

UBP-X700 / UBP-UX70

RMT-VB201U / RMT-VB201D / RMT-VB400T

SERVICE MANUAL



Ver. 1.0 2017.06

US, Canadian Model
US Model
AEP Model
UK Model
Australian Model
Taiwan Model
Singapore Model
Middle East Model
E Model
India Model
UBP-X700

US, Canadian Model
US Model
UBP-UX70

Ultra HD Blu-ray™ / DVD Player

SONY®

2017E6900-1

© 2017.06

Specifications : UBP-UX70/X700 U2/UC2

Specifications and design are subject to change without notice.

System

Laser	Semiconductor laser
--------------	---------------------

Inputs and outputs

Jack name	Jack type/Output level/Load impedance
DIGITAL OUT (COAXIAL)	Phono jack /0.5 Vp-p/75 ohms
HDMI OUT 1*/2	HDMI 19-pin standard connector * Only HDMI OUT 1 supports video output.
LAN (100)	100BASE-TX Terminal
USB	USB jack Type A (For connecting a USB memory, memory card reader, digital still camera, and digital video camera)* * Do not use for power charging purposes.
DC IN	12V DC, 1.25 A

Wireless

Wireless LAN standard	Protocol IEEE802.11b/g/n
Frequency range / Output Power	2.4 GHz band
Modulation	DSSS and OFDM

General

Power requirements	12V DC with AC adaptor Rating : input 120V AC, 60Hz
Power consumption (when using AC adaptor)	15 W
Dimensions (approx.)	320 mm × 217 mm × 45 mm (12 3/5 in. × 8 1/2 in. × 1 4/5 in.) (width × depth × height) incl. projecting parts
Mass (approx.)	1.4 kg (3 lb 9/10 oz)
Operating temperature	5 °C to 35 °C (41 °F to 95 °F)
Operating humidity	25 % to 80 %

Specifications : UBP-X700 EC1/CEK

Specifications and design are subject to change without notice.

System

Laser	Semiconductor laser
--------------	---------------------

Inputs and outputs

Jack name	Jack type/Output level/Load impedance
DIGITAL OUT (COAXIAL)	Phono jack /0.5 Vp-p/75 ohms
HDMI OUT 1*/2	HDMI 19-pin standard connector * Only HDMI OUT 1 supports video output.
LAN (100)	100BASE-TX Terminal
USB	USB jack Type A (For connecting a USB memory, memory card reader, digital still camera, and digital video camera)* * Do not use for power charging purposes.
DC IN	12 V DC, 1.25 A

Wireless

Wireless LAN standard	Protocol IEEE802.11b/g/n
Frequency range / Output Power	2,400 - 2,483.5 MHz / < 20.0 dBm
Modulation	DSSS and OFDM

General

Power requirements	12 V DC with AC adaptor Rating: Input 220 V - 240 V AC, 50/60 Hz
Power consumption (when using AC adaptor)	15 W
Network standby	Less than 2 W (all wired/wireless network ports ON)
Dimensions (approx.)	320 mm × 217 mm × 45 mm (width × depth × height) incl. projecting parts
Mass (approx.)	1.4 kg
Operating temperature	5 °C to 35 °C
Operating humidity	25 % to 80 %

Specifications : UBP-X700 SP6/EA7/IN5

Specifications and design are subject to change without notice.

System

Laser	Semiconductor laser
--------------	---------------------

Inputs and outputs

Jack name	Jack type/Output level/Load impedance
DIGITAL OUT (COAXIAL)	Phono jack /0.5 Vp-p/75 ohms
HDMI OUT 1*/2	HDMI 19-pin standard connector * Only HDMI OUT 1 supports video output.
LAN (100)	100BASE-TX Terminal
USB	USB jack Type A (For connecting a USB memory, memory card reader, digital still camera, and digital video camera)* * Do not use for power charging purposes.
DC IN	12 V DC, 1.25 A

Wireless

Wireless LAN standard	Protocol IEEE802.11b/g/n
Frequency range	2.4 GHz band
Modulation	DSSS and OFDM

General

Power requirements	12 V DC with AC adaptor Rating: Input 110 V - 240 V AC, 50/60 Hz
Power consumption (when using AC adaptor)	15 W
Dimensions (approx.)	320 mm × 217 mm × 45 mm (width × depth × height) incl. projecting parts
Mass (approx.)	1.4 kg
Operating temperature	5 °C to 35 °C
Operating humidity	25 % to 80 %

Specifications : UBP-X700 E32

Specifications and design are subject to change without notice.

System

Laser	Semiconductor laser
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Inputs and outputs

Jack name	Jack type/Output level/Load impedance
DIGITAL OUT (COAXIAL)	Phono jack /0.5 Vp-p/75 ohms
HDMI OUT 1*/2	HDMI 19-pin standard connector * Only HDMI OUT 1 supports video output.
LAN (100)	100BASE-TX Terminal
USB	USB jack Type A (For connecting a USB memory, memory card reader, digital still camera, and digital video camera)* * Do not use for power charging purposes.
DC IN	12 V DC 1.25 A

AC adaptor (AC-M1215WW)

Input	100 V - 240 V 50/60 Hz, 500 mA
Output	12 V, 1 500 mA
Operating temperature	0 °C to 45 °C

Wireless

Wireless LAN standard	Protocol IEEE802.11b/g/n
Frequency range	2.4 GHz band
Modulation	DSSS and OFDM

General

Power requirements	12 V DC 1.25 A with AC adaptor
Power consumption (when using AC adaptor)	15 W
Dimensions (approx.)	320 mm × 217 mm × 45 mm (width × depth × height) incl. projecting parts
Mass (approx.)	1.4 kg
Operating temperature	5 °C to 35 °C
Operating humidity	25 % to 80 %

Specifications : UBP-X700 TW1

Specifications and design are subject to change without notice.

System

Laser	Semiconductor laser
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Inputs and outputs

Jack name	Jack type/Output level/Load impedance
DIGITAL OUT (COAXIAL)	Phono jack /0.5 Vp-p/75 ohms
HDMI OUT 1*/2	HDMI 19-pin standard connector * Only HDMI OUT 1 supports video output.
LAN (100)	100BASE-TX Terminal
USB	USB jack Type A (For connecting a USB memory, memory card reader, digital still camera, and digital video camera)* * Do not use for power charging purposes.
DC IN	12 V DC, 1.25 A

AC adaptor (AC-M1215WW)

Input	100 V - 240 V ~ 50/60 Hz, 0.5 A
Output	12 V, 1.5 A
Operating temperature	0 °C to 45 °C

Wireless

Wireless LAN standard	Protocol IEEE802.11b/g/n
Frequency range	2.4 GHz band
Modulation	DSSS and OFDM

General

Power requirements	12 V DC with AC adaptor Rating: Input 110 V AC, 60 Hz
Power consumption (when using AC adaptor)	15 W
Dimensions (approx.)	320 mm × 217 mm × 45 mm (width × depth × height) incl. projecting parts
Mass (approx.)	1.4 kg
Operating temperature	5 °C to 35 °C
Operating humidity	25 % to 80 %

Specifications : UBP-X700 AU2

Specifications and design are subject to change without notice.

System

Laser	Semiconductor laser
--------------	---------------------

Inputs and outputs

Jack name	Jack type/Output level/Load impedance
DIGITAL OUT (COAXIAL)	Phono jack /0.5 Vp-p/75 ohms
HDMI OUT 1*/2	HDMI 19-pin standard connector * Only HDMI OUT 1 supports video output.
LAN (100)	100BASE-TX Terminal
USB	USB jack Type A (For connecting a USB memory, memory card reader, digital still camera, and digital video camera)* * Do not use for power charging purposes.
DC IN	12 V DC, 1.25 A

Wireless

Wireless LAN standard	Protocol IEEE802.11b/g/n
Frequency range	2.4 GHz band
Modulation	DSSS and OFDM

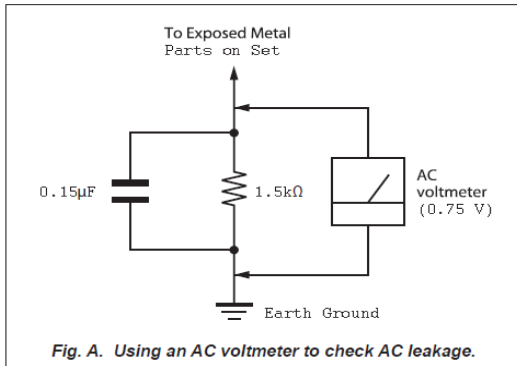
General

Power requirements	12 V DC with AC adaptor Rating: Input 220 V - 240 V AC, 50/60 Hz
Power consumption (when using AC adaptor)	15 W
Dimensions (approx.)	320 mm × 217 mm × 45 mm (width × depth × height) incl. projecting parts
Mass (approx.)	1.4 kg
Operating temperature	5 °C to 35 °C
Operating humidity	25 % to 80 %

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer:

1. Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are “pinched” or contact high-wattage resistors.
3. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
4. Look for parts which, though functioning, show obvious signs of deterioration. Point them out of the customer and recommend their replacement.
5. Check the line cord for cracks and abrasion. Recommend the replacement of any such line cord to the customer.
6. Check the B+ voltage to see it is at the values specified.
7. Check the antenna terminals, metal trim, “metallized” knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.



WARNING!!

WHEN SERVICING, DO NOT APPROACH THE LASER EXIT WITH THE EYE TOO CLOSELY. IN CASE IT IS NECESSARY TO CONFIRM LASER BEAM EMISSION, BE SURE TO OBSERVE FROM A DISTANCE OF MORE THAN 25 cm FROM THE SURFACE OF THE OBJECTIVE LENS ON THE OPTICAL PICK-UP BLOCK.

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.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microamperes). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The “limit” indication is 0.75V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2V AC range are suitable. (See Fig. A)

CAUTION:

The use of optical instrument with this product will increase eye hazard.

CAUTION

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.



Unleaded solder

Boards requiring use of unleaded solder are printed with the leadfree 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.

TABLE OF CONTENTS

1. SERVICE NOTE	<u>Page</u>
1.1. Disc Removal Procedure If The Tray Cannot Be Ejected (Forced Ejection)	1-1
1-2. Work when optical device are replaced	1-1
1-3. Test Disc	1-2
1-3-1. Operation and Display.....	1-2
1-3-2. Disc Information (ULX-301)	1-3
1-4. Drive Repairing	1-4
1-4-1. Preparation.....	1-4
1-4-2. Checking Flow ~ Drive (BU) section ~	1-4
1-4-3. BU (Optical Unit) Check Flow [zz] ~	1-4
1-4-4. Optical Unit (BU) Repair Guide	1-5
1-4-5. BU Adjustment Flow [yy] ~	1-5
1-4-6. KEM-481AAA/C2R Part Packing.....	1-6
1-4-7. BU Data Decode Jig.....	1-7
1-4-8. MD (Mechanical Deck) Assy for Service	1-8
1-4-9. Laser Caution Label	1-8
 2. DISASSEMBLY	
2-1. Disassembly Flow	2-1
2-2. Case Upper	2-1
2-3. Panel Front and FR PWB	2-2
2-4. WiFi and MB PWB	2-2
2-5. BD Drive	2-3
 3. BLOCK DIAGRAMS	
3-1. Frame Harness (UBP-X700/UX70).....	3-1
3-2. Overall Block Diagram (UBP-X700/UX70)	3-2
3-3. Power Block Diagram (UBP-X700/UX70)	3-3
 4. PRINTED WIRING BOARDS	
4-1. This Note Is Common For Printed Wiring Boards	4-1
4-2. MB-1701 Board Printed Wiring Board (Side A).....	4-2
4-3. MB-1701 Board Printed Wiring Board (Side B).....	4-3
4-4. FR-1702 Board Printed Wiring Board (Side A).....	4-4
4-5. FR-1702 Board Printed Wiring Board (Side B).....	4-5

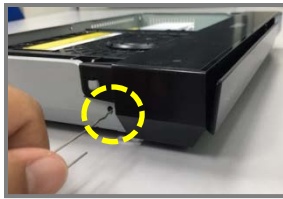
TABLE OF CONTENTS

	<u>Page</u>
5. SERVICE MODE AND ERROR LOG LIST	5-1
 6. TROUBLESHOOTING	
6-1. Main Flowchart	6-1
6-2. Power (System) Flowchart	6-2
6-3. Remote Control Flowchart	6-3
6-4. FR-1702 Board Flowchart	6-3
6-5. Video Section Flowchart	6-4
6-6. Audio (SPDIF) Section Flowchart	6-5
6-7. Drive Flowchart	6-6
6-8. Ethernet Flowchart	6-7
6-9. Wifi Flowchart	6-7
6-10. USB (Front) Device Flowchart	6-8
 7. REPAIR PARTS LIST	
7-1. Exploded Views	7-1
7-1-1. Case Section	7-1
7-1-2. Main Chassis Section.....	7-2
7-1-3. Drive Section	7-3
7-1-4. Accessories	7-4

SECTION 1 SERVICE NOTE

1-1. DISC REMOVAL PROCEDURE IF THE TRAY CANNOT BE EJECTED (FORCED EJECTION)

1. Remove the upper case.
2. Insert a pin or clip in the hole of a drive to open the tray.



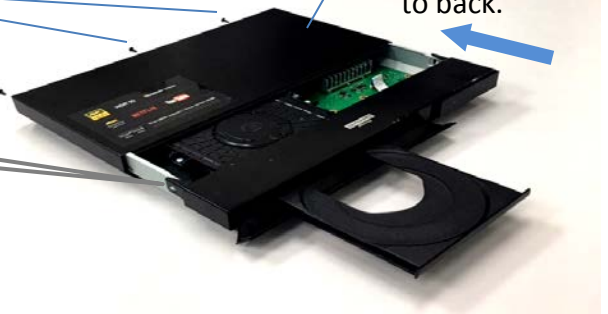
Insert a pin or clip in the hole of drive to open the a tray

Screws (Black)

Ⓐ

Ⓑ Upper Case

Slide the upper case to back.



1-2 WORK WHEN OPTICAL DEVICE ARE REPLACE

Note : Please do the following work when replace the Optical Unit (BU)
Details refer to 1.4-8 BU Data Decode Jig on page 1-7



Shoot the barcode
Format is JPEG



Application Software
UHDBUDecode.exe
Data convert from JPEG → TEXT



Ⓐ

Ⓐ



Save the TEXT(.txt) data



USB memory is connected to USB port on the front unit, and the TEXT data as new data is loaded to unit by Service Mode

1-3. TEST DISC

Part No.	Description	Layer
J-2501-378-A	ULX-301	Triple Layer (UHD)
J-6090-199-A	BLX-104	Single Layer
J-6090-200-A	BLX-204	Dual Layer
J-2501-307-A	CD (HLX-A1)	
J-2501-305-A	HLX-513	Single Layer (NTSC)
J-2501-306-A	HLX-514	Dual Layer (NTSC)
J-6090-077-A	HLX-506	Single Layer (PAL)
J-6090-078-A	HLX-507	Dual Layer (PAL)

1-3-1. Operation and Display

Disc checking items:

- 1) ULX-301 (Ultra HD Blu-ray disc) with triple layer (L0, L1, L2)
 1. No disc Menu; auto playback chapter 1 → press <option>
 2. Play chapter 1 : Content C Color bar 100% (L0)
 3. Play chapter 20 : Content A with Bouncy music (L1) → press <option>
 4. Play chapter 21 : Content A with Bouncy music (L2)
- 2) BLX-104 (BD-ROM Single layer)
 1. Select 23.976Hz/1080p
 2. Play "4.Motion pictures"
 3. Check whether player can play back or not
 4. Check each outputs Video:
Composite/component/HDMI Audio:
Digital out (Coaxial/Optical)/Audio out/5.1Ch output

* When 1080/24p monitor no output, select 1080i (59.94Hz or 50Hz) instead of 1080/24p.
However this is temporary correspondence.
- 3) BLX-204 (BD-ROM Dual layer)
 1. Select 1080i (59.94Hz or 50Hz)
 2. Play "4.Motion pictures"
 3. Check whether player can play back or not (Check the picture and sound output)
- 4) CD HLX-A1
Check whether player can play back or not (Check the sound output)
- 5) DVD HLX-513/514 (NTSC), HLX-506/507 (PAL)
 1. After displayed Main Menu, select "1.Video"
 2. Play "1.Color Bar 100%" (Check the picture and sound output)
 3. Return to Menu
 4. Play "Demonstration 4:3" or "Demonstration 16:9" (Check the picture and sound output)

1-3-2 Disc Information (ULX-301)

Layer 0	ULX-201 ULX-301	Chapter	01	02	03	04	05	06	07	08	09	10	
		Content	C	A	A	A	A	A	A	A	A	A	
		Time	9:12	4:00	4:00	4:00	4:00	4:00	4:00	4:00	4:00	4:00	3:00
Layer 1	ULX-201 ULX-301	Chapter	20	19	18	17	16	15	14	13	12	11	
		Content	A	A	A	A	A	A	A	A	A	A	A
		Time	3:19	4:00	4:00	4:00	4:00	4:00	4:00	4:00	4:00	4:00	2:30
Layer 2	ULX-301	Chapter	21	22	23	24	25	26	27	28	29	30	31
		Content	A	B	A	A	A	A	A	A	A	A	A
		Time	4:06	1:30	4:00	4:00	4:00	4:00	4:00	4:00	4:00	4:00	2:00

Basic specification:

Video : H.265/HEVC 3840 x 2160p 59.94Hz

Audio : 48kHz 16bit Linear PCM 1.536Mbps 2.0ch

TS bit rate : approx. 106Mbps

Characteristic chapters :

C01 : Low TR (34Mbps) at maximum velocity (inner area) with 100% color bar

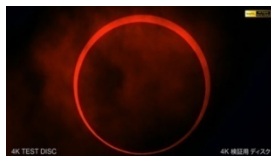
C10 : Low TR (79Mbps) at minimum velocity (outer area) with Live Action Image

C21-C22 : TR sudden change / C21 low TR (79Mbps inner restricted area) to C22 High TR (112Mbps)

C31 : High TR (121 Mbps) at minimum velocity



Content A
Live Action Image
with a bouncy music



Content B
Solar Eclipse
with piano performance



Content C
Color Bar
with 1kHz sinewave

1-4. DRIVE REPAIRING

1-4-1. Preparation

ESD Measures

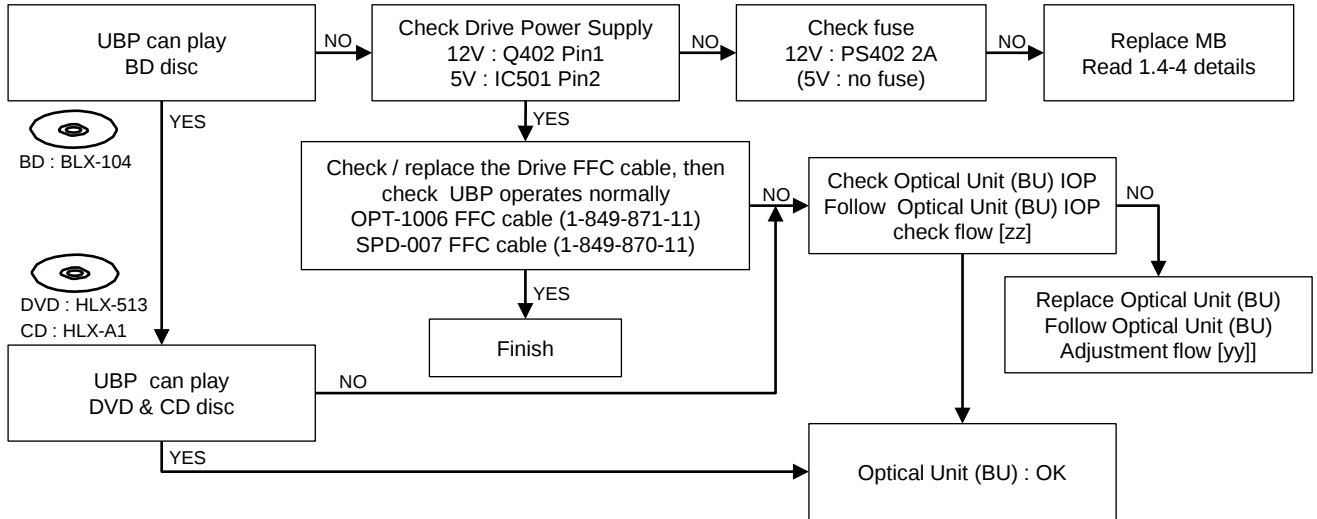
It is necessary to check the working space ESD condition before starting the Drive Optical Unit or BU repairs.

The ESD-resistance of BD Laser is weaker than DVD/CD Laser.

As prevention of ESD destruction, please make sure the working space and human ESD.

1-4-2. Checking Flow ~ Drive (BU) section ~

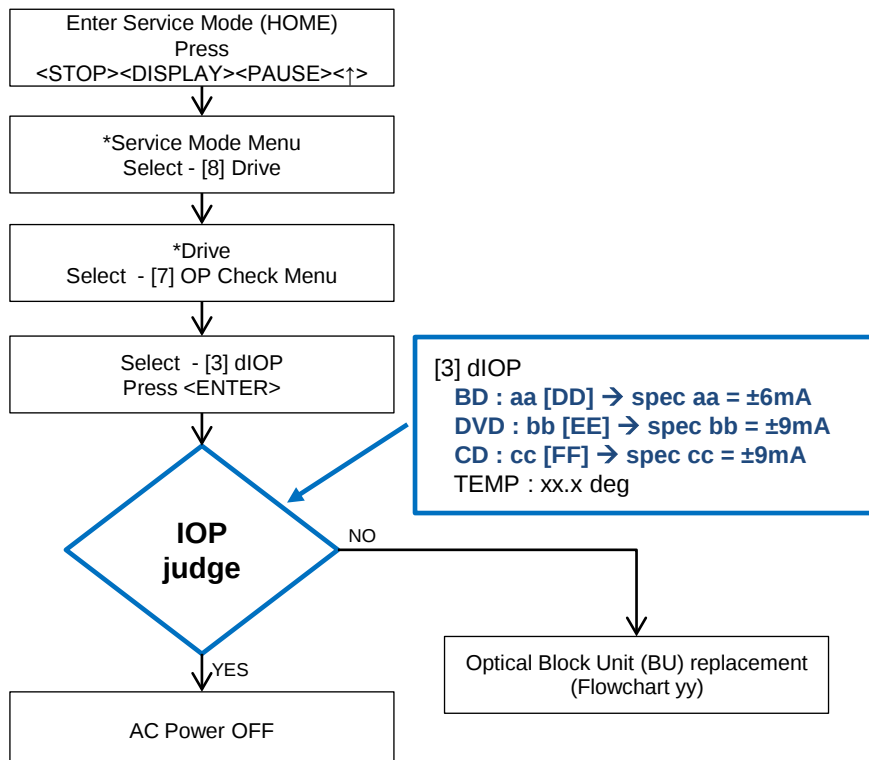
Drive flowchart



1-4-3. BU (Optical Unit) Check Flow [zz] ~

Before BU Replacement

Optical Unit (BU) IOP check flow [zz] ~ Before BU Replacement



1-4-4. Optical Unit (BU) Repair Guide

BDP-X700 /UX70 series component structure is as same as conventional BD Players.
BD player requires precise read out functions and also secure contents Protection system.
Since above requirement, it is necessary to set/adjust BU data to MB serial flash

The following cases need adjustments :

- (1) Replace BU (MB is original)
- (2) Replace MB (BU is original)
- (3) Replace both BU and MB

•JIG Requirement

- Digital camera (recommend with macro mode)
- Barcode decoder (UHDBUDecode.exe) installed in JIG PC's
- USB memory
- ESD work bench

•Procedure (all cases) refer the diagram **1.4-5 BU Adjustment Flow [yy]**

Remarks:

LD ON TIME history does not carry over after change BU

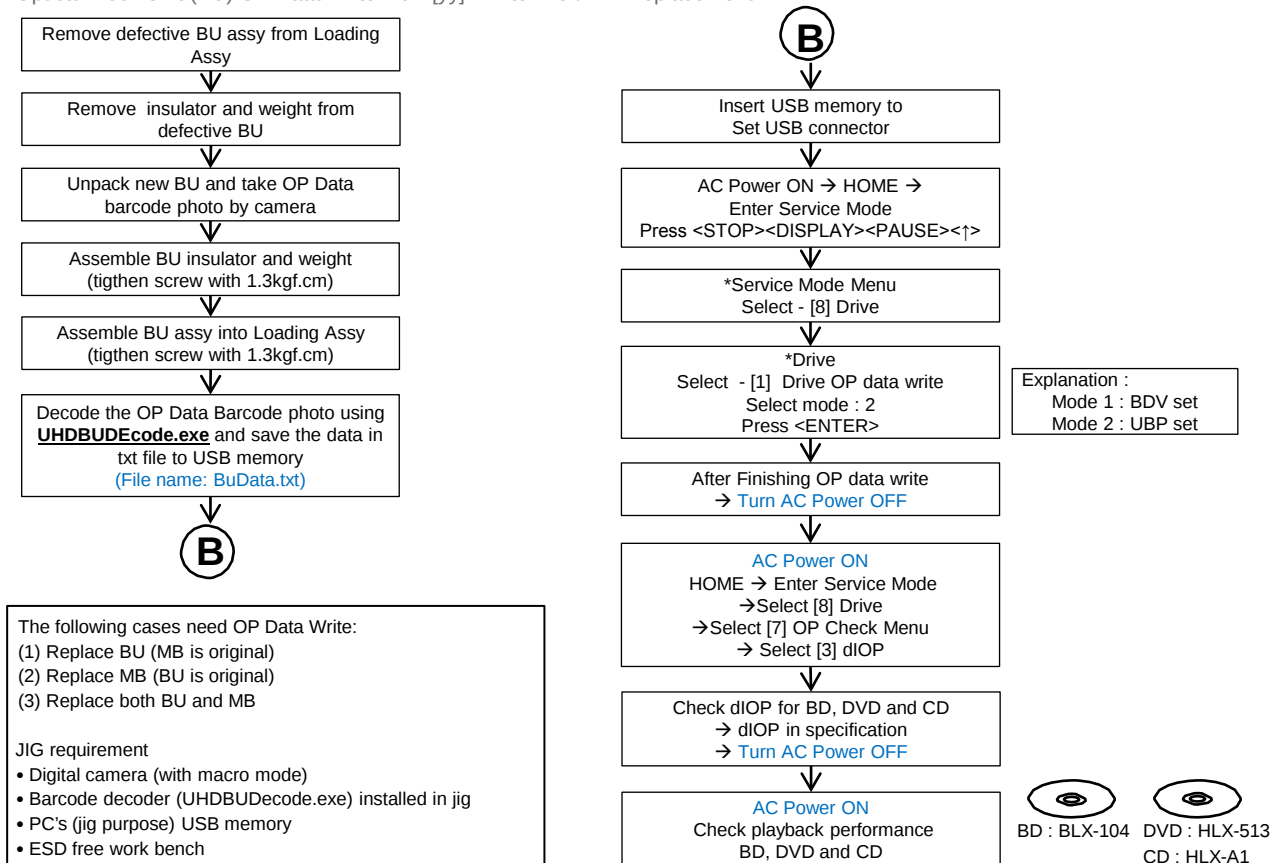
LD ON TIME will be reset to 0 for all BD, DVD and CD laser hour

DO NOT touch any optical block parts, turn table during replacing

BU Laser Diode is very sensitive

1-4-5. BU Adjustment Flow [yy] ~

Optical Block Unit (BU) OP Data Write Flow [yy] ~ After BU / MB Replacement



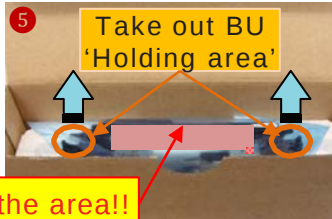
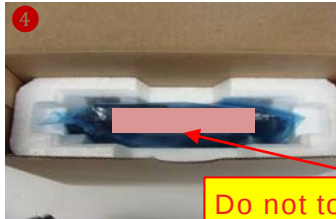
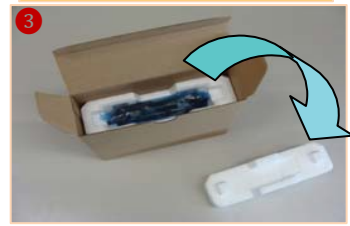
1-4-6. KEM-481AAA/C2R part packing



Open the box



Take out Top Cushion

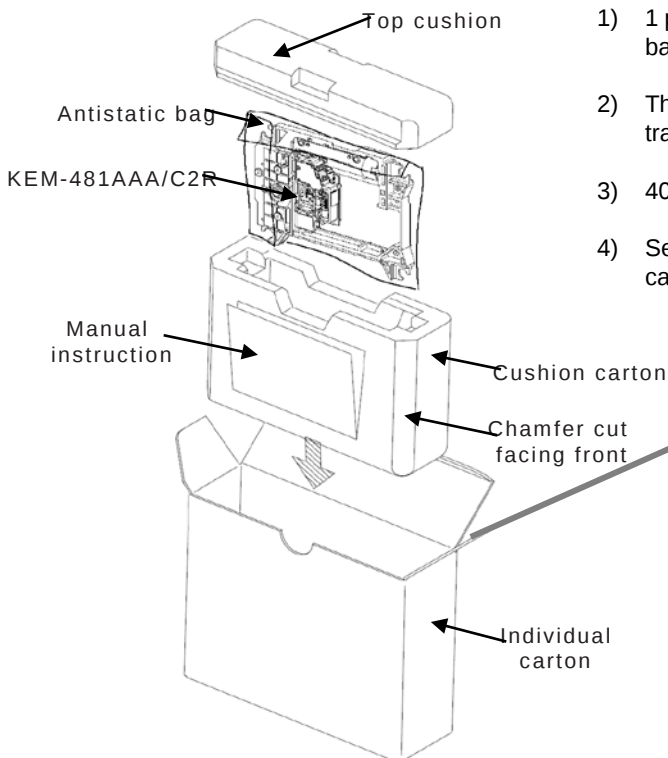


Do not touch the area!!

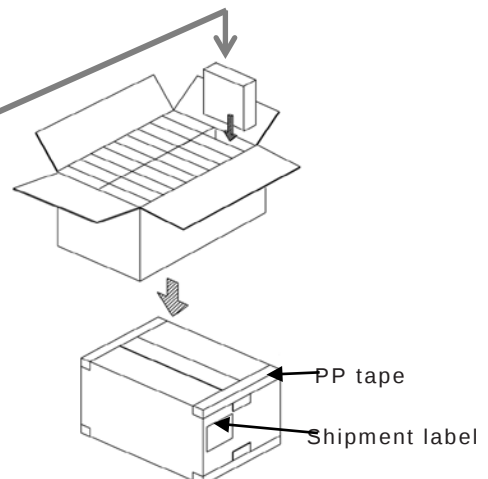


Do not re-use antistatic bag!!

KEM-481AAA/C2R master carton packing

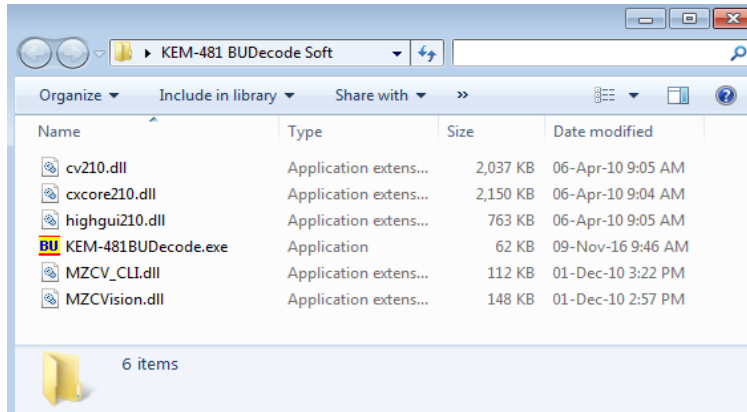


- 1) 1 piece of BU KEM-481 inside antistatic bag and excess part of bag is folded back.
- 2) The BU KEM-481 and Manual instruction are put into Cushion tray (PSFM) with Top cushion on it stored in individual carton.
- 3) 40pcs of individual carton are stored in master carton.
- 4) Seal is attached to top and bottom of carton with PP tape. (So called "H" shape)



1-4-7. BU Data Decode Jig

- Jigsoft Name : KEM-481 BUDecode Soft
- Released : 2017
- Version : 1.0.1



- Software folder contents :
cv210.dll, cxcore210.dll, highgui210.dll, MZCV_CLI.dll, MZCVision.dll, KEM-481BUDecode.exe
- Software requirements :
Windows 7 OS (Require Microsoft Framework 4.0)
Microsoft Office 2007 and above (Require MS Office 12.0 Object Library)
- Installation methods :
Unzip File KEM-481BUDecode Soft.Zip to Desktop
Main execute file is KEM-481BUDecode.exe



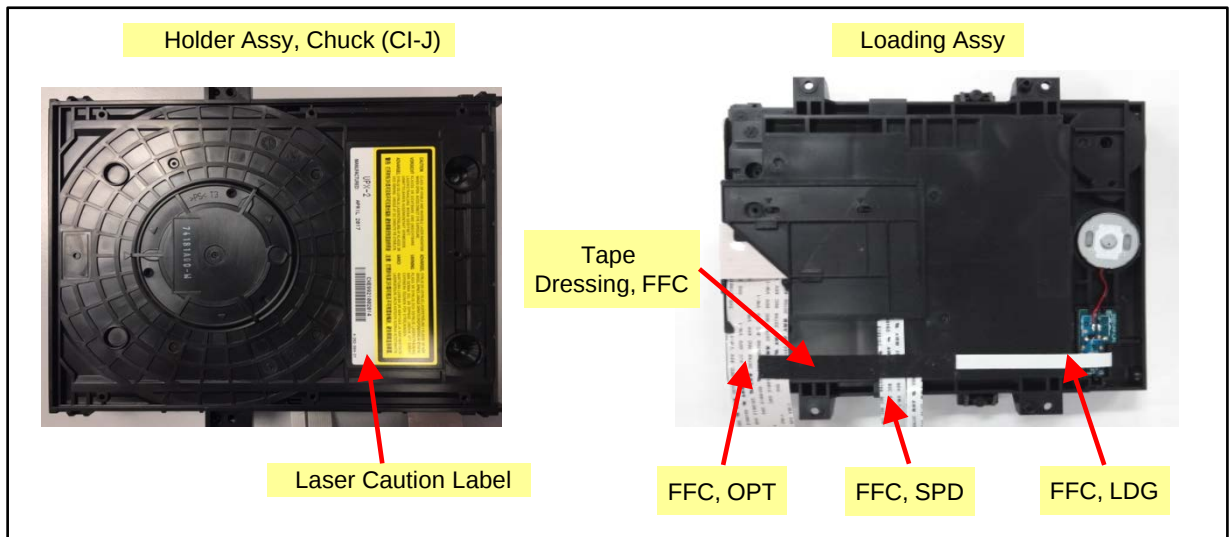
- Method to use :
Place BU 2D barcode photo (jpg file) into 'KEM-481 BUDecode Soft' folder
Execute 'KEM-481BUDecode.exe' (double click)
Press button 'Open File' to select BU 2D barcode photo
Soft display 64 & 91 BU decoded data and disable "Open File" button
User require to close and re-execute the soft for next decoding
Converted OP Data will be auto save at C:\BuData.txt
- Save file path :
C:\BuData.txt
Auto save by Soft
Auto deletion by Soft
- Remarks :
Do not change the decoded file name "BuData.txt".

1-4-8. MD (Mechanical Deck) Assy for Service

MD Assy service parts consists of 2 parts.

- ① Holder Assy, Chuck (A-2189-191-B)
- ② Loading Assy (A-2143-751-A)

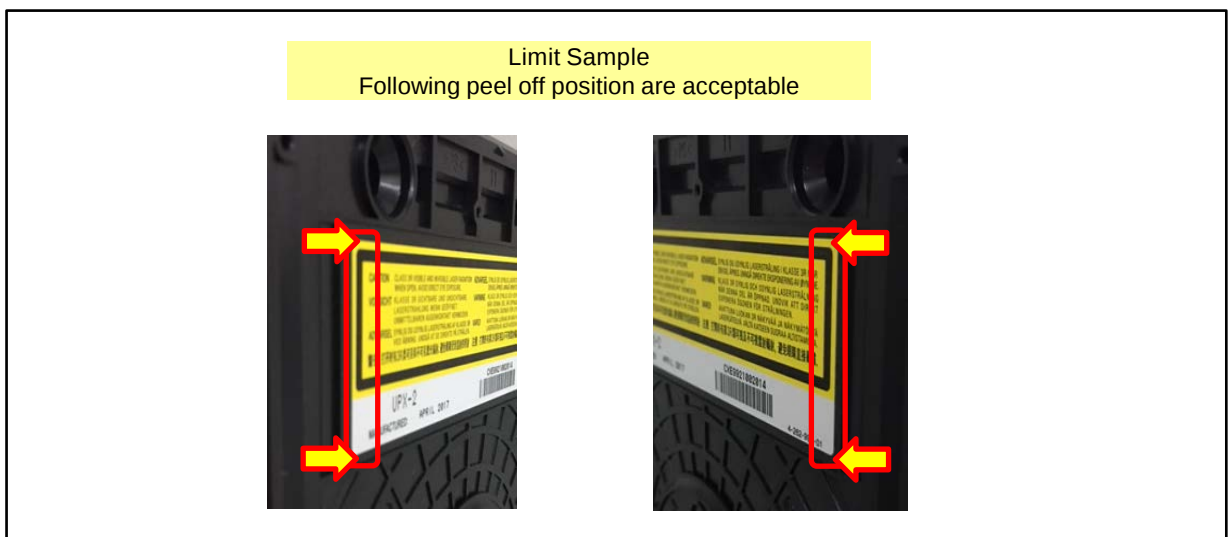
Above service part ① & ② can be used for both UBP-X700/UX70.



1-4-9. Laser Caution Label

A new Holder Assy, Chuck part do not have Laser Caution Label.

Need to reuse the original Laser Caution label and paste it on top of new Holder Assy, Chuck .

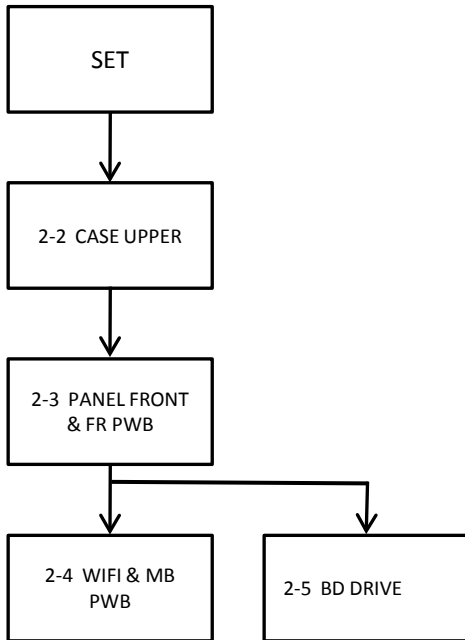


SECTION 2

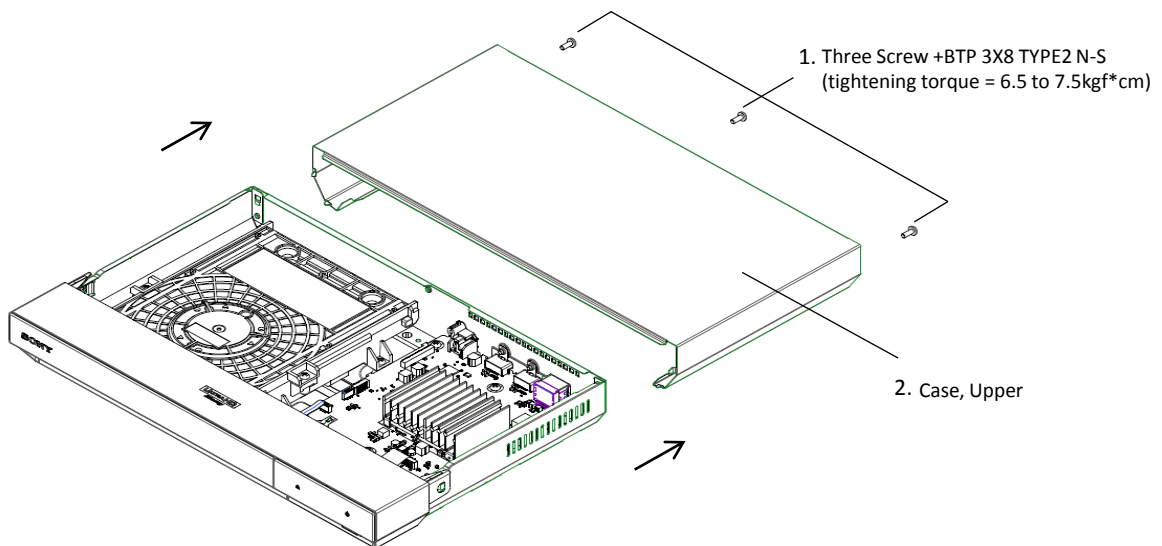
DISASSEMBLY

This set can be disassembled in the order shown below.

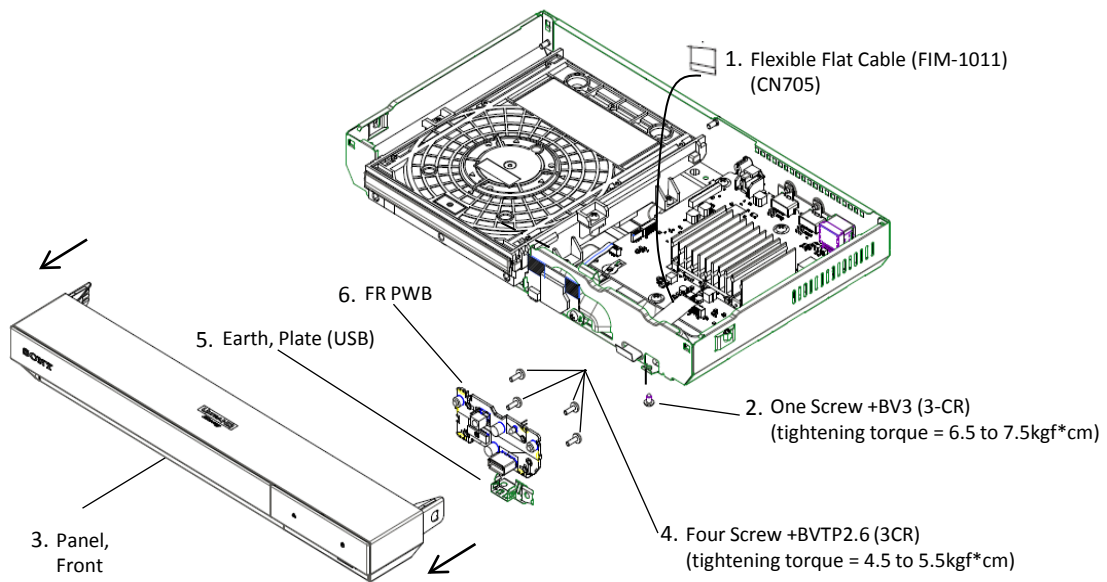
2-1. DISASSEMBLY FLOW



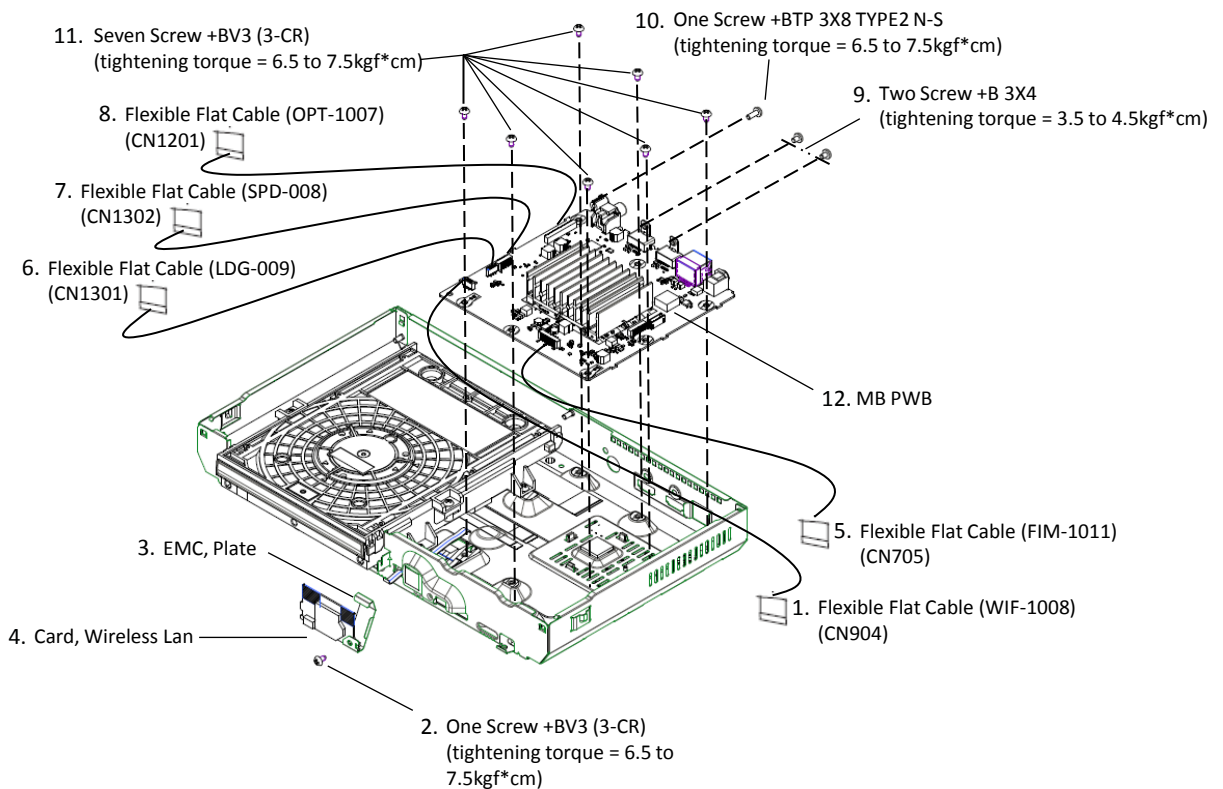
2-2. CASE UPPER



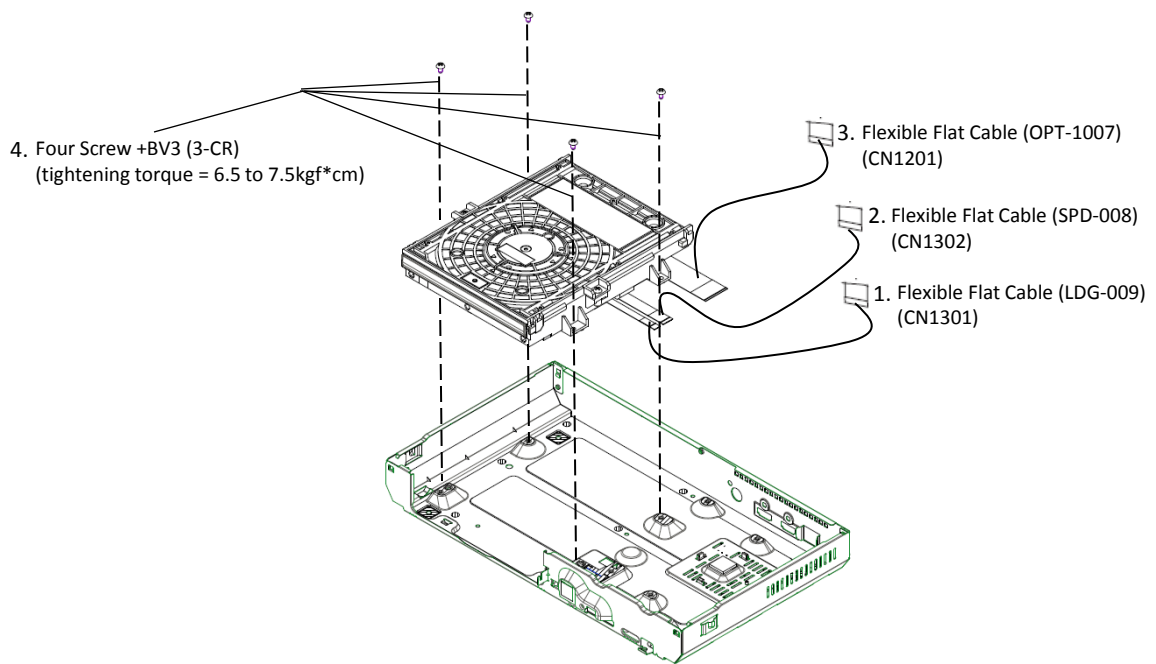
2-3. PANEL FRONT & FR PWB



2-4. WIFI & MB PWB

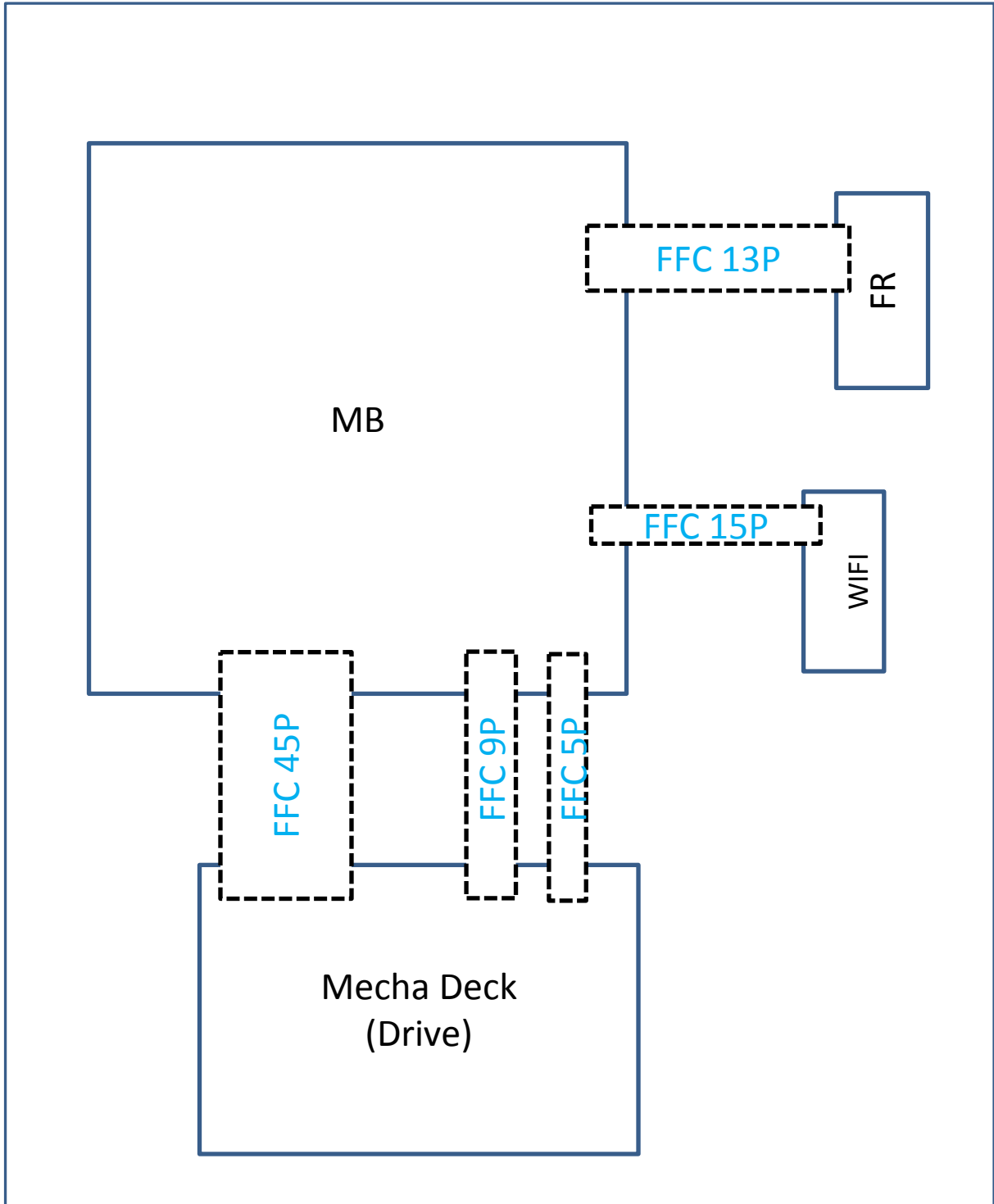


2-5. BD DRIVE

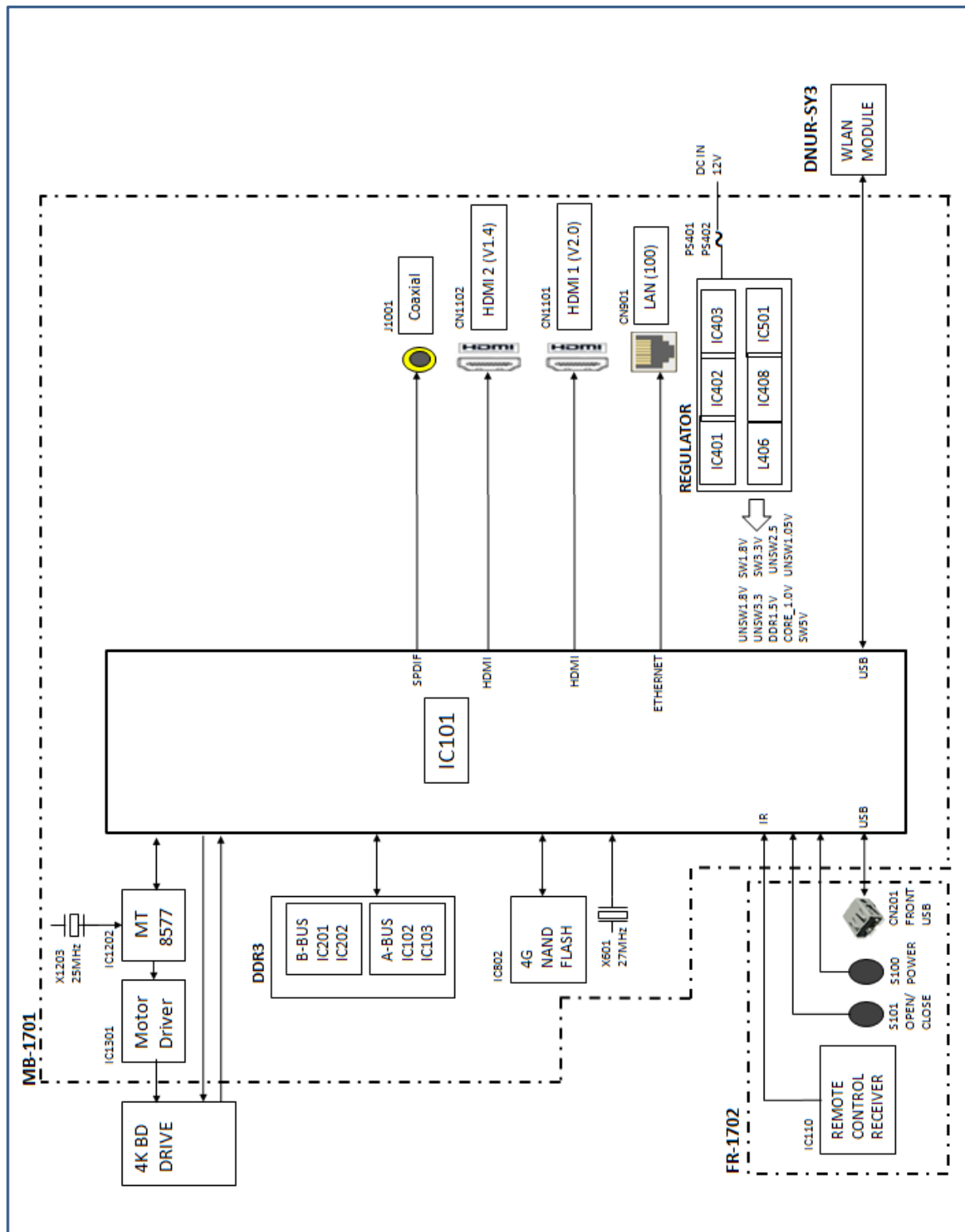


SECTION 3
BLOCK DIAGRAMS

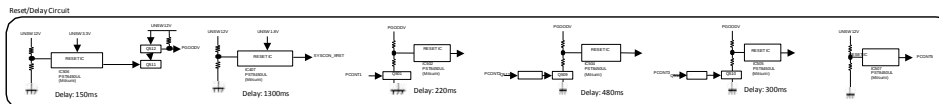
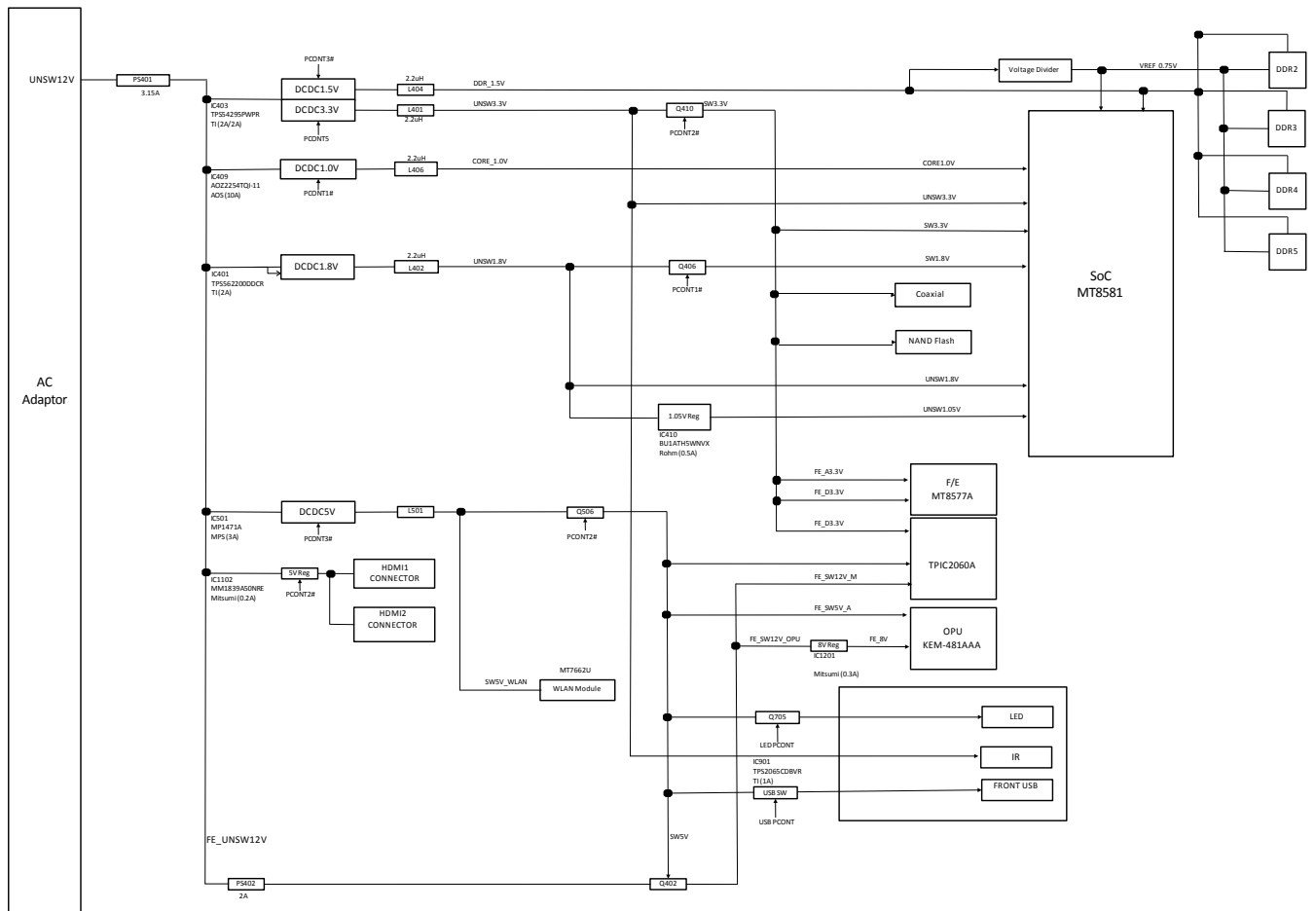
3-1. FRAME HARNESS : UBP-X700 / UX70



3-2. OVERALL BLOCK DIAGRAM : UBP-X700 / UX70



3-3. POWER BLOCK DIAGRAM : UBP-X700 / UX70



SECTION 4 PRINTED WIRING BOARDS

4-1. THIS NOTE IS COMMON FOR PRINTED WIRING BOARDS

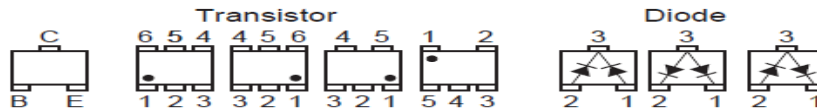
-  : Uses unleaded solders.
-  : Pattern from the side which enables seeing.

(The other layers' patterns are not indicated)

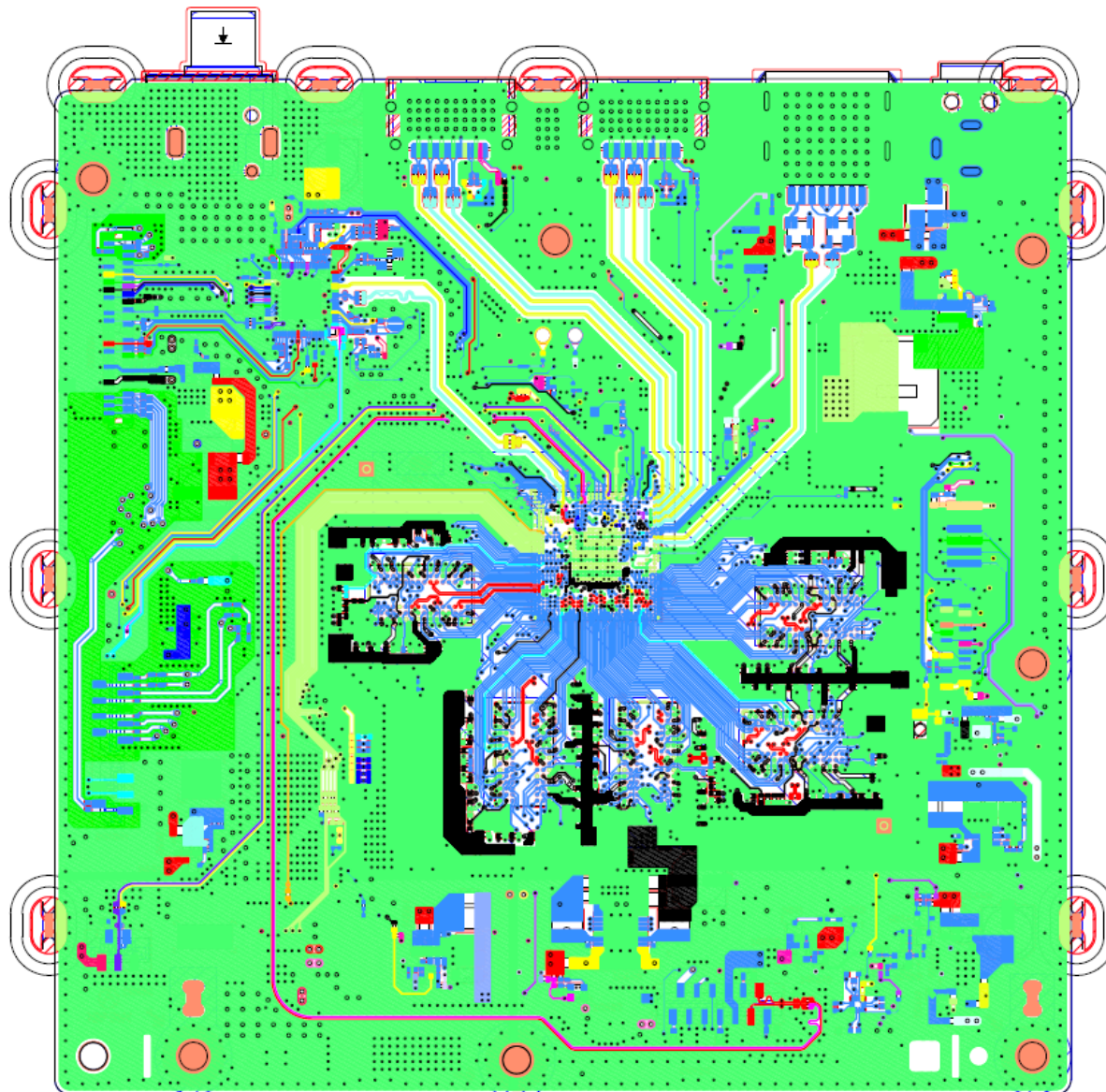
Caution:

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

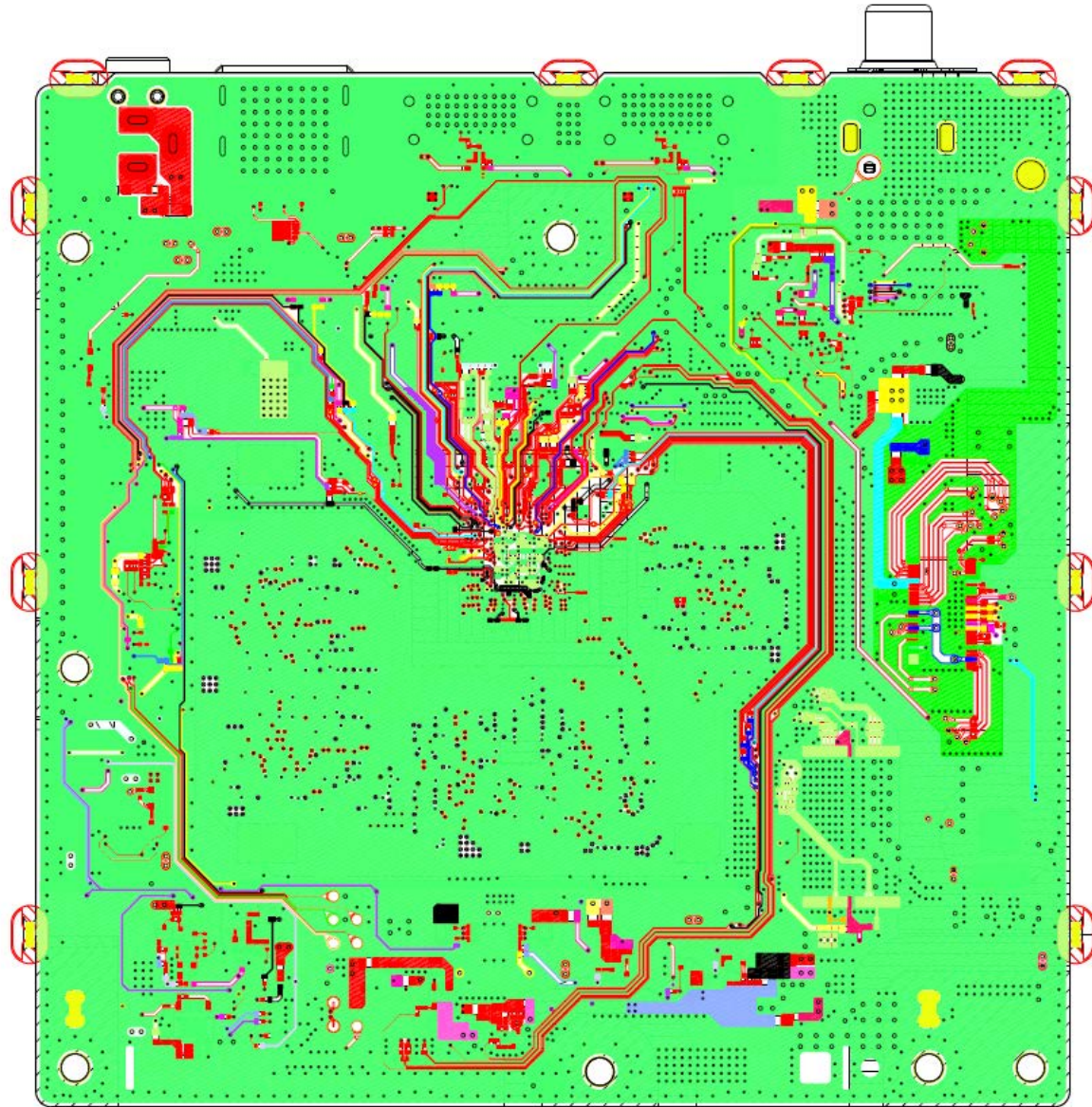
- Through hole is omitted.
- There are few cases that the part printed on diagram isn't mounted in this model.
-  : panel designation
- Chip parts.



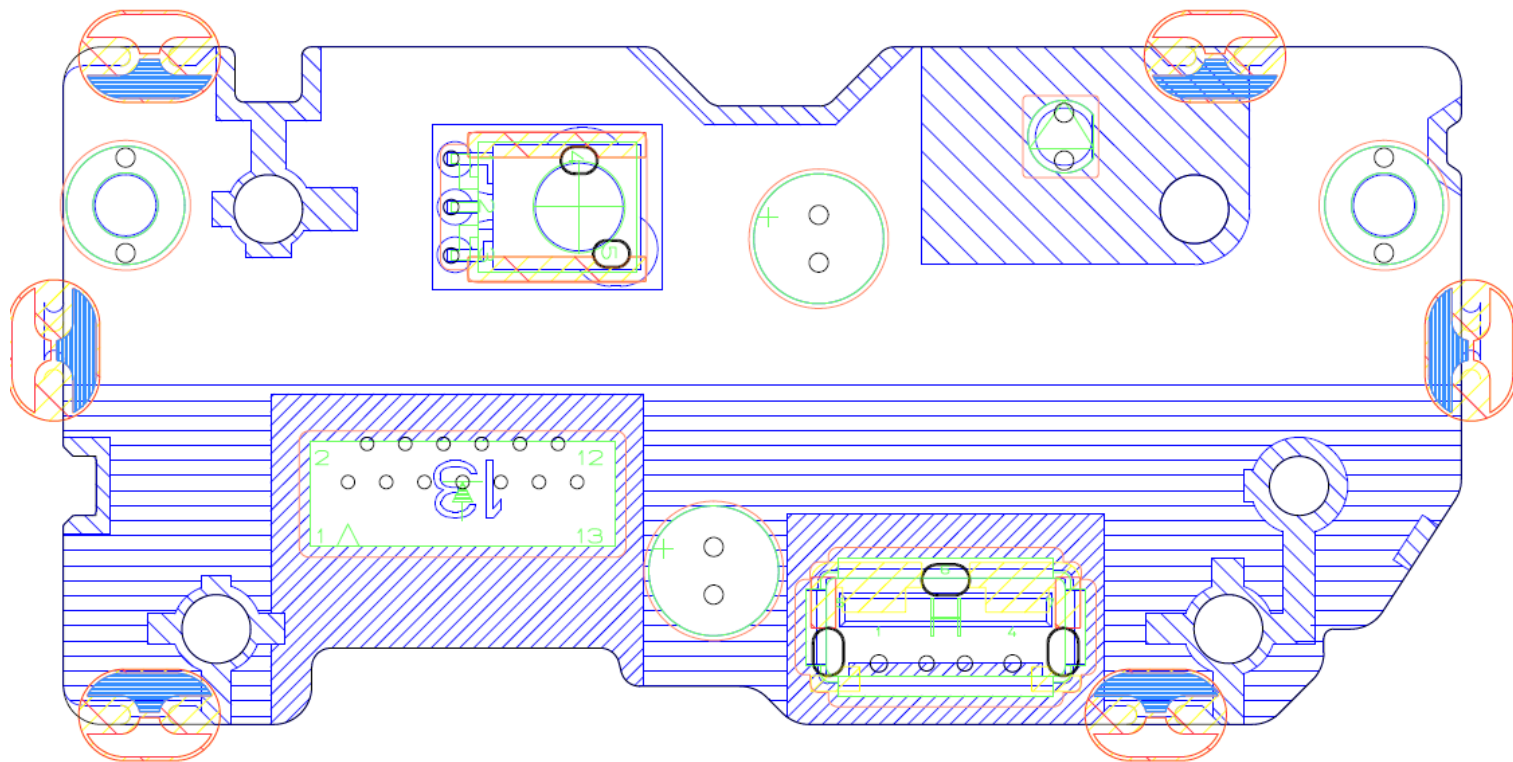
4-2 . *MB-1701 BOARD PRINTED WIRING BOARD
(SIDE A)



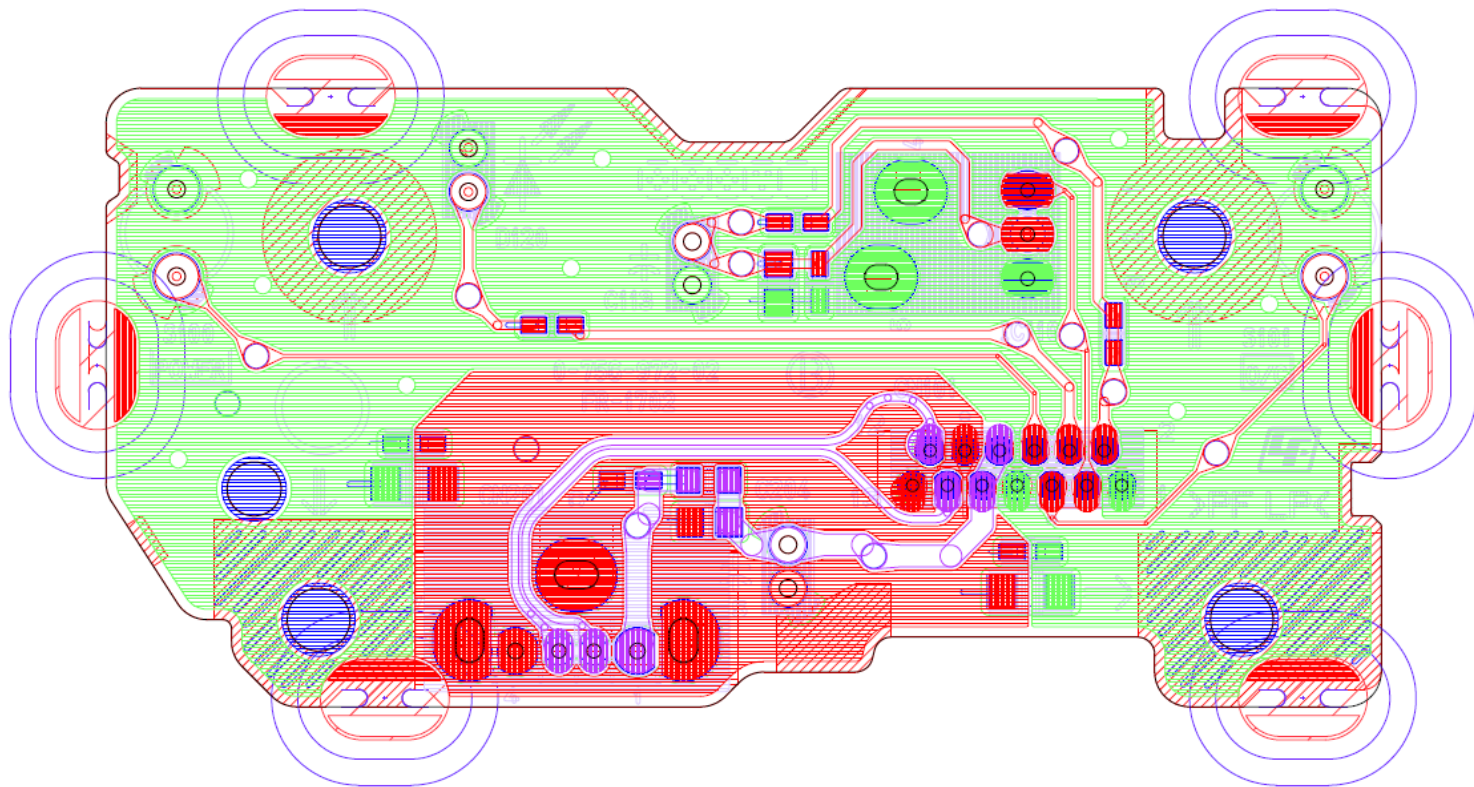
4-3 . *MB-1701 BOARD PRINTED WIRING BOARD
(SIDE B)



4-4 . *FR-1702 BOARD PRINTED WIRING BOARD
(SIDE A)



4-5 . *FR-1702 BOARD PRINTED WIRING BOARD
(SIDE B)



SECTION 5

SERVICE MODE AND ERROR LOG LIST

Main function

■ Enter Service Mode

Connect the set to AC, and wait initialization cycle complete .

Power ON set into normal mode. When User Interface screen (UI) appear,
Use Sony BDP remote controller, key in the following SIRCS code.

[STOP] -> [Display] -> [PAUSE] -> [↑] cursor-up

While sending of SIRCS code, wait time between each key code must be within 3 second. If 3 second waiting is exceeded user have to re-key in the SIRCS code.

If SIRCS enter is successful, set will auto boot up and FLD will display SERVC [FLD available MODEL]. The screen of service mode is displayed on a monitor.

Control via Remote Controller

• Diag

The unit test of the device mounted on the MainBoard.

• Display Error Log

Error log is displayed.

The displayed logs can be saved in a USB memory.

• Factory Initialize

Return all of the player setting to their factory defaults.

• Network

Confirm Wired Network connection.

• System Information

System information of the set is displayed.

The Information on a soft version and drive information, etc. is displayed.

• Drive

Write Drive OP Data and check drive.

Function Support List

Service Mode (Top)		Category		Device		UBP-X700 / UBP-UX70
1	Diag	1	Device Test	1	USB	X
				2	D/A Converter	√
				3	IF CON	X
					*FDP all ON	X
					*Show Strings	X
					*LED Sequential ON	X
				*Fan Control ON	X	
				4	MIC	X
				5	MFI	X
		6	IPC	X		
		7	External HDMI	X		
		8	Transcoder	X		
		2	Video Test		√	
		3	Audio Test		√	
		4	Audio Input Test		X	
		5	Wireless LAN Test		X	
		6	Mic Test		X	
		7	HDMI Input Test		X	
		8	Transcoder Test		X	
		9	Bluetooth	1	Bluetooth Enable	X
				2	Bluetooth Disable	X
3	Write Bluetooth device address to Registry			X		
4	Bluetooth Inquiry Test			X		
2	Log	1	Error Log		√	
		2	HDD Log		X	
3	Factory Initialize					√
4	Network					√
5	Version Up (Disc)					X
6	System Information					√
7	EMC Test Mode					SC
8	Drive	1	OP Data Write			√
		2	Servo Parameter Check			SC
		3	Servo Signal Check			SC
		4	S-Curve Check			SC
		5	Readability Check			SC
		6	OP Position Check			SC
		7	OP Check			SC
		8	Aging Test			SC
		9	Spindle Control Check			SC
		10	FA Test			SC
9	HDD Mode					
10	RF Test Mode	1	RF Test WLAN			SC
		2	RF Test Bluetooth			SC

✓ Support
 ✗ Not Support
 SC Special Control

Service Mode Menu

Outline:

Service Mode Top Menu

It selects to each function from here.
output HDMI/Component 480p forcibly.

Operation:

- [1] Select and Activate Diag Menu.
 - [2] Select and Activate Log Menu.
 - [3] Select and Activate Factory Initialize Menu.
 - [4] Select and Activate Network Menu
 - [5] Select and Activate Version Up (DISC version Up) **(not Used)**
 - [6] Select and Activate System Information Menu.
 - [7] Select and Activate EMC Test Mode Menu. **(not Used)**
 - [8] Select and Activate Drive Menu.
 - [9] Select and Activate HDD mode. **(not Used)**
 - [10] Select and Activate RF Test mode. **(not Used)**
 - [UP] Move Up cursor Move
 - [DOWN] Down cursor
 - [ENT] Activate the selected cursor.
- *The cursor is not displayed when initial.

Front Panel Display: **(For FLD display Available model only)**

If cursor or arbitrary menu keys are operated,
the character will output to a front panel display, respectively.

*the character string.

initial display	SERV
Diag:	S:DIAG
Log:	S:LOG
Factory Initialize:	S:INIT
Network:	S:NET
Version Up	S:VUP
System Information:	S:INFO
EMC Test Mode:	S:EMC
Drive:	S:DRV
HDD mode:	S:HDD
RF TEST MODE	S:

* Service Mode Menu

- [1] Diag
- [2] Log
- [3] Factory Initialize
- [4] Network
- [5] Version Up
- [6] System Information
- [7] EMC Test Mode
- [8] Drive
- [9] HDD Mode
- [10] RF TEST MODE

HELP : [DOWN] [ENT]

Display Hint

(The key in which the present use is possible)

Diag Menu (Video Test/ Audio Test)

Outline:

Activate Video Test and Audio Test

(Window 1) Select Video Test Category

Operation:

[ENT] Activate and display Color Bar
[UP][RET] Return to test category selection.

(Window 2) Display Color Bar

Operation:

[ENT] Return to Select Video Test Category.

(Window 3) Select Audio Test Category

Operation:

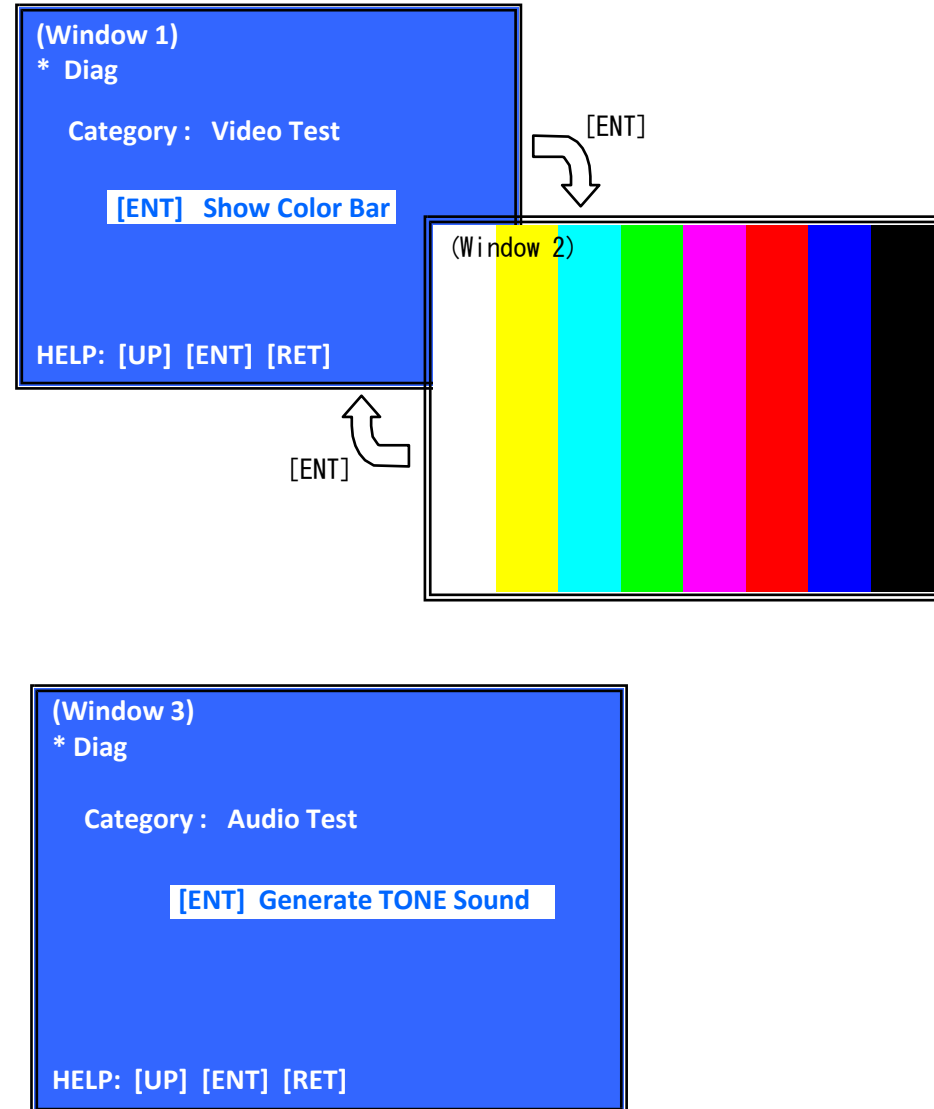
[ENT] Play TONE Sound/Stop
[UP][RET] Return to Select Audio Test Category

>Video Test:

Color Bar output HDMI.

>Audio Test;

TONE sound output SPDIF & HDMI.



Log Menu

Outline:

Display each contents of the log,

(Window 1) select log.

Operation:

[1]	Activate and Display Error log
[2]	Activate and Display Command Log
[UP]	Move Up cursor
[DOWN]	Move Down cursor
[ENT]	Activate the selected cursor.
[RET]	Return to Service Top Menu.

(Window 2): Display Error Log

Operation:

[LEFT]	Next Page
[RIGHT]	Previous Page
[RET]	Return to select log (window 1)
[RED]	Write the contents of an error log on a USB memory.

>Log contents

See Pg:5-11

Write the contents of a log on a USB memory

[RED] is pushed where a USB memory is inserted in a set in log display screen.

Error Log:

“getErrLogFile.trm” file is outputted in a USB memory.

(Window 1)

* Select Log

[1] Error Log

[2] HDD Log

HELP : [UP] [DOWN] [ENT] [RET] [NUM]

(Window 3)

* Error Log

[000] 2011/ 01/ 01 00: 00: 06 [Er r Code: 07000010000]

[001] 2011/ 01/ 01 00: 01: 40 [Er r Code: 07000010000]

[002] 2011/ 01/ 01 00: 02: 55 [Er r Code: 07000010000]

HELP: Press [RED] key to store Log to Udisc.

Factory Initialize Menu

Outline:

Return all of the player setting to their factory defaults.

(Window 1) select initialize.

Operation:

When you return a set to the factory defaults, push [1] on this screen.

[ENT] Start Factory Initialize

[RET] Return to Service Top Menu.

(Window 2)

It is a screen of the end of initialization.

[RET] Return to Service Top Menu.

Please disconnect AC power supply, and connect AC again.

- The operation of other service mode menu can be continued.

(Window 1)

* Factory Initialize

[ENT] Start Initialize

[RET] Return to Top Menu

(Window 2)

* Factory Initialize

Reboot to complete.

[RET] Return to Top Menu

HELP : [RET]

Network Menu (Network Test : Ifconfig)

Outline:

Network Menu for the wired Ethernet.

(Window 1) Ifconfig Test

Operation:

[ENT] Activate Ifconfig (Display network setting)
[RIGHT] Select Ping Test.
[RET] Return to Service Top Menu.

(Window 2) Ping Test

Operation:

[LEFT] Select Ifconfig Test.
[RET] Return to Service Top Menu.
(The details of a Ping test are next page)

(Window 3) Ifconfig Test Active

Display Ifconfig command results.

Operation:

[ENT] Ifconfig retry
[RIGHT] Select Ping Test.
[RET] Return to Service Top Menu.

Remark:

Some items require 10~15sec waiting time.

(Window 1)

* Network

Test: **Ifconfig** Ping

(Window 2)

* Network

Test: Ifconfig **Ping**

Ping To :

[START]

(Window 3)

* Network

Test: **Ifconfig** Ping

IP 192.168.11.2 MAC 00-16-01-85-21-A3

HELP : [ENT] : Re/Exe [RIGHT]

Network (Network Test: Ping)

Outline:

Ping Test for the wired Ethernet.

(Window 1) Ping Test

Operation:

[LEFT] Select Ifconfig Test.
[DOWN] Ping execution preparation.
[RET] Return to Service Top Menu.

(Window 2) The IP address of the Ping point is set up. (IP address input mode)

When "Ping to :>" is reversed, [ENT] is pushed and IP is inputted.

Operation:

[ENT] Finish to input.
[RET] Finish to input.
[LEFT] Finish to input and Select Ifconfig Test.
[(NUM)] Input Character sting '0-9'
[TIME] Input Character sting '.'
[CLEAR] Backspace

(Windows3): Ping Test Active

When [START] is reversed, [ENT] is pushed and execute ping .

Operation:

[ENT] Activate Ping Test
[UP] The IP address of the Ping point is set up.
[RET] Return to Service Top Menu.

(Window 1)

* Network

Test: Ifconfig Ping

Ping To :

[START]

(Window 2)

* Network

Test: Ifconfig Ping

Ping To : 192.168.1.10

[ENT] : Release

[RET] : Release

(Window 3)

* Network

Test: Ifconfig Ping

Ping To : 192.168.1.10

[START]

Ping 192.168.1.10 OK!

[HELP : [ENT] ; Start [UP] [LEFT]

System Information

Outline:

Display System Information

(Window 1)Basic Information Menu

Operation:

[RIGHT] Drive Information (delta IOP of a drive is measured) and Wireless device Information (only wireless model) displayed. (go to window 2)

[RET] Return to Service Top Menu.

(Window 2)Drive and Wireless Information Menu

Operation:

[LEFT] Basic Information displayed. (go to window 1)

[RET] Return to Service Top Menu.

When delta IOP is measured, it becomes impossible to use the Version Up function.

Contents List:

Model	
Destination	
Sequence Number	
MAC	
IP	
IFCON	IFCON Version
Bootloader	Bootloader Version
Host Main	Host Main Version
MicroBE	MicroBE Version
Host Sub	Host Sub Version
Middleware	Middleware Version
Drive	Firm Revision
CD DIOP	Delta IOP
DVD DIOP BD	Delta IOP
DIOP CD LD	Delta IOP
TIME DVD LD	LD Time
TIME BD LD	LD Time
TIME	LD Time

(Window 1)

* System Information

Main LSName: CXD90049GG-CA

Model: BDP13G-CE

Destination: xx

Sequence Number: Bxxxxxxxxxxx

MAC: xx-xx-xx-xx-xx-xx

IP: xxx.xxx.xxx.xxx

IF-con Block0 version: xx, Block1 version: xxxx

Bootloader Version:xxxxx

Host Main Version: M43.R.xxxx

MicroBE Version: xxxx

Host Sub Version: 2017xxxxxx

Middleware Version: xxxxx

HELP : [RET] [RIGHT]

(Window 2)

* System Information

Drive Firm Revision: TExxxx

CD DIOP: 0xxxxxxx

DVD DIOP: 0xxxxxxx

BD DIOP: 0xxxxxxx

CD LD TIME: 0xxxxxxxxxxxxxxxxx

DVD LD TIME: 0xxxxxxxxxxxxxxxxx

BD LD TIME: 0xxxxxxxxxxxxxxxxx

HELP : [RET] [LEFT]

Drive

Outline :

Activate Drive test

(Window 1) Select Drive test category

Operation :

[LEFT] [RIGHT] Select Category
[DOWN][ENT] Activate the selected Category.
[RET] Return to Service Top Menu.

[1] Drive OP data Write
[2] Servo Parameter Check Menu **(Not Used)**
[3] Servo Signal Check Menu **(Not Used)**
[4] S-Curve Check Menu **(Not Used)**
[5] Readability Check Menu **(Not Used)**
[6] OP Position Check Menu **(Not Used)**
[7] OP Check Menu
[8] Load Eject Aging **(Not Used)**
[9] Spindle Control Check Menu **(Not Used)**
[10] FA Test Mode **(Not Used)**

(Window 2) To start OP data Write

Operation :

[ENT] Start

(Window 3) Show OP data Write result

Operation :

NG - USB is not find
NG - File(Budata.txt) is not find
OK - OP data write

> Drive Test:

For drive operating check. Service is only use Drive OP data write to re write OP data after change of new OPU.

(Window 4) Show OP Check Menu

Operation :

[1] Disc : Eject
[2] OP Serial : *****
[3] dIOP
[4] LD ON Time

(Window 1)

* Drive

[1] Drive OP data Write

[2] Servo Parameter Check Menu

[3] Servo Signal Check Menu

[4] S-Curve Check Menu

[5] Readability Check Menu

[6] OP Position Check Menu

[7] OP Check Menu

[8] Load Eject Aging

[9] Spindle Control Check Menu

[10] FA Test Mode

[Insert USB StorageDevice ...

Remove DISC and Close tray.

Disc: **Eject**

Mode: 1

(Window 3)

* Drive OP data Write

[Insert USB StorageDevice ...

Remove DISC and Close tray.

[ENT] Start

NG - USB

OK - OP data write

HELP : [ENT]

(Window 4)

* OP Check Menu

Remove DISC and Close tray.

[1] Disc: **Eject**

[2] OP Serial : xxxxxxxxxxxxxxxxx

[3] dIOP

BD : x [xx]

DVD : x [xx]

CD : x [xx]

TEMP : xx.x deg

[4] LD ON Time

HELP : [ENT] [RET]

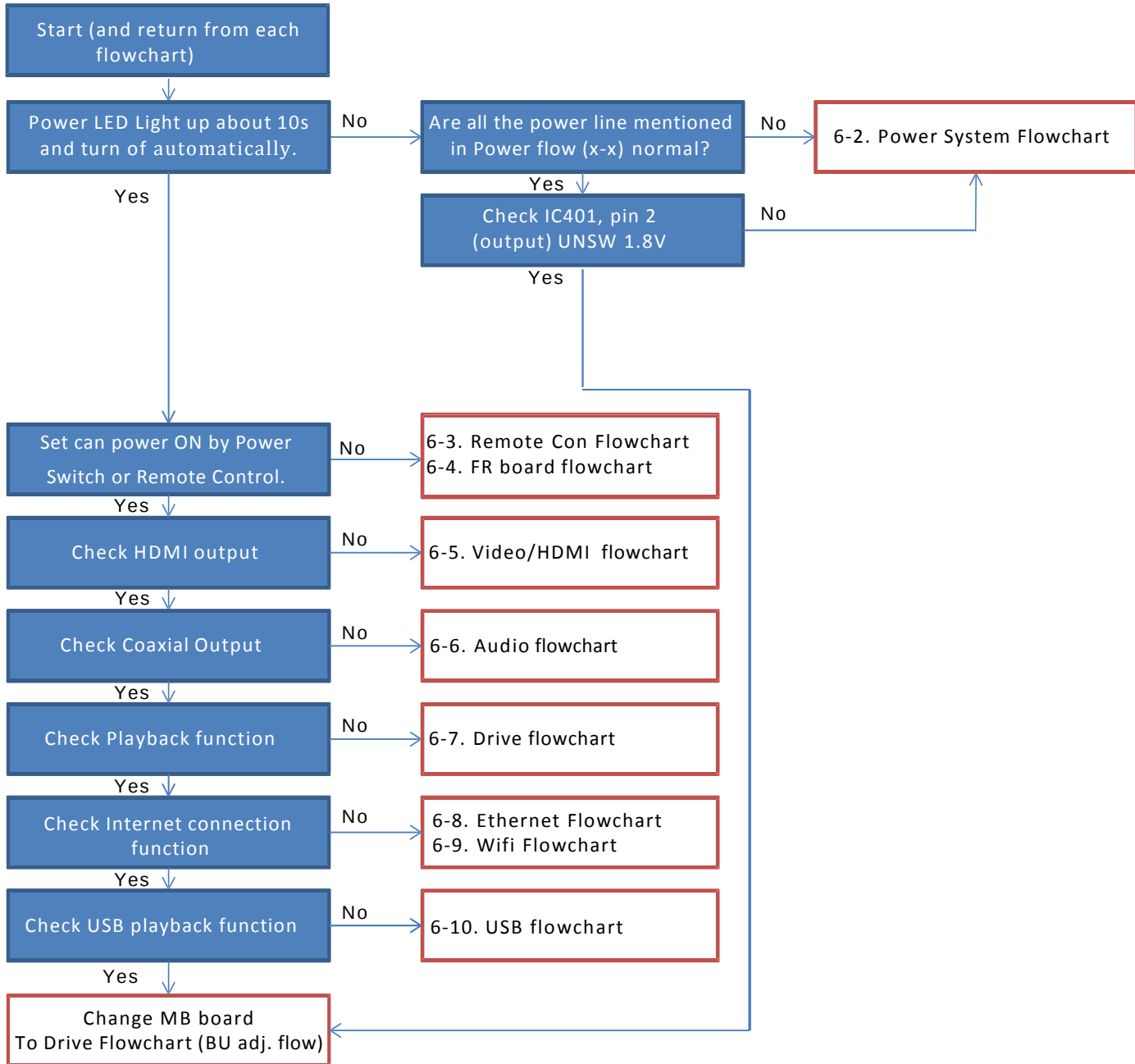
Error Log Information

issue	Error LogCode						note
	Category	ErrorCode	ErrorInfo_0	ErrorInfo_1	ErrorInfo_2	ErrorInfo_3	
IFCON – Communication time out	0x03	0x01	0x00	0xXX	0xXX	0x00	No response from Ifcon
NAND – Unknown Error	0x04	0x00	0x00	0xXX	0xXX	0x00	Unknown/Undeclare Error
NAND – Bad Block Marking Error	0x04	0x01	0x00	0xXX	0xXX	0x00	When Software make bad block marking
DRIVE Error	0x06	0x01	Error Code				Cannot detect optical drive
DRIVE Error	0x06	0x02	Error Code				SATA cable disconnected
DRIVE Error	0x06	0x03	SCR Diag Field(Simultaneous error)				SATA IF ERROR
DRIVE Error	0x06	0x04	Error Code				Removing FFC cable (drive)
Fan error	0x07	0x01	0x01	0x00	0x00	0x00	Temperature is too high
Ethernet – Internet Access Error	0x08	0xXX	0x02	0x00	0x00	0x00	No internet Access
USB – Unknown Error	0x0A	0x00	0xXX	0xXX	0xXX	0xXX	Unknown/Undeclare Error
USB – Can't Recog. Device	0x0A	0x01	0xXX	0xXX	0xXX	0xXX	Cannot recognise USB Device
USB – Over Current Error	0x0A	0x02	0xXX	0xXX	0xXX	0xXX	Over current Happen.

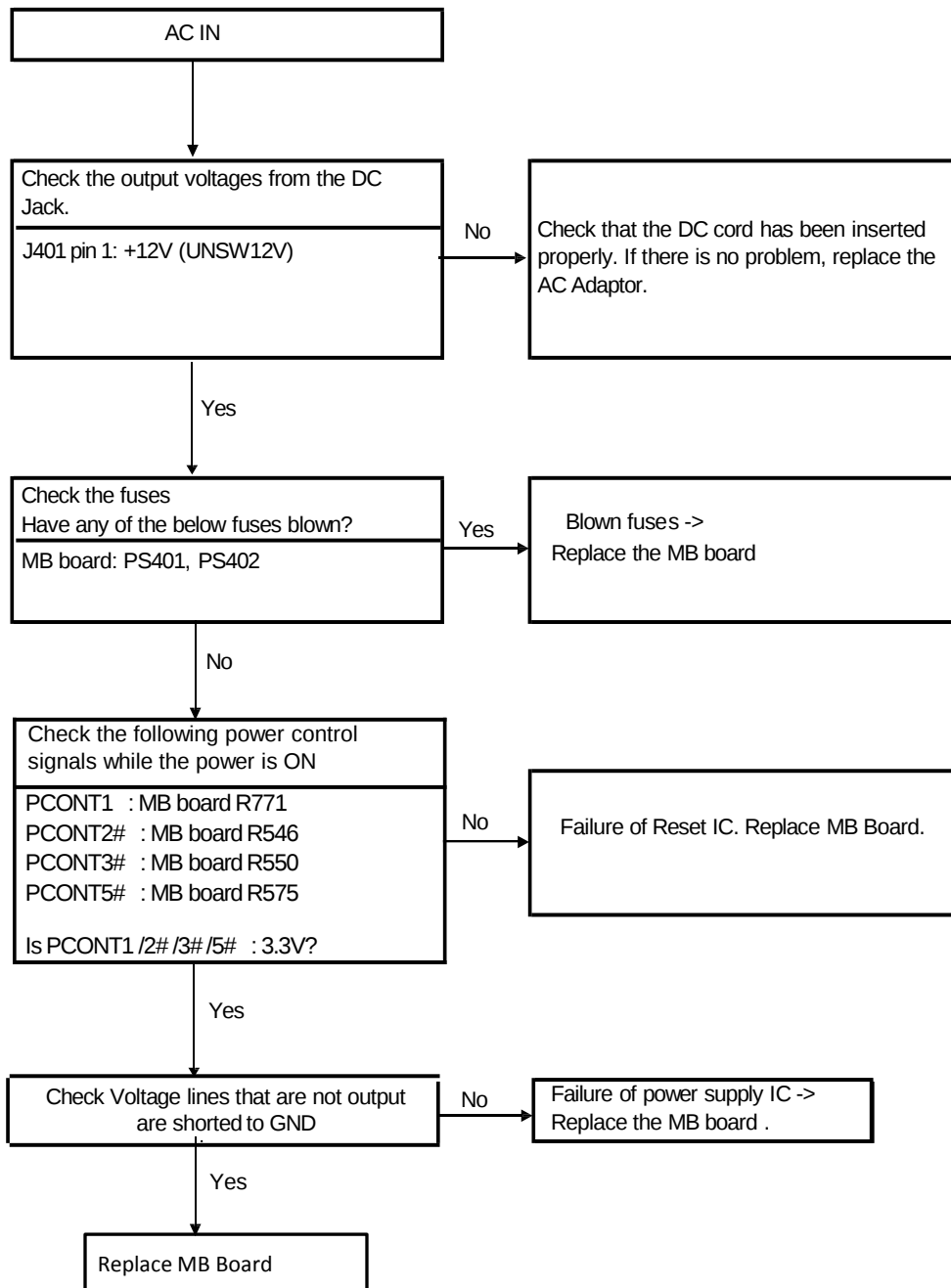
SECTION 6

TROUBLESHOOTING

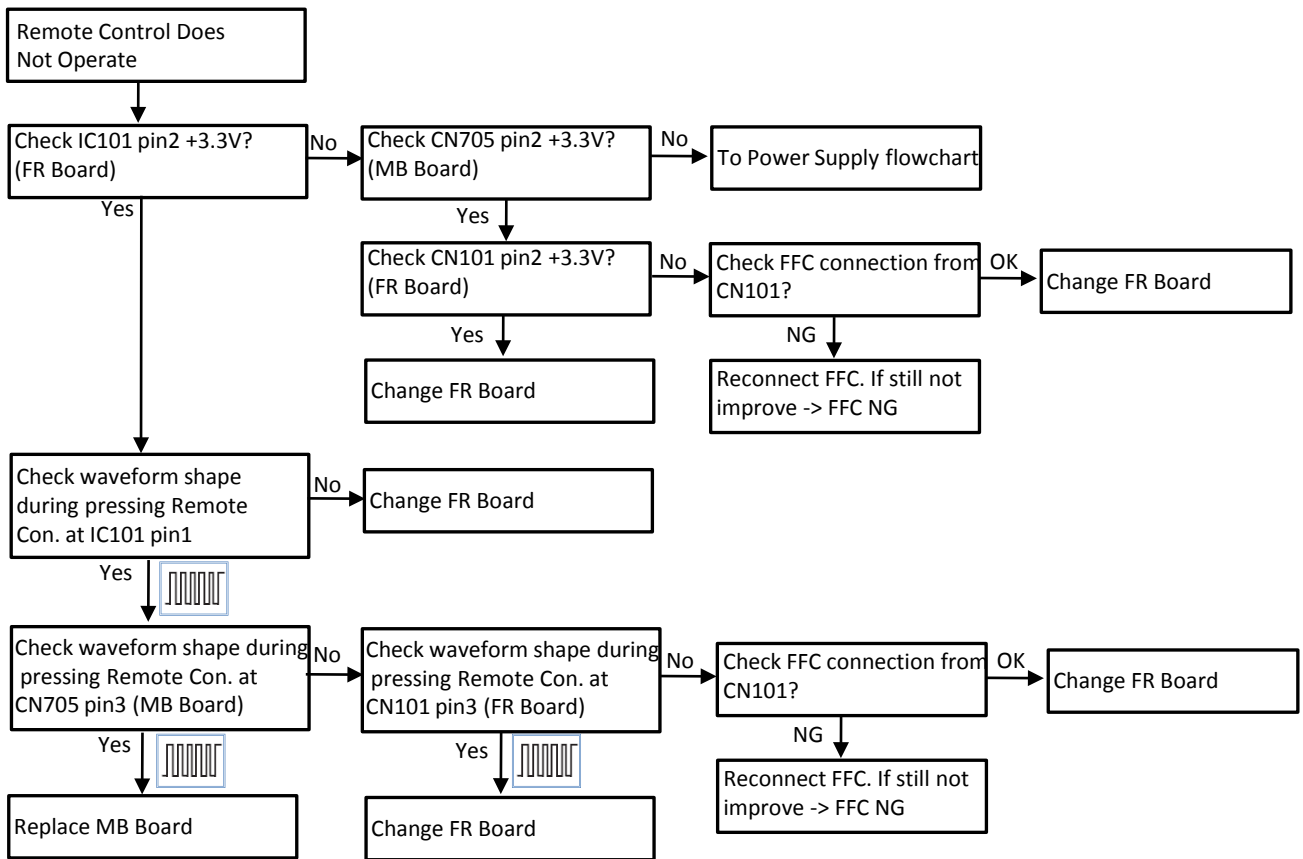
6-1. Main Flowchart



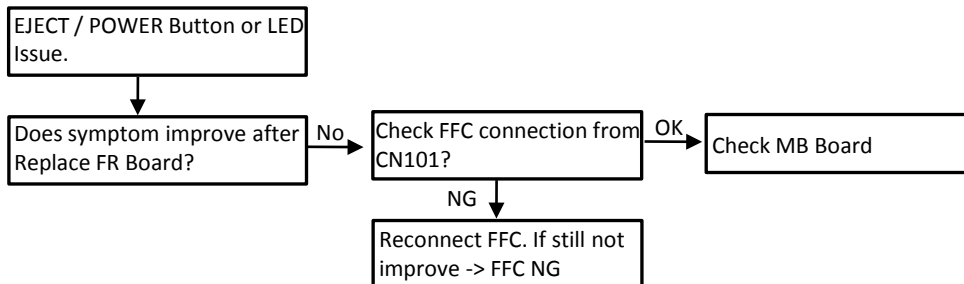
6-2. Power (System) Flow



6-3. Remote Control Flowchart

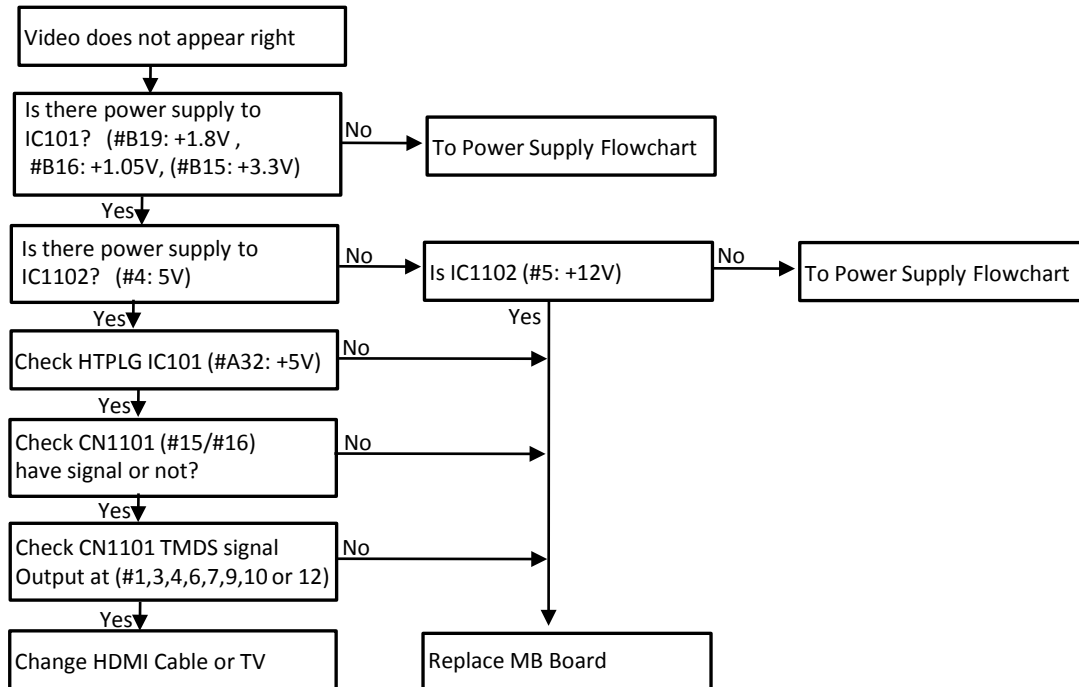


6-4. FR-1702 Board Flowchart

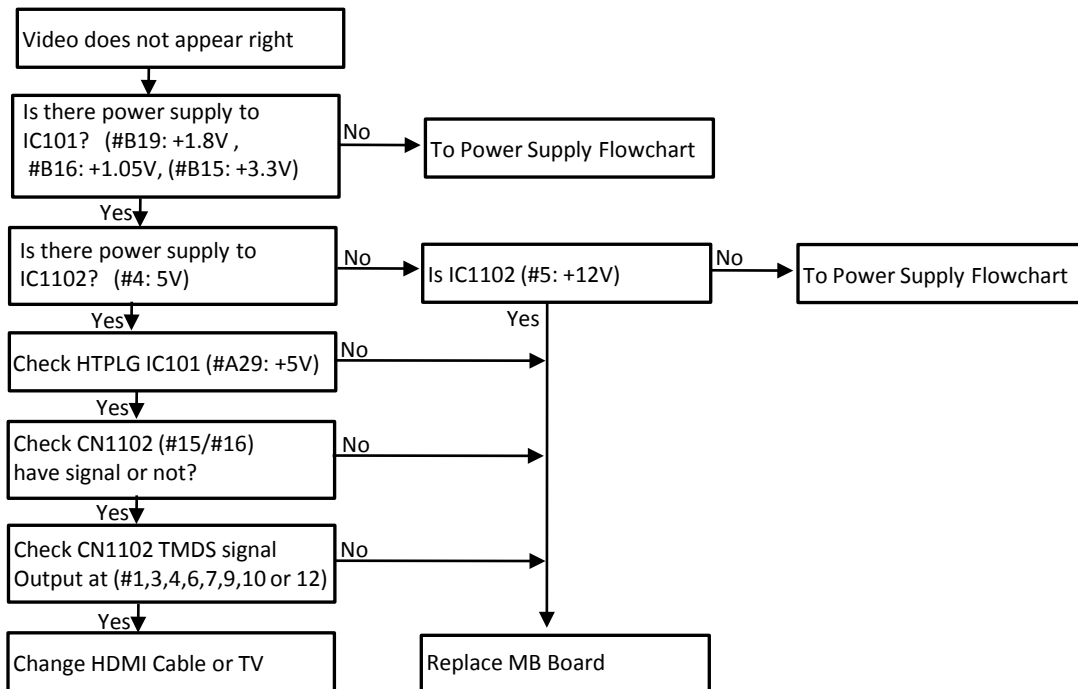


6-5. Video Section Flowchart

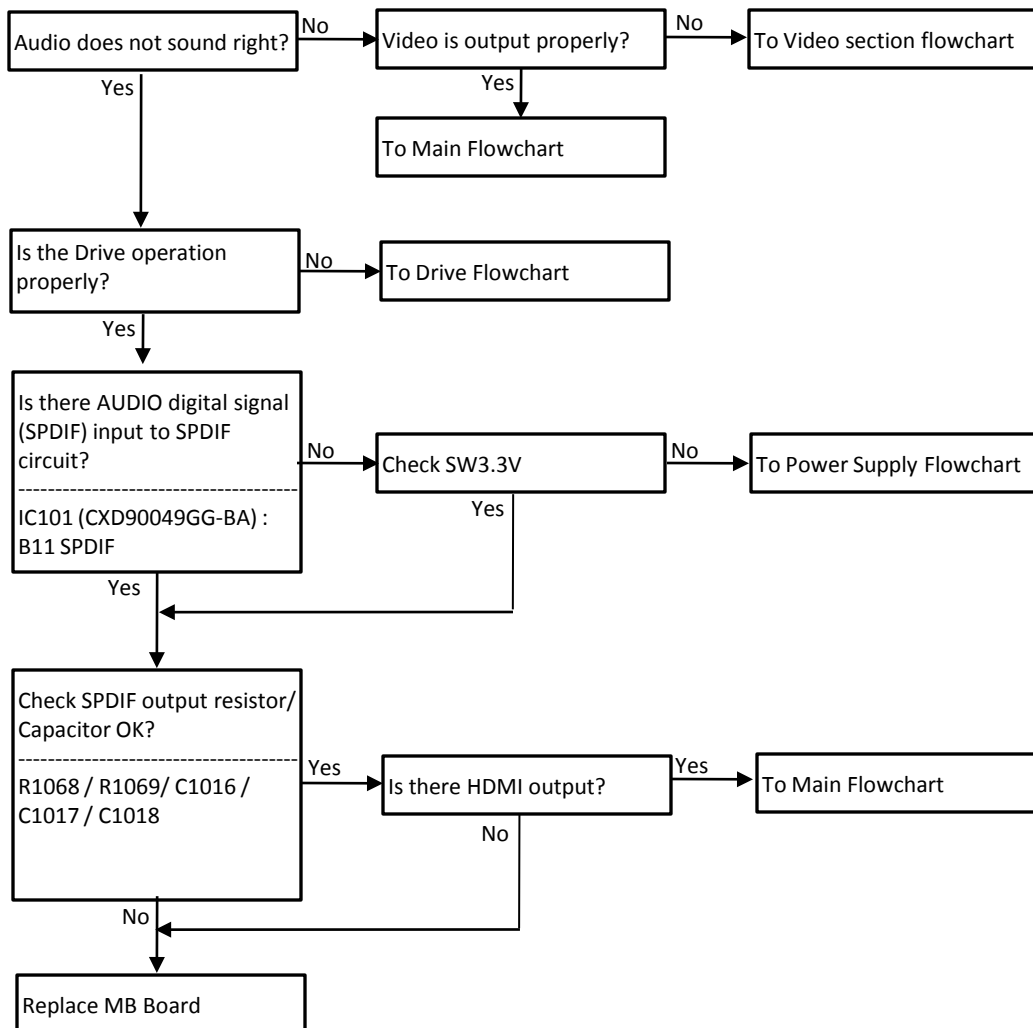
HDMI 1



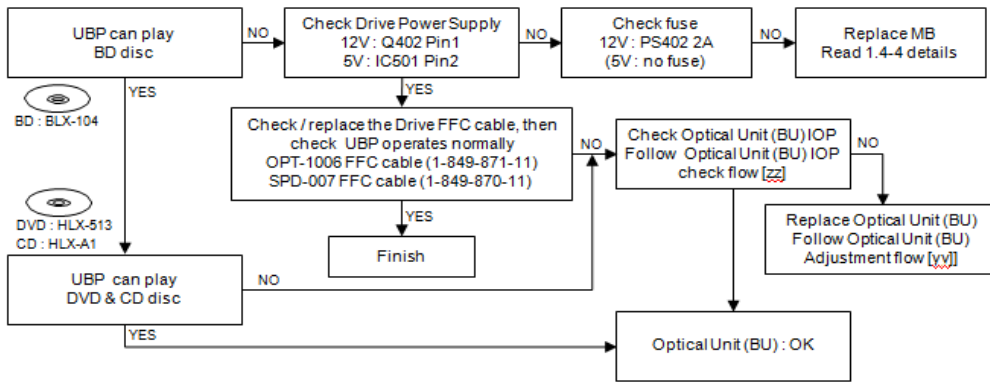
HDMI 2



6-6. Audio (SPDIF) Section Flowchart

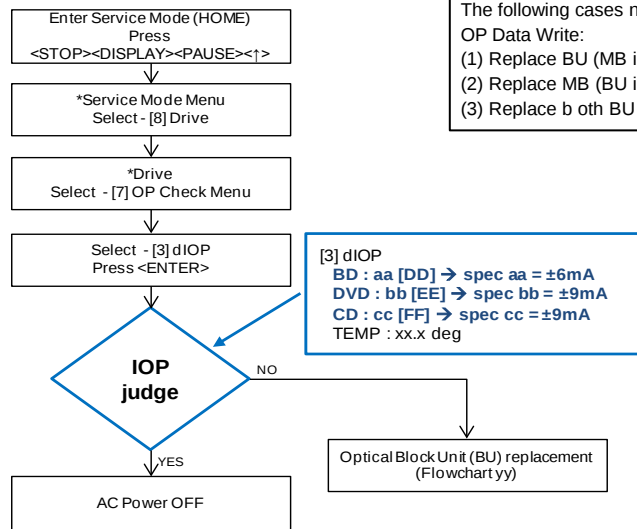


6-7. Drive Flowchart

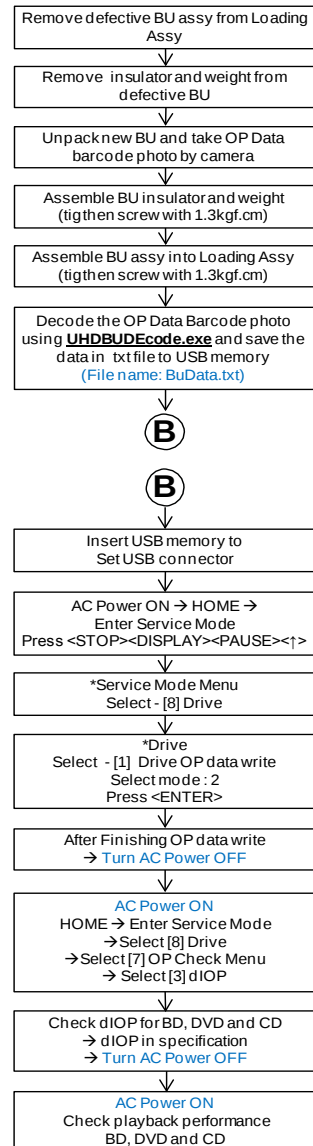


Optical Unit (BU) IOP check flow [zz]

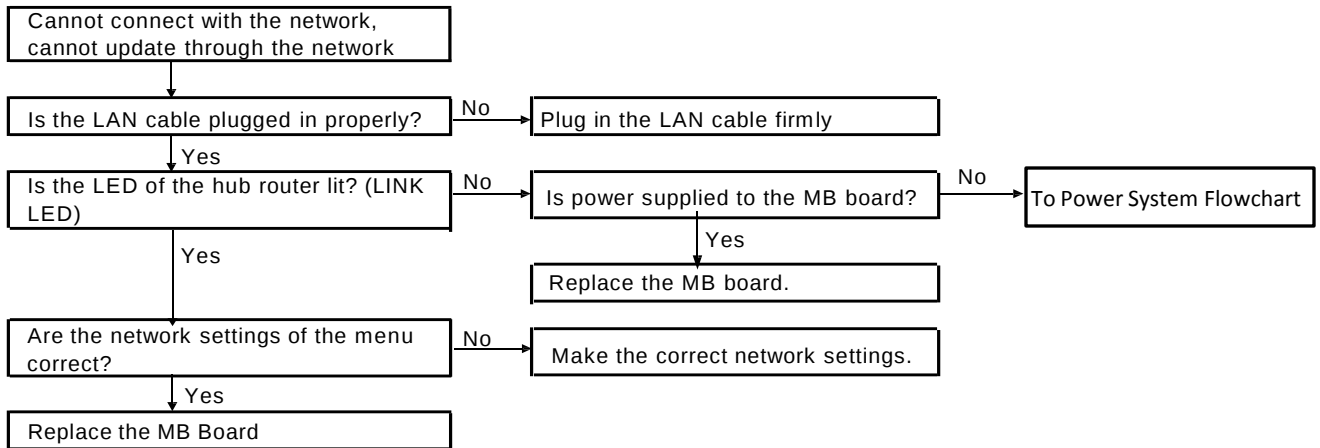
~ Before BU Replacement



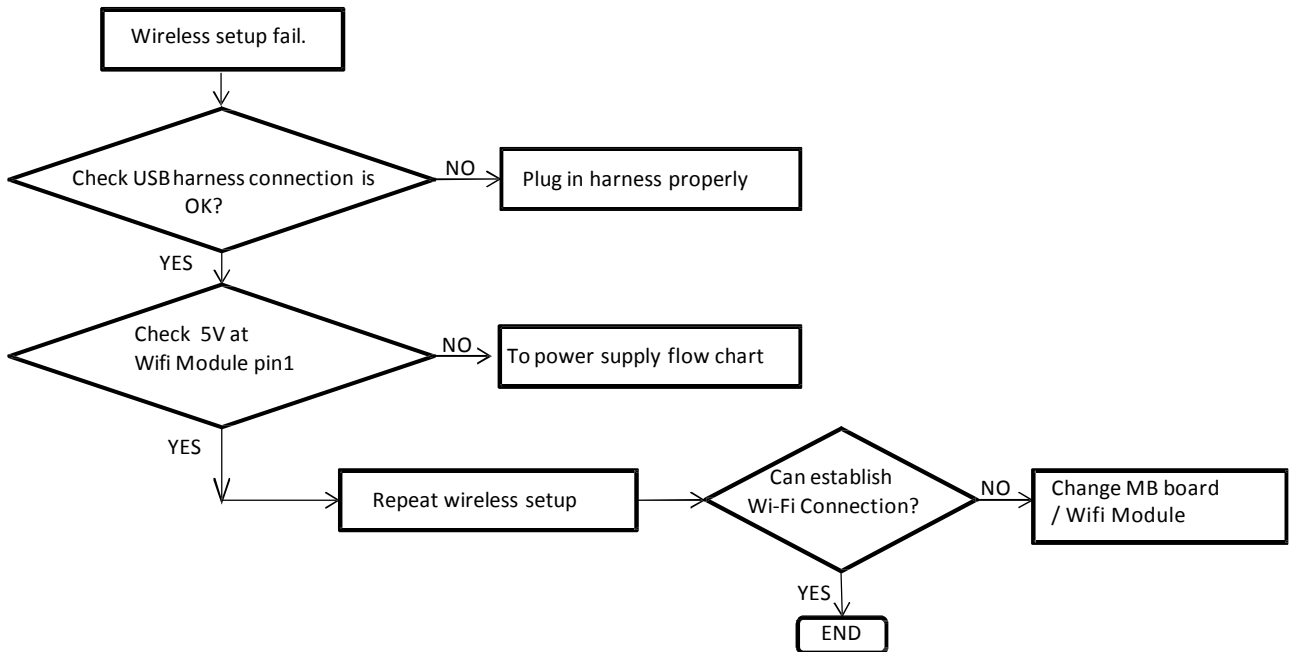
Optical Unit (BU) Replacement flow [yy]



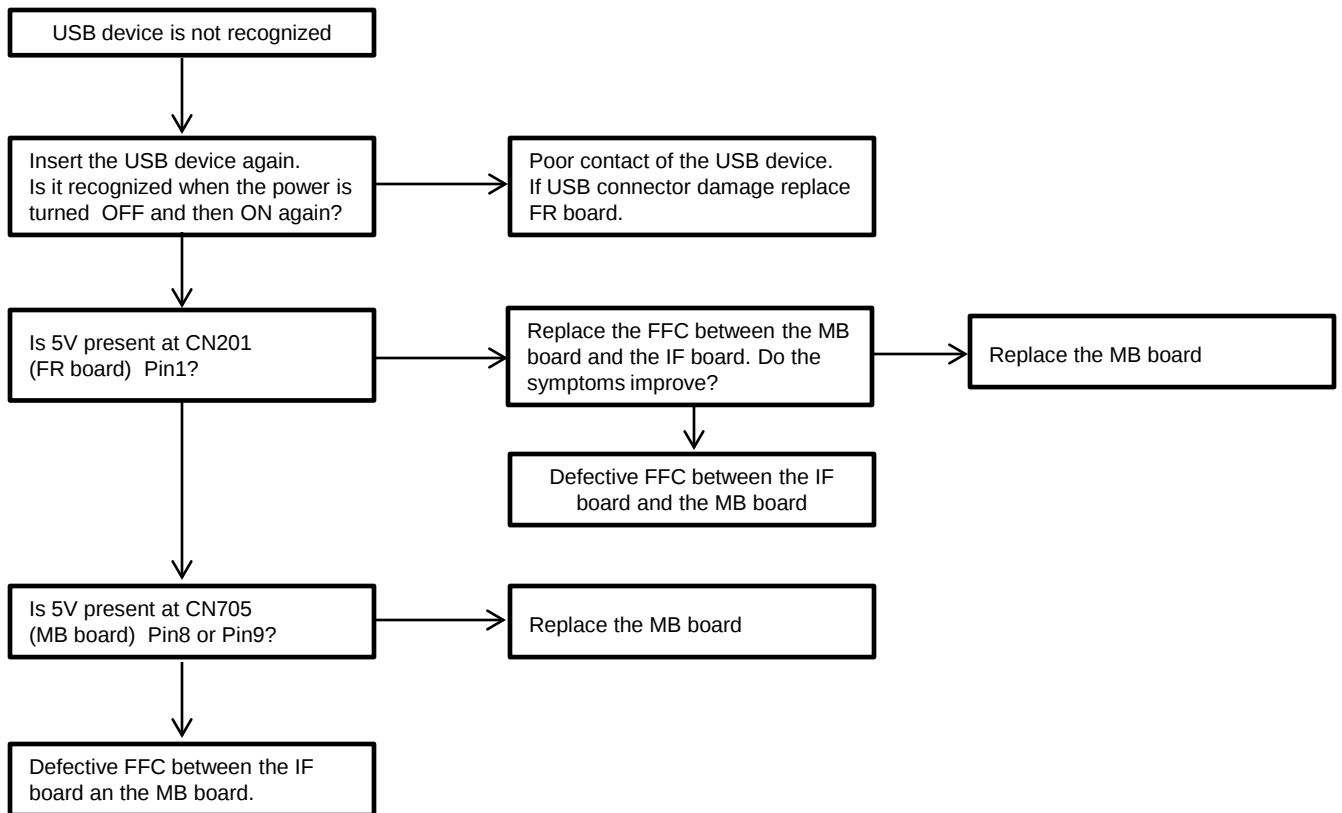
6-8. Ethernet flowchart



6-9. Wifi flowchart



6-10. USB (Front) Device Flow



SECTION 7 REPAIR PARTS LIST

7-1. EXPLODED VIEWS

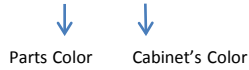
NOTE:

- -XX and -X mean standardized parts, so they may have some difference from the original one.

- Color Indication of Appearance Parts

Example:

KNOB, BALANCE (WHITE) . . . (RED)



- 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 and packing materials are given in the last of the electrical parts list.

Abbreviation :

UK : UK Model

AEP : AEP Model

MX : Mexican Model

SP : Singapore Model

CH : Chinese Model

RUS : Russian Model

AUS : Australian/NZ Model

E : Latin America Model

TW : Taiwan Model

CL : Chile Model

TH : Thailand Model

IN : India Model

EA : EA Model

KS : Saudi Arabia Model

US : US Model

CND : Canadian Model

AUS : Australian/NZ Model

PX : PX Model

BR : Brazilian Model

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

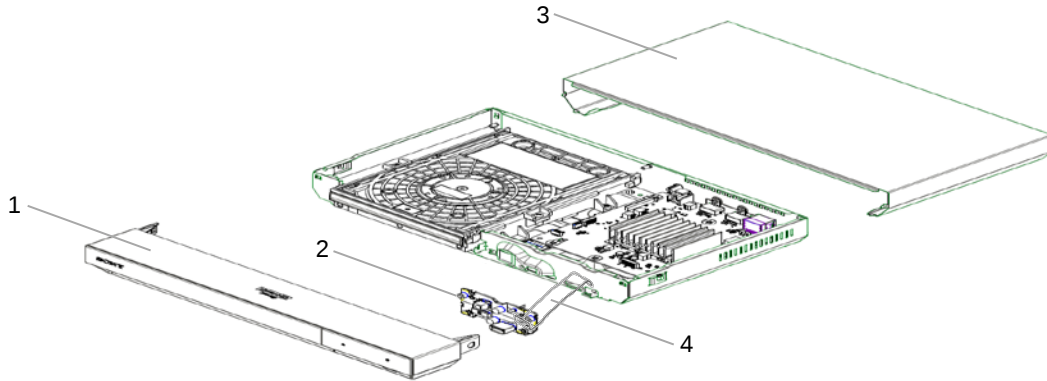
Les composants identifiés par une marque  sont critiques pour la sécurité. Ne les remplacez que par une pièce portant le numéro spécifié.

The components identified by mark  contain confidential information. Strictly follow the instructions whenever the components are repaired and/or replaced.

Les composants identifiés par la marque  contiennent des informations confidentielles. Suivre scrupuleusement les instructions chaque fois qu'un composant est remplacé et / ou réparé.

7-1-1 CASE SECTION

ns: not supplied

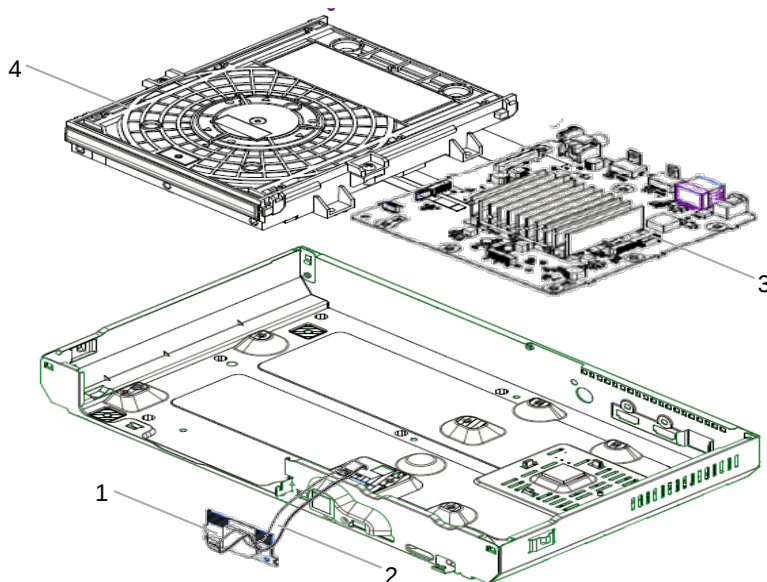


<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>
*1	X-2595-013-2	PANEL ASSY, FRONT	
2	A-2188-780-A	SERVICE ASSY, FR	
*3	4-698-379-02	CASE, UPPER	
4	1-912-253-11	FLEXIBLE FLAT CABLE (FIM-1011)	

7-1-2. MAIN CHASSIS SECTION

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

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



Ref. No.	Part No.	Description	Remark
1	1-458-959-13	CARD, WIRELESS LAN	
2	1-912-252-11	FLEXIBLE FLAT CABLE (WIF-1008)	
3	A-2188-779-A	SERVICE ASSY, MB	UBP-X700: U2/UX70:U2
3	A-2188-787-A	SERVICE ASSY, MB	UBP-X700: UC2/UX70:UC2
3	A-2188-829-A	SERVICE ASSY, MB	UBP-X700: CEK/EC1
3	A-2188-836-A	SERVICE ASSY, MB	UBP-X700: AU2
3	A-2188-841-A	SERVICE ASSY, MB	UBP-X700: SP6/IN5
3	A-2188-867-A	SERVICE ASSY, MB	UBP-X700: EA7
3	A-2188-873-A	SERVICE ASSY, MB	UBP-X700: E32
3	A-2188-881-A	SERVICE ASSY, MB	UBP-X700: TW1
4		LOADING FOR SERVICE	Ref. 7-1-3

7-1-3. DRIVE SECTION

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

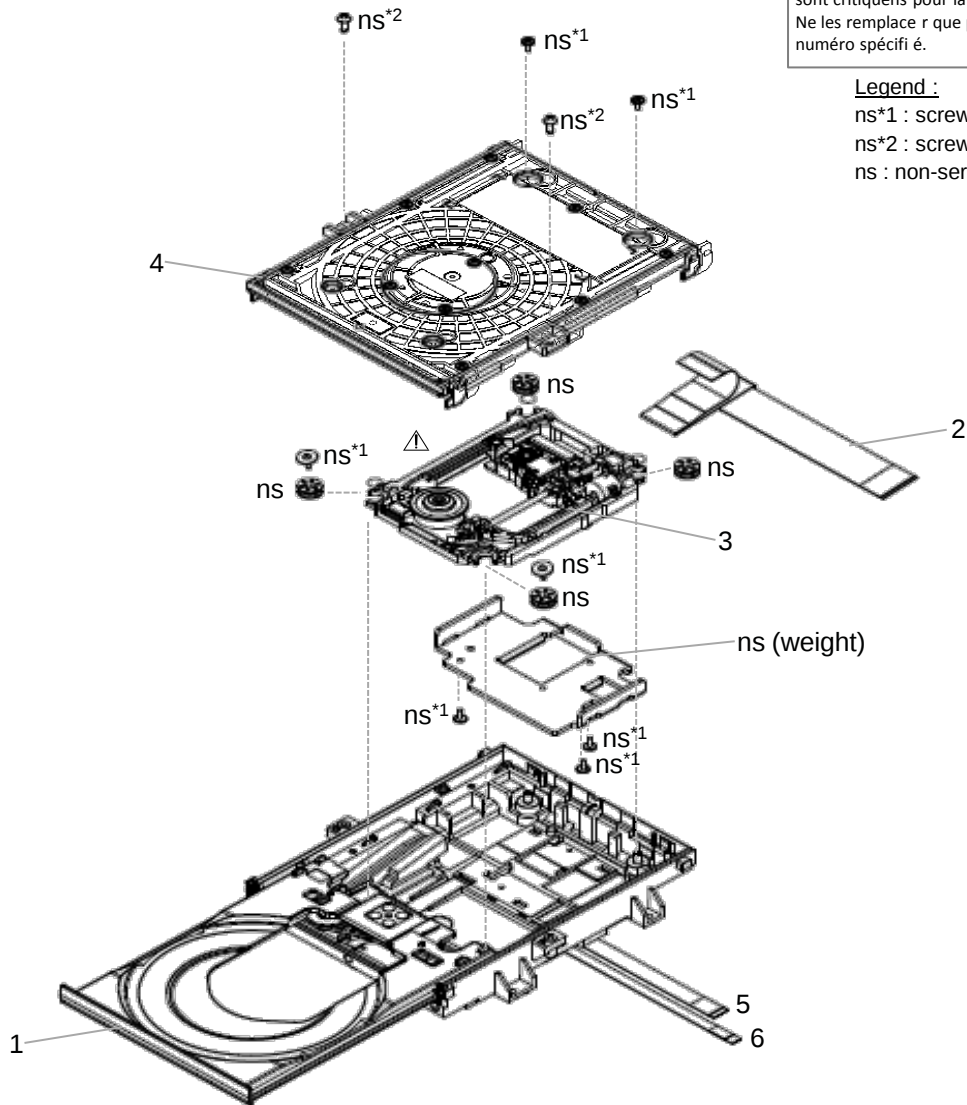
Les composants identifiés par une marque  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Legend :

ns*1 : screw tighten 1.3kgf.cm

ns*2 : screw tighten 3.0kgf.cm

ns : non-service part



Ref. No.	Part No.	Description	Remark
1	A-2143-751-A	Loading Assy	
2	1-912-256-11	FFC Cable (OPT-1007)	
 3	8-820-481-05	Device, Optical KEM-481AAA/C2R	
4	A-2189-191-B	Holder Assy, Chuck (CI-J)	
5	1-912-255-11	FFC Cable (SPD-008)	
6	1-912-254-11	FFC Cable (LDG-009)	

7-1-4. Accessories

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

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

1 AC Adaptor



2 Power Supply Cord



3 Remote Commander



Ref. No.	Part No.	Description	Remark
 1	1-493-350-11	AC Adaptor (AC-M1215UC)	For: U2/UC2
 1	1-493-351-11	AC Adaptor (AC-M1215WW)	For: AU2/CEK/E32/EA7/EC1/SP6/TW1/IN5
 2	1-849-808-11	POWER SUPPLY CORD	For: E32/EA7/EC1/SP6/IN5
 2	1-849-810-11	POWER SUPPLY CORD	For: CEK
 2	1-849-804-12	POWER SUPPLY CORD	For: AU2
 2	1-849-806-11	POWER SUPPLY CORD	For: TW1
3	1-493-123-11	REMOTE COMMANDER (RMT-VB201U)	For: U2/UC2
3	1-493-122-11	REMOTE COMMANDER (RMT-VB201D)	For: AU2/CEK/E32/EA7/EC1/SP6/IN5
3	1-493-371-11	REMOTE COMMANDER (RMT-VB400T)	TW1

REVISION HISTORY

[illegible]