ICD-P620

SERVICE MANUAL

Ver. 1.1 2008.03

US Model
Canadian Model
AEP Model
E Model

SPECIFICATIONS

IC recorder section

Recording media

Built-in flash memory 512 MB, Monaural recording
A part of the memory capacity is used as a management area.

Recording time

HQ: 59 hours 45 minutes
SP: 159 hours 20 minutes
LP: 261 hours 45 minutes

Freqency range

HQ: 260 Hz - 6,800 Hz
SP/LP: 220 Hz - 3,400 Hz

General

Speaker

Approx. 2.8 cm (1 1/8 in.) dia.

Power output

250 mW

Input/Output

- Headphone jack (minijack) for 8 - 300 ohms ear receiver/headphones
- Microphone jack (minijack, monaural)
  Plug in power
  Minimum input level 0.6 mV
  3 kilohms or lower impedance microphone
- USB connector

Power requirements

Two LR03 (size AAA) alkaline batteries: 3 V DC

Dimensions (w/h/d) (not incl. projecting parts and controls)

34.6 × 109.2 × 18.4 mm (1 3/8 × 4 3/8 × 3/4 in.)

Mass (incl. batteries)

67 g (2.4 oz)

Supplied accessories

Operating instructions (1)
LR03 (size AAA) alkaline batteries (2)
Headphone (1) (excluding the U.S.A., Canada and Europe)
Carrying pouch (1) (excluding the U.S.A., Canada and Europe)
USB connecting cable (1)
Application software (CD-ROM) (1)

Design and specifications are subject to change without notice.

IC RECORDER

9-887-971-02
2008C04-1
© 2008.03

Sony Corporation
Audio Business Group
Published by Sony Techno Create Corporation

SONY

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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.

Flexible Circuit Board Repairing

- Keep the temperature of soldering iron around 270 °C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

UNLEADED SOLDER

Boards requiring use of unleaded solder are printed with the lead-free mark (LF) indicating the solder contains no lead.
(Caution: Some printed circuit boards may not come printed with the lead free mark due to their particular size)

: LEAD FREE MARK

Unleaded solder has the following characteristics.

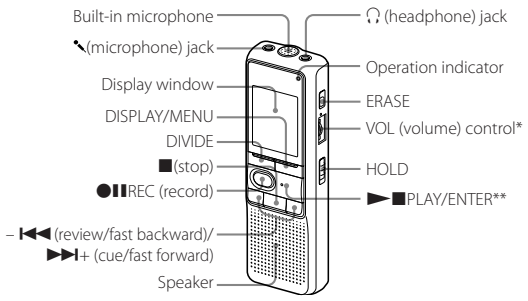
- Unleaded solder melts at a temperature about 40 °C higher than ordinary solder.
  Ordinary soldering irons can be used but the iron tip has to be applied to the solder joint for a slightly longer time.
  Soldering irons using a temperature regulator should be set to about 350 °C.
  Caution: The printed pattern (copper foil) may peel away if the heated tip is applied for too long, so be careful!
- Strong viscosity
  Unleaded solder is more viscous (sticky, less prone to flow) than ordinary solder so use caution not to let solder bridges occur such as on IC pins, etc.
- Usable with ordinary solder
  It is best to use only unleaded solder but unleaded solder may also be added to ordinary solder.

SECTION 1
GENERAL

This section is extracted from instruction manual.

Index to Parts and Controls

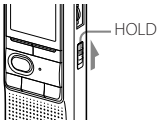
Main unit



* There is a tactile dot beside the control to show the direction to turn up the volume.
** The button has a tactile dot.

Preventing Accidental Operation — HOLD function

Slide the HOLD switch to ON. "HOLD" will flash three times, indicating that all the functions of the buttons are locked.
When the HOLD function is activated during stop, all the display will be turned off after "HOLD" flashes.



To cancel the HOLD function

Slide the HOLD switch to OFF.

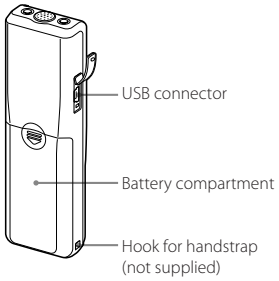
Note

When the HOLD function is activated during recording, cancel the HOLD function first to stop recording.

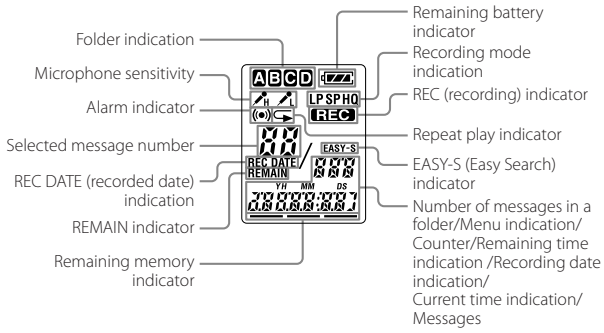
Tip

Even if the HOLD function is activated, you can stop the alarm playback. To stop the alarm or playback, press ■(stop).

Rear

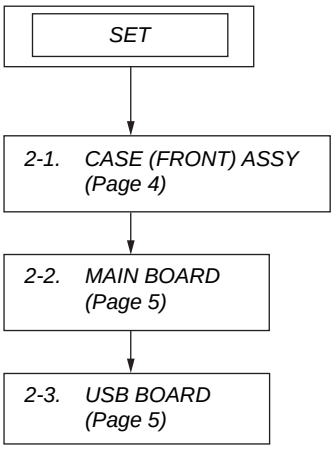


Display window



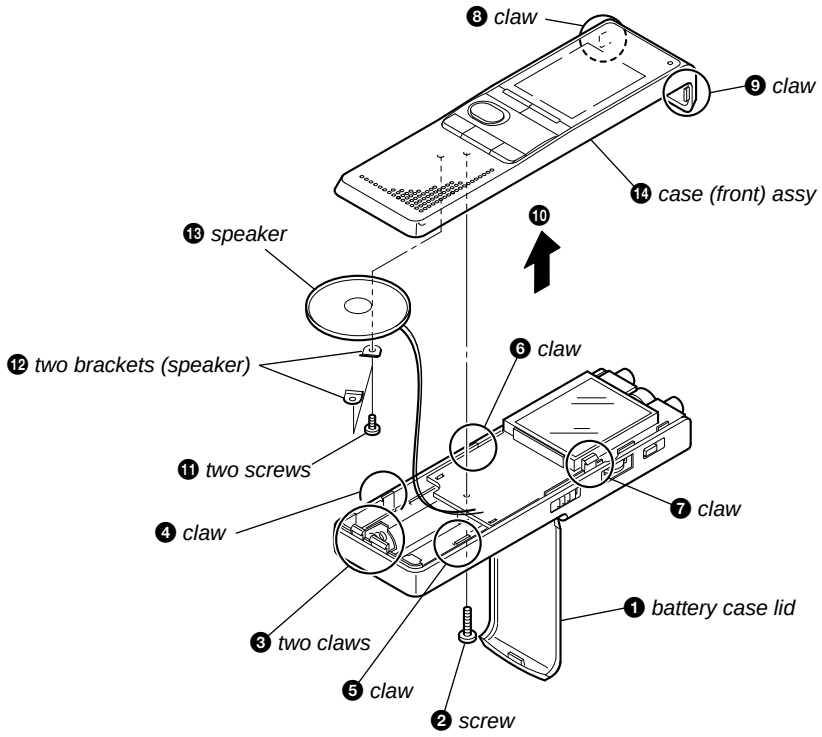
SECTION 2
DISASSEMBLY

- This set can be disassembled in the order shown below.

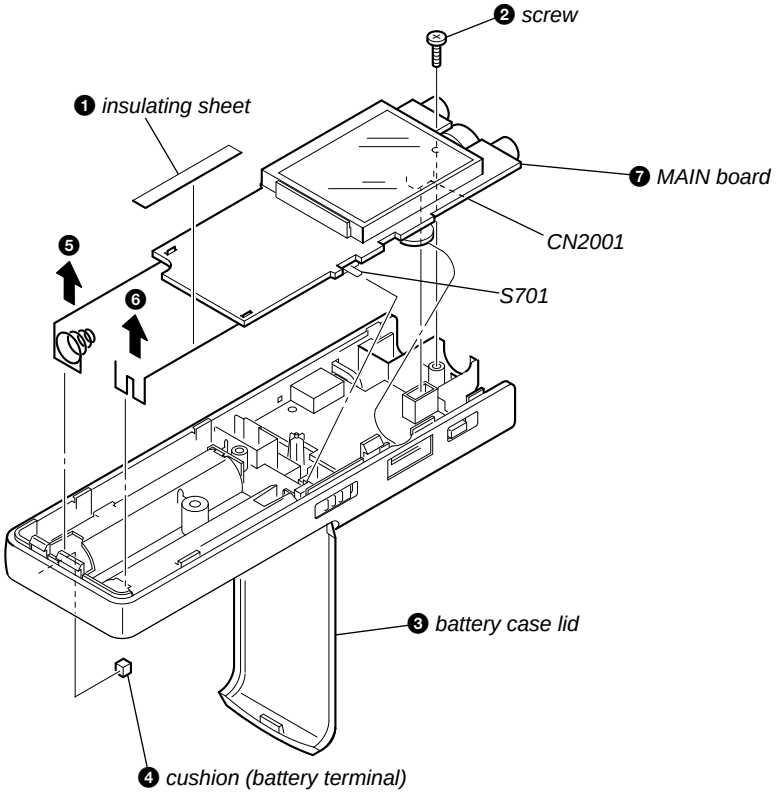


Note: Follow the disassembly procedure in the numerical order given.

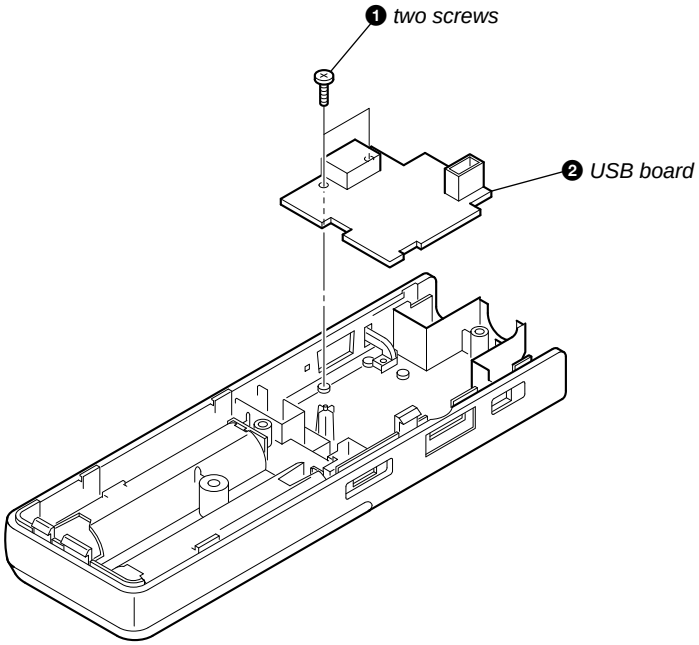
2-1. CASE (FRONT) ASSY



2-2. MAIN BOARD



2-3. USB BOARD



SECTION 3
TEST MODE

1. Outline of the TEST MODE

The TEST MODE is designed to help verify the set when servicing it.
The TEST MODE is only menu driven to select modes for servicing.

2. Entering and Canceling the TEST MODE

With the power on, turn on the [HOLD] switch while pressing the [■] button and the [DISPLAY/MENU] button at the same time.

3. Canceling the TEST MODE

The TEST MODE can be cancelled by turning off the power (unplugging the dry battery).

4. Menu Key Designation

The menu has the five modes described below. The following keys are assigned on the initial screen (version display).

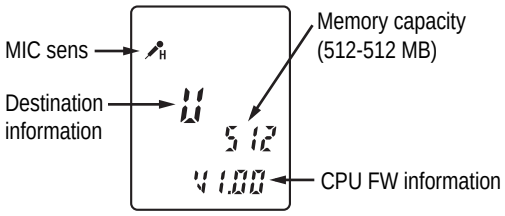
5. Key Assignment

From within TEST MODE, the intended menu can be entered by using the appropriate one key of the following key.

LCD Test (All On⟷All Off)	DISPLAY/MENU
BEEP Test (1.3 kHz)	ERASE
HQ-DSP LOOP	●❚❚REC
SP-DSP LOOP	– ⏮
LP-DSP LOOP	⏭ +
USB Test	►■PLAY/ENTER
REST MENU Test	DIVIDE
Initial Display from each mode	■

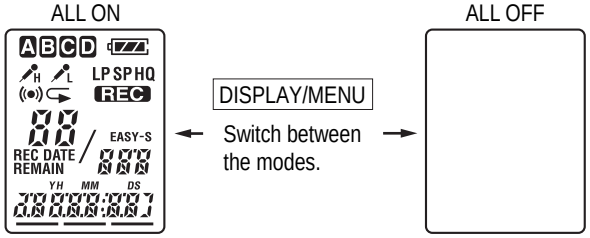
5-1. Initial Display in TEST MODE

LCD indications (destination information, memory capacity, CPU FW information and MIC sens) when TEST MODE is entered:



5-2. LCD Test

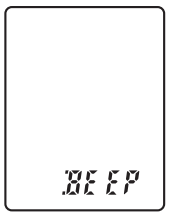
To enter the LCD Test, press the [DISPLAY/MENU] button. The LCD Test has two modes: All On and All Off First all the indicators are on. All the indicators are off when the button is pressed again.



Press the [■] button to return to the initial display (destination information, memory capacity, CPU FW information and MIC sens).

5-3. BEEP Test

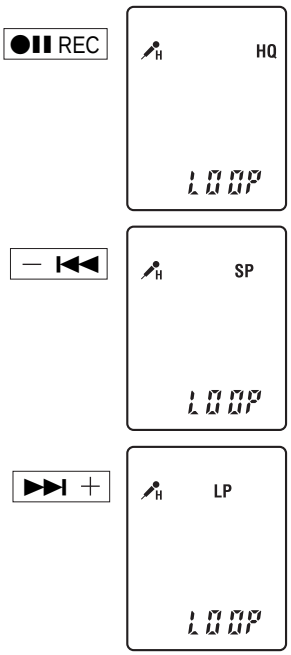
To enter the BEEP Test, press the [ERASE] button.



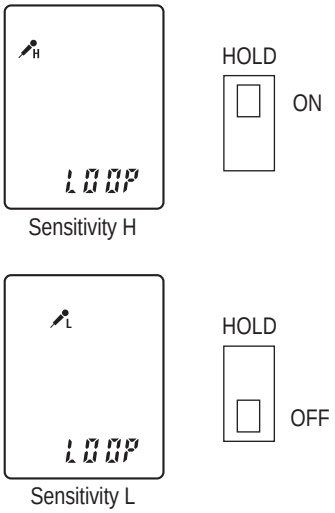
Press the [■] button to return to the initial screen (memory and CPU version).

5-4. DSP LOOP

The DSP LOOP modes can be entered selectively by pressing the appropriate one of the following three keys.
Within the LOOP test menu, "LOOP" is displayed. The sensitivity character H or L is displayed depending on the position into which the [HOLD] switch is placed.
The sensitivity H is displayed when [HOLD] switch is in the ON position. The sensitivity L is displayed when [HOLD] switch is in the OFF position.



To change the DSP LOOP test mode, press the [■] button, then select the [●❚❚REC] button, [– ⏮] button, or [⏭ +] button.
In a DSP Test mode, to select another DSP Test mode and to select the other sensitivity, the [■] button also has to be pressed.

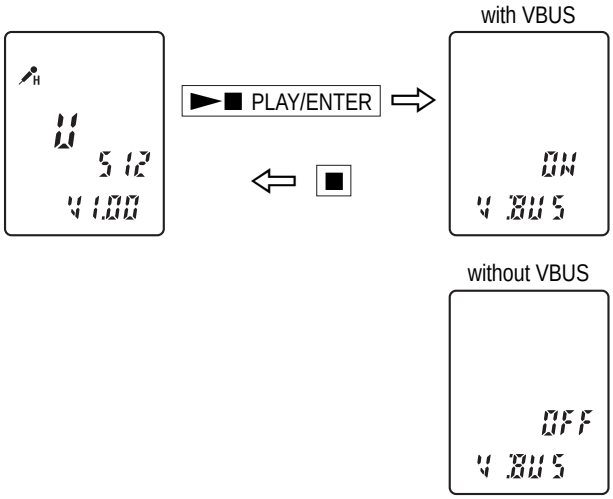


To change the sensitivity again, press the [■] button and change the [HOLD] switch.
In a DSP Test mode, changing the mode and changing the sensitivity require the [■] button be pressed.

5-5. USB Test

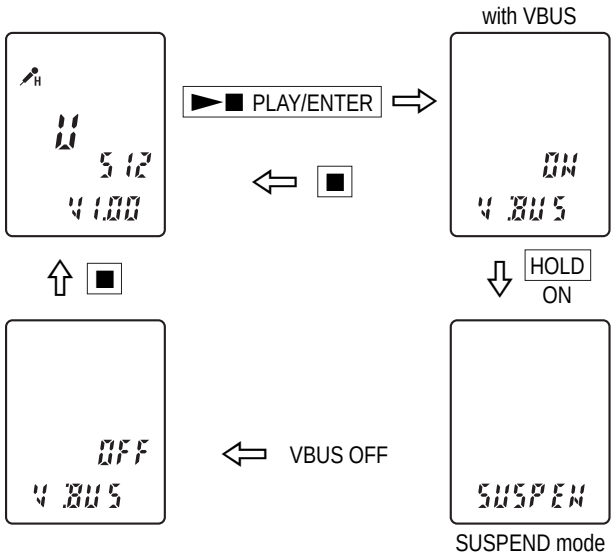
In this test, the ON/OFF status of VBUS is displayed and the SUSPEND test is performed.
The [►■PLAY/ENTER] button is pressed to display the status of VBUS by "On" or "OFF" indication.
With the VBUS ON, the [HOLD] switch is operated (ON) to perform the SUSPEND test.

• VBUS Test



• SUSPEND Test

With the VBUS ON, turn the [HOLD] switch ON to enter the SUSPEND mode.
When this mode is cancelled, the VBUS is turned OFF.

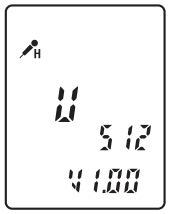


5-6. RESET MENU

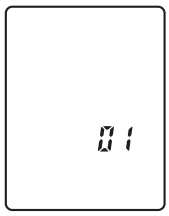
To enter the RESET MENU test, press the [DIVIDE] button.
When all of the buttons or controls located on the set are operated, the system shows "Ok" if all of them are normally operated.
An operation of a switch is indicated by the number for verification in order to make a simple indication.

Note 1: When 10 different operations of the switches are normally made in any order (regardless of the order that pushbuttons are pressed and the slide switch is set to ON and OFF), the system shows "Ok".

Note 2: Clear memory when "ACCESS" is blinking on the display. (Do this before "Ok" is shown.) To exit from this menu, the power has to be turned off (battery to be removed).

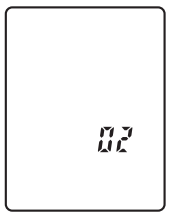


↓ Press DIVIDE button.



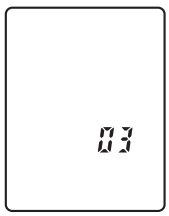
Indication after DIVIDE button is pressed.

↓



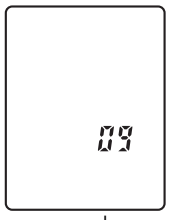
Indication after DISPLAY/MENU button is pressed.

↓



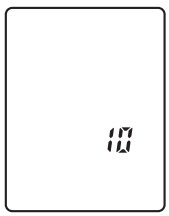
Indication after ●II REC button is pressed.

⋮



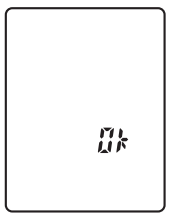
Indication after HOLD is set to OFF.

↓



Indication after HOLD is set to ON.
→ If any key is not pressed, the system waits for the key to be pressed.

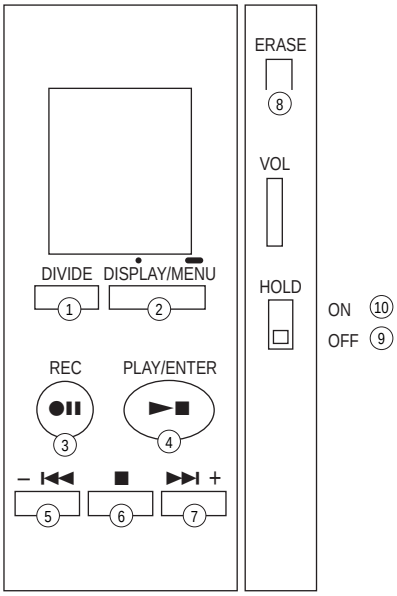
↓



Clear memory when “ACCESS” is blinking on the display.
The system shows “Ok”.

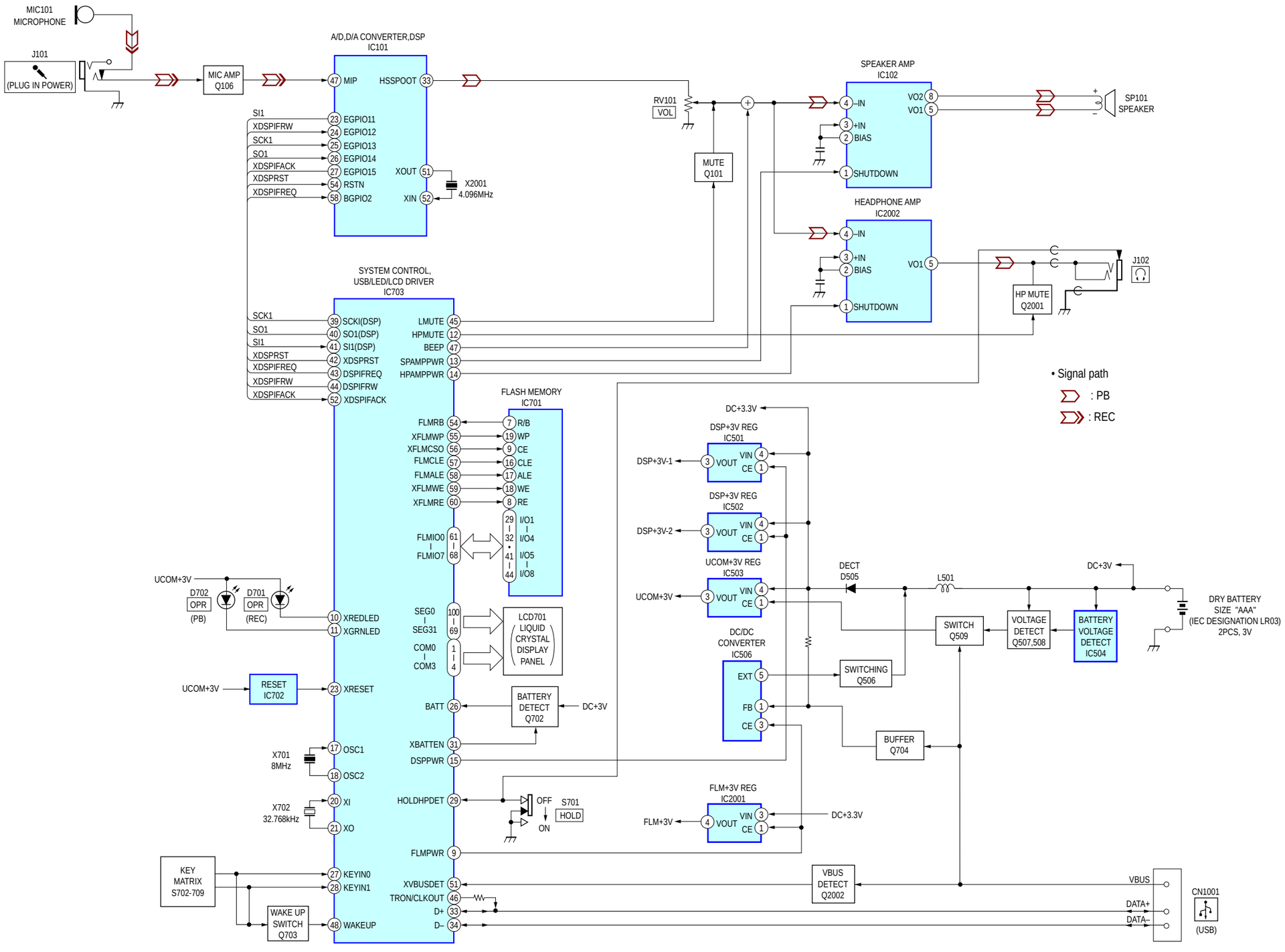
• Switches and corresponding LCD indications

Switch	Indication
DIVIDE	1
DISPLAY/MENU	2
●IIREC	3
►■PLAY/ENTER	4
– I◄◄	5
■	6
►►I +	7
ERASE	8
HOLD-OFF	9
HOLD-ON	10



SECTION 4
DIAGRAMS

4-1. BLOCK DIAGRAM



THIS NOTE IS COMMON FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS.
(In addition to this, the necessary note is printed in each block.)

For Printed Wiring Boards.

Note:

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

Caution:	
Pattern face side: (SIDE B)	Parts on the pattern face side seen from the pattern face are indicated.
Parts face side: (SIDE A)	Parts on the parts face side seen from the parts face are indicated.

For Schematic Diagrams.

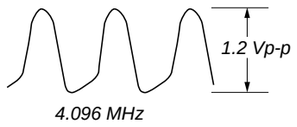
Note:

- All capacitors are in μF unless otherwise noted. (p: pF) 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.
- ▬ : B+ Line.
- Power voltage is dc 3 V and fed with regulated dc power supply from battery terminal.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  – Main (1/2), (2/2) sections –
  no mark : PB
  ( ) : REC
- 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.
  ▷ : PB
  ▷▷ : REC

- **Waveforms**

– MAIN Board –

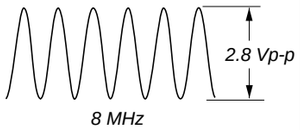
① **IC101 ㊿ (XOUT)**



4.096 MHz

0.5 V/DIV, 0.1 μsec/DIV

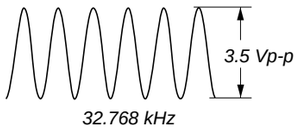
② **IC703 ⑱ (OSC2)**



8 MHz

0.5 V/DIV, 0.1 μsec/DIV

③ **IC703 ㉑ (XO)**

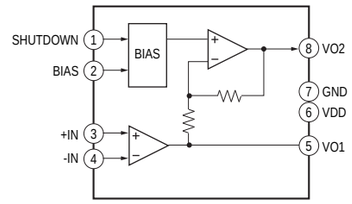


32.768 kHz

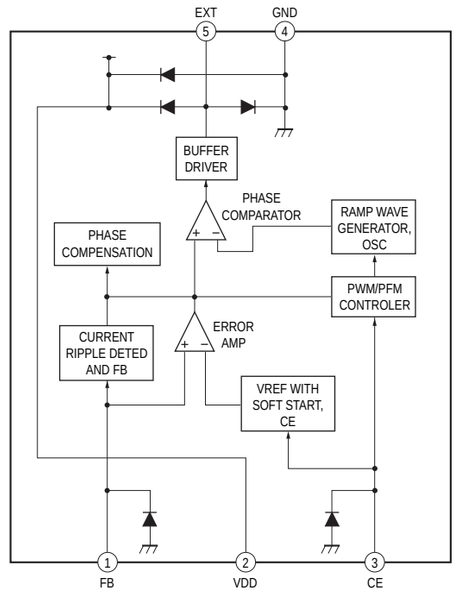
0.5 V/DIV, 20 μsec/DIV

- **IC Block Diagrams**

IC102 MM3111AWLE (MAIN Board (1/2))
IC2002 MM3111AWLE (MAIN Board (1/2))



IC506 XC9105D091MR (MAIN Board (1/2))



- **Semiconductor Location (MAIN Section)**

Ref. No.	Location
(D505)	H-6
D701	E-12
D702	E-12
D2001	E-12
D2002	C-6
D2004	C-5
(D2007)	I-6
D2008	A-12
IC101	C-9
IC102	D-10
(IC501)	J-6
(IC502)	G-6
(IC503)	I-6
(IC504)	H-3
(IC506)	I-6
(IC701)	I-8
(IC702)	G-10
(IC703)	I-10
IC2001	D-8
IC2002	D-11
(Q101)	G-11
Q106	B-10
(Q506)	H-5
(Q507)	I-4
(Q508)	I-4
Q509	C-4
(Q702)	G-10
Q703	C-8
Q704	C-5
(Q2001)	H-12
Q2002	C-5

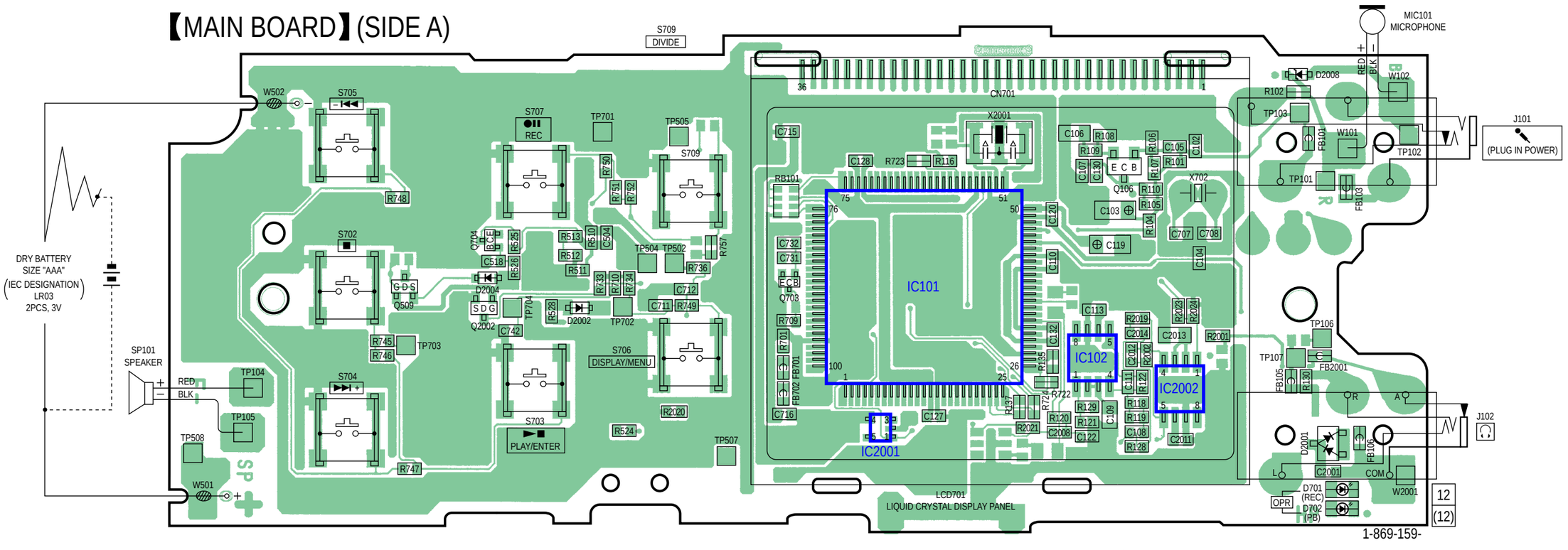
( ): SIDE B

4-2. PRINTED WIRING BOARD – MAIN Section –

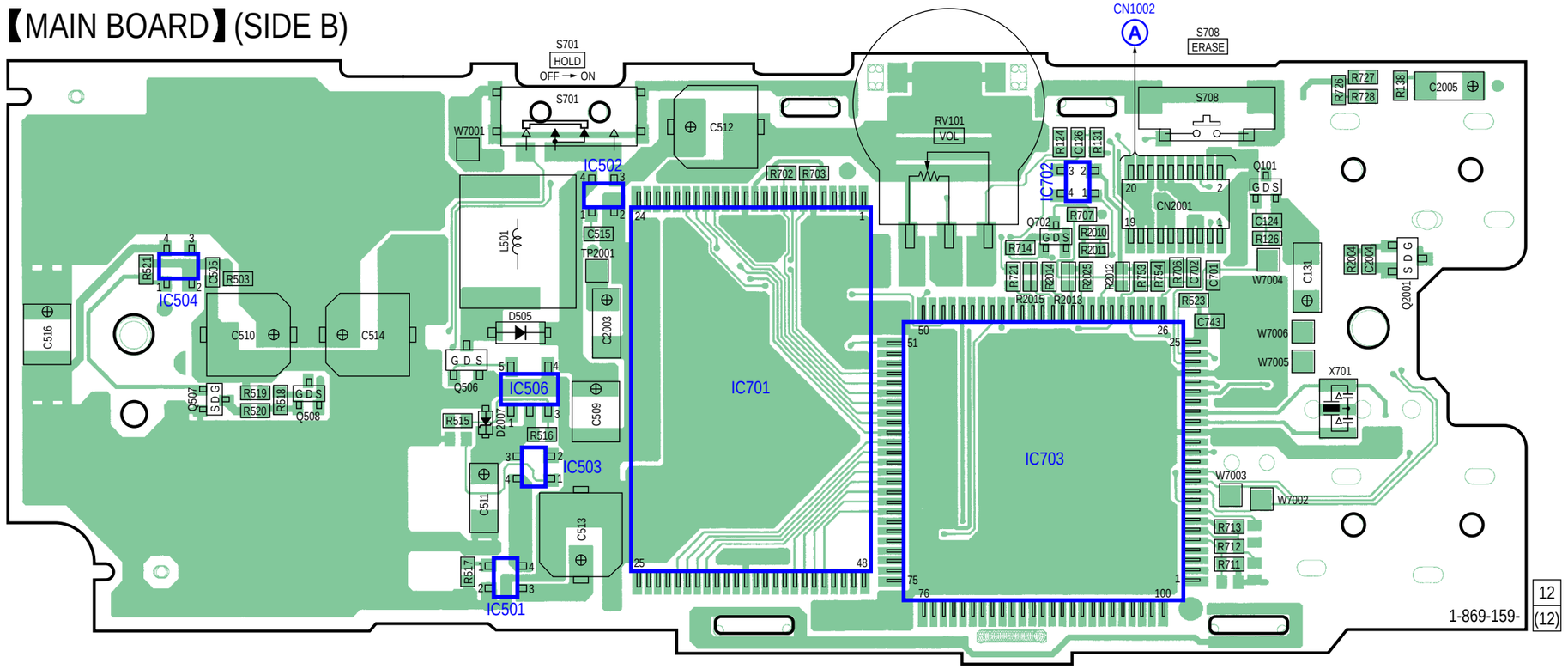
• See page 10 for Semiconductor Location.

• : Uses unleaded solder.

【MAIN BOARD】(SIDE A)



【MAIN BOARD】(SIDE B)



4-3. SCHEMATIC DIAGRAM – MAIN Section (1/2) –

• See page 10 for waveform. • See page 10 for IC Block Diagrams.

【MAIN BOARD】(1/2)

IC101
IC101
D38521A11BLC
A/D, D/A CONVERTER, DSP

IC102
IC102
MM3111AWLE
SPEAKER AMP

IC2002
IC2002
MM3111AWLE
HEADPHONE AMP

IC501
IC501
XC6213B312NR
DSP +3V REG

IC502
IC502
XC6213B312NR
DSP +3V REG

IC503
IC503
XC6215B312NR
UCOM +3V REG

IC504
IC504
XC61CN1202NR
VOLTAGE DETECT

IC506
XC9105D091MR
DC/DC CONVERTER

Q101 2SK3019TL LINE MUTE
Q106 2SC4081T MIC AMP
Q2001 RTF025N03TL HP MUTE
Q506 RTF025N03TL SWITCHING
Q507 2SK3019TL
Q508 3LP01S-K-TL-E
Q509 3LP01S-K-TL-E SWITCH
Q704 2SC5658T2LQ/R BUFFER

D2008 EDZ-TE61 5.6B
D2007 EDZ-TE61 5.6B
D2004 1SS400TE-61
D2002 1SS400TE-61
D505 MA2YD2300LSD
D2001 DAN217UT106

X2001 4.096MHz

MIC101 MICROPHONE
SP101 SPEAKER
J101 (PLUG IN POWER)
J102
W2001
DRY BATTERY SIZE "AAA" (IEC DESIGNATION LR03) 2PCS. 3V

CN2001 20P
FM_LCH
FM_PWR
FM_LCLDX
GND_A
GND_A
GND_A
GND
DDCOUT
GND
DDCOUT
FM_SCE
FM_SCK
FM_SDAO
VBUS
FM_SDAI
VBUS
USB_GND
USB_DP
USB_GND
USB_DM

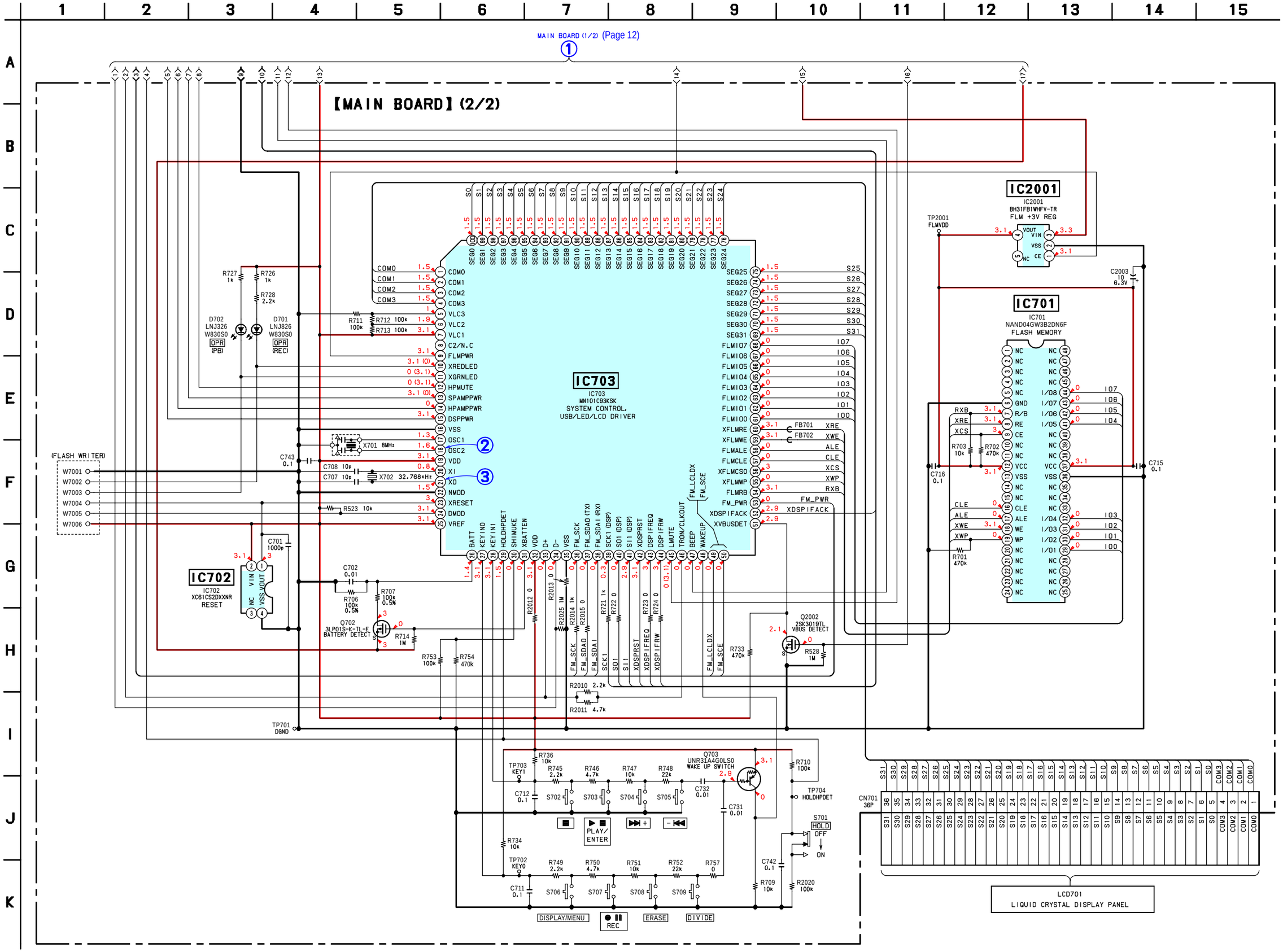
USB BOARD CN1002 (Page 15)

MAIN BOARD (2/2) (Page 13)

●TOTAL CURRENT REC:67mA PB: 70mA

4-4. SCHEMATIC DIAGRAM – MAIN Section (2/2) –

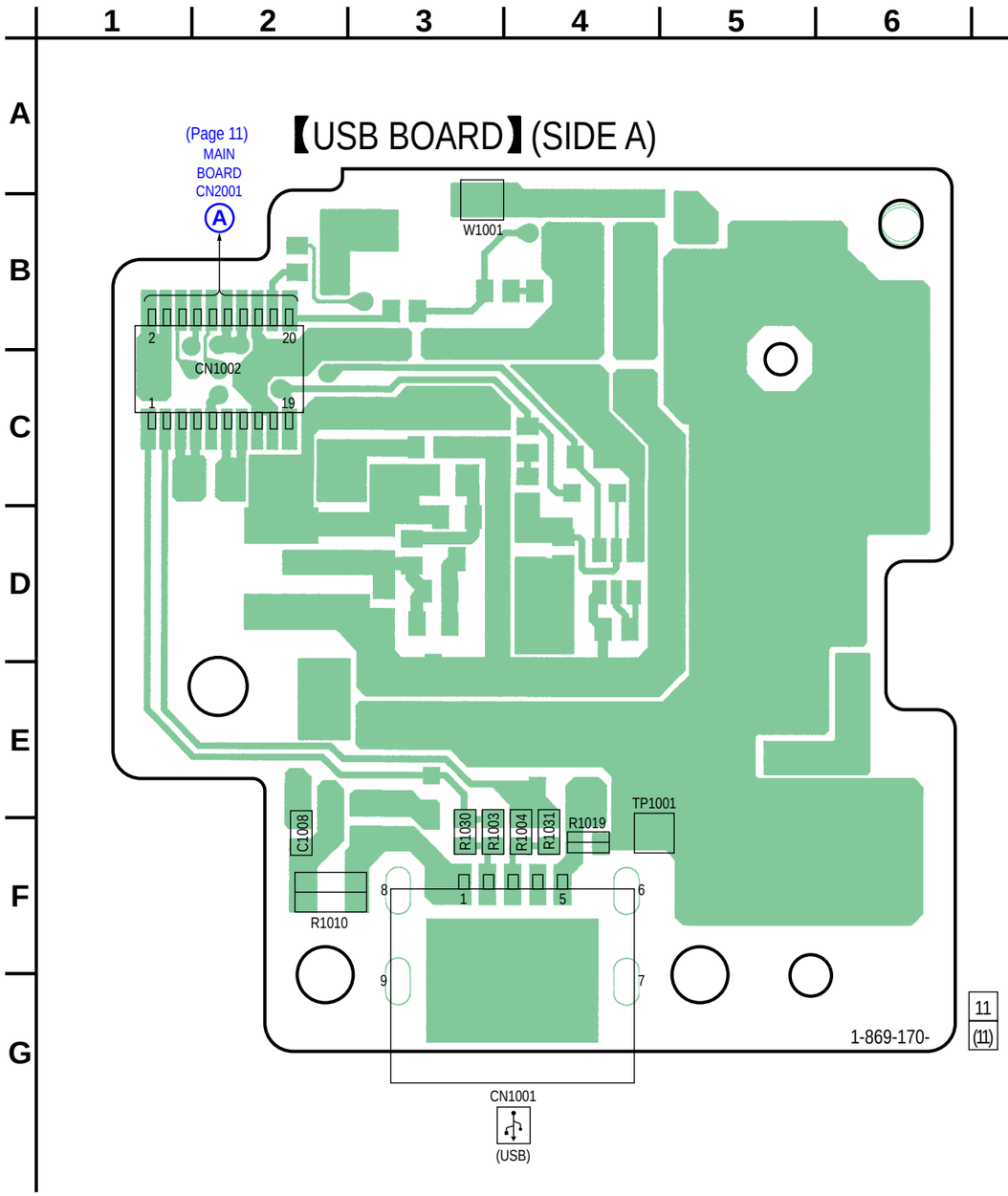
• See page 10 for waveforms. • See page 16 for IC Pin Function Description of IC703.



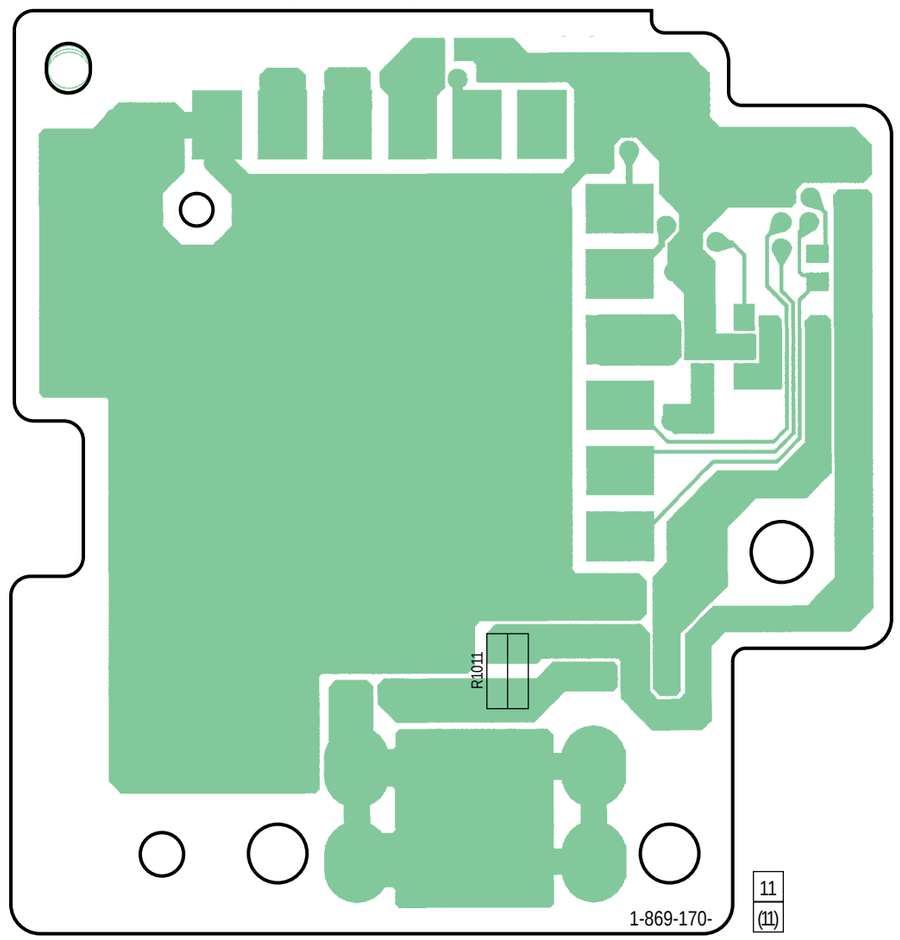
4-5. PRINTED WIRING BOARD – USB Section –

• : Uses unleaded solder.

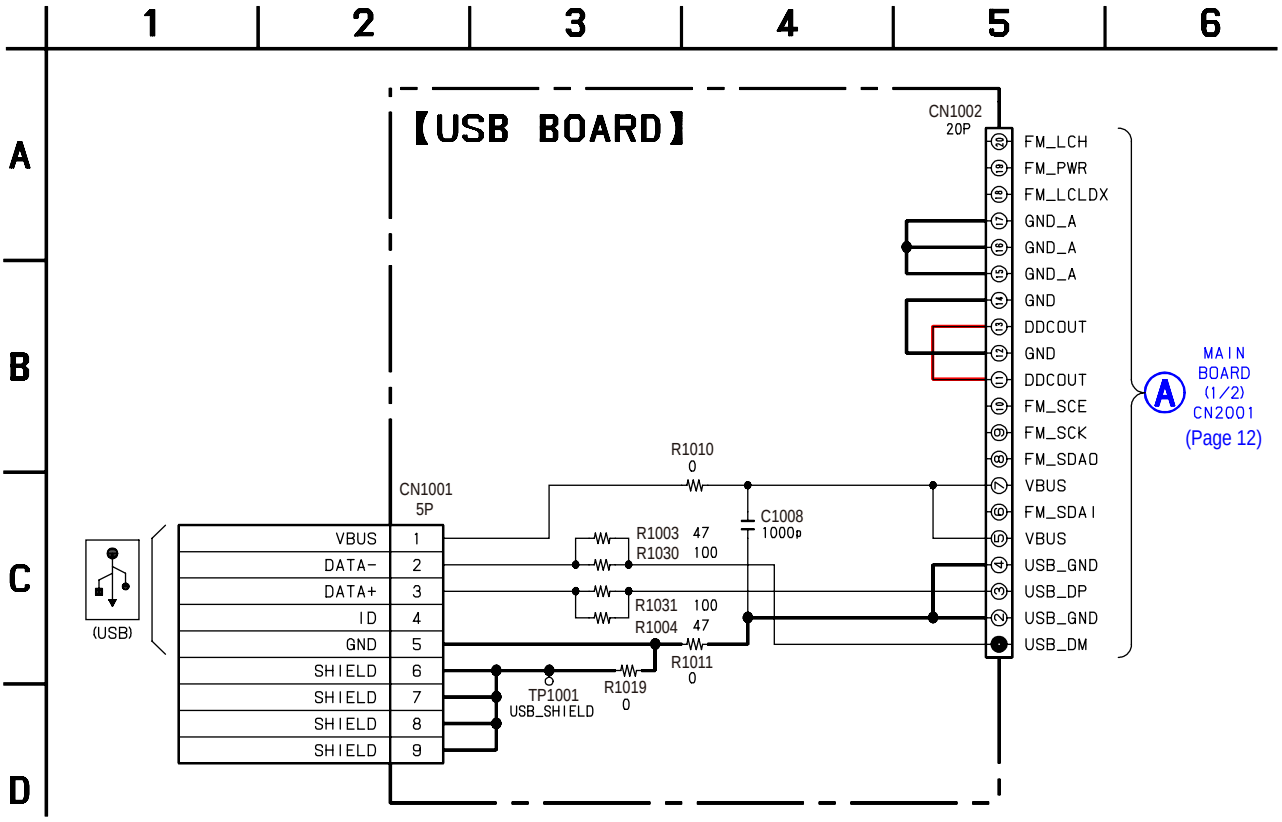
【USB BOARD】(SIDE A)



【USB BOARD】(SIDE B)



4-6. SCHEMATIC DIAGRAM – USB Section –



• **IC Pin Function Description**

IC703 MN101C93KSK (SYSTEM CONTROL, USB/LED/LCD DRIVER) (MAIN BOARD (2/2))

Pin No.	Pin Name	I/O	Description
1 to 4	COM0 to 3	O	LCD common 0 to 3 signal output
5 to 7	VLC3 to 1	I	LCD VLC 3 to 1 signal input
8	C2/N.C	I	Not used (Open)
9	FLMPWR	O	Flash memory power ON signal output (H: ON, L: OFF)
10	XREDLED	O	Red LED ON/OFF signal output (Open drain)
11	XGRNLED	O	Green LED ON/OFF signal output (Open drain)
12	HPMUTE	O	Headphone muting signal output (H: Muting)
13	SPAMPPWR	O	Speaker power amplifier power ON signal output (H: ON, L: OFF)
14	HPAMPPWR	O	Headphone power amplifier power ON signal output (H: ON, L: OFF)
15	DSPPWR	O	DSP power control signal output (H: ON, L: OFF)
16	VSS	—	Ground
17	OSC1	I	Main clock input (8 MHz)
18	OSC2	O	Main clock output (8 MHz)
19	VDD	—	Power supply (+3.1 V)
20	XI	I	Sub clock input (32.768 kHz)
21	XO	O	Sub clock output (32.768 kHz)
22	NMOD	I	Not used (Connected to GND)
23	XRESET	I	CPU reset signal input
24	DMOD	I	Not used (Pull up)
25	VREF	I	Reference voltage input for A/D converter. (+3.1 V)
26	BATT	I	Battery level A/D input
27	KEYIN0	I	Key 0 A/D input
28	KEYIN1	I	Key 1 A/D input
29	HOLDHPDET	I	HOLD switch/headphone detection signal input
30	SHIMUKE	I	Destination setting pin
31	XBATTEN	O	Battery level sense enable signal output (L: Enable)
32	VDD	—	Power supply (+3.1 V)
33	D+	I/O	USB D+ signal input/output
34	D–	I/O	USB D– signal input/output
35	VSS	—	Ground
36	FM_SCK	O	FM tuner serial clock output (Not used in this set.)
37	FM_SDAO(TX)	O	FM tuner serial data output (Not used in this set.)
38	FM_SDAI(RX)	I	FM tuner serial data input (Not used in this set.)
39	SCK1(DSP)	O	DSP I/F serial clock output
40	SO1(DSP)	O	DSP I/F serial data output
41	SI1(DSP)	I	DSP I/F serial data input
42	XDSPRST	O	DSP reset signal output (L: Reset)
43	DSPIFREQ	O	DSP I/F request signal output
44	DSPIFRW	O	DSP I/F read/write signal output
45	LMUTE	O	Audio line muting signal output
46	TRON/CLKOUT	O	USB TRON signal output
47	BEEP	O	Beep signal output
48	WAKEUP	I	Wakeup interruption signal input
49	FM_LCLDX	O	FM Local/DX ON signal output (Not used in this set.)
50	FM_SCE	O	FM serial chip select signal output (Not used in this set.)
51	XVBUSDET	I	VBUS detection signal input (L: VBUS ON)
52	XDSPIFACK	I	DSP acknowledge interruption signal input
53	FM_PWR	O	FM tuner power ON signal output (Not used in this set.)

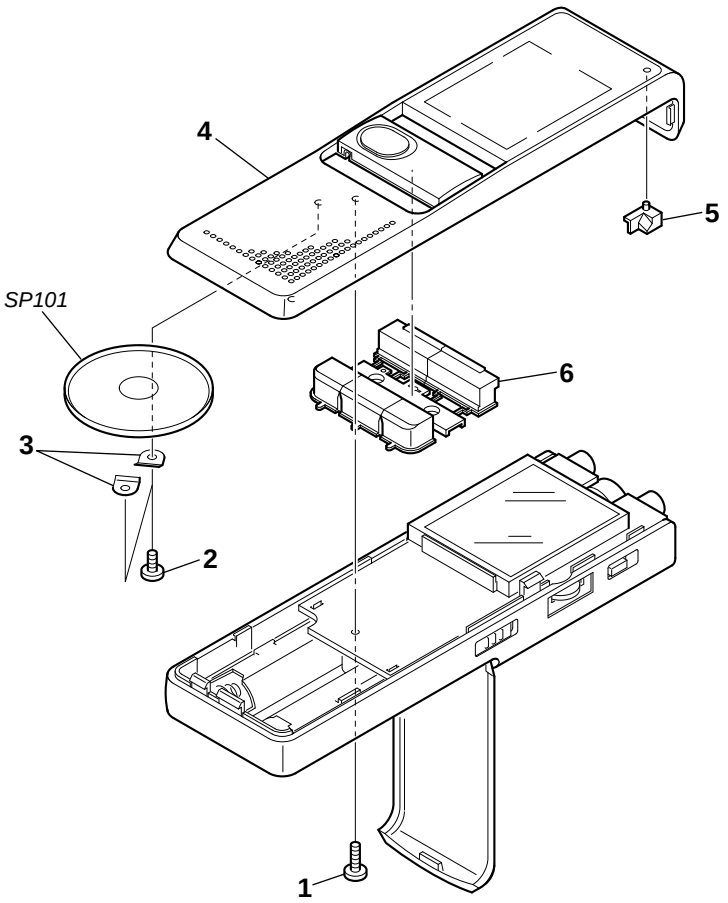
Pin No.	Pin Name	I/O	Description
54	FLMRB	I	Flash memory ready/busy signal input
55	XFLMWP	O	Flash memory write protect signal output
56	XFLMCS0	O	Flash memory chip select signal output
57	FLMCLE	O	Flash memory command latch enable signal output
58	FLMALE	O	Flash memory address latch enable signal output
59	XFLMWE	O	Flash memory write enable clock signal output
60	XFLMRE	O	Flash memory read enable clock signal output
61 to 68	FLMIO0 to 7	I/O	Flash memory address/data bit0 to 7 signal input/output
69 to 100	SEG31 to 0	O	LCD segment 31 to 0 signal output

SECTION 5
EXPLODED VIEWS

Note:

- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service.
  Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.

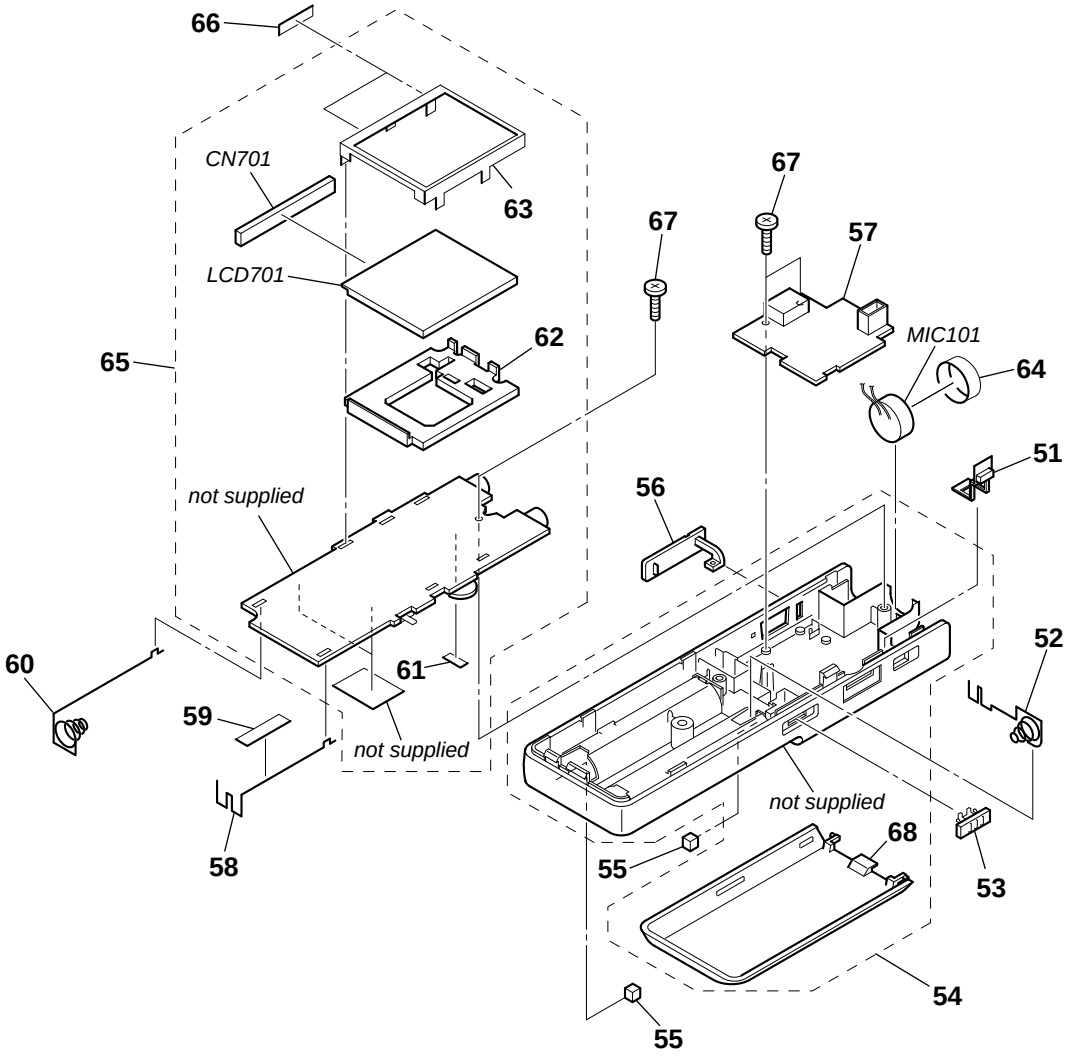
5-1. CASE (FRONT) SECTION



Ref. No.	Part No.	Description	Remark
1	3-254-083-01	SCREW	
2	3-254-003-01	SCREW	
3	2-634-641-01	BRACKET (SPEAKER)	
4	X-2188-741-1	CASE (FRONT) SUB ASSY (P)	

Ref. No.	Part No.	Description	Remark
5	3-292-056-01	LENS (LED)	
6	3-292-053-11	BUTTON (FRONT)	
SP101	1-826-927-11	SPEAKER (2.8cm)	

5-2. CASE (REAR) SECTION



Ref. No.	Part No.	Description	Remark
51	2-633-874-31	BUTTON (SIDE)	
52	2-633-876-01	TERMINAL (+.–), BATTERY	
53	2-633-870-31	KNOB (HOLD)	
54	X-2188-740-1	CASE (REAR) SUB ASSY (P)	
55	2-177-065-01	CUSHION (BATTERY TERMINAL)	
56	2-634-640-11	LID (CONNECTOR)	
57	A-1486-576-A	USB BOARD, COMPLETE	
58	2-633-877-01	TERMINAL (+), BATTERY	
59	2-590-020-01	SHEET, INSULATING	
60	2-633-878-02	TERMINAL (–), BATTERY	
61	3-251-410-02	SHEET, INSULATING	

Ref. No.	Part No.	Description	Remark
62	2-661-298-01	SPACER (LCD-P)	
63	2-633-872-01	HOLDER (LCD)	
64	2-590-076-01	CUSHION (MIC)	
65	A-1486-574-A	MAIN BOARD, COMPLETE	
66	2-653-251-01	SHEET	
67	3-254-014-01	SCREW	
68	2-633-869-51	LID, BATTERY CASE	
CN701	1-780-296-21	CONDUCTIVE BOARD, CONNECTION	
LCD701	1-802-628-11	DISPLAY PANEL, LIQUID CRYSTAL	
MIC101	1-542-758-11	MICROPHONE, ELECTRET CONDENSER (MIC)	

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.
- Items marked "*" are not stocked since they are seldom required for routine service.
  Some delay should be anticipated when ordering these items.
- CAPACITORS
  uF: µF
- COILS
  uH: µH
- RESISTORS
  All resistors are in ohms.
  METAL: Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F: nonflammable
- SEMICONDUCTORS
  In each case, u: µ, for example:
  uA. . : µA. . , uPA. . , µPA. . ,
  uPB. . : µPB. . , uPC. . , µPC. . ,
  uPD. . : µPD. .
- Abbreviation
  CND : Canadian model
  KR : Korea model

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

Ref. No.	Part No.	Description			Remark
	A-1486-574-A	MAIN BOARD, COMPLETE			
		**********			
	2-633-872-01	HOLDER (LCD)			
	2-661-298-01	SPACER (LCD-P)			
	3-251-410-02	SHEET, INSULATING			
		< CAPACITOR >			
C102	1-164-943-81	CERAMIC CHIP	0.01uF	10%	16V
C103	1-117-919-11	TANTAL. CHIP	10uF	20%	6.3V
C104	1-164-939-11	CERAMIC CHIP	0.0022uF	10%	50V
C105	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C106	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V
C107	1-164-943-81	CERAMIC CHIP	0.01uF	10%	16V
C108	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C109	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V
C110	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C111	1-164-931-11	CERAMIC CHIP	100PF	10%	50V
C113	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C119	1-117-919-11	TANTAL. CHIP	10uF	20%	6.3V
C120	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C122	1-164-941-11	CERAMIC CHIP	0.0047uF	10%	16V
C124	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C126	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C127	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C128	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C130	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C131	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C132	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C504	1-164-858-11	CERAMIC CHIP	22PF	5%	50V
C505	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C509	1-137-934-11	TANTAL. CHIP	47uF	20%	10V
C510	1-126-208-21	ELECT CHIP	47uF	20%	4V
C511	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C512	1-124-779-00	ELECT CHIP	10uF	20%	16V
C513	1-124-779-00	ELECT CHIP	10uF	20%	16V
C514	1-126-208-21	ELECT CHIP	47uF	20%	4V
C515	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C516	1-110-569-11	TANTAL. CHIP	47uF	20%	6.3V
C518	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C701	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C702	1-164-943-81	CERAMIC CHIP	0.01uF	10%	16V
C707	1-164-850-11	CERAMIC CHIP	10PF	0.5PF	50V
C708	1-164-850-11	CERAMIC CHIP	10PF	0.5PF	50V
C711	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C712	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C715	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C716	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C731	1-164-943-81	CERAMIC CHIP	0.01uF	10%	16V
C732	1-164-943-81	CERAMIC CHIP	0.01uF	10%	16V
C742	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C743	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2001	1-164-943-81	CERAMIC CHIP	0.01uF	10%	16V
C2003	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C2004	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2005	1-119-750-11	TANTAL. CHIP	22uF	20%	6.3V
C2008	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2011	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2012	1-164-931-11	CERAMIC CHIP	100PF	10%	50V
C2013	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V
C2014	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
		< CONNECTOR >			
CN701	1-780-296-21	CONDUCTIVE BOARD, CONNECTION			
CN2001	1-819-211-21	CONNECTOR, BOARD TO BOARD 20P			
		< DIODE >			
D505	8-719-085-43	DIODE MA2YD2300LS0			
* D701	6-502-310-01	LED LNJ826W830S0			
D702	6-502-309-01	LED LNJ326W830S0			
* D2001	6-501-855-01	DIODE DAN217UT106			
D2002	8-719-069-28	DIODE 1SS400TE-61			
D2004	8-719-069-28	DIODE 1SS400TE-61			
D2007	8-719-074-67	DIODE EDZ-TE61-5.6B			
D2008	8-719-074-67	DIODE EDZ-TE61-5.6B			
		< FERRITE BEAD >			
FB101	1-400-693-21	INDUCTOR, FERRITE BEAD (1005)			
FB103	1-400-693-21	INDUCTOR, FERRITE BEAD (1005)			
FB105	1-400-693-21	INDUCTOR, FERRITE BEAD (1005)			
FB106	1-400-693-21	INDUCTOR, FERRITE BEAD (1005)			
FB701	1-469-581-21	INDUCTOR, FERRITE BEAD (1005)			
FB702	1-469-581-21	INDUCTOR, FERRITE BEAD (1005)			
FB2001	1-400-693-21	INDUCTOR, FERRITE BEAD (1005)			
		< IC >			
IC101	6-707-481-01	IC D36521A11BLC			
IC102	6-707-089-01	IC MM3111AWLE			
IC501	6-708-467-01	IC XC6213B312NR			
IC502	6-708-467-01	IC XC6213B312NR			
IC503	6-708-472-01	IC XC6215B312NR			

Ref. No.	Part No.	Description			Remark
IC504	6-708-440-01	IC XC61CN1202NR			
IC506	6-701-734-01	IC XC9105D091MR			
IC701	6-712-243-01	IC NAND04GW3B2DN6F			
IC702	6-708-473-01	IC XC61CS2DXXNR			
IC703	6-712-283-01	IC MN101C93KSK			
IC2001	6-707-471-01	IC BH31FB1WHFV-TR			
IC2002	6-707-089-01	IC MM3111AWLE			
		< JACK >			
J101	1-819-550-23	JACK ((PLUG IN POWER))			
J102	1-819-965-11	JACK ( )			
		< COIL >			
L501	1-419-881-11	COIL, CHOKE 47uH			
		< LIQUID CRYSTAL DISPLAY >			
LCD701	1-802-628-11	DISPLAY PANEL, LIQUID CRYSTAL			
		< TRANSISTOR >			
Q101	8-729-044-37	FET 2SK3019TL			
Q106	8-729-905-35	TRANSISTOR 2SC4081-R			
Q506	6-550-887-01	FET RTF025N03TL			
Q507	8-729-044-37	FET 2SK3019TL			
Q508	6-550-747-01	FET 3LP01S-K-TL-E			
Q509	6-550-747-01	FET 3LP01S-K-TL-E			
Q702	6-550-747-01	FET 3LP01S-K-TL-E			
Q703	6-551-761-01	TRANSISTOR UNR31A4G0LS0			
Q704	6-550-237-01	TRANSISTOR 2SC5658FS6T2LQ/R			
Q2001	6-550-887-01	FET RTF025N03TL			
Q2002	8-729-044-37	FET 2SK3019TL			
		< RESISTOR >			
R101	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R102	1-218-990-81	SHORT CHIP	0		
R104	1-218-941-81	RES-CHIP	100	5%	1/16W
R105	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R106	1-218-969-11	RES-CHIP	22K	5%	1/16W
R107	1-218-973-11	RES-CHIP	47K	5%	1/16W
R108	1-218-953-11	RES-CHIP	1K	5%	1/16W
R109	1-218-949-11	RES-CHIP	470	5%	1/16W
R110	1-218-969-11	RES-CHIP	22K	5%	1/16W
R116	1-218-977-11	RES-CHIP	100K	5%	1/16W
R118	1-218-969-11	RES-CHIP	22K	5%	1/16W
R119	1-218-973-11	RES-CHIP	47K	5%	1/16W
R120	1-218-965-11	RES-CHIP	10K	5%	1/16W
R121	1-218-977-11	RES-CHIP	100K	5%	1/16W
R122	1-218-981-11	RES-CHIP	220K	5%	1/16W
R124	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R126	1-218-969-11	RES-CHIP	22K	5%	1/16W
R128	1-218-949-11	RES-CHIP	470	5%	1/16W
R129	1-218-977-11	RES-CHIP	100K	5%	1/16W
R130	1-218-933-11	RES-CHIP	22	5%	1/16W
R131	1-218-981-11	RES-CHIP	220K	5%	1/16W
R135	1-218-990-81	SHORT CHIP	0		
R137	1-218-990-81	SHORT CHIP	0		
R138	1-218-937-11	RES-CHIP	47	5%	1/16W
R503	1-218-973-11	RES-CHIP	47K	5%	1/16W
R510	1-218-985-11	RES-CHIP	470K	5%	1/16W
R511	1-208-943-11	METAL CHIP	220K	0.5%	1/16W

Ref. No.	Part No.	Description			Remark
R512	1-218-985-11	RES-CHIP	470K	5%	1/16W
R513	1-218-985-11	RES-CHIP	470K	5%	1/16W
R515	1-218-989-11	RES-CHIP	1M	5%	1/16W
R516	1-218-989-11	RES-CHIP	1M	5%	1/16W
R517	1-218-977-11	RES-CHIP	100K	5%	1/16W
R518	1-218-989-11	RES-CHIP	1M	5%	1/16W
R519	1-220-804-11	RES-CHIP	2.2M	5%	1/16W
R520	1-218-985-11	RES-CHIP	470K	5%	1/16W
R521	1-218-977-11	RES-CHIP	100K	5%	1/16W
R523	1-218-965-11	RES-CHIP	10K	5%	1/16W
R524	1-218-977-11	RES-CHIP	100K	5%	1/16W
R525	1-218-985-11	RES-CHIP	470K	5%	1/16W
R526	1-218-977-11	RES-CHIP	100K	5%	1/16W
R528	1-218-989-11	RES-CHIP	1M	5%	1/16W
R701	1-218-985-11	RES-CHIP	470K	5%	1/16W
R702	1-218-985-11	RES-CHIP	470K	5%	1/16W
R703	1-218-965-11	RES-CHIP	10K	5%	1/16W
R706	1-208-935-11	METAL CHIP	100K	0.5%	1/16W
R707	1-208-935-11	METAL CHIP	100K	0.5%	1/16W
R709	1-218-965-11	RES-CHIP	10K	5%	1/16W
R710	1-218-977-11	RES-CHIP	100K	5%	1/16W
R711	1-218-977-11	RES-CHIP	100K	5%	1/16W
R712	1-218-977-11	RES-CHIP	100K	5%	1/16W
R713	1-218-977-11	RES-CHIP	100K	5%	1/16W
R714	1-218-989-11	RES-CHIP	1M	5%	1/16W
R721	1-218-953-11	RES-CHIP	1K	5%	1/16W
R722	1-218-990-81	SHORT CHIP	0		
R723	1-218-990-81	SHORT CHIP	0		
R724	1-218-990-81	SHORT CHIP	0		
R726	1-218-953-11	RES-CHIP	1K	5%	1/16W
R727	1-218-953-11	RES-CHIP	1K	5%	1/16W
R728	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R733	1-218-985-11	RES-CHIP	470K	5%	1/16W
R734	1-218-965-11	RES-CHIP	10K	5%	1/16W
R736	1-218-965-11	RES-CHIP	10K	5%	1/16W
R745	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R746	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R747	1-218-965-11	RES-CHIP	10K	5%	1/16W
R748	1-218-969-11	RES-CHIP	22K	5%	1/16W
R749	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R750	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R751	1-218-965-11	RES-CHIP	10K	5%	1/16W
R752	1-218-969-11	RES-CHIP	22K	5%	1/16W
R753	1-218-977-11	RES-CHIP	100K	5%	1/16W
R754	1-218-985-11	RES-CHIP	470K	5%	1/16W
R757	1-218-990-81	SHORT CHIP	0		
R2001	1-218-973-11	RES-CHIP	47K	5%	1/16W
R2002	1-218-981-11	RES-CHIP	220K	5%	1/16W
R2004	1-218-981-11	RES-CHIP	220K	5%	1/16W
R2010	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R2011	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R2012	1-218-990-81	SHORT CHIP	0		
R2013	1-218-990-81	SHORT CHIP	0		
R2014	1-218-953-11	RES-CHIP	1K	5%	1/16W
R2015	1-218-990-81	SHORT CHIP	0		
R2019	1-218-969-11	RES-CHIP	22K	5%	1/16W
R2020	1-218-977-11	RES-CHIP	100K	5%	1/16W
R2021	1-218-990-81	SHORT CHIP	0		
R2023	1-218-977-11	RES-CHIP	100K	5%	1/16W
R2024	1-218-977-11	RES-CHIP	100K	5%	1/16W

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MAIN **USB**

Ref. No.	Part No.	Description			Remark
R2025	1-218-989-11	RES-CHIP	1M	5%	1/16W
		< NETWORK RESISTOR >			
RB101	1-234-378-21	RES, NETWORK 10KX4 (1005)			
		< VARIABLE RESISTOR >			
RV101	1-227-710-21	RES, VAR, CARBON 20K (VOL)			
		< SWITCH >			
S701	1-572-922-11	SWITCH, SLIDE (HOLD)			
S702	1-771-954-21	SWITCH, TACTILE (■)			
S703	1-771-954-21	SWITCH, TACTILE (►■PLAY/ENTER)			
S704	1-771-954-21	SWITCH, TACTILE (►►I +)			
S705	1-771-954-21	SWITCH, TACTILE (– I◄◄)			
S706	1-771-954-21	SWITCH, TACTILE (DISPLAY/MENU)			
S707	1-771-954-21	SWITCH, TACTILE (●IIREC)			
S708	1-771-248-11	SWITCH, TACTILE (ERASE)			
S709	1-771-954-21	SWITCH, TACTILE (DIVIDE)			
		< VIBRATOR >			
X701	1-813-724-21	VIBRATOR, CERAMIC (8MHz)			
X702	1-813-652-11	VIBRATOR, CRYSTAL (32.768kHz)			
X2001	1-795-268-21	VIBRATOR, CERAMIC (4.096MHz)			
**********					
	A-1486-576-A	USB BOARD, COMPLETE **********			
		< CAPACITOR >			
C1008	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
		< CONNECTOR >			
CN1001	1-818-513-21	CONNECTOR (SQUARE TYPE) (USB) 5P (USB)			
CN1002	1-819-212-21	CONNECTOR, BOARD TO BOARD 20P			
		< RESISTOR >			
R1003	1-218-937-11	RES-CHIP	47	5%	1/16W
R1004	1-218-937-11	RES-CHIP	47	5%	1/16W
R1010	1-216-295-11	SHORT CHIP	0		
R1011	1-216-295-11	SHORT CHIP	0		
R1019	1-218-990-81	SHORT CHIP	0		
R1030	1-218-941-81	RES-CHIP	100	5%	1/16W
R1031	1-218-941-81	RES-CHIP	100	5%	1/16W
**********					
		MISCELLANEOUS **********			
MIC101	1-542-758-11	MICROPHONE, ELECTRET CONDENSER (MIC)			
SP101	1-826-927-11	SPEAKER (2.8cm)			
**********					

Ref. No.	Part No.	Description	Remark
		ACCESSORIES **********	
	1-829-882-12	CORD, CONNECTION (USB)	
	2-059-703-02	POUCH, CARRYING (E,KR)	
	3-295-268-11	MANUAL, INSTRUCTION (ENGLISH)	(EXCEPT AEP)
	3-295-268-21	MANUAL, INSTRUCTION (FRENCH) (CND)	
	3-295-268-31	MANUAL, INSTRUCTION (SPANISH) (E)	
	3-295-268-41	MANUAL, INSTRUCTION	(TRADITIONAL CHINESE) (E)
	3-295-268-61	MANUAL, INSTRUCTION (KOREAN) (E,KR)	
	3-295-268-81	MANUAL, INSTRUCTION	(SIMPLIFIED CHINESE) (E)
	3-295-276-11	MANUAL (QSG), INSTRUCTION (ENGLISH,	FRENCH,SPANISH,DUTCH) (AEP)
	3-295-276-21	MANUAL (QSG), INSTRUCTION (SWEDISH,	PORTUGUESE,GERMAN,ITALIAN) (AEP)
	3-295-276-31	MANUAL (QSG), INSTRUCTION (RUSSIAN,	POLISH,UKRAINIAN,GREEK) (AEP)
	3-295-276-41	MANUAL (QSG), INSTRUCTION (CZECH,	TURKISH,HUNGARIAN) (AEP)
	8-954-047-92	EAR RECEIVER (MDRE0110LPBM) (E,KR)	
	X-2190-327-1	SOFT ASSY, APPLICATION (Digital Voice Editor)	(EXCEPT AEP)
	X-2190-328-2	SOFT ASSY, APPLICATION (Digital Voice Editor)	(AEP)

MEMO

REVISION HISTORY

Checking the version allows you to jump to the revised page.
Also, clicking the version at the top of the revised page allows you to jump to the next revised page.

Ver.	Date	Description of Revision
1.0	2008.01	New
1.1	2008.03	Change of part No. of INSTRUCTION MANUAL and APPLICATION SOFT ASSY. (SMR-08030)