

ICF-M760L

SERVICE MANUAL

AEP Model
UK Model



SPECIFICATIONS

Time display:
24-hour system

Frequency range:

Band		Channel step
FM	87.5 – 108 MHz	0.05 MHz (0.1 MHz)*
MW	531 – 1,602 kHz	9 kHz
LW	153 – 279 kHz	9 kHz

* channel step when the control knob is turned to ♂ or ♀

Speaker: 12 cm (4 3/4 inches) 8 ohm

Power output: 400 mW (at 10% harmonic distortion)

Output: Ⓜ (earphone) jack (minijack)

Power requirements:

220 – 230 V AC, 50 Hz

6 V DC, four R20 (size D) batteries

Dimensions:

Approx. 269.8 × 153 × 69.4 mm (w/h/d)

(Approx. 10 5/8 × 6 1/8 × 2 3/4 inches) not incl.
projecting parts and controls

Mass: Approx. 1420 g (31b 2 oz) incl. batteries

Supplied accessories: AC power cord (1)

Design and specifications are subject to change
without notice.

FM/MW/LW PLL SYNTHESIZED RADIO



SONY®

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SERVICING NOTES

HOW TO CHANGED THE CERAMIC FILTERS

This model is used two ceramic filters of CF102 and CF103. Therefore, the ceramic filter must change two pieces together since it's supply two pieces in one package as a spare parts.

Note on chip component replacement

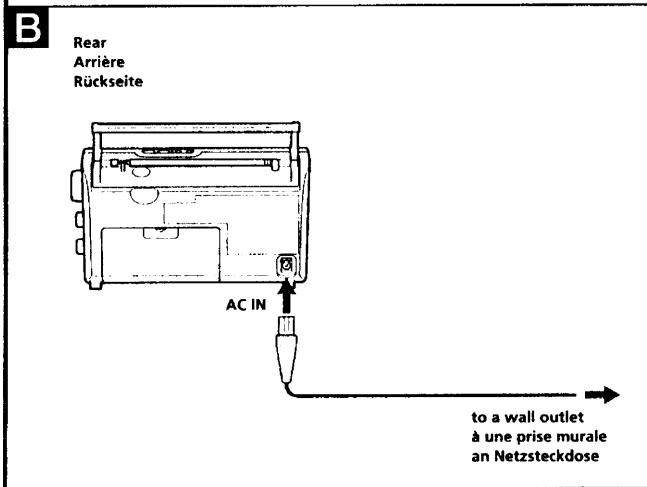
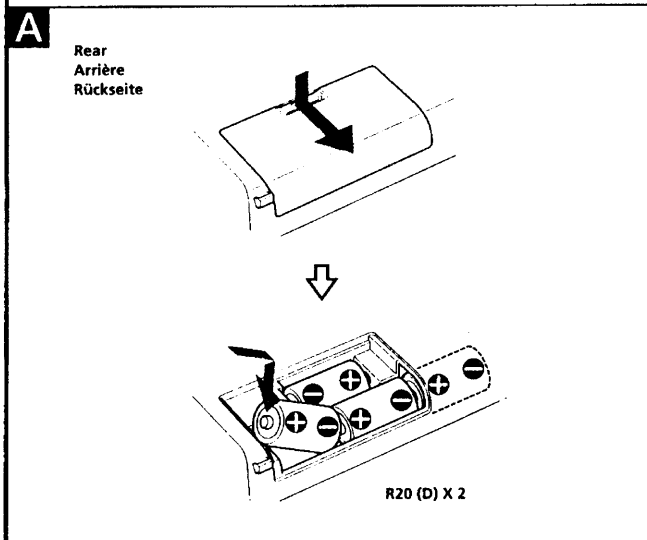
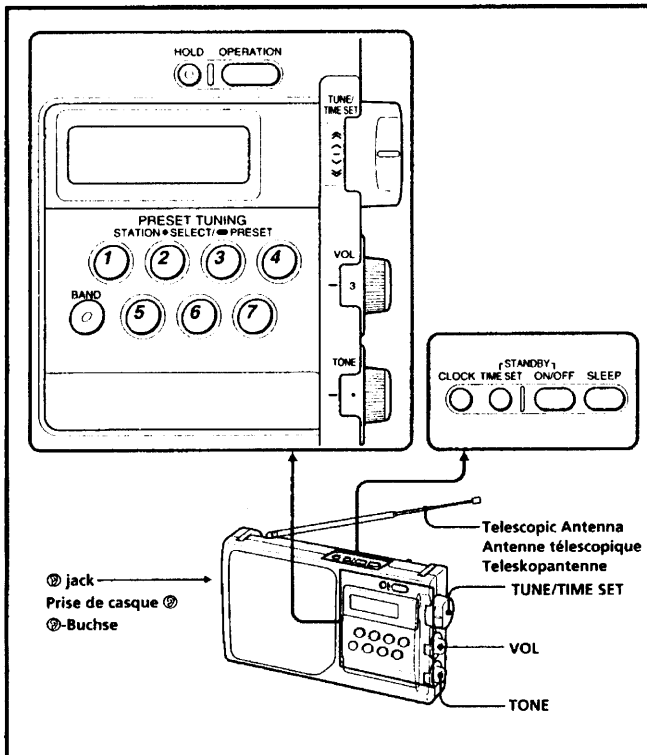
- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK \triangle OR DOTTED LINE WITH MARK \triangle 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 GENERAL

This section is extracted from instruction manual.



Features

- Quartz-controlled PLL (Phase Locked Loop) synthesizer system using a microcomputer for easy pinpoint tuning.
- Up to 28 stations can be preset. (14 for FM, 7 each for SW/MW/LW.)
- The frequency is digitally displayed for precise frequency recognition.
- Standby timer that turns on the radio at a preset time.
- You can choose from two power sources: batteries or house current.

Notes on AM Channel Step

The AM channel step differs depending on areas. The channel step of this unit is factory-set to 9 kHz.

Channel step

9 kHz

Choosing Power Sources

Installing the Batteries

(See Fig. A)

Open the lid at the rear of the radio. Install four R20 (size D) batteries (not supplied) with correct polarity and close the lid.

Battery Life

Using Sony batteries R20 (size D)(Approx. hours)

	FM	MW/LW
	160	200

Replacing the Batteries

- When the batteries become weak, the sound becomes weak and distorted and "CS" flashes. Replace the batteries with new ones. When the batteries are completely exhausted, the radio goes off and "CS" is displayed.
- Before replacing the batteries, make sure that the radio is turned off.
- Replace the batteries within a minute. Otherwise, the memories for the clock and the preset stations will be erased and "0:00" will flash in the display.

Notes on the batteries

- Do not charge the dry batteries.
- Do not carry the dry batteries with coins or other metallic objects. It can generate heat if the positive and negative terminals of the batteries are accidentally contacted by a metallic object.
- When you are not going to use the unit for a long time, remove the batteries to avoid damage from battery leakage and corrosion.

House Current (See Fig. B)

Connect the AC power cord (supplied) to the AC IN jack of the unit and plug in to a wall outlet.

- The display window will be lit at all times while the unit is used on house current.
- When the AC power cord is not used, be sure to unplug it both from the AC IN jack and from the wall outlet. If the AC power cord is connected to the AC IN jack without being connected to a wall outlet, the "CS" indication will appear even if the batteries are not exhausted. To turn off the "CS" indication, press **OPERATION**.
- If the AC power cord is connected to the AC IN jack without being connected to a wall outlet, the clock will be cleared and the preset stations will be erased.

Setting the Clock

The display will flash "0:00" when the batteries are installed and the AC power cord is plugged in for the first time. The clock can be adjusted whether or not the radio is on.

- 1 To stop flashing of the display, press **CLOCK**.
- 2 While holding down **CLOCK**, turn **TUNE/TIME SET** to set the clock to the current time.

When you turn the control knob a little to \curvearrowright or \curvearrowleft , the clock digits move forward or back one by one, and when you turn the control knob further to \curvearrowright or \curvearrowleft , the clock digits move rapidly.

When you release **CLOCK**, the clock starts operating, and "0" starts flashing.

- 24-hour system: "0:00" = midnight, "12:00" = noon
- To display the time while the radio is on, press **CLOCK**.

Changing AM Channel Step

The channel step of this unit is factory-set to 9 kHz. Match the frequency allocation system of the country as listed. When needed, change the channel step before listening to the radio.

Channel step

9 kHz

- 1 Press **OPERATION** to turn off the power.
- 2 While holding down **CLOCK**, keep pressing **OPERATION** for more than 5 seconds.

The AM channel step will be changed. If you proceed to step 2 again, the channel step changes again.

Note

- When the AM channel step is changed, the preset stations will be erased.

Operating the Radio

Manual Tuning

- 1 Press **OPERATION**.
- 2 Press **BAND** repeatedly to select the band. When using FM1 or FM2 preset mode, you may listen to the radio on either mode. (See "Preset Tuning".)
- 3 Turn **TUNE/TIME SET**. When you turn the control knob a little to \curvearrowright or \curvearrowleft , the frequency digits move forward or back one step at a time, and when you turn the control knob further to \curvearrowright or \curvearrowleft , the frequency digits move rapidly.
- 4 Adjust the volume using **VOL**.
- 5 Adjust the tone to your preference using **TONE**.

- To turn off the radio, press **OPERATION**.
- For private listening, connect an earphone to the jack.
- To improve radio reception:
 - FM: Extend the telescopic antenna and adjust the length and the angle for best reception.
 - MW/LW: Rotate the unit horizontally for optimum reception. A ferrite bar antenna is built in the unit.
 - SW: Extend the telescopic antenna vertically.

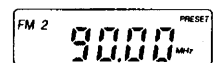
Preset Tuning

You can preset up to 14 stations in FM (7 stations in FM1, 7 stations in FM2), and 7 stations in SW/MW/LW.

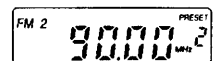
Presetting a Station

Example: To set FM 90 MHz in preset button 2 for FM2.

- 1 Press **OPERATION**.
- 2 Press **BAND** to select FM2.
- 3 Tune in FM 90 MHz.



- 4 Press the desired preset button for more than a few seconds (i.e., in this case, preset button 2). You can hear the confirmation beep and preset number "2" appears in the display.



To preset another station, repeat these steps.

- To change the preset station, preset a new station number. The previous station will be cancelled.

Tuning in a Preset Station

- 1 Press **OPERATION**.
- 2 Select the band with **BAND**.
- 3 Press the desired preset tuning button.
- 4 Adjust the volume using **VOL**.

Setting the Standby Timer

You can set the radio to turn on at a preset time. You can set the standby timer whether or not the radio is turned on.

- 1 While holding down **STANDBY TIME SET**, turn **TUNE/TIME SET** to set the time for the radio to be turned on.
“⓪” flashes in the display.
When you release **STANDBY TIME SET**, the standby time is set.
- 2 Press **STANDBY ON/OFF**.
“⓪” stops flashing.

The radio is turned on at the preset time and is automatically turned off after 60 minutes.

- To turn off the radio, press **OPERATION**.
The radio will be turned on at the preset time the next day.
- To cancel the standby timer, press **STANDBY ON/OFF**. “⓪” will disappear.
- To check the preset time, press **STANDBY TIME SET**.

Setting the Sleep Timer

By setting the sleep timer, you can fall asleep to the radio sound. The radio automatically turns off in 60 minutes.

- 1 Press **SLEEP**.
If the radio was turned off, it will turn on and then turn off automatically in 60 minutes.



- To turn off the sleep timer before the time has elapsed, press **OPERATION**.
- When you press **SLEEP** during the sleep mode, the sleep timer will start again at 60 minutes.

To Use Both Sleep Timer and Standby Timer

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

- 1 Set the standby timer. (See “Setting the Standby Timer”)
- 2 Set the sleep timer. (See “Setting the Sleep Timer”)

Using Other Functions

To Prevent Accidental Change

—HOLD function

Press **HOLD**. “⓪” is displayed, indicating that all the functions of the buttons are locked.
To release the key protection, press **HOLD** again for “⓪” to disappear.

Precaution

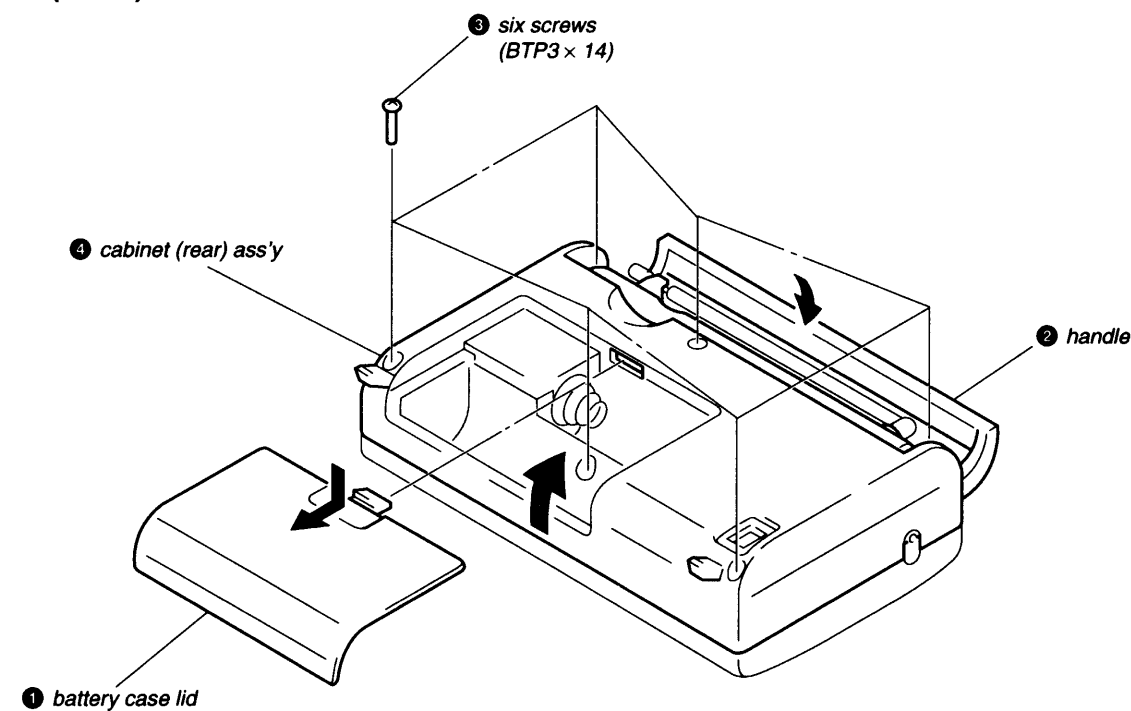
- Operate the unit on the power sources listed in “Specifications”.
- The unit is not disconnected from the AC power source (mains) as long as it is connected to the wall outlet, even if the unit itself has been turned off.
- The nameplate indicating operating voltage, power consumption, etc. is located on the rear exterior.
- Avoid exposure to temperature extremes, direct sunlight, moisture, sand, dust or mechanical shock. Never leave in a car parked in the sun.
- Should anything fall into the unit, remove the batteries, and have the unit checked by qualified personnel before operating it any further.
- In vehicles or buildings, radio reception may be difficult or noisy. Try listening near a window.
- Since a strong magnet is used for the speakers, keep personal credit cards using magnetic coding or spring-wound watches away from the unit to prevent possible damage from the magnet.
- To clean the casing, use a soft cloth dampened with a mild detergent solution.

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

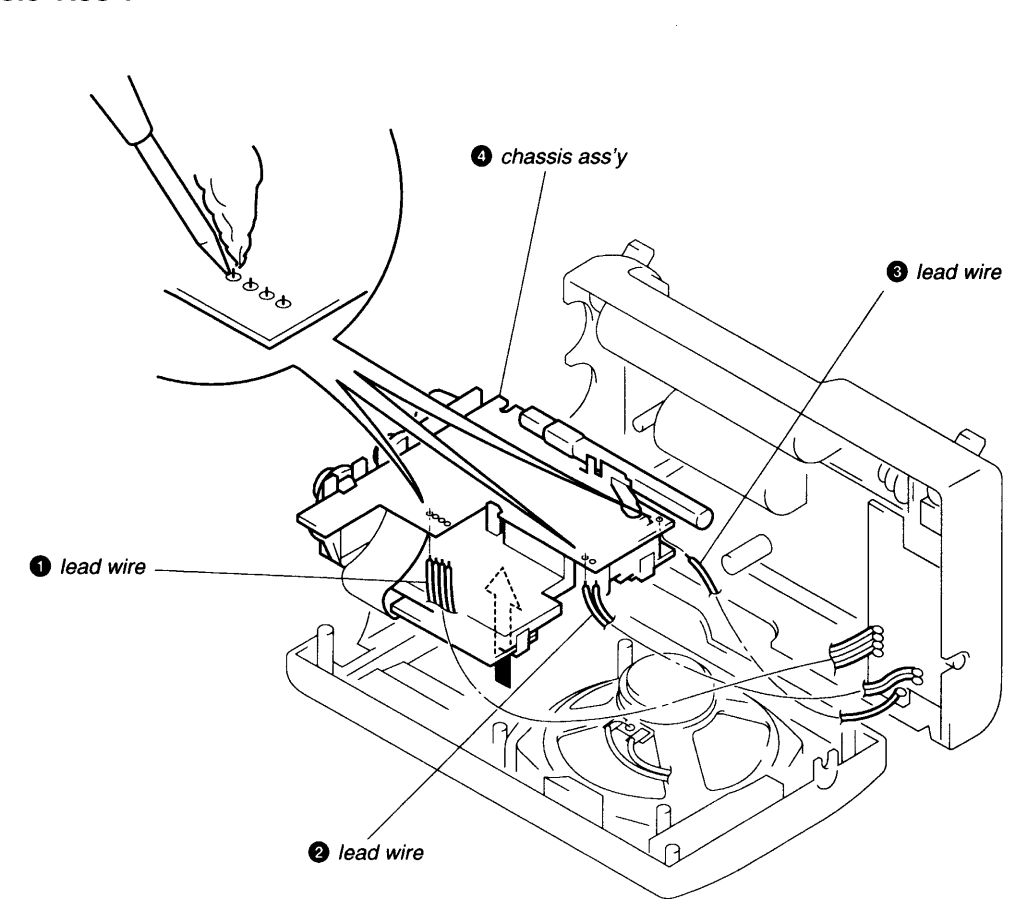
SECTION 2 DISASSEMBLY

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

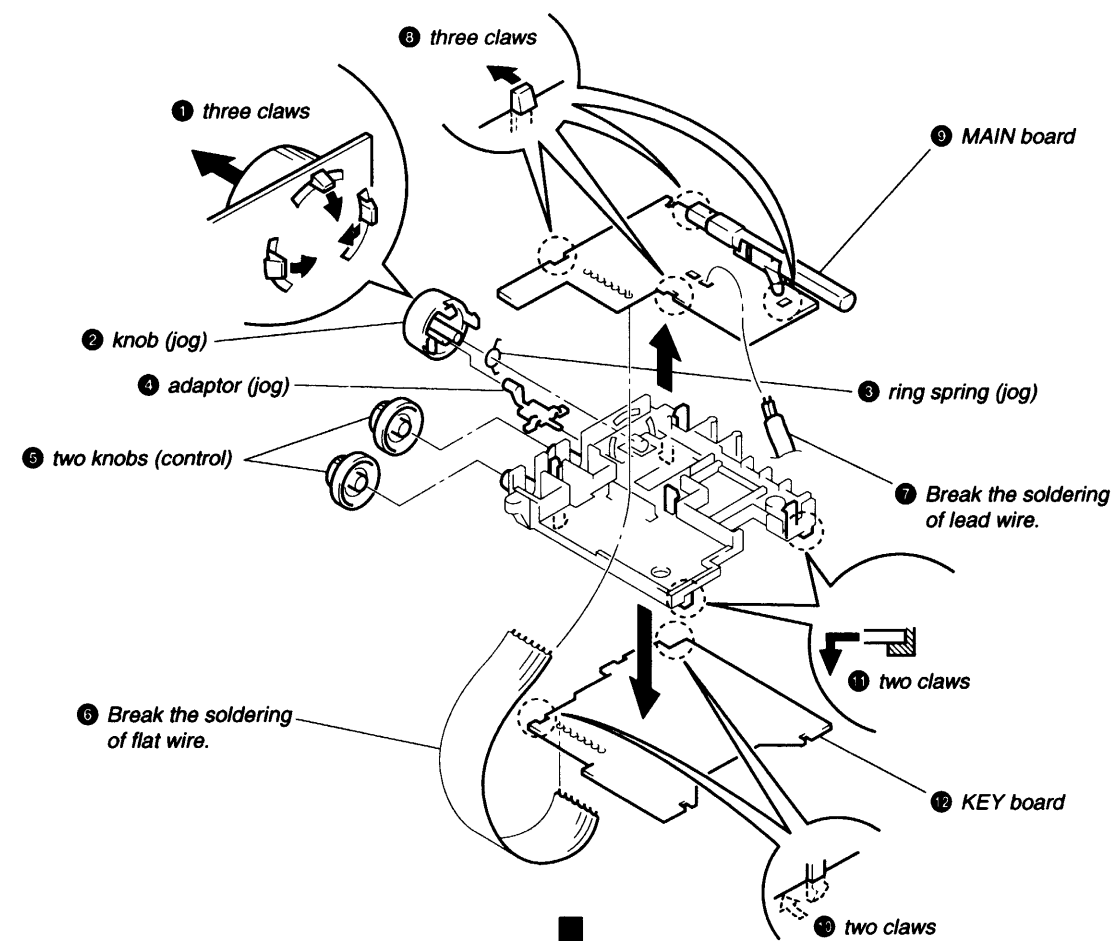
CABINET (REAR) ASS'Y



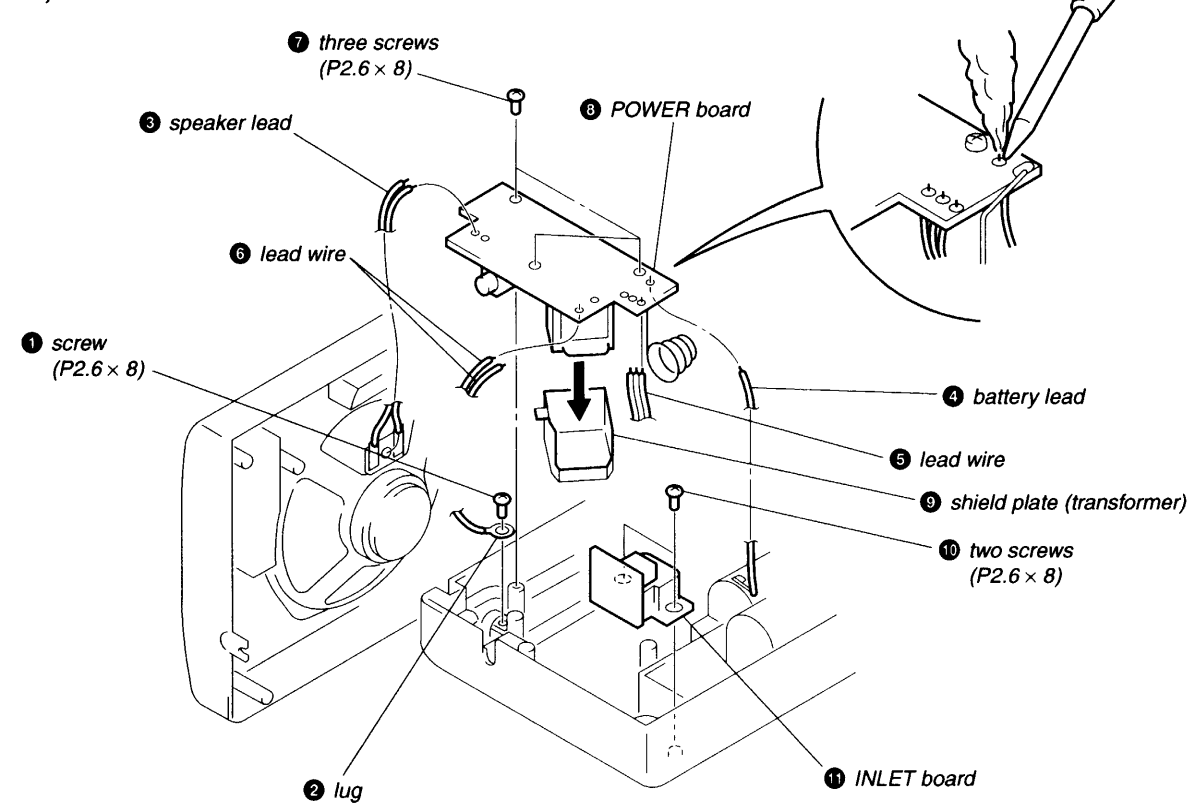
CHASSIS ASS'Y



MAIN, KEY BOARD



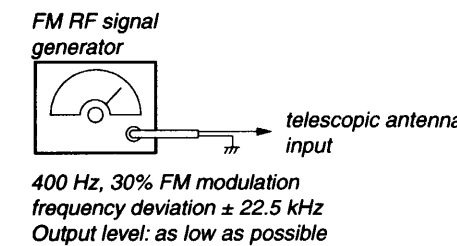
POWER, INLET BOARD



SECTION 3 ELECTRICAL ADJUSTMENTS

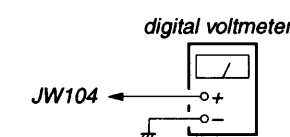
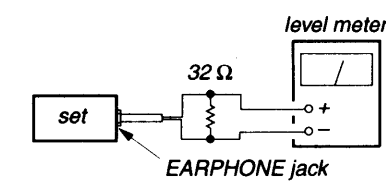
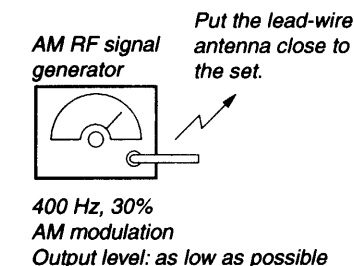
FM SECTION

Setting:
BAND switch: FM



AM SECTION

Setting:
BAND switch: MW/LW



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

FM FREQUENCY COVERAGE ADJUSTMENT		
Adjust for a reading on digital voltmeter.		
L104	87.5 MHz	2.7 ± 0.1 V
Confirm	108 MHz	10.2 ± 1 V

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

FM TRACKING ADJUSTMENT		
Adjust for a maximum reading on level meter.		
L103	87.5 MHz	
CT101	108 MHz	

MW FREQUENCY COVERAGE ADJUSTMENT		
Adjust for a reading on digital voltmeter.		
L2	531 kHz	2.8 ± 0.1 V
Confirm	1602 kHz	8.8 ± 1 V

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

MW TRACKING ADJUSTMENT		
Adjust for a maximum reading on level meter.		
L1-1	603 kHz	
CT1	1404 kHz	

LW FREQUENCY COVERAGE ADJUSTMENT		
Adjust for a reading on digital voltmeter.		
CT2	153 kHz	2.3 ± 0.1 V
Confirm	279 kHz	8.1 ± 1 V

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

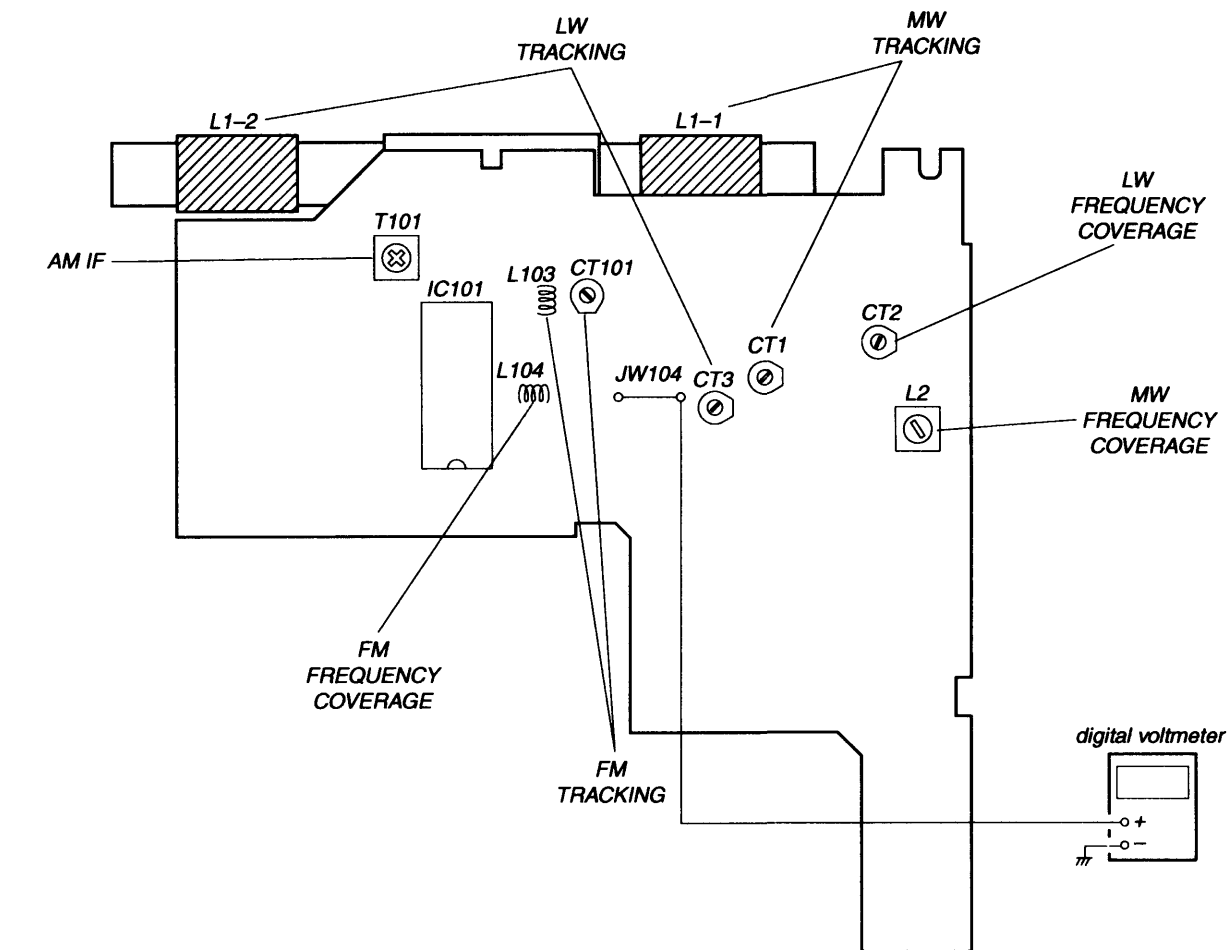
LW TRACKING ADJUSTMENT		
Adjust for a maximum reading on level meter.		
L1-2	162 kHz	
CT3	243 kHz	

AM IF ADJUSTMENT		
Adjust for a maximum reading on level meter.		
T101	450 kHz	

• Adjustment Location

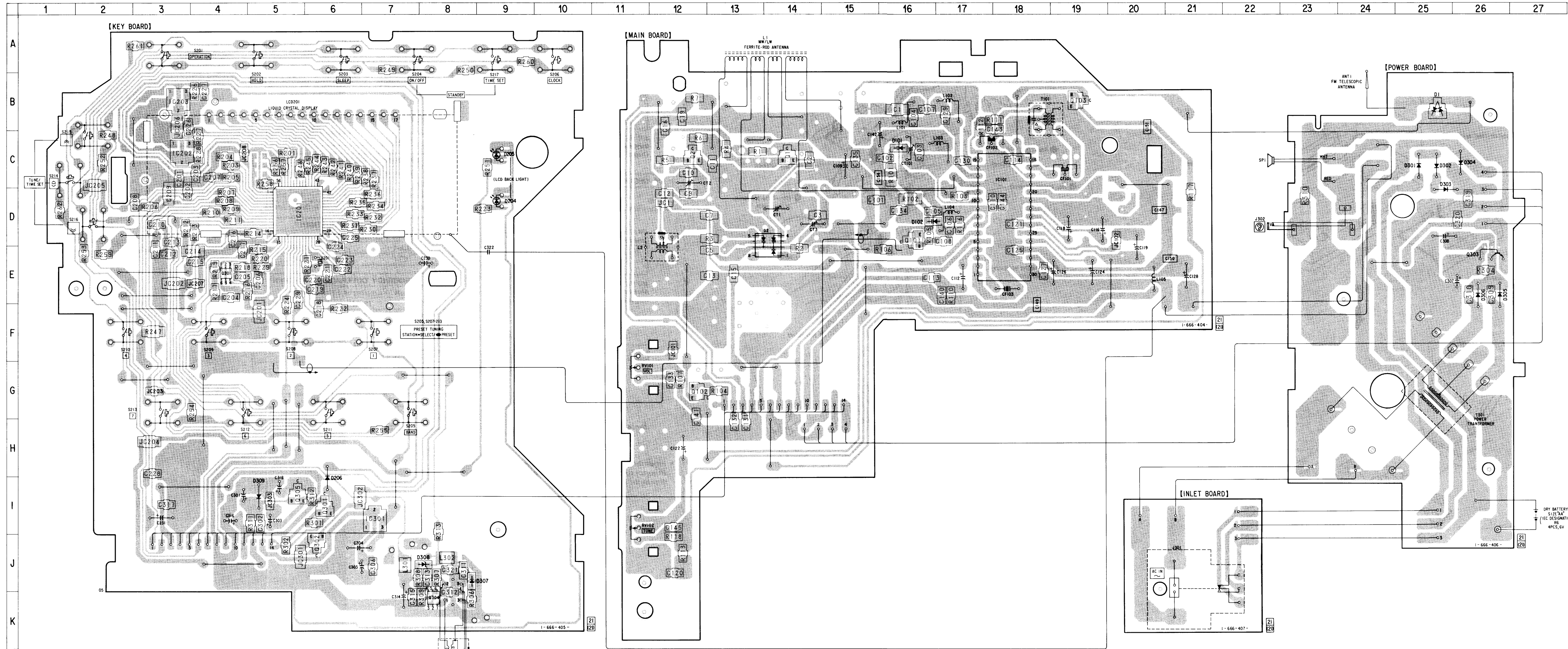
[MAIN BOARD]

- Component side -



SECTION 4
DIAGRAMS

4-1. PRINTED WIRING BOARDS



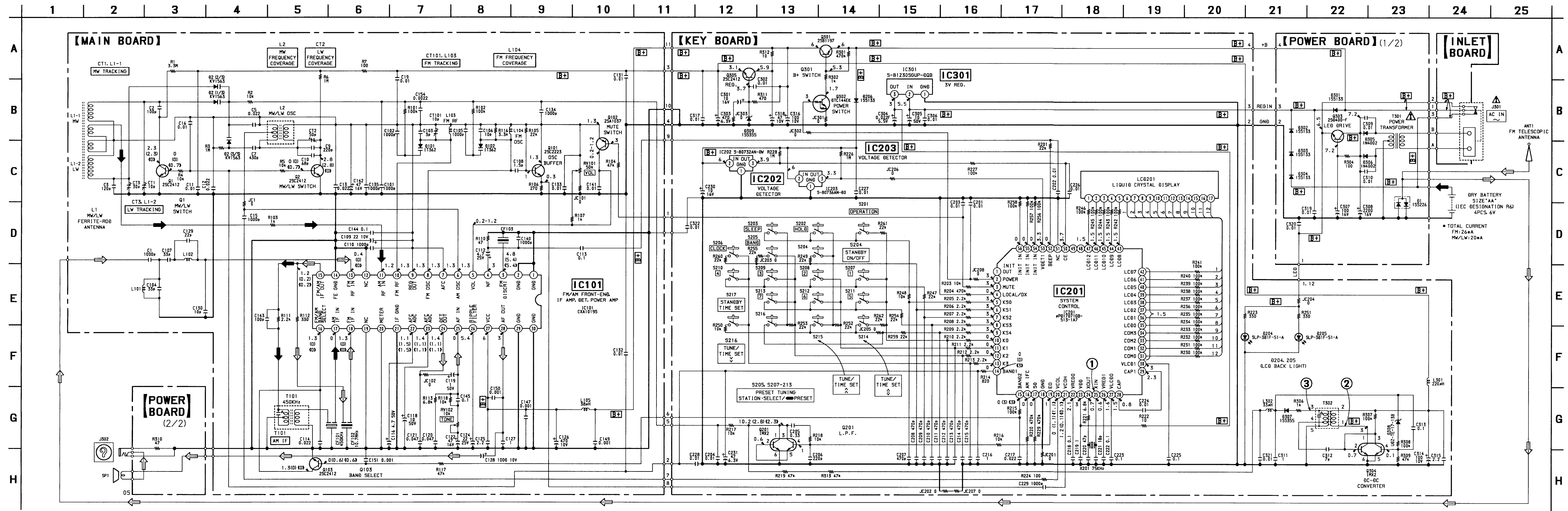
• Semiconductor Location

Ref. No.	Location
D1	B-25
D2	D-14
D101	C-16
D102	D-16
D204	D-9
D205	C-9
D206	I-6
D301	C-25
D302	C-25
D303	D-25
D304	C-26
D305	E-26
D306	E-26
D307	J-8
D308	J-8
D309	I-5
IC101	C-18
IC201	D-5
IC202	C-3
IC203	B-3
IC301	I-7
Q1	C-14
Q2	C-12
Q101	D-16
Q102	G-12
Q103	B-19
Q201	E-4
Q301	I-6
Q302	J-6
Q303	E-26
Q304	K-8
Q305	I-5

Note on Printed Wiring Board:

- : parts extracted from the component side.
- : parts extracted from the conductor side.
- : indicates side identified with part number.
- △ : internal component.
- ▨ : Pattern from the side which enables seeing.

4-2. SCHEMATIC DIAGRAM • See page 17 for Waveforms and IC Block Diagram.



Note on Schematic Diagram:

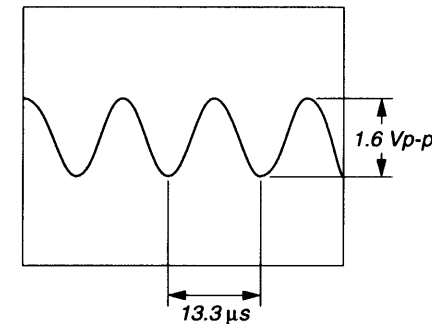
- All capacitors are in μF unless otherwise noted. pF : μpF
- 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $1/4$ W or less unless otherwise specified.
- Δ : internal component.
- \square : panel designation.

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

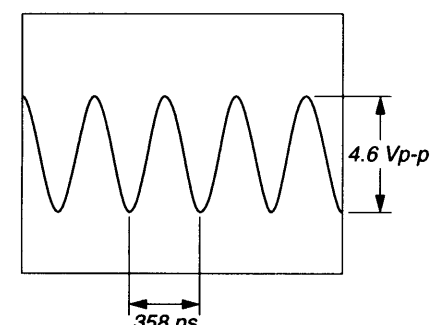
- B+**: B+ Line.
- \square : adjustment for repair.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
- no mark: FM
- (): MW
- \ll \gg : LW
- Voltages are taken with a VOM (Input impedance 10 M Ω). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with an oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
- \rightarrow : FM
- \rightarrow : MW/LW

• Waveforms

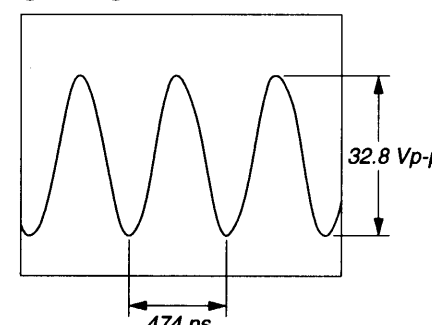
① IC201 (X IN)



② Q304

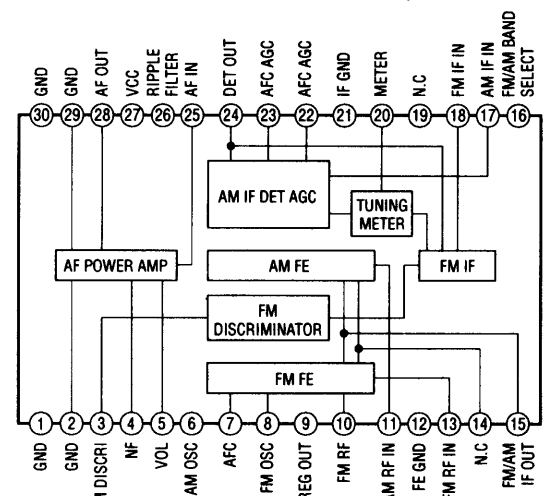


③ T302



• IC Block Diagram

IC101 CXA1019S (MAIN BOARD)



4-3. IC PIN FUNCTION DESCRIPTION

KEY BOARD IC201 μPD17071GB-513-1A7 (SYSTEM CONTROL)

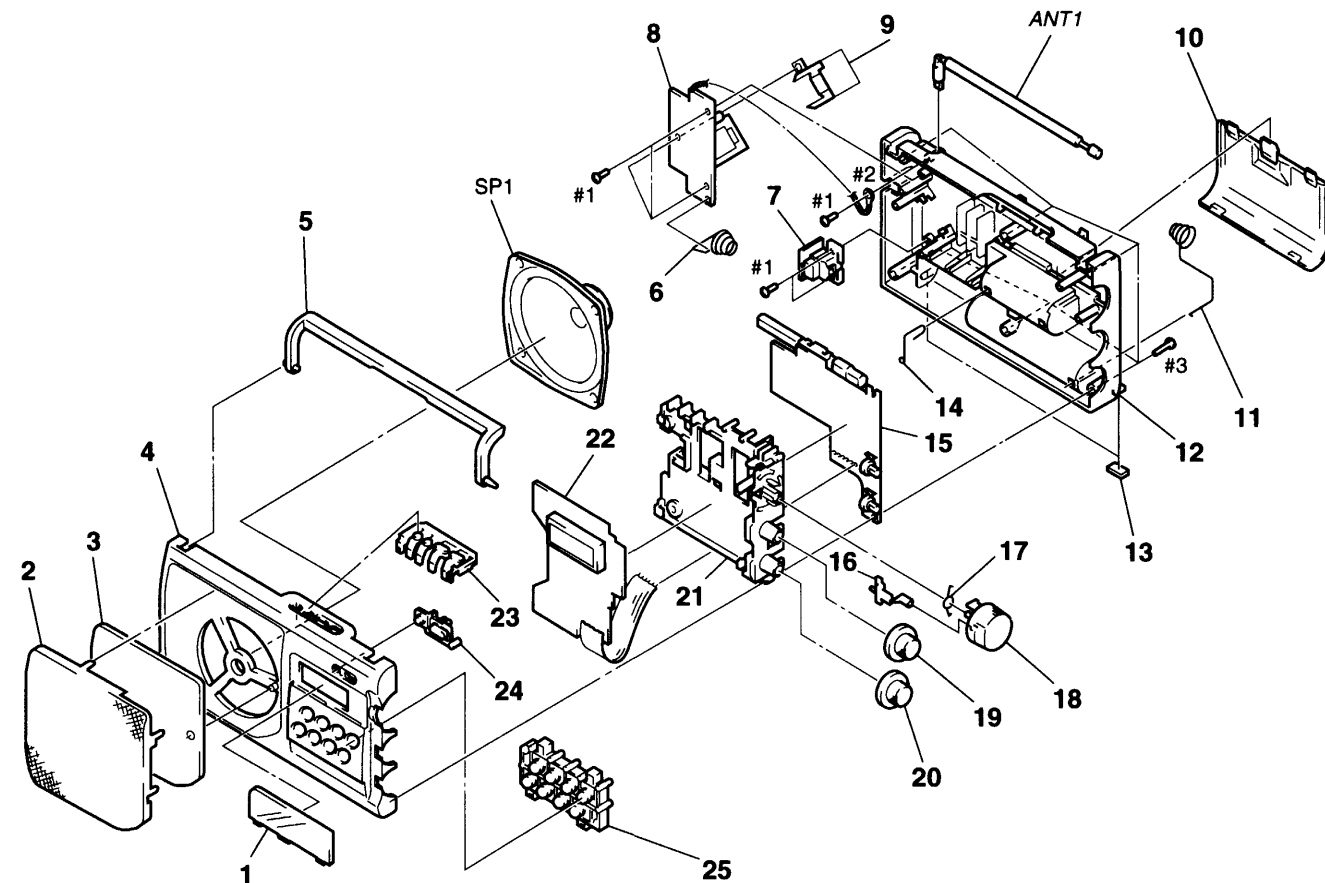
Pin No.	Pin Name	I/O	Function
1	INIT OUT	O	Initialize signal output
2	POWER	O	Radio power on/off output "H": Radio on
3	MUTE	O	Mute signal output "L": Mute on
4	LOCAL/DX	O	LOCAL/DX output "H": LOCAL
5-9	KS0-4	O	Key strobe signal output
10-13	K0-3	I	Key return signal input
14	BAND1	O	Receiving BAND1 BAND2
			FM L L
15	BAND2	O	LW H H
			MW L H
			Tuner OFF L L
16	AM IFC	O	Not used (Fixed at "L")
17	SD	I	Signal Detect signal input
18	GND	-	Ground
19	EO	O	PLL error output
20	VCOL	I	AM VCO (LW, MW) input
21	VCOH	I	FM VCO input
22	VREG0	-	Not used
23	VDD	-	Power supply (+3V)
24	XOUT	O	Connected to the 75 kHz crystal oscillator
25	XIN	I	
26	VREG1	-	Not used
27	VLCD0	-	Power supply for liquid crystal display
28	CAP	-	Connected to the power voltage capacitor for liquid crystal display drive
29	CAP1	-	
30	VLCD1	-	Power supply for liquid crystal display
31-34	COM0-3	O	Liquid crystal display common signal output
35-47	LCD0-12	O	Liquid crystal display segment signal output
48, 49	-	O	Not used (Open)
50	CE	I	Reduced voltage detection
51	NC	-	Not used (Fixed at "L")
52	BEEP	O	Buzzer signal output
53	VDET1	I	Reduced voltage warning input
54	INIT IN		
55	INIT IN	I	Destination set
56	INIT IN		

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

SECTION 5 EXPLODED VIEW



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
1	3-013-199-01	PLATE, TRANSPARENT		* 15	A-3679-897-A	MAIN BOARD, COMPLETE	
2	3-013-203-01	NET, SPEAKER		16	3-013-189-01	ADAPTOR (JOG)	
3	3-014-054-01	SHEET, SPEAKER		17	3-013-190-01	SPRING (JOG), RING	
4	3-013-191-11	CABINET (FRONT)		18	3-013-188-01	KNOB (JOG)	
5	3-013-201-01	HANDLE		19	3-013-197-01	KNOB (CONTROL) (VOL)	
6	3-014-052-01	TERMINAL (-), BATTERY		20	3-013-197-11	KNOB (CONTROL) (TONE)	
* 7	1-666-407-21	INLET BOARD		* 21	3-013-187-01	CHASSIS	
* 8	1-666-406-21	POWER BOARD		* 22	A-3679-898-A	KEY BOARD, COMPLETE	
* 9	3-013-204-01	PLATE (TRANSFORMER), SHIELD		23	3-013-195-01	BUTTON (SLEEP)	
10	3-013-200-01	LID, BATTERY CASE		24	3-013-194-01	BUTTON (POWER) (●)	
11	3-014-053-01	TERMINAL (+, -), BATTERY		25	3-013-196-01	BUTTON (PRESET) (1, 2, 3, 4, ●, 5, 6, 7)	
12	3-013-192-11	CABINET (REAR)		ANT1	1-501-321-51	ANTENNA, TELESCOPIC (FM)	
13	3-014-055-01	FOOT, RUBBER		SP1	1-505-728-21	SPEAKER (12cm)	
14	3-014-051-01	TERMINAL (+), BATTERY					

INLET KEY

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

SECTION 6 ELECTRICAL PARTS LIST

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
* 1	1-666-407-21	INLET BOARD		C231	1-126-154-11	ELECT 47uF 20%	6.3V
		< AC INLET >		C301	1-104-396-11	ELECT 10uF 20%	16V
				C302	1-163-031-11	CERAMIC CHIP 0.01uF	50V
				C303	1-126-935-11	ELECT 470uF 20%	6.3V
				C304	1-125-691-11	CAPACITOR 0.022F	5.5V
ΔJ301	1-526-838-11	INLET, AC 2P (AC IN ~)		C305	1-126-964-11	ELECT 10uF 20%	50V
				C306	1-163-031-11	CERAMIC CHIP 0.01uF	50V
				C311	1-164-346-11	CERAMIC CHIP 1uF	16V
				C312	1-163-090-00	CERAMIC CHIP 7PF	0.25PF 50V
				C313	1-163-038-00	CERAMIC CHIP 0.1uF	25V
				C314	1-124-584-00	ELECT 100uF 20%	10V
				C315	1-164-505-11	CERAMIC CHIP 2.2uF	16V
				C316	1-126-177-11	ELECT 100uF 20%	10V
				C317	1-163-031-11	CERAMIC CHIP 0.01uF	50V
				C318	1-126-785-11	ELECT 47uF 20%	10V
				C321	1-164-232-11	CERAMIC CHIP 0.01uF	50V
				C322	1-161-051-00	CERAMIC 0.01uF	10% 50V
						< DIODE >	
				D204	8-719-991-09	LED SLP381F-51-A (LCD BACK LIGHT)	
				D205	8-719-991-09	LED SLP381F-51-A (LCD BACK LIGHT)	
				D206	8-719-991-33	DIODE 1SS133T-77	
				D307	8-719-988-62	DIODE 1SS355	
				D308	8-719-977-40	DIODE DTZ13B	
				D309	8-719-988-62	DIODE 1SS355	
						< IC >	
				IC201	8-759-474-49	IC μPD17071GB-513-1A7	
				IC202	8-759-067-57	IC S-80732AN-DW-S	
				IC203	8-759-196-22	IC S-80736AN-D0-T1	
				IC301	8-759-431-95	IC S-81230SGUP-D0B-T1	
						< JUMPER RESISTOR >	
				JC201	1-216-296-00	CONDUCTOR, CHIP (3216)	
				JC202	1-216-296-00	CONDUCTOR, CHIP (3216)	
				JC203	1-216-295-00	CONDUCTOR, CHIP (2012)	
				JC204	1-216-296-00	CONDUCTOR, CHIP (3216)	
				JC205	1-216-296-00	CONDUCTOR, CHIP (3216)	
				JC206	1-216-296-00	CONDUCTOR, CHIP (3216)	
				JC207	1-216-295-00	CONDUCTOR, CHIP (2012)	
				JC208	1-216-295-00	CONDUCTOR, CHIP (2012)	
				JC301	1-216-296-00	CONDUCTOR, CHIP (3216)	
				JC302	1-216-296-00	CONDUCTOR, CHIP (3216)	

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

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

KEY

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
JC303	1-216-295-00	CONDUCTOR, CHIP (2012)		R245	1-216-097-00	METAL GLAZE 100K 5%	1/10W
		< COIL >		R246	1-216-097-00	METAL GLAZE 100K 5%	1/10W
L301	1-410-658-31	INDUCTOR CHIP 220uH		R247	1-216-230-00	METAL GLAZE 22K 5%	1/8W
L302	1-410-387-11	INDUCTOR CHIP 33uH		R248	1-216-073-00	METAL CHIP 10K 5%	1/10W
		< LIQUID CRYSTAL DISPLAY >		R249	1-216-081-00	METAL CHIP 22K 5%	1/10W
LCD201	1-801-869-11	DISPLAY PANEL, LIQUID CRYSTAL		R250	1-216-073-00	METAL CHIP 10K 5%	1/10W
		< TRANSISTOR >		R251	1-216-037-00	METAL CHIP 330 5%	1/10W
Q201	8-729-920-59	TRANSISTOR IMX2		R252	1-216-081-00	METAL CHIP 22K 5%	1/10W
Q301	8-729-904-87	TRANSISTOR 2SB1197K-R		R253	1-216-081-00	METAL CHIP 22K 5%	1/10W
Q302	8-729-027-59	TRANSISTOR DTC144EKA-T146		R254	1-216-081-00	METAL CHIP 22K 5%	1/10W
Q304	8-729-920-59	TRANSISTOR IMX2		R255	1-216-081-00	METAL CHIP 22K 5%	1/10W
Q305	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R256	1-216-097-00	METAL GLAZE 100K 5%	1/10W
		< RESISTOR >		R257	1-216-097-00	METAL GLAZE 100K 5%	1/10W
R201	1-216-081-00	METAL CHIP 22K 5%	1/10W	R258	1-216-097-00	METAL GLAZE 100K 5%	1/10W
R203	1-216-073-00	METAL CHIP 10K 5%	1/10W	R259	1-216-081-00	METAL CHIP 22K 5%	1/10W
R204	1-216-113-00	METAL CHIP 470K 5%	1/10W	R260	1-216-081-00	METAL CHIP 22K 5%	1/10W
R205	1-216-057-00	METAL CHIP 2.2K 5%	1/10W	R261	1-216-081-00	METAL CHIP 22K 5%	1/10W
R206	1-216-057-00	METAL CHIP 2.2K 5%	1/10W	R262	1-216-081-00	METAL CHIP 22K 5%	1/10W
R207	1-216-057-00	METAL CHIP 2.2K 5%	1/10W	R301	1-216-113-00	METAL CHIP 470K 5%	1/10W
R208	1-216-057-00	METAL CHIP 2.2K 5%	1/10W	R302	1-216-049-11	METAL GLAZE 1K 5%	1/10W
R209	1-216-057-00	METAL CHIP 2.2K 5%	1/10W	R306	1-216-049-11	METAL GLAZE 1K 5%	1/10W
R210	1-216-057-00	METAL CHIP 2.2K 5%	1/10W	R307	1-216-097-00	METAL GLAZE 100K 5%	1/10W
R211	1-216-057-00	METAL CHIP 2.2K 5%	1/10W	R308	1-216-097-00	METAL GLAZE 100K 5%	1/10W
R212	1-216-057-00	METAL CHIP 2.2K 5%	1/10W	R309	1-216-089-00	METAL GLAZE 47K 5%	1/10W
R213	1-216-057-00	METAL CHIP 2.2K 5%	1/10W	R311	1-216-041-00	METAL CHIP 470 5%	1/10W
R214	1-216-047-00	METAL GLAZE 820 5%	1/10W	R312	1-216-001-00	METAL CHIP 10 5%	1/10W
R215	1-216-097-00	METAL GLAZE 100K 5%	1/10W	R313	1-216-089-00	METAL GLAZE 47K 5%	1/10W
R216	1-216-073-00	METAL CHIP 10K 5%	1/10W			< SWITCH >	
R217	1-216-073-00	METAL CHIP 10K 5%	1/10W	S201	1-762-233-11	SWITCH, KEY BOARD (OPERATION)	
R218	1-216-073-00	METAL CHIP 10K 5%	1/10W	S202	1-762-233-11	SWITCH, KEY BOARD (HOLD)	
R219	1-216-089-00	METAL GLAZE 47K 5%	1/10W	S203	1-762-233-11	SWITCH, KEY BOARD (SLEEP)	
R220	1-216-113-00	METAL CHIP 470K 5%	1/10W	S204	1-762-233-11	SWITCH, KEY BOARD (STANDBY ON/OFF)	
R221	1-216-069-00	METAL CHIP 6.8K 5%	1/10W	S205	1-762-233-11	SWITCH, KEY BOARD (BAND)	
R222	1-216-001-00	METAL CHIP 10 5%	1/10W	S206	1-553-856-00	SWITCH, KEY BOARD (CLOCK)	
R223	1-216-037-00	METAL CHIP 330 5%	1/10W	S207	1-762-233-11	SWITCH, KEY BOARD (1)	
R224	1-216-025-00	METAL GLAZE 100 5%	1/10W	S208	1-762-233-11	SWITCH, KEY BOARD (2)	
R226	1-216-121-00	METAL GLAZE 1M 5%	1/10W	S209	1-762-233-11	SWITCH, KEY BOARD (3)	
R227	1-216-097-00	METAL GLAZE 100K 5%	1/10W	S210	1-762-233-11	SWITCH, KEY BOARD (4)	
R228	1-216-121-00	METAL GLAZE 1M 5%	1/10W	S211	1-762-233-11	SWITCH, KEY BOARD (5)	
R229	1-216-113-00	METAL CHIP 470K 5%	1/10W	S212	1-762-233-11	SWITCH, KEY BOARD (6)	
R230	1-216-097-00	METAL GLAZE 100K 5%	1/10W	S213	1-762-233-11	SWITCH, KEY BOARD (7)	
R231	1-216-097-00	METAL GLAZE 100K 5%	1/10W	S214	1-553-856-00	SWITCH, KEY BOARD (TUNE/TIME SET Ⓢ)	
R232	1-216-097-00	METAL GLAZE 100K 5%	1/10W	S215	1-553-856-00	SWITCH, KEY BOARD (TUNE/TIME SET Ⓢ)	
R233	1-216-097-00	METAL GLAZE 100K 5%	1/10W	S216	1-553-856-00	SWITCH, KEY BOARD (TUNE/TIME SET Ⓢ)	
R234	1-216-097-00	METAL GLAZE 100K 5%	1/10W	S217	1-553-856-00	SWITCH, KEY BOARD (STANDBY TIME SET)	
R235	1-216-097-00	METAL GLAZE 100K 5%	1/10W			< TRANSFORMER >	
R236	1-216-097-00	METAL GLAZE 100K 5%	1/10W	T302	1-449-138-61	TRANSFORMER, DC-DC CONVERTER	
R237	1-216-097-00	METAL GLAZE 100K 5%	1/10W			< VIBRATOR >	
R238	1-216-097-00	METAL GLAZE 100K 5%	1/10W	X201	1-767-517-11	VIBRATOR, CRYSTAL (75kHz)	
R239	1-216-097-00	METAL GLAZE 100K 5%	1/10W	*****			
R240	1-216-097-00	METAL GLAZE 100K 5%	1/10W				
R241	1-216-097-00	METAL GLAZE 100K 5%	1/10W				
R242	1-216-097-00	METAL GLAZE 100K 5%	1/10W				
R243	1-216-097-00	METAL GLAZE 100K 5%	1/10W				
R244	1-216-097-00	METAL GLAZE 100K 5%	1/10W				

MAIN

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
*	A-3679-897-A	MAIN BOARD, COMPLETE *****		C151	1-163-141-00	CERAMIC CHIP 0.001uF 5%	50V
	3-013-193-01	HOLDER (B.ANT)		C154	1-164-161-11	CERAMIC CHIP 0.0022uF 10%	100V
		< CAPACITOR >				< FILTER >	
C1	1-163-205-00	CERAMIC CHIP 0.001uF	5% 50V	CF101	1-578-677-21	FILTER, CRYSTAL (450kHz)	
C2	1-163-117-00	CERAMIC CHIP 100PF	5% 50V	CF102	1-579-632-41	FILTER, CERAMIC (10.7MHz)	
C3	1-163-119-00	CERAMIC CHIP 120PF	5% 50V	CF103	1-579-632-41	FILTER, CERAMIC	
C5	1-163-037-11	CERAMIC CHIP 0.022uF	10% 25V			< TRIMMER >	
C7	1-163-132-00	CERAMIC CHIP 430PF	5% 50V	CT1	1-141-410-11	CAP, ADJ 10PF	
				CT2	1-141-444-11	CAP, CERAMIC TRIMMER 50PF	
C9	1-163-125-00	CERAMIC CHIP 220PF	5% 50V	CT3	1-141-438-21	CAP, ADJ 30PF	
C10	1-163-113-00	CERAMIC CHIP 68PF	5% 50V	CT101	1-141-410-11	CAP, ADJ 10PF	
C11	1-163-031-11	CERAMIC CHIP 0.01uF	50V			< DIODE >	
C12	1-163-033-00	CERAMIC CHIP 0.022uF	50V	D2	8-719-023-99	DIODE KV1563M-3	
C13	1-163-033-00	CERAMIC CHIP 0.022uF	50V	D101	8-713-100-11	DIODE 1T362	
				D102	8-713-100-11	DIODE 1T362	
C15	1-163-141-00	CERAMIC CHIP 0.001uF	5% 50V			< IC >	
C16	1-163-031-11	CERAMIC CHIP 0.01uF	50V	IC101	8-752-037-02	IC CXA1019S	
C19	1-163-031-11	CERAMIC CHIP 0.01uF	50V			< JUMPER RESISTOR >	
C101	1-163-141-00	CERAMIC CHIP 0.001uF	5% 50V	JC1	1-216-295-00	CONDUCTOR, CHIP (2012)	
C102	1-163-141-00	CERAMIC CHIP 0.001uF	5% 50V	JC101	1-216-295-00	CONDUCTOR, CHIP (2012)	
				JC102	1-216-295-00	CONDUCTOR, CHIP (2012)	
C103	1-163-220-11	CERAMIC CHIP 3PF	0.25PF 50V			< COIL >	
C104	1-163-239-11	CERAMIC CHIP 33PF	5% 50V	L1	1-501-948-11	ANTENNA, FERRITE-ROD (MW/LW)	
C105	1-163-141-00	CERAMIC CHIP 0.001uF	5% 50V	L2	1-406-485-11	COIL (OSC)	
C106	1-163-227-11	CERAMIC CHIP 10PF	0.5PF 50V	L101	1-428-768-11	COIL, AIR-CORE	
C107	1-163-239-11	CERAMIC CHIP 33PF	5% 50V	L102	1-428-768-11	COIL, AIR-CORE	
				L103	1-411-529-11	COIL, AIR-CORE	
C108	1-163-084-00	CERAMIC CHIP 1.5PF	0.25PF 50V	L104	1-428-769-11	COIL, AIR-CORE	
C109	1-124-234-00	ELECT 22uF	20% 16V	L105	1-410-294-11	INDUCTOR, MICRO 38uH	
C110	1-163-141-00	CERAMIC CHIP 0.001uF	5% 50V			< TRANSISTOR >	
C112	1-126-163-11	ELECT 4.7uF	20% 50V	Q1	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
C113	1-163-038-00	CERAMIC CHIP 0.1uF	25V	Q2	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
				Q101	8-729-102-07	TRANSISTOR 2SC2223-F13	
C114	1-163-033-00	CERAMIC CHIP 0.022uF	50V	Q102	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R	
C116	1-126-963-11	ELECT 4.7uF	20% 50V	Q103	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
C118	1-126-964-11	ELECT 10uF	20% 50V			< RESISTOR >	
C119	1-126-960-11	ELECT 1uF	20% 50V	R1	1-216-133-00	METAL CHIP 3.3M 5%	1/10W
C120	1-163-035-00	CERAMIC CHIP 0.047uF	50V	R2	1-216-073-00	METAL CHIP 10K 5%	1/10W
				R3	1-216-121-00	METAL GLAZE 1M 5%	1/10W
C121	1-163-035-00	CERAMIC CHIP 0.047uF	50V	R4	1-216-073-00	METAL CHIP 10K 5%	1/10W
C122	1-126-967-11	ELECT 47uF	20% 16V	R5	1-216-073-00	METAL CHIP 10K 5%	1/10W
C124	1-128-551-11	ELECT 22uF	20% 25V				
C125	1-164-505-11	CERAMIC CHIP 2.2uF	16V	R6	1-216-121-00	METAL GLAZE 1M 5%	1/10W
C126	1-126-925-11	ELECT 470uF	20% 10V	R7	1-216-025-00	METAL GLAZE 100 5%	1/10W
				R101	1-216-246-00	METAL GLAZE 100K 5%	1/8W
C127	1-164-346-11	CERAMIC CHIP 1uF	16V	R102	1-216-246-00	METAL GLAZE 100K 5%	1/8W
C128	1-126-926-11	ELECT 1000uF	20% 10V	R103	1-216-049-11	METAL GLAZE 1K 5%	1/10W
C129	1-163-235-11	CERAMIC CHIP 22PF	5% 50V				
C130	1-163-227-11	CERAMIC CHIP 10PF	0.5PF 50V	R104	1-216-089-00	METAL GLAZE 47K 5%	1/10W
C131	1-163-031-11	CERAMIC CHIP 0.01uF	50V	R105	1-216-081-00	METAL CHIP 22K 5%	1/10W
				R106	1-216-035-00	METAL CHIP 270 5%	1/10W
C132	1-163-031-11	CERAMIC CHIP 0.01uF	50V	R107	1-216-049-11	METAL GLAZE 1K 5%	1/10W
C133	1-163-031-11	CERAMIC CHIP 0.01uF	50V	R110	1-216-017-00	METAL GLAZE 47 5%	1/10W
C134	1-163-141-00	CERAMIC CHIP 0.001uF	5% 50V				
C135	1-163-141-00	CERAMIC CHIP 0.001uF	5% 50V				
C140	1-163-141-00	CERAMIC CHIP 0.001uF	5% 50V				
C141	1-163-031-11	CERAMIC CHIP 0.01uF	50V				
C142	1-124-589-11	ELECT 47uF	20% 16V				
C143	1-163-117-00	CERAMIC CHIP 100PF	5% 50V				
C144	1-164-004-11	CERAMIC CHIP 0.1uF	10% 25V				
C145	1-164-004-11	CERAMIC CHIP 0.1uF	10% 25V				
C147	1-163-141-00	CERAMIC CHIP 0.001uF	5% 50V				
C149	1-163-141-00	CERAMIC CHIP 0.001uF	5% 50V				
C150	1-163-141-00	CERAMIC CHIP 0.001uF	5% 50V				

Ref. No.	Part No.	Description	Remark
R111	1-216-057-00	METAL CHIP 2.2K	5% 1/10W
R112	1-216-037-00	METAL CHIP 330	5% 1/10W
R113	1-216-069-00	METAL CHIP 6.8K	5% 1/10W
R116	1-216-061-00	METAL CHIP 3.3K	5% 1/10W
R117	1-216-089-00	METAL GLAZE 47K	5% 1/10W
< VARIABLE RESISTOR >			
RV101	1-225-498-11	RES, VAR 50K (VOL)	
RV102	1-225-499-11	RES, VAR 10K (TONE)	
< TRANSFORMER >			
T101	1-404-902-31	TRANSFORMER, IF (450kHz)	

*	1-666-406-21	POWER BOARD	*****
< CAPACITOR >			
C307	1-126-933-61	ELECT 100uF	20% 16V
C308	1-126-768-11	ELECT 2200uF	20% 16V
C309	1-163-031-11	CERAMIC CHIP 0.01uF	50V
C310	1-163-031-11	CERAMIC CHIP 0.01uF	50V
C319	1-163-031-11	CERAMIC CHIP 0.01uF	50V
C320	1-163-031-11	CERAMIC CHIP 0.01uF	50V
< DIODE >			
D1	8-719-800-76	DIODE 1SS226	
D301	8-719-991-33	DIODE 1SS133T-77	
D302	8-719-991-33	DIODE 1SS133T-77	
D303	8-719-991-33	DIODE 1SS133T-77	
D304	8-719-991-33	DIODE 1SS133T-77	
D305	8-719-031-85	DIODE 1N4002L	
D306	8-719-031-85	DIODE 1N4002L	
< JACK >			
J302	1-770-666-11	JACK (⊙)	
< TRANSISTOR >			
Q303	8-729-840-03	TRANSISTOR 2SD400-F	
< RESISTOR >			
R304	1-216-025-00	METAL GLAZE 100	5% 1/10W
R310	1-216-017-00	METAL GLAZE 47	5% 1/10W
< TRANSFORMER >			
△ T301	1-431-517-11	TRANSFORMER, POWER	

MISCELLANEOUS			

ANT1	1-501-321-51	ANTENNA, TELESCOPIC (FM)	
SP1	1-505-728-21	SPEAKER (12cm)	

Ref. No.	Part No.	Description	Remark

HARDWARE LIST			

#1	7-685-134-19	SCREW +P 2.6X8 TYPE2 NON-SLIT	
#2	7-623-507-01	LUG, 2.6	
#3	7-685-549-14	SCREW +BTP 3X14 TYPE2 N-S	

ACCESSORIES & PACKING MATERIALS			

△	1-751-115-11	CORD, POWER (UK)	
△	1-769-412-11	CORD, POWER (AEP, Italian)	
	3-860-342-11	MANUAL, INSTRUCTION (ENGLISH, FRENCH, GERMAN, SPANISH, DUTCH)	
	3-860-342-21	MANUAL, INSTRUCTION (ITALIAN, SWEDISH)	

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

