

PHA-1A/1AEU

SERVICE MANUAL

Ver. 1.1 2015.08



Photo: PHA-1A

US Model
Canadian Model
E Model
Australian Model
Chinese Model
Russian Model
PHA-1A
AEP Model
UK Model
PHA-1AEU

SPECIFICATIONS

Frequency range

10 Hz – 100 kHz

Supported impedance

8 Ω - 600 Ω

Maximum output*1 (when using the built-in lithium-ion rechargeable battery)

Approx. 148 mW + 148 mW (8 Ω, 10% distortion)

Approx. 80 mW + 80 mW (32 Ω, 1% distortion)

Approx. 16.4 mW + 16.4 mW (300 Ω, 10% distortion)

*1 When the GAIN select switch is set to "LOW", the maximum output will be approx. 150 mV + 150 mV. (PHA-1AEU only)

Output jack

Stereo mini jack*2 (⌀ (headphones))

*2 Only a 3-pole stereo mini plug is supported. Other plugs, including 2-pole mini plug or 4-pole stereo mini plug, are not supported.

Input jack/port

Computer/WALKMAN®/Xperia connecting port

iPhone/iPad/iPod connecting port

Operating temperature

0 °C to 40 °C (32°F to 104°F)

Charging temperature

5 °C to 35 °C (41°F to 95°F)

Power source

DC 3.7 V: built-in lithium-ion rechargeable battery

DC 5 V: when charging via USB

Rated power consumption

(AEP, Russian, UK, E, Australian and Chinese models)

7 W

Battery life

Approx. 6 hours*3

*3 when using the unit at 1 mW + 1 mW output (24 Ω). Time may vary, depending on the immediate environment or conditions of use.

Charging time

When connected to a computer: Approx. 3.5 hours*4

When connected to an AC outlet using the recommended USB AC adaptor (sold separately): Approx. 2 hours*3

*4 Time required for empty battery to recharge while the unit is off.

Dimensions

Approx. 62 mm × 18.5 mm × 109 mm

(2 1/2 × 3/4 × 4 3/8 in) (w/h/d, projecting parts are not included)

Mass

Approx. 145 g (5.11 oz)

Supported sampling frequencies/bit

Maximum 192 kHz/24 bit

Included items

Digital cable for WALKMAN® (1)

Digital cable for Xperia (1)

Micro-USB cable (1)

Silicone belt (2)

Protection sheet (1)

Startup Guide (1)

Reference Guide (1)

Remove the included items other than the unit by opening the tray under the unit and removing them.

Operating environment

Compliant OS:

Windows 8.1/Windows 8.1 Pro/Windows 8/Windows 8 Pro

Windows 7

Starter (SP1 or later)/Home Basic (SP1 or later)/Home Premium (SP1 or later)/Professional (SP1 or later)/Ultimate (SP1 or later)

Windows Vista

Home Basic (SP2 or later)/Home Premium (SP2 or later)/Business (SP2 or later)/Ultimate (SP2 or later)

Mac OS X (v10.6.8 or later)

CPU: Intel Core 2 Processor 1.6 GHz or better

Memory: 1 GB or better

USB port (USB 2.0 High Speed)

• One of the above OS need to be installed to the computer at the factory.

• The unit is not guaranteed to operate with all computers.

• The unit is not guaranteed to operate with home built computers, operating systems that are personally upgraded, or multiple operating systems.

• The unit is not guaranteed to operate with functions such as standby, sleep, or hibernation, on any computer.

Design and specifications are subject to change without notice.

CAUTION

Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type.

注意

如果电池更换不当会有爆炸危险
只能用同样类型或等效类型的电池来更换

PORTABLE HEADPHONE AMPLIFIER

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Sony Corporation

Published by Sony Techno Create Corporation

SONY®

Compatible iPhone/iPad/iPod models

You can use the unit with only the following models. Update your iPhone, iPad or iPod to the latest software before use.

- iPhone 6 Plus
- iPhone 6
- iPhone 5s
- iPhone 5c
- iPhone 5
- iPhone 4s
- iPhone 4
- iPhone 3GS
- iPhone 3G
- iPhone
- iPad Air 2
- iPad mini 3
- iPad Air
- iPad mini 2
- iPad mini
- iPad (4th generation)
- iPad (3rd generation)
- iPad 2
- iPad
- iPod touch (1st through 5th generation)
- iPod classic 120GB/160GB (2009)
- iPod nano (2nd through 7th generation)

(As of December 2014)

This unit is compatible only with the audio playback functions iPhones/iPads/iPods.

Depending on the Apple product, there may be significant electric power required when starting the communication connected with the unit. The battery power of the unit may be drained and the unit may turn off if you connect the Apple product to the unit when the battery power is low. In this case, charge the unit or use the USB AC adaptor to connect with the Apple product.

Trademark Notices

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- "Xperia" and "Xperia Tablet" are trademarks of Sony Mobile Communications AB.
- iPad, iPhone, iPod, iPod classic, iPod nano, iPod touch, and Retina are trademarks of Apple Inc., registered in the U.S. and other countries. iPad Air, and iPad mini are trademarks of Apple Inc.
- "Made for iPod," "Made for iPhone," and "Made for iPad" mean that an electronic accessory has been designed to connect specifically to iPod, iPhone or iPad, respectively, and has been certified by the developer to meet Apple performance standards. Apple is not responsible for the operation of this device or its compliance with safety and regulatory standards. Please note that the use of this accessory with iPod, iPhone, or iPad may affect wireless performance.
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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.

关于安全相关零部件的警告

原理图和零件清单中标有△记号的零部件，或带有△记号的虚线所表示的零部件，对于安全操作至关重要。更换时，必须依据本手册或索尼公司追加发行的手册中列明的零件号，使用索尼公司的零件进行。

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Accessories are given in the last of the electrical parts list.

Note: Refer to service manual supplement-1 for printed wiring board, schematic diagram and electrical parts list of PHA-1AEU.

SECTION 1 SERVICING NOTES

The **SERVICING NOTES** contains important information for servicing. Be sure to read this section before repairing the unit.

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.

DESTINATION ABBREVIATIONS

The following abbreviations for model destinations are used in this service manual.

- Abbreviations
AUS : Australian model
CH : Chinese model
CND : Canadian model
LA : Latin American model
RU : Russian model

NOTE FOR PARTS REPAIR OF HP JACK AND VOLUME BOARDS

When HP JACK and VOLUME boards installed in this unit are defective, replace the complete mounted board or the whole parts including the complete mounted board. The mounted parts on the HP JACK and VOLUME boards cannot replace with single.

NOTE FOR REPLACING THE MAIN BOARD OR CASE

When replacing the MAIN board or case, be sure to replace both parts simultaneously. Among the repair parts, the MAIN board and case are supplied as one unit.

NOTE FOR REPLACING THE ELECTRICAL PARTS ON THE MAIN BOARD

The following parts on the MAIN board cannot replace with single. When these parts are damaged, replace the complete mounted board. (Q003, Q004: PHA-1AEU only)

IC001, IC002, IC003, IC101, IC201, IC301, IC401, IC403, IC500, IC501, IC502, IC503, IC505, IC506, IC507, IC601, IC602, IC701, IC702, Q001, Q002, Q003, Q004

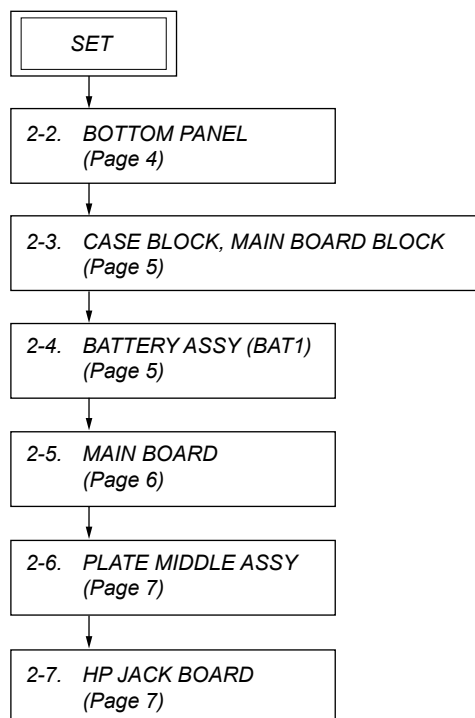
NOTE OF REPLACING THE IC704 ON THE MAIN BOARD

Replacement of IC704 on the MAIN board used in this unit requires a special tool.

SECTION 2 DISASSEMBLY

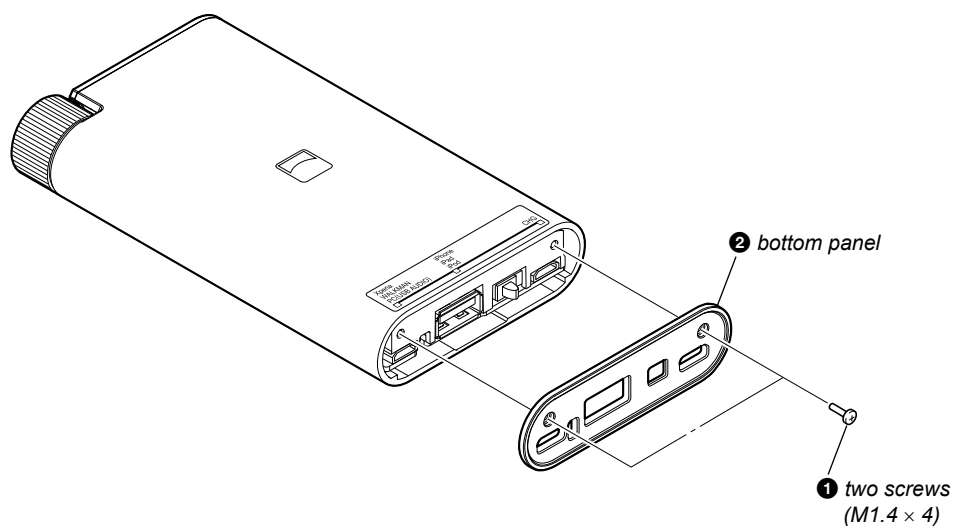
- This set can be disassembled in the order shown below.

2-1. DISASSEMBLY FLOW



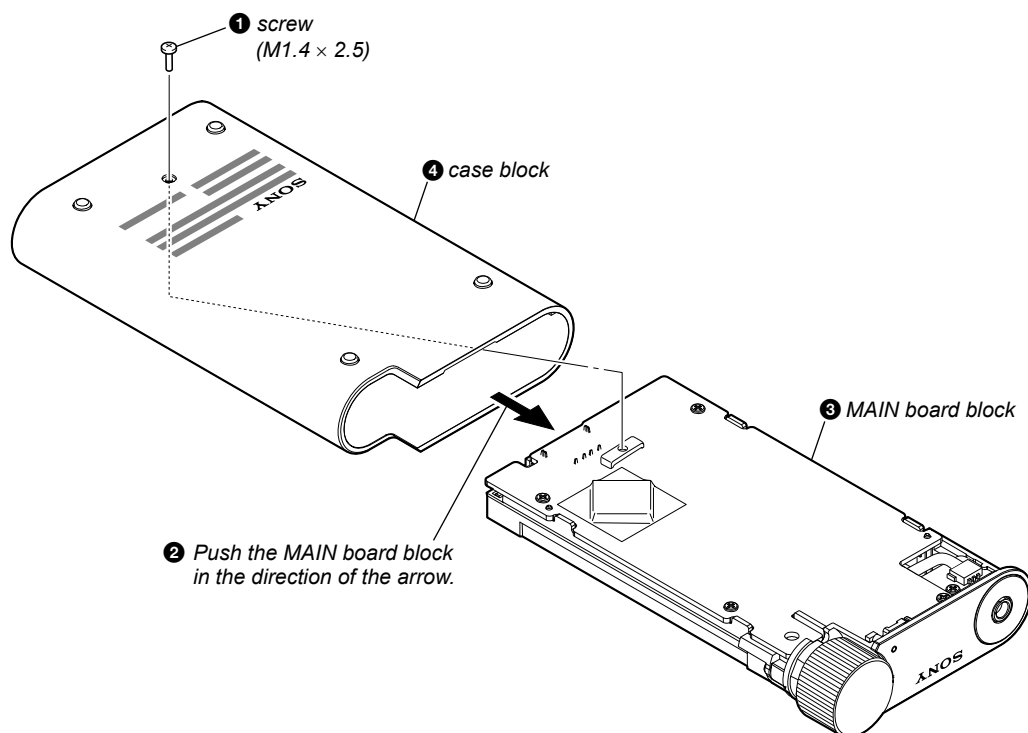
Note: Follow the disassembly procedure in the numerical order given.

2-2. BOTTOM PANEL



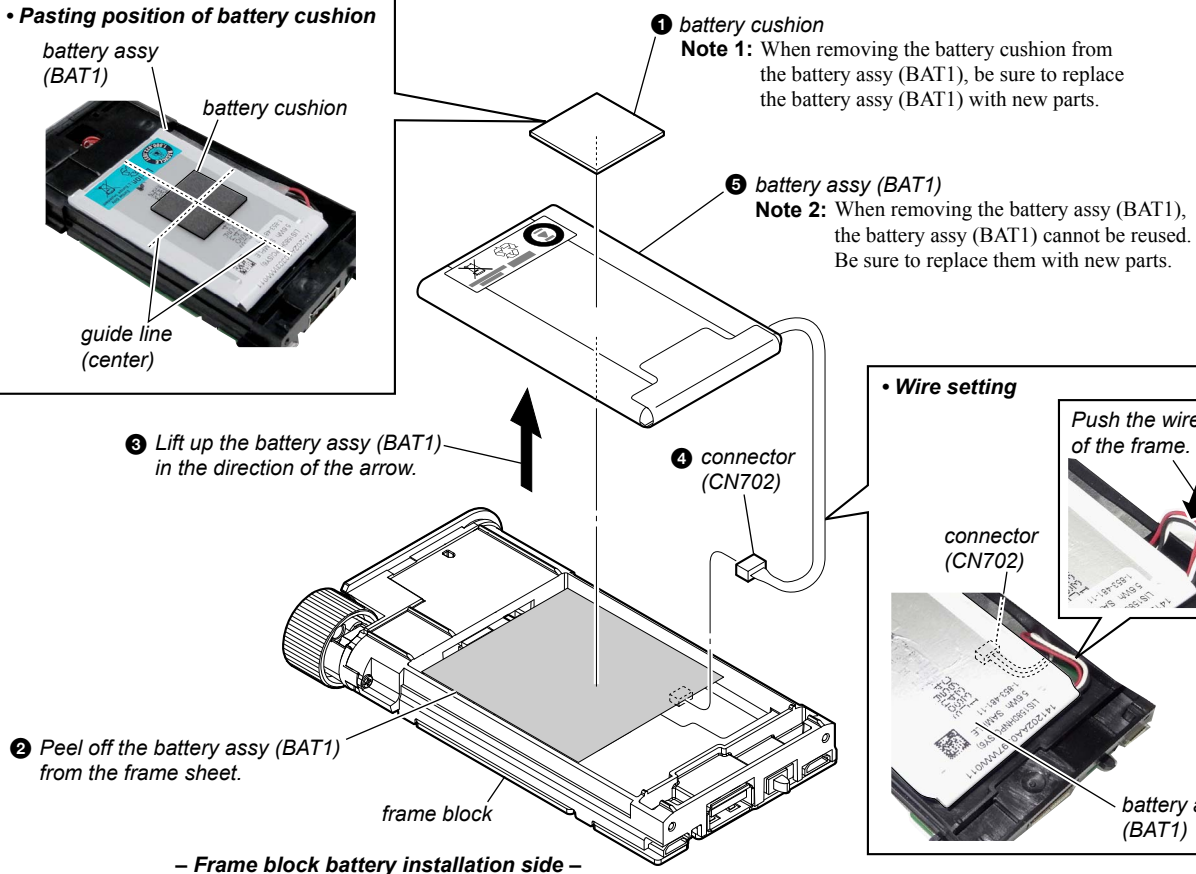
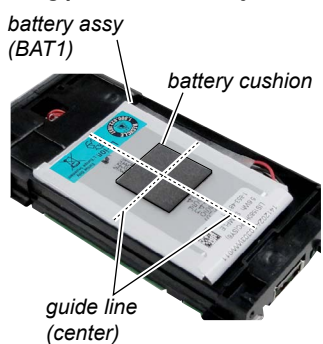
2-3. CASE BLOCK, MAIN BOARD BLOCK

Note: When replacing the case, be sure to replace the MAIN board simultaneously.
Among the repair parts, the MAIN board and case are supplied as one unit.

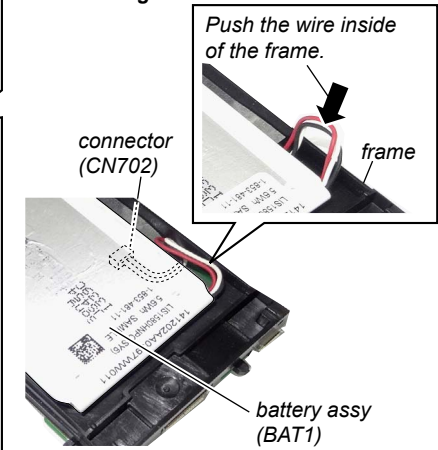


2-4. BATTERY ASSY (BAT1)

• Pasting position of battery cushion



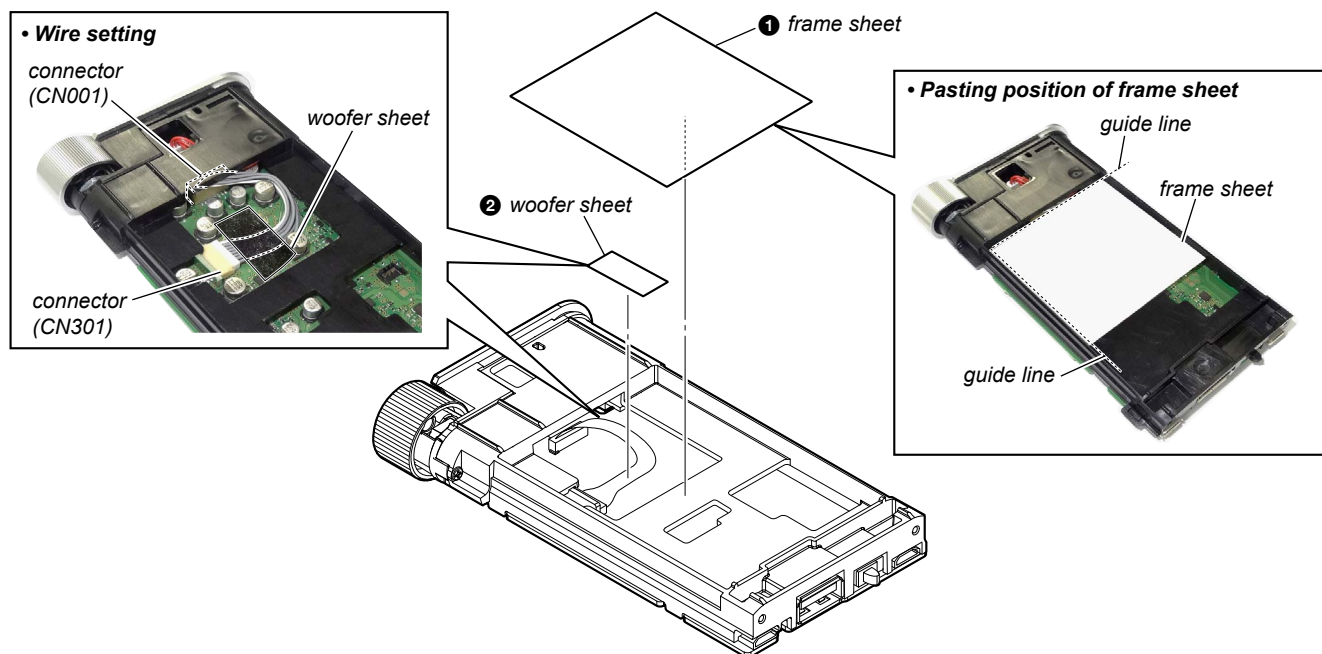
• Wire setting



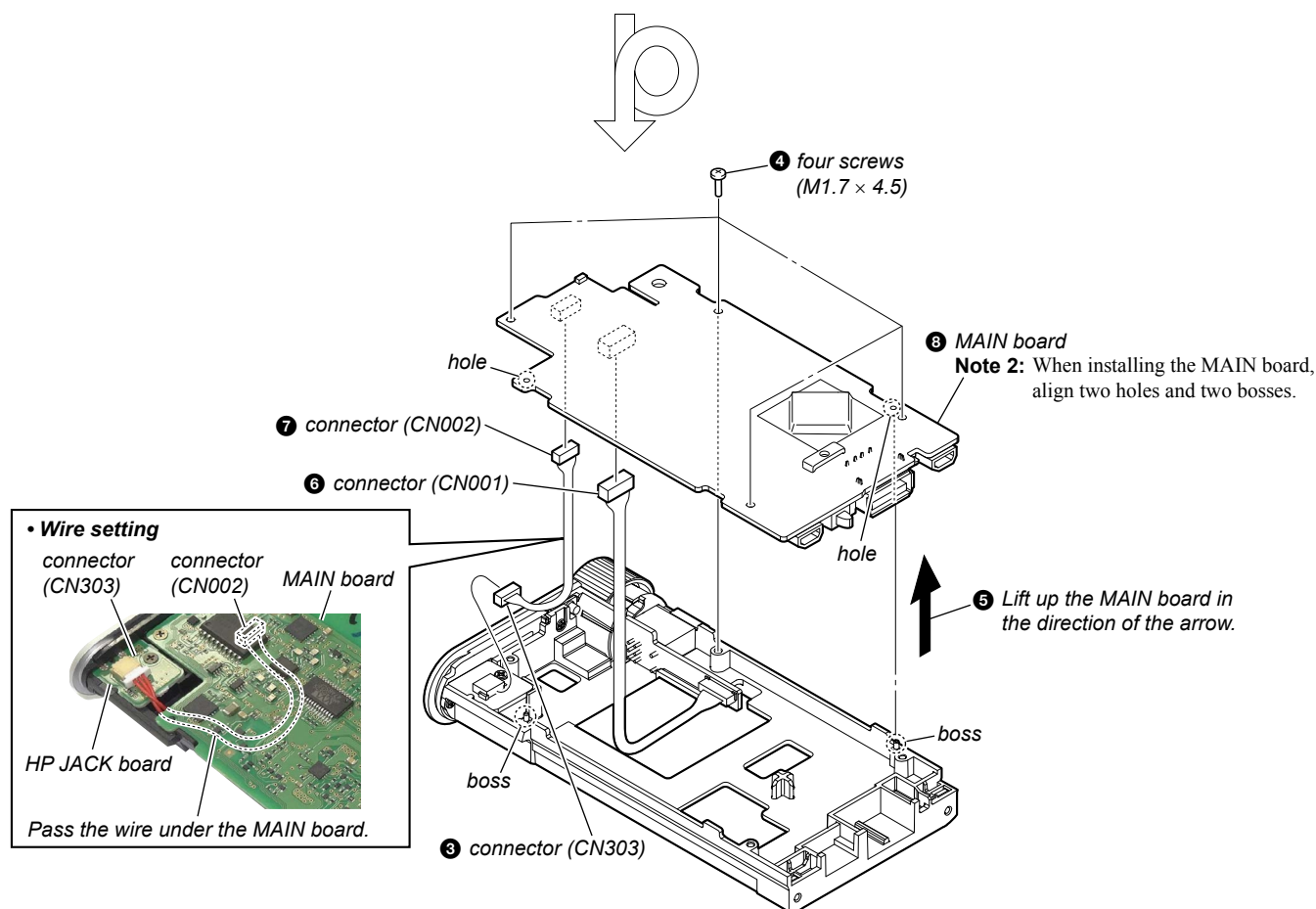
– Frame block battery installation side –

2-5. MAIN BOARD

Note 1: When replacing the MAIN board, be sure to replace the case simultaneously.
Among the repair parts, the MAIN board and case are supplied as one unit.

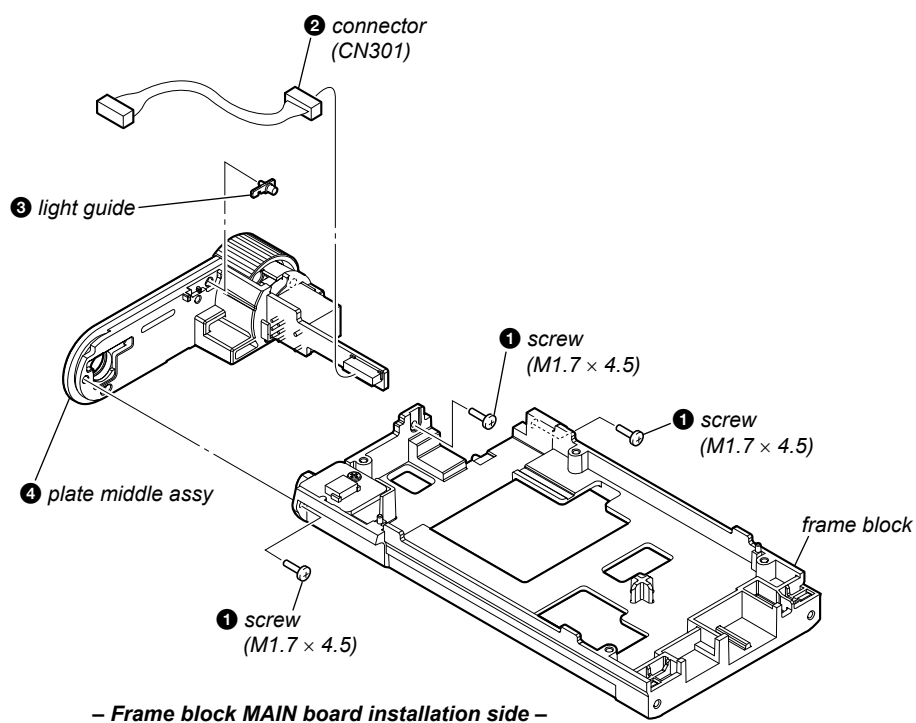


– Frame block battery installation side –

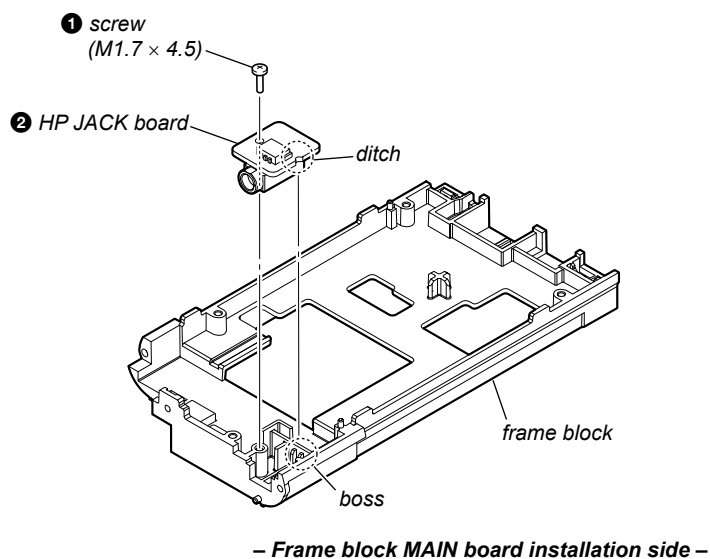


– Frame block MAIN board installation side –

2-6. PLATE MIDDLE ASSY



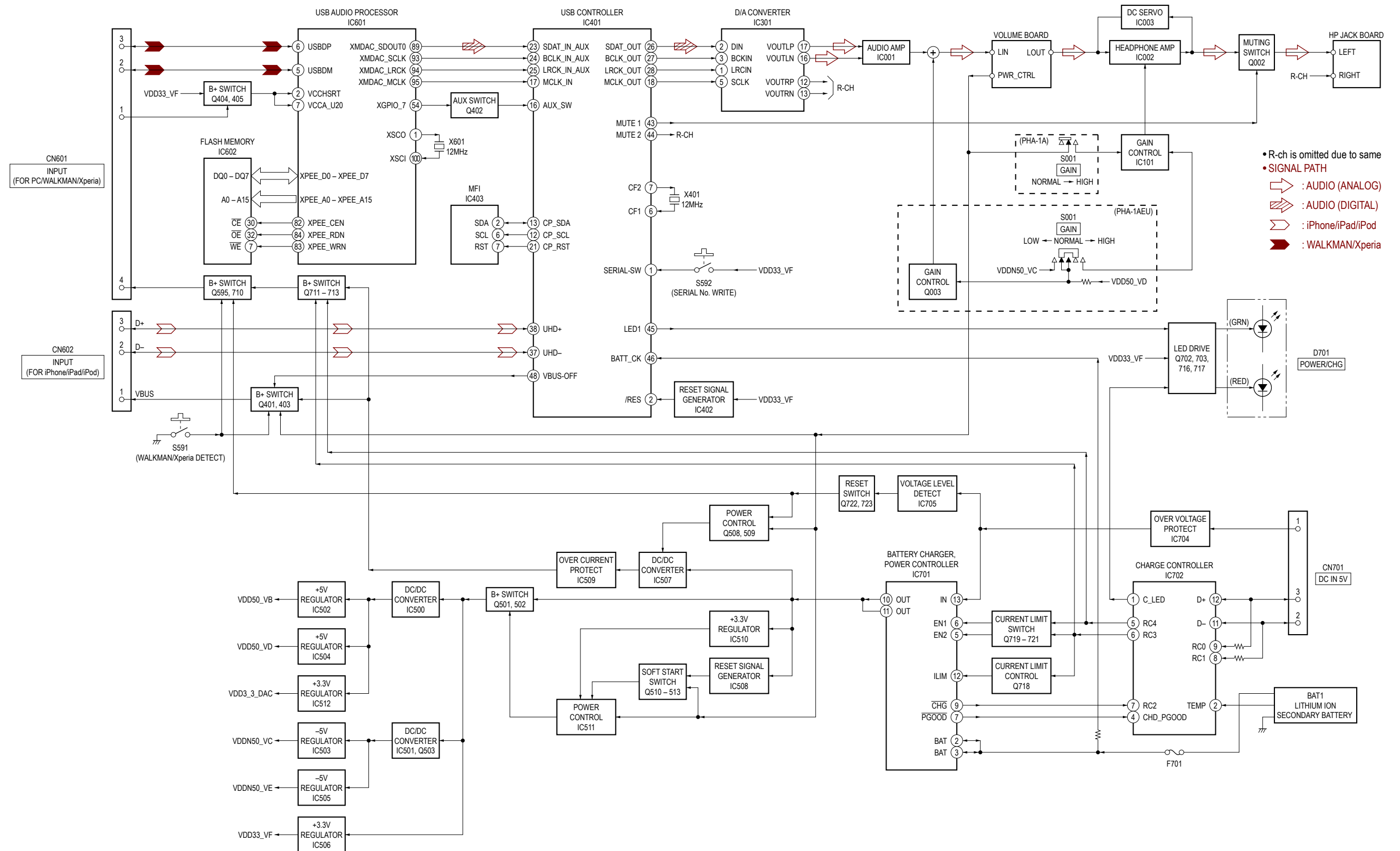
2-7. HP JACK BOARD



MEMO

SECTION 3 DIAGRAMS

3-1. BLOCK DIAGRAM



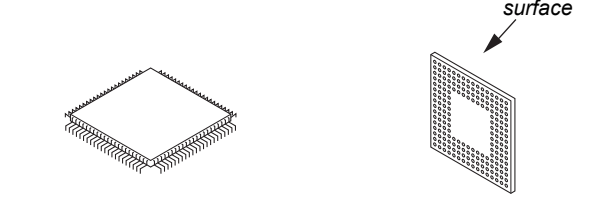
THIS NOTE IS COMMON FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS.
(In addition to this, the necessary note is printed in each block.)

For Printed Wiring Boards.

- Note:**
- — : Parts extracted from the component side.
 - : Parts extracted from the conductor side.
 - : Pattern from the side which enables seeing.
(The other layers' patterns are not indicated.)

Caution:
Pattern face side: Parts on the pattern face side seen (Conductor Side) from the pattern face are indicated.
Parts face side: Parts on the parts face side seen from (Component Side) the parts face are indicated.

- Lead layouts



Lead layout of conventional IC CSP (Chip Size Package)

* Replacement of IC704 on the MAIN board used in this unit requires a special tool.

Note: When replacing the MAIN board, be sure to replace the case simultaneously. Among the repair parts, the MAIN board and case are supplied as one unit.

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.
 - : Panel designation.

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

Note: Les composants identifiés par une marque $\triangle$ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

注意: 原理图和零件清单中标有△记号的零部件，或带有△记号的虚线所圈示的零部件，对于维系安全至关重要。因此只能以指定号码的零部件来更换。

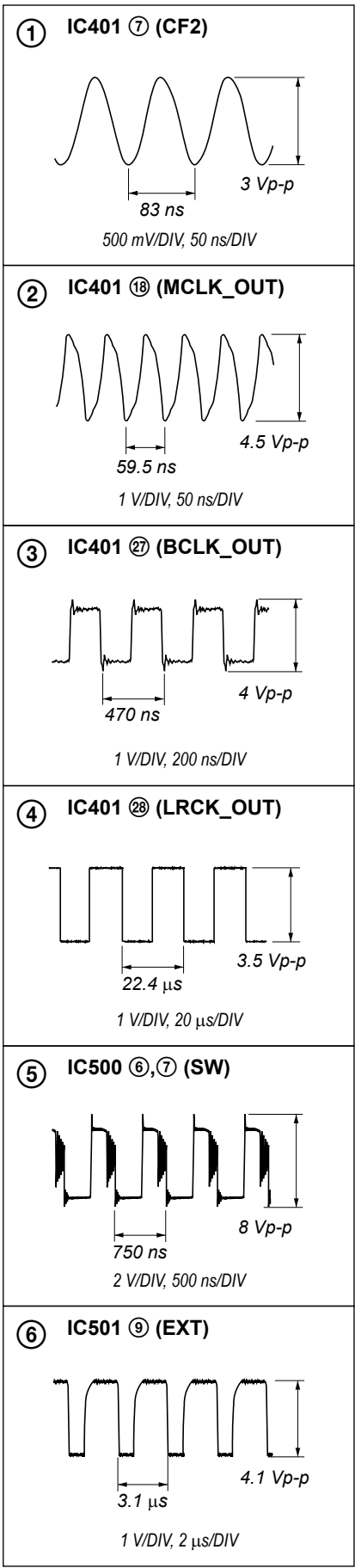
- : B+ Line.
- - - : B- Line.
- Voltages and waveforms are dc with respect to ground under no-signal conditions.
no mark: POWER ON
- Voltages are taken with VOM (Input impedance 10 M Ω). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
 - ⇒ : AUDIO (ANALOG)
 - ⇒ : AUDIO (DIGITAL)
 - ⇒ : iPhone/iPad/iPod
 - ⇒ : WALKMAN/Xperia
- The voltage and waveform of CSP (chip size package) cannot be measured, because its lead layout is different from that of conventional IC.

* Replacement of IC704 on the MAIN board used in this unit requires a special tool.

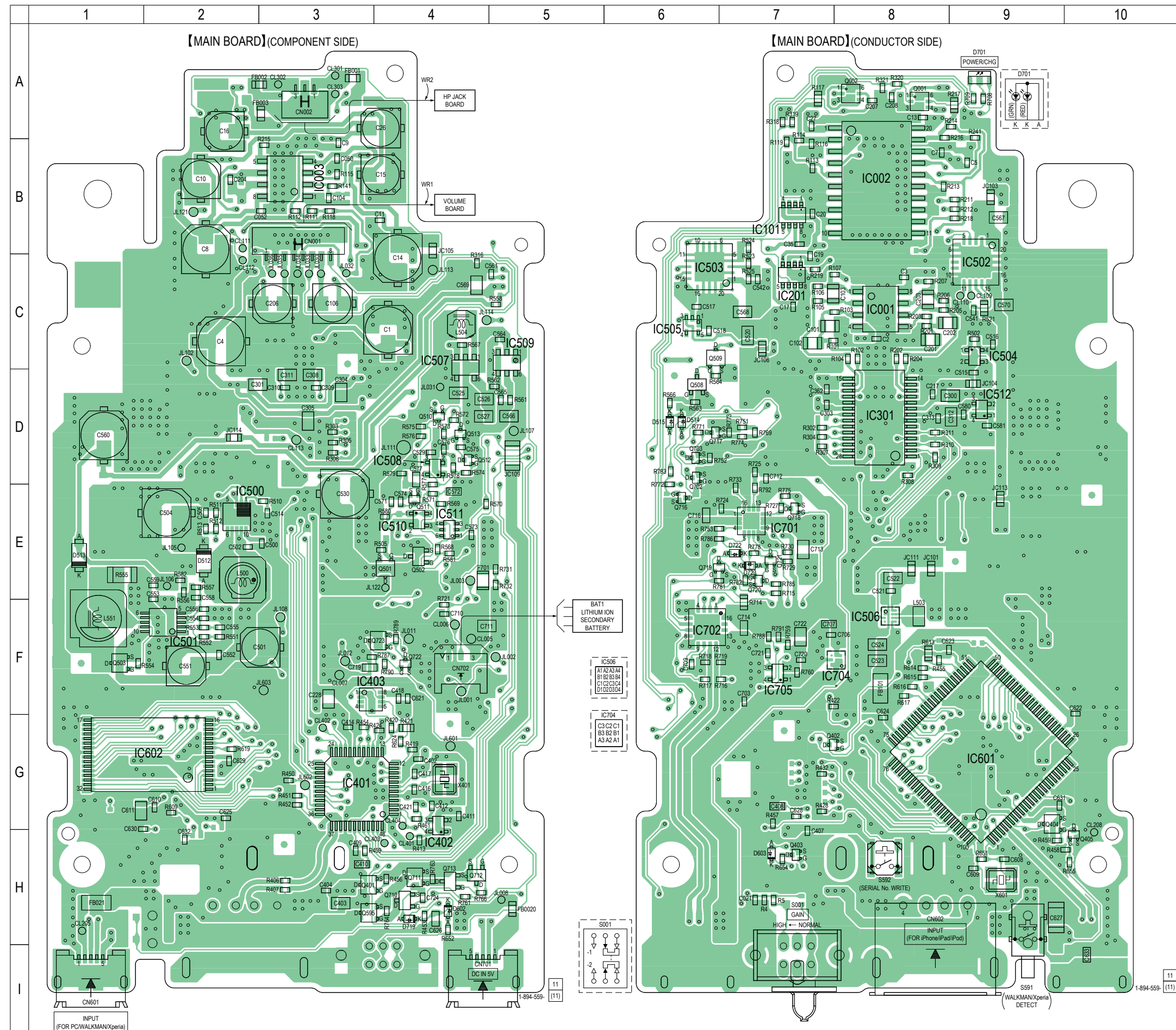
Note: When replacing the MAIN board, be sure to replace the case simultaneously. Among the repair parts, the MAIN board and case are supplied as one unit.

- Waveforms

– MAIN Board –

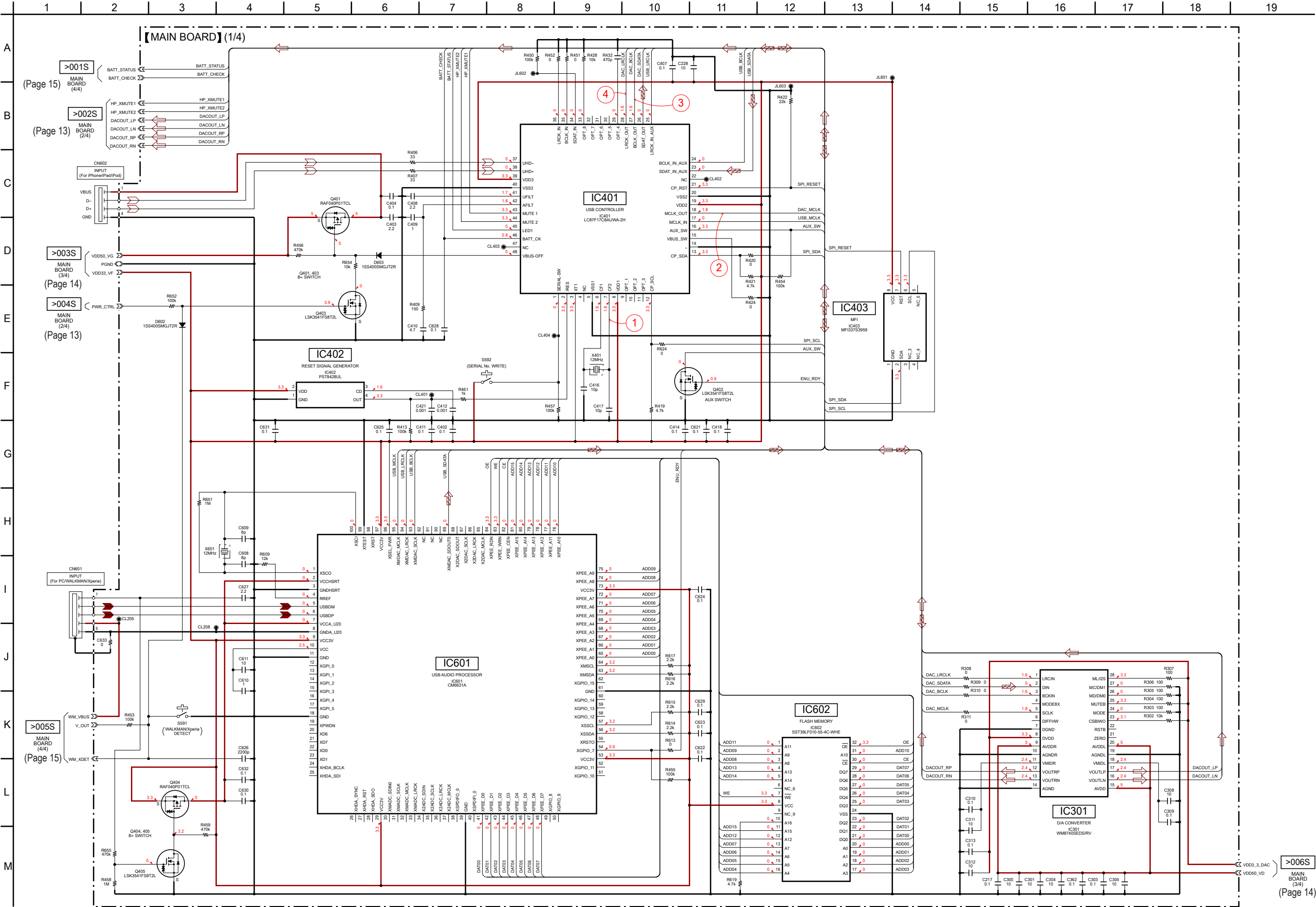


3-2. PRINTED WIRING BOARDS (PHA-1A) • : Uses unleaded solder.



Note: The following parts on the MAIN board cannot replace with single. When these parts are damaged, replace the complete mounted board.
IC001, IC002, IC003, IC101, IC201, IC301, IC401, IC403, IC500, IC501, IC502, IC503, IC505, IC506, IC507, IC601, IC602, IC701, IC702, Q001, Q002

3-3. SCHEMATIC DIAGRAM - MAIN Section (1/4) (PHA-1A) - • See page 10 for Waveforms. • See page 16 for IC Block Diagrams. • See page 18 for IC Pin Function Description.



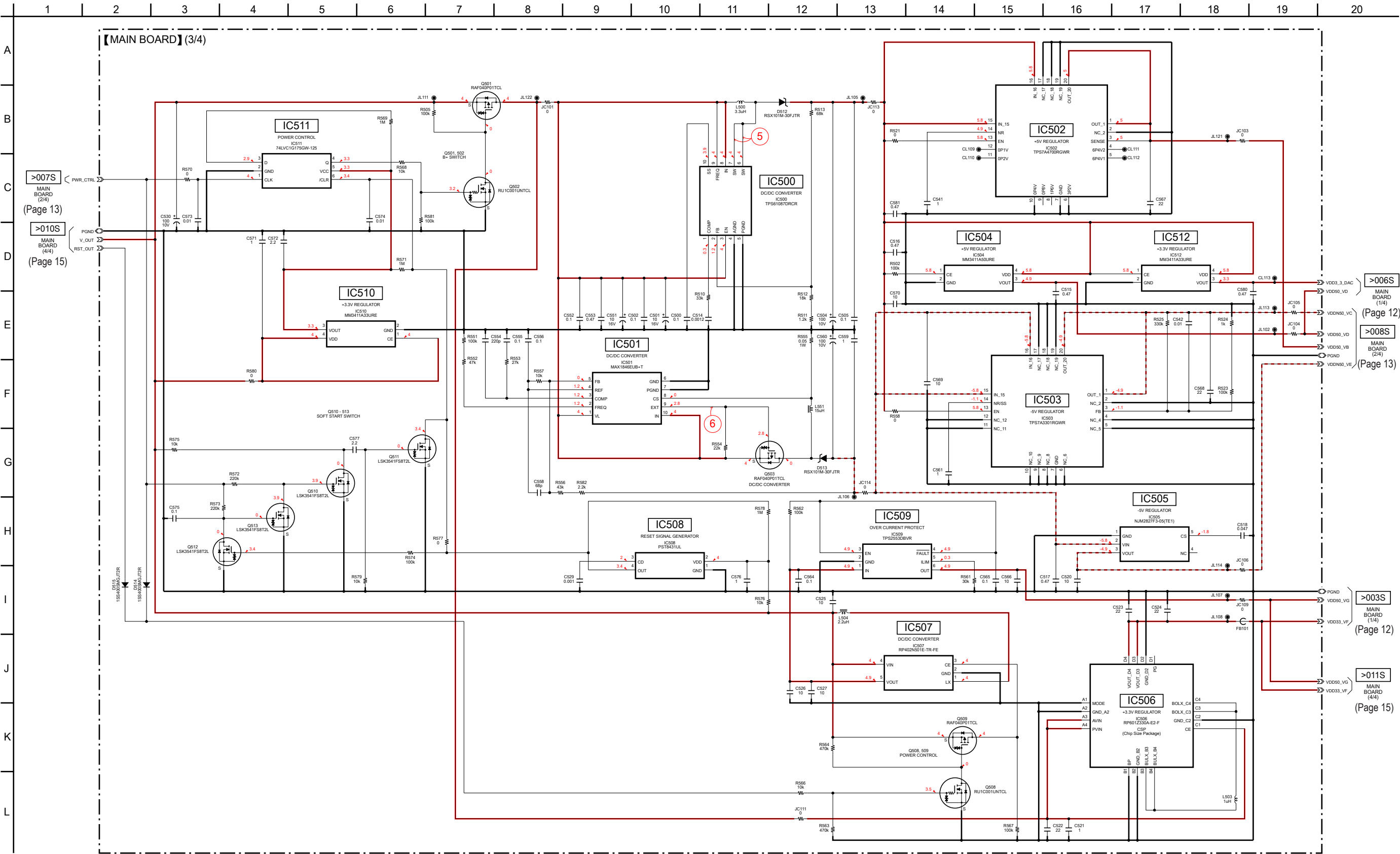
Note: The following parts on the MAIN board cannot replace with single.
When these parts are damaged, replace the complete mounted board.
IC301, IC401, IC403, IC601, IC602

13



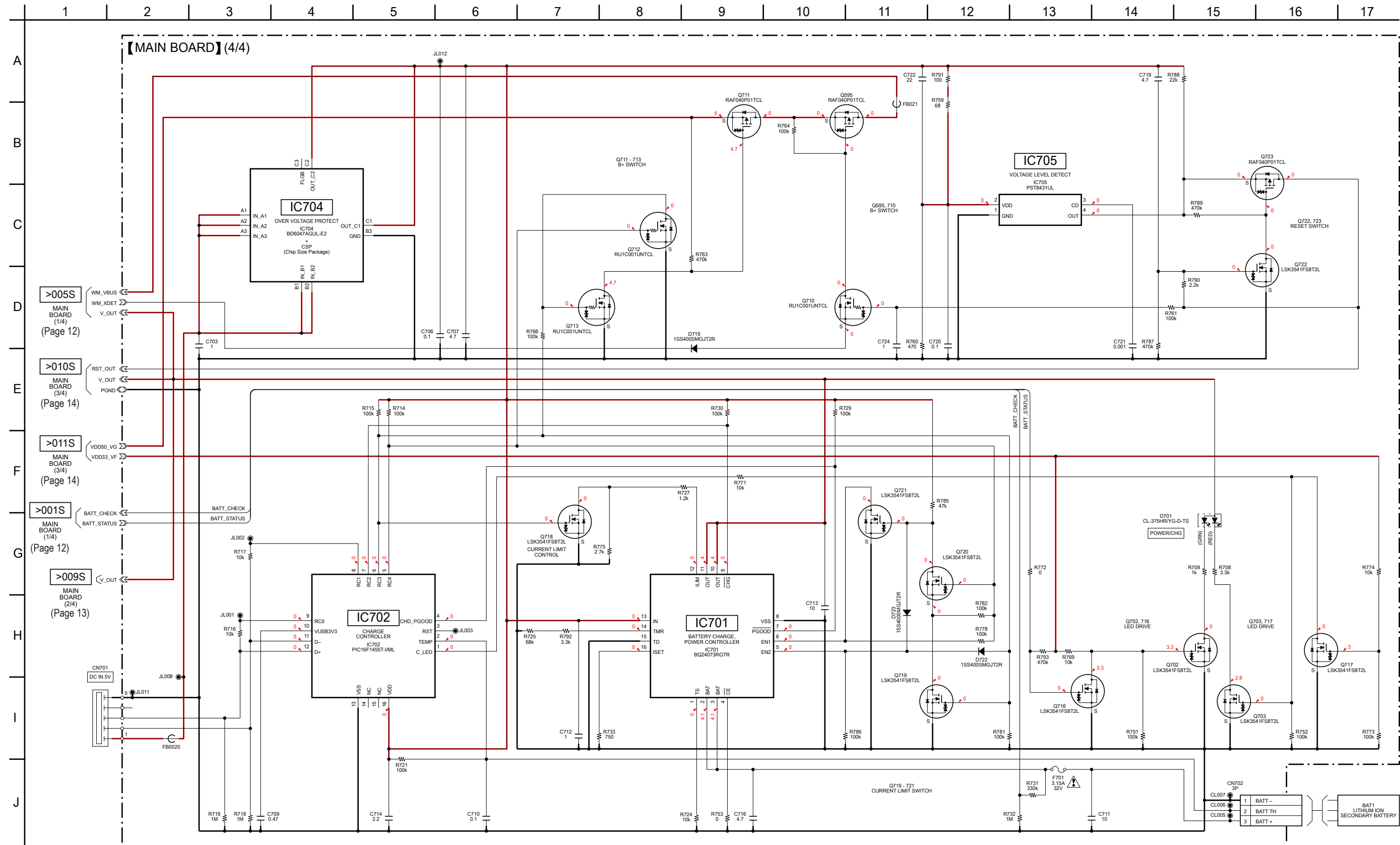
Note: The following parts on the MAIN board cannot replace with single.
When these parts are damaged, replace the complete mounted board.
IC001, IC002, IC003, IC101, IC201, Q001, Q002

3-5. SCHEMATIC DIAGRAM - MAIN Section (3/4) (PHA-1A) - • See page 10 for Waveforms. • See page 16 for IC Block Diagrams.



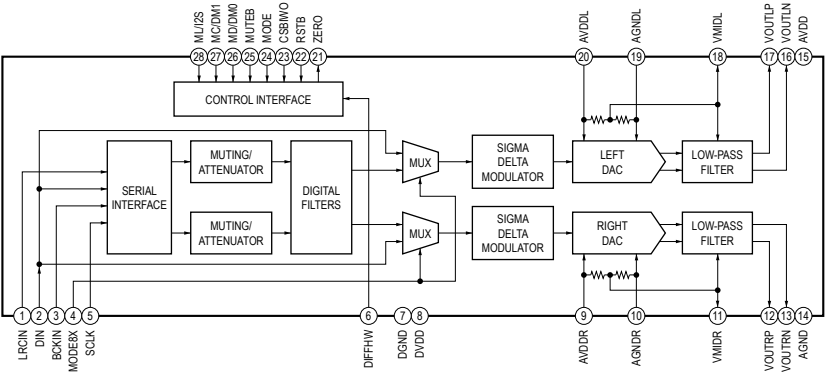
Note: The following parts on the MAIN board cannot replace with single.
When these parts are damaged, replace the complete mounted board.
IC500, IC501, IC502, IC503, IC505, IC506, IC507

3-6. SCHEMATIC DIAGRAM - MAIN Section (4/4) (PHA-1A) - • See page 16 for IC Block Diagrams. • See page 18 for IC Pin Function Description.

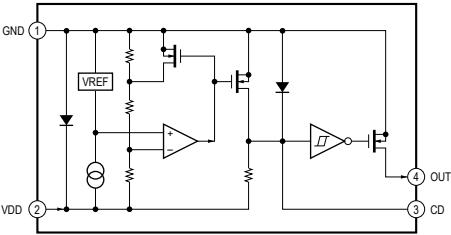


• IC Block Diagrams

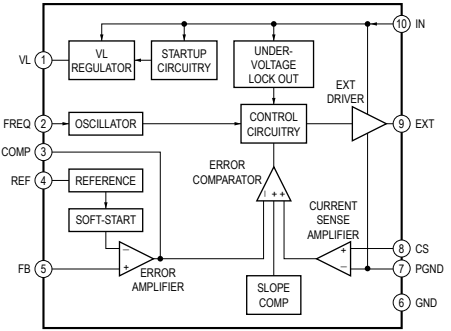
– MAIN Board –
IC301 WM8740SEDS/RV



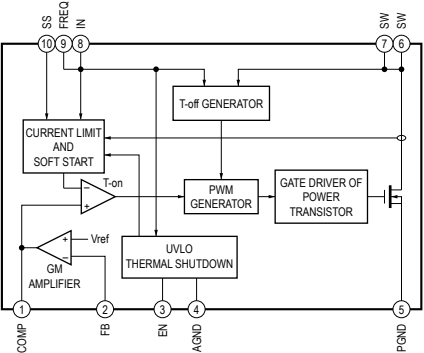
IC402 PST8428UL
IC508, 705 PST8431UL



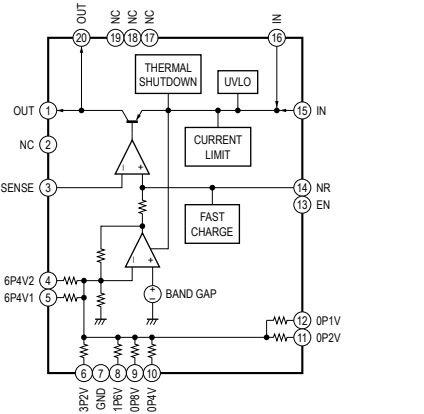
IC501 MAX1846EUB+T



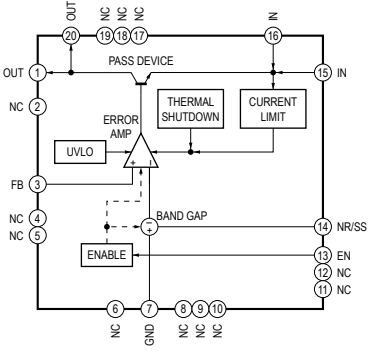
IC500 TPS61087DRCR



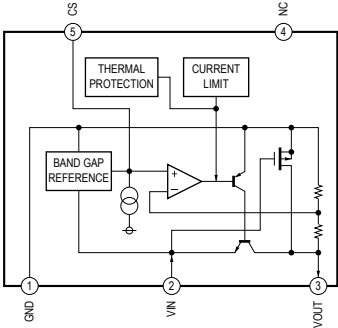
IC502 TPS7A4700RGWR



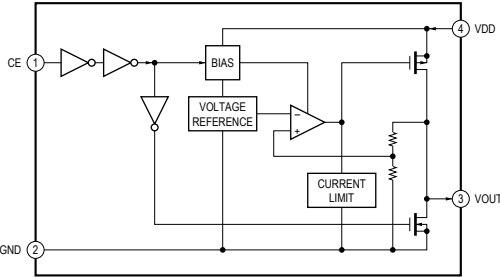
IC503 TPS7A3301RGWR



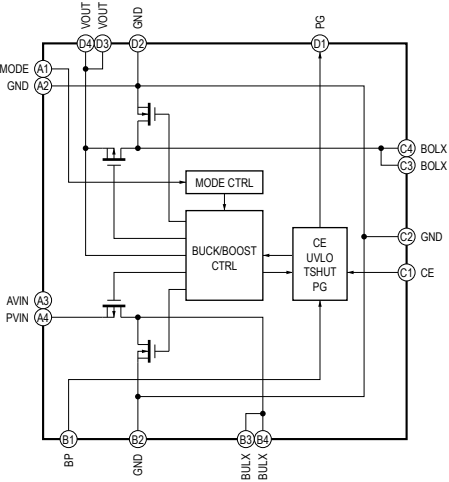
IC505 NJM2827F3-05 (TE1)



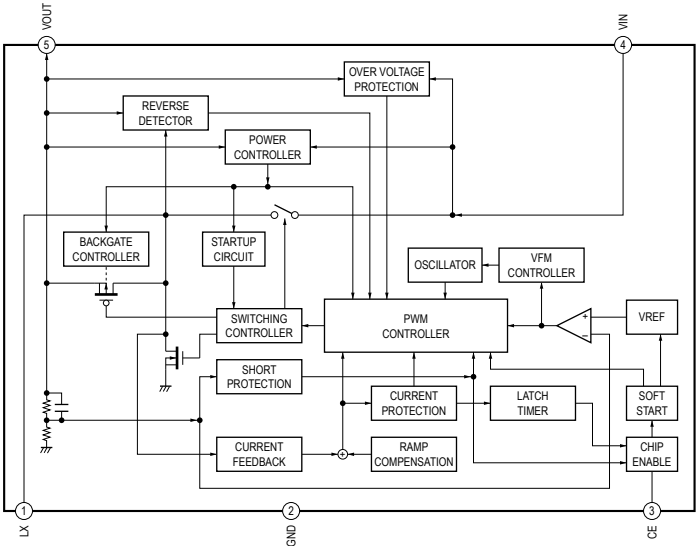
IC504 MM3411A50URE
IC510, 512 MM3411A33URE



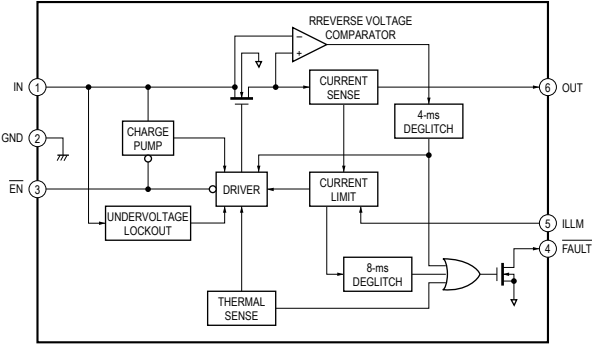
IC506 RP601Z330A-E2-F



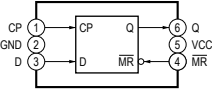
IC507 RP402N501E-TR-FE



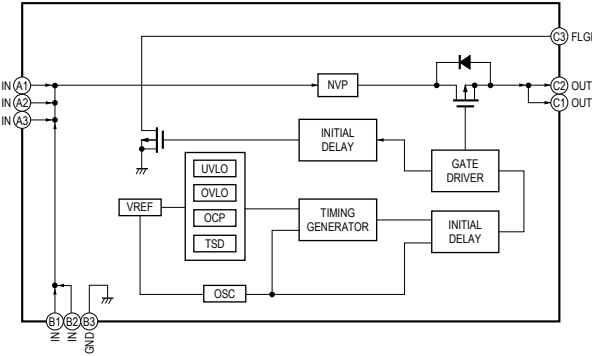
IC509 TPS2553DBVR



IC511 74LVC1G175GW-125



IC704 BD6047AGUL-E2



• IC Pin Function Description

MAIN BOARD IC401 LC87F17C8AUWA-2H (USB CONTROLLER)

Pin No.	Pin Name	I/O	Description
1	SERIAL-SW	I	Serial No. write mode switch input terminal "H": serial No. write mode
2	/RES	I	Reset signal input terminal "L": reset
3	XT1	I	System clock input terminal Not used
4	NC	O	Not used
5	VSS1	-	Ground terminal
6	CF1	I	System clock input terminal (12 MHz)
7	CF2	O	System clock output terminal (12 MHz)
8	VDD1	-	Power supply terminal (+3.3V)
9 to 11	OPT_1 to OPT_3	I	Hardware option input terminal Not used
12	CP_SCL	O	Serial data transfer clock signal output to the MFI
13	CP_SDA	I/O	Two-way serial data bus with the MFI
14	—	I	Not used
15	VBUS_SW	I	VBUS current selection signal input terminal Fixed at "L" in this unit
16	AUX_SW	I	AUX selection signal input terminal
17	MCLK_IN	I	Digital audio master clock signal input from the USB audio processor
18	MCLK_OUT	O	Digital audio master clock signal output to the D/A converter
19	VDD2	-	Power supply terminal (+3.3V)
20	VSS2	-	Ground terminal
21	CP_RST	O	Reset signal output to the MFI "L": reset
22	NC	O	Not used
23	SDAT_IN_AUX	I	Digital audio data input from the USB audio processor
24	BCLK_IN_AUX	I	Digital audio bit clock signal input from the USB audio processor
25	LRCK_IN_AUX	I	Digital audio L/R sampling clock signal input from the USB audio processor
26	SDAT_OUT	O	Digital audio data output to the D/A converter
27	BCLK_OUT	O	Digital audio bit clock signal output to the D/A converter
28	LRCK_OUT	O	Digital audio L/R sampling clock signal output to the D/A converter
29 to 33	OPT_4 to OPT_8	I	Hardware option input terminal Not used
34	SDAT_IN	I	Digital audio data input terminal Not used
35	BCLK_IN	I	Digital audio bit clock signal input terminal Not used
36	LRCK_IN	I	Digital audio L/R sampling clock signal input terminal Not used
37	UHD-	I/O	Two-way USB data (-) bus with the INPUT (for iPhone/iPad/iPod) connector
38	UHD+	I/O	Two-way USB data (+) bus with the INPUT (for iPhone/iPad/iPod) connector
39	VDD3	-	Power supply terminal (+3.3V)
40	VSS3	-	Ground terminal
41	UFILT	-	USB interface PLL filter terminal
42	AFILT	-	Audio PLL filter terminal
43	MUTE 1	O	Audio (L-ch) muting on/off control signal output terminal "L": muting on
44	MUTE 2	O	Audio (R-ch) muting on/off control signal output terminal "L": muting on
45	LED1	O	LED drive signal output terminal for the POWER/CHG indicator (green color) "H": LED on
46	BATT_CHK	I	Battery level check terminal
47	NC	O	Not used
48	VBUS-OFF	O	VBUS on/off control signal output terminal for the INPUT (for iPhone/iPad/iPod) connector "L": VBUS on

MAIN BOARD IC601 CM6631A (USB AUDIO PROCESSOR)

Pin No.	Pin Name	I/O	Description
1	XSC0	O	System clock output terminal (12 MHz)
2	VCCHSRT	-	Power supply terminal (+3.3V) (analog system)
3	GNDHSRT	-	Ground terminal (analog system)
4	RREF	I	External reference resistor connection terminal
5	USBDM	I/O	Two-way USB data (-) bus with the INPUT (for PC/WALKMAN/Xperia) connector
6	USBDP	I/O	Two-way USB data (+) bus with the INPUT (for PC/WALKMAN/Xperia) connector
7	VCCA_U20	-	Power supply terminal (+3.3V) (analog system)
8	GND_A_U20	-	Ground terminal (analog system)
9	VCC3V	-	Power supply terminal (+3.3V) (digital system)
10	VCC	O	External filter capacitor connection terminal
11	GND	-	Ground terminal (digital system)
12 to 17	XGPI_0 to XGPI_5	I/O	Not used
18	GND	-	Ground terminal (digital system)
19	XPWDN	O	Power down control signal output terminal Not used
20, 21	XD6, XD7	I	System clock input terminal Not used
22	XD0	I	Serial data input terminal Not used
23	XD1	O	Serial data output terminal Not used
24	XHDA_BCLK	O	Bit clock signal output terminal Not used
25	XHDA_SDI	I	Serial data input terminal Not used
26	XHDA_SYNC	O	Frame sync signal output terminal Not used
27	XHDA_RST	O	Reset signal output terminal Not used
28	XHDA_SDO	O	Serial data output terminal Not used
29	VCC3V	-	Power supply terminal (+3.3V) (digital system)
30	XMADC_SDIN0	I	I2S serial data input terminal Not used
31	XMADC_SCLK	I/O	I2S bit clock signal input/output terminal Not used
32	XMADC_MCLK	O	I2S master clock signal output terminal Not used
33	XMADC_LRCK	I/O	I2S L/R sampling clock signal input/output terminal Not used
34	X2ADC_SDIN0	I	I2S serial data input terminal Not used
35	X2ADC_SCLK	I/O	I2S bit clock signal input/output terminal Not used
36	X2ADC_LRCK	I/O	I2S L/R sampling clock signal input/output terminal Not used
37	X2ADC_MCLK	O	I2S master clock signal output terminal Not used
38	XSPDIFO_0	O	S/PDIF signal output terminal Not used
39	GND	-	Ground terminal (digital system)
40	XSPDIFI_0	I	S/PDIF signal input terminal Not used
41 to 48	XPEE_D0 to XPEE_D7	I/O	Two-way serial data bus with the flash memory
49 to 52	XGPIO_8 to XGPIO_11	I/O	Not used
53	VCC3V	-	Power supply terminal (+3.3V) (digital system)
54	XGPIO_7	O	AUX selection signal output terminal
55	XRSTO	O	Reset signal output terminal Not used
56	XSSDA	I/O	Two-way slave serial data bus terminal Not used
57	XSSCL	I/O	Two-way slave serial clock bus terminal Not used
58 to 60	XGPIO_12 to XGPIO_14	I/O	Not used
61	GND	-	Ground terminal (digital system)
62	XGPIO_15	I/O	Not used
63	XMSDA	I/O	Two-way master serial data bus terminal Not used
64	XMSCL	I/O	Two-way master serial clock bus terminal Not used
65 to 72	XPEE_A0 to XPEE_A7	O	Address signal output to the flash memory
73	VCC3V	-	Power supply terminal (+3.3V) (digital system)
74 to 81	XPEE_A8 to XPEE_A15	O	Address signal output to the flash memory
82	XPEE_CEN	O	Chip enable signal output to the flash memory
83	XPEE_WRN	O	Write enable signal output to the flash memory
84	XPEE_RDN	O	Read enable signal output to the flash memory
85	X2DAC_MCLK	O	I2S master clock signal output terminal Not used
86	X2DAC_LRCK	I/O	I2S L/R sampling clock signal input/output terminal Not used

Pin No.	Pin Name	I/O	Description
87	X2DAC_SCLK	I/O	I2S bit clock signal input/output terminal Not used
88	X2DAC_SDOUT	O	I2S serial data output terminal Not used
89	XMDAC_SDOUT0	O	Digital audio data output to the USB controller
90 to 92	NC	-	Not used
93	XMDAC_SCLK	O	Digital audio bit clock signal output to the USB controller
94	XMDAC_LRCK	O	Digital audio L/R sampling clock signal output to the USB controller
95	XMDAC_MCLK	O	Digital audio master clock signal output to the USB controller
96	XSEL_PWR	I	Power selection signal input terminal “L”: bus power, “H”: self power Fixed at “H” in this unit
97	VCC3V	-	Power supply terminal (+3.3V) (digital system)
98	XRST	I	Reset signal input terminal Not used
99	XTEST	I	Test mode selection signal input terminal “L”: normal operation, “H”: test mode Fixed at “L” in this unit
100	XSCI	I	System clock input terminal (12 MHz)

MAIN BOARD IC701 BQ24073RGTR (BATTERY CHARGER, POWER CONTROLLER)

Pin No.	Pin Name	I/O	Description
1	TS	I	External NTC thermistor input terminal Not used
2, 3	BAT	I/O	Battery power input and charge power output terminal
4	$\overline{CE}$	I	Chip enable signal input terminal Not used
5, 6	EN2, EN1	I	Current control signal input terminal
7	$\overline{PGOOD}$	O	Power supply state detection signal output to the charge controller "L": power supply is good, "H": power supply is failure
8	VSS	-	Ground terminal
9	$\overline{CHG}$	O	Charge detection signal output to the charge controller "L": charging, "H": non-charging
10, 11	OUT	O	System power supply output terminal (+3.7V)
12	ILIM	I	Adjustable current limit programming input terminal
13	IN	I	DC power supply input terminal (+5V)
14	TMR	I	Timer programming input terminal Not used
15	TD	I	Termination disable signal input terminal Not used
16	ISET	I	Quick charge current programming input terminal Not used

MAIN BOARD IC702 PIC16F1455T-I/ML (CHARGE CONTROLLER)

Pin No.	Pin Name	I/O	Description
1	C_LED	O	LED drive signal output terminal for the POWER/CHG indicator (red color) "H": LED on
2	TEMP	I	TH temperature monitoring signal input terminal
3	RST	-	Not used
4	CHD_PGOOD	I	Power supply state detection signal input from the power controller "L": power supply is good, "H": power supply is failure
5, 6	RC4, RC3	O	Current control signal output terminal
7	RC2	I	Charge detection signal input from the power controller "L": charging, "H": non-charging
8, 9	RC1, RC0	I	USB cable connection detection signal input terminal
10	VUSB3V3	I	USB communication reference voltage input terminal
11	D-	I/O	Two-way USB data (-) bus with the DC IN 5V connector
12	D+	I/O	Two-way USB data (+) bus with the DC IN 5V connector
13	VSS	-	Ground terminal
14, 15	NC	-	Not used
16	VDD	-	Power supply terminal (+5V)

SECTION 4 EXPLODED VIEWS

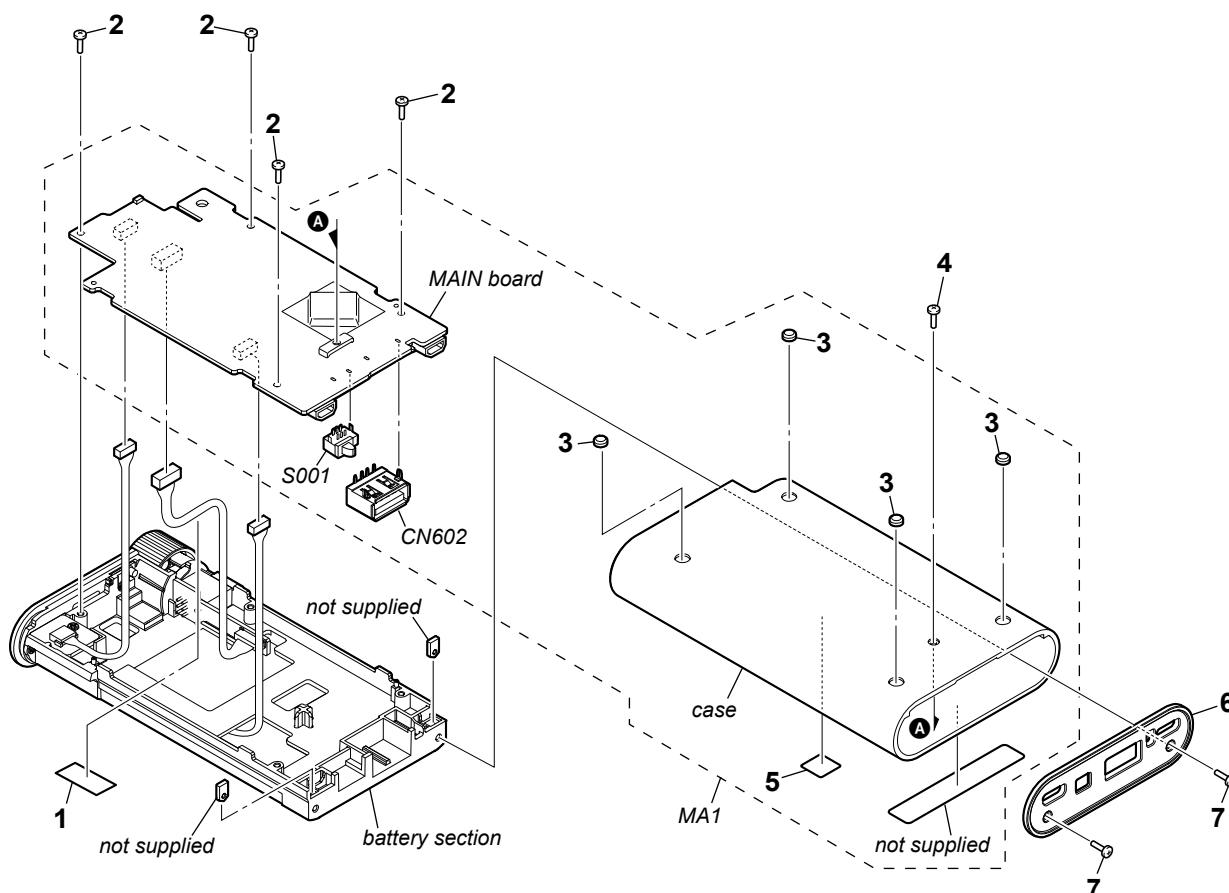
Note:

- -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.
- Color Indication of Appearance Parts Example:
KNOB, BALANCE (WHITE) . . . (RED)

↑ ↑
Parts Color Cabinet's Color

4-1. MAIN BOARD SECTION

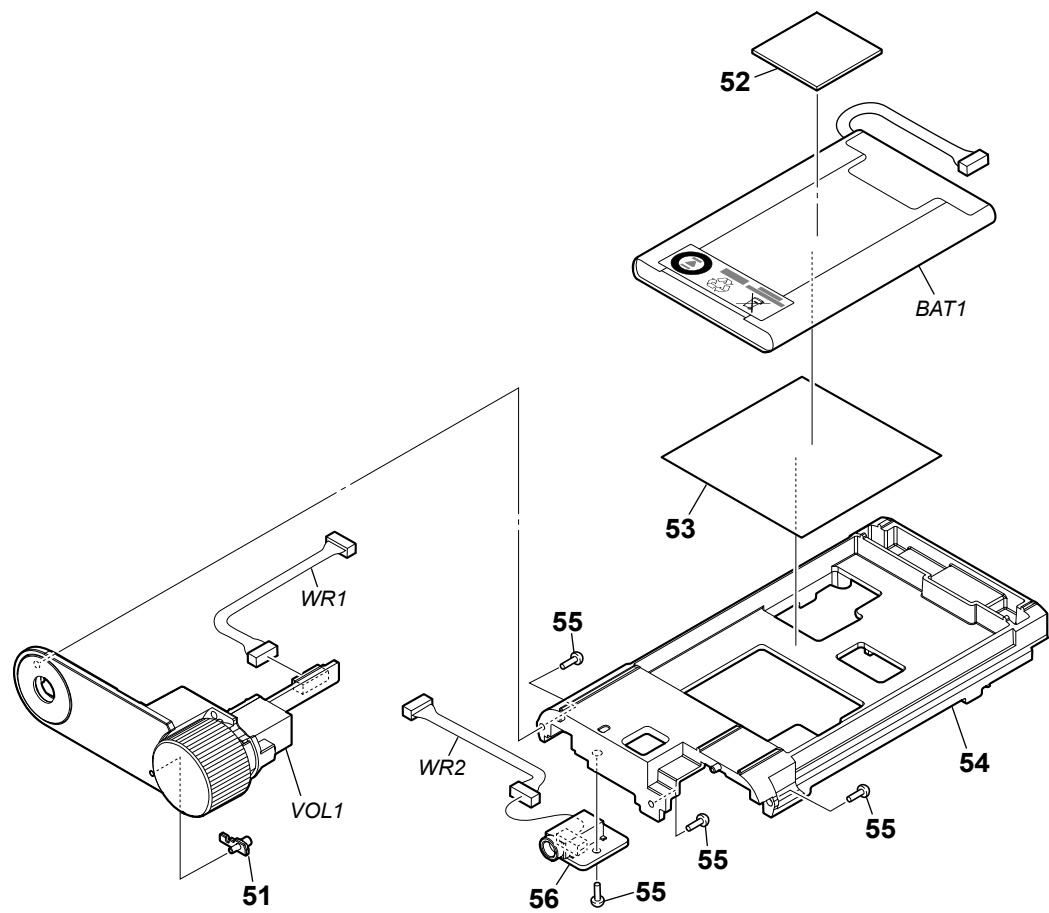
- Rear bottom view



Note: When replacing the MAIN board or case, be sure to replace both parts simultaneously.
Among the repair parts, the MAIN board and case are supplied as one unit.

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
1	4-420-210-02	SHEET, WOOFER		MA1	X-2591-594-1	CASE AND PC BOARD ASSY (SV) (Including MAIN board, Sheet, Label) (PHA-1A: CH) (See Note)	
2	3-254-083-11	SCREW (L = 4.5 mm)		MA1	X-2591-616-1	CASE AND PC BOARD ASSY (SV) (Including MAIN board, Sheet, Label) (PHA-1A: LA) (See Note)	
3	4-563-929-01	FOOT, RUBBER		MA1	X-2592-229-1	CASE AND PC BOARD ASSY (SV) (Including MAIN board, Sheet, Label) (PHA-1AEU) (See Note)	
4	3-234-449-27	SCREW (M1.4) (L = 2.5 mm)		S001	1-786-792-11	SWITCH, SLIDE (GAIN) (PHA-1AEU)	
5	4-569-127-01	HI-RES LABEL		S001	1-798-544-11	SWITCH, SLIDE (GAIN) (PHA-1A)	
6	4-563-921-01	PANEL, BOTTOM (PHA-1A)					
6	4-563-921-11	PANEL, BOTTOM (PHA-1AEU)					
7	3-234-449-39	SCREW (M1.4) (L = 4.0 mm)					
CN602	1-844-269-11	CONNECTOR, USB (A) (INPUT for iPhone/iPad/iPod)					
MA1	X-2591-592-1	CASE AND PC BOARD ASSY (SV) (Including MAIN board, Sheet, Label) (PHA-1A: US, CND) (See Note)					
MA1	X-2591-593-1	CASE AND PC BOARD ASSY (SV) (Including MAIN board, Sheet, Label) (PHA-1A: E, AUS, RU) (See Note)					

4-2. BATTERY SECTION



Note: When removing the battery assy (Ref. No. BAT1) from the frame sheet or battery cushion, the battery assy (Ref. No. BAT1) cannot be reused. Besure to replace them with new parts.

Ref. No.	Part No.	Description	Remark
51	4-563-927-01	GUIDE, LIGHT	
52	4-563-968-01	CUSHION, BATTERY	
53	4-567-766-01	SHEET, FRAME	
54	4-563-919-03	FRAME	
55	3-254-083-11	SCREW (L = 4.5 mm)	
56	A-2072-474-A	HP JACK BOARD, COMPLETE (PHA-1A)	
56	A-2081-095-A	HP JACK BOARD, COMPLETE (PHA-1AEU)	
BAT1	X-2591-595-1	BATTERY ASSY (SV)	(Including Label (Battery recycle)) (See Note)

Ref. No.	Part No.	Description	Remark
VOL1	X-2591-560-1	PLATE MIDDLE ASSY (SV)	(Including VOLUME board)
WR1	1-848-857-11	CABLE WITH CONNECTOR (8 pin)	(MAIN - VOLUME board)
WR2	1-848-858-11	CABLE WITH CONNECTOR (3 pin)	(MAIN - HP JACK board)

SECTION 5 ELECTRICAL PARTS LIST

HP JACK

MAIN

Note:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX 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.
- RESISTORS
All resistors are in ohms.
METAL: Metal-film resistor.
METAL OXIDE: Metal oxide-film resistor.
F: nonflammable

- CAPACITORS
uF: μ F
COILS
uH: μ H
SEMICONDUCTORS
In each case, u: μ , for example:
uA. . . : μ A. . . , uPA. . . , μ PA. . . ,
uPB. . . : μ PB. . . , uPC. . . , μ PC. . . ,
uPD. . . : μ PD. . .
• Refer to service manual supplement-1 for electrical parts list (HP JACK board, MAIN board, VOLUME board) of PHA-1AEU.

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

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

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

原理图和零件清单中标有 $\triangle$ 记号的零部件，或带有 $\triangle$ 记号的虚线所圈示的零部件，对于维系安全至关重要。因此只能以指定号码的零部件来更换。

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
	A-2072-474-A	HP JACK BOARD, COMPLETE (PHA-1A) *****		C202	1-135-814-21	FILM CHIP 0.0039uF 5%	16V
When the HP JACK board is defective, replace the complete mounted board. *****				C203	1-127-963-21	FILM CHIP 470PF 5%	50V
	X-2591-592-1	MAIN BOARD, COMPLETE (SV) (PHA-1A: US, CND) (See Note)		C204	1-116-737-11	CERAMIC CHIP 1uF 20%	10V
	X-2591-593-1	MAIN BOARD, COMPLETE (SV) (PHA-1A: E, AUS, RU) (See Note)		C206	1-128-993-21	ELECT CHIP 22uF 20%	10V
	X-2591-594-1	MAIN BOARD, COMPLETE (SV) (PHA-1A: CH) (See Note)		C207	1-116-737-11	CERAMIC CHIP 1uF 20%	10V
	X-2591-616-1	MAIN BOARD, COMPLETE (SV) (PHA-1A: LA) (See Note) ***** (Included in CASE AND PC BOARD ASSY (SV) (Ref. No. MA1))		C208	1-116-737-11	CERAMIC CHIP 1uF 20%	10V
		< CAPACITOR/JUMPER RESISTOR >		C217	1-118-417-11	CERAMIC CHIP 0.1uF 10%	16V
C1	1-165-979-21	ELECT CHIP 100uF 20%	6.3V	C228	1-116-717-11	CERAMIC CHIP 10uF 20%	10V
C2	1-118-417-11	CERAMIC CHIP 0.1uF 10%	16V	C300	1-116-717-11	CERAMIC CHIP 10uF 20%	10V
C3	1-118-417-11	CERAMIC CHIP 0.1uF 10%	16V	C301	1-116-717-11	CERAMIC CHIP 10uF 20%	10V
C4	1-165-979-21	ELECT CHIP 100uF 20%	6.3V	C303	1-118-417-11	CERAMIC CHIP 0.1uF 10%	16V
C5	1-118-417-11	CERAMIC CHIP 0.1uF 10%	16V	C304	1-116-717-11	CERAMIC CHIP 10uF 20%	10V
C7	1-118-417-11	CERAMIC CHIP 0.1uF 10%	16V	C305	1-116-717-11	CERAMIC CHIP 10uF 20%	10V
C8	1-165-979-21	ELECT CHIP 100uF 20%	6.3V	C308	1-116-717-11	CERAMIC CHIP 10uF 20%	10V
C9	1-118-417-11	CERAMIC CHIP 0.1uF 10%	16V	C309	1-118-417-11	CERAMIC CHIP 0.1uF 10%	16V
C10	1-100-765-21	ELECT CHIP 10uF 20%	16V	C310	1-118-417-11	CERAMIC CHIP 0.1uF 10%	16V
C11	1-118-417-11	CERAMIC CHIP 0.1uF 10%	16V	C311	1-116-717-11	CERAMIC CHIP 10uF 20%	10V
C13	1-118-417-11	CERAMIC CHIP 0.1uF 10%	16V	C312	1-116-717-11	CERAMIC CHIP 10uF 20%	10V
C14	1-165-979-21	ELECT CHIP 100uF 20%	6.3V	C313	1-118-417-11	CERAMIC CHIP 0.1uF 10%	16V
C15	1-100-765-21	ELECT CHIP 10uF 20%	16V	C362	1-118-417-11	CERAMIC CHIP 0.1uF 10%	16V
C16	1-100-765-21	ELECT CHIP 10uF 20%	16V	C402	1-118-417-11	CERAMIC CHIP 0.1uF 10%	16V
C17	1-116-737-11	CERAMIC CHIP 1uF 20%	10V	C403	1-118-045-11	CERAMIC CHIP 2.2uF 10%	25V
C19	1-116-737-11	CERAMIC CHIP 1uF 20%	10V	C404	1-118-417-11	CERAMIC CHIP 0.1uF 10%	16V
C20	1-116-737-11	CERAMIC CHIP 1uF 20%	10V	C407	1-118-417-11	CERAMIC CHIP 0.1uF 10%	16V
C021	1-164-943-81	CERAMIC CHIP 0.01uF 10%	16V	C408	1-116-729-11	CERAMIC CHIP 2.2uF 20%	10V
C26	1-100-765-21	ELECT CHIP 10uF 20%	16V	C409	1-116-737-11	CERAMIC CHIP 1uF 20%	10V
C27	1-118-417-11	CERAMIC CHIP 0.1uF 10%	16V	C410	1-118-041-11	CERAMIC CHIP 4.7uF 10%	10V
C35	1-116-737-11	CERAMIC CHIP 1uF 20%	10V	C411	1-118-417-11	CERAMIC CHIP 0.1uF 10%	16V
C050	1-118-417-11	CERAMIC CHIP 0.1uF 10%	16V	C412	1-118-403-11	CERAMIC CHIP 0.001uF 10%	50V
C052	1-118-417-11	CERAMIC CHIP 0.1uF 10%	16V	C414	1-118-417-11	CERAMIC CHIP 0.1uF 10%	16V
C101	1-127-963-21	FILM CHIP 470PF 5%	50V	C416	1-164-850-11	CERAMIC CHIP 10PF 0.5PF	50V
C102	1-135-814-21	FILM CHIP 0.0039uF 5%	16V	C417	1-164-850-11	CERAMIC CHIP 10PF 0.5PF	50V
C103	1-127-963-21	FILM CHIP 470PF 5%	50V	C418	1-118-417-11	CERAMIC CHIP 0.1uF 10%	16V
C104	1-116-737-11	CERAMIC CHIP 1uF 20%	10V	C421	1-118-403-11	CERAMIC CHIP 0.001uF 10%	50V
C106	1-128-993-21	ELECT CHIP 22uF 20%	10V	C500	1-118-417-11	CERAMIC CHIP 0.1uF 10%	16V
C201	1-127-963-21	FILM CHIP 470PF 5%	50V	C501	1-100-765-21	ELECT CHIP 10uF 20%	16V
				C502	1-118-417-11	CERAMIC CHIP 0.1uF 10%	16V
				C504	1-165-492-21	ELECT CHIP 100uF 20%	10V
				C505	1-118-417-11	CERAMIC CHIP 0.1uF 10%	16V
				C514	1-118-402-11	CERAMIC CHIP 0.0012uF 10%	50V
				C515	1-116-741-11	CERAMIC CHIP 0.47uF 20%	10V
				C516	1-116-741-11	CERAMIC CHIP 0.47uF 20%	10V
				C517	1-116-741-11	CERAMIC CHIP 0.47uF 20%	10V
				C518	1-118-388-11	CERAMIC CHIP 0.047uF 10%	25V
				C520	1-116-717-11	CERAMIC CHIP 10uF 20%	10V

Note: When replacing the MAIN board, be sure to replace the case simultaneously.
Among the repair parts, the MAIN board and case are supplied as one unit.

PHA-1A/1AEU

Ver. 1.1

MAIN

Ref. No.	Part No.	Description			Remark
C521	1-116-737-11	CERAMIC CHIP	1uF	20%	10V
C522	1-116-713-11	CERAMIC CHIP	22uF	20%	10V
C523	1-116-713-11	CERAMIC CHIP	22uF	20%	10V
C524	1-116-713-11	CERAMIC CHIP	22uF	20%	10V
C525	1-116-717-11	CERAMIC CHIP	10uF	20%	10V
C526	1-116-717-11	CERAMIC CHIP	10uF	20%	10V
C527	1-116-717-11	CERAMIC CHIP	10uF	20%	10V
C529	1-118-403-11	CERAMIC CHIP	0.001uF	10%	50V
C530	1-165-492-21	ELECT CHIP	100uF	20%	10V
C541	1-116-737-11	CERAMIC CHIP	1uF	20%	10V
C542	1-118-391-11	CERAMIC CHIP	0.01uF	10%	50V
C551	1-100-765-21	ELECT CHIP	10uF	20%	16V
C552	1-118-417-11	CERAMIC CHIP	0.1uF	10%	16V
C553	1-116-741-11	CERAMIC CHIP	0.47uF	20%	10V
C554	1-118-412-11	CERAMIC CHIP	220PF	10%	50V
C555	1-118-417-11	CERAMIC CHIP	0.1uF	10%	16V
C556	1-118-417-11	CERAMIC CHIP	0.1uF	10%	16V
C558	1-164-870-11	CERAMIC CHIP	68PF	5%	50V
C559	1-116-737-11	CERAMIC CHIP	1uF	20%	10V
C560	1-165-492-21	ELECT CHIP	100uF	20%	10V
C561	1-116-737-11	CERAMIC CHIP	1uF	20%	10V
C564	1-118-417-11	CERAMIC CHIP	0.1uF	10%	16V
C565	1-118-417-11	CERAMIC CHIP	0.1uF	10%	16V
C566	1-116-717-11	CERAMIC CHIP	10uF	20%	10V
C567	1-116-713-11	CERAMIC CHIP	22uF	20%	10V
C568	1-116-713-11	CERAMIC CHIP	22uF	20%	10V
C569	1-116-717-11	CERAMIC CHIP	10uF	20%	10V
C570	1-116-717-11	CERAMIC CHIP	10uF	20%	10V
C571	1-116-737-11	CERAMIC CHIP	1uF	20%	10V
C572	1-118-040-11	CERAMIC CHIP	2.2uF	10%	16V
C573	1-118-459-11	CERAMIC CHIP	0.01uF	10%	25V
C574	1-118-459-11	CERAMIC CHIP	0.01uF	10%	25V
C575	1-118-417-11	CERAMIC CHIP	0.1uF	10%	16V
C576	1-116-737-11	CERAMIC CHIP	1uF	20%	10V
C577	1-118-040-11	CERAMIC CHIP	2.2uF	10%	16V
C580	1-116-741-11	CERAMIC CHIP	0.47uF	20%	10V
C581	1-116-741-11	CERAMIC CHIP	0.47uF	20%	10V
C608	1-164-848-11	CERAMIC CHIP	8PF	0.5PF	50V
C609	1-164-848-11	CERAMIC CHIP	8PF	0.5PF	50V
C610	1-116-737-11	CERAMIC CHIP	1uF	20%	10V
C611	1-116-717-11	CERAMIC CHIP	10uF	20%	10V
C621	1-118-417-11	CERAMIC CHIP	0.1uF	10%	16V
C622	1-118-417-11	CERAMIC CHIP	0.1uF	10%	16V
C623	1-118-417-11	CERAMIC CHIP	0.1uF	10%	16V
C624	1-118-417-11	CERAMIC CHIP	0.1uF	10%	16V
C625	1-118-417-11	CERAMIC CHIP	0.1uF	10%	16V
C626	1-162-966-91	CERAMIC CHIP	0.0022uF	10%	50V
C627	1-116-726-11	CERAMIC CHIP	2.2uF	10%	25V
C628	1-118-417-11	CERAMIC CHIP	0.1uF	10%	16V
C629	1-118-417-11	CERAMIC CHIP	0.1uF	10%	16V
C630	1-118-417-11	CERAMIC CHIP	0.1uF	10%	16V
C631	1-118-417-11	CERAMIC CHIP	0.1uF	10%	16V
C632	1-118-417-11	CERAMIC CHIP	0.1uF	10%	16V
C633	1-216-864-11	SHORT CHIP	0		
C703	1-116-737-11	CERAMIC CHIP	1uF	20%	10V
C706	1-118-417-11	CERAMIC CHIP	0.1uF	10%	16V
C707	1-118-041-11	CERAMIC CHIP	4.7uF	10%	10V
C709	1-116-741-11	CERAMIC CHIP	0.47uF	20%	10V
C710	1-118-417-11	CERAMIC CHIP	0.1uF	10%	16V
C711	1-116-717-11	CERAMIC CHIP	10uF	20%	10V

Ref. No.	Part No.	Description			Remark
C712	1-116-737-11	CERAMIC CHIP	1uF	20%	10V
C713	1-116-717-11	CERAMIC CHIP	10uF	20%	10V
C714	1-116-729-11	CERAMIC CHIP	2.2uF	20%	10V
C716	1-116-724-11	CERAMIC CHIP	4.7uF	20%	6.3V
C719	1-118-041-11	CERAMIC CHIP	4.7uF	10%	10V
C720	1-118-417-11	CERAMIC CHIP	0.1uF	10%	16V
C721	1-118-403-11	CERAMIC CHIP	0.001uF	10%	50V
C722	1-116-713-11	CERAMIC CHIP	22uF	20%	10V
C724	1-116-737-11	CERAMIC CHIP	1uF	20%	10V
< CONNECTOR >					
CN001	1-779-806-21	CONNECTOR 8P			
CN002	1-785-946-21	CONNECTOR 3P			
CN601	1-842-915-11	USB CONNECTOR (MICRO B) (INPUT (FOR PC/WALKMAN/Xperia))			
CN602	1-844-269-11	CONNECTOR, USB (A) (INPUT (FOR iPhone/iPad/iPod))			
CN701	1-842-915-11	USB CONNECTOR (MICRO B) (DC IN 5V)			
CN702	1-843-522-11	HOUSING, CONNECTOR			
< DIODE >					
D512	6-502-728-01	DIODE RSX101M-30FJTR			
D513	6-502-728-01	DIODE RSX101M-30FJTR			
* D514	6-503-573-01	DIODE 1SS400SMGJT2R			
* D515	6-503-573-01	DIODE 1SS400SMGJT2R			
* D602	6-503-573-01	DIODE 1SS400SMGJT2R			
* D603	6-503-573-01	DIODE 1SS400SMGJT2R			
D701	6-500-122-01	LED CL-375HR/YG-D-TS (POWER/CHG)			
* D719	6-503-573-01	DIODE 1SS400SMGJT2R			
* D722	6-503-573-01	DIODE 1SS400SMGJT2R			
* D723	6-503-573-01	DIODE 1SS400SMGJT2R			
< FUSE >					
△ F701	1-523-135-31	FUSE (3.15 A/32 V)			
< FERRITE BEAD/JUMPER RESISTOR >					
FB001	1-469-092-11	FERRITE, EMI (SMD) (1608)			
FB002	1-469-092-11	FERRITE, EMI (SMD) (1608)			
FB0020	1-400-180-21	INDUCTOR, EMI FERRITE (1608)			
FB003	1-216-864-11	SHORT CHIP 0			
FB021	1-400-703-21	EMI FERRITE (SMD) (3216)			
FB101	1-400-703-21	EMI FERRITE (SMD) (3216)			
< IC >					
IC001	(Not supplied)	IC LME49860MAX/NOPB (See Note)			
IC002	(Not supplied)	IC TPA6120A2DWPR (See Note)			
IC003	(Not supplied)	IC LMP7708MAX/NOPB (See Note)			
IC101	(Not supplied)	IC TS12A12511DCNR (See Note)			
IC201	(Not supplied)	IC TS12A12511DCNR (See Note)			
IC301	(Not supplied)	IC WM8740SEDS/RV (See Note)			
IC401	(Not supplied)	IC LC87F17C8AUWA-2H (See Note)			
IC402	6-715-659-01	IC PST8428UL			
IC403	(Not supplied)	IC MFI337S3959 (See Note)			
IC500	(Not supplied)	IC TPS61087DRCR (See Note)			
IC501	(Not supplied)	IC MAX1846EUB+T (See Note)			
IC502	(Not supplied)	IC TPS7A4700RGWR (See Note)			
IC503	(Not supplied)	IC TPS7A3301RGWR (See Note)			
IC504	6-719-070-01	IC MM3411A50URE			
IC505	(Not supplied)	IC NJM2827F3-05 (TE1) (See Note)			

Note: The parts that are transcribed by “Not supplied” cannot replace with single.
When these parts are damaged, replace the complete mounted board.

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
IC506	(Not supplied)	IC RP601Z330A-E2-F (See Note)		Q720	6-551-346-01	FET LSK3541FS8T2L	
IC507	(Not supplied)	IC RP402N501E-TR-FE (See Note)		Q721	6-551-346-01	FET LSK3541FS8T2L	
IC508	6-715-661-01	IC PST8431UL		Q722	6-551-346-01	FET LSK3541FS8T2L	
IC509	6-715-164-01	IC TPS2553DBVR					
IC510	6-719-198-01	IC MM3411A33URE		Q723	6-553-619-01	FET RAF040P01TCL	
IC511	6-710-375-01	IC 74LVC1G175GW-125				< RESISTOR/CAPACITOR >	
IC512	6-719-198-01	IC MM3411A33URE		R4	1-218-989-11	METAL CHIP 1M 5%	1/16W
IC601	(Not supplied)	IC CM6631A (See Note)		R5	1-218-953-11	METAL CHIP 1K 5%	1/16W
IC602	(Not supplied)	IC SST39LF010-55-4C-WHE (See Note)		R101	1-250-504-11	METAL CHIP 2.4K 1%	1/16W
IC701	(Not supplied)	IC BQ24073RGTR (See Note)		* R102	1-250-506-11	METAL CHIP 3K 1%	1/16W
IC702	(Not supplied)	IC PIC16F1455T-I/ML (See Note)		R103	1-250-475-11	METAL CHIP 150 1%	1/16W
@ IC704	6-717-898-11	IC BD6047AGUL-E2		* R104	1-250-506-11	METAL CHIP 3K 1%	1/16W
IC705	6-715-661-01	IC PST8431UL		R105	1-250-475-11	METAL CHIP 150 1%	1/16W
		< JUMPER RESISTOR >		R106	1-250-504-11	METAL CHIP 2.4K 1%	1/16W
JC101	1-216-864-11	SHORT CHIP 0		R107	1-218-941-81	METAL CHIP 100 5%	1/16W
JC103	1-216-864-11	SHORT CHIP 0		R111	1-218-969-11	METAL CHIP 22K 5%	1/16W
JC104	1-216-864-11	SHORT CHIP 0		R112	1-218-953-11	METAL CHIP 1K 5%	1/16W
JC105	1-216-864-11	SHORT CHIP 0		R113	1-218-979-11	METAL CHIP 150K 5%	1/16W
JC106	1-216-864-11	SHORT CHIP 0		R114	1-218-953-11	METAL CHIP 1K 5%	1/16W
JC109	1-216-296-11	SHORT CHIP 0		R115	1-220-210-11	METAL CHIP 200K 5%	1/16W
JC111	1-216-864-11	SHORT CHIP 0		R116	1-218-990-81	SHORT CHIP 0	
JC113	1-216-864-11	SHORT CHIP 0		R117	1-216-797-11	METAL CHIP 10 5%	1/10W
JC114	1-216-864-11	SHORT CHIP 0		R118	1-218-990-81	SHORT CHIP 0	
		< COIL >		R119	1-218-953-11	METAL CHIP 1K 5%	1/16W
* L500	1-400-846-11	INDUCTOR 3.3uH		R141	1-220-210-11	METAL CHIP 200K 5%	1/16W
L503	1-482-011-11	INDUCTOR 1uH		R201	1-250-504-11	METAL CHIP 2.4K 1%	1/16W
L504	1-457-942-11	COIL, CHOKE 2.2uH		* R202	1-250-506-11	METAL CHIP 3K 1%	1/16W
L551	1-416-944-21	COIL, CHOKE 15uH		R203	1-250-475-11	METAL CHIP 150 1%	1/16W
		< FET >		* R204	1-250-506-11	METAL CHIP 3K 1%	1/16W
Q001	(Not supplied)	FET SSM6N58NU, RSONYF (See Note)		R205	1-250-475-11	METAL CHIP 150 1%	1/16W
Q002	(Not supplied)	FET SSM6N58NU, RSONYF (See Note)		R206	1-250-504-11	METAL CHIP 2.4K 1%	1/16W
Q401	6-553-619-01	FET RAF040P01TCL		R207	1-218-941-81	METAL CHIP 100 5%	1/16W
Q402	6-551-346-01	FET LSK3541FS8T2L		R211	1-218-969-11	METAL CHIP 22K 5%	1/16W
Q403	6-551-346-01	FET LSK3541FS8T2L		R212	1-218-953-11	METAL CHIP 1K 5%	1/16W
Q404	6-553-619-01	FET RAF040P01TCL		R213	1-218-979-11	METAL CHIP 150K 5%	1/16W
Q405	6-551-346-01	FET LSK3541FS8T2L		R214	1-218-953-11	METAL CHIP 1K 5%	1/16W
Q501	6-553-619-01	FET RAF040P01TCL		R215	1-220-210-11	METAL CHIP 200K 5%	1/16W
Q502	6-553-338-01	FET RU1C001UNTCL		R216	1-218-990-81	SHORT CHIP 0	
Q503	6-553-619-01	FET RAF040P01TCL		R217	1-216-797-11	METAL CHIP 10 5%	1/10W
Q508	6-553-338-01	FET RU1C001UNTCL		R218	1-218-990-81	SHORT CHIP 0	
Q509	6-553-619-01	FET RAF040P01TCL		R219	1-218-953-11	METAL CHIP 1K 5%	1/16W
Q510	6-551-346-01	FET LSK3541FS8T2L		R241	1-220-210-11	METAL CHIP 200K 5%	1/16W
Q511	6-551-346-01	FET LSK3541FS8T2L		R302	1-250-519-11	METAL CHIP 10K 1%	1/16W
Q512	6-551-346-01	FET LSK3541FS8T2L		R303	1-218-941-81	METAL CHIP 100 5%	1/16W
Q513	6-551-346-01	FET LSK3541FS8T2L		R304	1-218-941-81	METAL CHIP 100 5%	1/16W
Q595	6-553-619-01	FET RAF040P01TCL		R305	1-218-941-81	METAL CHIP 100 5%	1/16W
Q702	6-551-346-01	FET LSK3541FS8T2L		R306	1-218-941-81	METAL CHIP 100 5%	1/16W
Q703	6-551-346-01	FET LSK3541FS8T2L		R307	1-218-941-81	METAL CHIP 100 5%	1/16W
Q710	6-553-338-01	FET RU1C001UNTCL		R308	1-218-990-81	SHORT CHIP 0	
Q711	6-553-619-01	FET RAF040P01TCL		R309	1-218-990-81	SHORT CHIP 0	
Q712	6-553-338-01	FET RU1C001UNTCL		R310	1-218-990-81	SHORT CHIP 0	
Q713	6-553-338-01	FET RU1C001UNTCL		R311	1-218-990-81	SHORT CHIP 0	
Q716	6-551-346-01	FET LSK3541FS8T2L		R316	1-218-977-11	METAL CHIP 100K 5%	1/16W
Q717	6-551-346-01	FET LSK3541FS8T2L		R318	1-218-977-11	METAL CHIP 100K 5%	1/16W
Q718	6-551-346-01	FET LSK3541FS8T2L		R319	1-218-969-11	METAL CHIP 22K 5%	1/16W
Q719	6-551-346-01	FET LSK3541FS8T2L		R320	1-218-969-11	METAL CHIP 22K 5%	1/16W
				R321	1-218-977-11	METAL CHIP 100K 5%	1/16W
				R406	1-250-459-11	METAL CHIP 33 1%	1/16W
				R407	1-250-459-11	METAL CHIP 33 1%	1/16W
				R409	1-208-663-11	METAL CHIP 150 0.5%	1/16W

Note: The parts that are transcribed by "Not supplied" cannot replace with single.
When these parts are damaged, replace the complete mounted board.

@ Replacement of IC704 on the MAIN board
used in this unit requires a special tool.

PHA-1A/1AEU

Ver. 1.1

MAIN

Ref. No.	Part No.	Description			Remark	Ref. No.	Part No.	Description			Remark
R413	1-218-977-11	METAL CHIP	100K	5%	1/16W	R614	1-218-957-11	METAL CHIP	2.2K	5%	1/16W
R419	1-218-961-11	METAL CHIP	4.7K	5%	1/16W	R615	1-218-957-11	METAL CHIP	2.2K	5%	1/16W
R420	1-218-990-81	SHORT CHIP	0			R616	1-218-957-11	METAL CHIP	2.2K	5%	1/16W
R421	1-216-829-11	METAL CHIP	4.7K	5%	1/10W	R617	1-218-957-11	METAL CHIP	2.2K	5%	1/16W
R422	1-218-969-11	METAL CHIP	22K	5%	1/16W	R619	1-218-961-11	METAL CHIP	4.7K	5%	1/16W
R424	1-218-990-81	SHORT CHIP	0			R624	1-218-990-81	SHORT CHIP	0		
R428	1-218-965-11	METAL CHIP	10K	5%	1/16W	R651	1-250-567-11	METAL CHIP	1M	1%	1/16W
* R432	1-118-407-11	CERAMIC CHIP	470PF	10%	50V	R652	1-218-977-11	METAL CHIP	100K	5%	1/16W
R450	1-218-977-11	METAL CHIP	100K	5%	1/16W	R654	1-218-965-11	METAL CHIP	10K	5%	1/16W
R451	1-218-990-81	SHORT CHIP	0			R655	1-218-985-11	METAL CHIP	470K	5%	1/16W
R452	1-218-990-81	SHORT CHIP	0			R708	1-218-959-11	METAL CHIP	3.3K	5%	1/16W
R453	1-218-977-11	METAL CHIP	100K	5%	1/16W	R709	1-218-953-11	METAL CHIP	1K	5%	1/16W
R454	1-218-977-11	METAL CHIP	100K	5%	1/16W	R714	1-216-845-11	METAL CHIP	100K	5%	1/10W
R455	1-218-977-11	METAL CHIP	100K	5%	1/16W	R715	1-218-977-11	METAL CHIP	100K	5%	1/16W
R456	1-218-985-11	METAL CHIP	470K	5%	1/16W	R716	1-218-965-11	METAL CHIP	10K	5%	1/16W
R457	1-218-977-11	METAL CHIP	100K	5%	1/16W	R717	1-218-965-11	METAL CHIP	10K	5%	1/16W
R458	1-218-989-11	METAL CHIP	1M	5%	1/16W	R718	1-218-989-11	METAL CHIP	1M	5%	1/16W
R459	1-218-985-11	METAL CHIP	470K	5%	1/16W	R719	1-218-989-11	METAL CHIP	1M	5%	1/16W
R461	1-218-953-11	METAL CHIP	1K	5%	1/16W	R721	1-208-935-11	METAL CHIP	100K	0.5%	1/16W
R502	1-218-977-11	METAL CHIP	100K	5%	1/16W	R724	1-218-965-11	METAL CHIP	10K	5%	1/16W
R505	1-218-977-11	METAL CHIP	100K	5%	1/16W	R725	1-208-931-11	METAL CHIP	68K	0.5%	1/16W
R510	1-208-923-11	METAL CHIP	33K	0.5%	1/16W	R727	1-208-889-11	METAL CHIP	1.2K	0.5%	1/16W
R511	1-208-889-11	METAL CHIP	1.2K	0.5%	1/16W	R729	1-218-977-11	METAL CHIP	100K	5%	1/16W
R512	1-208-713-11	METAL CHIP	18K	0.5%	1/16W	R730	1-218-977-11	METAL CHIP	100K	5%	1/16W
R513	1-208-931-11	METAL CHIP	68K	0.5%	1/16W	R731	1-208-947-11	METAL CHIP	330K	0.5%	1/16W
R521	1-216-864-11	SHORT CHIP	0			R732	1-218-989-11	METAL CHIP	1M	5%	1/16W
* R523	1-250-543-11	METAL CHIP	100K	1%	1/16W	R733	1-208-884-81	METAL CHIP	750	0.5%	1/16W
R524	1-250-495-11	METAL CHIP	1K	1%	1/16W	R751	1-218-977-11	METAL CHIP	100K	5%	1/16W
R525	1-250-555-11	METAL CHIP	330K	1%	1/16W	R752	1-218-977-11	METAL CHIP	100K	5%	1/16W
R551	1-208-935-11	METAL CHIP	100K	0.5%	1/16W	R753	1-218-990-81	SHORT CHIP	0		
R552	1-208-927-11	METAL CHIP	47K	0.5%	1/16W	R759	1-208-859-81	METAL CHIP	68	0.5%	1/16W
R553	1-218-970-11	METAL CHIP	27K	5%	1/16W	R760	1-208-675-11	METAL CHIP	470	0.5%	1/16W
* R554	1-250-527-11	METAL CHIP	22K	1%	1/16W	R761	1-218-977-11	METAL CHIP	100K	5%	1/16W
R555	1-257-600-11	METAL CHIP	0.05	1%	1W	R763	1-218-985-11	METAL CHIP	470K	5%	1/16W
R556	1-208-926-81	METAL CHIP	43K	0.5%	1/16W	R764	1-218-977-11	METAL CHIP	100K	5%	1/16W
R557	1-208-911-11	METAL CHIP	10K	0.5%	1/16W	R766	1-218-977-11	METAL CHIP	100K	5%	1/16W
R558	1-218-990-81	SHORT CHIP	0			R769	1-218-965-11	METAL CHIP	10K	5%	1/16W
R561	1-208-922-11	METAL CHIP	30K	0.5%	1/16W	R771	1-218-965-11	METAL CHIP	10K	5%	1/16W
R562	1-208-935-11	METAL CHIP	100K	0.5%	1/16W	R772	1-218-990-81	SHORT CHIP	0		
R563	1-218-985-11	METAL CHIP	470K	5%	1/16W	R773	1-218-977-11	METAL CHIP	100K	5%	1/16W
R564	1-218-985-11	METAL CHIP	470K	5%	1/16W	R774	1-218-965-11	METAL CHIP	10K	5%	1/16W
R566	1-218-965-11	METAL CHIP	10K	5%	1/16W	R775	1-218-958-11	METAL CHIP	2.7K	5%	1/16W
R567	1-208-935-11	METAL CHIP	100K	0.5%	1/16W	R778	1-218-977-11	METAL CHIP	100K	5%	1/16W
R568	1-218-965-11	METAL CHIP	10K	5%	1/16W	R781	1-218-977-11	METAL CHIP	100K	5%	1/16W
R569	1-218-989-11	METAL CHIP	1M	5%	1/16W	R782	1-218-977-11	METAL CHIP	100K	5%	1/16W
R570	1-218-990-81	SHORT CHIP	0			R785	1-218-973-11	METAL CHIP	47K	5%	1/16W
R571	1-218-989-11	METAL CHIP	1M	5%	1/16W	R786	1-218-977-11	METAL CHIP	100K	5%	1/16W
R572	1-218-981-81	METAL CHIP	220K	5%	1/16W	R787	1-218-985-11	METAL CHIP	470K	5%	1/16W
R573	1-218-981-81	METAL CHIP	220K	5%	1/16W	R788	1-218-969-11	METAL CHIP	22K	5%	1/16W
R574	1-218-977-11	METAL CHIP	100K	5%	1/16W	R789	1-218-985-11	METAL CHIP	470K	5%	1/16W
R575	1-218-965-11	METAL CHIP	10K	5%	1/16W	R790	1-218-957-11	METAL CHIP	2.2K	5%	1/16W
R576	1-218-965-11	METAL CHIP	10K	5%	1/16W	R791	1-218-941-11	METAL CHIP	100	5%	1/16W
R577	1-218-990-81	SHORT CHIP	0			R792	1-208-695-11	METAL CHIP	3.3K	0.5%	1/16W
R578	1-218-989-11	METAL CHIP	1M	5%	1/16W	R793	1-218-985-11	METAL CHIP	470K	5%	1/16W
R579	1-218-965-11	METAL CHIP	10K	5%	1/16W	< SWITCH >					
R580	1-218-990-81	SHORT CHIP	0			S001	1-798-544-11	SWITCH, SLIDE (GAIN)			
R581	1-218-977-11	METAL CHIP	100K	5%	1/16W	* S591	1-798-076-21	PUSHBUTTON SWITCH			
R582	1-208-895-81	METAL CHIP	2.2K	0.5%	1/16W			(WALKMAN/Xperia DETECT)			
R609	1-250-521-11	METAL CHIP	12K	1%	1/16W	S592	1-786-914-31	SWITCH, TACTILE (SERIAL No. WRITE)			
R613	1-216-864-11	SHORT CHIP	0								

Ref. No.	Part No.	Description	Remark
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< VIBRATOR >

X401	1-814-304-11	VIBRATOR, CRYSTAL (12 MHz)	
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X601	1-814-304-11	VIBRATOR, CRYSTAL (12 MHz)	
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VOLUME BOARD

When the VOLUME board is defective, replace the PLATE MIDDLE ASSY (SV)
(Ref. No. VOL1).

MISCELLANEOUS

BAT1	X-2591-595-1	BATTERY ASSY (SV) (Including Label (Battery recycle)) (See Note 2)	
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MA1	X-2591-592-1	CASE AND PC BOARD ASSY (SV) (Including MAIN board, Sheet, Label) (PHA-1A: US, CND) (See Note 1)	
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MA1	X-2591-593-1	CASE AND PC BOARD ASSY (SV) (Including MAIN board, Sheet, Label) (PHA-1A: E, AUS, RU) (See Note 1)	
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MA1	X-2591-594-1	CASE AND PC BOARD ASSY (SV) (Including MAIN board, Sheet, Label) (PHA-1A: CH) (See Note 1)	
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MA1	X-2591-616-1	CASE AND PC BOARD ASSY (SV) (Including MAIN board, Sheet, Label) (PHA-1A: LA) (See Note 1)	
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MA1	X-2592-229-1	CASE AND PC BOARD ASSY (SV) (Including MAIN board, Sheet, Label) (PHA-1AEU) (See Note 1)	
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VOL1	X-2591-560-1	PLATE MIDDLE ASSY (SV) (Including VOLUME board)	
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WR1	1-848-857-11	CABLE WITH CONNECTOR (8 pin) (MAIN - VOLUME board)	
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WR2	1-848-858-11	CABLE WITH CONNECTOR (3 pin) (MAIN - HP JACK board)	
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Note 1: When replacing the MAIN board or case, be sure to replace both parts simultaneously.
Among the repair parts, the MAIN board and case are supplied as one unit.

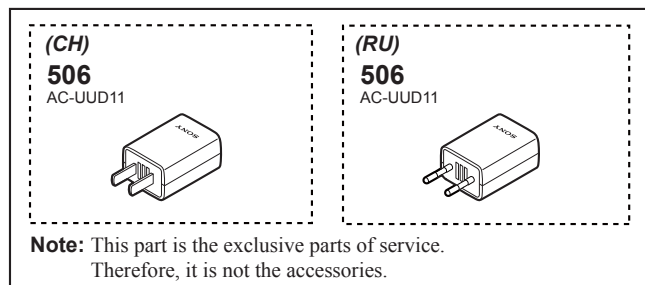
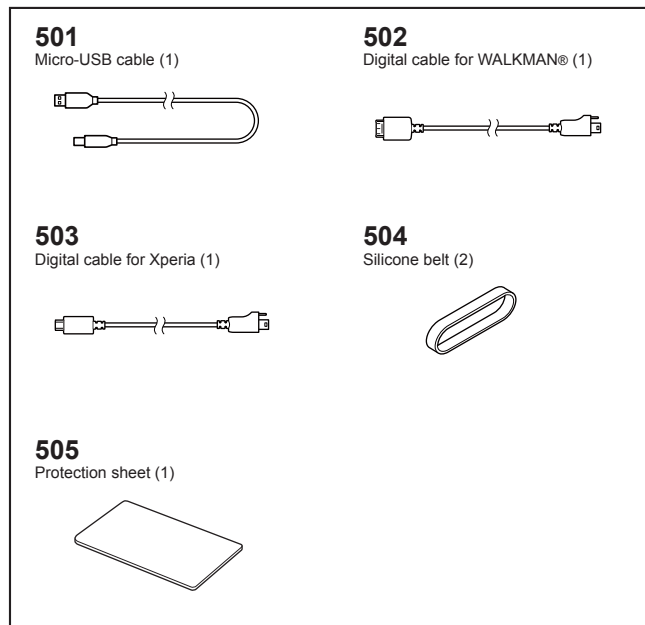
Note 2: When removing the battery assy (Ref. No. BAT1) from the frame sheet or battery cushion, the battery assy (Ref. No. BAT1) cannot be reused. Be sure to replace them with new parts.

PHA-1A/1AEU

Ver. 1.1

Ref. No.	Part No.	Description	Remark
		ACCESSORIES	

	4-568-295-11	STARTUP GUIDE (ENGLISH, FRENCH, SPANISH) (PHA-1A: US, CND)	
	4-568-295-21	STARTUP GUIDE (ENGLISH, FRENCH, GERMAN) (PHA-1AEU)	
	4-568-295-31	STARTUP GUIDE (SPANISH, DUTCH, ITALIAN) (PHA-1AEU)	
	4-568-295-41	STARTUP GUIDE (PORTUGUESE, POLISH, HUNGARIAN) (PHA-1AEU)	
	4-568-295-51	STARTUP GUIDE (GREEK, CZECH, SLOVAK) (PHA-1AEU)	
	4-568-295-61	STARTUP GUIDE (BULGARIAN, SLOVENIAN, ROMANIAN) (PHA-1AEU)	
	4-568-295-71	STARTUP GUIDE (ENGLISH, TRADITIONAL CHINESE, KOREAN) (PHA-1A: E, AUS, RU)	
	4-568-295-81	STARTUP GUIDE (RUSSIAN) (PHA-1A: E, AUS, RU)	
	4-568-295-91	STARTUP GUIDE (SIMPLIFIED CHINESE) (PHA-1A: CH)	
	4-568-296-11	STARTUP GUIDE (ENGLISH, SPANISH, PORTUGUESE) (PHA-1A: LA)	
	4-568-297-11	REFERENCE GUIDE (ENGLISH, FRENCH, SPANISH) (PHA-1A: US, CND)	
	4-568-297-21	REFERENCE GUIDE (ENGLISH, FRENCH, GERMAN) (PHA-1AEU)	
	4-568-297-31	REFERENCE GUIDE (SPANISH, DUTCH, ITALIAN) (PHA-1AEU)	
	4-568-297-41	REFERENCE GUIDE (PORTUGUESE, POLISH, HUNGARIAN) (PHA-1AEU)	
	4-568-297-51	REFERENCE GUIDE (GREEK, CZECH, SLOVAK) (PHA-1AEU)	
	4-568-297-61	REFERENCE GUIDE (BULGARIAN, SLOVENIAN, ROMANIAN) (PHA-1AEU)	
	4-568-297-72	REFERENCE GUIDE (ENGLISH, TRADITIONAL CHINESE, KOREAN) (PHA-1A: E, AUS, RU)	
	4-568-297-82	REFERENCE GUIDE (RUSSIAN) (PHA-1A: E, AUS, RU)	
	4-568-297-92	REFERENCE GUIDE (SIMPLIFIED CHINESE) (PHA-1A: CH)	
	4-568-298-11	REFERENCE GUIDE (ENGLISH, SPANISH, PORTUGUESE) (PHA-1A: LA)	
501	1-849-040-11	USB CABLE (Micro-USB cable)	
502	1-848-855-12	CABLE, USB MICRO B-WM (Digital cable for WALKMAN)	
503	1-848-856-11	CABLE, USB MICRO B-MICRO B (Digital cable for Xperia)	
504	4-567-307-01	RUBBER, BAND (SMALL) (Silicone belt) (1 piece)	
505	4-567-309-01	RUBBER, FLAT (Protection sheet)	
△ 506	1-492-768-22	AC ADAPTOR (AC-UUD11) (USB AC adaptor) (Exclusive parts of service) (PHA-1A: CH)	
△ 506	1-492-769-52	AC ADAPTOR (AC-UUD11) (USB AC adaptor) (Exclusive parts of service) (PHA-1A: RU)	



PHA-1A/1AEU

SONY®

SERVICE MANUAL

Ver. 1.1 2015.08

US Model
Canadian Model
E Model
Australian Model
Chinese Model
Russian Model
PHA-1A
AEP Model
UK Model
PHA-1AEU

SUPPLEMENT-1

File this supplement with the service manual.

Subject: Addition of Printed Wiring Board, Schematic Diagram and Electrical Parts List for PHA-1AEU

Printed wiring board, schematic diagram and electrical parts list of PHA-1AEU are described in this service manual SUPPLEMENT-1.
Refer to original service manual for printed wiring board, schematic diagram and electrical parts list of PHA-1A.

1. DIAGRAMS

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.

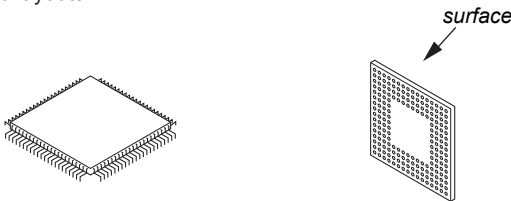
Note:

- — : Parts extracted from the component side.
- : Parts extracted from the conductor side.
- : Pattern from the side which enables seeing.
(The other layers' patterns are not indicated.)

Caution:

Pattern face side: Parts on the pattern face side seen from the pattern face are indicated.
(Conductor Side)
Parts face side: Parts on the parts face side seen from the parts face are indicated.
(Component Side)

- Lead layouts



Lead layout of conventional IC

CSP (Chip Size Package)

* Replacement of IC704 on the MAIN board used in this unit requires a special tool.

Note: When replacing the MAIN board, be sure to replace the case simultaneously. Among the repair parts, the MAIN board and case are supplied as one unit.

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.
- : Panel designation.

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

Note: Les composants identifiés par une marque $\triangle$ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

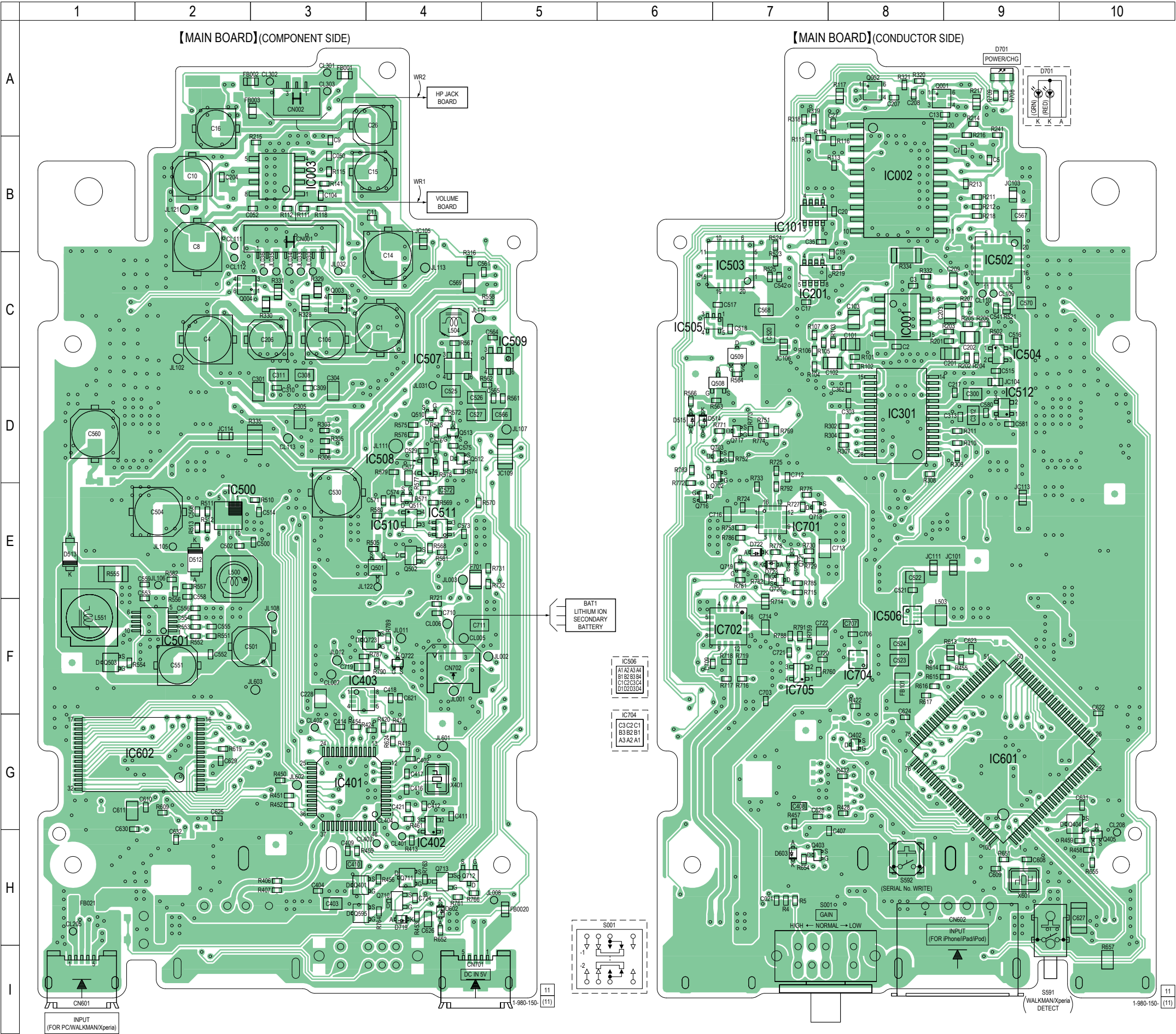
注意: 原理图和零件清单中标有 $\triangle$ 记号的零部件, 或带有 $\triangle$ 记号的虚线所圈示的零部件, 对于维系安全至关重要。因此只能以指定号码的零部件来更换。

- : B+ Line.
- - - : B- Line.
- Voltag es are dc with respect to ground under no-signal conditions.
no mark: POWER ON
- Voltag es are taken with VOM (Input impedance 10 M Ω).
Voltage variations may be noted due to normal production tolerances.
- Signal path.
 - ⇒ : AUDIO (ANALOG)
 - ⇒ : AUDIO (DIGITAL)
 - ⇒ : iPhone/iPad/iPod
 - ⇒ : WALKMAN/Xperia
- The voltage and waveform of CSP (chip size package) cannot be measured, because its lead layout is different from that of conventional IC.

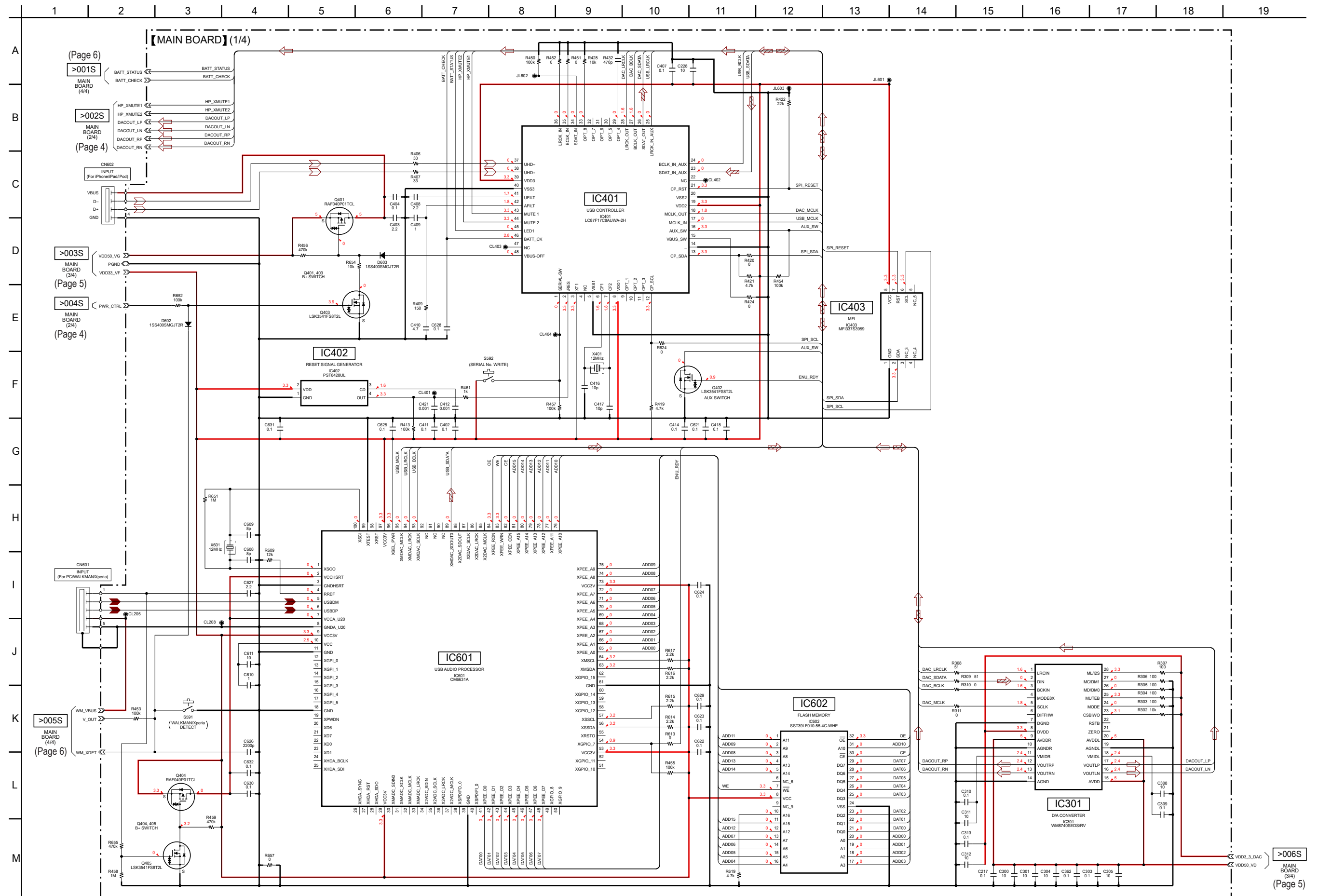
* Replacement of IC704 on the MAIN board used in this unit requires a special tool.

Note: When replacing the MAIN board, be sure to replace the case simultaneously. Among the repair parts, the MAIN board and case are supplied as one unit.

1-1. PRINTED WIRING BOARDS (PHA-1AEU) • : Uses unleaded solder.

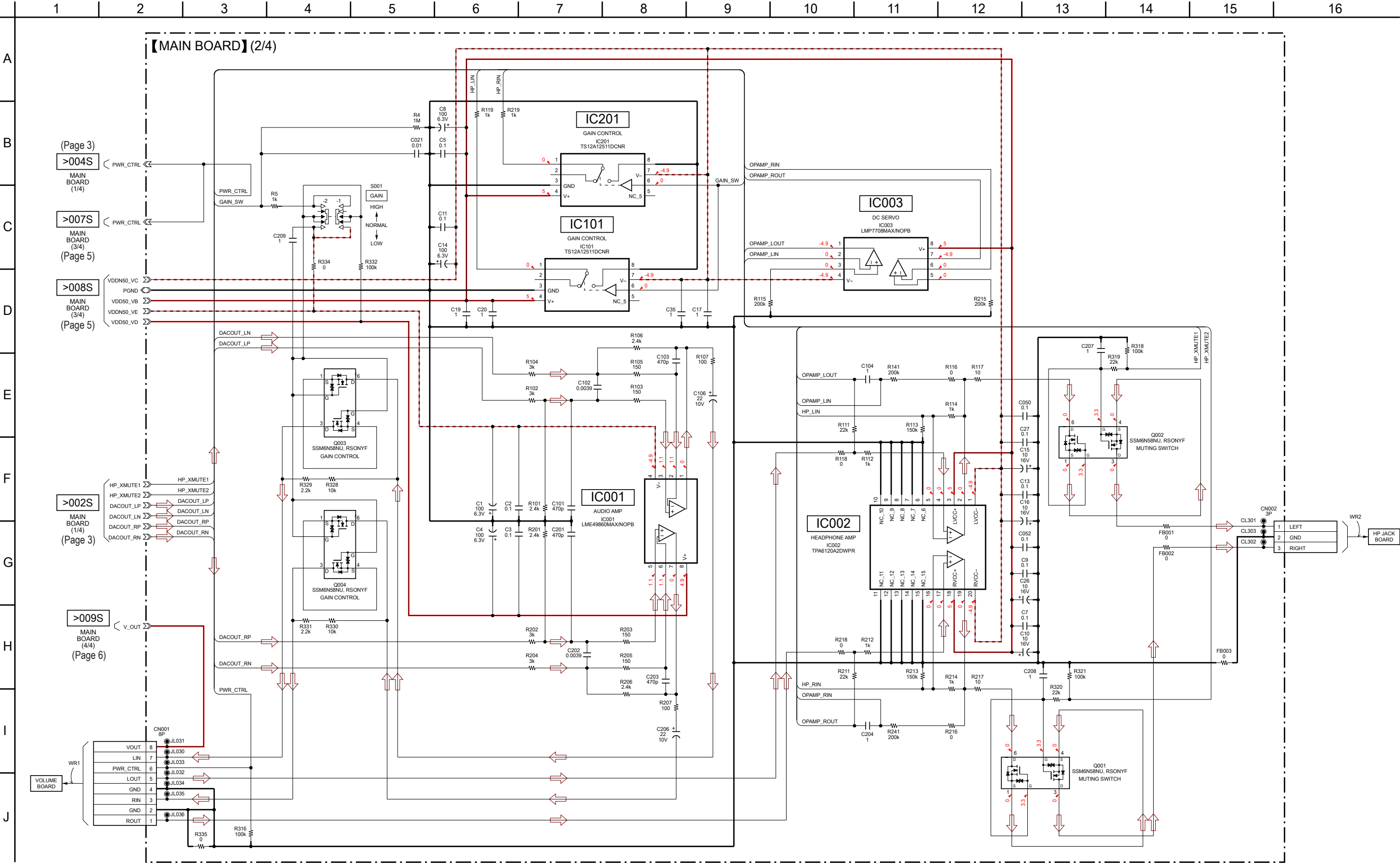


1-2. SCHEMATIC DIAGRAM - MAIN Section (1/4) (PHA-1AEU) -



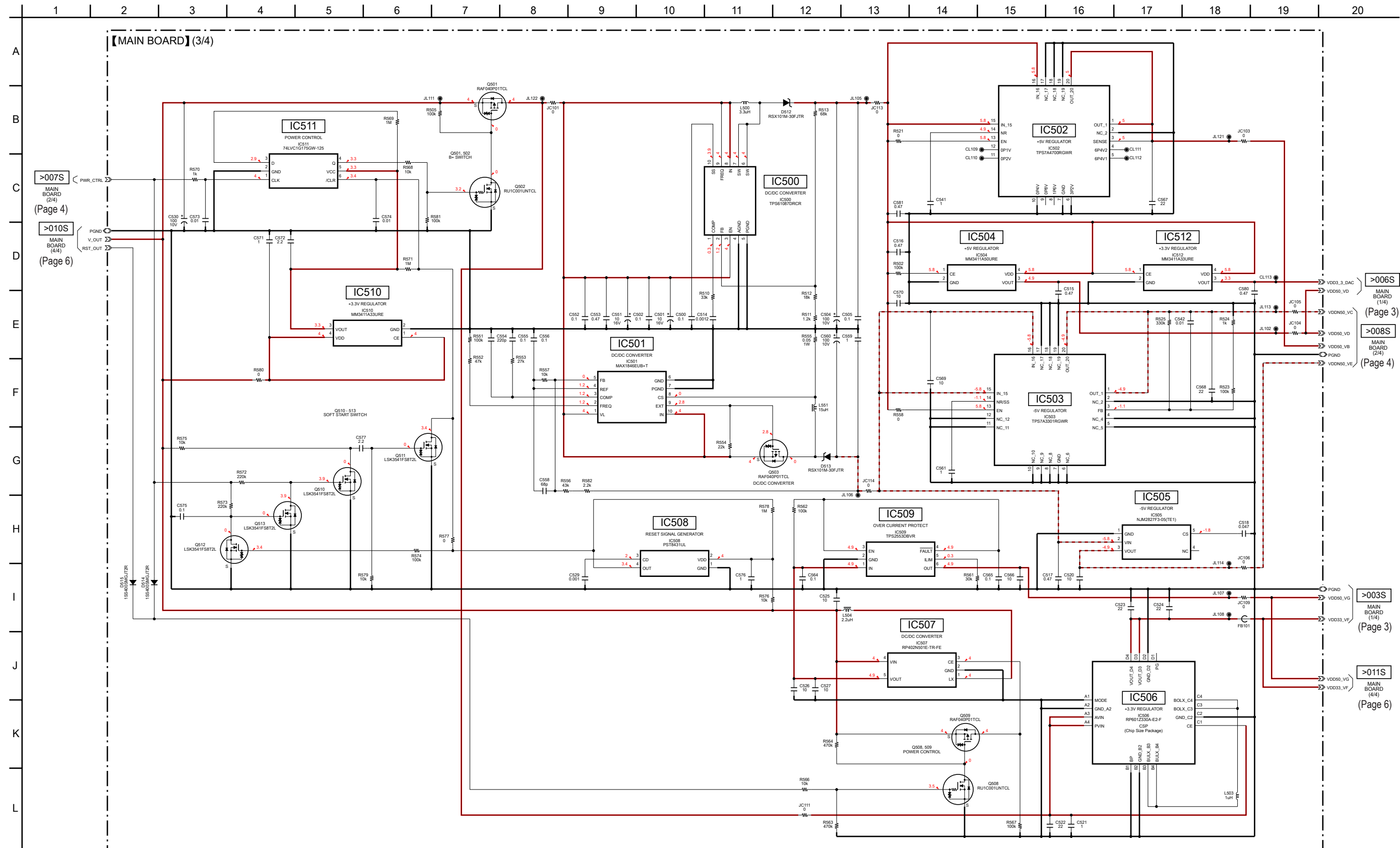
Note: The following parts on the MAIN board cannot replace with single.
When these parts are damaged, replace the complete mounted board.
IC301, IC401, IC403, IC601, IC602

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

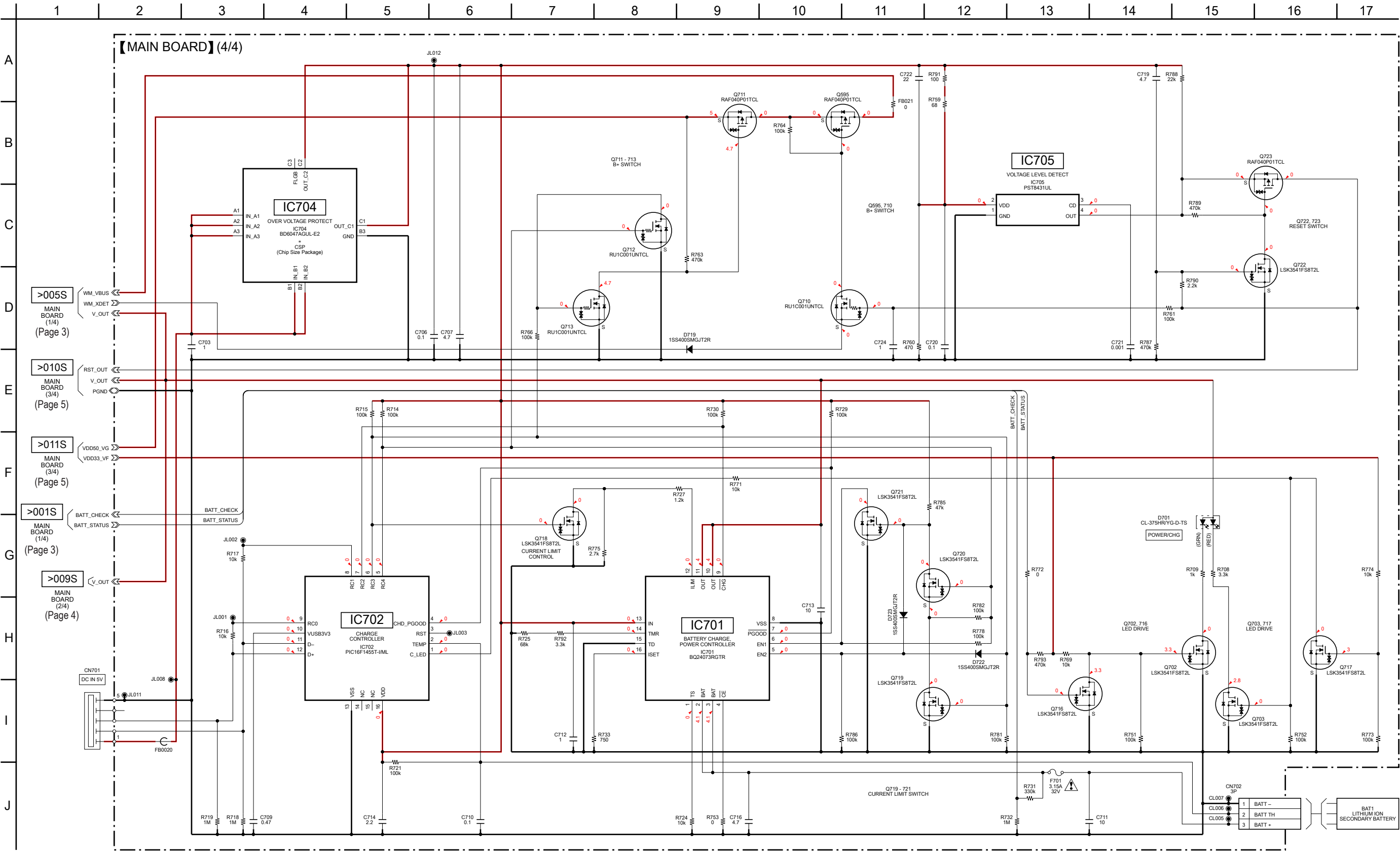


Note: The following parts on the MAIN board cannot replace with single.
When these parts are damaged, replace the complete mounted board.
IC001, IC002, IC003, IC101, IC201, Q001, Q002, Q003, Q004

1-4. SCHEMATIC DIAGRAM - MAIN Section (3/4) (PHA-1AEU) -



1-5. SCHEMATIC DIAGRAM - MAIN Section (4/4) (PHA-1AEU) -



Note: The following parts on the MAIN board cannot replace with single.
When these parts are damaged, replace the complete mounted board.
IC701, IC702

2. 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.
- RESISTORS
All resistors are in ohms.
METAL: Metal-film resistor.
METAL OXIDE: Metal oxide-film resistor.
F: nonflammable

- CAPACITORS
uF: μ F
- COILS
uH: μ H
- SEMICONDUCTORS
In each case, u: μ , for example:
uA. . . : μ A. . . , uPA. . . , μ PA. . . ,
uPB. . . : μ PB. . . , uPC. . . , μ PC. . . ,
uPD. . . : μ PD. . .
- Refer to original service manual for electrical parts list (HP JACK board, MAIN board, VOLUME board) of PHA-1A.

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

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

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

原理图和零件清单中标有 $\triangle$ 记号的零部件，或带有 $\triangle$ 记号的虚线所圈示的零部件，对于维系安全至关重要。因此只能以指定号码的零部件来更换。

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
	A-2081-095-A	HP JACK BOARD, COMPLETE (PHA-1AEU)		C207	1-116-737-11	CERAMIC CHIP 1uF 20%	10V
	*****			C208	1-116-737-11	CERAMIC CHIP 1uF 20%	10V
When the HP JACK board is defective, replace the complete mounted board.				C209	1-116-734-11	CERAMIC CHIP 1uF 20%	16V
*****				C217	1-118-417-11	CERAMIC CHIP 0.1uF 10%	16V
	X-2592-229-1	MAIN BOARD, COMPLETE (SV) (PHA-1AEU)	(See Note)	C228	1-116-717-11	CERAMIC CHIP 10uF 20%	10V
	*****			C300	1-116-717-11	CERAMIC CHIP 10uF 20%	10V
		(Included in CASE AND PC BOARD ASSY (SV)	(Ref. No. MA1))	C301	1-116-717-11	CERAMIC CHIP 10uF 20%	10V
		< CAPACITOR/JUMPER RESISTOR >		C303	1-118-417-11	CERAMIC CHIP 0.1uF 10%	16V
C1	1-165-979-21	ELECT CHIP 100uF 20%	6.3V	C304	1-116-717-11	CERAMIC CHIP 10uF 20%	10V
C2	1-118-417-11	CERAMIC CHIP 0.1uF 10%	16V	C305	1-116-717-11	CERAMIC CHIP 10uF 20%	10V
C3	1-118-417-11	CERAMIC CHIP 0.1uF 10%	16V	C308	1-116-717-11	CERAMIC CHIP 10uF 20%	10V
C4	1-165-979-21	ELECT CHIP 100uF 20%	6.3V	C309	1-118-417-11	CERAMIC CHIP 0.1uF 10%	16V
C5	1-118-417-11	CERAMIC CHIP 0.1uF 10%	16V	C310	1-118-417-11	CERAMIC CHIP 0.1uF 10%	16V
C7	1-118-417-11	CERAMIC CHIP 0.1uF 10%	16V	C311	1-116-717-11	CERAMIC CHIP 10uF 20%	10V
C8	1-165-979-21	ELECT CHIP 100uF 20%	6.3V	C312	1-116-717-11	CERAMIC CHIP 10uF 20%	10V
C9	1-118-417-11	CERAMIC CHIP 0.1uF 10%	16V	C313	1-118-417-11	CERAMIC CHIP 0.1uF 10%	16V
C10	1-100-765-21	ELECT CHIP 10uF 20%	16V	C362	1-118-417-11	CERAMIC CHIP 0.1uF 10%	16V
C11	1-118-417-11	CERAMIC CHIP 0.1uF 10%	16V	C402	1-118-417-11	CERAMIC CHIP 0.1uF 10%	16V
C13	1-118-417-11	CERAMIC CHIP 0.1uF 10%	16V	C403	1-118-045-11	CERAMIC CHIP 2.2uF 10%	25V
C14	1-165-979-21	ELECT CHIP 100uF 20%	6.3V	C404	1-118-417-11	CERAMIC CHIP 0.1uF 10%	16V
C15	1-100-765-21	ELECT CHIP 10uF 20%	16V	C407	1-118-417-11	CERAMIC CHIP 0.1uF 10%	16V
C16	1-100-765-21	ELECT CHIP 10uF 20%	16V	C408	1-116-729-11	CERAMIC CHIP 2.2uF 20%	10V
C17	1-116-737-11	CERAMIC CHIP 1uF 20%	10V	C409	1-116-737-11	CERAMIC CHIP 1uF 20%	10V
C19	1-116-737-11	CERAMIC CHIP 1uF 20%	10V	C410	1-118-041-11	CERAMIC CHIP 4.7uF 10%	10V
C20	1-116-737-11	CERAMIC CHIP 1uF 20%	10V	C411	1-118-417-11	CERAMIC CHIP 0.1uF 10%	16V
C021	1-164-943-81	CERAMIC CHIP 0.01uF 10%	16V	C412	1-118-403-11	CERAMIC CHIP 0.001uF 10%	50V
C26	1-100-765-21	ELECT CHIP 10uF 20%	16V	C414	1-118-417-11	CERAMIC CHIP 0.1uF 10%	16V
C27	1-118-417-11	CERAMIC CHIP 0.1uF 10%	16V	C416	1-164-850-11	CERAMIC CHIP 10PF 0.5PF	50V
C35	1-116-737-11	CERAMIC CHIP 1uF 20%	10V	C417	1-164-850-11	CERAMIC CHIP 10PF 0.5PF	50V
C050	1-118-417-11	CERAMIC CHIP 0.1uF 10%	16V	C418	1-118-417-11	CERAMIC CHIP 0.1uF 10%	16V
C052	1-118-417-11	CERAMIC CHIP 0.1uF 10%	16V	C421	1-118-403-11	CERAMIC CHIP 0.001uF 10%	50V
C101	1-127-963-21	FILM CHIP 470PF 5%	50V	C500	1-118-417-11	CERAMIC CHIP 0.1uF 10%	16V
C102	1-135-814-21	FILM CHIP 0.0039uF 5%	16V	C501	1-100-765-21	ELECT CHIP 10uF 20%	16V
C103	1-127-963-21	FILM CHIP 470PF 5%	50V	C502	1-118-417-11	CERAMIC CHIP 0.1uF 10%	16V
C104	1-116-737-11	CERAMIC CHIP 1uF 20%	10V	C504	1-165-492-21	ELECT CHIP 100uF 20%	10V
C106	1-128-993-21	ELECT CHIP 22uF 20%	10V	C505	1-118-417-11	CERAMIC CHIP 0.1uF 10%	16V
C201	1-127-963-21	FILM CHIP 470PF 5%	50V	C514	1-118-402-11	CERAMIC CHIP 0.0012uF 10%	50V
C202	1-135-814-21	FILM CHIP 0.0039uF 5%	16V	C515	1-116-741-11	CERAMIC CHIP 0.47uF 20%	10V
C203	1-127-963-21	FILM CHIP 470PF 5%	50V	C516	1-116-741-11	CERAMIC CHIP 0.47uF 20%	10V
C204	1-116-737-11	CERAMIC CHIP 1uF 20%	10V	C517	1-116-741-11	CERAMIC CHIP 0.47uF 20%	10V
C206	1-128-993-21	ELECT CHIP 22uF 20%	10V	C518	1-118-388-11	CERAMIC CHIP 0.047uF 10%	25V
				C520	1-116-717-11	CERAMIC CHIP 10uF 20%	10V
				C521	1-116-737-11	CERAMIC CHIP 1uF 20%	10V
				C522	1-116-713-11	CERAMIC CHIP 22uF 20%	10V

Note: When replacing the MAIN board, be sure to replace the case simultaneously.
Among the repair parts, the MAIN board and case are supplied as one unit.

PHA-1A/1AEU

MAIN

Ref. No.	Part No.	Description				Remark	Ref. No.	Part No.	Description				Remark	
C523	1-116-713-11	CERAMIC CHIP	22uF	20%	10V		C716	1-116-724-11	CERAMIC CHIP	4.7uF	20%	6.3V		
C524	1-116-713-11	CERAMIC CHIP	22uF	20%	10V		C719	1-118-041-11	CERAMIC CHIP	4.7uF	10%	10V		
C525	1-116-717-11	CERAMIC CHIP	10uF	20%	10V		C720	1-118-417-11	CERAMIC CHIP	0.1uF	10%	16V		
C526	1-116-717-11	CERAMIC CHIP	10uF	20%	10V		C721	1-118-403-11	CERAMIC CHIP	0.001uF	10%	50V		
C527	1-116-717-11	CERAMIC CHIP	10uF	20%	10V		C722	1-116-713-11	CERAMIC CHIP	22uF	20%	10V		
C529	1-118-403-11	CERAMIC CHIP	0.001uF	10%	50V		C724	1-116-737-11	CERAMIC CHIP	1uF	20%	10V		
C530	1-165-492-21	ELECT CHIP	100uF	20%	10V				< CONNECTOR >					
C541	1-116-737-11	CERAMIC CHIP	1uF	20%	10V									
C542	1-118-391-11	CERAMIC CHIP	0.01uF	10%	50V		CN001	1-779-806-21	CONNECTOR 8P					
C551	1-100-765-21	ELECT CHIP	10uF	20%	16V		CN002	1-785-946-21	CONNECTOR 3P					
C552	1-118-417-11	CERAMIC CHIP	0.1uF	10%	16V		CN601	1-842-915-11	USB CONNECTOR (MICRO B)					
C553	1-116-741-11	CERAMIC CHIP	0.47uF	20%	10V				(INPUT (FOR PC/WALKMAN/Xperia))					
C554	1-118-412-11	CERAMIC CHIP	220PF	10%	50V		CN602	1-844-269-11	CONNECTOR, USB (A)					
									(INPUT (FOR iPhone/iPad/iPod))					
C555	1-118-417-11	CERAMIC CHIP	0.1uF	10%	16V		CN701	1-842-915-11	USB CONNECTOR (MICRO B) (DC IN 5V)					
C556	1-118-417-11	CERAMIC CHIP	0.1uF	10%	16V									
C558	1-164-870-11	CERAMIC CHIP	68PF	5%	50V		CN702	1-843-522-11	HOUSING, CONNECTOR					
C559	1-116-737-11	CERAMIC CHIP	1uF	20%	10V				< DIODE >					
C560	1-165-492-21	ELECT CHIP	100uF	20%	10V									
C561	1-116-737-11	CERAMIC CHIP	1uF	20%	10V		D512	6-502-728-01	DIODE RSX101M-30FJTR					
C564	1-118-417-11	CERAMIC CHIP	0.1uF	10%	16V		D513	6-502-728-01	DIODE RSX101M-30FJTR					
C565	1-118-417-11	CERAMIC CHIP	0.1uF	10%	16V		* D514	6-503-573-01	DIODE 1SS400SMGJT2R					
C566	1-116-717-11	CERAMIC CHIP	10uF	20%	10V		* D515	6-503-573-01	DIODE 1SS400SMGJT2R					
C567	1-116-713-11	CERAMIC CHIP	22uF	20%	10V		* D602	6-503-573-01	DIODE 1SS400SMGJT2R					
C568	1-116-713-11	CERAMIC CHIP	22uF	20%	10V		* D603	6-503-573-01	DIODE 1SS400SMGJT2R					
C569	1-116-717-11	CERAMIC CHIP	10uF	20%	10V		D701	6-500-122-01	LED CL-375HR/YG-D-TS (POWER/CHG)					
C570	1-116-717-11	CERAMIC CHIP	10uF	20%	10V		* D719	6-503-573-01	DIODE 1SS400SMGJT2R					
C571	1-116-737-11	CERAMIC CHIP	1uF	20%	10V		* D722	6-503-573-01	DIODE 1SS400SMGJT2R					
C572	1-118-040-11	CERAMIC CHIP	2.2uF	10%	16V		* D723	6-503-573-01	DIODE 1SS400SMGJT2R					
C573	1-118-459-11	CERAMIC CHIP	0.01uF	10%	25V				< FUSE >					
C574	1-118-459-11	CERAMIC CHIP	0.01uF	10%	25V									
C575	1-118-417-11	CERAMIC CHIP	0.1uF	10%	16V		△ F701	1-523-135-31	FUSE (3.15 A/32 V)					
C576	1-116-737-11	CERAMIC CHIP	1uF	20%	10V				< FERRITE BEAD/JUMPER RESISTOR >					
C577	1-118-040-11	CERAMIC CHIP	2.2uF	10%	16V									
C580	1-116-741-11	CERAMIC CHIP	0.47uF	20%	10V		FB001	1-216-864-11	SHORT CHIP	0				
C581	1-116-741-11	CERAMIC CHIP	0.47uF	20%	10V		FB002	1-216-864-11	SHORT CHIP	0				
C608	1-164-848-11	CERAMIC CHIP	8PF	0.5PF	50V		FB0020	1-400-180-21	INDUCTOR, EMI FERRITE (1608)					
C609	1-164-848-11	CERAMIC CHIP	8PF	0.5PF	50V		FB003	1-216-864-11	SHORT CHIP	0				
C610	1-116-737-11	CERAMIC CHIP	1uF	20%	10V		FB021	1-216-296-11	SHORT CHIP	0				
C611	1-116-717-11	CERAMIC CHIP	10uF	20%	10V		FB101	1-400-703-21	EMI FERRITE (SMD) (3216)					
C621	1-118-417-11	CERAMIC CHIP	0.1uF	10%	16V				< IC >					
C622	1-118-417-11	CERAMIC CHIP	0.1uF	10%	16V									
C623	1-118-417-11	CERAMIC CHIP	0.1uF	10%	16V									
C624	1-118-417-11	CERAMIC CHIP	0.1uF	10%	16V		IC001	(Not supplied)	IC LME49860MAX/NOPB (See Note)					
							IC002	(Not supplied)	IC TPA6120A2DWPR (See Note)					
C625	1-118-417-11	CERAMIC CHIP	0.1uF	10%	16V		IC003	(Not supplied)	IC LMP7708MAX/NOPB (See Note)					
C626	1-162-966-91	CERAMIC CHIP	0.0022uF	10%	50V		IC101	(Not supplied)	IC TS12A12511DCNR (See Note)					
C627	1-116-726-11	CERAMIC CHIP	2.2uF	10%	25V		IC201	(Not supplied)	IC TS12A12511DCNR (See Note)					
C628	1-118-417-11	CERAMIC CHIP	0.1uF	10%	16V									
C629	1-118-417-11	CERAMIC CHIP	0.1uF	10%	16V		IC301	(Not supplied)	IC WM8740SEDS/RV (See Note)					
							IC401	(Not supplied)	IC LC87F17C8AUWA-2H (See Note)					
C630	1-118-417-11	CERAMIC CHIP	0.1uF	10%	16V		IC402	6-715-659-01	IC PST8428UL					
C631	1-118-417-11	CERAMIC CHIP	0.1uF	10%	16V		IC403	(Not supplied)	IC MFI337S3959 (See Note)					
C632	1-118-417-11	CERAMIC CHIP	0.1uF	10%	16V		IC500	(Not supplied)	IC TPS61087DRCR (See Note)					
C703	1-116-737-11	CERAMIC CHIP	1uF	20%	10V									
C706	1-118-417-11	CERAMIC CHIP	0.1uF	10%	16V		IC501	(Not supplied)	IC MAX1846EUB+T (See Note)					
							IC502	(Not supplied)	IC TPS7A4700RGWR (See Note)					
C707	1-118-041-11	CERAMIC CHIP	4.7uF	10%	10V		IC503	(Not supplied)	IC TPS7A3301RGWR (See Note)					
C709	1-116-741-11	CERAMIC CHIP	0.47uF	20%	10V		IC504	6-719-070-01	IC MM3411A50URE					
C710	1-118-417-11	CERAMIC CHIP	0.1uF	10%	16V		IC505	(Not supplied)	IC NJM2827F3-05 (TE1) (See Note)					
C711	1-116-717-11	CERAMIC CHIP	10uF	20%	10V									
C712	1-116-737-11	CERAMIC CHIP	1uF	20%	10V		IC506	(Not supplied)	IC RP601Z330A-E2-F (See Note)					
							IC507	(Not supplied)	IC RP402N501E-TR-FE (See Note)					
C713	1-116-717-11	CERAMIC CHIP	10uF	20%	10V		IC508	6-715-661-01	IC PST8431UL					
C714	1-116-729-11	CERAMIC CHIP	2.2uF	20%	10V		IC509	6-715-164-01	IC TPS2553DBVR					

Note: The parts that are transcribed by “Not supplied” cannot replace with single.
When these parts are damaged, replace the complete mounted board.

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
IC510	6-719-198-01	IC MM3411A33URE		Q720	6-551-346-01	FET LSK3541FS8T2L	
IC511	6-710-375-01	IC 74LVC1G175GW-125		Q721	6-551-346-01	FET LSK3541FS8T2L	
IC512	6-719-198-01	IC MM3411A33URE		Q722	6-551-346-01	FET LSK3541FS8T2L	
IC601	(Not supplied)	IC CM6631A (See Note)		Q723	6-553-619-01	FET RAF040P01TCL	
IC602	(Not supplied)	IC SST39LF010-55-4C-WHE (See Note)		< RESISTOR/CAPACITOR >			
IC701	(Not supplied)	IC BQ24073RGTR (See Note)		R4	1-218-989-11	METAL CHIP 1M 5%	1/16W
IC702	(Not supplied)	IC PIC16F1455T-I/ML (See Note)		R5	1-218-953-11	METAL CHIP 1K 5%	1/16W
@ IC704	6-717-898-11	IC BD6047AGUL-E2		R101	1-250-504-11	METAL CHIP 2.4K 1%	1/16W
IC705	6-715-661-01	IC PST8431UL		* R102	1-250-506-11	METAL CHIP 3K 1%	1/16W
< JUMPER RESISTOR >				R103	1-250-475-11	METAL CHIP 150 1%	1/16W
JC101	1-216-864-11	SHORT CHIP 0		* R104	1-250-506-11	METAL CHIP 3K 1%	1/16W
JC103	1-216-864-11	SHORT CHIP 0		R105	1-250-475-11	METAL CHIP 150 1%	1/16W
JC104	1-216-864-11	SHORT CHIP 0		R106	1-250-504-11	METAL CHIP 2.4K 1%	1/16W
JC105	1-216-864-11	SHORT CHIP 0		R107	1-218-941-81	METAL CHIP 100 5%	1/16W
JC106	1-216-864-11	SHORT CHIP 0		R111	1-218-969-11	METAL CHIP 22K 5%	1/16W
JC109	1-216-296-11	SHORT CHIP 0		R112	1-218-953-11	METAL CHIP 1K 5%	1/16W
JC111	1-216-864-11	SHORT CHIP 0		R113	1-218-979-11	METAL CHIP 150K 5%	1/16W
JC113	1-216-864-11	SHORT CHIP 0		R114	1-218-953-11	METAL CHIP 1K 5%	1/16W
JC114	1-216-864-11	SHORT CHIP 0		R115	1-220-210-11	METAL CHIP 200K 5%	1/16W
< COIL >				R116	1-218-990-81	SHORT CHIP 0	
* L500	1-400-846-11	INDUCTOR 3.3uH		R117	1-216-797-11	METAL CHIP 10 5%	1/10W
L503	1-482-011-11	INDUCTOR 1uH		R118	1-218-990-81	SHORT CHIP 0	
L504	1-457-942-11	COIL, CHOKE 2.2uH		R119	1-218-953-11	METAL CHIP 1K 5%	1/16W
L551	1-416-944-21	COIL, CHOKE 15uH		R141	1-220-210-11	METAL CHIP 200K 5%	1/16W
< FET >				R201	1-250-504-11	METAL CHIP 2.4K 1%	1/16W
Q001	(Not supplied)	FET SSM6N58NU, RSONYF (See Note)		* R202	1-250-506-11	METAL CHIP 3K 1%	1/16W
Q002	(Not supplied)	FET SSM6N58NU, RSONYF (See Note)		R203	1-250-475-11	METAL CHIP 150 1%	1/16W
Q003	(Not supplied)	FET SSM6N58NU, RSONYF (See Note)		* R204	1-250-506-11	METAL CHIP 3K 1%	1/16W
Q004	(Not supplied)	FET SSM6N58NU, RSONYF (See Note)		R205	1-250-475-11	METAL CHIP 150 1%	1/16W
Q401	6-553-619-01	FET RAF040P01TCL		R206	1-250-504-11	METAL CHIP 2.4K 1%	1/16W
Q402	6-551-346-01	FET LSK3541FS8T2L		R207	1-218-941-81	METAL CHIP 100 5%	1/16W
Q403	6-551-346-01	FET LSK3541FS8T2L		R211	1-218-969-11	METAL CHIP 22K 5%	1/16W
Q404	6-553-619-01	FET RAF040P01TCL		R212	1-218-953-11	METAL CHIP 1K 5%	1/16W
Q405	6-551-346-01	FET LSK3541FS8T2L		R213	1-218-979-11	METAL CHIP 150K 5%	1/16W
Q501	6-553-619-01	FET RAF040P01TCL		R214	1-218-953-11	METAL CHIP 1K 5%	1/16W
Q502	6-553-338-01	FET RU1C001UNTCL		R215	1-220-210-11	METAL CHIP 200K 5%	1/16W
Q503	6-553-619-01	FET RAF040P01TCL		R216	1-218-990-81	SHORT CHIP 0	
Q508	6-553-338-01	FET RU1C001UNTCL		R217	1-216-797-11	METAL CHIP 10 5%	1/10W
Q509	6-553-619-01	FET RAF040P01TCL		R218	1-218-990-81	SHORT CHIP 0	
Q510	6-551-346-01	FET LSK3541FS8T2L		R219	1-218-953-11	METAL CHIP 1K 5%	1/16W
Q511	6-551-346-01	FET LSK3541FS8T2L		R241	1-220-210-11	METAL CHIP 200K 5%	1/16W
Q512	6-551-346-01	FET LSK3541FS8T2L		R302	1-250-519-11	METAL CHIP 10K 1%	1/16W
Q513	6-551-346-01	FET LSK3541FS8T2L		R303	1-218-941-81	METAL CHIP 100 5%	1/16W
Q595	6-553-619-01	FET RAF040P01TCL		R304	1-218-941-81	METAL CHIP 100 5%	1/16W
Q702	6-551-346-01	FET LSK3541FS8T2L		R305	1-218-941-81	METAL CHIP 100 5%	1/16W
Q703	6-551-346-01	FET LSK3541FS8T2L		R306	1-218-941-81	METAL CHIP 100 5%	1/16W
Q710	6-553-338-01	FET RU1C001UNTCL		R307	1-218-941-81	METAL CHIP 100 5%	1/16W
Q711	6-553-619-01	FET RAF040P01TCL		R308	1-220-167-81	METAL CHIP 51 5%	1/16W
Q712	6-553-338-01	FET RU1C001UNTCL		R309	1-220-167-81	METAL CHIP 51 5%	1/16W
Q713	6-553-338-01	FET RU1C001UNTCL		R310	1-218-990-81	SHORT CHIP 0	
Q716	6-551-346-01	FET LSK3541FS8T2L		R311	1-218-990-81	SHORT CHIP 0	
Q717	6-551-346-01	FET LSK3541FS8T2L		R316	1-218-977-11	METAL CHIP 100K 5%	1/16W
Q718	6-551-346-01	FET LSK3541FS8T2L		R318	1-218-977-11	METAL CHIP 100K 5%	1/16W
Q719	6-551-346-01	FET LSK3541FS8T2L		R319	1-218-969-11	METAL CHIP 22K 5%	1/16W
				R320	1-218-969-11	METAL CHIP 22K 5%	1/16W
				R321	1-218-977-11	METAL CHIP 100K 5%	1/16W
				R328	1-216-833-11	METAL CHIP 10K 5%	1/10W
				R329	1-216-825-11	METAL CHIP 2.2K 5%	1/10W
				R330	1-216-833-11	METAL CHIP 10K 5%	1/10W

Note: The parts that are transcribed by "Not supplied" cannot replace with single.
When these parts are damaged, replace the complete mounted board.

@ Replacement of IC704 on the MAIN board
used in this unit requires a special tool.

PHA-1A/1AEU

MAIN

Ref. No.	Part No.	Description			Remark	Ref. No.	Part No.	Description			Remark
R331	1-216-825-11	METAL CHIP	2.2K	5%	1/10W	R578	1-218-989-11	METAL CHIP	1M	5%	1/16W
R332	1-218-977-11	METAL CHIP	100K	5%	1/16W	R579	1-218-965-11	METAL CHIP	10K	5%	1/16W
R334	1-216-296-11	SHORT CHIP	0			R580	1-218-990-81	SHORT CHIP	0		
R335	1-216-296-11	SHORT CHIP	0			R581	1-218-977-11	METAL CHIP	100K	5%	1/16W
R406	1-250-459-11	METAL CHIP	33	1%	1/16W	R582	1-208-895-81	METAL CHIP	2.2K	0.5%	1/16W
R407	1-250-459-11	METAL CHIP	33	1%	1/16W	R609	1-250-521-11	METAL CHIP	12K	1%	1/16W
R409	1-208-663-11	METAL CHIP	150	0.5%	1/16W	R613	1-216-864-11	SHORT CHIP	0		
R413	1-218-977-11	METAL CHIP	100K	5%	1/16W	R614	1-218-957-11	METAL CHIP	2.2K	5%	1/16W
R419	1-218-961-11	METAL CHIP	4.7K	5%	1/16W	R615	1-218-957-11	METAL CHIP	2.2K	5%	1/16W
R420	1-218-990-81	SHORT CHIP	0			R616	1-218-957-11	METAL CHIP	2.2K	5%	1/16W
R421	1-216-829-11	METAL CHIP	4.7K	5%	1/10W	R617	1-218-957-11	METAL CHIP	2.2K	5%	1/16W
R422	1-218-969-11	METAL CHIP	22K	5%	1/16W	R619	1-218-961-11	METAL CHIP	4.7K	5%	1/16W
R424	1-218-990-81	SHORT CHIP	0			R624	1-218-990-81	SHORT CHIP	0		
R428	1-218-965-11	METAL CHIP	10K	5%	1/16W	R651	1-250-567-11	METAL CHIP	1M	1%	1/16W
* R432	1-118-407-11	CERAMIC CHIP	470PF	10%	50V	R652	1-218-977-11	METAL CHIP	100K	5%	1/16W
R450	1-218-977-11	METAL CHIP	100K	5%	1/16W	R654	1-218-965-11	METAL CHIP	10K	5%	1/16W
R451	1-218-990-81	SHORT CHIP	0			R655	1-218-985-11	METAL CHIP	470K	5%	1/16W
R452	1-218-990-81	SHORT CHIP	0			R657	1-216-295-91	SHORT CHIP	0		
R453	1-218-977-11	METAL CHIP	100K	5%	1/16W	R708	1-218-959-11	METAL CHIP	3.3K	5%	1/16W
R454	1-218-977-11	METAL CHIP	100K	5%	1/16W	R709	1-218-953-11	METAL CHIP	1K	5%	1/16W
R455	1-218-977-11	METAL CHIP	100K	5%	1/16W	R714	1-216-845-11	METAL CHIP	100K	5%	1/10W
R456	1-218-985-11	METAL CHIP	470K	5%	1/16W	R715	1-218-977-11	METAL CHIP	100K	5%	1/16W
R457	1-218-977-11	METAL CHIP	100K	5%	1/16W	R716	1-218-965-11	METAL CHIP	10K	5%	1/16W
R458	1-218-989-11	METAL CHIP	1M	5%	1/16W	R717	1-218-965-11	METAL CHIP	10K	5%	1/16W
R459	1-218-985-11	METAL CHIP	470K	5%	1/16W	R718	1-218-989-11	METAL CHIP	1M	5%	1/16W
R461	1-218-953-11	METAL CHIP	1K	5%	1/16W	R719	1-218-989-11	METAL CHIP	1M	5%	1/16W
R502	1-218-977-11	METAL CHIP	100K	5%	1/16W	R721	1-208-935-11	METAL CHIP	100K	0.5%	1/16W
R505	1-218-977-11	METAL CHIP	100K	5%	1/16W	R724	1-218-965-11	METAL CHIP	10K	5%	1/16W
R510	1-208-923-11	METAL CHIP	33K	0.5%	1/16W	R725	1-208-931-11	METAL CHIP	68K	0.5%	1/16W
R511	1-208-889-11	METAL CHIP	1.2K	0.5%	1/16W	R727	1-208-889-11	METAL CHIP	1.2K	0.5%	1/16W
R512	1-208-713-11	METAL CHIP	18K	0.5%	1/16W	R729	1-218-977-11	METAL CHIP	100K	5%	1/16W
R513	1-208-931-11	METAL CHIP	68K	0.5%	1/16W	R730	1-218-977-11	METAL CHIP	100K	5%	1/16W
R521	1-216-864-11	SHORT CHIP	0			R731	1-208-947-11	METAL CHIP	330K	0.5%	1/16W
* R523	1-250-543-11	METAL CHIP	100K	1%	1/16W	R732	1-218-989-11	METAL CHIP	1M	5%	1/16W
R524	1-250-495-11	METAL CHIP	1K	1%	1/16W	R733	1-208-884-81	METAL CHIP	750	0.5%	1/16W
R525	1-250-555-11	METAL CHIP	330K	1%	1/16W	R751	1-218-977-11	METAL CHIP	100K	5%	1/16W
R551	1-208-935-11	METAL CHIP	100K	0.5%	1/16W	R752	1-218-977-11	METAL CHIP	100K	5%	1/16W
R552	1-208-927-11	METAL CHIP	47K	0.5%	1/16W	R753	1-218-990-81	SHORT CHIP	0		
R553	1-218-970-11	METAL CHIP	27K	5%	1/16W	R759	1-208-859-81	METAL CHIP	68	0.5%	1/16W
* R554	1-250-527-11	METAL CHIP	22K	1%	1/16W	R760	1-208-675-11	METAL CHIP	470	0.5%	1/16W
R555	1-257-600-11	METAL CHIP	0.05	1%	1W	R761	1-218-977-11	METAL CHIP	100K	5%	1/16W
R556	1-208-926-81	METAL CHIP	43K	0.5%	1/16W	R763	1-218-985-11	METAL CHIP	470K	5%	1/16W
R557	1-208-911-11	METAL CHIP	10K	0.5%	1/16W	R764	1-218-977-11	METAL CHIP	100K	5%	1/16W
R558	1-218-990-81	SHORT CHIP	0			R766	1-218-977-11	METAL CHIP	100K	5%	1/16W
R561	1-208-922-11	METAL CHIP	30K	0.5%	1/16W	R769	1-218-965-11	METAL CHIP	10K	5%	1/16W
R562	1-208-935-11	METAL CHIP	100K	0.5%	1/16W	R771	1-218-965-11	METAL CHIP	10K	5%	1/16W
R563	1-218-985-11	METAL CHIP	470K	5%	1/16W	R772	1-218-990-81	SHORT CHIP	0		
R564	1-218-985-11	METAL CHIP	470K	5%	1/16W	R773	1-218-977-11	METAL CHIP	100K	5%	1/16W
R566	1-218-965-11	METAL CHIP	10K	5%	1/16W	R774	1-218-965-11	METAL CHIP	10K	5%	1/16W
R567	1-208-935-11	METAL CHIP	100K	0.5%	1/16W	R775	1-218-958-11	METAL CHIP	2.7K	5%	1/16W
R568	1-218-965-11	METAL CHIP	10K	5%	1/16W	R778	1-218-977-11	METAL CHIP	100K	5%	1/16W
R569	1-218-989-11	METAL CHIP	1M	5%	1/16W	R781	1-218-977-11	METAL CHIP	100K	5%	1/16W
R570	1-218-953-11	METAL CHIP	1K	5%	1/16W	R782	1-218-977-11	METAL CHIP	100K	5%	1/16W
R571	1-218-989-11	METAL CHIP	1M	5%	1/16W	R785	1-218-973-11	METAL CHIP	47K	5%	1/16W
R572	1-218-981-81	METAL CHIP	220K	5%	1/16W	R786	1-218-977-11	METAL CHIP	100K	5%	1/16W
R573	1-218-981-81	METAL CHIP	220K	5%	1/16W	R787	1-218-985-11	METAL CHIP	470K	5%	1/16W
R574	1-218-977-11	METAL CHIP	100K	5%	1/16W	R788	1-218-969-11	METAL CHIP	22K	5%	1/16W
R575	1-218-965-11	METAL CHIP	10K	5%	1/16W	R789	1-218-985-11	METAL CHIP	470K	5%	1/16W
R576	1-218-965-11	METAL CHIP	10K	5%	1/16W	R790	1-218-957-11	METAL CHIP	2.2K	5%	1/16W
R577	1-218-990-81	SHORT CHIP	0			R791	1-218-941-11	METAL CHIP	100	5%	1/16W

Ref. No.	Part No.	Description			Remark
R792	1-208-695-11	METAL CHIP	3.3K	0.5%	1/16W
R793	1-218-985-11	METAL CHIP	470K	5%	1/16W
		< SWITCH >			
S001	1-786-792-11	SWITCH, SLIDE (GAIN)			
* S591	1-798-076-21	PUSHBUTTON SWITCH			
		(WALKMAN/Xperia DETECT)			
S592	1-786-914-31	SWITCH, TACTILE (SERIAL No. WRITE)			
		< VIBRATOR >			
X401	1-814-304-11	VIBRATOR, CRYSTAL (12 MHz)			
X601	1-814-304-11	VIBRATOR, CRYSTAL (12 MHz)			

VOLUME BOARD

When the VOLUME board is defective, replace the PLATE MIDDLE ASSY (SV)
(Ref. No. VOL1).

REVISION HISTORY

[illegible]

How to search for a contact point of signal lines or the like in DIAGRAMS SECTION

If a contact point of a BLOCK DIAGRAM, PRINTED WIRING BOARD or SCHEMATIC DIAGRAM is shown in a different page, use the PDF file search function to find one.

e.g.) If a contact point is shown as 001Z, follow the procedure below.

Procedure:

1. Press the [F] key while pressing the [Ctrl] key.
2. Input ">001Z" in the search box and press the [Enter] key.
3. The relevant part (page), where the contact point is shown, appears.

Note: If you still see the original page, press the [Enter] key again.