

MDR-IF4000

SERVICE MANUAL

Ver. 1.1 2005.02

*US Model
Canadian Model
AEP Model
E Model*



- The MDR-IF4000 is the cordless stereo headphones that comprises the MDR-DS4000.

- MDR-DS4000 consists of the following models respectively.

Cordless stereo headphone	MDR-IF4000
Digital surround processor	DP-IF4000

SPECIFICATIONS

General

Modulation System

DQPSK-IM

Secondary carrier wave frequency

3.75 MHz

Playback frequency range

10 – 22,000 Hz

Power requirements

Rechargeable nickel-metal hydride batteries (supplied) or commercially available (size AAA) alkaline batteries
Mass Approx. 300 g (11 oz) (including the supplied rechargeable nickel-metal hydride batteries)

Supplied accessories

Rechargeable nickel-metal hydride batteries
BP-HP550 (550 mAh min.) (2)
Operating Instructions (1)

Design and specifications are subject to change without notice.

CORDLESS STEREO HEADPHONE

9-879-301-02

2005B02-1

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Sony Corporation

Personal Audio Company

Published by Sony Engineering Corporation

SONY®

Notes on chip component replacement

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

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.
- Repairer DP-IF4000 with MDR-IF4000.

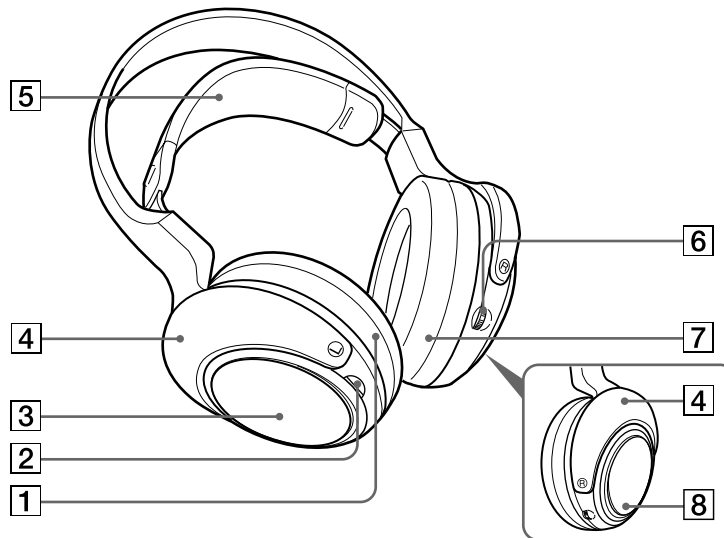
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SECTION 1 GENERAL

This section is extracted
from instruction manual.

LOCATING THE CONTROLS



1 Ear pad (left)

2 Battery case button

3 Battery case

Press the button of the left housing to open the battery compartment lid. This battery case is for the rechargeable nickel-metal hydride batteries (supplied) or commercially available (size AAA) alkaline batteries only.

4 Infrared sensor

There are infrared sensors in two locations on both sides.

5 Self-adjusting band

The headphones automatically turn on when you put them on.

6 VOL (Volume) control

Use to adjust the volume.

7 Ear pad (right)

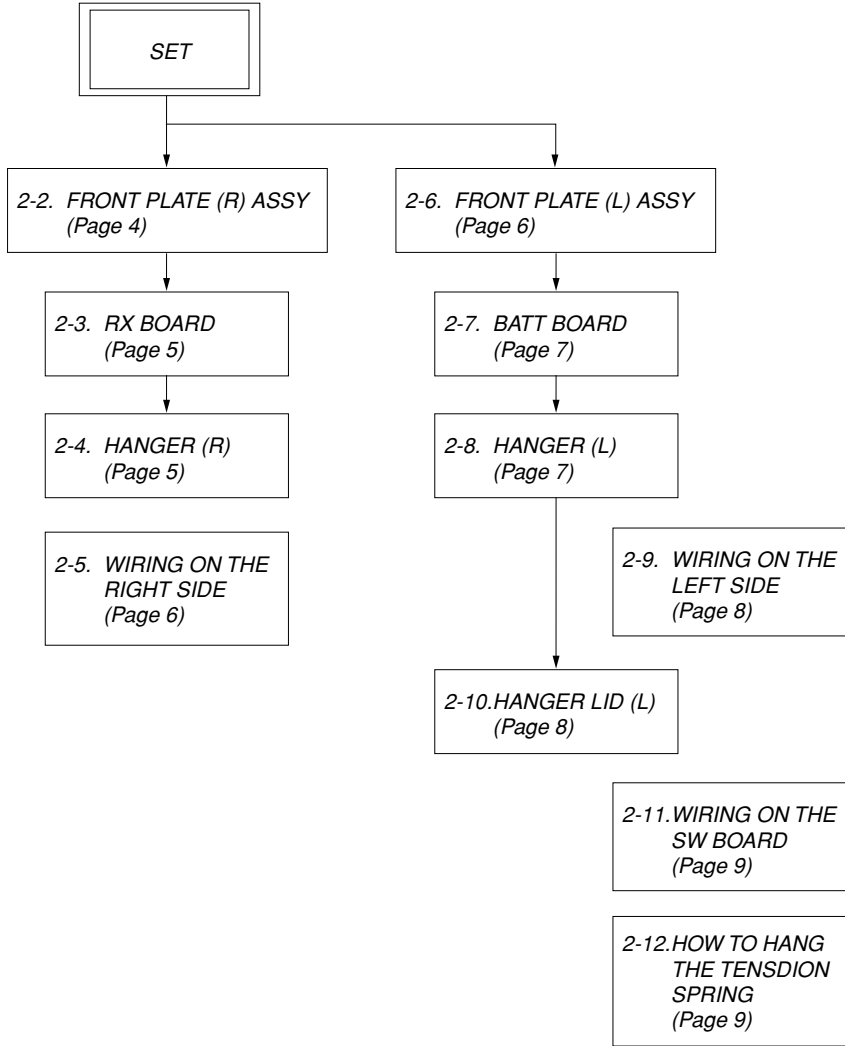
8 POWER indicator

By pulling up the self-adjusting band, the indicator lights red when battery power is sufficient.

SECTION 2 DISASSEMBLY

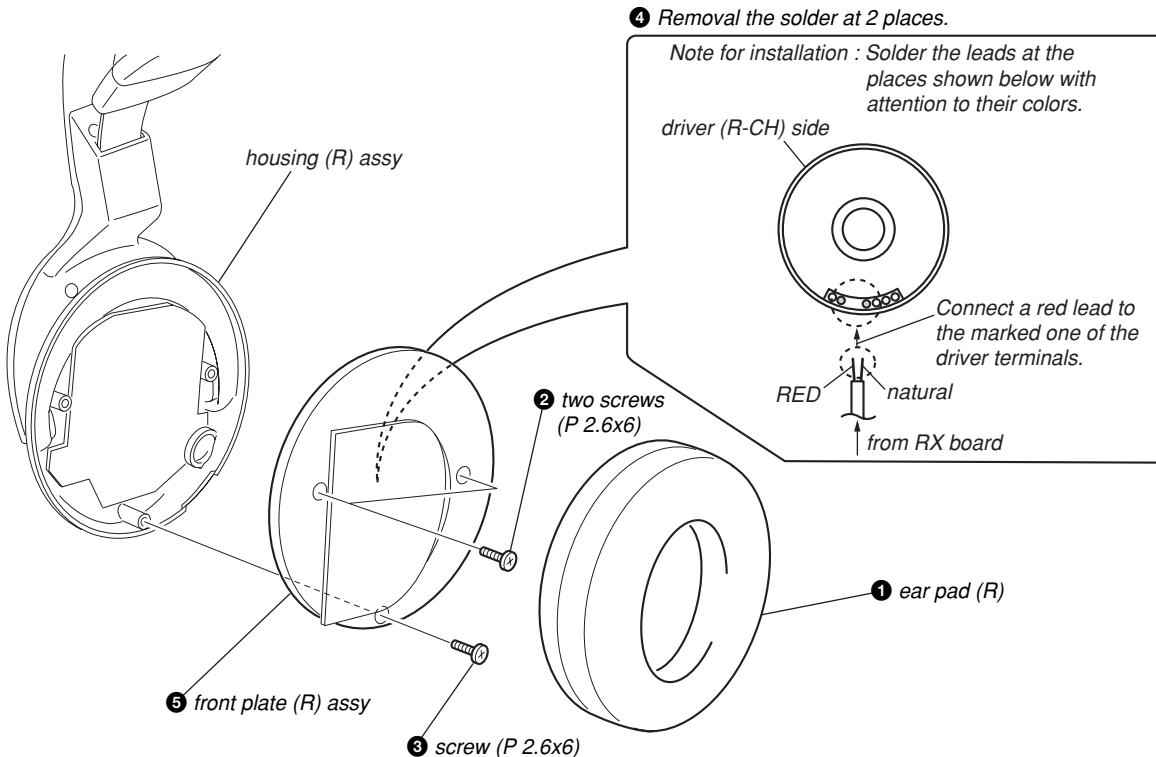
• This set can be disassembled in the order shown below.

2-1. DISASSEMBLY FLOW

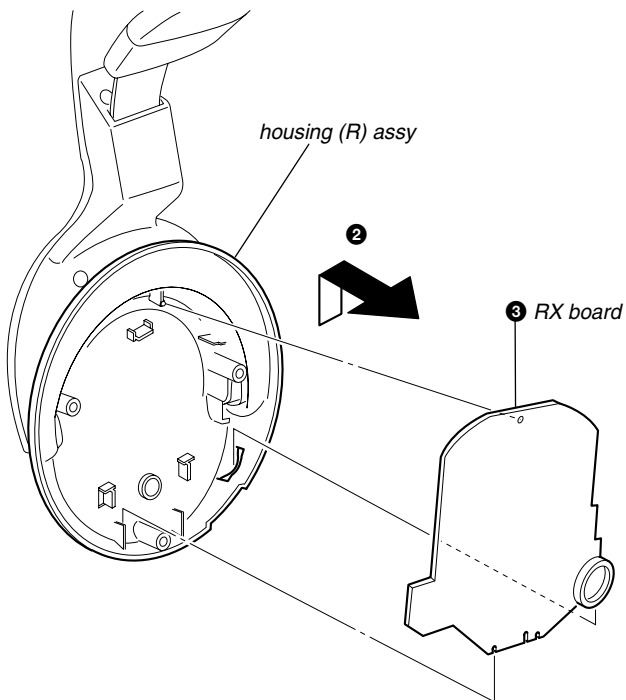


Note: Follow the disassembly procedure in the numerical order given.

2-2. FRONT PLATE (R) ASSY

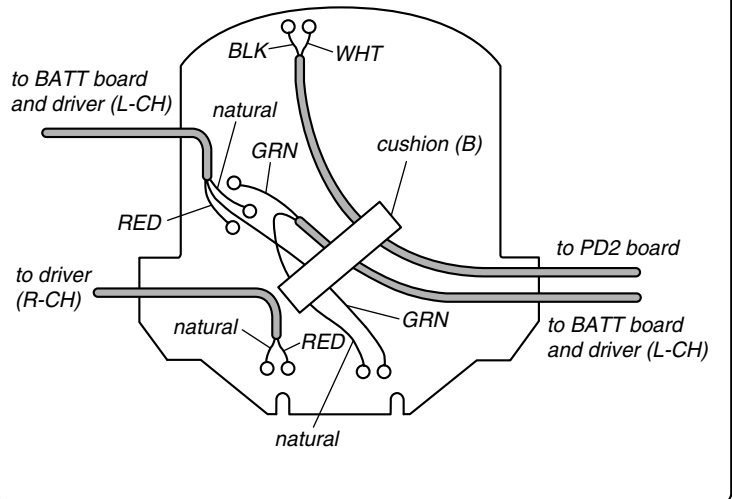


2-3. RX BAORD

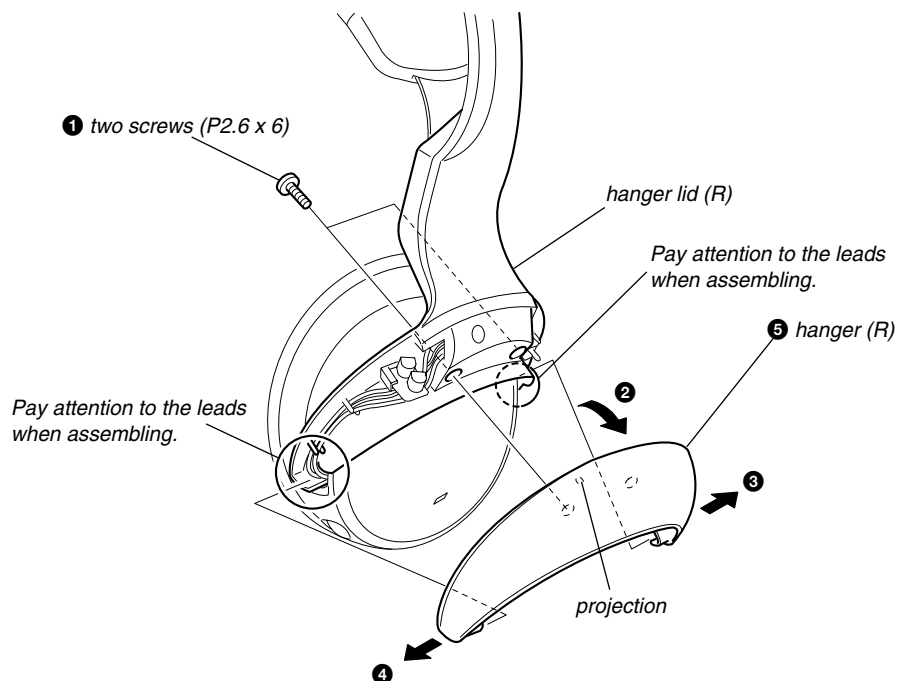


1 Removal the solder at 9 places.

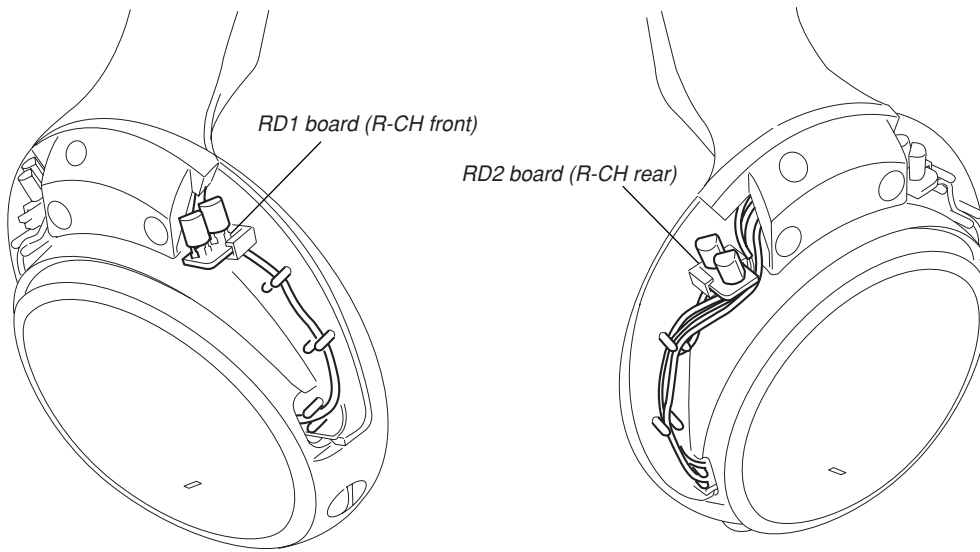
Note for installation : Solder the leads at the places shown below with attention to their colors.



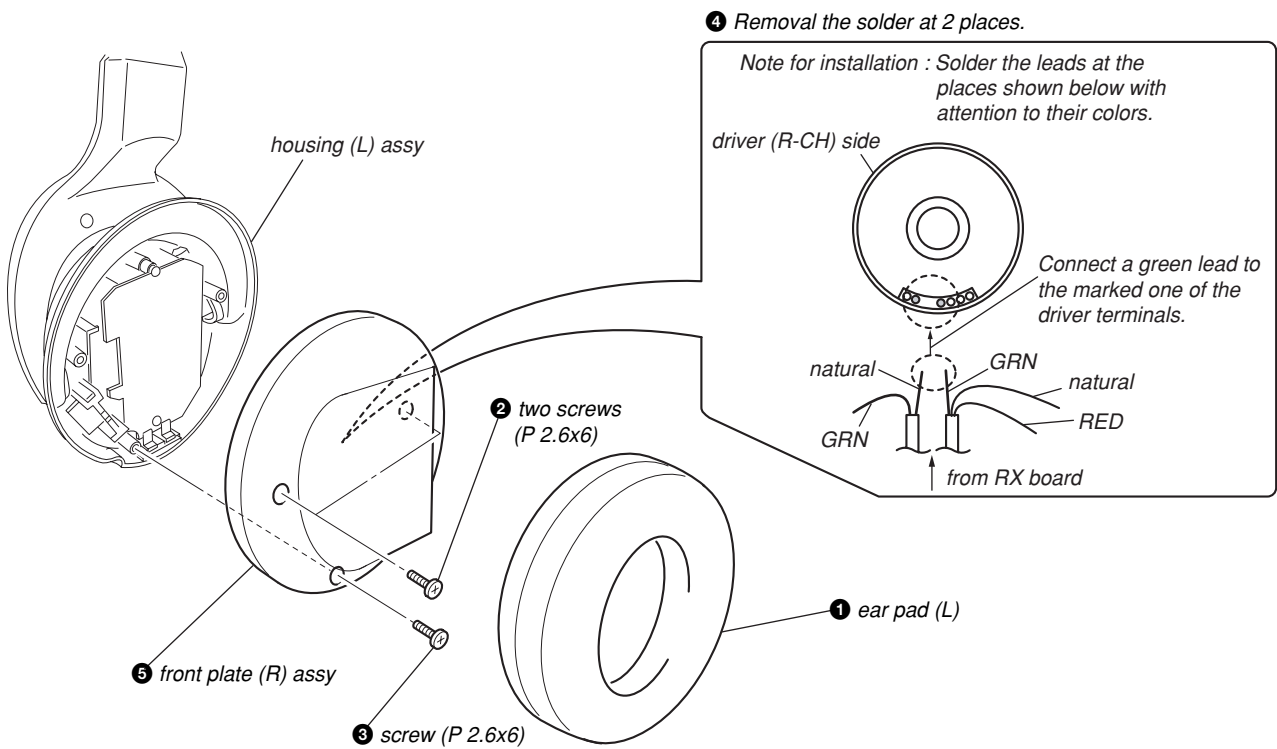
2-4. HANGER (R)



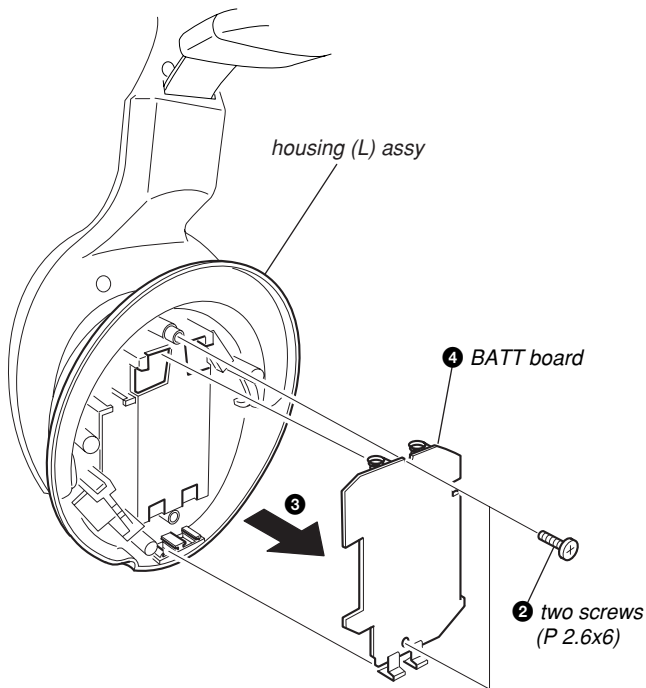
2-5. WIRING ON THE RIGHT SIDE



2-6. FRONT PLATE (L) ASSY

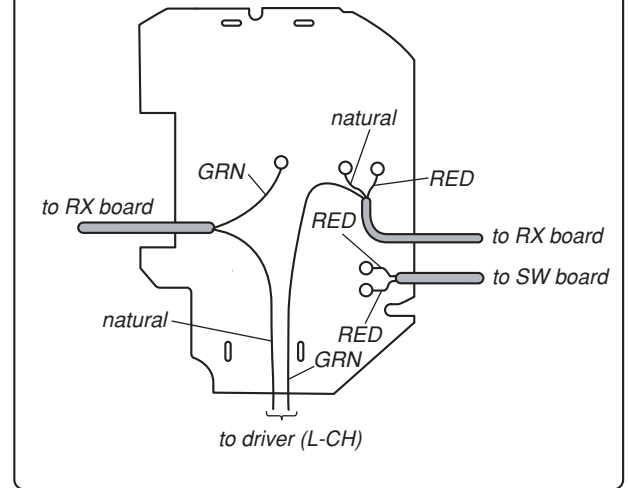


2-7. BATT BOARD

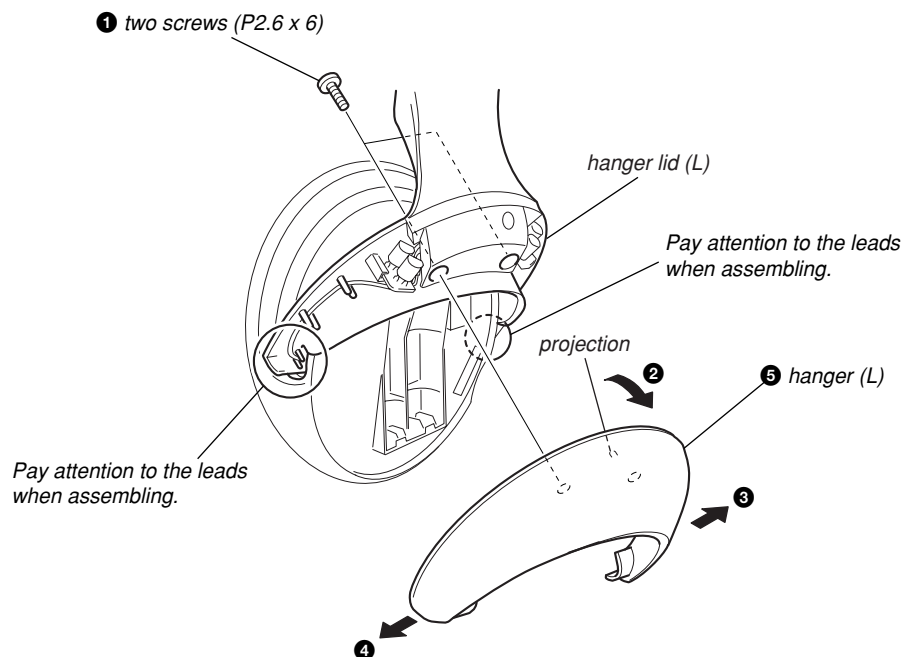


1 Remove the solder at 4 places.

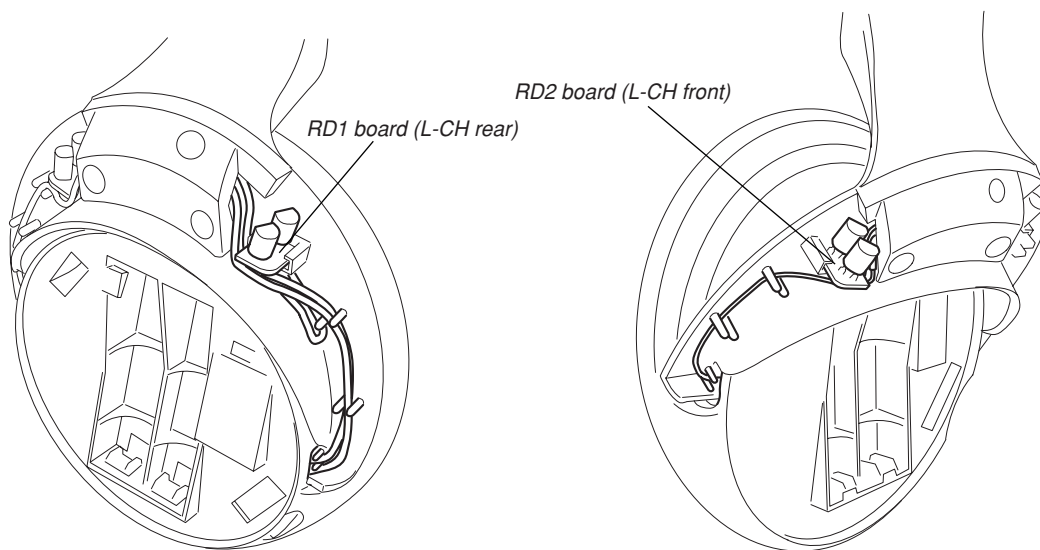
Note for installation : Solder the leads at the places shown below with attention to their colors.



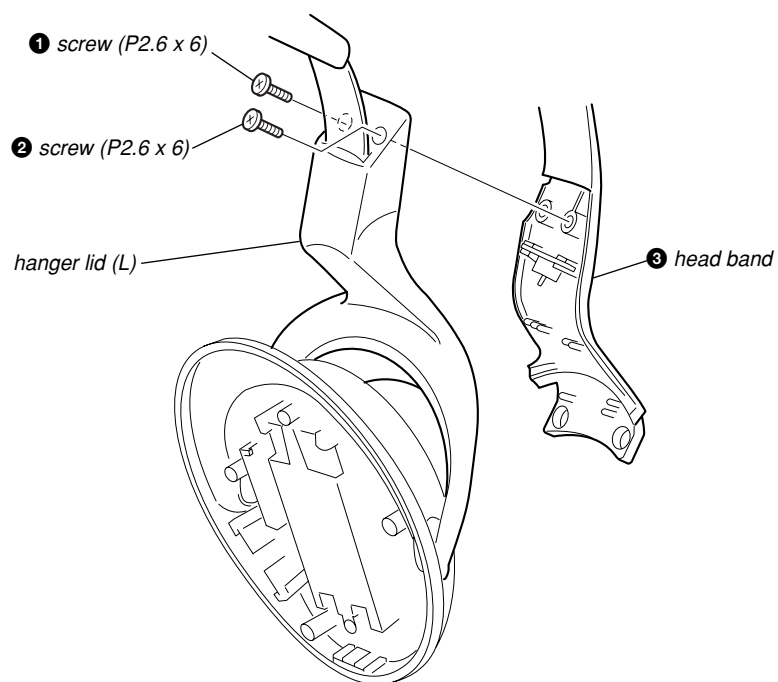
2-8. HANGER (L)



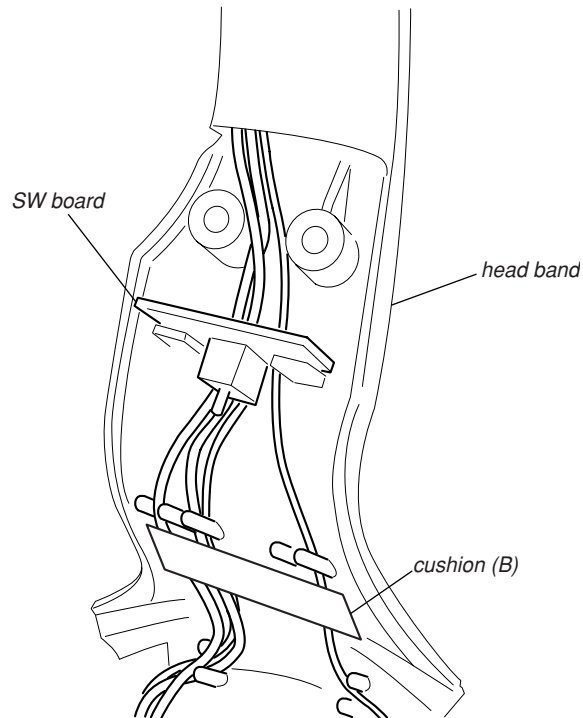
2-9. WIRING ON THE LEFT SIDE



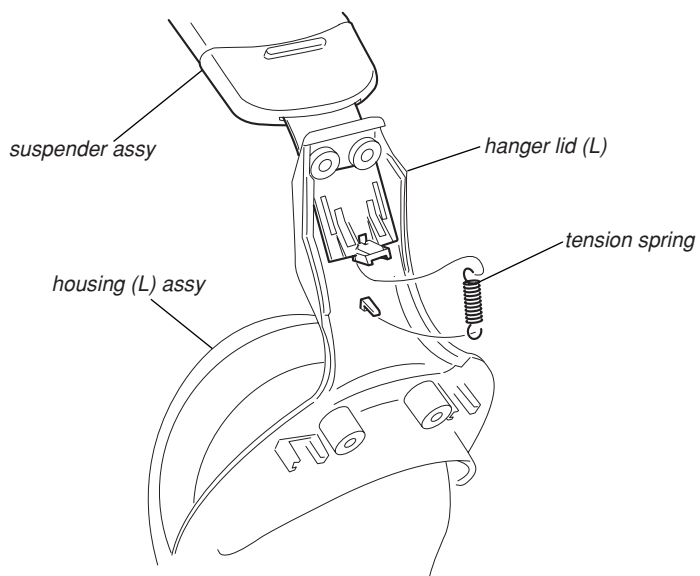
2-10. HANGER LID (L)



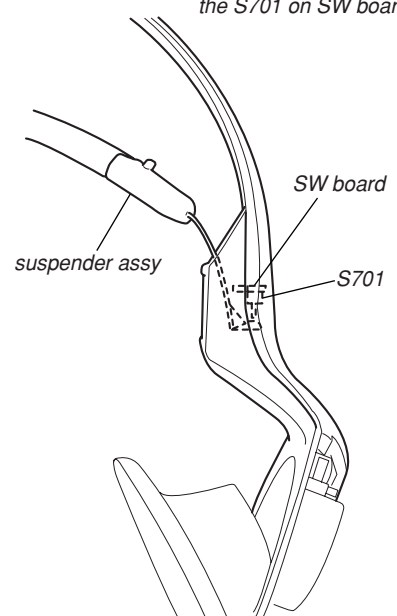
2-11. WIRING ON THE SW BOARD



2-12. HOW TO HANG THE TENSION SPRING



Note for installation : Insert the end of the suspender assy under the S701 on SW board.



SECTION 3 DIAGRAMS

NOTE FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS.

For schematic diagrams.

Note:

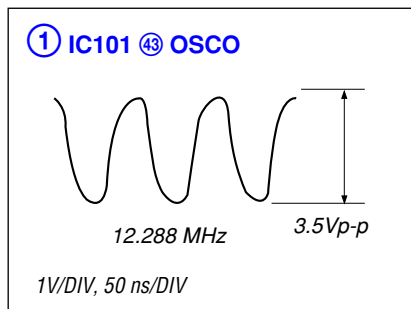
- All capacitors are in μF unless otherwise noted. (p: pF) 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $\frac{1}{4}W$ or less unless otherwise specified.
- Δ : internal component.
- : panel designation.
- : B+ Line.
- : adjustment for repair.
- Power voltage is dc 2.4 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.
- Voltages are taken with a VOM (Input impedance 10 M Ω). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with an oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
- \Rightarrow : ANALOG
- \Rightarrow : RF

For printed wiring boards.

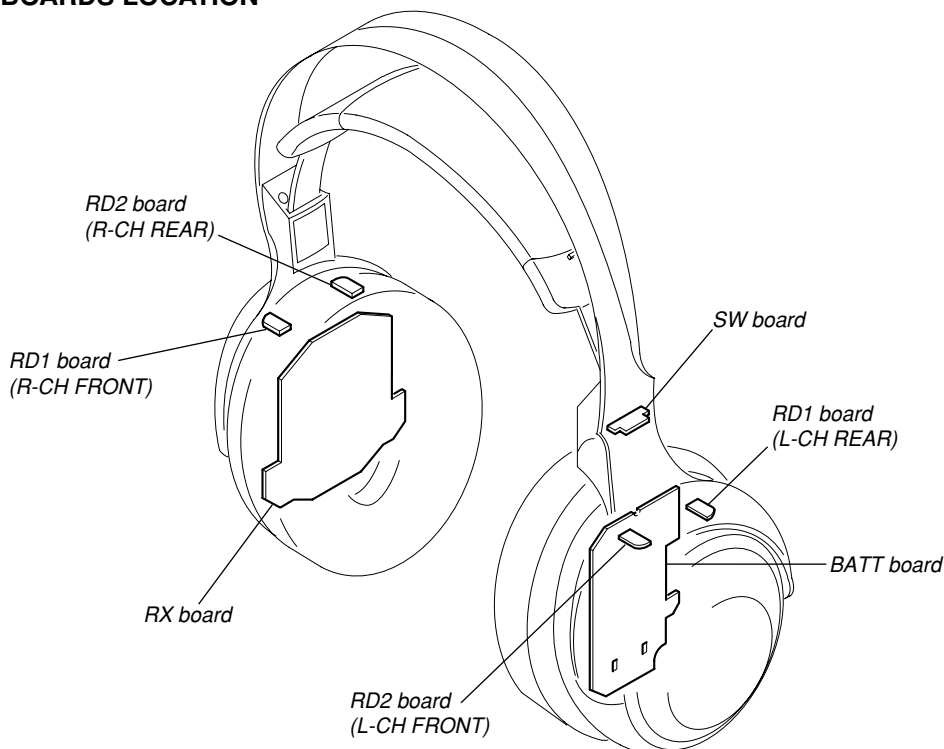
Note:

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

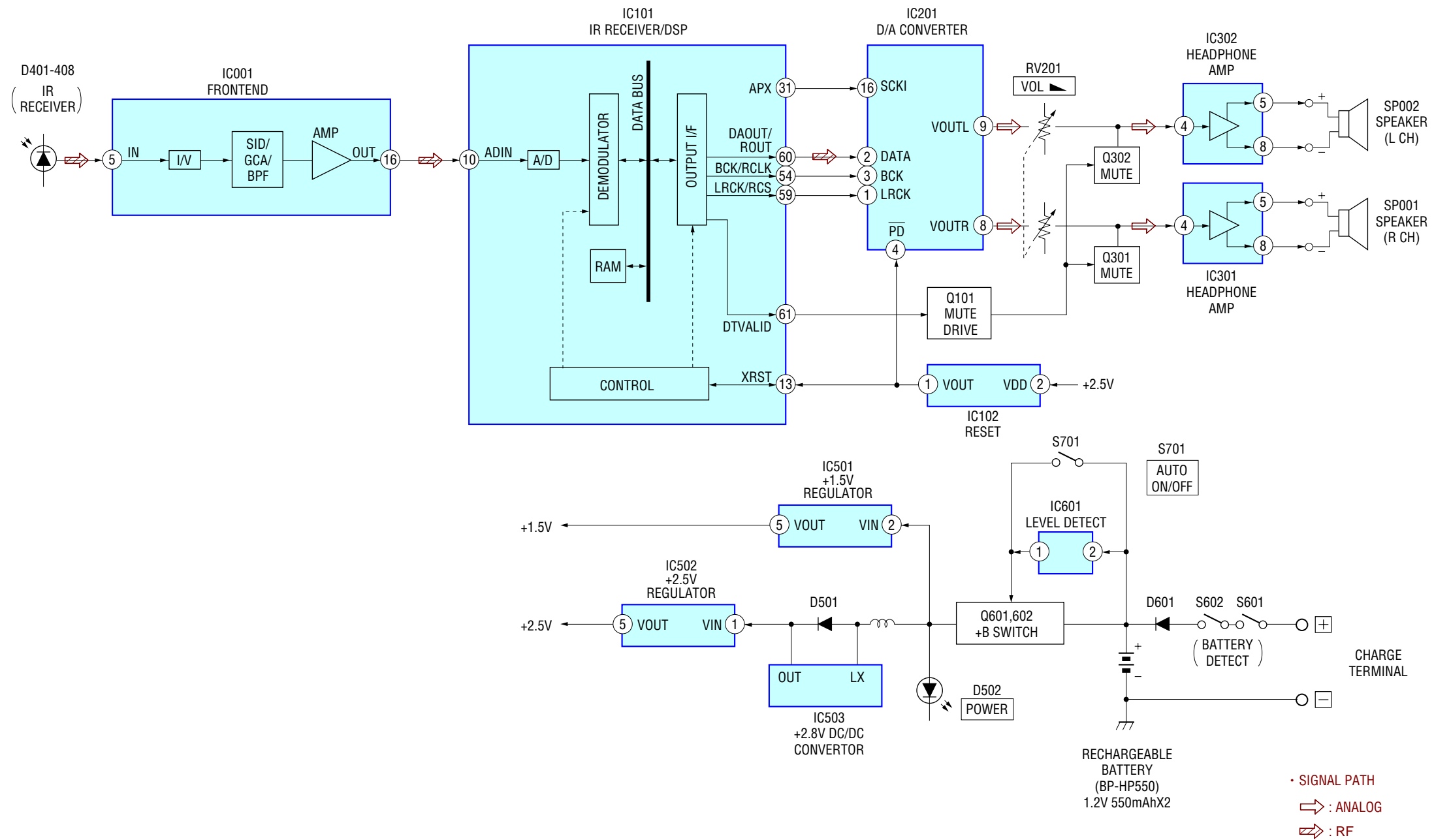
• Waveforms



3-1. CIRCUIT BOARDS LOCATION

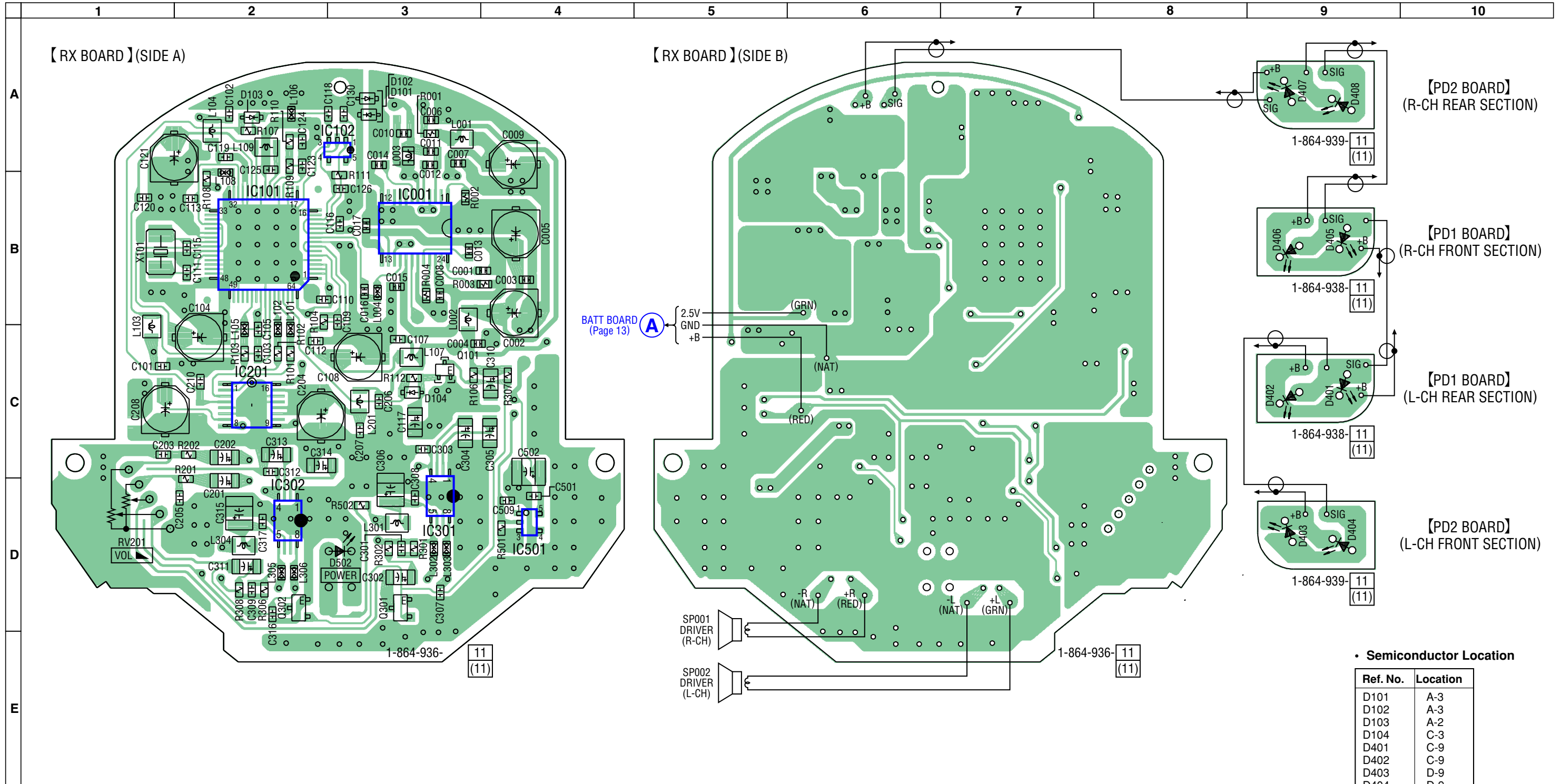


3-2. BLOCK DIAGRAM



3-3. PRINTED WIRING BOARD – RECEIVER SECTION –

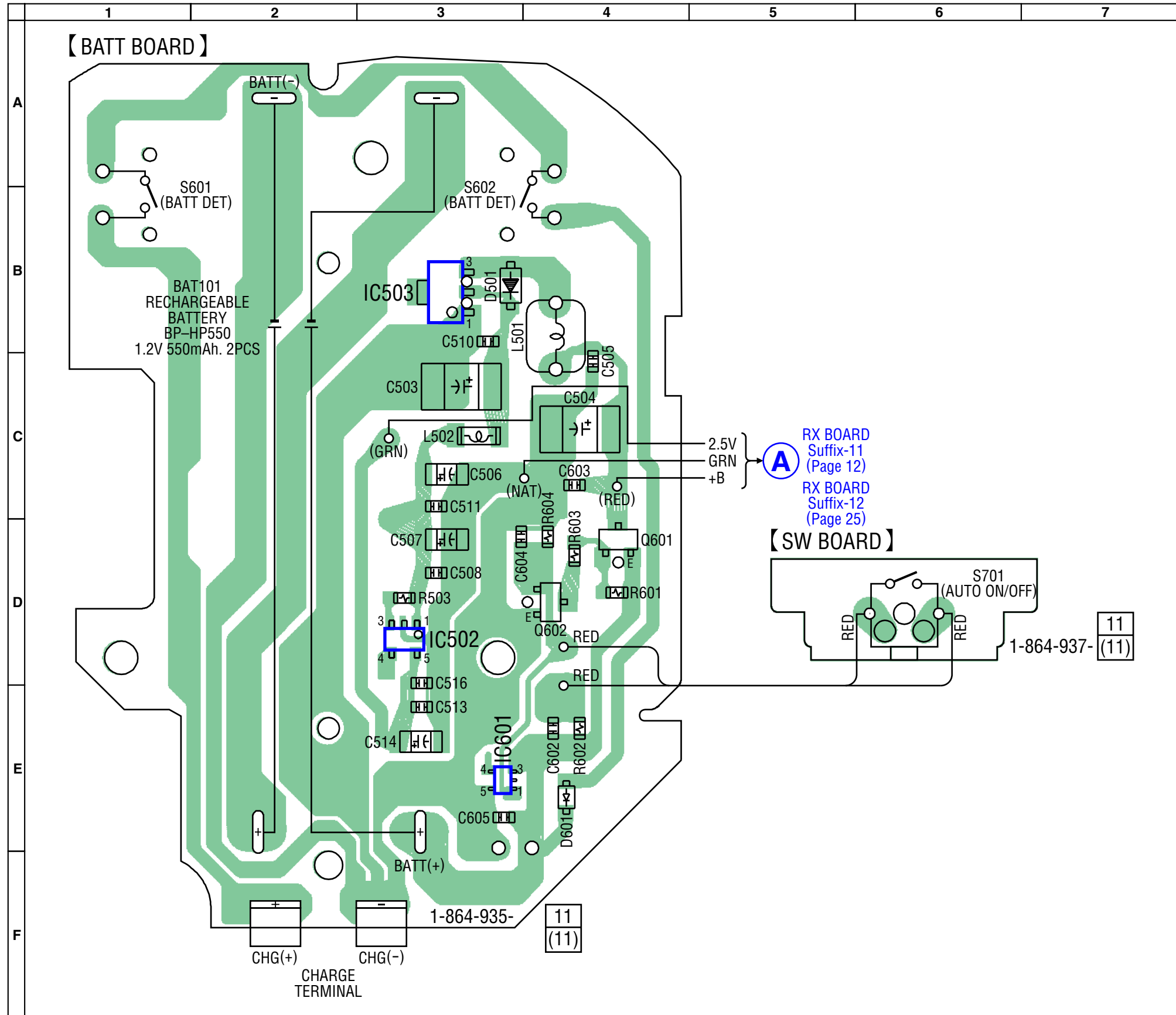
 : Uses unleaded solder.



• Semiconductor Location

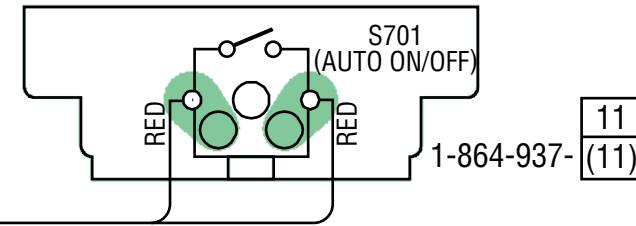
Ref. No.	Location
D101	A-3
D102	A-3
D103	A-2
D104	C-3
D401	C-9
D402	C-9
D403	D-9
D404	D-9
D405	B-9
D406	B-9
D407	A-9
D408	A-9
D502	D-3
IC001	B-3
IC101	B-2
IC102	A-3
IC201	C-2
IC301	D-3
IC302	D-2
IC501	D-4
Q101	C-3
Q301	D-3
Q302	D-2

3-4. PRINTED WIRING BOARD – POWER SECTION –  : Uses unleaded solder.



A RX BOARD
Suffix-11
(Page 12)
RX BOARD
Suffix-12
(Page 25)

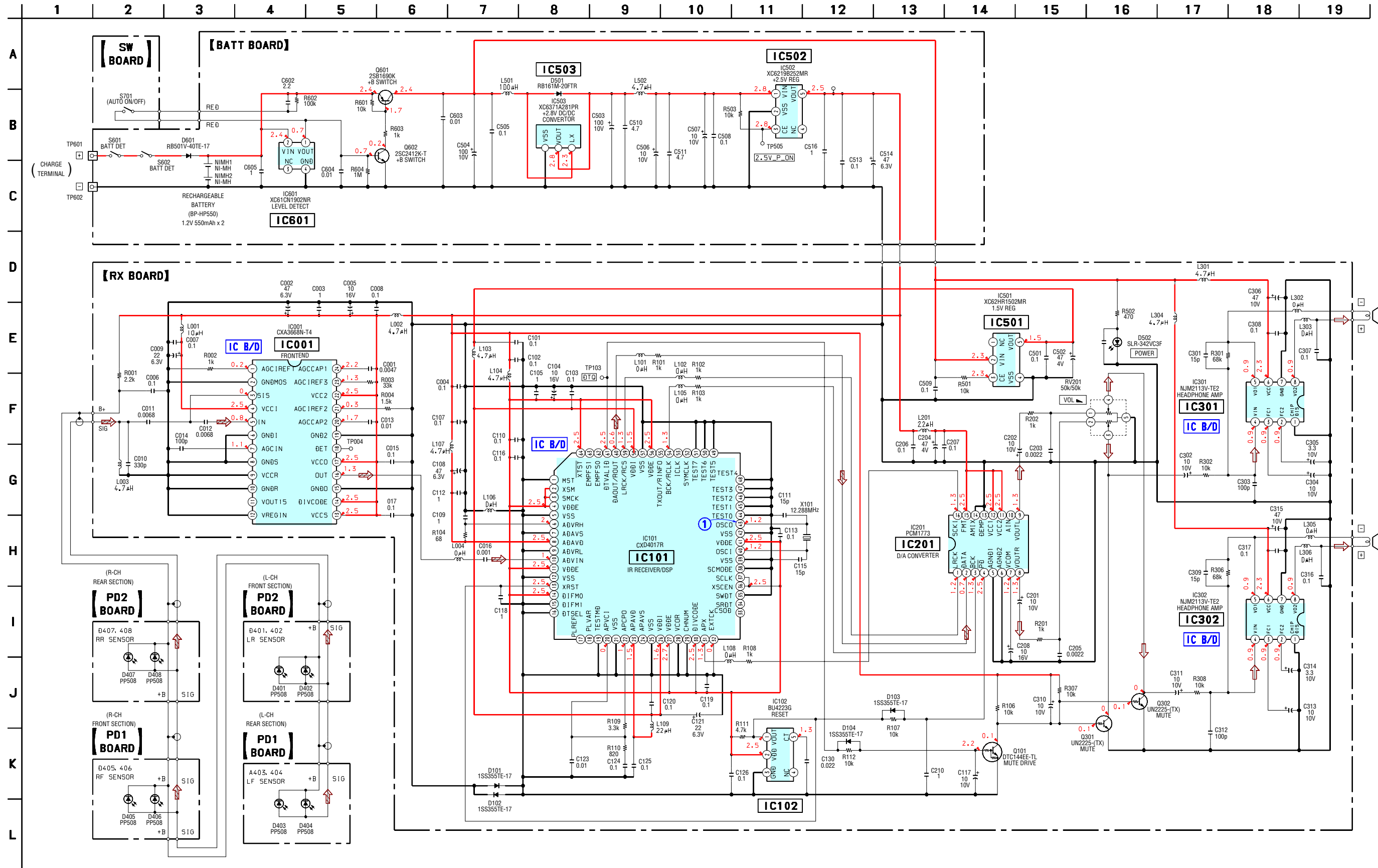
【SW BOARD】



• Semiconductor Location

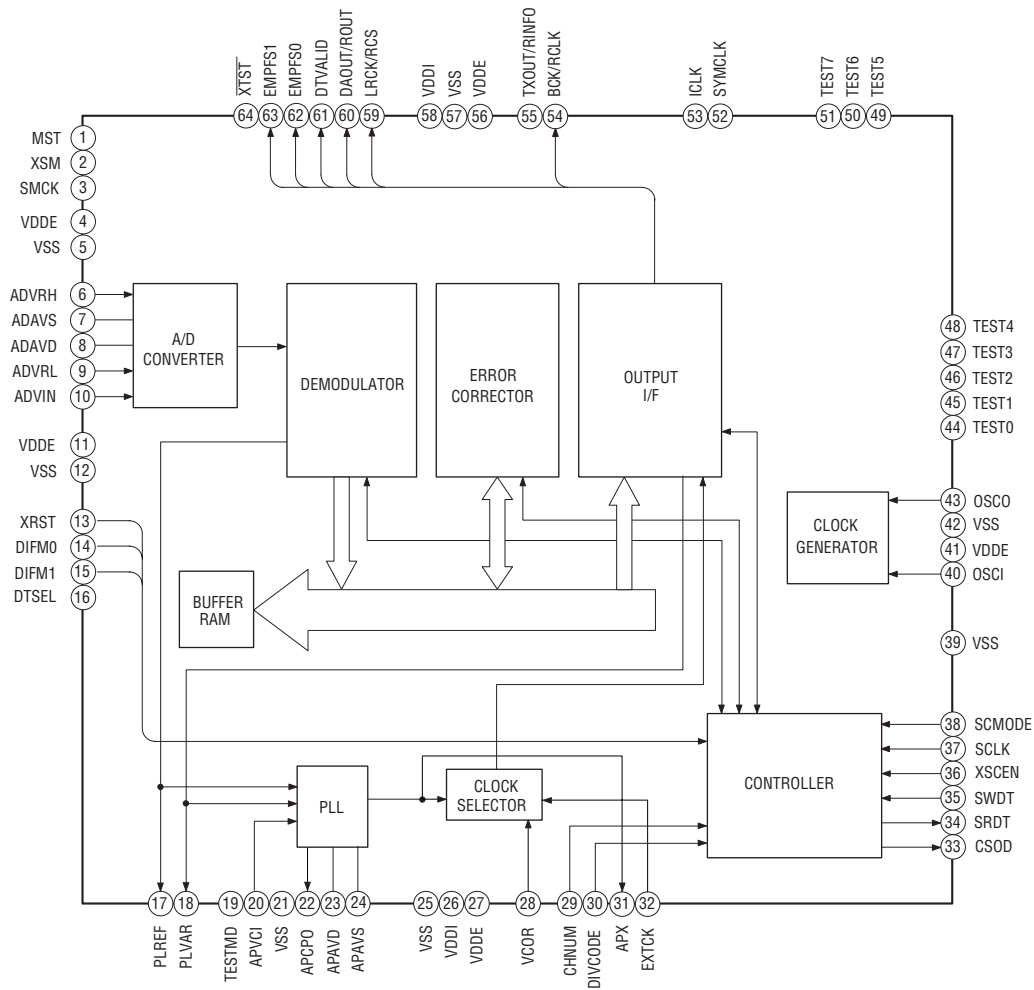
Ref. No.	Location
D501	B-3
D601	E-4
IC502	D-3
IC503	B-3
IC601	E-3
Q601	D-4
Q602	D-4

3-5. SCHEMATIC DIAGRAM – RECEIVER SECTION –



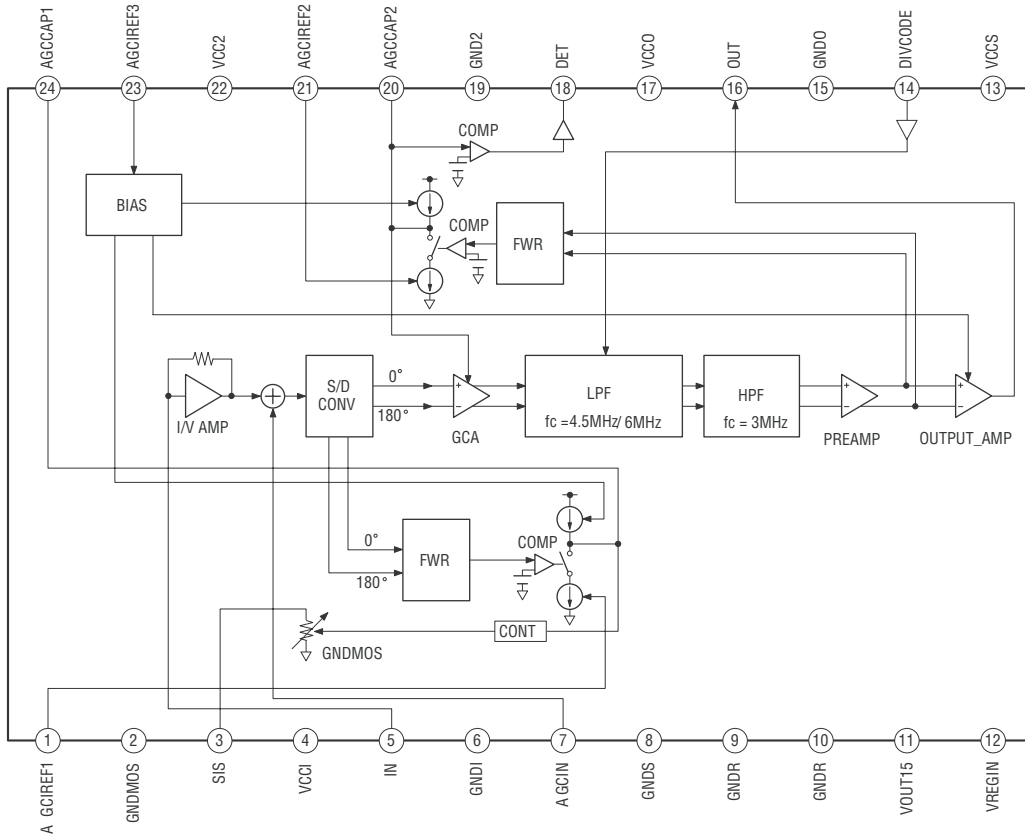
• IC BLOCK DIAGRAMS

IC101 CXD4017R

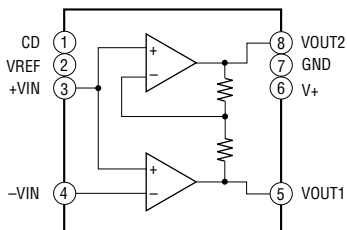


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IC001 CXA3668N-T4



IC301, 302 NJM2113V-TE2

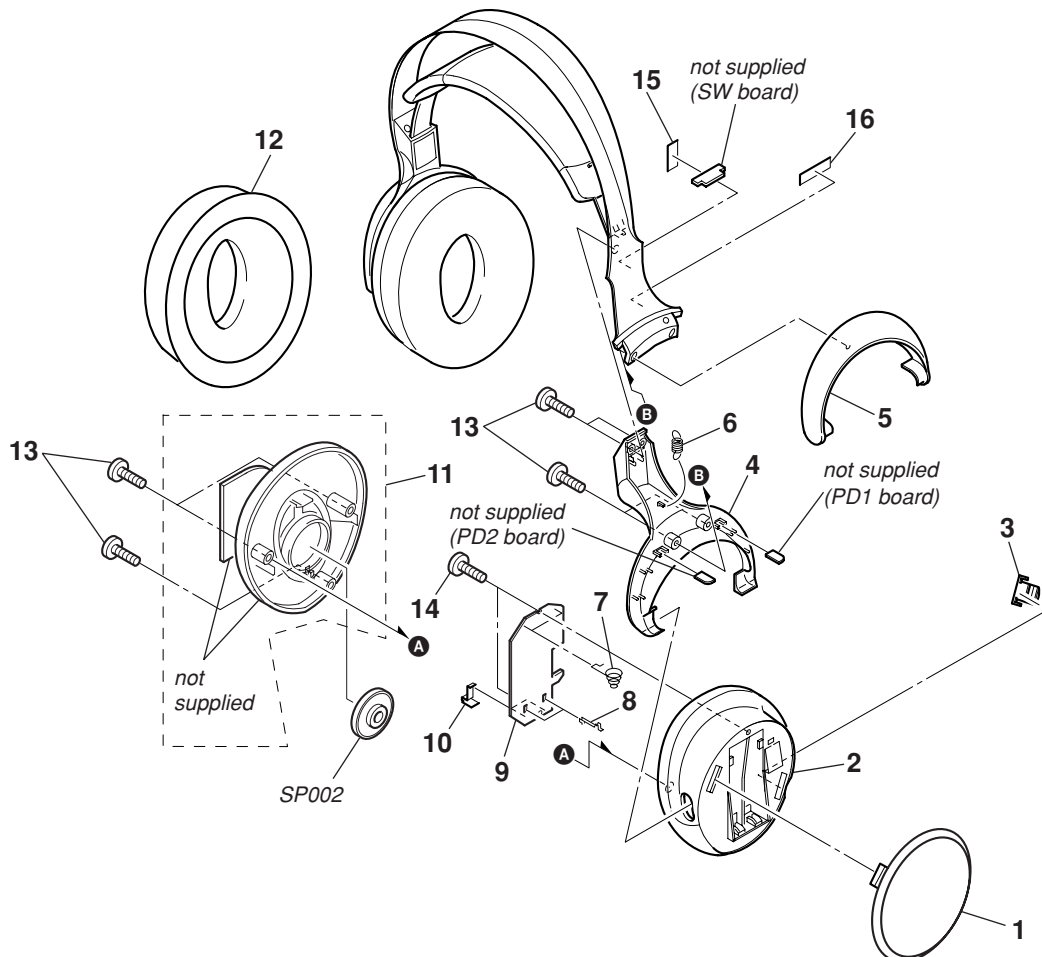


SECTION 4 EXPLODED VIEWS

NOTE:

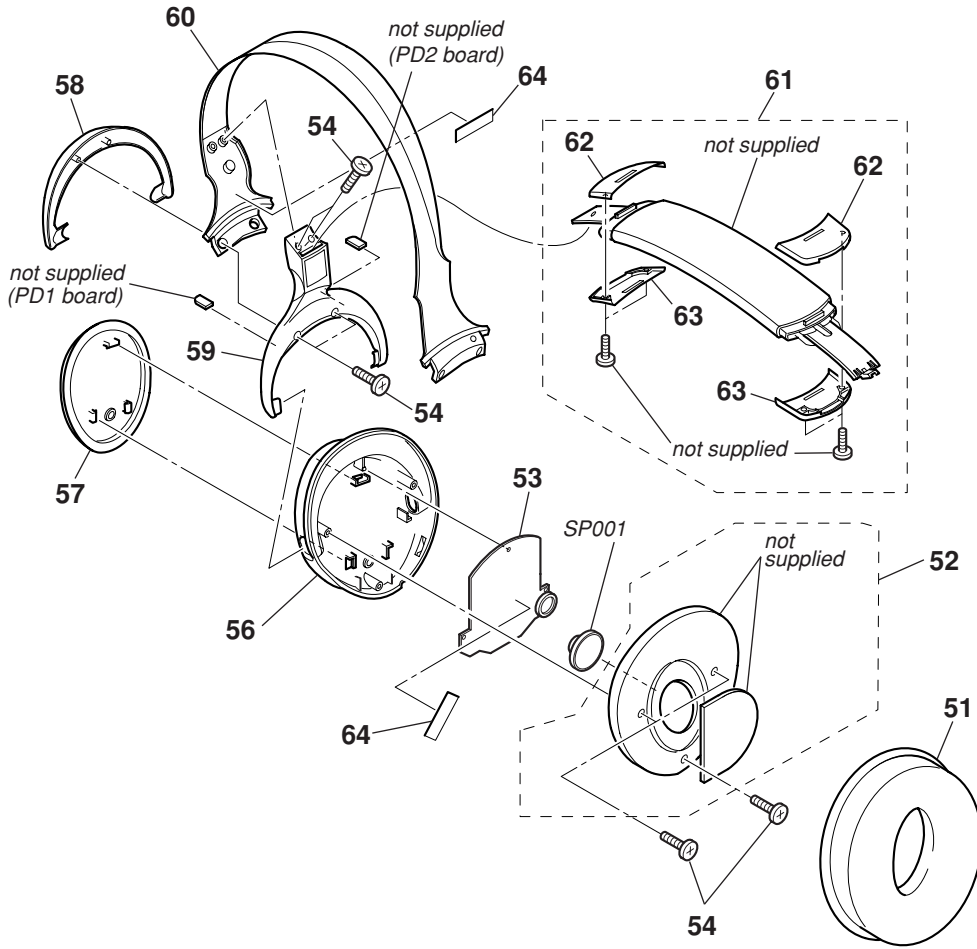
- -XX, -X mean standardized parts, so they may have some differences from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded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

4-1. HOUSING (L) ASSY SECTION



Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
1	X-2024-577-1	LID ASSY, BATTERY		10	3-246-152-02	TERMINAL, CHARGE	
2	3-246-142-01	HOUSING (L)		11	X-2024-574-1	PLATE (L) SUB ASSY, FRONT	
3	3-246-148-01	BUTTON		12	3-246-153-13	PAD (L), EAR	
4	2-547-961-01	LID (L), HANGER		13	3-253-143-01	SCREW (B2.6), (+)P TAPPING	
5	2-345-564-01	HANGER (L)		14	3-254-070-11	SCREW	
6	3-257-911-01	SPRING, TENSION		15	3-257-555-02	CUSHION (S/W)	
7	3-246-151-03	TERMINAL (-), BATTERY		16	3-252-068-01	CUSHION (B)	
8	3-246-150-02	TERMINAL (+), BATTERY		SP002	1-542-593-11	DRIVER (040F020)	
9	A-1083-889-A	BATT BOARD, COMPLETE					

4-2. HOUSING (R) ASSY SECTION



Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
51	3-246-154-13	PAD (R), EAR		60	3-246-137-01	BAND, HEAD	
52	X-2024-575-1	PLATE (R) SUB ASSY, FRONT		61	X-3383-905-2	CUSHION ASSY, HEAD	
53	A-1083-890-A	RX BOARD, COMPLETE		62	4-966-791-01	STOPPER (UPPER)	
54	3-253-143-01	SCREW (B2.6), (+)P TAPPING		63	4-966-792-01	STOPPER, (LOWER)	
56	3-257-778-01	HOUSING (R)		64	3-252-068-01	CUSHION (B)	
57	X-2024-573-1	CAP (R) ASSY, HOUSING		SP001	1-542-593-11	DRIVER (040F020)	
58	2-345-565-01	HANGER (R)					
59	3-246-141-71	LID (R), HANGER					

SECTION 5
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, -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

- RESISTORS
All resistors are in ohms.
METAL: metal-film resistor
METAL OXIDE: Metal Oxide-film resistor
F: nonflammable
- COILS
uH: μH
- SEMICONDUCTORS
In each case, u: μ, for example:
uA...: μA... , uPA... , μPA... ,
uPB... , μPB... , uPC... , μPC... ,
uPD... , μPD...

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

Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
	A-1083-889-A	BATT BOARD, COMPLETE *****				< SWITCH >	
		< CAPACITOR >		S601	1-786-130-11	SWITCH, PUSH (1 KEY) (BATT DET)	
				S602	1-762-917-11	SWITCH, DETECTION (SMALL TYPE)	(BATT DET)

C503	1-135-856-91	TANTAL. CHIP	100uF 20% 10V			PD1 BOARD (L-CH REAR)	
C504	1-135-856-91	TANTAL. CHIP	100uF 20% 10V			*****	
C505	1-107-826-11	CERAMIC CHIP	0.1uF 10% 16V			< DIODE >	
C506	1-104-851-11	TANTAL. CHIP	10uF 20% 10V				
C507	1-104-851-11	TANTAL. CHIP	10uF 20% 10V				
C508	1-107-826-11	CERAMIC CHIP	0.1uF 10% 16V				
C510	1-100-507-91	CERAMIC CHIP	4.7uF 20% 6.3V	D401	8-719-058-49	DIODE PP508	
C511	1-100-507-91	CERAMIC CHIP	4.7uF 20% 6.3V	D402	8-719-058-49	DIODE PP508	
C513	1-107-826-11	CERAMIC CHIP	0.1uF 10% 16V	*****			
C514	1-110-569-11	TANTAL. CHIP	47uF 20% 6.3V			PD1 BOARD (R-CH FRONT)	
C516	1-125-837-91	CERAMIC CHIP	1uF 10% 6.3V			*****	
C602	1-165-884-91	CERAMIC CHIP	2.2uF 10% 6.3V			< DIODE >	
C603	1-162-970-11	CERAMIC CHIP	0.01uF 10% 25V				
C604	1-162-970-11	CERAMIC CHIP	0.01uF 10% 25V	D405	8-719-058-49	DIODE PP508	
C605	1-125-837-91	CERAMIC CHIP	1uF 10% 6.3V	D406	8-719-058-49	DIODE PP508	
		< DIODE >		*****			
D501	6-500-220-11	DIODE RB161M-20FTR				PD2 BOARD (L-CH FRONT)	
D601	8-719-058-24	DIODE RB501V-40TE-17				*****	
		< IC >				< DIODE >	
IC502	6-705-692-01	IC XC6219B252MR		D403	8-719-058-49	DIODE PP508	
IC503	6-707-196-01	IC XC6371A281PR		D404	8-719-058-49	DIODE PP508	
IC601	6-702-083-01	IC XC61CN1902NR		*****			
		< COIL >			1-864-939-11	PD2 BOARD (R-CH REAR)	
L501	1-410-645-31	INDUCTOR	100uH			*****	
L502	1-469-524-91	INDUCTOR	4.7uH			< DIODE >	
		< TRANSISTOR >		D407	8-719-058-49	DIODE PP508	
Q601	6-550-363-01	TRANSISTOR 2SB1690KT146		D408	8-719-058-49	DIODE PP508	
Q602	8-729-901-81	TRANSISTOR 2SC2412K-T-146-R		*****			
		< RESISTOR >			A-1083-890-A	RX BOARD, COMPLETE	
R503	1-216-833-11	METAL CHIP	10K 5% 1/10W			*****	
R601	1-216-833-11	METAL CHIP	10K 5% 1/10W			< CAPACITOR >	
R602	1-216-845-11	METAL CHIP	100K 5% 1/10W	C001	1-162-968-11	CERAMIC CHIP	0.0047uF 10% 50V
R603	1-216-821-11	METAL CHIP	1K 5% 1/10W	C002	1-126-205-11	ELECT CHIP	47uF 20% 6.3V
R604	1-216-857-11	METAL CHIP	1M 5% 1/10W	C003	1-125-837-91	CERAMIC CHIP	1uF 10% 6.3V
				C004	1-107-826-11	CERAMIC CHIP	0.1uF 10% 16V

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RX

Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
C005	1-124-779-00	ELECT CHIP	10uF 20% 16V	C312	1-162-927-11	CERAMIC CHIP	100PF 5% 50V
C006	1-107-826-11	CERAMIC CHIP	0.1uF 10% 16V	C313	1-104-851-11	TANTAL. CHIP	10uF 20% 10V
C007	1-107-826-11	CERAMIC CHIP	0.1uF 10% 16V	C314	1-104-912-11	TANTAL. CHIP	3.3uF 20% 16V
C008	1-107-826-11	CERAMIC CHIP	0.1uF 10% 16V	C315	1-137-934-91	TANTAL. CHIP	47uF 20% 10V
C009	1-124-778-00	ELECT CHIP	22uF 20% 6.3V	C316	1-107-826-11	CERAMIC CHIP	0.1uF 10% 16V
C010	1-162-959-11	CERAMIC CHIP	330PF 5% 50V	C317	1-107-826-11	CERAMIC CHIP	0.1uF 10% 16V
C011	1-162-969-11	CERAMIC CHIP	0.0068uF 10% 25V	C501	1-107-826-11	CERAMIC CHIP	0.1uF 10% 16V
C012	1-162-969-11	CERAMIC CHIP	0.0068uF 10% 25V	C502	1-110-569-21	TANTAL. CHIP	47uF 4V
C013	1-162-970-11	CERAMIC CHIP	0.01uF 10% 25V	C509	1-107-826-11	CERAMIC CHIP	0.1uF 10% 16V
C014	1-162-927-11	CERAMIC CHIP	100PF 5% 50V	< DIODE >			
C015	1-107-826-11	CERAMIC CHIP	0.1uF 10% 16V	D101	8-719-988-61	DIODE 1SS355TE-17	
C016	1-162-964-11	CERAMIC CHIP	0.001uF 10% 50V	D102	8-719-988-61	DIODE 1SS355TE-17	
C017	1-107-826-11	CERAMIC CHIP	0.1uF 10% 16V	D103	8-719-988-61	DIODE 1SS355TE-17	
C101	1-107-826-11	CERAMIC CHIP	0.1uF 10% 16V	D104	8-719-988-61	DIODE 1SS355TE-17	
C102	1-107-826-11	CERAMIC CHIP	0.1uF 10% 16V	D502	8-719-059-98	DIODE SLR-342VC3F (POWER)	
C103	1-107-826-11	CERAMIC CHIP	0.1uF 10% 16V	< IC >			
C104	1-124-779-00	ELECT CHIP	10uF 20% 16V	IC001	8-753-208-23	IC CXA3668N-T4	
C105	1-125-837-91	CERAMIC CHIP	1uF 10% 6.3V	IC101	8-752-425-06	IC CXD4017R	
C107	1-107-826-11	CERAMIC CHIP	0.1uF 10% 16V	IC102	6-707-193-01	IC BU4223G-TR	
C108	1-126-205-11	ELECT CHIP	47uF 20% 6.3V	IC201	6-707-192-01	IC PCM1773PWR	
C109	1-125-837-91	CERAMIC CHIP	1uF 10% 6.3V	IC301	8-759-347-33	IC NJM2113V-TE2	
C110	1-107-826-11	CERAMIC CHIP	0.1uF 10% 16V	IC302	8-759-347-33	IC NJM2113V-TE2	
C111	1-162-917-11	CERAMIC CHIP	15PF 5% 50V	IC501	6-701-851-01	IC XC62HR1502MR	
C112	1-125-837-91	CERAMIC CHIP	1uF 10% 6.3V	< COIL >			
C113	1-107-826-11	CERAMIC CHIP	0.1uF 10% 16V	L001	1-469-525-91	INDUCTOR 10uH	
C115	1-162-917-11	CERAMIC CHIP	15PF 5% 50V	L002	1-469-524-91	INDUCTOR 4.7uH	
C116	1-107-826-11	CERAMIC CHIP	0.1uF 10% 16V	L003	1-412-002-31	INDUCTOR 4.7uH	
C117	1-104-851-11	TANTAL. CHIP	10uF 20% 10V	L004	1-414-760-21	INDUCTOR, FERRITE BEAD	
C118	1-125-837-91	CERAMIC CHIP	1uF 10% 6.3V	L101	1-414-760-21	INDUCTOR, FERRITE BEAD	
C119	1-107-826-11	CERAMIC CHIP	0.1uF 10% 16V	L102	1-414-760-21	INDUCTOR, FERRITE BEAD	
C120	1-107-826-11	CERAMIC CHIP	0.1uF 10% 16V	L103	1-469-524-91	INDUCTOR 4.7uH	
C121	1-124-778-00	ELECT CHIP	22uF 20% 6.3V	L104	1-469-524-91	INDUCTOR 4.7uH	
C123	1-162-970-11	CERAMIC CHIP	0.01uF 10% 25V	L105	1-414-760-21	INDUCTOR, FERRITE BEAD	
C124	1-107-826-11	CERAMIC CHIP	0.1uF 10% 16V	L106	1-414-594-11	INDUCTOR, FERRITE BEAD	
C125	1-107-826-11	CERAMIC CHIP	0.1uF 10% 16V	L107	1-469-524-91	INDUCTOR 4.7uH	
C126	1-107-826-11	CERAMIC CHIP	0.1uF 10% 16V	L108	1-414-760-21	INDUCTOR, FERRITE BEAD	
C130	1-164-227-11	CERAMIC CHIP	0.022uF 10% 25V	L109	1-469-526-91	INDUCTOR 22uH	
C201	1-104-851-11	TANTAL. CHIP	10uF 20% 10V	L201	1-469-526-91	INDUCTOR 22uH	
C202	1-104-851-11	TANTAL. CHIP	10uF 20% 10V	L301	1-469-524-91	INDUCTOR 4.7uH	
C203	1-162-966-11	CERAMIC CHIP	0.0022uF 10% 50V	L302	1-414-760-21	INDUCTOR, FERRITE BEAD	
C204	1-126-208-21	ELECT CHIP	47uF 20% 4V	L303	1-414-760-21	INDUCTOR, FERRITE BEAD	
C205	1-162-966-11	CERAMIC CHIP	0.0022uF 10% 50V	L304	1-469-524-91	INDUCTOR 4.7uH	
C206	1-107-826-11	CERAMIC CHIP	0.1uF 10% 16V	L305	1-414-760-21	INDUCTOR, FERRITE BEAD	
C207	1-107-826-11	CERAMIC CHIP	0.1uF 10% 16V	L306	1-414-760-21	INDUCTOR, FERRITE BEAD	
C208	1-124-779-00	ELECT CHIP	10uF 20% 16V	< TRANSISTOR >			
C210	1-125-837-91	CERAMIC CHIP	1uF 10% 6.3V	Q101	8-729-928-81	TRANSISTOR DTC144EE	
C301	1-162-917-11	CERAMIC CHIP	15PF 5% 50V	Q301	8-729-043-69	TRANSISTOR UN2225-(TX).S0	
C302	1-104-851-11	TANTAL. CHIP	10uF 20% 10V	Q302	8-729-043-69	TRANSISTOR UN2225-(TX).S0	
C303	1-162-927-11	CERAMIC CHIP	100PF 5% 50V	< RESISTOR >			
C304	1-104-851-11	TANTAL. CHIP	10uF 20% 10V	R001	1-216-825-11	METAL CHIP 2.2K 5% 1/10W	
C305	1-104-912-11	TANTAL. CHIP	3.3uF 20% 16V	R002	1-216-821-11	METAL CHIP 1K 5% 1/10W	
C306	1-137-934-91	TANTAL. CHIP	47uF 20% 10V	R003	1-216-839-11	METAL CHIP 33K 5% 1/10W	
C307	1-107-826-11	CERAMIC CHIP	0.1uF 10% 16V	R004	1-216-823-11	METAL CHIP 1.5K 5% 1/10W	
C308	1-107-826-11	CERAMIC CHIP	0.1uF 10% 16V	R101	1-216-821-11	METAL CHIP 1K 5% 1/10W	
C309	1-162-917-11	CERAMIC CHIP	15PF 5% 50V				
C310	1-104-851-11	TANTAL. CHIP	10uF 20% 10V				
C311	1-104-851-11	TANTAL. CHIP	10uF 20% 10V				

Ref. No.	Part No.	Description	Remarks
R102	1-216-821-11	METAL CHIP 1K	5% 1/10W
R103	1-216-821-11	METAL CHIP 1K	5% 1/10W
R104	1-218-664-11	METAL CHIP 68	0.5% 1/10W
R106	1-216-833-11	METAL CHIP 10K	5% 1/10W
R107	1-216-833-11	METAL CHIP 10K	5% 1/10W
R108	1-216-821-11	METAL CHIP 1K	5% 1/10W
R109	1-216-827-11	METAL CHIP 3.3K	5% 1/10W
R110	1-216-820-11	METAL CHIP 820	5% 1/10W
R111	1-216-829-11	METAL CHIP 4.7K	5% 1/10W
R112	1-216-833-11	METAL CHIP 10K	5% 1/10W
R201	1-216-821-11	METAL CHIP 1K	5% 1/10W
R202	1-216-821-11	METAL CHIP 1K	5% 1/10W
R301	1-216-843-11	METAL CHIP 68K	5% 1/10W
R302	1-216-833-11	METAL CHIP 10K	5% 1/10W
R306	1-216-843-11	METAL CHIP 68K	5% 1/10W
R307	1-216-833-11	METAL CHIP 10K	5% 1/10W
R308	1-216-833-11	METAL CHIP 10K	5% 1/10W
R501	1-216-833-11	METAL CHIP 10K	5% 1/10W
R502	1-216-817-11	METAL CHIP 470	5% 1/10W
< VARIABLE RESISTOR >			
RV201	1-223-517-11	RES, VAR, CARBON 50K/50K (VOL ▲)	
< VIBRATOR >			
X101	1-795-485-21	VIBRATOR, CRYSTAL (SMD) (12.288MHz)	

RX-SW BOARD			

< SWITCH >			
S701	1-762-003-11	SWITCH, PUSH (AUTO ON/OFF)	

MISCELLANEOUS			

SP001	1-542-593-11	DRIVER (040F020)	
SP002	1-542-593-11	DRIVER (040F020)	

ACCESSORIES			

1-756-316-32	BATTERY, NICKEL.HYDROGEN (BP-HP550)		
2-345-751-11	MANUAL, INSTRUCTION (ENGLISH, KOREAN)		

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MDR-IF4000

SONY[®]

SERVICE MANUAL

Ver. 1.1

*US Model
Canadian Model
AEP Model
E Model*

SUPPLEMENT - 1

File this Supplement with the Service Manual.

Subject : SUFFIX CHANGE OF RX BOARD

MDR-IF4000

• CHANGE OF RX BOARD

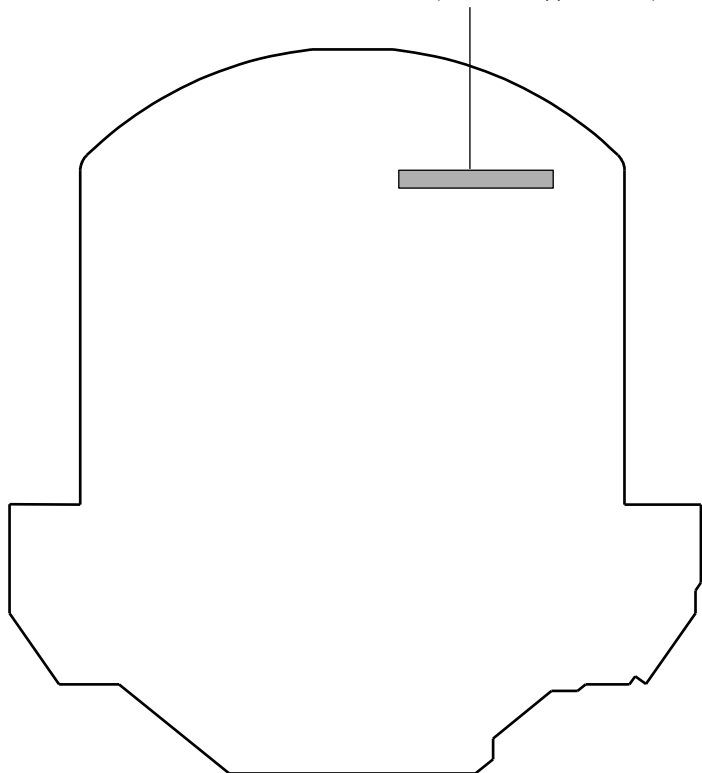
The RX board was changed into suffix-12.

Printed wiring board and schematic diagram of new type, and changed parts list are described in this Supplement-1. Refer to original service manual (9-879-301-02) previously issued for the other information.

NEW TYPE IDENTIFICATION

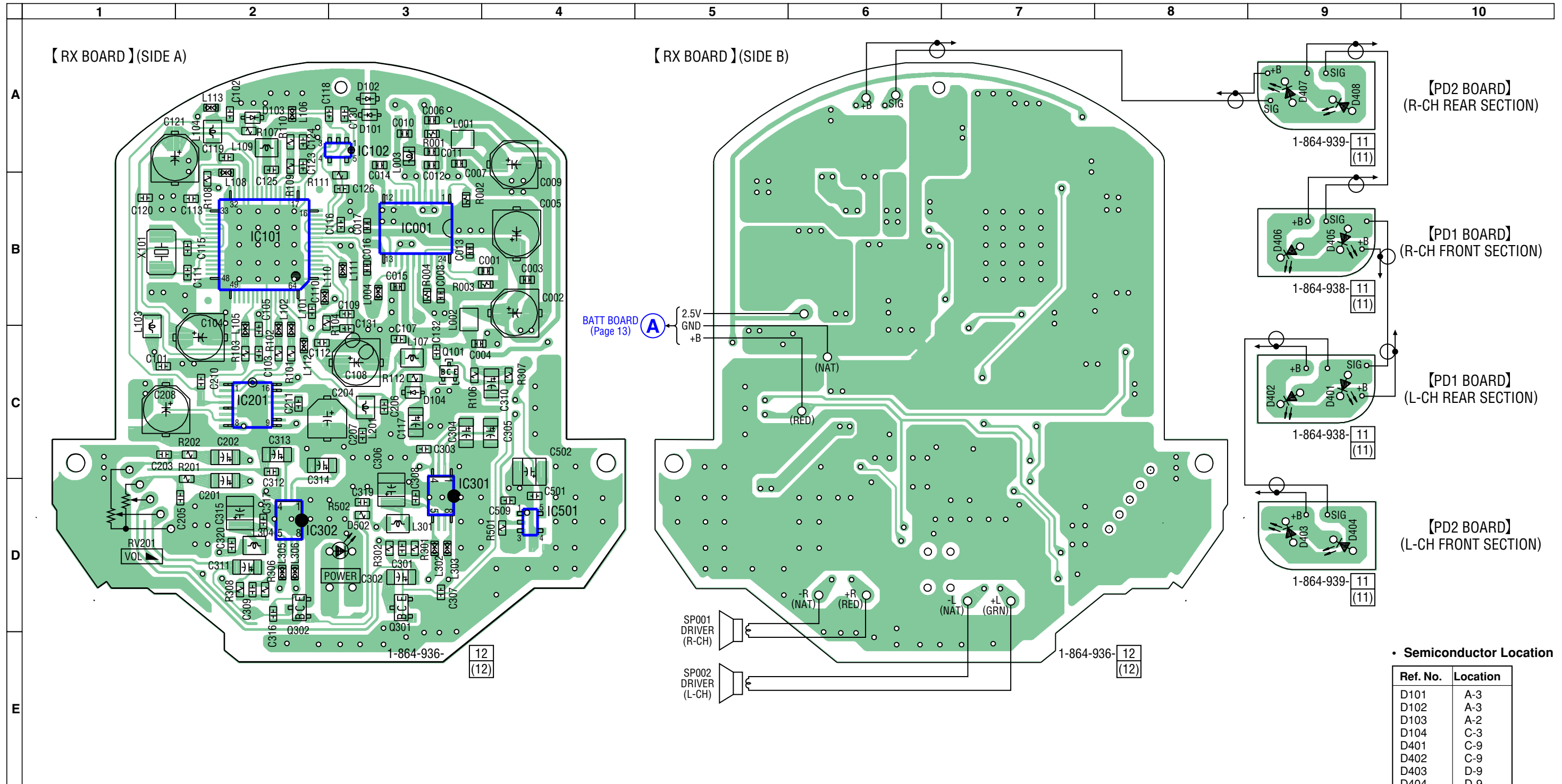
[RX BOARD] (SIDE B)

1-864-936-11 (Refer to original service manual)
1-864-936-12 (Refer to supplement-1)



PRINTED WIRING BOARD – RECEIVER SECTION – **Suffix-12**

 : Uses unleaded solder.

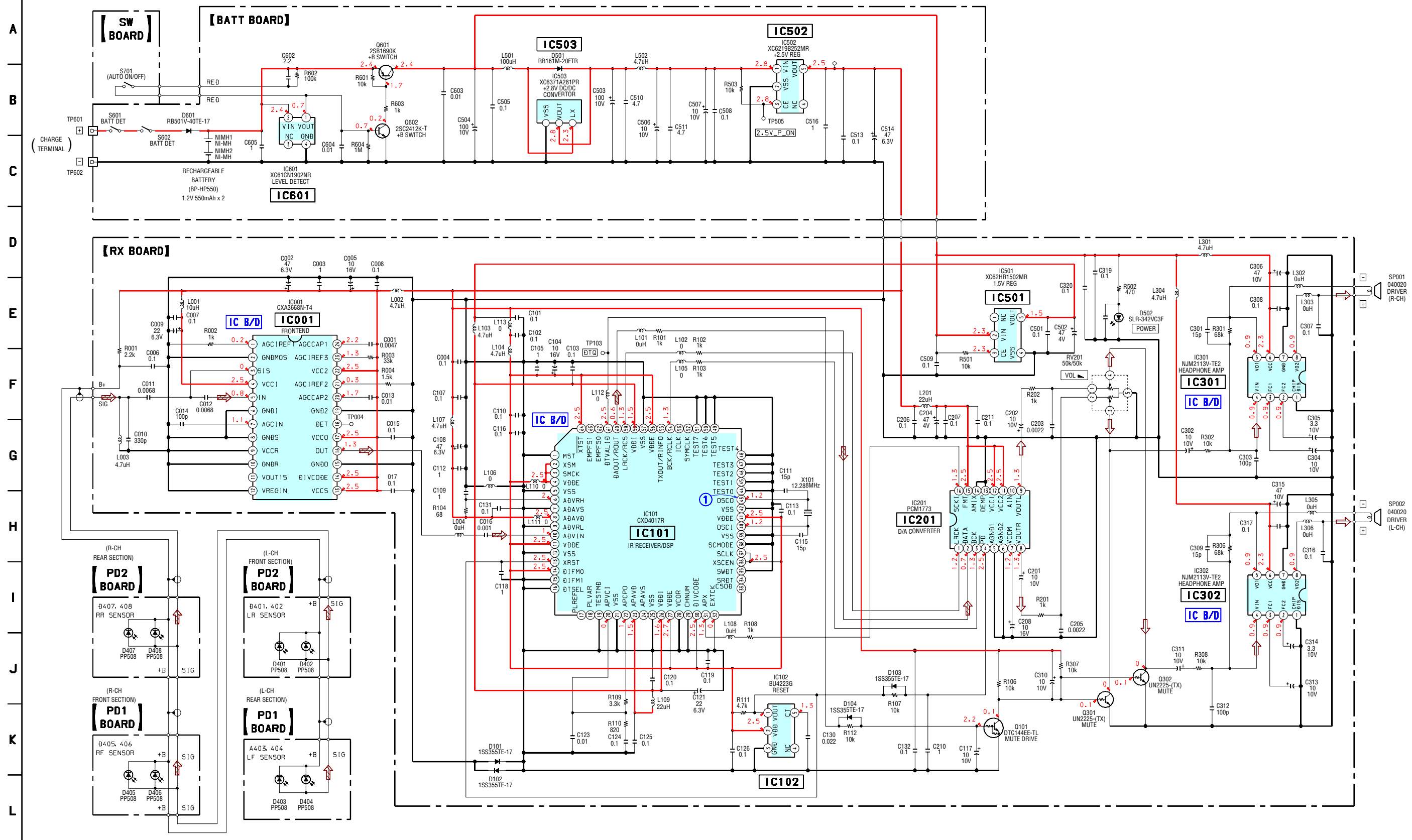


• Semiconductor Location

Ref. No.	Location
D101	A-3
D102	A-3
D103	A-2
D104	C-3
D401	C-9
D402	C-9
D403	D-9
D404	D-9
D405	B-9
D406	B-9
D407	A-9
D408	A-9
D502	D-3
IC001	B-3
IC101	B-2
IC102	A-3
IC201	C-2
IC301	D-3
IC302	D-2
IC501	D-4
Q101	C-3
Q301	D-3
Q302	D-2

SCHEMATIC DIAGRAM – RECEIVER SECTION – Suffix-12

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19



ELECTRICAL PARTS LIST

RX: Suffix-12

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, -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: μ F

- RESISTORS
All resistors are in ohms.
METAL: metal-film resistor
METAL OXIDE: Metal Oxide-film resistor
F: nonflammable
- 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...
- Abbreviation
KR : Korean model

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

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

Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
	A-1083-890-A	RX BOARD, COMPLETE *****		C130	1-164-227-11	CERAMIC CHIP 0.022uF 10%	25V
		< CAPACITOR >		C131	1-107-826-11	CERAMIC CHIP 0.1uF 10%	16V
C001	1-162-968-11	CERAMIC CHIP 0.0047uF 10%	50V	C132	1-107-826-11	CERAMIC CHIP 0.1uF 10%	16V
C002	1-126-205-11	ELECT CHIP 47uF 20%	6.3V	C201	1-104-851-11	TANTAL. CHIP 10uF 20%	10V
C003	1-125-837-91	CERAMIC CHIP 1uF 10%	6.3V	C202	1-104-851-11	TANTAL. CHIP 10uF 20%	10V
C004	1-107-826-11	CERAMIC CHIP 0.1uF 10%	16V	C203	1-162-966-11	CERAMIC CHIP 0.0022uF 10%	50V
C005	1-124-779-00	ELECT CHIP 10uF 20%	16V	C204	1-126-208-21	ELECT CHIP 47uF 20%	4V
C006	1-107-826-11	CERAMIC CHIP 0.1uF 10%	16V	C205	1-162-966-11	CERAMIC CHIP 0.0022uF 10%	50V
C007	1-107-826-11	CERAMIC CHIP 0.1uF 10%	16V	C206	1-107-826-11	CERAMIC CHIP 0.1uF 10%	16V
C008	1-107-826-11	CERAMIC CHIP 0.1uF 10%	16V	C207	1-107-826-11	CERAMIC CHIP 0.1uF 10%	16V
C009	1-124-778-00	ELECT CHIP 22uF 20%	6.3V	C208	1-124-779-00	ELECT CHIP 10uF 20%	16V
C010	1-162-959-11	CERAMIC CHIP 330PF 5%	50V	C210	1-125-837-91	CERAMIC CHIP 1uF 10%	6.3V
C011	1-162-969-11	CERAMIC CHIP 0.0068uF 10%	25V	C211	1-107-826-11	CERAMIC CHIP 0.1uF 10%	16V
C012	1-162-969-11	CERAMIC CHIP 0.0068uF 10%	25V	C301	1-162-917-11	CERAMIC CHIP 15PF 5%	50V
C013	1-162-970-11	CERAMIC CHIP 0.01uF 10%	25V	C302	1-104-851-11	TANTAL. CHIP 10uF 20%	10V
C014	1-162-927-11	CERAMIC CHIP 100PF 5%	50V	C303	1-162-927-11	CERAMIC CHIP 100PF 5%	50V
C015	1-107-826-11	CERAMIC CHIP 0.1uF 10%	16V	C304	1-104-851-11	TANTAL. CHIP 10uF 20%	10V
C016	1-162-964-11	CERAMIC CHIP 0.001uF 10%	50V	C305	1-104-912-11	TANTAL. CHIP 3.3uF 20%	16V
C017	1-107-826-11	CERAMIC CHIP 0.1uF 10%	16V	C306	1-137-934-91	TANTAL. CHIP 47uF 20%	10V
C101	1-107-826-11	CERAMIC CHIP 0.1uF 10%	16V	C307	1-107-826-11	CERAMIC CHIP 0.1uF 10%	16V
C102	1-107-826-11	CERAMIC CHIP 0.1uF 10%	16V	C308	1-107-826-11	CERAMIC CHIP 0.1uF 10%	16V
C103	1-107-826-11	CERAMIC CHIP 0.1uF 10%	16V	C309	1-162-917-11	CERAMIC CHIP 15PF 5%	50V
C104	1-124-779-00	ELECT CHIP 10uF 20%	16V	C310	1-104-851-11	TANTAL. CHIP 10uF 20%	10V
C105	1-125-837-91	CERAMIC CHIP 1uF 10%	6.3V	C311	1-104-851-11	TANTAL. CHIP 10uF 20%	10V
C107	1-107-826-11	CERAMIC CHIP 0.1uF 10%	16V	C312	1-162-927-11	CERAMIC CHIP 100PF 5%	50V
C108	1-126-205-11	ELECT CHIP 47uF 20%	6.3V	C313	1-104-851-11	TANTAL. CHIP 10uF 20%	10V
C109	1-125-837-91	CERAMIC CHIP 1uF 10%	6.3V	C314	1-104-912-11	TANTAL. CHIP 3.3uF 20%	16V
C110	1-107-826-11	CERAMIC CHIP 0.1uF 10%	16V	C315	1-137-934-91	TANTAL. CHIP 47uF 20%	10V
C111	1-162-917-11	CERAMIC CHIP 15PF 5%	50V	C316	1-107-826-11	CERAMIC CHIP 0.1uF 10%	16V
C112	1-125-837-91	CERAMIC CHIP 1uF 10%	6.3V	C317	1-107-826-11	CERAMIC CHIP 0.1uF 10%	16V
C113	1-107-826-11	CERAMIC CHIP 0.1uF 10%	16V	C319	1-107-826-11	CERAMIC CHIP 0.1uF 10%	16V
C115	1-162-917-11	CERAMIC CHIP 15PF 5%	50V	C320	1-107-826-11	CERAMIC CHIP 0.1uF 10%	16V
C116	1-107-826-11	CERAMIC CHIP 0.1uF 10%	16V	C501	1-107-826-11	CERAMIC CHIP 0.1uF 10%	16V
C117	1-104-851-11	TANTAL. CHIP 10uF 20%	10V	C502	1-110-569-21	TANTAL. CHIP 0PF	0V
C118	1-125-837-91	CERAMIC CHIP 1uF 10%	6.3V	C509	1-107-826-11	CERAMIC CHIP 0.1uF 10%	16V
C119	1-107-826-11	CERAMIC CHIP 0.1uF 10%	16V			< DIODE >	
C120	1-107-826-11	CERAMIC CHIP 0.1uF 10%	16V	D101	8-719-988-61	DIODE 1SS355TE-17	
C121	1-124-778-00	ELECT CHIP 22uF 20%	6.3V	D102	8-719-988-61	DIODE 1SS355TE-17	
C123	1-162-970-11	CERAMIC CHIP 0.01uF 10%	25V	D103	8-719-988-61	DIODE 1SS355TE-17	
C124	1-107-826-11	CERAMIC CHIP 0.1uF 10%	16V	D104	8-719-988-61	DIODE 1SS355TE-17	
C125	1-107-826-11	CERAMIC CHIP 0.1uF 10%	16V	D502	8-719-059-98	DIODE SLR-342VC3F (POWER)	
C126	1-107-826-11	CERAMIC CHIP 0.1uF 10%	16V				

MDR-IF4000

RX: Suffix-12

Ref. No.	Part No.	Description	Remarks
< IC >			
IC001	8-753-208-23	IC CXA3668N-T4	
IC101	8-752-425-06	IC CXD4017R	
IC102	6-707-193-01	IC BU4223G-TR	
IC201	6-707-192-01	IC PCM1773PWR	
IC301	8-759-347-33	IC NJM2113V-TE2	
IC302	8-759-347-33	IC NJM2113V-TE2	
IC501	6-701-851-01	IC XC62HR1502MR	
< COIL >			
L001	1-469-525-91	INDUCTOR 10uH	
L002	1-469-524-91	INDUCTOR 4.7uH	
L003	1-412-002-31	INDUCTOR 4.7uH	
L004	1-414-760-21	INDUCTOR, FERRITE BEAD	
L101	1-414-760-21	INDUCTOR, FERRITE BEAD	
L102	1-414-760-21	INDUCTOR, FERRITE BEAD	
L103	1-469-524-91	INDUCTOR 4.7uH	
L104	1-469-524-91	INDUCTOR 4.7uH	
L105	1-414-760-21	INDUCTOR, FERRITE BEAD	
L106	1-414-594-11	INDUCTOR, FERRITE BEAD	
L107	1-469-524-91	INDUCTOR 4.7uH	
L108	1-414-760-21	INDUCTOR, FERRITE BEAD	
L109	1-469-526-91	INDUCTOR 22uH	
L110	1-414-760-21	INDUCTOR, FERRITE BEAD	
L111	1-414-760-21	INDUCTOR, FERRITE BEAD	
L112	1-414-760-21	INDUCTOR, FERRITE BEAD	
L113	1-414-760-21	INDUCTOR, FERRITE BEAD	
L201	1-469-526-91	INDUCTOR 22uH	
L301	1-469-524-91	INDUCTOR 4.7uH	
L302	1-414-760-21	INDUCTOR, FERRITE BEAD	
L303	1-414-760-21	INDUCTOR, FERRITE BEAD	
L304	1-469-524-91	INDUCTOR 4.7uH	
L305	1-414-760-21	INDUCTOR, FERRITE BEAD	
L306	1-414-760-21	INDUCTOR, FERRITE BEAD	
< TRANSISTOR >			
Q101	8-729-928-81	TRANSISTOR DTC144EE	
Q301	8-729-043-69	TRANSISTOR UN2225-(TX).S0	
Q302	8-729-043-69	TRANSISTOR UN2225-(TX).S0	
< RESISTOR >			
R001	1-216-825-11	METAL CHIP 2.2K 5% 1/10W	
R002	1-216-821-11	METAL CHIP 1K 5% 1/10W	
R003	1-216-839-11	METAL CHIP 33K 5% 1/10W	
R004	1-216-823-11	METAL CHIP 1.5K 5% 1/10W	
R101	1-216-821-11	METAL CHIP 1K 5% 1/10W	
R102	1-216-821-11	METAL CHIP 1K 5% 1/10W	
R103	1-216-821-11	METAL CHIP 1K 5% 1/10W	
R104	1-218-664-11	METAL CHIP 68 0.5% 1/10W	
R106	1-216-833-11	METAL CHIP 10K 5% 1/10W	
R107	1-216-833-11	METAL CHIP 10K 5% 1/10W	
R108	1-216-821-11	METAL CHIP 1K 5% 1/10W	
R109	1-216-827-11	METAL CHIP 3.3K 5% 1/10W	
R110	1-216-820-11	METAL CHIP 820 5% 1/10W	
R111	1-216-829-11	METAL CHIP 4.7K 5% 1/10W	
R112	1-216-833-11	METAL CHIP 10K 5% 1/10W	
R201	1-216-821-11	METAL CHIP 1K 5% 1/10W	

Ref. No.	Part No.	Description	Remarks
R202	1-216-821-11	METAL CHIP 1K 5% 1/10W	
R301	1-216-843-11	METAL CHIP 68K 5% 1/10W	
R302	1-216-833-11	METAL CHIP 10K 5% 1/10W	
R306	1-216-843-11	METAL CHIP 68K 5% 1/10W	
R307	1-216-833-11	METAL CHIP 10K 5% 1/10W	
R308	1-216-833-11	METAL CHIP 10K 5% 1/10W	
R501	1-216-833-11	METAL CHIP 10K 5% 1/10W	
R502	1-216-817-11	METAL CHIP 470 5% 1/10W	
< VARIABLE RESISTOR >			
RV201	1-223-517-11	RES, VAR, CARBON 50K/50K (VOL ▲)	
< VIBRATOR >			
X101	1-795-485-21	VIBRATOR, CRYSTAL (SMD) (12.288MHz)	

ACCESSORIES			

1-756-316-22	BATTERY, NICKEL.HYDROGEN (US, Canadian)		
1-756-316-32	BATTERY, NICKEL.HYDROGEN (AEP, KR)		
2-345-751-12	MANUAL, INSTRUCTION (ENGLISH, FRENCH, SPANISH, KOREAN)		
2-345-751-21	MANUAL, INSTRUCTION (GERMAN, DUTCH, ITALIAN, PORTUGUESE) (AEP)		

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REVISION HISTORY

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

Ver.	Date	Description of Revision
1.0	2004.11	New
1.1	2005.02	Addition of US, Canadian and AEP models. Supplement-1 : Suffix change of RX board. (ECA76661)

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