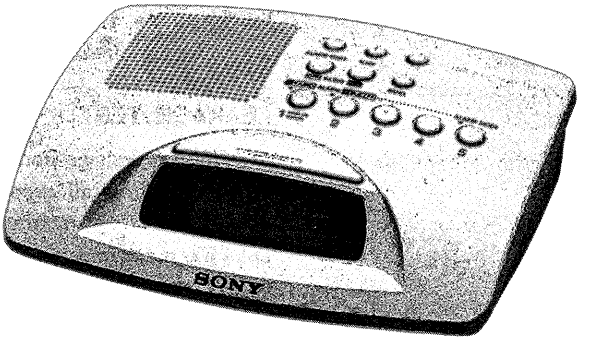
ICF-C233

SERVICE MANUAL

US Model
Canadian Model
AEP Model
E Model
Australian Model



SPECIFICATIONS

Time display

US, CND, C&SA, AUS model	12 hour
Except US, CND, C&SA, AUS model	24 hour

Frequency range

US, CND, C&SA model

Band	Channel steps
FM: 87.5-108.0 MHz	0.1 MHz
AM: 530-1,710 kHz	10 kHz

Except US, CND, C&SA model

Band	Channel steps
FM: 87.5-108.0 MHz	0.05 MHz*
AM: 531-1,602 kHz	9 kHz

* The frequency display is raised or lowered by steps of 0.1 MHz.
(Example: Frequency 88.05 MHz is displayed as "88.0 MHz".)

Speaker
Approx. 6.6 cm (2 5/8 in) dia.

Power output
120 mW (at 10% harmonic distortion)

Power requirements
US, CND model: 120 V AC, 60 Hz
C&SA model: 120/220 V AC, 60 Hz
AUS model: 240 V AC, 50 Hz
Except US, CND, C&SA, AUS model: 220 - 230 V AC, 50 Hz

Dimensions
Approx. 196 x 56 x 149.5 mm (w/h/d)
(7 3/4 x 2 1/4 x 6 in) incl. projecting parts and controls

Mass
Approx. 530 g (1 lb 2.7 oz)

Supplied accessory
FM antenna coupler (1)
(Germany model only)

Design and specifications are subject to change without notice.

- Abbreviation
  CND : Canadian
  C&SA : Central and South America
  AUS : Australian

FM/AM PLL SYNTHESIZED CLOCK RADIO

SONY®

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.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer:
Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microampers). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2 V AC range are suitable. (See Fig. A)

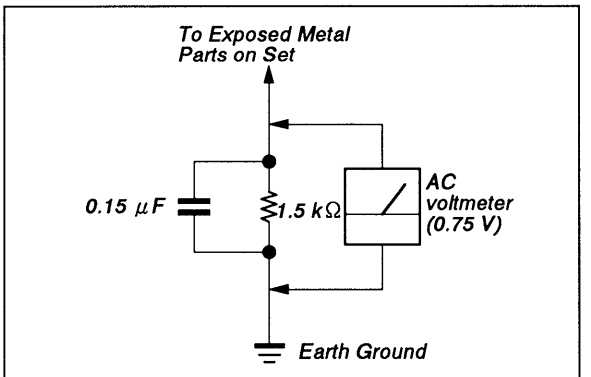
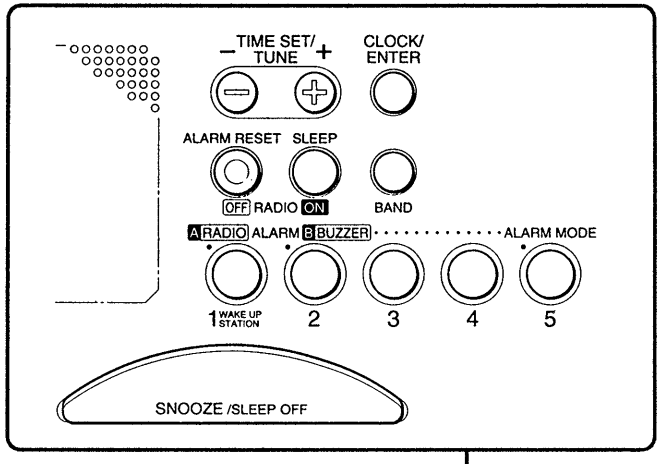
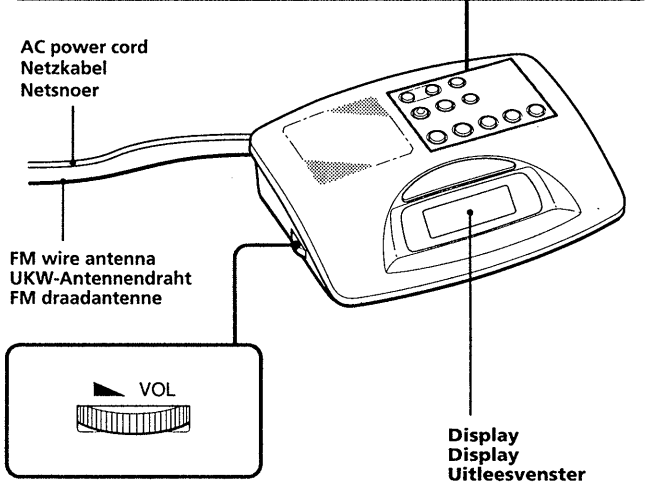


Fig. A. Using an AC voltmeter to check AC leakage.





Features

- Dual alarm FM/AM PLL (phase locked loop) synthesized clock radio
- 5 random memory presets
- Radio and buzzer alarms with the snooze function
- LCD display with backlight

Setting the Clock

1. Plug in the unit.
The display will flash "AM 12:00" or "0:00".

2. While holding down **CLOCK/ENTER**, press **TIME SET/TUNE +** or **–**.
Use the + button to advance the hour and minute digits and the – button to reverse them. Hold down the + or – button to advance or reverse the time setting at high speed.

3. Release **CLOCK/ENTER** .
The time is set and clock operation begins.

- The clock system varies depending on the model you own.
  12-hour system: "AM 12:00" = midnight
  24-hour system: "0:00" = midnight
- For zero second adjustment, release **CLOCK/ENTER** at the sound of a time tone.
- The colon (":") in the time indication is flashing when the radio is off and steadily displayed when it is on.

Operating the Radio

Manual Tuning

1. Press **SLEEP/RADIO ON** to turn on the radio.
The band and frequency and the preset number displayed before the radio was last turned off appear on the display for 10 seconds, after which the current time indication returns to the display.

2. Turn the **VOL** (volume) control to make sure the sound is audible.

3. Press **BAND** to select the band.
The most recently tuned FM and AM frequencies alternate on the display with each press of the button.

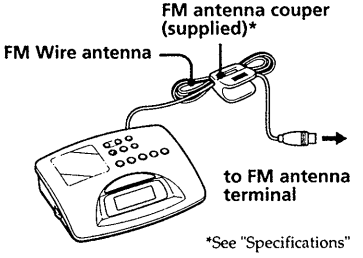
4. Use **TIME SET/TUNE +** or **–** to tune in the desired station.
The FM channel step is set to 0.05 MHz and the AM(MW) channel step is set to 9 kHz. (The FM frequency indication changes every 0.1 MHz.) A beep sounds and the tuning stops when the upper or lower extremity of the band range is reached.

5. Set the desired volume with the **VOL** control.

- To turn off the radio, press **ALARM RESET/ RADIO OFF**.
- To improve reception
  FM: Extend the FM wire antenna fully to increase FM reception sensitivity.
  AM: Rotate the unit horizontally to the position in which reception is clearest.
- To check the current station, press the + button lightly. The band and frequency are displayed for 10 seconds, after which the current time indication returns to the display.
- Each time the radio is turned on or the frequency changed, the band and frequency replace the current time indication for 10 seconds.
- If the radio alarm A RADIO comes on while the radio is playing, the station switches to the frequency set under preset number 1 (the wake-up frequency).

For the customers supplied with an FM antenna coupler

Bundle the FM wire antenna and pinch it with the coupler supplied and connect it to a wall FM antenna terminal for optimum FM reception.



*See "Specifications"

SECTION 1
GENERAL

This section is extracted from instruction manual.

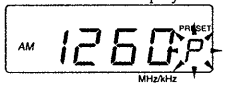
Preset Tuning

You can preset up to five stations for one-touch tuning, one under each of preset buttons 1 to 5.

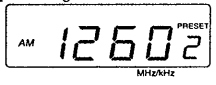
Presetting a station

Example: To set AM 1260 kHz in preset button 2.

1. Tune in the station you want to preset. (See "Manual Tuning")
2. Press **CLOCK/ENTER**.
   "P" flashes in the display for about 10 seconds.



3. Press the preset button under which you wish to store the station before the "P" indication stops flashing.
   Two beeps sound to indicate successful presetting.



- The current time indication replaces the band and frequency indication on the display 10 seconds after a station is preset, but the preset number remains in the display.
- When using the radio alarm, preset the station you wish to serve as the alarm (the wake-up frequency) under preset button 1.

To change a preset station

Press the preset button again after tuning manually to a different station. The previous station is replaced by the new one.

Tuning in a preset station

1. Press **SLEEP/RADIO ON** to turn on the radio.
2. Press the preset button under which the desired station is stored.
   The band, frequency and preset number replace the current time indication in the display for about 10 seconds.

- To check the current station, press the preset number button. The band and frequency are displayed for 10 seconds.

Setting the Alarm

You can set the radio and buzzer alarms at the preset time. Before setting the alarm, be sure to set the clock (See ' Setting the Clock").

1. Turn off the radio.
2. While holding down **ALARM**, press either **TIME SET/TUNE +** or **–** until the desired time appears in the display.
   At this time, the A RADIO or B BUZZER indication appears in the display.
3. Release **ALARM**.
4. Press **ALARM MODE** until the alarm you want appears in the display.
   Each time you press **ALARM MODE**, the alarm indication changes as follows.

   No alarm indication → A RADIO → B BUZZER
   ↳ A RADIO and B BUZZER ↵

When the alarm time is reached, the radio or buzzer sounds for 60 minutes or until turned off.

To stop the alarm

Press **ALARM RESET/RADIO OFF** while the alarm is activated.
The alarm will function at the same time the next day.

To cancel the alarm

Press **ALARM MODE** until neither the A RADIO nor B BUZZER indication is displayed.

Notes

- The alarm does not function, unless you set the clock, A RADIO and B BUZZER function.
- If both the radio and buzzer alarm are set for the same time, the radio alarm takes precedence.
- You can check the alarm time setting by pressing A RADIO **ALARM** or B BUZZER **ALARM**.

To doze for a few more minutes

1. Press **SNOOZE/SLEEP OFF** while the alarm is sounding.
   The alarm will be silenced for about 8 minutes, after which it will sound again.
   You can use the snooze alarm repeatedly in this manner for about one hour.

- The alarm indication continues to flash in the display while the snooze alarm function is operational.

Setting the Sleep Timer

You can enjoy falling asleep to the radio using the built-in sleep timer that turns off the radio automatically after a preset duration.
You can set the sleep timer for 90, 60, 30, or 15 minutes.

1. Press **RADIO ON/SLEEP** repeatedly.
   The radio turns on. Each time you press **RADIO ON/SLEEP**, the duration changes as follows.

   Current time → On → 90(min)
   ↳ 15 ← 30 ← 60 ↵

   The radio will turn off automatically after the selected preset duration has elapsed.

- To cancel the sleep timer function and turn off the radio, press **SNOOZE/SLEEP OFF**.

To Use Both Sleep Timer and Alarm

You can fall asleep to the radio sound and you will be awakened by the radio or buzzer alarm at the preset time.

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

Precautions

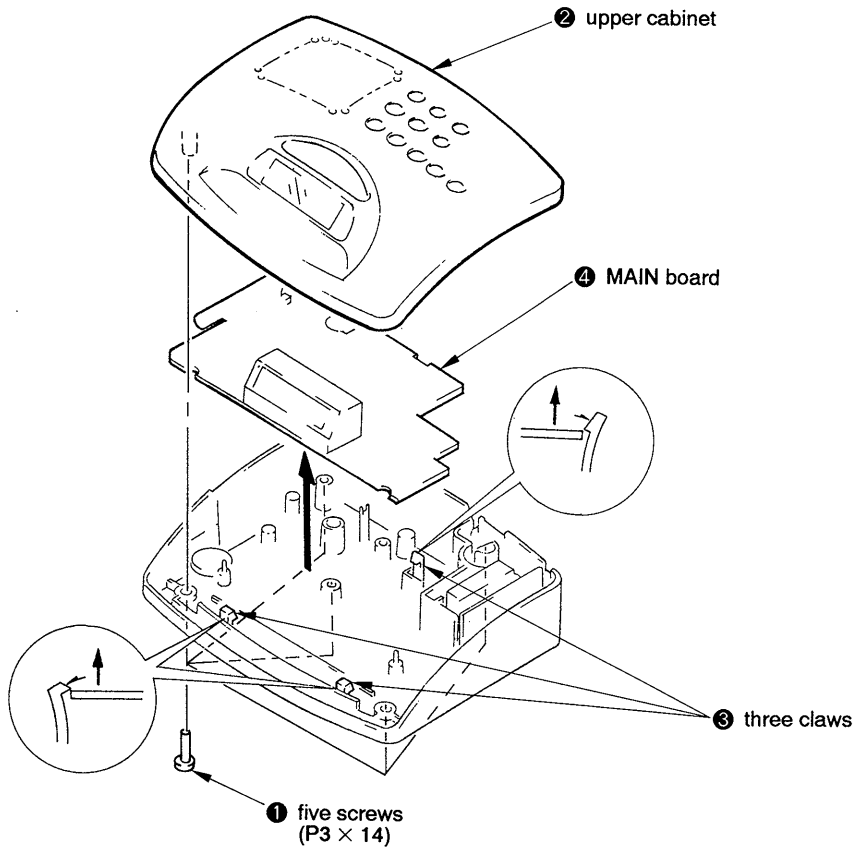
- Operate the unit on the power sources specified in "Specifications".
- The nameplate indicating voltage, etc. is located on the bottom exterior.
- Disconnect the cord by grasping the plug. Never pull it by the cord.
- Do not leave the unit in a location near a heat source such as a radiator or airduct, or in a place subject to direct sunlight, excessive dust, mechanical vibration, or shock.
- Allow adequate air circulation to prevent internal heat build-up. Do not place the unit on a surface (a rug, a blanket, etc.) or near materials (a curtain) which might block the ventilation holes.
- Should any liquid or solid object fall into the unit, unplug the unit and have it checked by a qualified personnel before operating it further.
- When the casing becomes soiled, clean it with a soft cloth dampened with a mild detergent solution. Never use abrasive cleaners or chemical solvents, as they may mar the casing.
- The unit is not disconnected from the AC power source (mains) as long as it is connected to the wall outlet, even if the unit itself has been turned off.

If you have any question, please consult your nearest Sony dealer.

SECTION 2
DISASSEMBLY

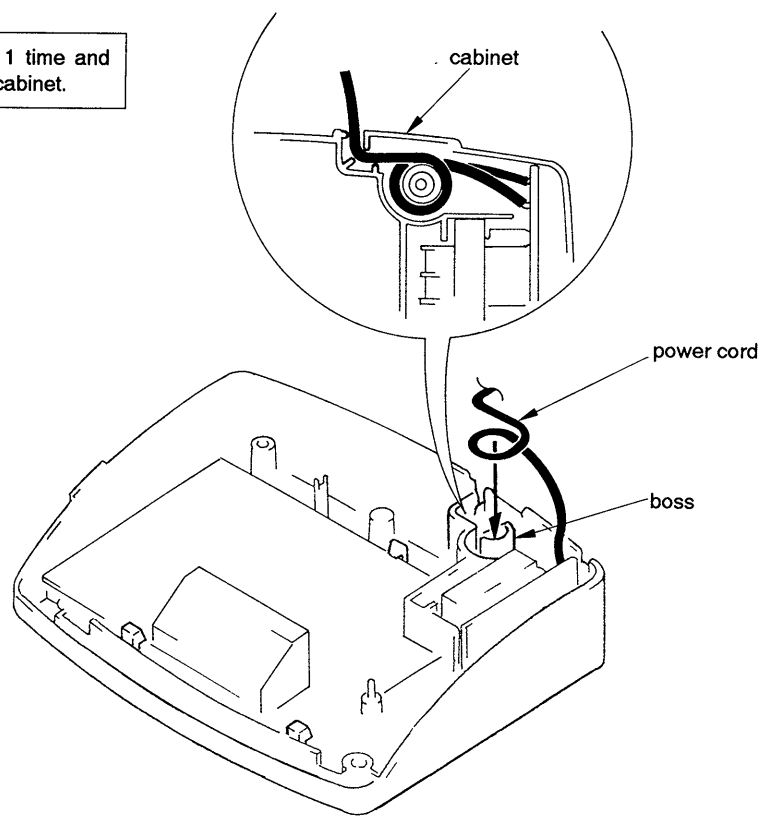
Note: Follow the disassembly procedure in the numerical order given.

MAIN BOARD



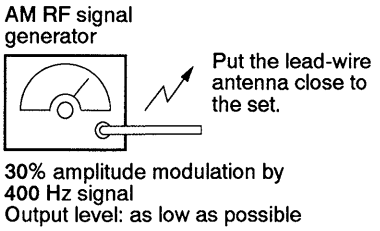
POWER CORD SETTING

Wind the power cord to boss 1 time and push down between boss and cabinet.

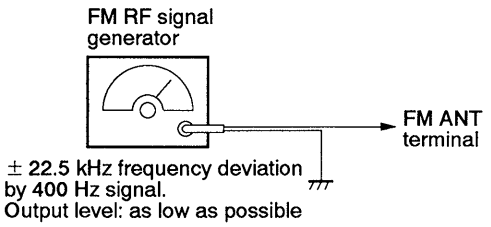


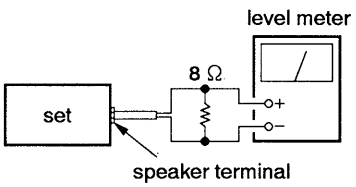
SECTION 3
ELECTRICAL ADJUSTMENTS

AM Section



FM Section





- Repeat the procedures in each adjustment several times, and the tracking adjustments should be finally the trimmer capacitors.

( ): EXCEPT US, Canadian, Central and South America model

AM IF ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
T1	450 kHz

Note: Receive 530 kHz (531 kHz).

AM VCO VOLTAGE ADJUSTMENT		
Adjustment Part	Frequency Display	Reading on Digital voltmeter
L5	530 kHz (531 kHz)	2.75 V
(confirmation)	1,710 kHz (1,602 kHz)	Less than 10 V (Less than 9 V)

Note: Not use the AM RF signal generator in this adjustment.

AM TRACKING ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
CT1	L2
1,490 kHz (1,404 kHz)	580 kHz (621 kHz)

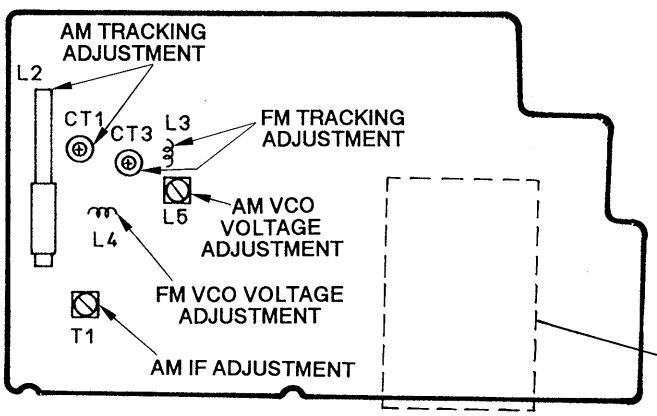
FM VCO VOLTAGE ADJUSTMENT		
Adjustment Part	Frequency Display	Reading on Digital voltmeter
L4	108 MHz	9.5 ± 1.0 V
(confirmation)	87.5 MHz	More than 1.8 V (Standard 2.2 V)

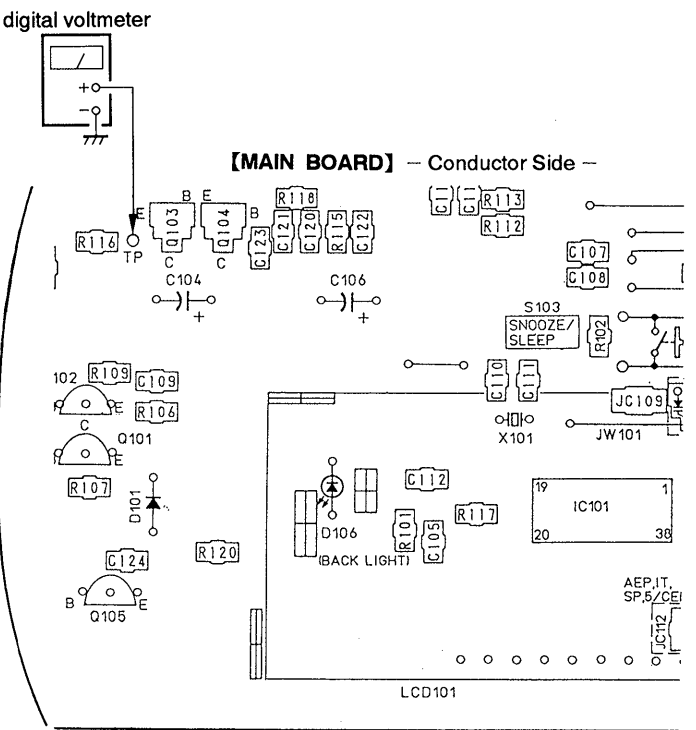
Note: Not use the FM signal generator in this adjustment.

FM TRACKING ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
CT3	L3 (confirmation)
108 MHz	87.5 MHz

Adjustment Location:

【MAIN BOARD】 – Component Side –





SECTION 4
DIAGRAMS

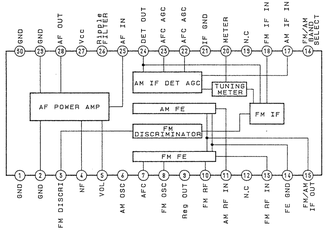
4-1. IC PIN FUNCTION DESCRIPTION

MAIN BOARD IC101 μPD17015GS-537-GJG (PLL, LCD DRIVE)

Pin No.	Pin Name	I/O	Function
1	POB2	I	Key return input
2	POC0	O	Key control output
3	POC1	O	Key control output
4	POC2	O	Key control output
5	POC3	O	Key control output
6	BEEP	O	Buzzer output
7	AM/FM	O	AM/FM band select output
8	–	O	Initialize output
9	MUTE	O	Audio mute "L": mute on
10	LW/MW	O	Not used
11	CE	I	Reset signal input
12	XOUT	O	Crystal oscillator connection pin
13	XIN	I	Crystal oscillator connection pin
14	VDD	–	Power supply (+3 V)
15	GND	–	GND
16	EO	O	PLL error output
17	VREG	O	PLL regulator output
18	VCOH	I	FM VCO input
19	VCOL	I	AM VCO input
20	LCD8	O	LCD drive
21	LCD7	O	LCD drive
22	LCD6	O	LCD drive
23	LCD5	O	LCD drive
24	LCD4	O	LCD drive
25	LCD3	O	LCD drive
26	LCD2	O	LCD drive
27	LCD1	O	LCD drive
28	LCD0	O	LCD drive
29	COM3	O	LCD common
30	COM2	O	LCD common
31	COM1	O	LCD common
32	COM0	O	LCD common
33	VLCD1	–	LCD power supply
34	CAP1	–	LCD drive condenser
35	CAP0	–	LCD drive condenser
36	VLCD0	–	LCD power supply
37	POB0	I	Key return input
38	POB1	I	Key return input

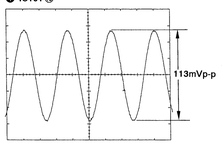
• IC Block Diagram

IC1 CXA1019S



• Waveform

❶ IC101⑬



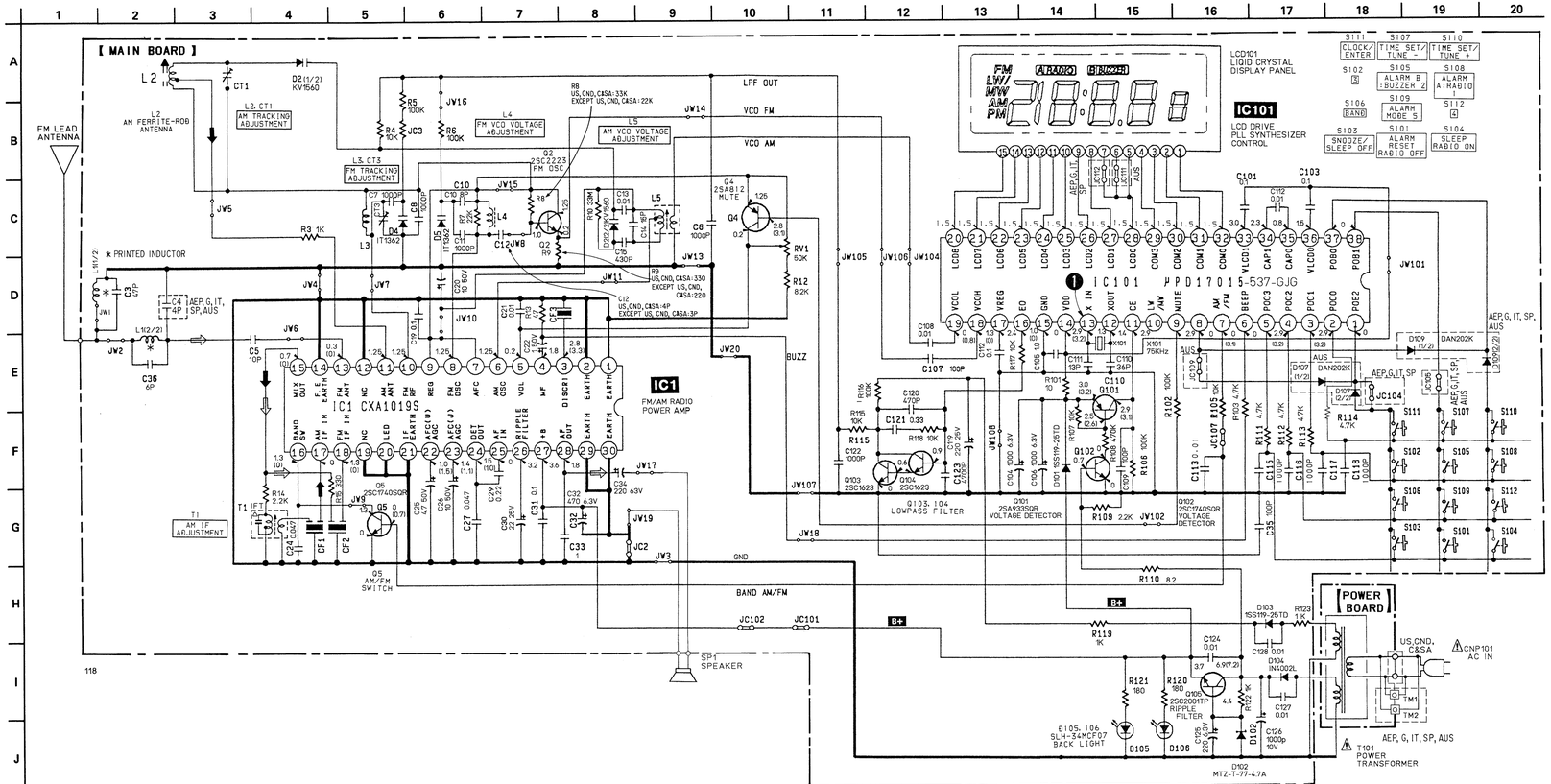
Note on Schematic Diagram:

- 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 ¼ W or less unless otherwise specified.
- △ : internal component.
- ▭ : panel designation.

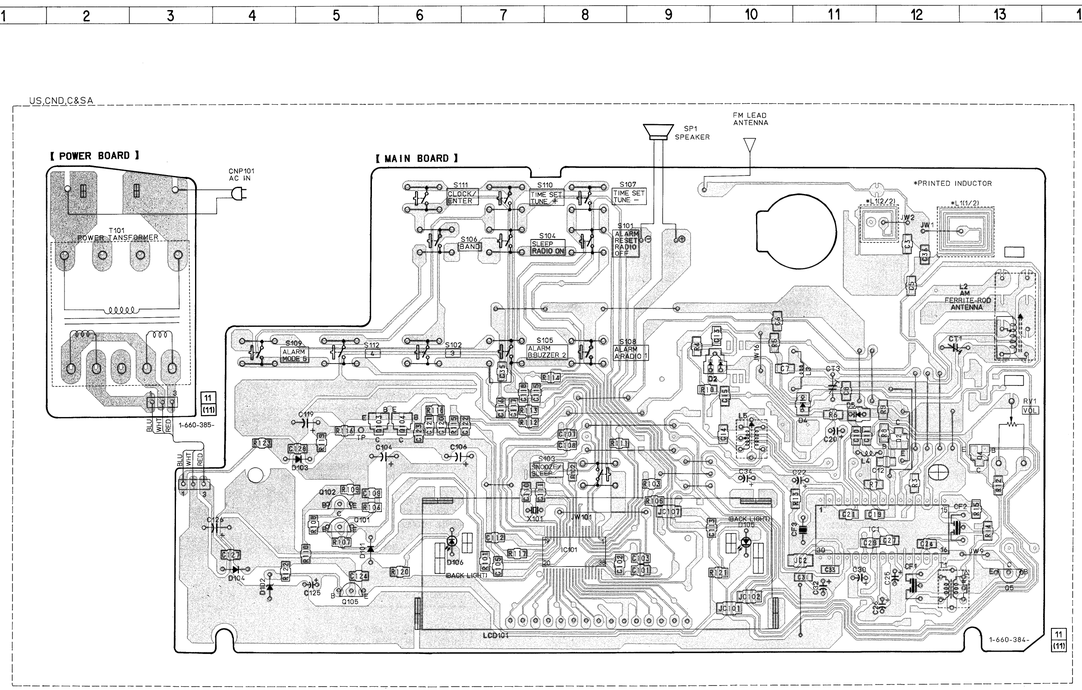
Note:	Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

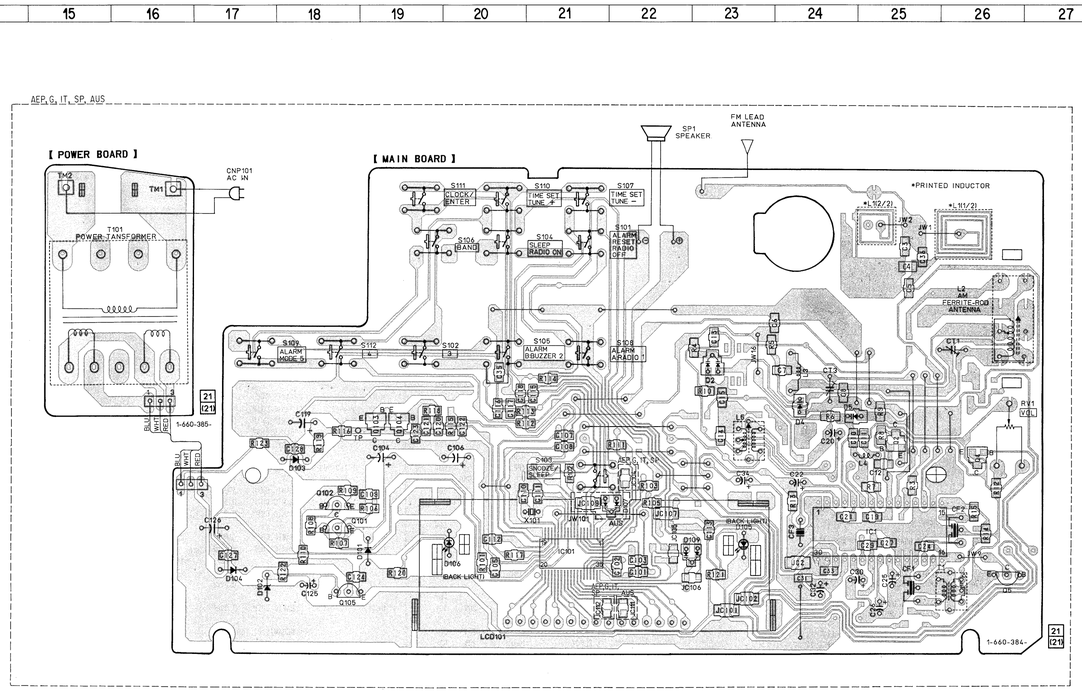
- B+ : B + Line.
- ▭ : adjustment for repair.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark : FM
  ( ) : AM
- Voltages are taken with a VOM (Input impedance 10 MΩ).
  Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope.
  Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⇨ : FM
  ➡ : AM
- Abbreviation
  CND : Canadian model
  G : Germany model
  IT : Italian model
  SP : Singapore model
  AUS : Australian model
  C&SA : Central and South America model

4-2. SCHEMATIC DIAGRAM • See page 7 for IC Pin Function Description.



4-3. PRINTED WIRING BOARDS





• Semiconductor Location

Ref. No.	Location
D2	E-10(E-23)
D4	E-11(E-24)
D5	E-11(E-24)
D101	G-5 (G-18)
D102	G-4 (G-17)
D103	F-5 (F-18)
D104	G-4 (G-17)
D105	G-10(G-23)
D106	G-6 (G-19)
D107	(F-21)
D109	(G-22)
IC1	G-12(G-25)
IC101	G-8 (G-21)
Q2	F-12(F-25)
Q4	F-13(F-26)
Q5	G-13(G-26)
Q101	G-5 (G-18)
Q102	F-5 (F-18)
Q103	E-5 (F-19)
Q104	E-6 (F-19)
Q105	G-5 (G-18)

Note:
no mark: US, Canadian, Central and South America model.
( ): AEP, Germany, Italian, Singapore, Australian model.

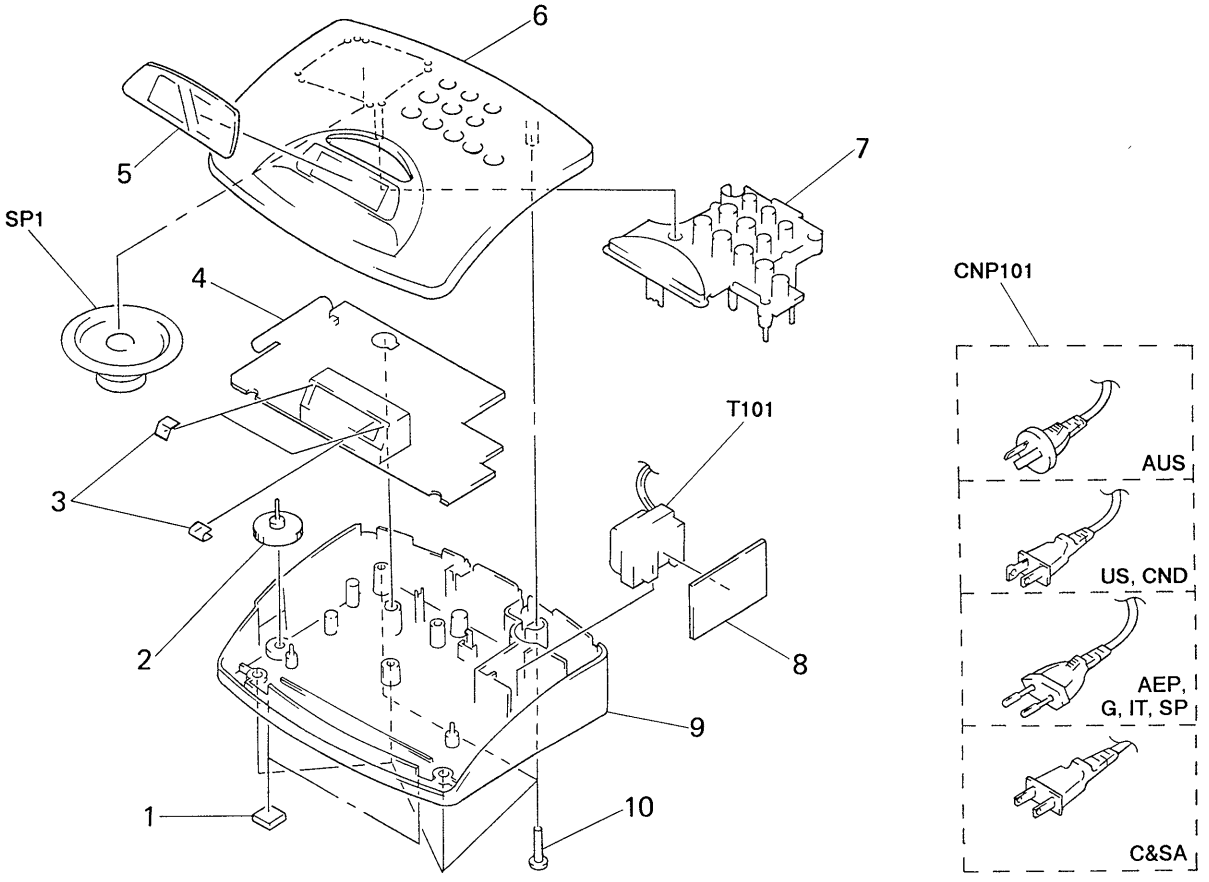
Note on Printed Wiring Board:
- ○——— : parts extracted from the component side.
- △ : internal component.
- ▨ : Pattern from the side which enables seeing.
- Abbreviation
  CND : Canadian model
  G : Germany model
  IT : Italian model
  SP : Singapore model
  AUS : Australian model
  C&SA : Central and South America model

SECTION 5
EXPLODED VIEW

NOTE:

- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts
  Example:
  KNOB, BALANCE (WHITE) . . . (RED)
  ↑ ↑
  Parts Color Cabinet's Color
- Abbreviation
  CND : Canadian
  C&SA : Central and South America
  G : Germany
  IT : Italian
  SP : Singapore
  AUS : Australian
- 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.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le neméro spécifié.



Ref. No.	Part No.	Description	Remark
1	3-368-852-01	FOOT	
2	3-919-268-01	KNOB (VOL)	
3	3-831-441-99	CUTION	
* 4	A-3679-760-A	MAIN BOARD, COMPLETE (US, CND, C&SA)	
* 4	A-3679-761-A	MAIN BOARD, COMPLETE (AEP, G, IT, SP)	
* 4	A-3679-764-A	MAIN BOARD, COMPLETE (AUS)	
5	3-934-813-01	PLATE, TRANSPARENT (for BLACK, GREEN, BLUE)	
5	3-934-813-11	PLATE, TRANSPARENT (for WHITE) (US, CND, AEP, G, IT, SP)	
6	3-934-809-01	CABINET (UPPER) (BLACK)	
6	3-934-809-11	CABINET (UPPER) (WHITE) (US, CND, AEP, G, IT, SP)	
6	3-934-809-21	CABINET (UPPER) (GREEN) (US, CND)	
6	3-934-809-31	CABINET (UPPER) (BLUE) (AEP, G, IT, SP)	
7	3-934-811-01	BUTTON (BLACK)	
7	3-934-811-11	BUTTON (WHITE) (US, CND, AEP, G, IT, SP)	
7	3-934-811-21	BUTTON (GREEN) (US, CND)	
7	3-934-811-31	BUTTON (BLUE) (AEP, G, IT, SP)	
* 8	1-660-385-11	POWER BOARD (US, CND, C&SA)	
* 8	1-660-385-21	POWER BOARD (AEP, G, IT, AUS, SP)	
9	3-934-810-01	CABINET (LOWER) (BLACK) (US, CND, C&SA)	
9	3-934-810-11	CABINET (LOWER) (WHITE) (US, CND)	
9	3-934-810-21	CABINET (LOWER) (GREEN) (US, CND)	
9	3-934-810-31	CABINET (LOWER) (BLACK) (AEP, G, IT, SP)	
9	3-934-810-41	CABINET (LOWER) (WHITE) (AEP, G, IT, SP)	
9	3-934-810-51	CABINET (LOWER) (BLUE) (AEP, G, IT, SP)	
9	3-935-817-01	CABINET (LOWER) (BLACK) (AUS)	
10	7-685-649-79	SCREW +P 3X14 TYPE2 NON-SLIT	
⚠CNP101	1-551-958-21	CORD, POWER (for WHITE) (AEP, G, IT, SP)	
⚠CNP101	1-555-795-00	CORD, POWER (for BLACK, BLUE, GREEN) (AEP, G, IT, SP)	
⚠CNP101	1-557-287-11	CORD, POWER (C&SA)	
⚠CNP101	1-696-008-11	CORD, POWER (for WHITE) (US, CND)	
⚠CNP101	1-765-458-11	CORD, POWER (AUS)	
⚠CNP101	1-769-339-21	CORD, POWER (for BLACK, GREEN) (US, CND)	
SP1	1-504-748-21	SPEAKER (6.6CM)	
⚠T101	1-450-922-11	TRANSFORMER, POWER (US, CND, C&SA)	
⚠T101	1-450-923-11	TRANSFORMER, POWER (AEP, IT, G, AUS, SP)	

MAIN

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
  CND :Canadian
  C&SA:Central and South america
  G :Germany
  IT :Italian
  SP :Singapore
  AUS:Australian
- 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.

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

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description			Remark
*	A-3679-760-A	MAIN BOARD, COMPLETE (US, CND, C&SA)			
*	A-3679-761-A	MAIN BOARD, COMPLETE (AEP, G, IT, SP)			
*	A-3679-764-A	MAIN BOARD, COMPLETE (AUS)			
		**********			
	3-377-648-01	HOLDER (LED)			
	3-934-812-01	REFLECTOR			
	3-934-814-01	HOLDER			
		< CAPACITOR >			
C3	1-163-243-11	CERAMIC CHIP	47PF	5%	50V
C4	1-163-087-00	CERAMIC CHIP	4PF		50V
			(EXCEPT US, CND, C&SA)		
C5	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C6	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C7	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C8	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C10	1-163-091-00	CERAMIC CHIP	8PF		50V
C11	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C12	1-163-087-00	CERAMIC CHIP	4PF		50V
				(US, CND, C&SA)	
C12	1-163-220-11	CERAMIC CHIP	3PF		50V
			(EXCEPT US, CND, C&SA)		
C13	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C14	1-163-231-11	CERAMIC CHIP	15PF	5%	50V
C15	1-163-132-00	CERAMIC CHIP	430PF	5%	50V
C19	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C20	1-124-907-11	ELECT	10uF	20%	50V
C21	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C22	1-124-903-11	ELECT	1uF	20%	50V
C24	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C25	1-126-963-11	ELECT	4.7uF	20%	50V
C26	1-124-907-11	ELECT	10uF	20%	50V
C27	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C29	1-164-222-11	CERAMIC CHIP	0.22uF		25V
C30	1-126-233-11	ELECT	22uF	20%	50V
C31	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C32	1-126-925-11	ELECT	470uF	20%	10V
C33	1-164-346-11	CERAMIC CHIP	1uF		16V
C34	1-104-666-11	ELECT	220uF	20%	6.3V
C35	1-163-251-11	CERAMIC CHIP	100PF	5%	50V

Ref. No.	Part No.	Description			Remark
C36	1-163-089-00	CERAMIC CHIP	6PF		50V
C101	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C102	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C103	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C104	1-124-471-00	ELECT	1000uF	20%	6.3V
C105	1-164-346-11	CERAMIC CHIP	1uF		16V
C106	1-124-471-00	ELECT	1000uF	20%	6.3V
C107	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C108	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C109	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C110	1-163-106-00	CERAMIC CHIP	36PF	5%	50V
C111	1-163-096-00	CERAMIC CHIP	13PF	5%	50V
C112	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C113	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C115	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C116	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C117	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C118	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C119	1-124-120-11	ELECT	220uF	20%	25V
C120	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C121	1-164-336-11	CERAMIC CHIP	0.33uF		25V
C122	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C123	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V
C124	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C125	1-104-666-11	ELECT	220uF	20%	6.3V
C126	1-124-473-11	ELECT	1000uF	20%	10V
C127	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C128	1-163-031-11	CERAMIC CHIP	0.01uF		50V
		< CERAMIC FILTER >			
* CF1	1-577-319-11	FILTER, CERAMIC			
CF2	1-579-312-81	FILTER, CERAMIC			
CF3	1-579-312-81	FILTER, CERAMIC			
		< TRIMMER >			
CT1	1-141-304-21	CAP, TRIMMER	10PF		
CT3	1-141-304-21	CAP, TRIMMER	10PF		

Ref. No.	Part No.	Description	Remark
		< DIODE >	
D2	8-719-951-05	DIODE KV1560	
D4	8-713-100-11	DIODE 1T362	
D5	8-713-100-11	DIODE 1T362	
D101	8-719-911-19	DIODE 1SS119	
D102	8-719-010-34	DIODE UZ-4.7BSC	
D103	8-719-911-19	DIODE 1SS119	
D104	8-719-031-85	DIODE 1N4002L	
D105	8-719-037-81	DIODE SLH-34MCF07	
D106	8-719-037-81	DIODE SLH-34MCF07	
D107	8-719-914-43	DIODE DAN202K (AUS)	
D109	8-719-914-43	DIODE DAN202K (AEP, G, IT, SP, AUS)	
		< IC >	
IC1	8-752-055-05	IC CXA1019S	
IC101	8-759-392-51	IC uPD17015GS-537-GJG	
		< CHIP CONDUCTOR >	
JC2	1-216-296-00	CONDUCTOR, CHIP(3216)	
JC101	1-216-296-00	CONDUCTOR, CHIP(3216)	
JC102	1-216-296-00	CONDUCTOR, CHIP(3216)	
JC104	1-216-295-00	CONDUCTOR, CHIP(2012) (AEP, G, IT, SP)	
JC105	1-216-295-00	CONDUCTOR, CHIP(2012) (AEP, G, IT, SP, AUS)	
JC107	1-216-296-00	CONDUCTOR, CHIP(3216)	
JC109	1-216-296-00	CONDUCTOR, CHIP(3216) (AUS)	
JC111	1-216-295-00	CONDUCTOR, CHIP(2012) (AUS)	
JC112	1-216-295-00	CONDUCTOR, CHIP(2012) (AEP, G, IT, SP)	
		< COIL >	
L2	1-402-616-11	ANTENNA, FERRITE-ROD (MW)	
* L3	1-428-041-11	COIL, AIR-CORE	
L4	1-428-200-11	COIL, AIR CORE	
L5	1-406-485-61	COIL, OSC	
		< LIQUID CRYSTAL DISPLAY >	
LCD1	1-801-231-11	DISPLAY PANEL, LIQUID CRYSTAL	
		< TRANSISTOR >	
Q2	8-729-102-07	TRANSISTOR 2SC2223-F13	
Q4	8-729-216-22	TRANSISTOR 2SA1162-G	
Q5	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q101	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q102	8-729-119-78	TRANSISTOR 2SC403SP-51	
Q103	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q104	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q105	8-729-142-46	TRANSISTOR 2SC2001-LK	

Ref. No.	Part No.	Description	Remark
		< RESISTOR >	
R3	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R4	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R5	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R6	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R7	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R8	1-216-085-00	METAL CHIP 33K 5% 1/10W	(US, CND, C&SA)
R8	1-216-081-00	METAL CHIP 22K 5% 1/10W	(EXCEPT US, CND, C&SA)
R9	1-216-037-00	METAL CHIP 330 5% 1/10W	(US, CND, C&SA)
R9	1-216-033-00	METAL CHIP 220 5% 1/10W	(EXCEPT US, CND, C&SA)
R10	1-216-133-00	METAL CHIP 3.3M 5% 1/10W	
R12	1-216-071-00	METAL CHIP 8.2K 5% 1/10W	
R13	1-216-017-00	METAL CHIP 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	
R101	1-216-001-00	METAL CHIP 10 5% 1/10W	
R102	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R103	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R105	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R106	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R107	1-216-113-00	METAL CHIP 470K 5% 1/10W	
R108	1-216-113-00	METAL CHIP 470K 5% 1/10W	
R109	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R110	1-216-071-00	METAL CHIP 8.2K 5% 1/10W	
R111	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R112	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R113	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R114	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R115	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R116	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R117	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R118	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R119	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R120	1-216-031-00	METAL CHIP 180 5% 1/10W	
R121	1-216-031-00	METAL CHIP 180 5% 1/10W	
R122	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R123	1-216-049-00	METAL CHIP 1K 5% 1/10W	
		< VARIABLE RESISTOR >	
RV1	1-228-790-00	RES, VAR, CARBON 50K(VOL)	
		< SWITCH >	
S101	1-554-303-21	SWITCH, TACTILE(ALARM RESET RADIO OFF)	
S102	1-554-303-21	SWITCH, TACTILE(3)	

MAIN **POWER**

Ref. No.	Part No.	Description	Remark
S103	1-554-303-21	SWITCH, TACTILE (SNOOZE/SLEEP OFF)	
S104	1-554-303-21	SWITCH, TACTILE (SLEEP RADIO ON)	
S105	1-554-303-21	SWITCH, TACTILE (ALARM B:BUZZER 2)	
S106	1-554-303-21	SWITCH, TACTILE (BAND)	
S107	1-554-303-21	SWITCH, TACTILE (TIME SET TUNE -)	
S108	1-554-303-21	SWITCH, TACTILE (ALARM A:RADIO 1)	
S109	1-554-303-21	SWITCH, TACTILE (ALARM MODE 5)	
S110	1-554-303-21	SWITCH, TACTILE (TIME SET TUNE +)	
S111	1-554-303-21	SWITCH, TACTILE (CLOCK/ENTER)	
S112	1-554-303-21	SWITCH, TACTILE (4)	
		< TRANSFORMER >	
T1	1-404-790-11	TRANSFORMER, IF	
		< VIBRATOR >	
X101	1-567-769-11	VIBRATOR, CRYSTAL (75KHz)	
**********			
*	1-660-385-11	POWER BOARD (US, CND, C&SA)	
*	1-660-385-21	POWER BOARD (AEP, G, IT, SP, AUS)	
		**********	
		< TRANSFORMER >	
⚠T101	1-450-922-11	TRANSFORMER, POWER (US, CND, C&SA)	
⚠T101	1-450-923-11	TRANSFORMER, POWER (AEP, G, IT, SP, AUS)	
		< TERMINAL >	
* TM1	1-535-771-11	TERMINAL (AEP, G, IT, SP, AUS)	
* TM2	1-535-771-11	TERMINAL (AEP, G, IT, SP, AUS)	
**********			
		MISCELLANEOUS	
		**********	
⚠CNP101	1-551-958-21	CORD, POWER (for WHITE) (AEP, G, IT, SP)	
⚠CNP101	1-555-795-00	CORD, POWER (for BLACK, BLUE, GREEN) (AEP, G, IT, SP)	
⚠CNP101	1-557-287-11	CORD, POWER (C&SA)	
⚠CNP101	1-696-008-11	CORD, POWER (for WHITE) (US, CND)	
⚠CNP101	1-765-458-11	CORD, POWER (AUS)	
⚠CNP101	1-769-339-21	CORD, POWER (for BLACK, GREEN) (US, CND)	
SP1	1-504-748-21	SPEAKER (6.6CM)	
**********			
		ACCESSORIES & PACKING MATERIALS	
		**********	
	1-501-499-11	COUPLER, ANTENNA (G)	
*	3-324-066-01	SHEET, PROTECTION	
	3-810-941-11	MANUAL, INSTRUCTION (ENGLISH, GERMAN, DUTCH, SWEDISH, PORTUGUESE, SPANISH) (G, C&SA, AUS, SP)	
	3-810-941-21	MANUAL, INSTRUCTION (ENGLISH) (US)	
	3-810-941-31	MANUAL, INSTRUCTION (ENGLISH, FRENCH, GERMAN, ITALIAN, DUTCH) (CND, AEP, IT)	
	3-810-941-41	MANUAL, INSTRUCTION (FINNISH, DANISH) (AEP)	
*	3-935-299-01	INDIVIDUAL CARTON (US, CND, C&SA, AUS, SP)	
*	3-935-301-01	INDIVIDUAL CARTON (AEP, G, IT)	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

9-923-002-11

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SONY

SERVICE MANUAL

Ver 1.0 1999. 12

US Model
Canadian Model
AEP Model
E Model
Australian Model

SUPPLEMENT-1

File this supplement with the service manual.

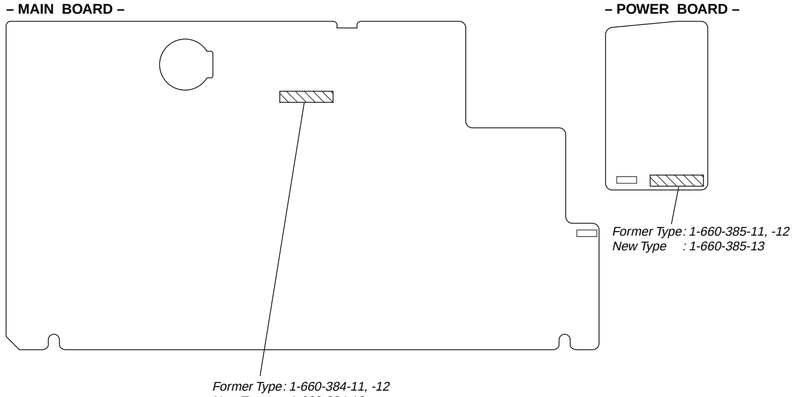
Subject: Main/Power Boards Modification
(US, Canadian, C&SA models only)

(ECN-TR801623)

1. DISCRIMINATION

– MAIN BOARD –

– POWER BOARD –

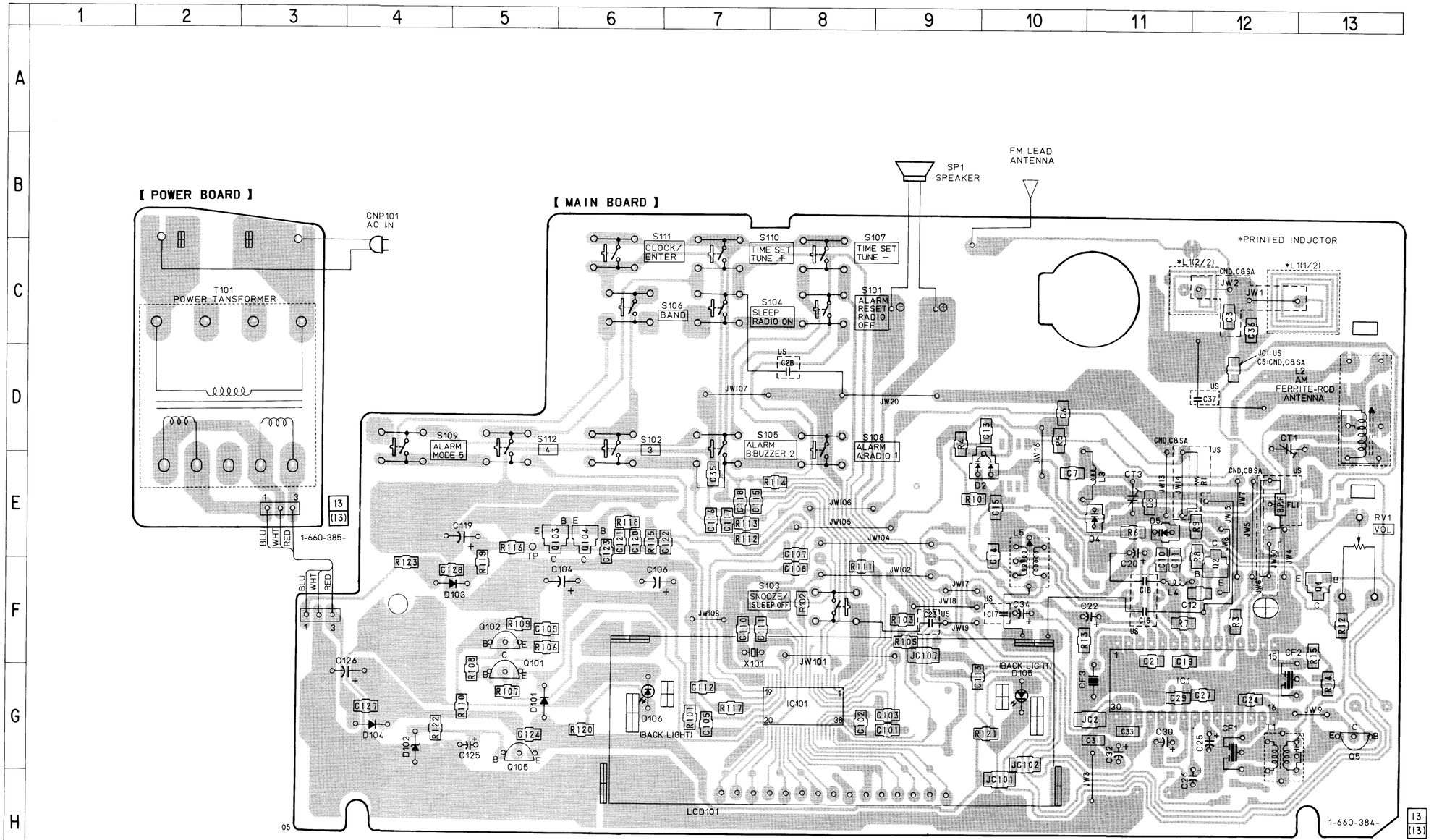


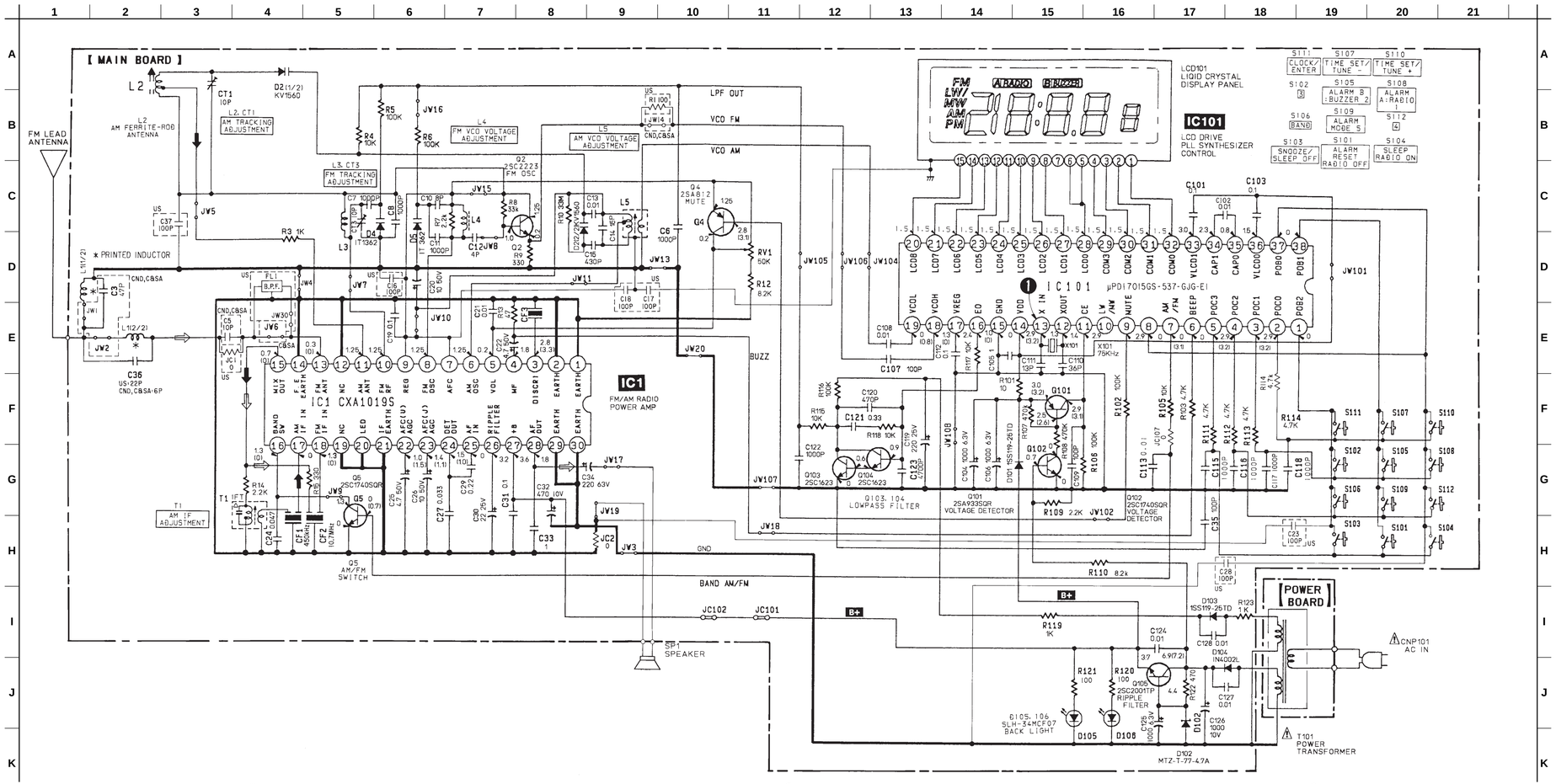
• Semiconductor Location

Ref. No.	Location
D2	E-10
D4	E-11
D5	E-11
D101	G-5
D102	G-4
D103	F-5
D104	G-4
D105	G-10
D106	G-6
IC1	G-12
IC101	G-8
Q2	F-12
Q4	F-13
Q5	G-13
Q101	G-5
Q102	F-5
Q103	E-5
Q104	E-6
Q105	G-5

Note on Printed Wiring Board:
- ○—— : parts extracted from the component side.
- △ : internal component.
- ▒▒▒ : Pattern from the side which enables seeing.
- Abbreviation
  CND: Canadian model
  C&SA: Central and South America model

• PRINTED WIRING BOARD





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 ¼ W or less unless otherwise specified.
- ⚠ : internal component.
- ▭ : panel designation.

Note:	Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

- B+ : B+ Line.
- ▭ : adjustment for repair.
- Voltages and waveforms are dc with respect to ground in service mode.
  no mark : FM
  ( ) : AM
- Voltages are taken with a VOM (Input impedance 10 MΩ). 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.
  ⇨ : FM
  ➡ : AM
- Abbreviation
  CND : Canadian model
  C&SA: Central and South America model

• EXPLODED VIEWS

Page	Before Change				After Change			
	Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
17	* 4	A-3679-760-A	MAIN BOARD, COMPLETE (US, CND, C&SA)		* 4	A-3679-760-A	MAIN BOARD, COMPLETE (CND, C&SA)	
					* 4	A-3683-138-A	MAIN BOARD, COMPLETE (US)	

- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Abbreviation
  CND : Canadian model C&SA: Central and South America model

MAIN

• 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
  CND : Canadian model
  C&SA: Central and South America model
- 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.

Les composants identifiés par une marque ⚠ sont critiquens pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

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

Ref. No.	Part No.	Description			Remark
*	A-3679-760-A	MAIN BOARD, COMPLETE (CND, C&SA)			
*	A-3683-138-A	MAIN BOARD, COMPLETE (US)			
		**********			
	1-501-907-21	ANTENNA, FM WIRE (US)			
	3-377-648-01	HOLDER (LED)			
	3-934-812-01	REFLECTOR			
	3-934-814-01	HOLDER			
		< CAPACITOR >			
C3	1-163-243-11	CERAMIC CHIP	47PF	5%	50V (C&SA)
C5	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V (C&SA)
C6	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C7	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C8	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C10	1-163-091-00	CERAMIC CHIP	8PF		50V
C11	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C12	1-163-087-00	CERAMIC CHIP	4PF		50V
C13	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C14	1-163-231-11	CERAMIC CHIP	15PF	5%	50V
C15	1-163-132-00	CERAMIC CHIP	430PF	5%	50V
C16	1-162-282-31	CERAMIC	100PF	10%	50V (US)
C17	1-162-282-31	CERAMIC	100PF	10%	50V (US)
C18	1-162-282-31	CERAMIC	100PF	10%	50V (US)
C19	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C20	1-126-964-11	ELECT	10uF	20%	50V
C21	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C22	1-126-963-11	ELECT	4.7uF	20%	50V
C23	1-162-282-31	CERAMIC	100PF	10%	50V (US)
C24	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C25	1-126-963-11	ELECT	4.7uF	20%	50V
C26	1-126-964-11	ELECT	10uF	20%	50V
C27	1-163-989-11	CERAMIC CHIP	0.033uF	10%	25V
C28	1-162-282-31	CERAMIC	100PF	10%	50V (US)
C29	1-164-222-11	CERAMIC CHIP	0.22uF		25V
C30	1-126-233-11	ELECT	22uF	20%	50V
C31	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C32	1-126-925-11	ELECT	470uF	20%	10V
C33	1-164-346-11	CERAMIC CHIP	1uF		16V
C34	1-104-666-11	ELECT	220uF	20%	6.3V
C35	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C36	1-163-089-00	CERAMIC CHIP	6PF		50V (C&SA)
C36	1-163-235-11	CERAMIC CHIP	22PF	5%	50V (US)
C37	1-162-282-31	CERAMIC	100PF	10%	50V (US)
C101	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C102	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C103	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C104	1-126-916-11	ELECT	1000uF	20%	6.3V
C105	1-164-346-11	CERAMIC CHIP	1uF		16V
C106	1-126-916-11	ELECT	1000uF	20%	6.3V
C107	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C108	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C109	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C110	1-163-106-00	CERAMIC CHIP	36PF	5%	50V
C111	1-163-096-00	CERAMIC CHIP	13PF	5%	50V
C112	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C113	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C115	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C116	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C117	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C118	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C119	1-104-666-11	ELECT	220uF	20%	25V
C120	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C121	1-164-336-11	CERAMIC CHIP	0.33uF		25V
C122	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C123	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V
C124	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C125	1-126-916-11	ELECT	1000uF	20%	6.3V
C126	1-124-473-11	ELECT	1000uF	20%	10V
C127	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C128	1-163-031-11	CERAMIC CHIP	0.01uF		50V
		< FILTER >			
* CF1	1-577-319-11	FILTER, CERAMIC (450kHz)			
CF2	1-579-312-81	FILTER, CERAMIC (10.7MHz)			
CF3	1-579-312-81	FILTER, CERAMIC (10.7MHz)			

Ref. No.	Part No.	Description			Remark
		< TRIMMER >			
CT1	1-141-304-21	CAP, TRIMMER	10PF		
CT3	1-141-304-21	CAP, TRIMMER	10PF		
		< DIODE >			
D2	8-719-951-05	DIODE	KV1560		
D4	8-713-100-11	DIODE	1T362		
D5	8-713-100-11	DIODE	1T362		
D101	8-719-911-19	DIODE	1SS119		
D102	8-719-921-40	DIODE	MTZJ-4.7C		
D103	8-719-911-19	DIODE	1SS119		
D104	8-719-031-85	DIODE	1N4002L		
D105	8-719-037-81	LED	SLH-34MCF07 (BACK LIGHT)		
D106	8-719-037-81	LED	SLH-34MCF07 (BACK LIGHT)		
		< BAND PASS FILTER >			
FL1	1-235-171-00	FILTER, BAND PASS (US)			
		< IC >			
IC1	8-752-037-02	IC	CXA1019S		
IC101	8-759-432-29	IC	uPD17015GS-537-GJG-E1		
		< SHORT >			
JC1	1-216-295-00	SHORT	0 (US)		
JC2	1-216-296-00	SHORT	0		
JC101	1-216-296-00	SHORT	0		
JC102	1-216-296-00	SHORT	0		
JC107	1-216-296-00	SHORT	0		
		< COIL >			
L2	1-402-616-11	ANTENNA, FERRITE-ROD (MW)			
L3	1-411-978-11	COIL, AIR-CORE			
L4	1-411-979-11	COIL, AIR-CORE			
L5	1-406-485-11	COIL (OSC)			
		< LIQUID CRYSTAL DISPLAY >			
LCD101	1-801-231-11	DISPLAY PANEL, LIQUID CRYSTAL			
		< TRANSISTOR >			
Q2	8-729-102-07	TRANSISTOR	2SC2223-F13		
Q4	8-729-216-22	TRANSISTOR	2SA1162-G		
Q5	8-729-119-78	TRANSISTOR	2SC403SP-51		
Q101	8-729-119-76	TRANSISTOR	2SA1175-HFE		
Q102	8-729-119-78	TRANSISTOR	2SC403SP-51		
Q103	8-729-120-28	TRANSISTOR	2SC1623-L5L6		
Q104	8-729-120-28	TRANSISTOR	2SC1623-L5L6		
Q105	8-729-142-46	TRANSISTOR	2SC2001-LK		
		< RESISTOR >			
R1	1-247-807-11	CARBON	100	5%	1/4W (US)
R3	1-216-049-11	RES-CHIP	1K	5%	1/10W
R4	1-216-073-00	METAL CHIP	10K	5%	1/10W
R5	1-216-097-00	RES-CHIP	100K	5%	1/10W
R6	1-216-097-00	RES-CHIP	100K	5%	1/10W
R7	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R8	1-216-085-00	METAL CHIP	33K	5%	1/10W
R9	1-216-037-00	METAL CHIP	330	5%	1/10W
R10	1-216-133-00	METAL CHIP	3.3M	5%	1/10W
R12	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R13	1-216-017-00	RES-CHIP	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
R101	1-216-001-00	METAL CHIP	10	5%	1/10W
R102	1-216-097-00	RES-CHIP	100K	5%	1/10W
R103	1-216-065-00	RES-CHIP	4.7K	5%	1/10W
R105	1-216-073-00	METAL CHIP	10K	5%	1/10W
R106	1-216-097-00	RES-CHIP	100K	5%	1/10W
R107	1-216-113-00	METAL CHIP	470K	5%	1/10W
R108	1-216-113-00	METAL CHIP	470K	5%	1/10W
R109	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R110	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R111	1-216-065-00	RES-CHIP	4.7K	5%	1/10W
R112	1-216-065-00	RES-CHIP	4.7K	5%	1/10W
R113	1-216-065-00	RES-CHIP	4.7K	5%	1/10W
R114	1-216-065-00	RES-CHIP	4.7K	5%	1/10W
R115	1-216-073-00	METAL CHIP	10K	5%	1/10W
R116	1-216-097-00	RES-CHIP	100K	5%	1/10W
R117	1-216-073-00	METAL CHIP	10K	5%	1/10W
R118	1-216-073-00	METAL CHIP	10K	5%	1/10W
R119	1-216-049-11	RES-CHIP	1K	5%	1/10W
R120	1-216-025-00	RES-CHIP	100	5%	1/10W
R121	1-216-025-00	RES-CHIP	100	5%	1/10W
R122	1-216-041-00	METAL CHIP	470	5%	1/10W
R123	1-216-049-11	RES-CHIP	1K	5%	1/10W
		< VARIABLE RESISTOR >			
RV1	1-228-790-00	RES, VAR, CARBON 50K (VOL)			
		< SWITCH >			
S101	1-554-303-21	SWITCH, TACTILE (ALARM RESET RADIO OFF)			
S102	1-554-303-21	SWITCH, TACTILE (3)			
S103	1-554-303-21	SWITCH, TACTILE (SNOOZE/SLEEP OFF)			
S104	1-554-303-21	SWITCH, TACTILE (SLEEP RADIO ON)			
S105	1-554-303-21	SWITCH, TACTILE (ALARM B:BUZZER 2)			
S106	1-554-303-21	SWITCH, TACTILE (BAND)			
S107	1-554-303-21	SWITCH, TACTILE (TIME SET TUNE -)			
S108	1-554-303-21	SWITCH, TACTILE (ALARM A:RADIO 1)			
S109	1-554-303-21	SWITCH, TACTILE (ALARM MODE 5)			
S110	1-554-303-21	SWITCH, TACTILE (TIME SET TUNE +)			
S111	1-554-303-21	SWITCH, TACTILE (CLOCK/ENTER)			
S112	1-554-303-21	SWITCH, TACTILE (4)			
		< TRANSFORMER >			
T1	1-404-790-11	TRANSFORMER, IF			
		< VIBRATOR >			
X101	1-567-769-11	VIBRATOR, CRYSTAL (75kHz)			
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Ref. No.	Part No.	Description	Remark
*	1-660-385-11	POWER BOARD	
		**********	
		< TRANSFORMER >	
⚠T101	1-450-922-11	TRANSFORMER, POWER	

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

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

9-923-002-81

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Personal Audio Division Company

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