

WH-CH700N

SERVICE MANUAL

Ver. 1.0 2017.12



US Model
Canadian Model
AEP Model
UK Model
E Model
Australian Model
Chinese Model
Tourist Model

SPECIFICATIONS

General

Communication system: Bluetooth Specification version 4.1
Output: Bluetooth Specification Power Class 2
Maximum communication range: Line of sight approx. 10 m (30 ft)¹⁾

Frequency band: 2.4 GHz band (2.4000 GHz - 2.4835 GHz)

(CH)

频率范围: 2400 MHz - 2483.5 MHz
发射功率: ≤ 20 dBm (EIRP)

Operating frequency (AEP, UK):
Bluetooth 2,400 MHz - 2,483.5 MHz
NFC 13.56 MHz

Maximum output power (AEP, UK):
Bluetooth < 4 dBm

Compatible Bluetooth profiles²⁾:

A2DP (Advanced Audio Distribution Profile)
AVRCP (Audio Video Remote Control Profile)
HFP (Hands-free Profile)
HSP (Headset Profile)

Supported Codecs³⁾: SBC⁴⁾, AAC⁵⁾, aptX, aptX HD

Supported content protection method: SCMS-T

Transmission range (A2DP):

20 Hz - 20,000 Hz (Sampling frequency 44.1 kHz)

Included items:

Wireless noise canceling stereo headset (1)
Micro-USB cable (approx. 50 cm (19 3/4 in.)) (1)
Headphone cable (approx. 1.2 m (47 1/4 in.)) (1)
Reference Guide (1)
Operating Instructions (1)
Other documents (1 set) (US, CND, AEP, UK, CH, LA only)

¹⁾ The actual range will vary depending on factors such as obstacles between devices, magnetic fields around a microwave oven, static electricity, reception sensitivity, antenna's performance, operating system, software application, etc.

²⁾ Bluetooth standard profiles indicate the purpose of Bluetooth communications between devices.

³⁾ Codec: Audio signal compression and conversion format

⁴⁾ Subband Codec

⁵⁾ Advanced Audio Coding

Wireless noise canceling stereo headset

Power source:

DC 3.65 V: Built-in lithium-ion rechargeable battery
DC 5 V: When charged using USB

Mass: Approx. 240 g (8.47 oz)

Operating temperature: 0 °C to 40 °C (32 °F to 104 °F)

Rated power consumption (Except US, CND, LA): 1.2W

Usage hours:

When connecting via the Bluetooth device

Music playback time:

Max. 35 hours (NC ON), Max. 40 hours (NC OFF)

Communication time:

Max. 35 hours (NC ON), Max. 40 hours (NC OFF)

Standby time:

Max. 35 hours (NC ON), Max. 200 hours (NC OFF)

When connecting via the headphone cable with NC ON:

Max. 50 hours

Note: Usage hours may be shorter depending on the Codec and the conditions of use.

Charging time:

Approx. 7 hours

(About 60 minutes of music playback is possible after 10 minutes charging.)

Note: Charging and usage hours may be different depending on the conditions of use.

Charging temperature: 5 °C to 35 °C (41 °F to 95 °F)

Receiver

Type: Closed, Dynamic

Driver unit: 40 mm

Frequency response:

7 Hz - 20,000 Hz (JEITA) (when connecting via the headphone cable with the unit turned on)

Impedance:

22 Ω (1 kHz) (when connecting via the headphone cable with the unit turned on)

48 Ω (1 kHz) (when connecting via the headphone cable with the unit turned off)

Sensitivity:

97 dB/mW (when connecting via the headphone cable with the unit turned on)

98 dB/mW (when connecting via the headphone cable with the unit turned off)

Microphone

Type: Electret condenser

Directivity: Omni directional

Effective frequency range: 50 Hz - 8,000 Hz

System requirements for battery charge using USB

USB AC adaptor

A commercially available USB AC adaptor capable of feeding in more than 0.5 A (500 mA)

Personal Computer

(As of December 2017)

Personal Computer with pre-installed with any of the following operating systems and USB port:

Operating Systems

(When using Windows)

Windows® 10 Home / Windows® 10 Pro

Windows® 8.1 / Windows® 8.1 Pro

Windows® 8 / Windows® 8 Pro

Windows® 7

Home Basic / Home Premium / Professional / Ultimate

(When using Mac)

Mac OS X (version 10.9 or later)

Design and specifications are subject to change without notice.

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"Made for iPod" and "Made for iPhone" mean that an electronic accessory has been designed to connect specifically to iPod or iPhone, 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 or iPhone may affect wireless performance.

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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

警告

本電池如果更換不正確會有爆炸的危險
請依製造商說明書處理用過之電池

WIRELESS NOISE CANCELING STEREO HEADSET

9-896-470-01

2017L33-1

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Sony Video & Sound Products Inc.

SONY®

**SECTION 1
SERVICING NOTES**

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

REUSE OF THE BUILT-IN LITHIUM ION RECHARGEABLE BATTERY

When the lithium ion rechargeable battery is removed, it cannot be reused. Be sure to replace it with new parts.

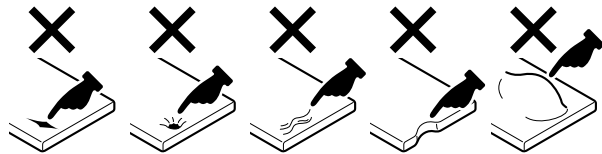
CHECKING THE NEW LITHIUM ION RECHARGEABLE BATTERY FOR BEFORE USE AND NOTES ON HANDLING

• **Checking before use**

When replacing the lithium ion rechargeable battery to the new parts, be sure to check the exterior condition before installing the new lithium ion rechargeable battery in this unit.

- No external wound such as scratches
- No swell
- etc.

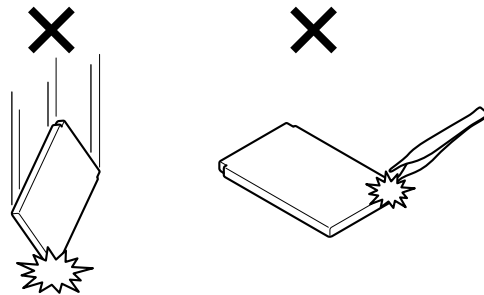
If there are some abnormality with the exterior, do not use that lithium ion rechargeable battery.



• **Notes on handling**

When handling the new lithium ion rechargeable battery, handle with notes of the following.

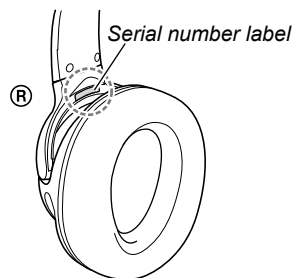
- Do not drop it
If it drops accidentally, do not use that lithium ion rechargeable battery.
- Do not scratch with tweezers or other sharp objects
If it scratches accidentally, do not use that lithium ion rechargeable battery.



CHECKING THE SERIAL NUMBER

The serial number can be checked with the label that is pasted inside of right hanger.

Refer to the following figure.



COLOR VARIATIONS

CH : (B) Black
Except CH : (B) Black, (H) Gray, (L) Blue

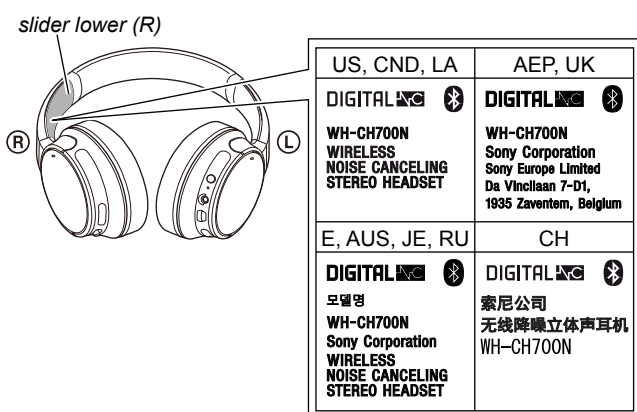
DESTINATION ABBREVIATIONS

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

- Abbreviations
 - AEP : European area, East European area, CIS area (Moldova), Middle East area (Israel) models
 - AUS : Oceania area model
 - CH : Chinese model
 - CND : Canadian model
 - JE : Tourist model
 - LA : Latin American model
 - RU : CIS area model (Except for Moldova)

MODEL IDENTIFICATION

To distinguish the destination of this unit, refer to model number label that is printed on the lower slider (R) on the right inside the headband.



NOTES FOR REPAIR OF BOARDS

When boards installed in this unit are defective, it is replaced by the board.
Replace the complete mounted board or the whole parts including the applicable board.

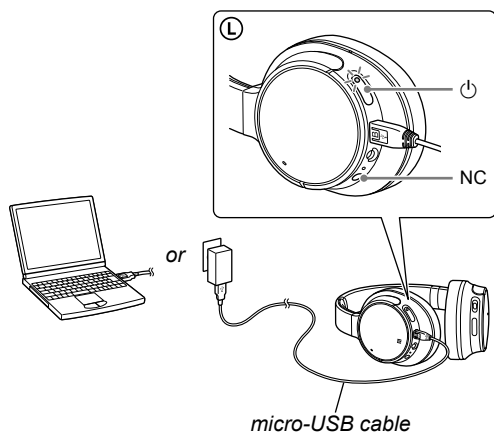
RESET METHOD

When resetting this unit, operate by following procedure.
Note: Even if this work is performed, device pairing information is not deleted.

Procedure:

1. Connect this unit to a booted PC or optional USB AC adaptor using the supplied micro-USB cable, set the charge status.
2. Press the [P] and [NC] buttons simultaneously.
3. This unit be reset.

Connection:



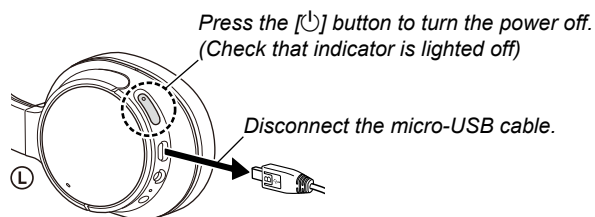
INITIALIZING METHOD

After completion of repairs, be sure to perform the following procedure to initialize this unit.

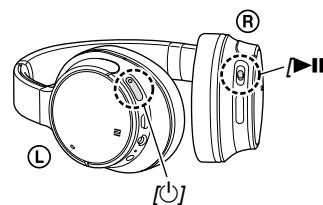
Note 1: When this work is performed, all device pairing information is deleted and settings return to factory defaults.

Procedure:

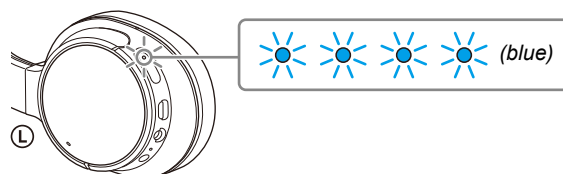
1. Check that the micro-USB cable is not connected to this unit, and turn off the power.
- Note 2:** If already power is turned off, check the micro-USB cable is not connected, proceed to step 2.



2. Press the [P] on the left channel and the [P] buttons on the right channel side simultaneously for 7 seconds or longer.



3. The left channel side indicator (blue) flashes 4 times and the settings return to factory defaults.



Note 3: When this unit is initialized, it might not be able to connect to iPhone or PC.
In that case, delete the registration of this unit on iPhone or PC, register the device again.

NOTES ON DISASSEMBLY

The precise noise canceling function of this unit is adjusted in the production process.

Therefore, it is not possible to disassemble the portion affecting the adjustment of the noise canceling function or to replace the parts affecting it.

(It is not possible to adjust the noise canceling function)

Refer to the following for repairing and replacing the main parts.

• Disassembly Prohibition of Front Plate Portion

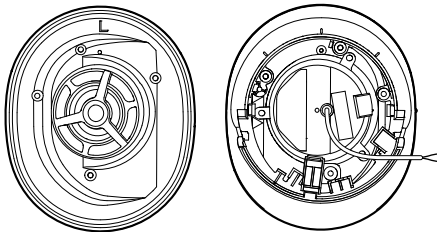
Don't disassemble the left and right front plate portion.

If disassembling this unit to the latter than the status shown in the figure below, malfunction will occur in adjustment of the noise canceling function.

Note 1: There is no problem removing the lead wires coming from the front plate from the L MAIN board and separating the front plate and the L MAIN board.

Note 2: There are combinations on the L MAIN board, L NFC board, left and right front plate portion, so they cannot be repaired and replaced individually.

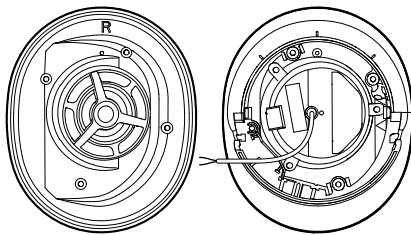
– L-ch –



– Front view –

– Rear view –

– R-ch –



– Front view –

– Rear view –

• Repairing and Replacing of L MAIN Board, L NFC Board, Left and Right Front Plate Portion

When the L MAIN board, L NFC board, left and right front plate portion are defective, replacing by the SVX headband assy (EXPLODED VIEWS: Ref. No. HPN1).



SVX headband assy
(EXPLODED VIEWS: Ref. No. HPN1)

• Repairing and Replacing of Headband Block

When the headband block is defective, only the headband block can be repaired and replaced.

Remove the left and right housing block from the repairing unit, replacing by a new headband assy (EXPLODED VIEWS: Ref. No. HB1).



headband assy
(EXPLODED VIEWS: Ref. No. HB1)

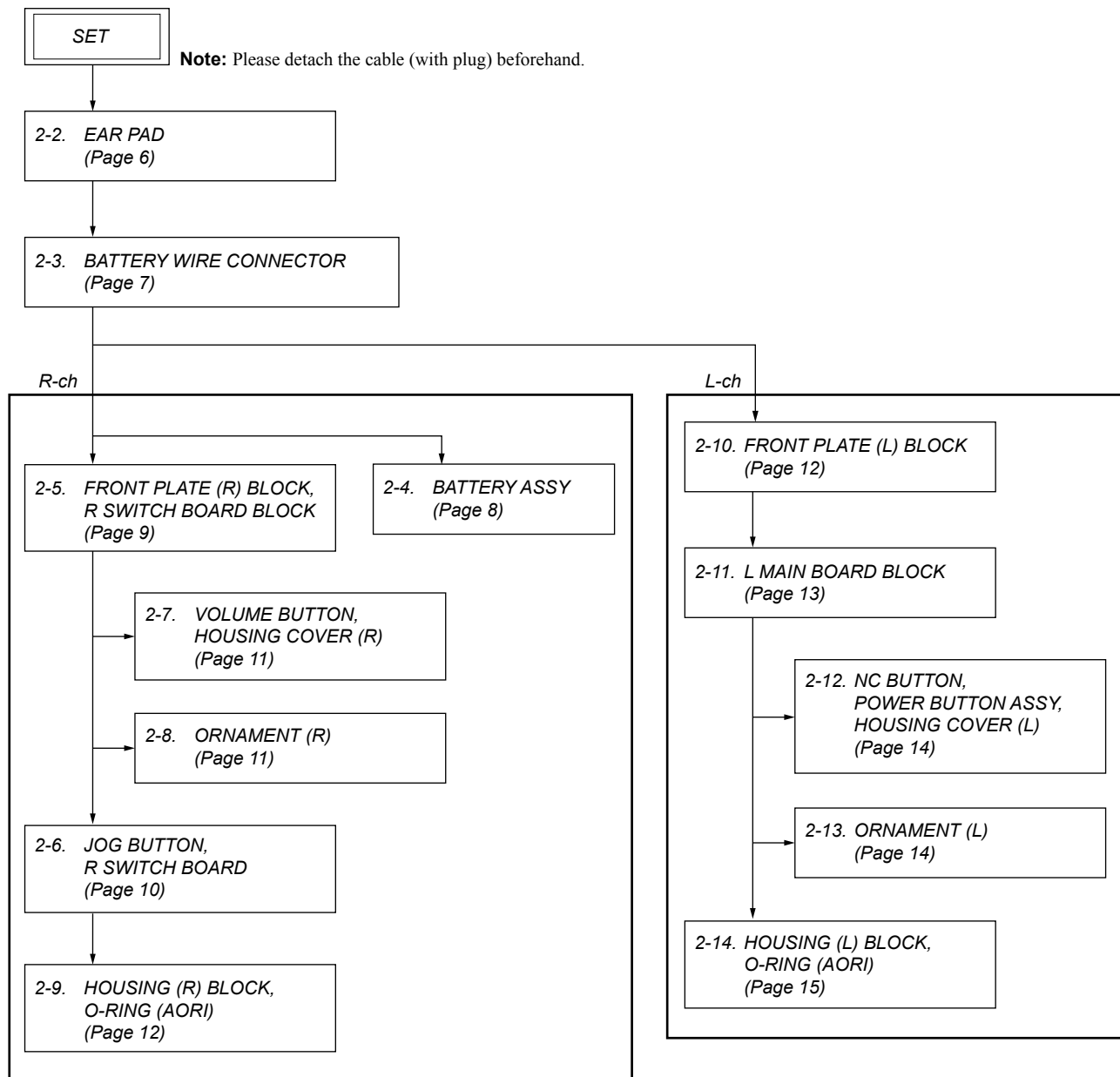
• Repairing and Replacing of other parts

Refer to “3. EXPLODED VIEWS” on page 16 for repairing and replacing of parts other than the L MAIN board, L NFC board, left and right front plate portion.

SECTION 2 DISASSEMBLY

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

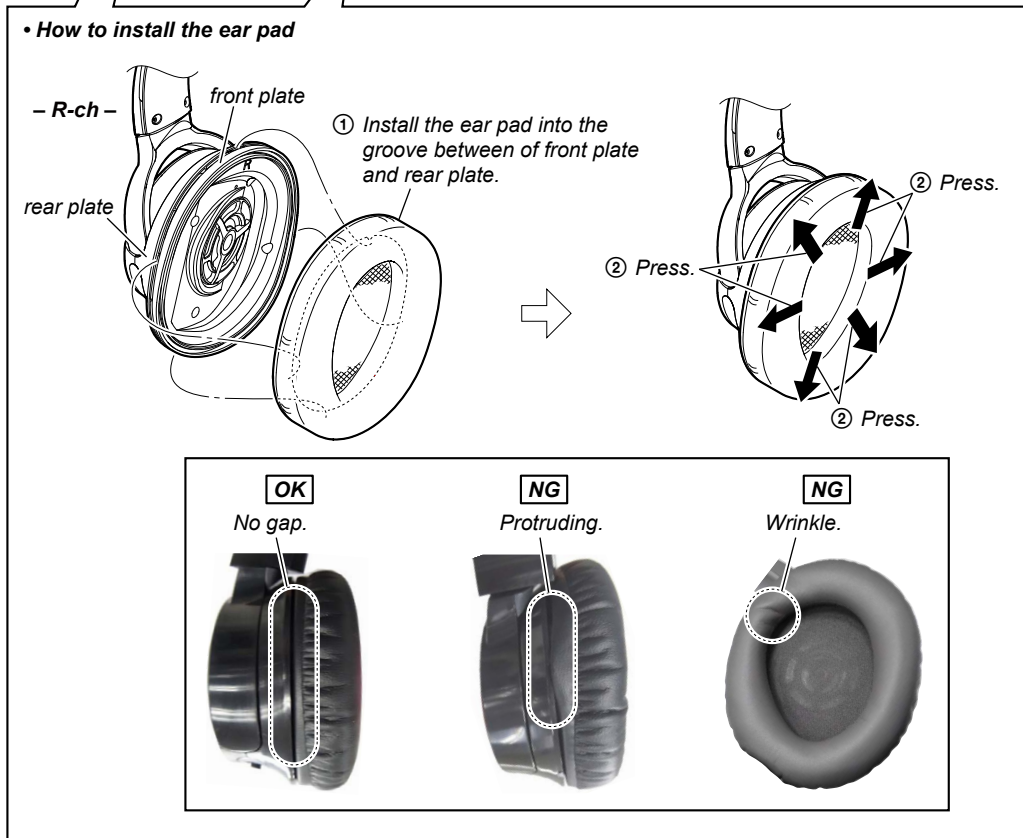
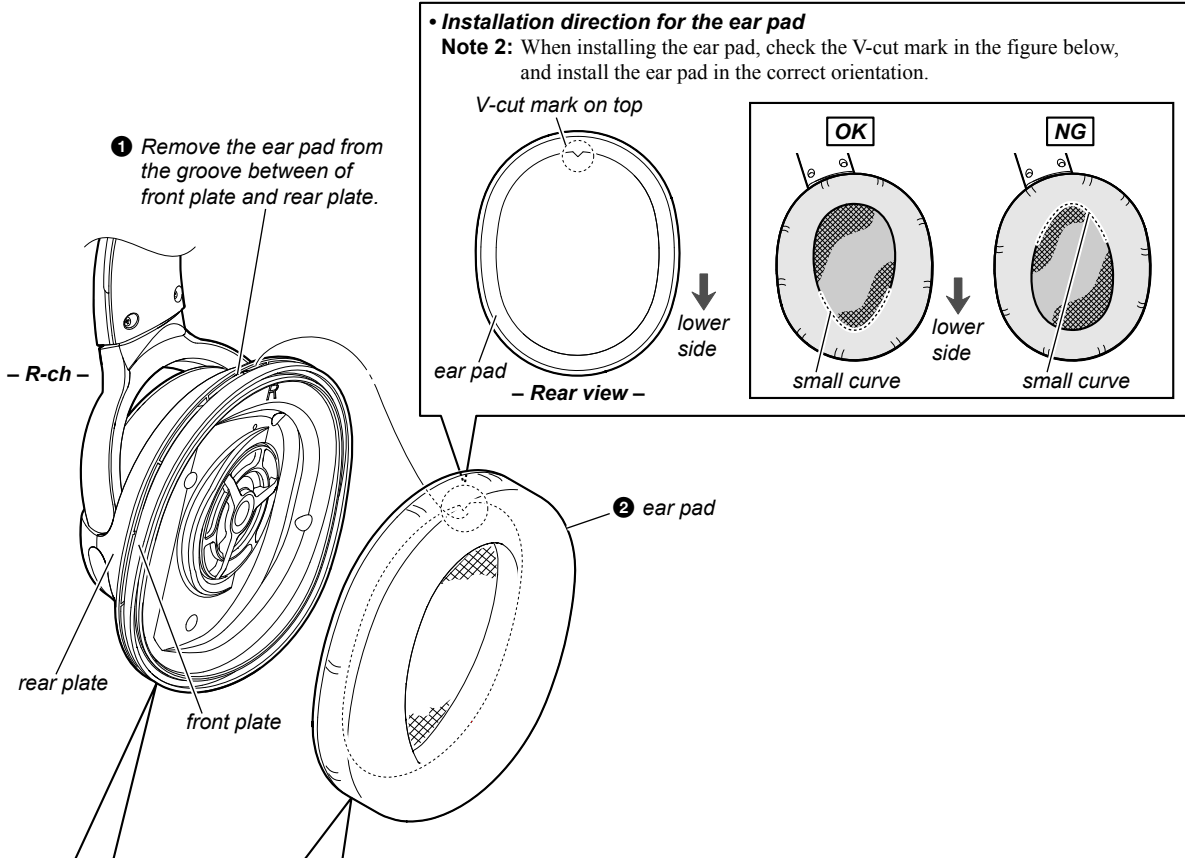
2-1. DISASSEMBLY FLOW



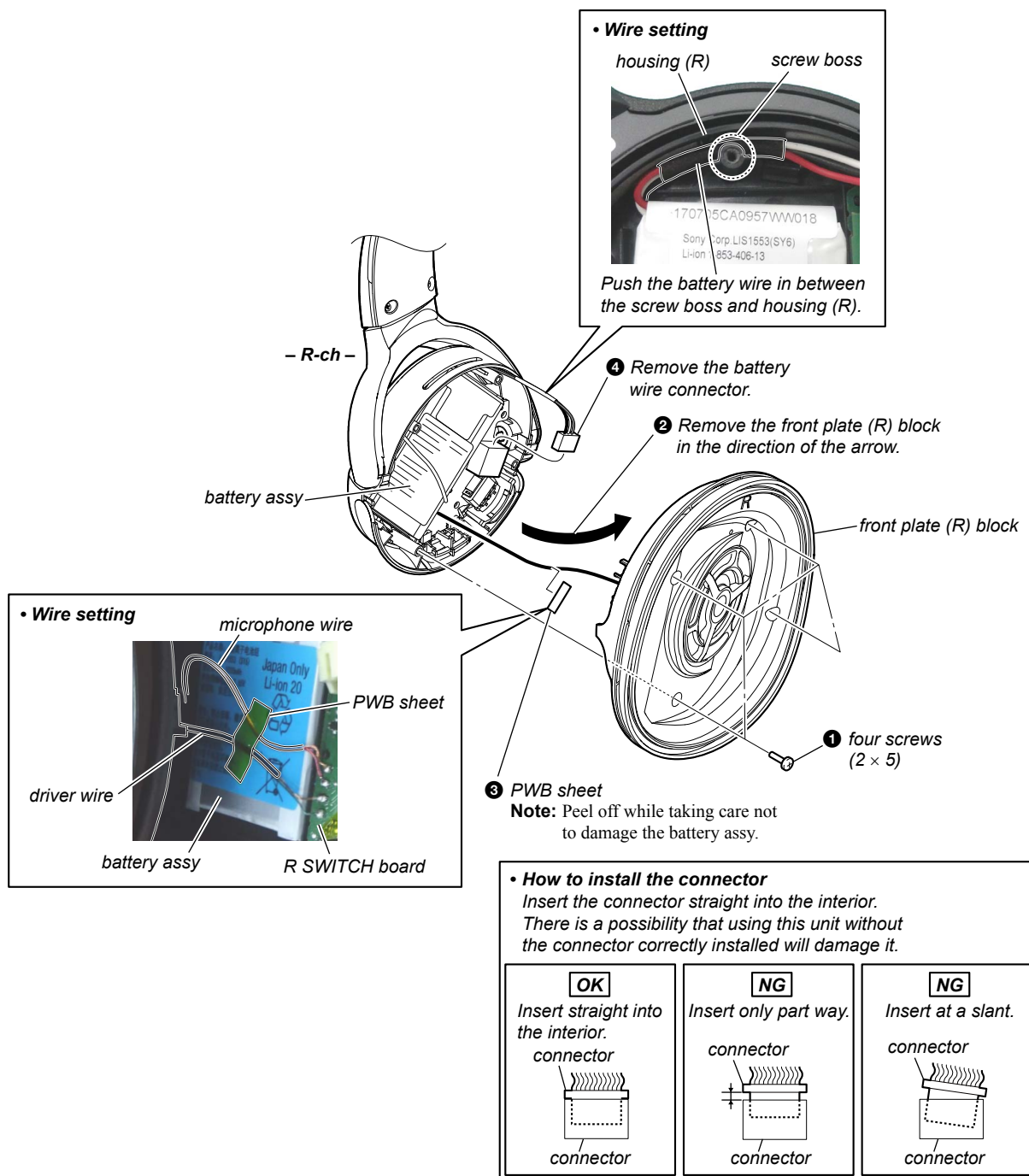
Note: Follow the disassembly procedure in the numerical order given.

2-2. EAR PAD

Note 1: The left and right ear pads can be removed using the same procedure.
This explanation uses illustrations from the right side.

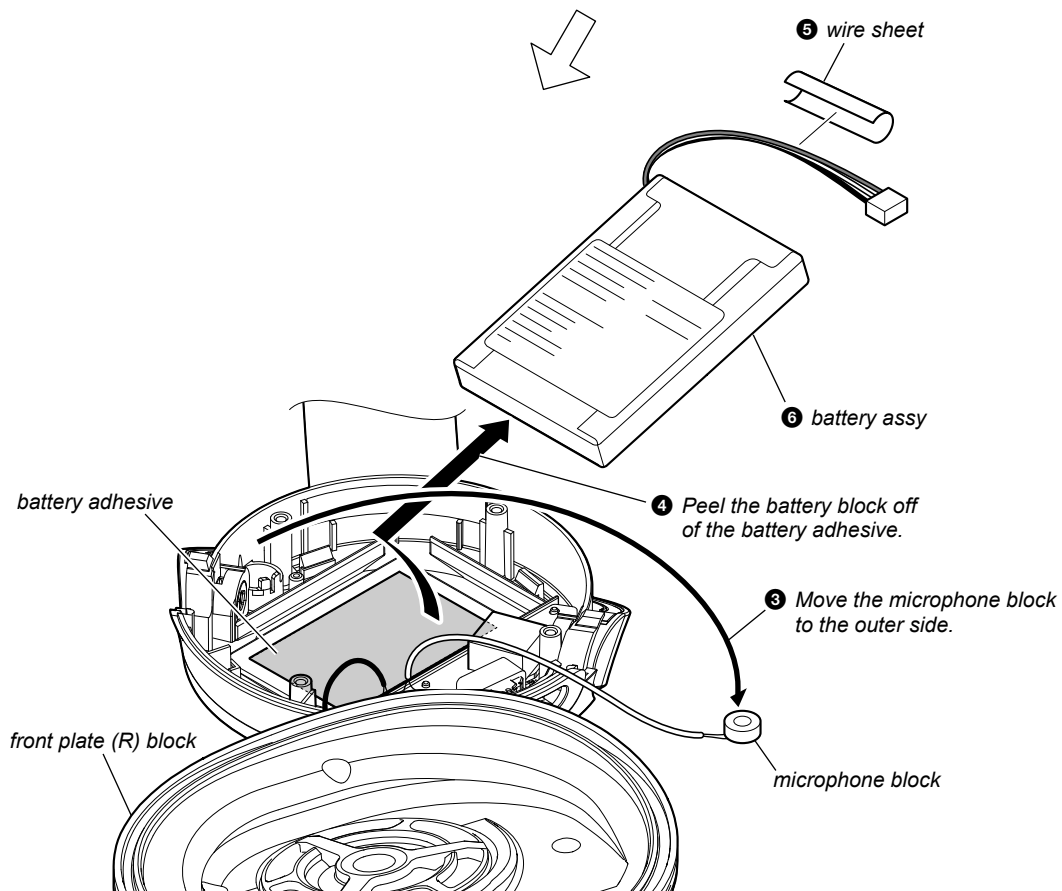
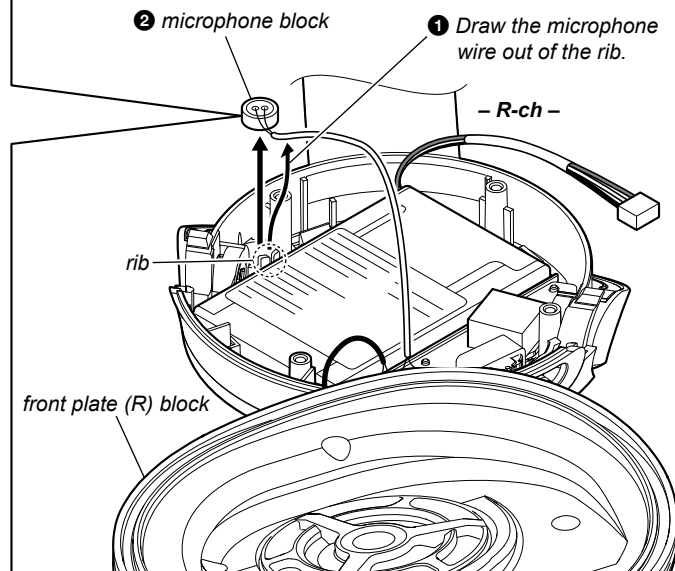
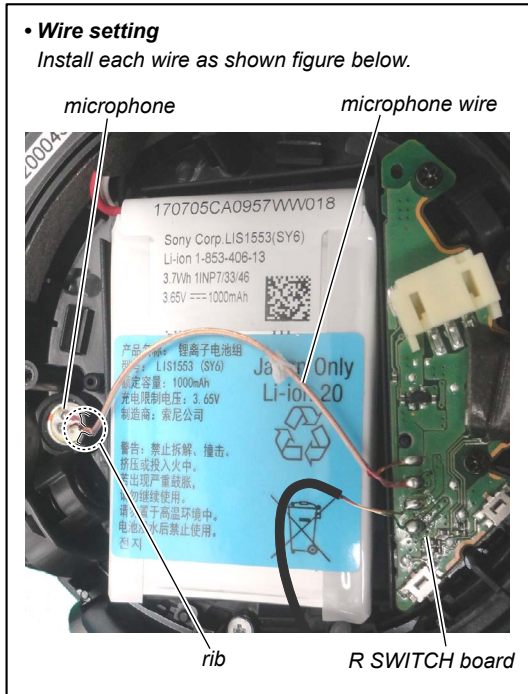


2-3. BATTERY WIRE CONNECTOR



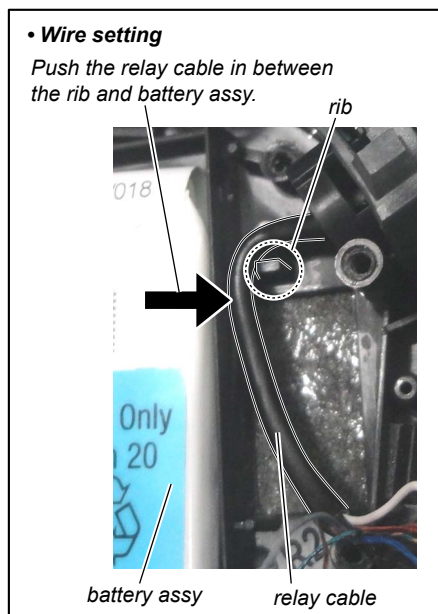
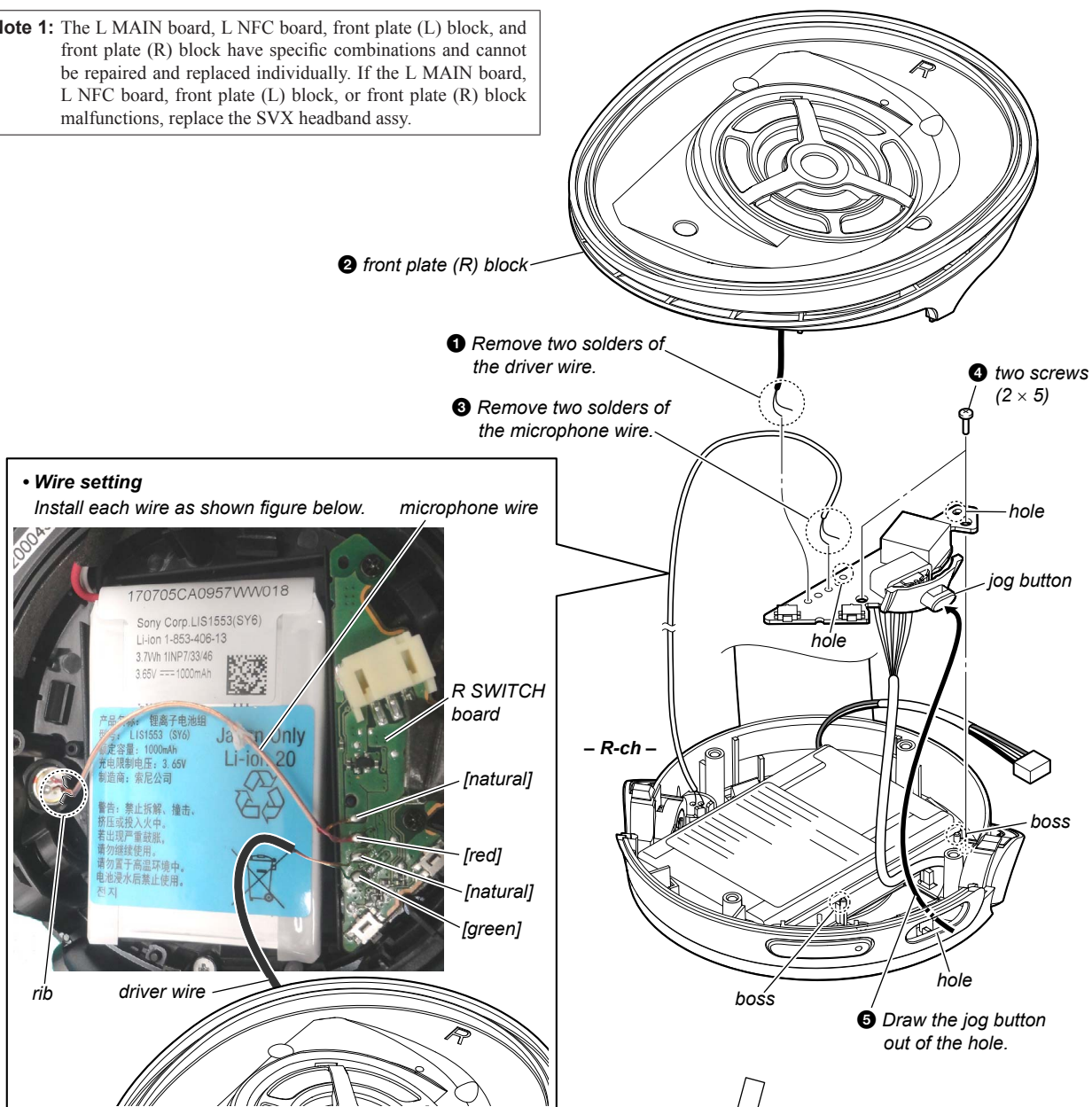
2-4. BATTERY ASSY (R-ch)

Note: When removing the battery assy from the battery adhesive, the battery assy cannot be reused. Be sure to replace them with new parts.



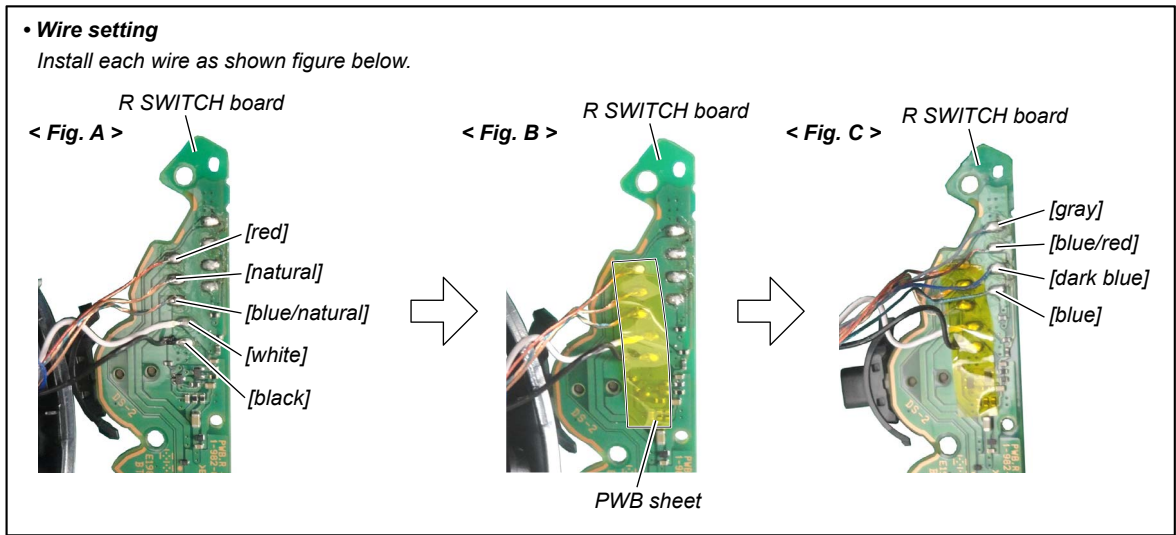
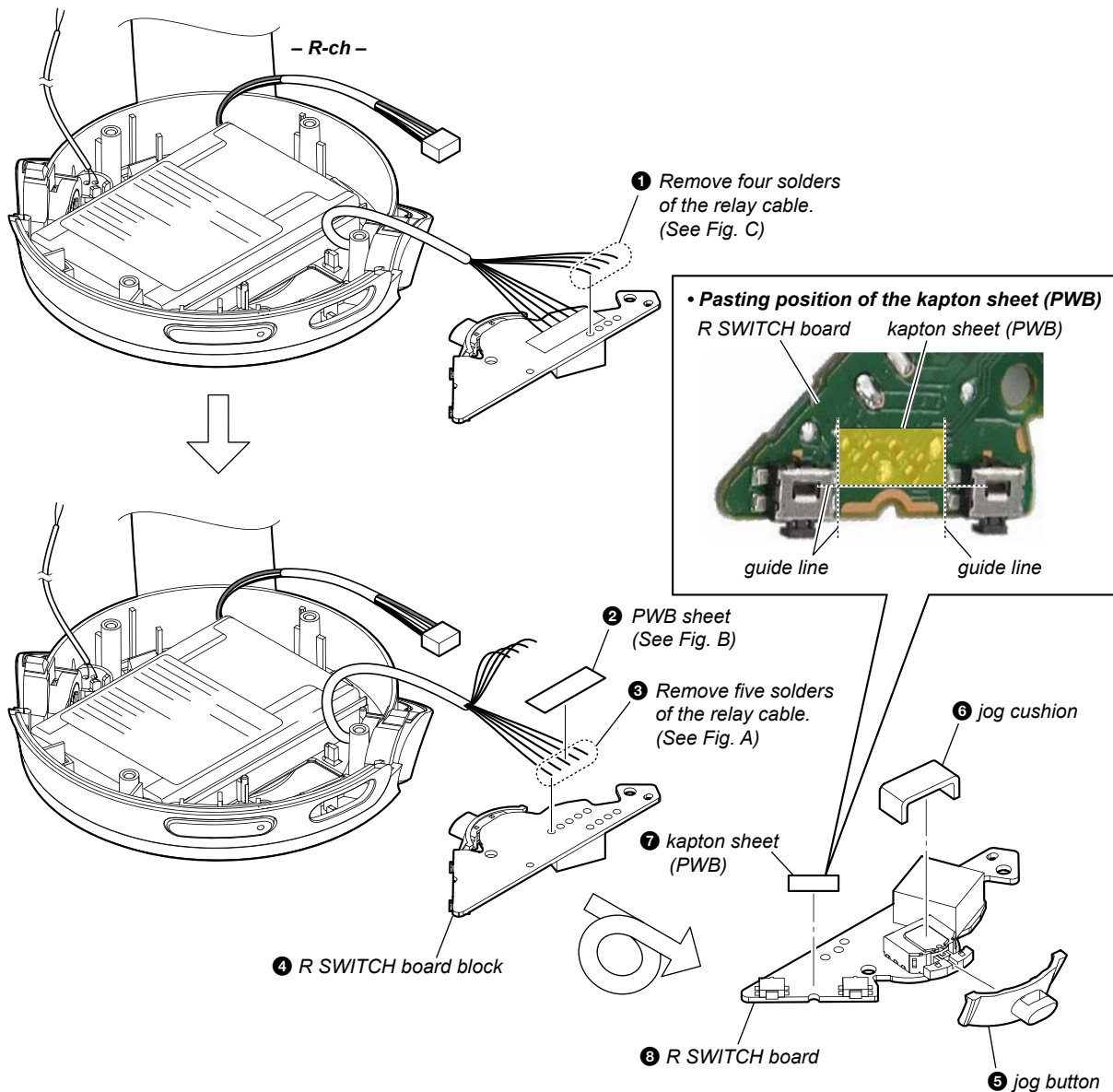
2-5. FRONT PLATE (R) BLOCK, R SWITCH BOARD BLOCK (R-ch)

Note 1: The L MAIN board, L NFC board, front plate (L) block, and front plate (R) block have specific combinations and cannot be repaired and replaced individually. If the L MAIN board, L NFC board, front plate (L) block, or front plate (R) block malfunctions, replace the SVX headband assy.

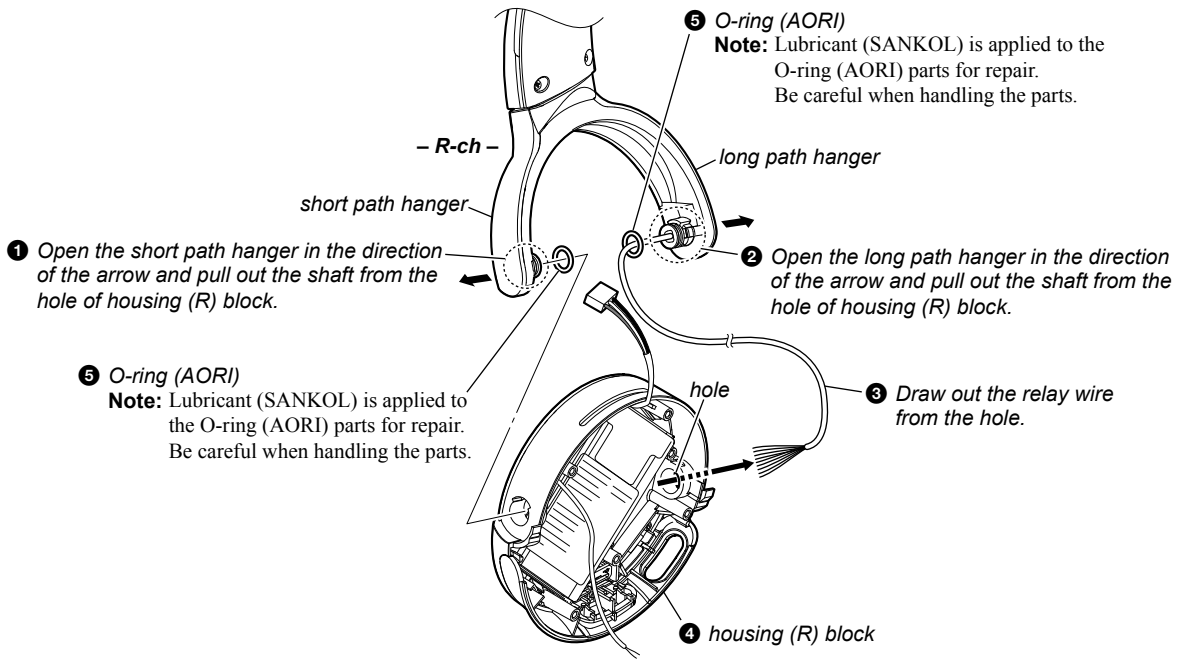


Note 2: When installing the R SWITCH board block, align the two bosses and two holes.

2-6. JOG BUTTON, R SWITCH BOARD (R-ch)

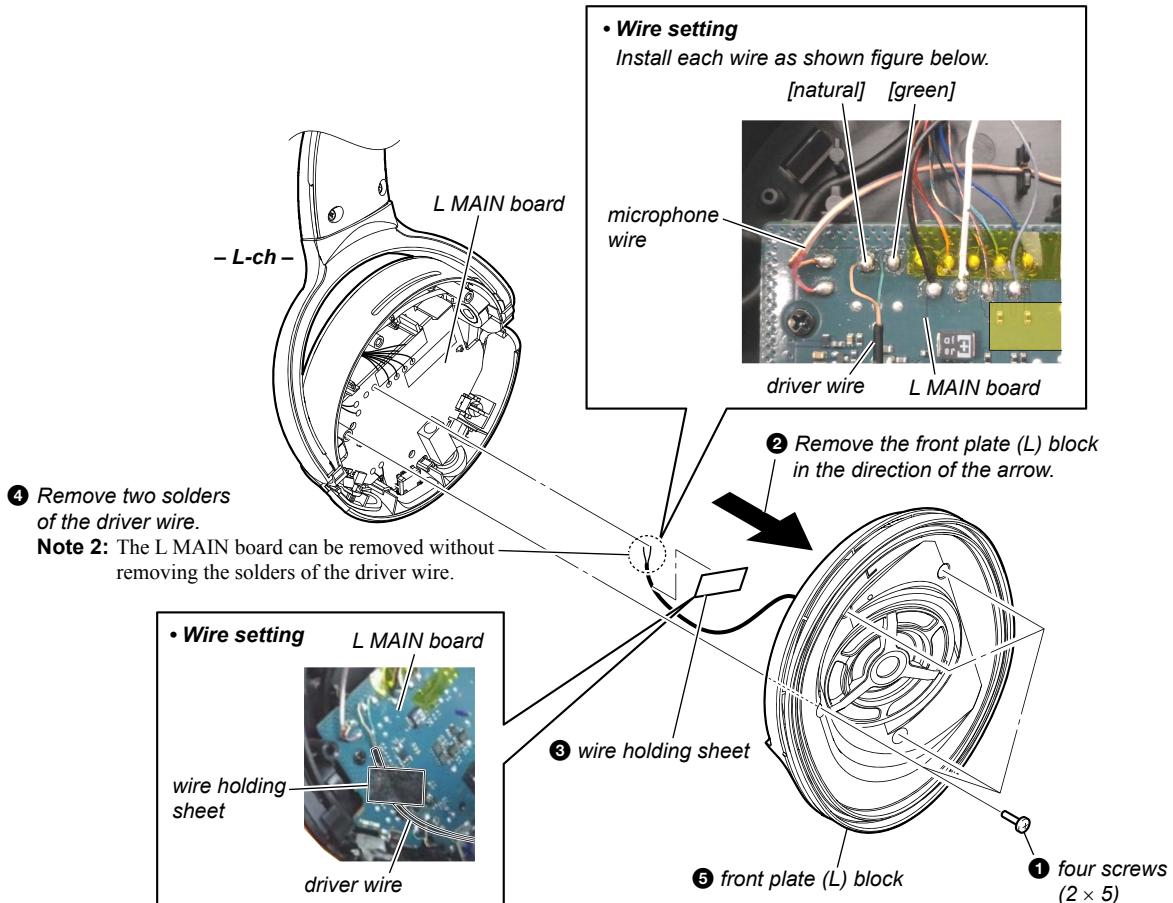


2-9. HOUSING (R) BLOCK, O-RING (AORI) (R-ch)



2-10. FRONT PLATE (L) BLOCK (L-ch)

Note 1: The L MAIN board, L NFC board, front plate (L) block, and front plate (R) block have specific combinations and cannot be repaired and replaced individually. If the L MAIN board, L NFC board, front plate (L) block, or front plate (R) block malfunctions, replace the SVX headband assy.

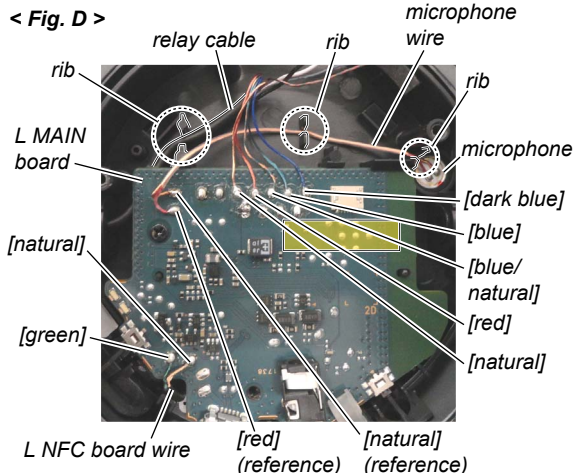


2-11. L MAIN BOARD BLOCK (L-ch)

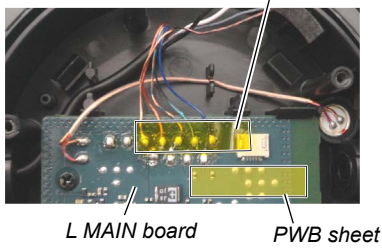
Note 1: The L MAIN board, L NFC board, front plate (L) block, and front plate (R) block have specific combinations and cannot be repaired and replaced individually. If the L MAIN board, L NFC board, front plate (L) block, or front plate (R) block malfunctions, replace the SVX headband assy.

• Wire setting
Install each wire as shown figure below.

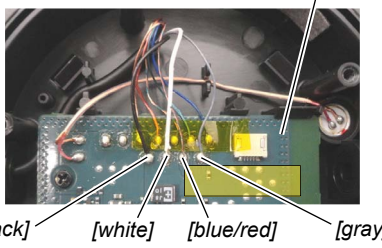
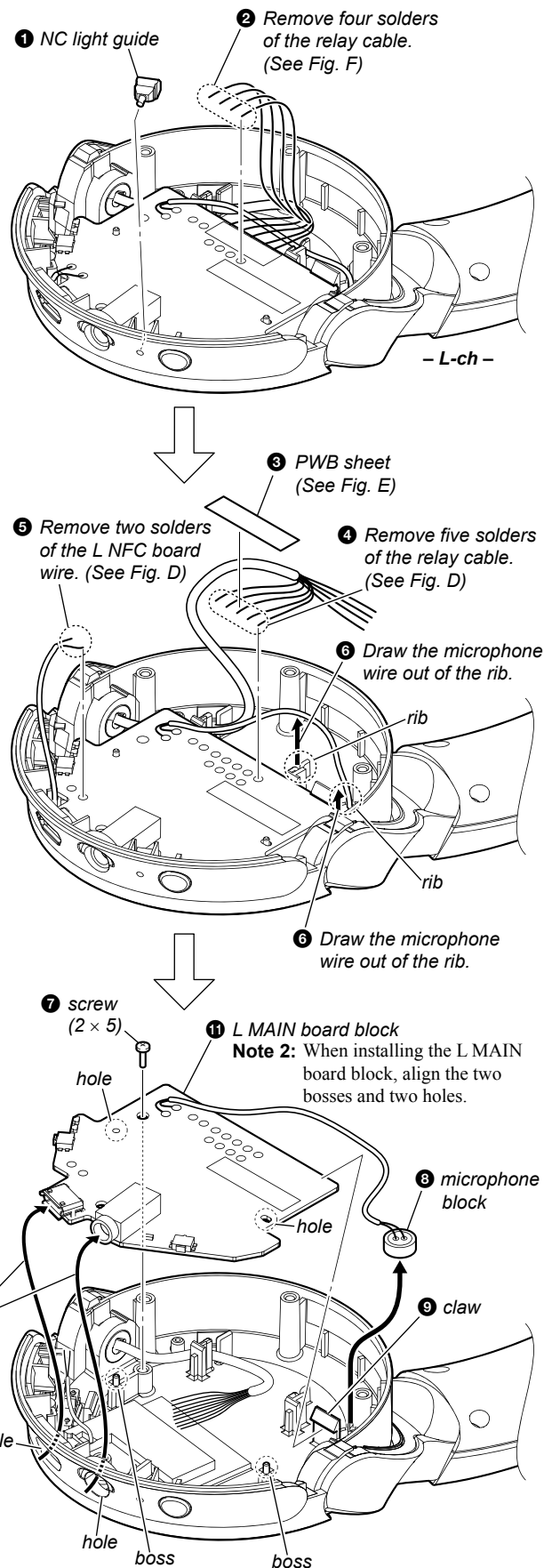
< Fig. D >



< Fig. E >



< Fig. F >

1 NC light guide

2 Remove four solders of the relay cable. (See Fig. F)

3 PWB sheet (See Fig. E)

4 Remove five solders of the relay cable. (See Fig. D)

5 Remove two solders of the L NFC board wire. (See Fig. D)

6 Draw the microphone wire out of the rib.

7 screw (2 × 5)

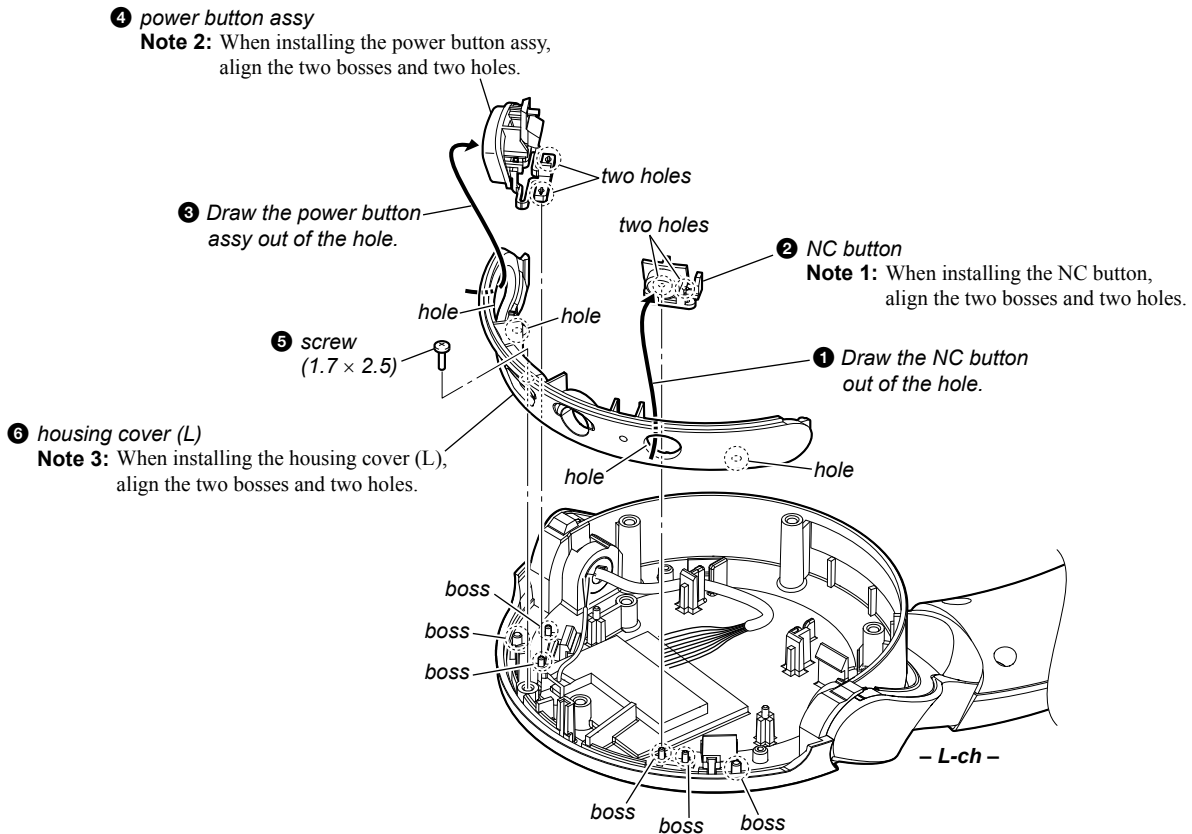
8 L MAIN board block
Note 2: When installing the L MAIN board block, align the two bosses and two holes.

9 claw

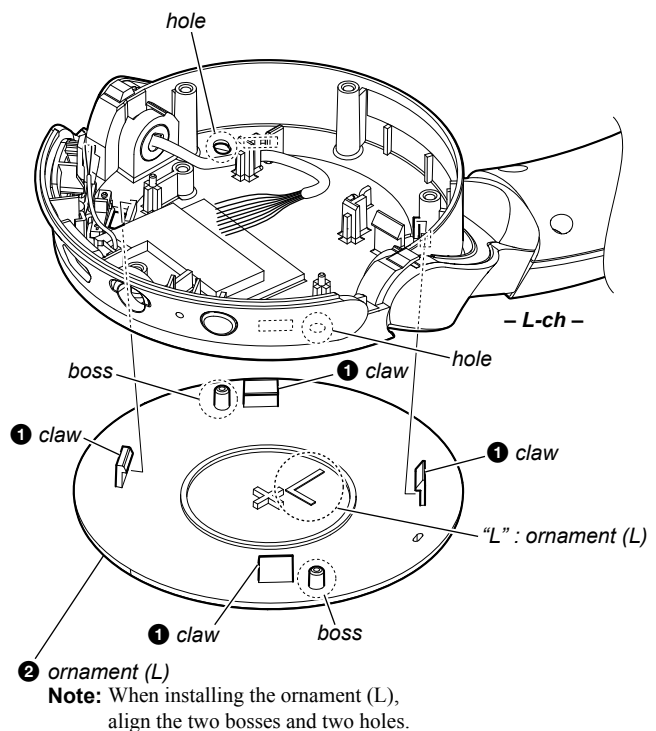
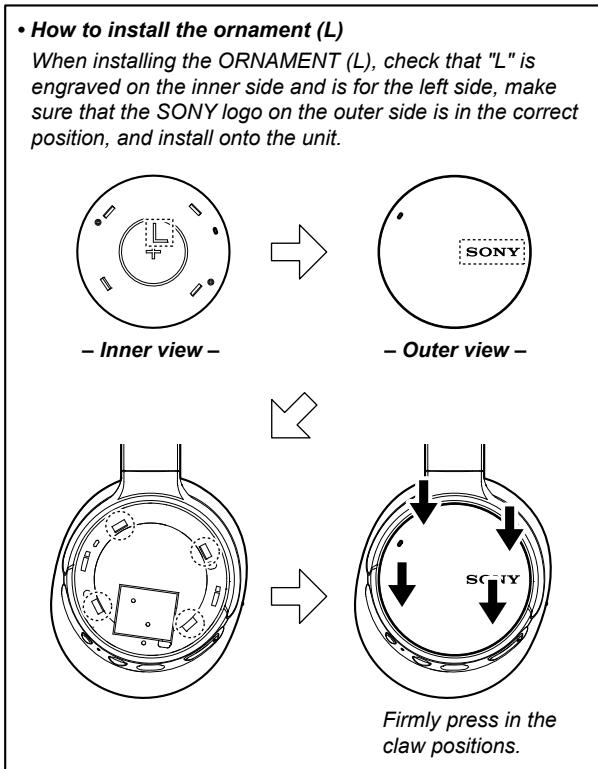
10 Draw the two jacks out of the two holes.

Labels: hole, boss, microphone block, rib, L-ch

2-12. NC BUTTON, POWER BUTTON ASSY, HOUSING COVER (L) (L-ch)

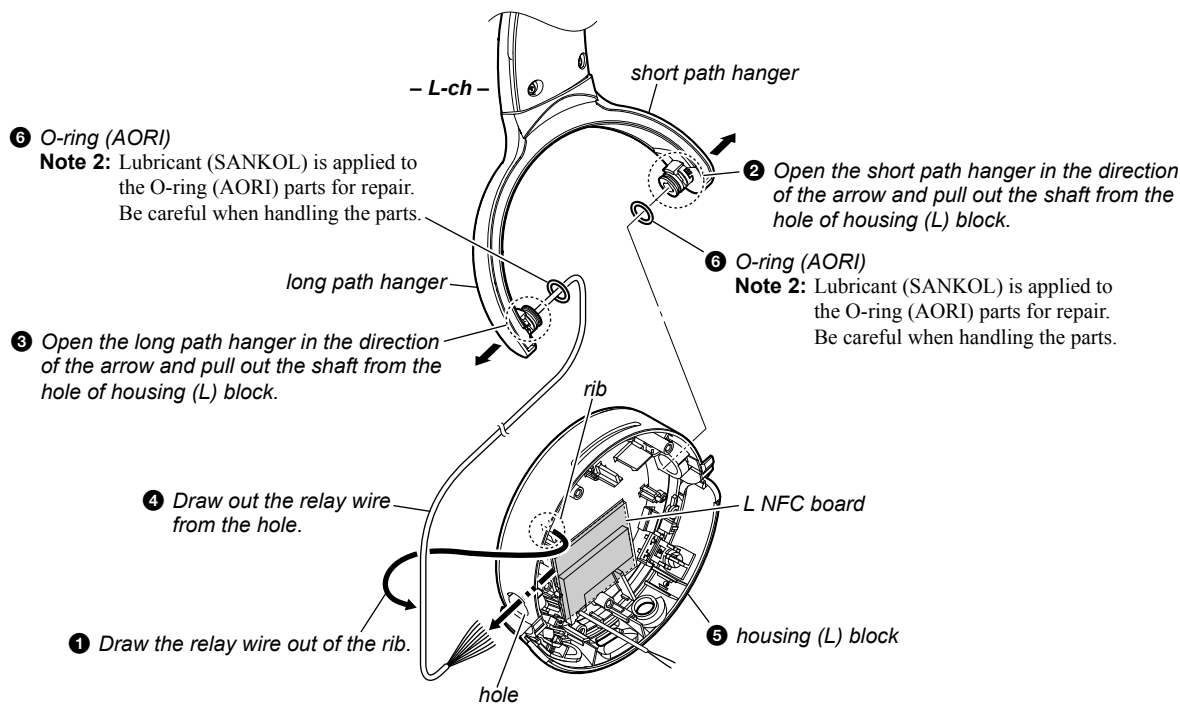


2-13. ORNAMENT (L) (L-ch)



2-14. HOUSING (L) BLOCK, O-RING (AORI) (L-ch)

Note 1: The L MAIN board, L NFC board, front plate (L) block, and front plate (R) block have specific combinations and cannot be repaired and replaced individually. If the L MAIN board, L NFC board, front plate (L) block, or front plate (R) block malfunctions, replace the SVX headband assy.



SECTION 3 EXPLODED VIEWS

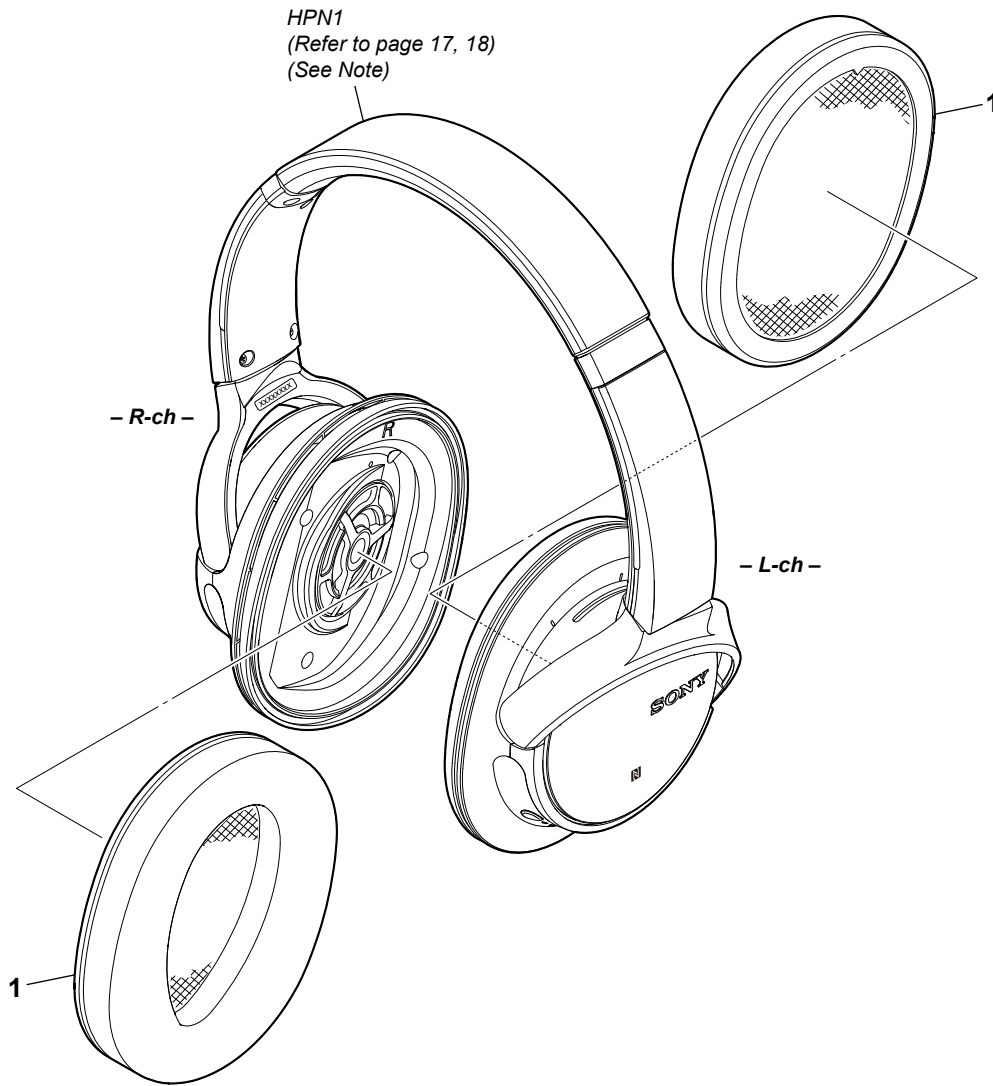
Note:

- -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
- Refer to "COLOR VARIATIONS" on page 2 about color variation of the unit.

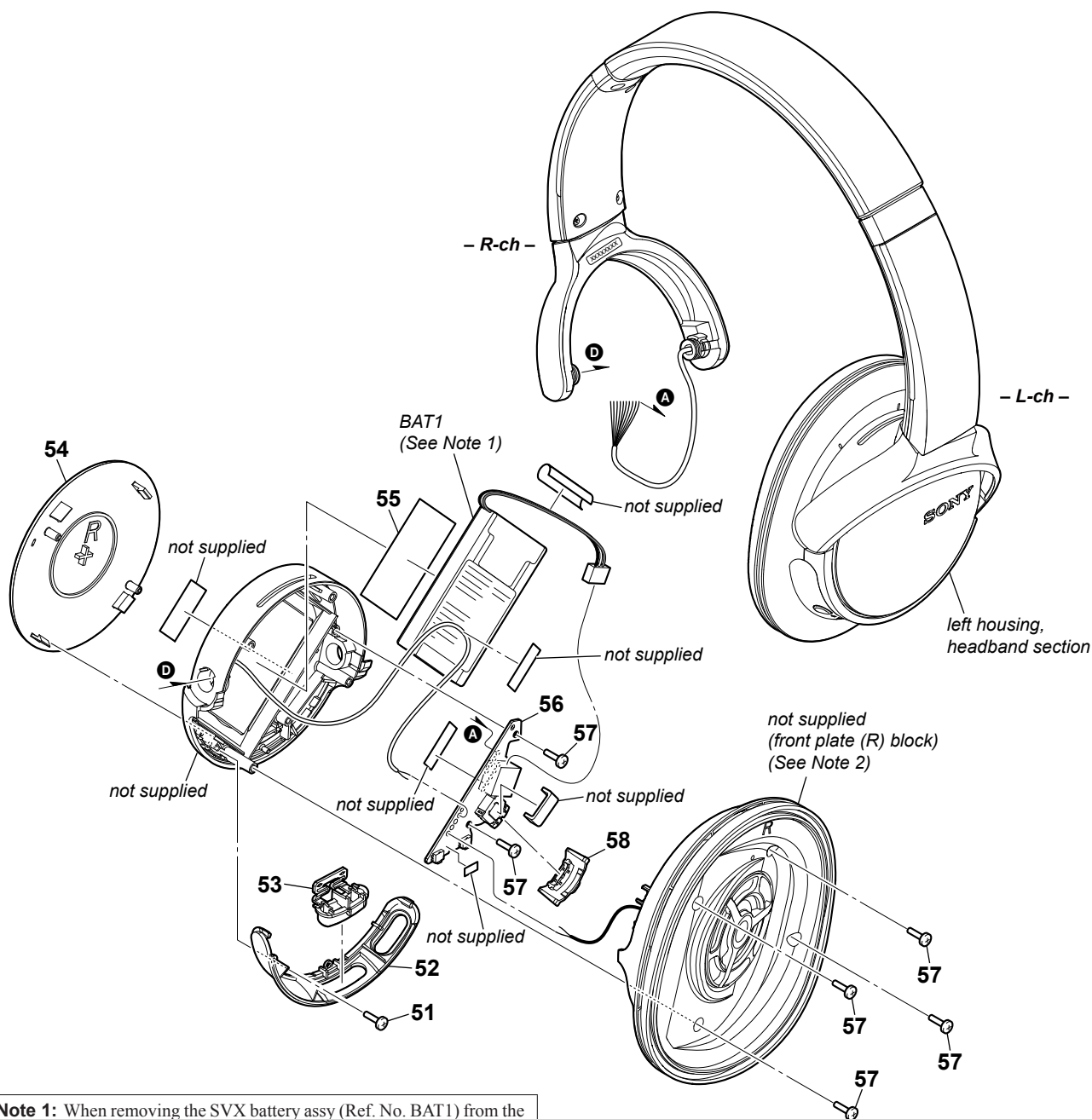
3-1. EAR PAD SECTION

Note: The headband assy (Ref. No. HPN1) can be disassembled. For the right housing block, refer to page 17, for the left housing block and headband, refer to page 18. Also, the serial number will change when the headband assy is replaced.



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
1	4-728-990-01	PAD, EAR (for Black)		HPN1	A-2215-020-A	HEADBAND ASSY, SVX (for Gray) (US, CND, LA)	(See Note)
1	4-728-990-11	PAD, EAR (for Gray)		HPN1	A-2215-021-A	HEADBAND ASSY, SVX (for Blue) (US, CND, LA)	(See Note)
1	4-728-990-21	PAD, EAR (for Blue)		HPN1	A-2215-022-A	HEADBAND ASSY, SVX (for Black) (AEP, UK)	(See Note)
HPN1	A-2215-013-A	HEADBAND ASSY, SVX (for Black) (CH) (See Note)		HPN1	A-2215-023-A	HEADBAND ASSY, SVX (for Gray) (AEP, UK)	(See Note)
HPN1	A-2215-016-A	HEADBAND ASSY, SVX (for Black) (E, AUS, JE, RU)	(See Note)	HPN1	A-2215-024-A	HEADBAND ASSY, SVX (for Blue) (AEP, UK)	(See Note)
HPN1	A-2215-017-A	HEADBAND ASSY, SVX (for Gray) (E, AUS, JE, RU)	(See Note)				
HPN1	A-2215-018-A	HEADBAND ASSY, SVX (for Blue) (E, AUS, JE, RU)	(See Note)				
HPN1	A-2215-019-A	HEADBAND ASSY, SVX (for Black) (US, CND, LA)	(See Note)				

3-2. RIGHT HOUSING SECTION

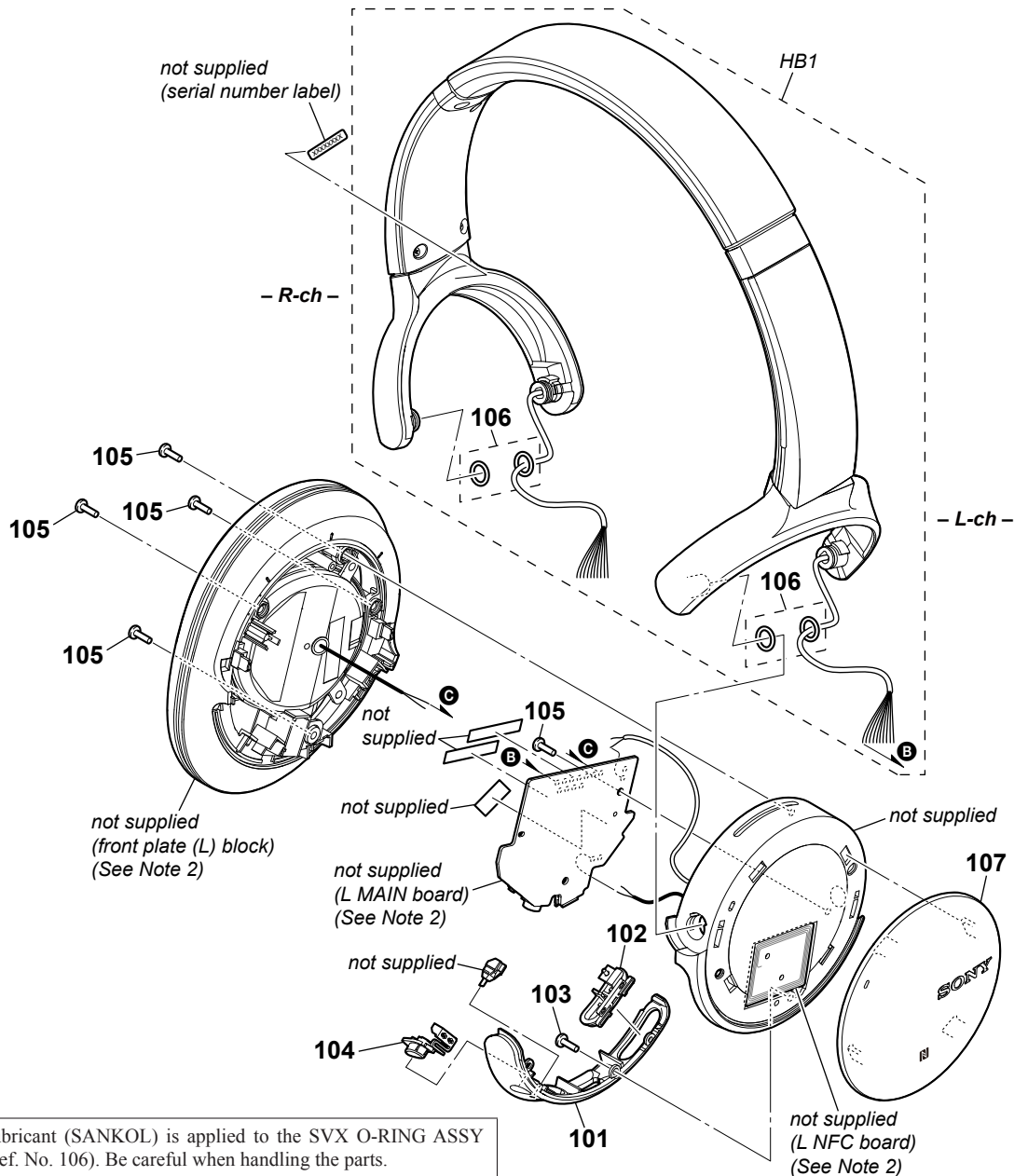


Note 1: When removing the SVX battery assy (Ref. No. BAT1) from the battery adhesive (Ref. No. 55), the SVX battery assy cannot be reused. Be sure to replace them with new parts.

Note 2: The L MAIN board (page 18), L NFC board (page 18), front plate (L) block (page 18), and front plate (R) block (this page) have specific combinations and cannot be repaired and replaced individually. If the L MAIN board, L NFC board, front plate (L) block, or front plate (R) block malfunctions, replace the SVX headband assy (Ref. No. HPN1: page 16).

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
51	3-254-003-01	SCREW (1.7X2.5 mm)		55	4-728-994-01	ADHESIVE, BATTERY	
52	4-729-186-01	COVER, HOUSING (R) (R-ch for Black)		56	A-2196-358-A	R SWITCH BOARD, COMPLETE	
52	4-729-186-11	COVER, HOUSING (R) (R-ch for Gray)		57	3-254-058-21	SCREW (2.0X5.0 mm)	
52	4-729-186-21	COVER, HOUSING (R) (R-ch for Blue)		58	4-729-187-01	BUTTON, JOG (for Black)	
53	4-729-188-01	BUTTON, VOLUME (for Black)		58	4-729-187-11	BUTTON, JOG (for Gray)	
53	4-729-188-11	BUTTON, VOLUME (for Gray)		58	4-729-187-21	BUTTON, JOG (for Blue)	
53	4-729-188-21	BUTTON, VOLUME (for Blue)		BAT1	A-2215-026-A	BATTERY ASSY, SVX (Including Battery label)	(See Note 1)
54	4-729-189-01	ORNAMENT (R) (R-ch for Black)					
54	4-729-189-11	ORNAMENT (R) (R-ch for Gray)					
54	4-729-189-21	ORNAMENT (R) (R-ch for Blue)					

3-3. LEFT HOUSING, HEADBAND SECTION



Note 1: Lubricant (SANKOL) is applied to the SVX O-RING ASSY (Ref. No. 106). Be careful when handling the parts.

Note 2: The L MAIN board (this page), L NFC board (this page), front plate (L) block (this page), and front plate (R) block (page 17) have specific combinations and cannot be repaired and replaced individually. If the L MAIN board, L NFC board, front plate (L) block, or front plate (R) block malfunctions, replace the SVX headband assy (Ref. No. HPN1: page 16).

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
101	4-728-985-01	COVER, HOUSING (L) (L-ch for Black)		HB1	X-2595-704-2	HEADBAND, ASSY (GRAY-UC) (Including Relay cable, O-ring (AORI)) (for Gray) (US, CND, LA)	
101	4-728-985-11	COVER, HOUSING (L) (L-ch for Gray)		HB1	X-2595-705-2	HEADBAND, ASSY (BLUE-UC) (Including Relay cable, O-ring (AORI)) (for Blue) (US, CND, LA)	
101	4-728-985-21	COVER, HOUSING (L) (L-ch for Blue)		HB1	X-2595-827-2	HEADBAND, ASSY (BLACK-CE7) (Including Relay cable, O-ring (AORI)) (for Black) (AEP, UK)	
102	X-2595-659-1	BUTTON, POWER ASSY (♯) (for Black)		HB1	X-2595-828-2	HEADBAND, ASSY (GRAY-CE7) (Including Relay cable, O-ring (AORI)) (for Gray) (AEP, UK)	
102	X-2595-797-1	BUTTON, POWER ASSY (♯) (for Gray)		HB1	X-2595-829-2	HEADBAND, ASSY (BLUE-CE7) (Including Relay cable, O-ring (AORI)) (for Blue) (AEP, UK)	
102	X-2595-798-1	BUTTON, POWER ASSY (♯) (for Blue)		HB1	X-2595-830-2	HEADBAND, ASSY (BLACK-E) (Including Relay cable, O-ring (AORI)) (for Black) (E, AUS, JE, RU)	
103	3-254-003-01	SCREW (1.7X2.5 mm)		HB1	X-2595-831-2	HEADBAND, ASSY (GRAY-E) (Including Relay cable, O-ring (AORI)) (for Gray) (E, AUS, JE, RU)	
104	4-728-988-01	BUTTON, NC (for Black)		HB1	X-2595-832-2	HEADBAND, ASSY (BLUE-E) (Including Relay cable, O-ring (AORI)) (for Blue) (E, AUS, JE, RU)	
104	4-728-988-11	BUTTON, NC (for Gray)		HB1	X-2595-833-2	HEADBAND, ASSY (BLACK-CN) (Including Relay cable, O-ring (AORI)) (for Black) (CH)	
104	4-728-988-21	BUTTON, NC (for Blue)					
105	3-254-058-21	SCREW (2.0X5.0 mm)					
106	A-2193-912-A	O-RING ASSY, SVX (Applied SANKOL) (2 pieces 1 set) (See Note 1)					
107	4-728-989-01	ORNAMENT (L) (L-ch for Black)					
107	4-728-989-11	ORNAMENT (L) (L-ch for Gray)					
107	4-728-989-21	ORNAMENT (L) (L-ch for Blue)					
HB1	X-2595-656-2	HEADBAND, ASSY (BLACK-UC) (Including Relay cable, O-ring (AORI)) (for Black) (US, CND, LA)					

SECTION 4 ACCESSORIES

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>
	4-729-819-11	MANUAL, INSTRUCTION (Operating Instructions)	
	4-729-820-11	GUIDE, REFERENCE (ENGLISH, SPANISH, FRENCH) (US, CND, LA)	
	4-729-820-21	GUIDE, REFERENCE (SIMPLIFIED CHINESE) (CH)	
	4-729-820-31	GUIDE, REFERENCE (ENGLISH, RUSSIAN, ARABIC, TRADITIONAL CHINESE, KOREAN) (E, AUS, JE, RU)	
	4-729-820-41	GUIDE, REFERENCE (ENGLISH, FRENCH, GERMAN, SPANISH, DUTCH, ITALIAN, POLISH, HUNGARIAN) (AEP, UK)	
	4-729-820-51	GUIDE, REFERENCE (PORTUGUESE, GREEK, CZECH, BULGARIAN, SLOVAK, SLOVENIAN, ROMANIAN) (AEP, UK)	
501	1-848-682-11	CABLE, CONNECTION (USB) (Micro-USB cable (approx. 50 cm))	
502	1-846-746-63	CABLE (WITH PLUG) (Headphone cable (approx. 1.2 m))	

