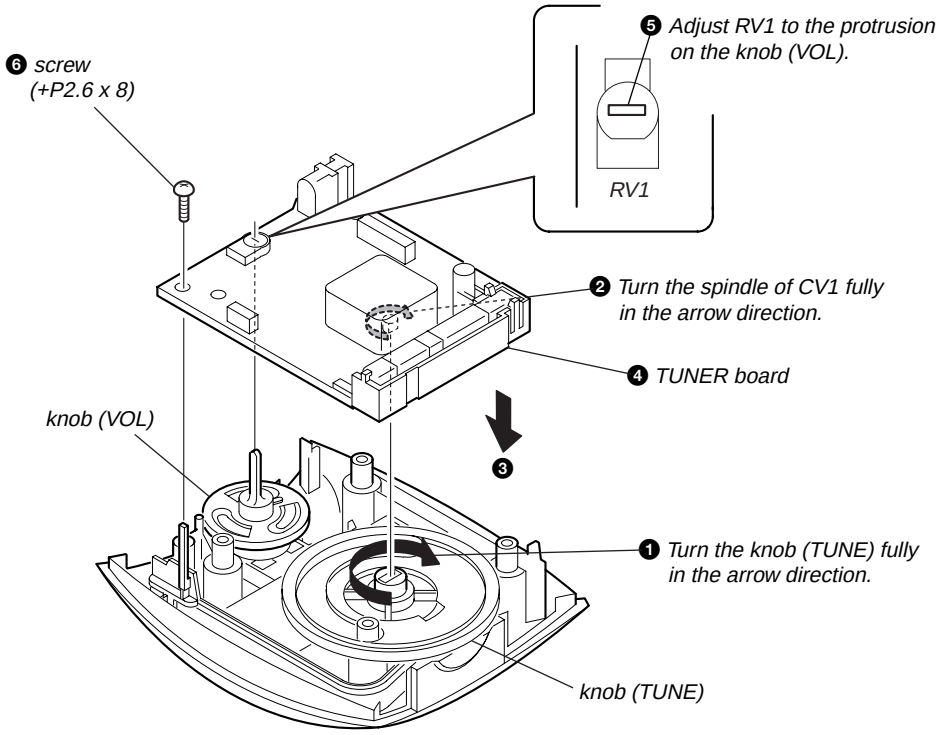
COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

SECTION 1
SERVICING NOTES

1-1. DIAL POINTER SETTING

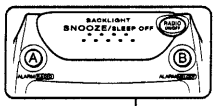


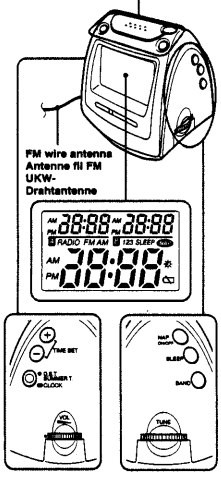
1-2. INSTALLING THE TUNER BOARD



SECTION 2
GENERAL

This section is extracted from instruction manual.



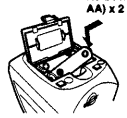


There is a tactile dot beside VOL to show the direction to turn up the volume.
Un point tactile, situé à côté de la molette de volume, indique le sens dans lequel il faut tourner pour augmenter le volume.
Neben dem Lautstärkeregler befindet sich ein fühlbarer Punkt. Dieser gibt die Richtung an, in der man die Lautstärke erhöht.

A

Bottom
Partie inférieure de l'appareil
Unterseite

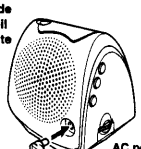
R6 (size AA) x 2
Pile R6 (format AA) x 2
R6-Batterie (Größe AA) x 2



Insert the ⊖ side of the battery first.
Insérez d'abord le côté ⊖ de la pile.
Zuerst die ⊖ Seite der Batterie einlegen.

B

Rear
Arrière de l'appareil
Rückseite



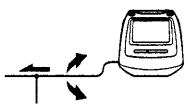
AC power adaptor
Adaptateur secteur
Netzadapter

To DC IN 4.5 V jack
vers la prise DC IN 4.5 V
an Buchse DC IN 4.5 V

To a wall outlet
à une prise murale
an Wandsteckdose

C

Ⓐ



FM wire antenna
Antenne fil FM
UKW-Drahtantenne

Ⓑ

Choosing Power Sources
(See Fig. A)

Installing the Batteries

Press the tab of the battery compartment lid inward and pull upward to open the lid.
Install two R6 (size AA) batteries (not supplied) with the correct polarity and close the lid.

"AM 12:00" or "0:00" flashes in the display when you install batteries for the first time. To stop the display from flashing, set the clock. (See "Setting the Clock")

Note
When operating the unit on batteries, remove the AC power adaptor from the DC IN jack. The unit cannot be operated on batteries when the AC power adaptor is connected to the DC IN jack.

Battery Life (Approx. hours)		(JEITA*)
When using	FM	AM
Sony alkaline LR6 (size AA)	68	71
Sony R6 (size AA)	27	30

* Measured by JEITA (Japan Electronics and Information Technology Industries Association) standards. The actual battery life may vary depending on the circumstance of the unit.

When to replace the batteries
When the batteries become weak, the sound becomes weak and distorted. "⌧" flashes on the display. When the batteries are completely exhausted, "⌧" appears on the display and the power is turned off.

Note on replacing the batteries
Do not take more than 3 minutes to replace the batteries, otherwise the clock and standby settings will be deleted from the memory. Should that happen, reset the functions again.
After the batteries are replaced, press **RADIO ON/OFF** to turn off "⌧".

Notes on Batteries
- Do not charge dry batteries.
- Do not carry dry batteries together with coins or other metallic objects. It can generate heat if the positive and negative terminals of the batteries accidentally come into contact with metallic objects.
- Do not use different types of batteries at the same time.
- When you replace the batteries, replace all with new ones.

Using on House Current
(See Fig. B)

Connect the Sony AC power adaptor to the DC IN 4.5 V jack firmly, and plug it into a wall outlet. The power source will automatically switch to the external power source even if batteries are installed.

Notes on the AC power adaptor
- When operating the unit with an external power source, do not remove the batteries. These batteries serve to backup the clock and standby settings. Since batteries discharge in this case as well, we recommend changing them about once a year.
- When you connect/disconnect the external power source plug, "⌧" may appear in the display. If this occurs, turn on the radio to make "⌧" disappear.
- When operating the unit with the internal batteries, remove the AC power adaptor from the wall outlet and the DC IN 4.5 V jack. Make sure that the plug of the external power source is disconnected before operating the unit.
- Use the recommended Sony AC power adaptor only. The polarity of the plugs of other manufacturers may be different. Failure to use the recommended AC power adaptor may cause the unit to malfunction.

Polarity of the plug

You can listen to buzzer and two kinds of melodies by pressing **BACKLIGHT•SNOOZE/SLEEP OFF** while "AM 12:00" or "0:00" is flashing (Demo function). To stop buzzer or melodies, press **RADIO ON/OFF**. To listen to buzzer or melodies again, press **BACKLIGHT•SNOOZE/SLEEP OFF**.
To deactivate Demo function, set the clock. (See "Setting the Clock.")

Setting the brightness of the backlight

Note
The brightness of the backlight is fixed when using the unit on batteries.

When using batteries:
Press **BACKLIGHT•SNOOZE/SLEEP OFF**.
The backlight will light for 5 seconds.
If any buttons are pressed while the backlight is on, the backlight will turn off 5 seconds after pressing the button.

When using on House current:
The initial setting for the brightness of the backlight is High.
Press **BACKLIGHT•SNOOZE/SLEEP OFF** for 2 seconds.
Each press changes the brightness of the backlight as follows.

High → Low → Medium

Setting the Clock

The display will flash "AM 12:00" or "0:00" when the batteries are installed or the AC power adaptor is plugged in for the first time.

1 Press and hold down **CLOCK/D.S.T.** for a few seconds.
You will hear a beep and the hour will start to flash in the display.
2 Press **TIME SET** + or – until the correct hour appears in the display.
3 Press **CLOCK/D.S.T** once .
You will hear a beep and the minutes will start to flash in the display.
4 Repeat steps 2 and 3 to set the minutes.
After setting the minutes, press **CLOCK/D.S.T**.
You will hear two beeps and the clock will start counting from zero second.

- To set the current time rapidly, hold down **TIME SET** + or –.
- To adjust the time exactly to the second, press **CLOCK/D.S.T** simultaneously with the time signal.

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

Press **CLOCK/D.S.T.**
"✱" is displayed and the time indication changes to summer time.
To deactivate the summer time function, press **CLOCK/D.S.T.** again.

Improving the reception

FM: Extend the FM wire antenna fully to improve the reception (see Fig. C-Ⓐ).
AM: Rotate the unit horizontally for optimum reception. A ferrite bar antenna is built into the unit (see Fig. C-Ⓑ).

Do not operate the unit over a steel desk or metal surface, as this may lead to interference of reception.

Operating the Radio

1 Press **RADIO ON/OFF** to turn on the radio.
2 Press **BAND** to select the band.
3 Use **TUNE** to tune in to the desired station.
4 Adjust volume using **VOL**.

- To turn off the radio, press **RADIO ON/OFF**.

Setting the Alarm

Before setting the time for the radio, buzzer and melody alarms, make sure you have set the current time (see "Setting the Clock"). For the radio alarm, make sure you have tuned in to a radio station beforehand (see "Operating the Radio").

To Set the Alarm Time

To Set the Radio Alarm

1 Press and hold down **ALARM A** for a few seconds.
You will hear a beep. The ALARM A indication and the hour will start to flash in the display.
2 Press **TIME SET** + or – until the correct hour appears in the display.
3 Press **ALARM A** once.
You will hear a beep and the minutes will start to flash in the display.
4 Repeat steps 2 and 3 to set the minutes.
After setting the minutes, press **ALARM A**.
You will hear two beeps which confirm the setting.

To Set the Buzzer or Melody Alarm

1 Press and hold down **ALARM B** for a few seconds.
You will hear a beep. The ALARM B indication and the hour will start to flash in the display.
2 Press **TIME SET** + or – until the correct hour appears in the display.
3 Press **ALARM B** once.
You will hear a beep and the minutes will start to flash in the display.
4 Repeat steps 2 and 3 to set the minutes.
5 Repeat steps 2 and 3 to select the alarm sound from buzzer, melody 1 or melody 2.
After setting the alarm, press **ALARM B**.
You will hear two beeps which confirm the setting.
You can choose alarm sound from one of the following.
B 1. Buzzer
B 2. "Morning" from "Peer Gynt," by Grieg - suite No.1, Op.46
B 3. "For Eliza" by Beethoven

Note
To adjust the radio alarm volume, turn **VOL**. The volume for buzzer and melody is fixed.

Alarm On—

To activate the alarm

For the radio alarm:
Press **ALARM A**.
The ALARM A indication appears and the alarm time is shown.

For the buzzer or melody alarm:
Press **ALARM B**.
The ALARM B indication appears and the alarm time is shown.

The alarm will come on at the preset time and will automatically tune itself off after about 30 minutes.

Notes
- When the alarm comes on at the preset time, ALARM A or ALARM B indication flashes.
- If you do not set the alarm time and ALARM A or ALARM B indication is lit, the alarm will sound at PM 12:00.
- For the buzzer alarm, the beeping of the alarm becomes more rapid after every 15 to 20 seconds in 3 progressive stages.

Alarm Off—

To Stop the Alarm

Press **RADIO ON/OFF** to turn off the alarm.
The alarm will come on again at the same time the next day.

To Deactivate the Alarm

For the radio alarm, press **ALARM A** to turn off ALARM A indication.
For the buzzer or melody alarm, press **ALARM B** to turn off ALARM B indication.

Notes
- The alarm does not function unless you set the clock and activate the alarm function.
- If both Radio alarm and Buzzer or Melody alarm are set for the same time, the radio alarm will take priority.

To Doze for a Few More Minutes

Press **BACKLIGHT•SNOOZE/SLEEP OFF**.
The radio, buzzer or melody turns off but will automatically come on again after about 10 minutes. Every time you press **BACKLIGHT•SNOOZE/SLEEP OFF**, the snooze time changes as follows:

10 → 20 → 30 → 40 → 50 → 60

The display shows the snooze time for a few seconds and returns to show the current time. When you press **BACKLIGHT•SNOOZE/SLEEP OFF** after the current time appeared, the snooze time starts from 10 minutes again.

The maximum length of the snooze time is 60 minutes.

- While the snooze function is operating, the alarm indication flashes.

Setting the Sleep Timer

By setting the sleep timer, you can fall asleep to the radio sound. The radio will turn off automatically after a set time. The sleep timer can be set to turn off after 15, 30, 60 or 90 minutes.

1 Tune in to the desired station. (See "Operating the Radio .")
2 Press **SLEEP**.
The sleep timer setting of "90" appears and "SLEEP" lights up in the display.
3 Press **SLEEP** repeatedly to select the desired sleep timer setting while "SLEEP" is lit.
Each press changes the display as follows:

OFF → 90 → 60 → 30 → 15 → OFF

You will hear two beeps when the display turns from "OFF" to "90".
The radio will play for the time you set, then shut off.

To Change the Sleep Timer Setting

Press **SLEEP** repeatedly to select the desired sleep timer setting.

To Deactivate the Sleep Timer

Press **BACKLIGHT•SNOOZE/SLEEP OFF** to turn off the radio before the set time has elasped, or press **SLEEP** to set the Sleep timer to "OFF" in step 3. "SLEEP" disappears from the display.

To Use Both Sleep Timer and Alarm

You can fall asleep to the radio and also be awakened by the radio, buzzer or melody alarm at the preset time.

1 Set the alarm. (See "Setting the Alarm.")
2 Set the sleep timer. (See "Setting the Sleep Timer.")

Using the NAP Timer (Count Down Timer)

The NAP timer sounds the buzzer after a preset time duration.
Press **NAP** repeatedly until the desired minutes is displayed.
Each press changes the display as follows:

OFF (current time) → 10 → 20 → 30 → 60 → 90 → 120 → OFF (current time)

You will hear two beeps when the display turns from "OFF" to "10".
"NAP" appears and the NAP time are displayed for a few seconds.
NAP timer starts counting down the NAP time.
When selected NAP time has passed, the buzzer comes on, and "NAP" flashes in the display.
The buzzer is turned off automatically after about 60 minutes.

To Stop NAP Timer

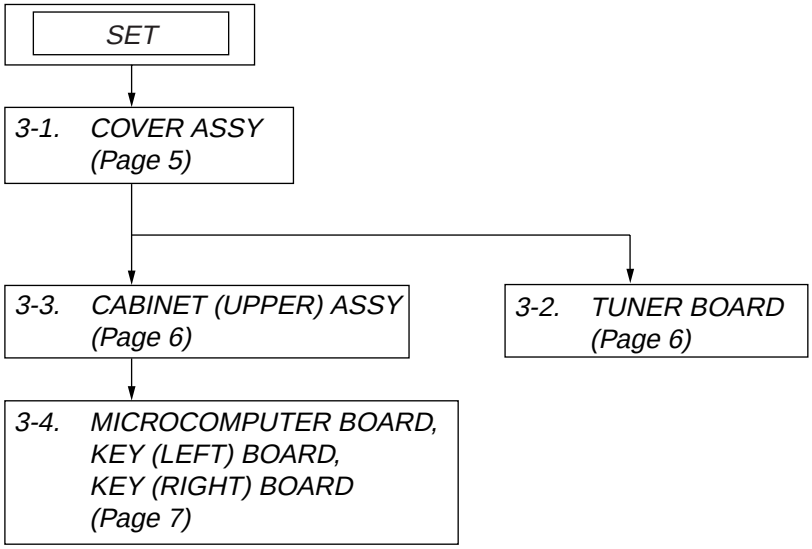
Press **NAP** or **RADIO ON/OFF** to turn off the buzzer.

To Deactivate NAP Timer

Press **NAP**. "NAP" go off.

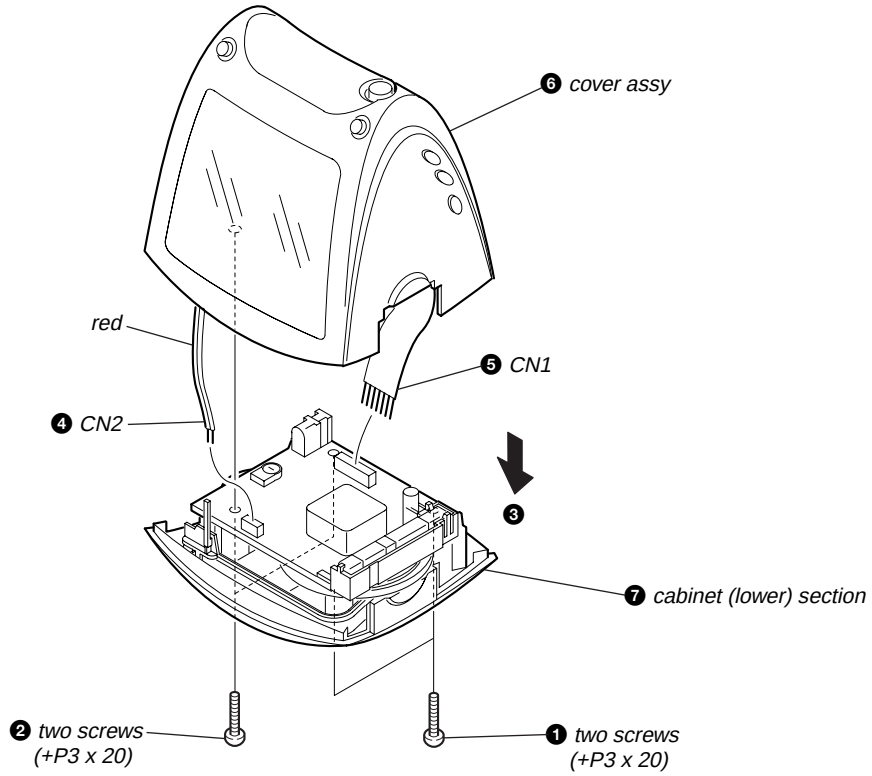
SECTION 3
DISASSEMBLY

Note : This set can be disassemble according to the following sequence.

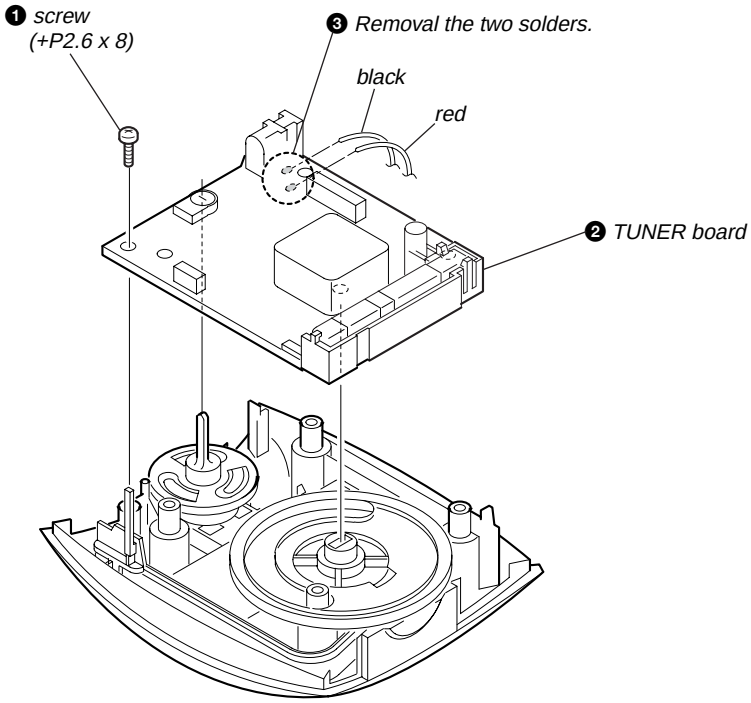


Note : Follow the disassembly procedure in the numerical order given.

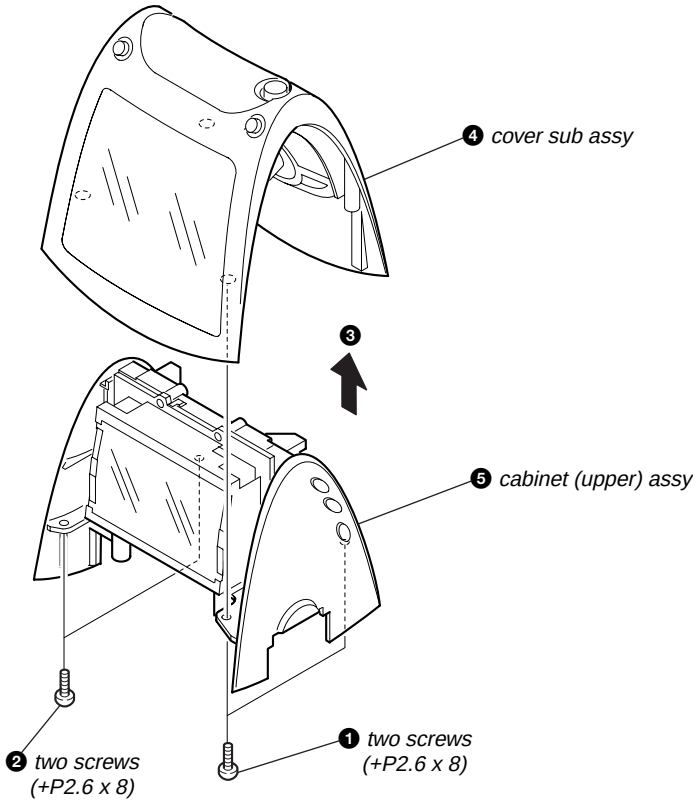
3-1. COVER ASSY



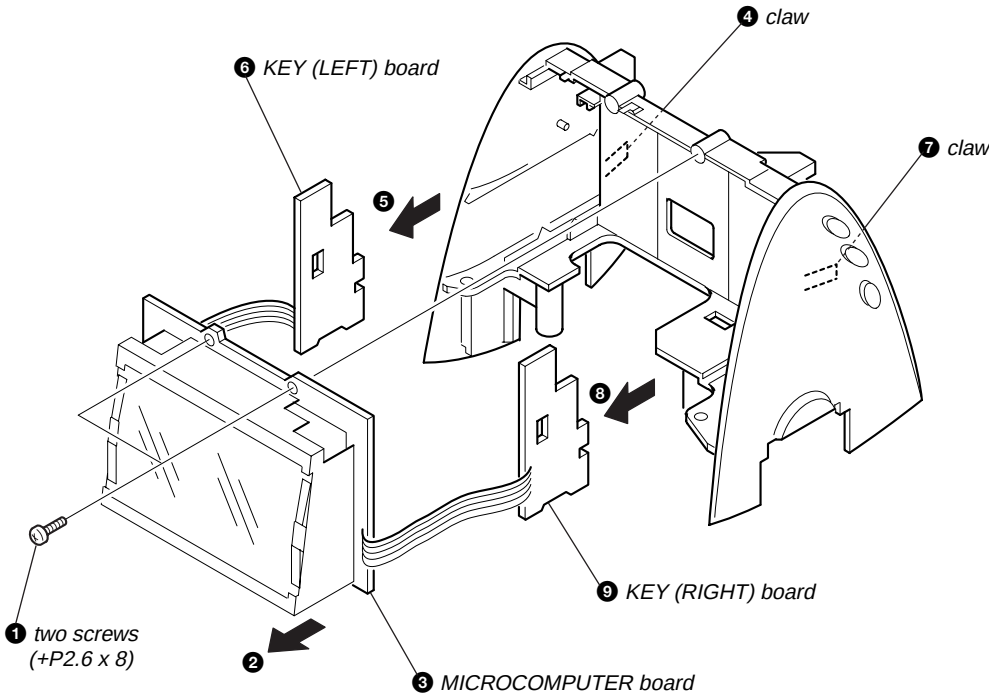
3-2. TUNER BOARD



3-3. CABINET (UPPER) ASSY



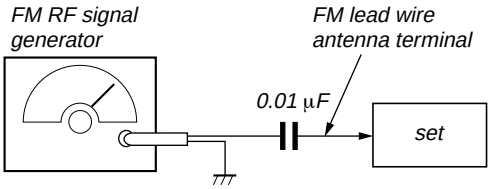
3-4. MICROCOMPUTER BOARD, KEY (LEFT) BOARD, KEY (RIGHT) BOARD



SECTION 4
ELECTRICAL ADJUSTMENTS

FM SECTION | 0 dB = 1 µV

Setting:
RADIO ON/OFF switch: ON
BAND switch: FM
VOL control: MIN



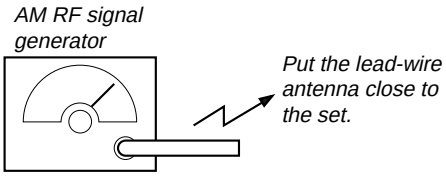
400 Hz, 30% FM modulation
frequency deviation ±22.5 kHz
Output level: as low as possible

FM FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on level meter.	
L3	CT3
86.5 MHz	109.5 MHz

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

AM SECTION

Setting:
RADIO ON/OFF switch: ON
BAND switch: AM
VOL control: MIN



400 Hz, 30%
AM modulation
Output level: as low as possible

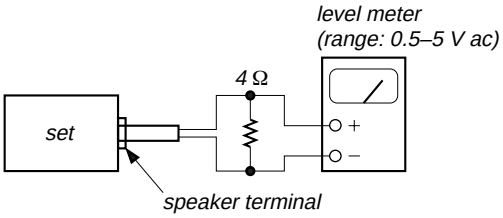
AM IF ADJUSTMENT
Adjust for a maximum reading on level meter.
T1
455 kHz

AM FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on level meter.	
L4	CT4
520 kHz	1,750 kHz

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

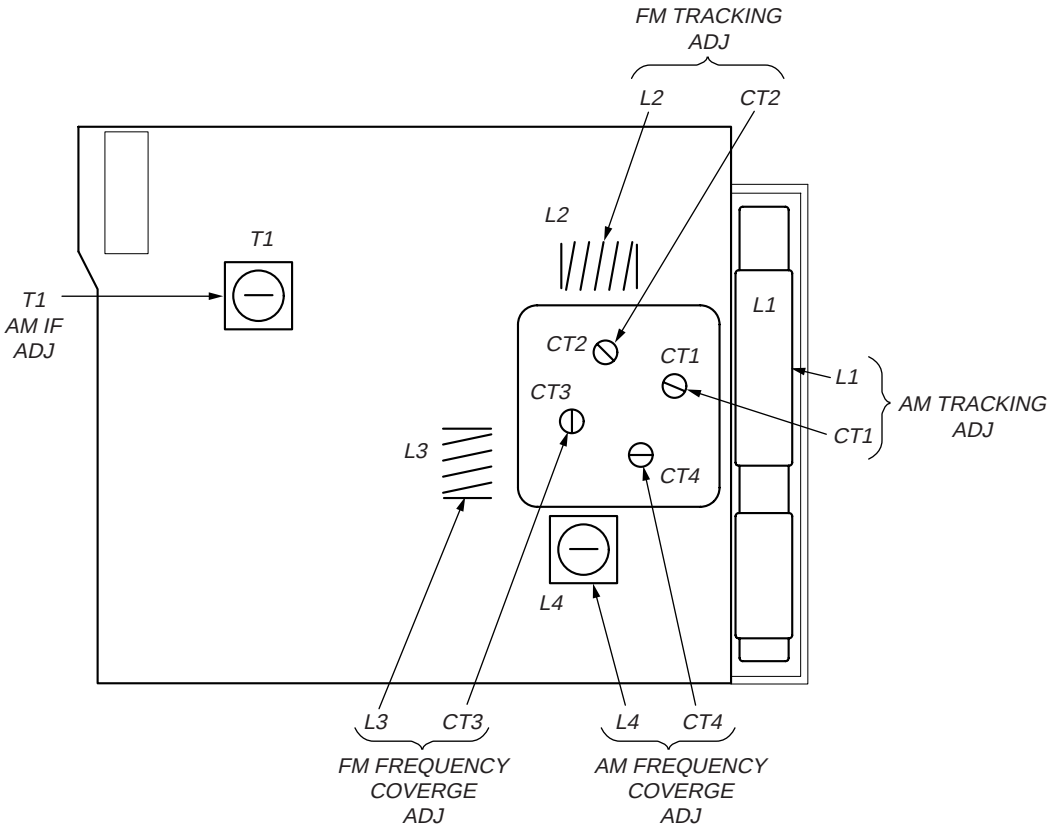
Adjustment Location: See page 9.

- **Connecting Level Meter (FM and AM)**



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

Adjustment Location:



SECTION 5
DIAGRAMS

THIS NOTE IS COMMON FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS.

Common Note on Schematic Diagram:

- 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 1/4 W or less unless otherwise specified.
- △ : internal component.
- ▭ : panel designation.

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

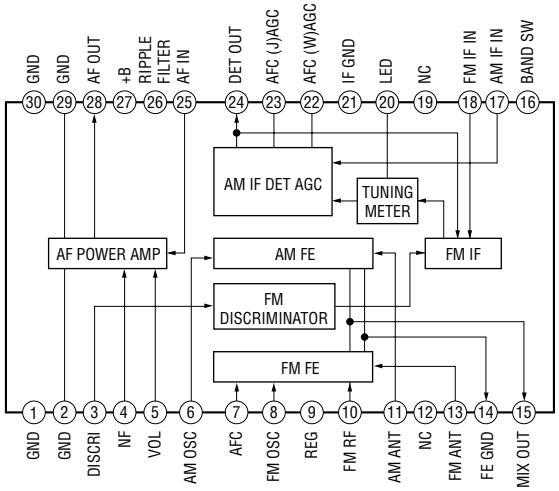
- ▬ : B+ Line.
- ▭ : adjustment for repair.
- Power voltage is dc 4.5V and fed with regulated dc power supply from external power voltage jack.
- Voltage is dc with respect to ground under no-signal (detuned) condition.
  no mark : FM
  ( ) : AM
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⇨ : FM
  ➡ : AM

Common Note on Printed Wiring Boards:

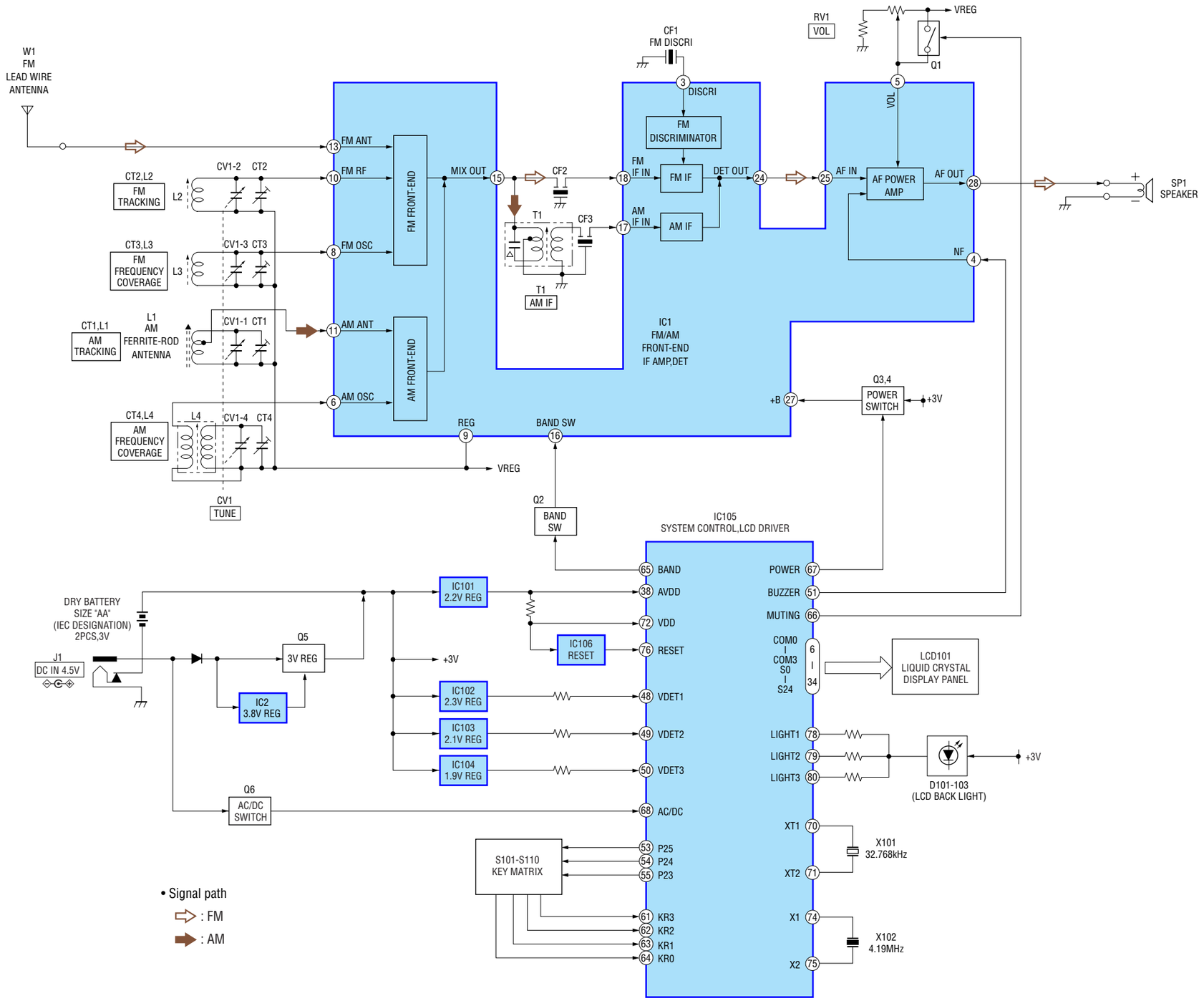
- o——— : parts extracted from the component side.
- ——— : parts extracted from the conductor side.
- △ : internal component.
- ▬ : Pattern from the side which enables seeing.

5-1. IC BLOCK DIAGRAM

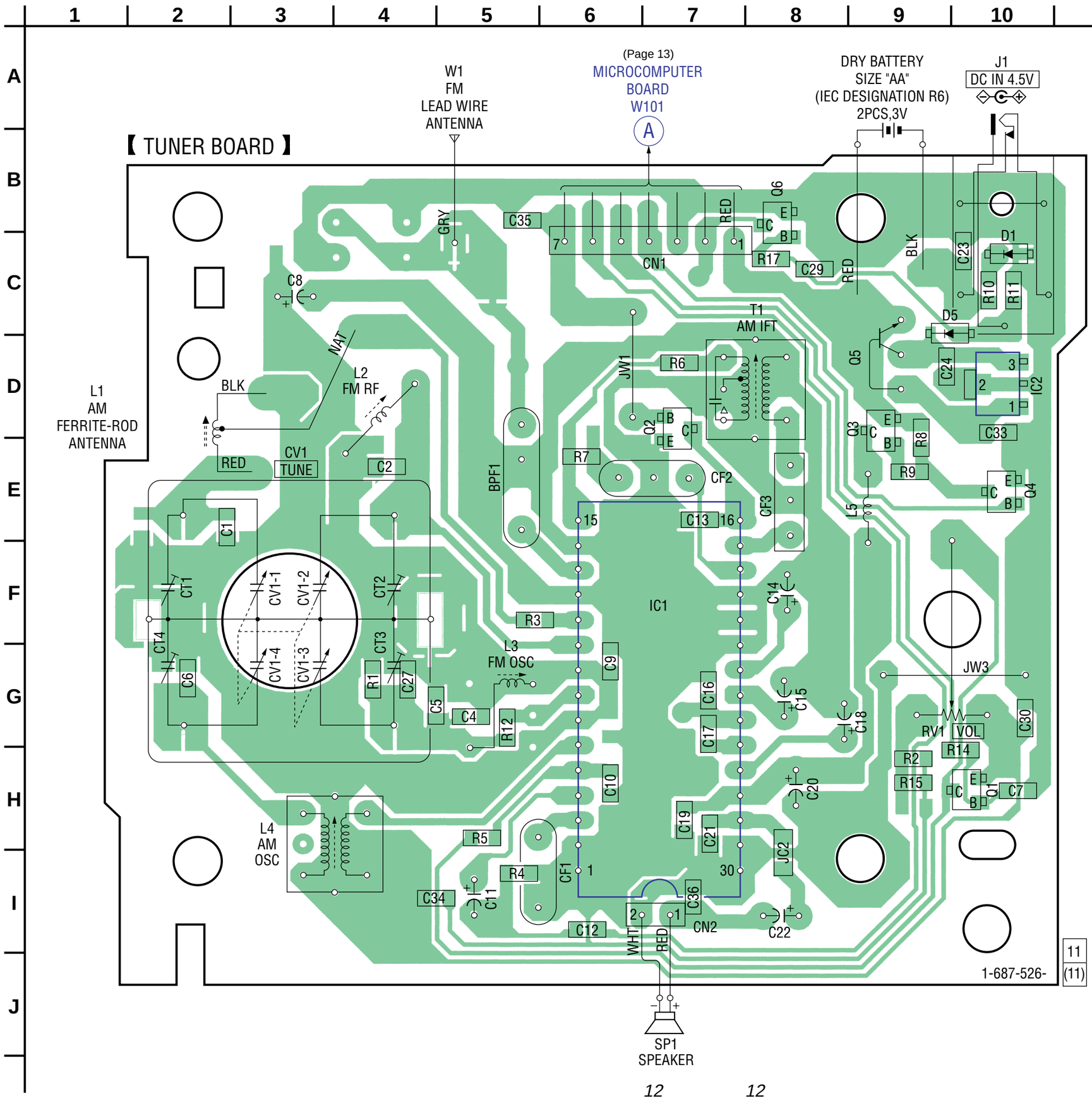
IC1 CXA1019S



5-2. BLOCK DIAGRAM



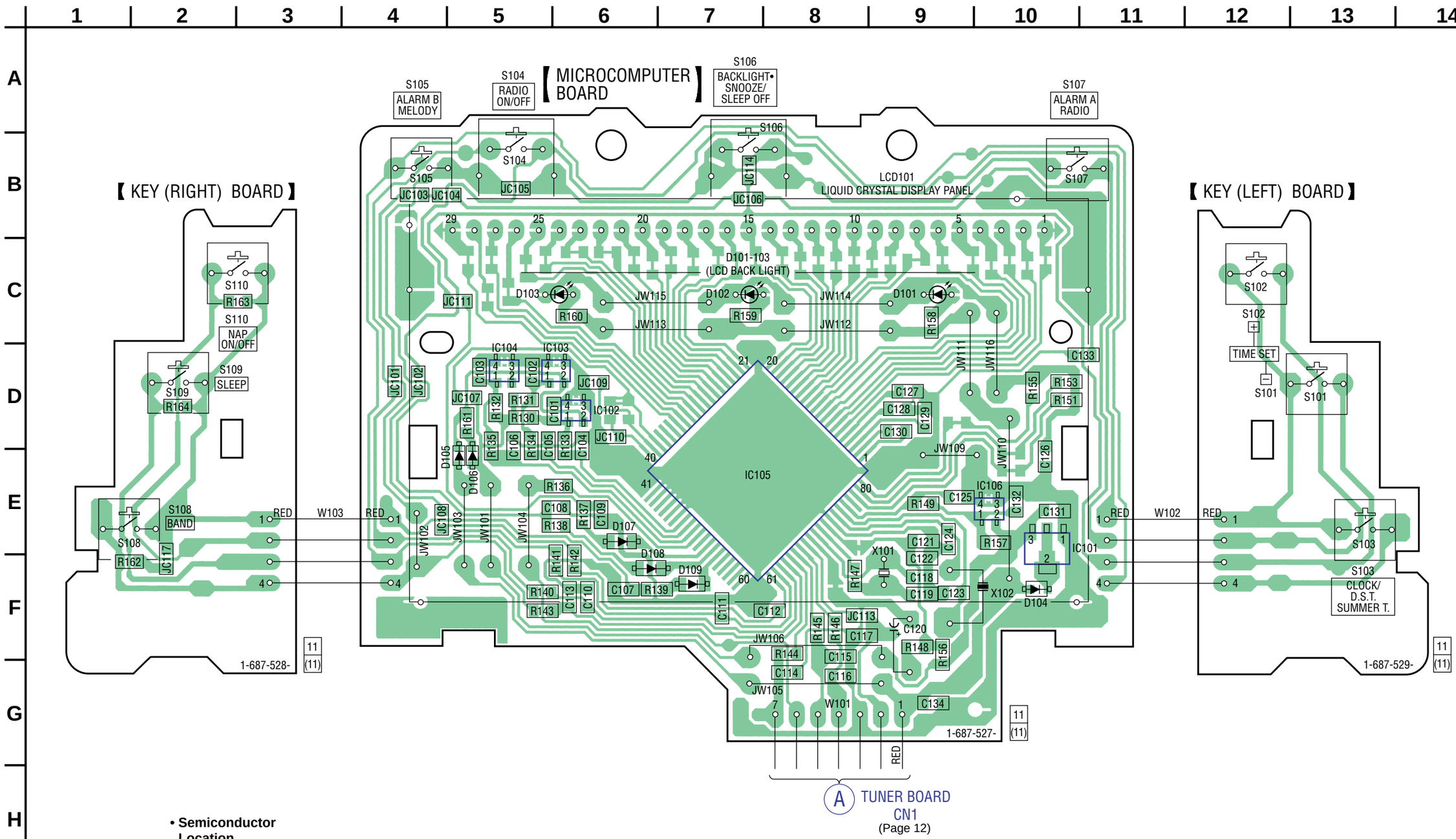
5-3. PRINTED WIRING BOARD — TUNER SECTION — • Refer to page 10 for Common Note on Printed Wiring Boards.



• Semiconductor Location

Ref. No.	Location
D1	C-10
D5	C-10
IC1	F-7
IC2	D-10
Q1	H-10
Q2	D-7
Q3	D-9
Q4	E-10
Q5	D-9
Q6	B-8

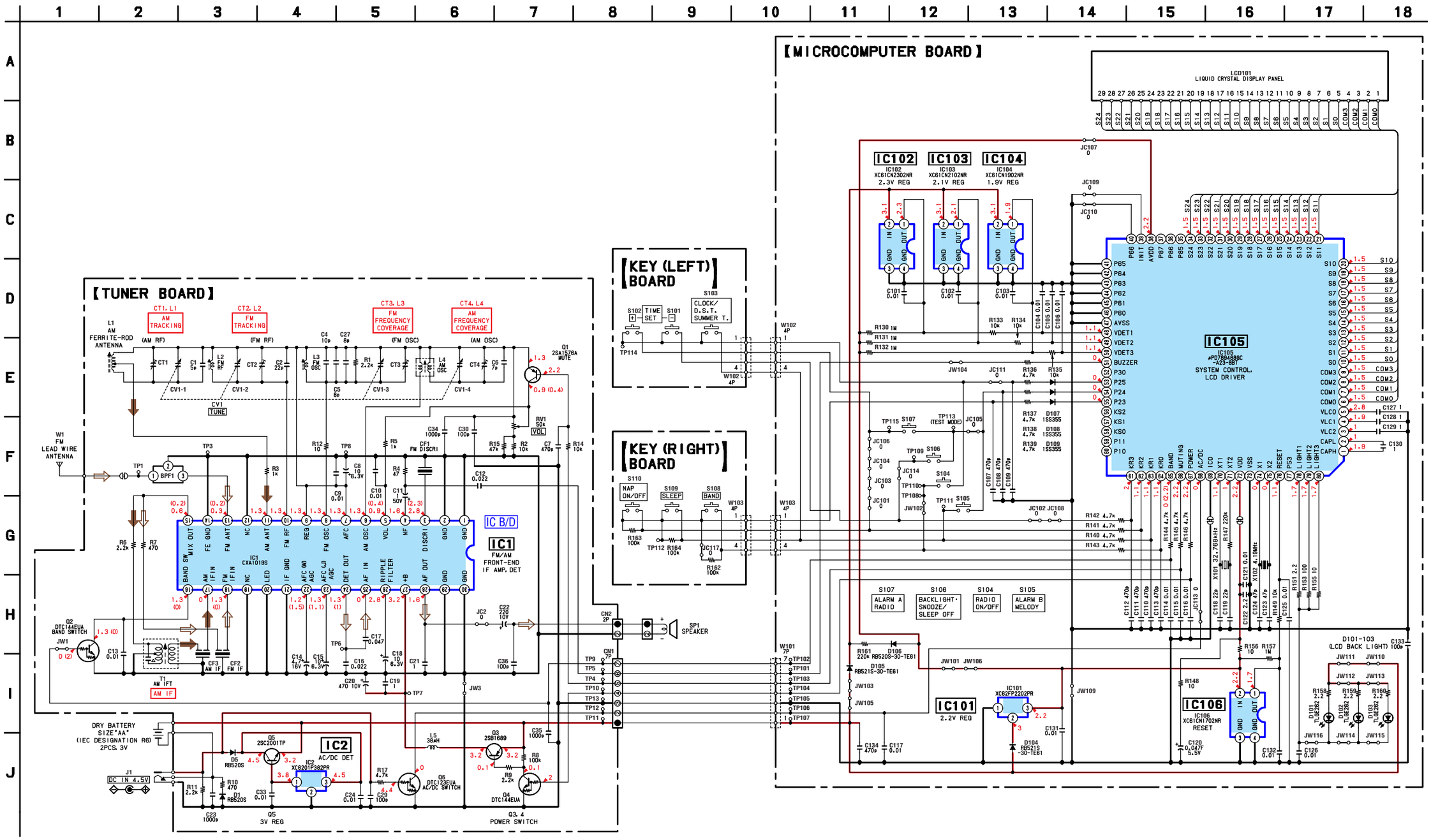
5-4. PRINTED WIRING BOARDS — MICON SECTION — • Refer to page 10 for Common Note on Printed Wiring Boards.



• **Semiconductor Location**

Ref. No.	Location
D101	C-9
D102	C-7
D103	C-5
D104	F-10
D105	E-5
D106	E-5
D107	E-6
D108	F-6
D109	F-7
IC101	E-10
IC102	D-6
IC103	D-6
IC104	D-5
IC105	E-7
IC106	E-10

5-5. SCHEMATIC DIAGRAM • Refer to page 10 for Common Note on Schematic Diagram and IC Block Diagram.



5-6. IC PIN DESCRIPTION

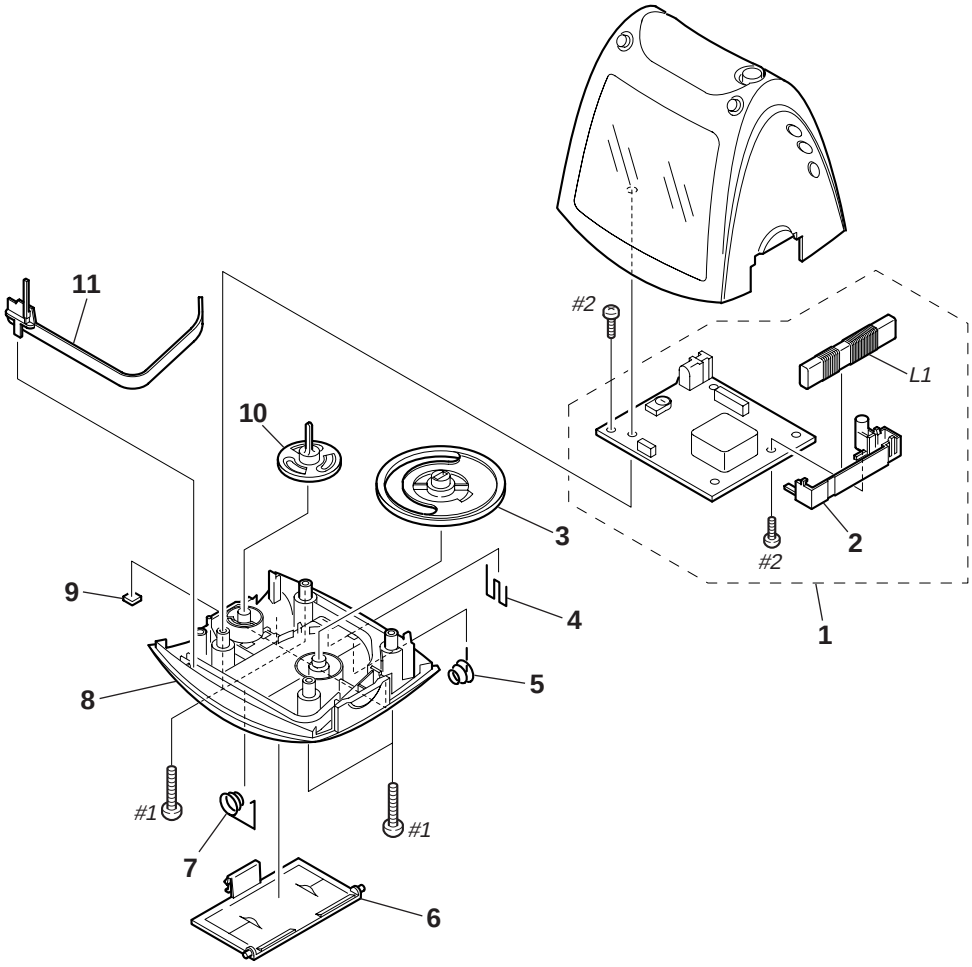
• IC105 µPD789488GC-A23-8BT (SYSTEM CONTROL, LCD DRIVER)

Pin No.	Pin Name	I/O	Pin Description
1	CAPH	—	Connect to capacitor (H)
2	CAPL	—	Connect to capacitor (L)
3 to 5	VLC2 to VLC0	O	LCD drive bias voltage output 2 to 0
6 to 9	COM0 to COM3	O	LCD drive common data output 0 to 3
10 to 34	S0 to S24	O	LCD drive segment data output 0 to 24
35 to 37	P85 to P87	O	Not used. (Open)
38	AVDD	—	Power supply pin (+3.3 V)
39	INIT	I	Destination setting pin (Fixed at L)
40	P66	I	Destination setting pin (Fixed at L)
41 to 46	P65 to P60	I	Not used. (Fixed at L)
47	AVSS	—	Ground
48	VDET1	I	Down voltage detection (+2.3 V)
49	VDET2	I	Down voltage detection (+2.1 V)
50	VDET3	I	Down voltage detection (+1.9 V)
51	BUZZER	O	Buzzer output
52	P30	O	Not used. (Open)
53 to 55	P25 to P23	O	Key source output 2 to 0
56 to 58	KS2 to KS0	O	Not used. (Open)
59, 60	P11, P10	O	Not used. (Open)
61 to 64	KR3 to KR0	I	Key return input 3 to 0
65	BAND	O	Band select output (L: FM, H: AM)
66	MUTING	O	Mute output
67	POWER	O	Power output
68	AC/DC	I	AC/DC mode input (L: AC, H: DC)
69	IC0	—	Not used. (Fixed at L)
70	XT1	I	Sub clock input (32.768 kHz)
71	XT2	O	Sub clock output (32.768 kHz)
72	VDD	—	Power supply pin (+2.5 V)
73	VSS	—	Ground
74	X1	I	Main clock input (4.19 MHz)
75	X2	O	Main clock output (4.19 MHz)
76	RESET	I	Reset input
77	P53	O	Not used. (Open)
78 to 80	LIGHT1 to LIGHT3	O	LCD backlight dimmer control output 1 to 3

SECTION 6
EXPLODED VIEWS

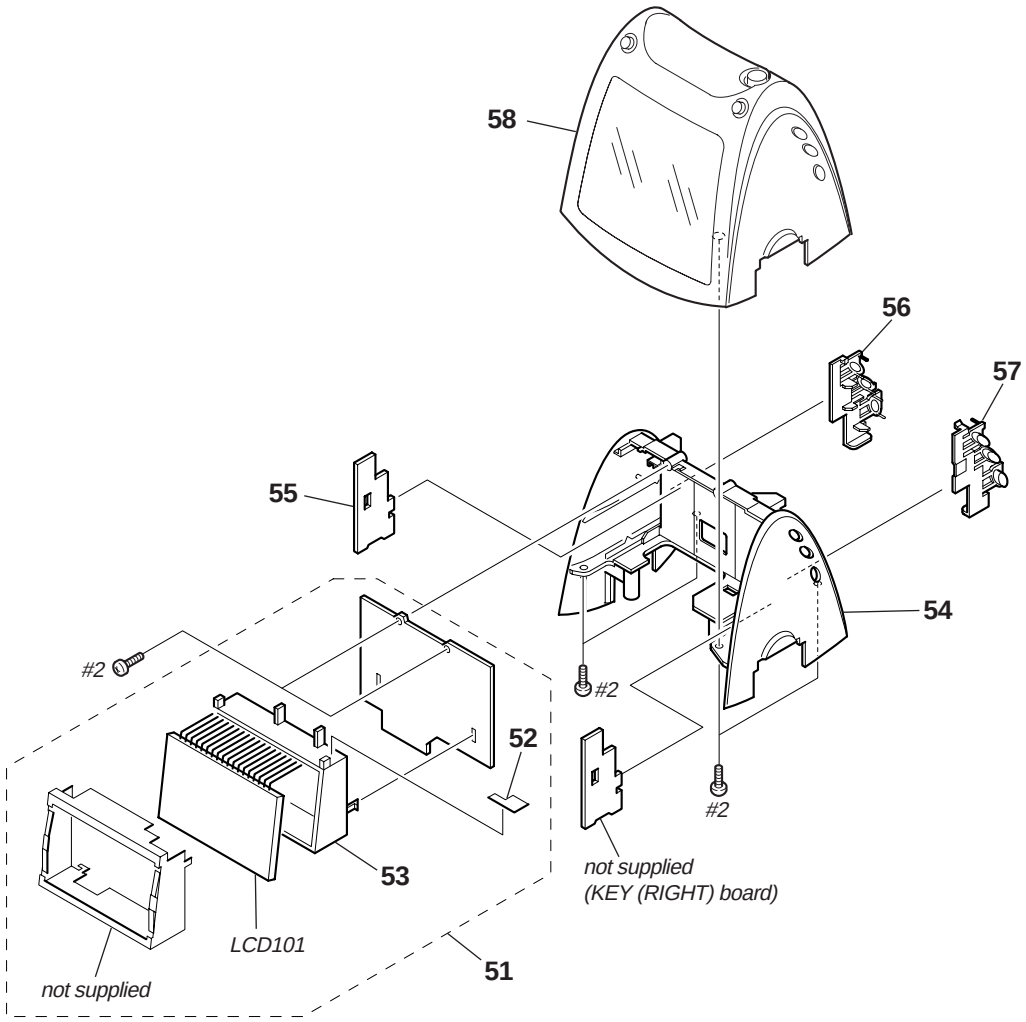
NOTE:
- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Accessories are given in the last of this parts list.

6-1. CABINET (LOWER) SECTION



Ref. No.	Part No.	Description	Remark
* 1	A-3347-871-A	TUNER BOARD, COMPLETE	
2	3-248-609-01	HOLDER (ANT)	
3	3-248-606-01	KNOB (TUNE)	
4	3-248-610-01	TERMINAL (+), BATTERY	
5	3-248-611-01	TERMINAL (–), BATTERY	
6	3-248-600-01	LID, BATTERY CASE	
7	3-248-612-01	TERMINAL (+–), BATTERY	
8	3-248-598-01	CABINET (LOWER)	
9	3-246-344-11	FOOT, RUBBER	
10	3-919-268-11	KNOB (VOL)	
11	3-248-607-01	POINTER	
L1	1-456-344-11	COIL, FERRITE-ROD ANTENNA (AM)	
#1	7-685-151-14	SCREW +P 3X20 TYPE2 NON-SLIT	
#2	7-685-134-19	SCREW +P 2.6X8 TYPE2 NON-SLIT	

6-2. COVER ASSY SECTION



Ref. No.	Part No.	Description	Remark
* 51	A-3347-982-A	MICROCOMPUTER BOARD, COMPLETE	
52	3-254-545-01	SHEET (LCD)	
53	3-248-608-01	HOLDER (LCD)	
54	3-248-597-01	CABINET (UPPER)	
* 55	A-3347-866-A	KEY (LEFT) BOARD, COMPLETE	

Ref. No.	Part No.	Description	Remark
56	3-248-604-01	BUTTON (L)	
57	3-248-605-01	BUTTON (R)	
58	X-3384-134-1	COVER ASSY	
LCD101	1-805-186-11	DISPLAY PANEL, LIQUID CRYSTAL	
#2	7-685-134-19	SCREW +P 2.6X8 TYPE2 NON-SLIT	

ICF-C630

KEY (LEFT) | KEY (RIGHT) | MICROCOMPUTER

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.
- 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.. : µA.. uPA.. : µPA..
  uPB.. : µPB.. uPC.. : µPC.. uPD.. : µPD..
- CAPACITORS
  uF : µF
- COILS
  uH : µH

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

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

Ref. No.	Part No.	Description			Remark
*	A-3347-866-A	KEY (LEFT) BOARD, COMPLETE			
		**********			
		< SWITCH >			
S101	1-786-050-21	SWITCH, KEYBOARD (TIME SET –)			
S102	1-786-050-21	SWITCH, KEYBOARD (TIME SET +)			
S103	1-786-050-21	SWITCH, KEYBOARD (CLOCK/ D.S.T. SUMMER T.)			
**********					
		KEY (RIGHT) BOARD			
		**********			
		< JUMPER RESISTOR >			
JC117	1-216-864-11	METAL CHIP	0	5%	1/10W
		< RESISTOR >			
R162	1-216-845-11	METAL CHIP	100K	5%	1/10W
R163	1-216-845-11	METAL CHIP	100K	5%	1/10W
R164	1-216-845-11	METAL CHIP	100K	5%	1/10W
		< SWITCH >			
S108	1-786-050-21	SWITCH, KEYBOARD (BAND)			
S109	1-786-050-21	SWITCH, KEYBOARD (SLEEP)			
S110	1-786-050-21	SWITCH, KEYBOARD (NAP ON/OFF)			
**********					
*	A-3347-982-A	MICROCOMPUTER BOARD, COMPLETE			
		**********			
	3-248-608-01	HOLDER (LCD)			
	3-254-545-01	SHEET (LCD)			
		< CAPACITOR >			
C101	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C102	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C103	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C104	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C105	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C106	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C107	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C108	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C109	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C110	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C111	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C112	1-164-315-11	CERAMIC CHIP	470PF	5%	50V

Ref. No.	Part No.	Description			Remark
C113	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C114	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C115	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C116	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C117	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C118	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C119	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C120	1-125-701-11	DOUBLE LAYERS	0.047F		5.5V
C121	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C122	1-135-834-11	CERAMIC CHIP	2.2uF		6.3V
C123	1-162-923-11	CERAMIC CHIP	47PF	5%	50V
C124	1-162-923-11	CERAMIC CHIP	47PF	5%	50V
C125	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C126	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C127	1-115-156-11	CERAMIC CHIP	1uF		10V
C128	1-115-156-11	CERAMIC CHIP	1uF		10V
C129	1-115-156-11	CERAMIC CHIP	1uF		10V
C130	1-115-156-11	CERAMIC CHIP	1uF		10V
C131	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C132	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C133	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C134	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
		< DIODE >			
D101	6-500-203-01	LED TLGE262(NP) (LCD BACK LIGHT)			
D102	6-500-203-01	LED TLGE262(NP) (LCD BACK LIGHT)			
D103	6-500-203-01	LED TLGE262(NP) (LCD BACK LIGHT)			
D104	8-719-071-34	DIODE RB521S-30-TE61			
D105	8-719-071-34	DIODE RB521S-30-TE61			
D106	8-719-069-29	DIODE RB520S-30-TE61			
D107	8-719-988-61	DIODE 1SS355TE-17			
D108	8-719-988-61	DIODE 1SS355TE-17			
D109	8-719-988-61	DIODE 1SS355TE-17			
		< IC >			
IC101	8-759-565-57	IC XC62FP2202PR			
IC102	6-703-784-01	IC XC61CN2302NR			
IC103	6-702-084-01	IC XC61CN2102NR			
IC104	6-702-083-01	IC XC61CN1902NR			
IC105	6-803-068-01	IC uPD789488GC-A23-8BT			
IC106	6-702-590-01	IC XC61CN1702NR			
		< JUMPER RESISTOR >			
JC101	1-216-864-11	METAL CHIP	0	5%	1/10W

Ref. No.	Part No.	Description			Remark
JC102	1-216-864-11	METAL CHIP	0	5%	1/10W
JC103	1-216-864-11	METAL CHIP	0	5%	1/10W
JC104	1-216-864-11	METAL CHIP	0	5%	1/10W
JC105	1-216-864-11	METAL CHIP	0	5%	1/10W
JC106	1-216-864-11	METAL CHIP	0	5%	1/10W
JC107	1-216-864-11	METAL CHIP	0	5%	1/10W
JC108	1-216-864-11	METAL CHIP	0	5%	1/10W
JC109	1-216-864-11	METAL CHIP	0	5%	1/10W
JC110	1-216-864-11	METAL CHIP	0	5%	1/10W
JC111	1-216-864-11	METAL CHIP	0	5%	1/10W
JC113	1-216-864-11	METAL CHIP	0	5%	1/10W
JC114	1-216-864-11	METAL CHIP	0	5%	1/10W
		< LIQUID CRYSTAL DISPLAY >			
LCD101	1-805-186-11	DISPLAY PANEL, LIQUID CRYSTAL			
		< RESISTOR >			
R130	1-216-857-11	METAL CHIP	1M	5%	1/10W
R131	1-216-857-11	METAL CHIP	1M	5%	1/10W
R132	1-216-857-11	METAL CHIP	1M	5%	1/10W
R133	1-216-833-11	METAL CHIP	10K	5%	1/10W
R134	1-216-833-11	METAL CHIP	10K	5%	1/10W
R135	1-216-833-11	METAL CHIP	10K	5%	1/10W
R136	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R137	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R138	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R139	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R140	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R141	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R142	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R143	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R144	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R145	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R146	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R147	1-216-849-11	METAL CHIP	220K	5%	1/10W
R148	1-216-797-11	METAL CHIP	10	5%	1/10W
R149	1-216-833-11	METAL CHIP	10K	5%	1/10W
R151	1-216-789-11	METAL CHIP	2.2	5%	1/10W
R153	1-216-809-11	METAL CHIP	100	5%	1/10W
R155	1-216-797-11	METAL CHIP	10	5%	1/10W
R156	1-216-797-11	METAL CHIP	10	5%	1/10W
R157	1-216-857-11	METAL CHIP	1M	5%	1/10W
R158	1-216-789-11	METAL CHIP	2.2	5%	1/10W
R159	1-216-789-11	METAL CHIP	2.2	5%	1/10W
R160	1-216-789-11	METAL CHIP	2.2	5%	1/10W
R161	1-216-849-11	METAL CHIP	220K	5%	1/10W
		< SWITCH >			
S104	1-572-697-11	SWITCH, TACTILE (RADIO ON/OFF)			
S105	1-786-050-21	SWITCH, KEYBOARD (ALARM B MELODY)			
S106	1-572-697-11	SWITCH, TACTILE (BACKLIGHT• SNOOZE/SLEEP OFF)			
S107	1-786-050-21	SWITCH, KEYBOARD (ALARM A RADIO)			
		< VIBRATOR >			
X101	1-567-098-41	VIBRATOR, CRYSTAL (32.768kHz)			
X102	1-579-901-11	VIBRATOR, CERAMIC (4.19MHz)			

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Ref. No.	Part No.	Description			Remark
*	A-3347-871-A	TUNER BOARD, COMPLETE			
		**********			
	3-248-609-01	HOLDER (ANT)			
	7-685-134-19	SCREW +P 2.6X8 TYPE2 NON-SLIT			
		< BPF >			
BPF1	1-236-022-11	FILTER, BAND PASS			
		< CAPACITOR >			
C1	1-162-910-11	CERAMIC CHIP	5PF	0.25PF	50V
C2	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C4	1-162-997-11	CERAMIC CHIP	10PF	0.5PF	50V
C5	1-162-913-11	CERAMIC CHIP	8PF	0.5PF	50V
C6	1-162-996-11	CERAMIC CHIP	7PF	0.5PF	50V
C7	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C8	1-126-157-11	ELECT	10uF	20%	16V
C9	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C10	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C11	1-126-160-11	ELECT	1uF	20%	50V
C12	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C13	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C14	1-124-259-11	ELECT	4.7uF	20%	16V
C15	1-126-157-11	ELECT	10uF	20%	16V
C16	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C17	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C18	1-126-157-11	ELECT	10uF	20%	16V
C19	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V
C20	1-126-935-11	ELECT	470uF	20%	10V
C21	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V
C22	1-126-934-11	ELECT	220uF	20%	10V
C23	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C24	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C27	1-162-939-11	CERAMIC CHIP	8PF	0.5PF	50V
C29	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C30	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C33	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C34	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C35	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C36	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
		< FILTER >			
CF1	1-781-861-71	FILTER, CERAMIC (COMBINATION)			
CF2	1-781-861-71	FILTER, CERAMIC (COMBINATION)			
CF3	1-781-790-11	FILTER, AM CERAMIC			
		< CONNECTOR >			
* CN1	1-568-273-11	SOCKET, CONNECTOR 7P			
* CN2	1-568-268-11	SOCKET, CONNECTOR 2P			
		< VARIABLE CAPACITOR >			
CT1-4	1-141-681-11	CAP, VAR			
CV1	1-141-681-11	CAP, VAR (TUNE)			
		< DIODE >			
D1	8-719-069-29	DIODE RB520S-30-TE61			
D5	8-719-069-29	DIODE RB520S-30-TE61			

TUNER

Ref. No.	Part No.	Description	Remark
		< IC >	
IC1	8-752-037-02	IC CXA1019S	
IC2	6-704-101-01	IC XC6201P382PR	
		< JACK >	
J1	1-580-681-21	JACK, DC (POLARITY UNIFIED TYPE) (DC IN 4.5V)	
		< JUMPER RESISTOR >	
JC2	1-216-295-11	SHORT CHIP 0	
		< COIL >	
L1	1-456-344-11	COIL, FERRITE-ROD ANTENNA (AM)	
L2	1-424-793-11	COIL, AIR-CORE	
L3	1-428-229-11	COIL, AIR-CORE	
L4	1-456-345-11	COIL, AM OSC	
L5	1-410-294-31	INDUCTOR 38uH	
		< TRANSISTOR >	
Q1	8-729-026-52	TRANSISTOR 2SA1576A-T106-R	
Q2	8-729-029-14	TRANSISTOR DTC144EUA-T106	
Q3	6-550-044-01	TRANSISTOR 2SB1689-T106	
Q4	8-729-029-14	TRANSISTOR DTC144EUA-T106	
Q5	8-729-011-92	TRANSISTOR 2SC2001TP-K1K2	
Q6	8-729-029-03	TRANSISTOR DTC123EUA-T106	
		< RESISTOR >	
R1	1-216-825-11	METAL CHIP 2.2K 5% 1/10W	
R2	1-216-833-11	METAL CHIP 10K 5% 1/10W	
R3	1-216-821-11	METAL CHIP 1K 5% 1/10W	
R4	1-216-805-11	METAL CHIP 47 5% 1/10W	
R5	1-216-821-11	METAL CHIP 1K 5% 1/10W	
R6	1-216-825-11	METAL CHIP 2.2K 5% 1/10W	
R7	1-216-817-11	METAL CHIP 470 5% 1/10W	
R8	1-216-845-11	METAL CHIP 100K 5% 1/10W	
R9	1-216-825-11	METAL CHIP 2.2K 5% 1/10W	
R10	1-216-817-11	METAL CHIP 470 5% 1/10W	
R11	1-216-825-11	METAL CHIP 2.2K 5% 1/10W	
R12	1-216-797-11	METAL CHIP 10 5% 1/10W	
R14	1-216-833-11	METAL CHIP 10K 5% 1/10W	
R15	1-216-841-11	METAL CHIP 47K 5% 1/10W	
R17	1-216-829-11	METAL CHIP 4.7K 5% 1/10W	
		< VARIABLE RESISTOR >	
RV1	1-228-790-00	RES, VAR, CARBON 50K (VOL)	
		< TRANSFORMER >	
T1	1-439-678-11	TRANSFORMER, IF	
		< WIRE ANTENNA >	
W1	1-754-135-11	ANTENNA (WIRE) (FM)	

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Ref. No.	Part No.	Description	Remark
		ACCESSORIES	
		**********	
⚠	1-477-830-11	ADAPTOR, AC (AC-E45TR1)	
	3-249-145-11	MANUAL, INSTRUCTION (ENGLISH,FRENCH, GERMAN,SPANISH,DUTCH)	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

MEMO

REVISION HISTORY

Clicking the version allows you to jump to the revised page.
Also, clicking the version at the upper right on the revised page allows you to jump to the next revised page.

Ver.	Date	Description of Revision
1.0	2003. 06	New