

Pioneer

Service Manual



BDP-LX55

PROVISIONAL
RRV4285P

Blu-ray 3D™ PLAYER

BDP-LX55

BDP-53FD

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Model	Type	Power Requirement	DVD Region No.	BD Region No.	Serial No.	Remarks
BDP-LX55	YXCN5	AC 100 V to 240 V	2	B	&&&&#####YY	YY:Europe
BDP-LX55	VXCN5	AC 100 V to 240 V	2	B	&&&&#####GB	GB:U.K
BDP-LX55	FWLXCN	AC 100 V to 240 V	3	A	&&&&#####TA	TA:Taiwan
BDP-53FD	UCXCN	AC 120 V	1	A	&&&&#####UC	UC:NORTH AMERICA



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SAFETY INFORMATION



This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual. Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING

This product may contain a chemical known to the State of California to cause cancer, or birth defects or other reproductive harm.

Health & Safety Code Section 25249.6 - Proposition 65

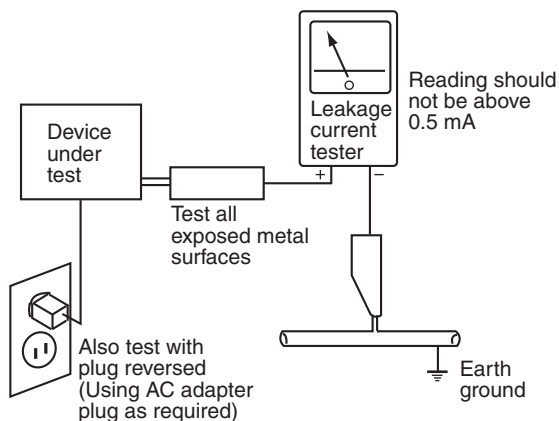
(FOR USA MODEL ONLY)

1. SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

LEAKAGE CURRENT CHECK

Measure leakage current to a known earth ground (water pipe, conduit, etc.) by connecting a leakage current tester such as Simpson Model 229-2 or equivalent between the earth ground and all exposed metal parts of the appliance (input/output terminals, screwheads, metal overlays, control shaft, etc.). Plug the AC line cord of the appliance directly into a 120 V AC 60 Hz outlet and turn the AC power switch on. Any current measured must not exceed 0.5 mA.



AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

2. PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in the appliance have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are identified by marking with a ⚠ on the schematics and on the parts list in this Service Manual.

The use of a substitute replacement component which does not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, or other hazards.

Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.



WARNING !

THE LASER COMPONENT IS CAPABLE OF EMITTING RADIATION EXCEEDING THE LIMIT FOR **CLASS 1**.
A SPECIALLY INSTRUCTED PERSON SHOULD DO SERVICING OPERATION OF THE APPARATUS.

Laser Pickup specifications and Laser characteristics

For BD	Wave length : 405 nm Operating output : SL : 0.32 DL : 0.64 mW CW, Class 1 Maximum output : Class 1M (under fault condition)
For DVD	Wave length : 660 nm Operating output : 0.40 mW CW, Class 1 Maximum output : Class 1 (under fault condition)
For CD	Wave length : 785 nm Operating output : 0.41 mW CW, Class 1 Maximum output : Class 1M (under fault condition)

LABEL CHECK

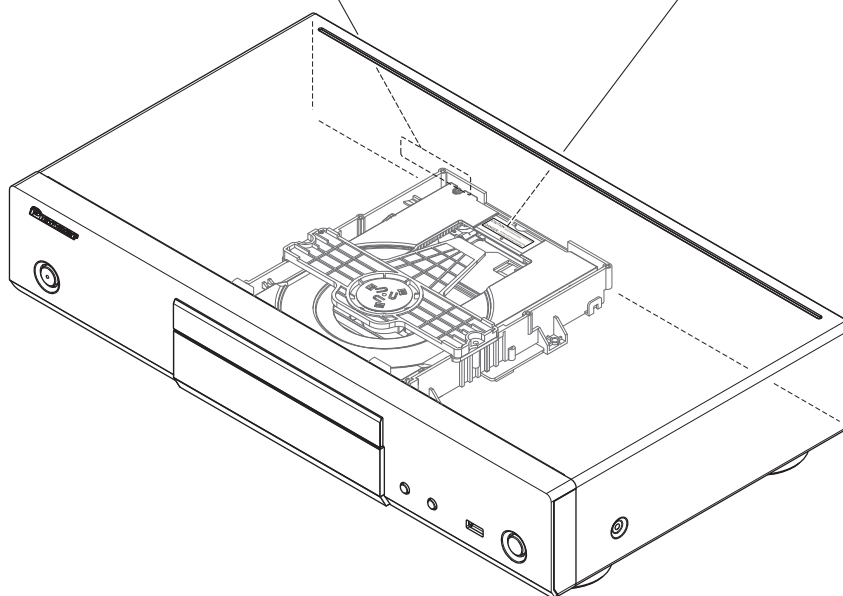
The following caution appears on your unit.
Location: inside of the unit

CLASS 1 LASER PRODUCT
APPAREIL À LASER DE CLASSE 1

(Printed on the Back Plate)

CAUTION: INVISIBLE LASER RADIATION WHEN OPEN
DO NOT STARE INTO BEAM

DANGER: INVISIBLE LASER RADIATION WHEN OPEN
AVOID DIRECT EXPOSURE TO THE BEAM



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1. SERVICE PRECAUTIONS

1.1 NOTES ON SOLDERING

- For environmental protection, lead-free solder is used on the printed circuit boards mounted in this unit.
Be sure to use lead-free solder and a soldering iron that can meet specifications for use with lead-free solders for repairs accompanied by reworking of soldering. A
- Compared with conventional eutectic solders, lead-free solders have higher melting points, by approximately 40 °C. Therefore, for lead-free soldering, the tip temperature of a soldering iron must be set to around 373 °C in general, although the temperature depends on the heat capacity of the PC board on which reworking is required and the weight of the tip of the soldering iron.

Do NOT use a soldering iron whose tip temperature cannot be controlled.

Compared with eutectic solders, lead-free solders have higher bond strengths but slower wetting times and higher melting temperatures (hard to melt/easy to harden). B

The following lead-free solders are available as service parts:

- Parts numbers of lead-free solder:
GYP1006 1.0 in dia.
GYP1007 0.6 in dia.
GYP1008 0.3 in dia.

2. SPECIFICATIONS

2.1 ACCESSORIES

- A
- Remote control unit (BDP-LX55/YXCN5, BDP-LX55/VXCN5, BDP-LX55/FWLXCN :06-RC2531-A000)
(BDP-53FD/UCXCN :06-RC2521-A000)
 - AC Power cord (BDP-LX55/YXCN5 :ADG7062)
(BDP-LX55/VXCN5, BDP-LX55/FWLXCN :ADG7104)
(BDP-53FD/UCXCN :ADG7061)
 - Operating instructions (BDP-LX55/YXCN5 :72-DPLX55-EN0B1, 72-DPLX55-YX0B1)
(BDP-LX55/VXCN5 :72-DPLX55-EN0B1)
(BDP-LX55/FWLXCN :72-DPLX55-EN0B1, 72-DPLX55-TW0B1)
(BDP-53FD/UCXCN :72-BD53FD-USAB1)
 - Video/Audio cable (41-UH1500-0KK8A-TL)
- B
- AAA/R03 dry cell battery x 2
 - Warranty card

2.2 SPECIFICATIONS

C	Model		BDP-LX55 BDP-53FD
	Type		Blu-ray 3D™ PLAYER
	Rated voltage		AC 100 V to 240 V
	Rated frequency		50 Hz/60 Hz
	Power consumption		25 W
	Power consumption (standby)		0.3 W
	Weight		3.5 kg
	External dimensions (including projecting parts)		435 mm (W) x 93 mm (H) x 252 mm (D)
	Tolerable operating temperature		+5 °C to +35 °C
	Tolerable operating humidity		5 % to 85 % (no condensation)
D	Output terminals	HDMI	2 set, 19-pin: 5 V, 250 mA
		Video outputs	1 set, RCA jack: 1.0 Vp-p (75 Ω)
		Audio outputs	1 set, RCA jacks
			2-channel (left/right)
			Audio output level
			200 mVrms (1 kHz, -20 dB)
		Frequency response	4 Hz to 88 kHz (192 kHz sampling)
		Digital audio outputs	1 set, Optical digital jack
			Optical
		LAN	1 set, Ethernet jack (10BASE-T/100BASE-TX)
		USB	2 set, Type A



Note

- The specifications and design of this product are subject to change without notice.

2.3 TYPES OF DISCS/FILES THAT CAN BE PLAYED

Playable discs

Discs with the logo marks below indicated on the disc label, package or jacket can be played.



Caution

- Only the discs that have been finalized can be played.

Disc type	Logo	Application format						
		BDMV	BDAV	DVD-Video	DVD-Audio	DVD VR	CD-DA DTS-CD	DATA-DISC ¹
BD ²	BD-ROM	✓	✓	✗	✗	✗	✗	✗
	BD-R	✓	✓	✗	✗	✗	✗	✗
	BD-RE	✓	✓	✗	✗	✗	✗	✗
DVD								
	DVD-ROM	✓	✗	✓	✓	✗	✗	✓
								
	DVD-R ^{2,3,4}	✓ ⁵	✓ ⁶	✓	✓	✓	✗	✓
	DVD-RW ^{3,7}	✓ ⁵	✓ ⁶	✓	✓	✓	✗	✓
	DVD+R ^{2,3}	✓	✗	✓	✓	✗	✗	✓
	DVD+RW ³	✓	✗	✓	✓	✗	✗	✓
CD	CD-DA (Audio CD) ⁸	✗	✗	✗	✗	✗	✓	✗
								
								
	CD-R ³	✗	✗	✗	✗	✗	✓	✓
	CD-RW ³	✗	✗	✗	✗	✗	✓	✓
	CD-ROM	✗	✗	✗	✗	✗	✓	✓

- Discs on which video, image or audio files are recorded. This player does not support multisession discs or multiborder recording.
- Including dual-layered discs.
- Finalize them before playing them on this player.
- DVD-R for Authoring discs (3.95 and 4.7 GB) cannot be played.
- Including the AVCHD format.
- Including the AVCREC format.
- Version 1.0 DVD-RW discs cannot be played.
- Including Video CDs.

- “Blu-ray Disc”, “Blu-ray” and “Blu-ray Disc” logo are trademarks of Blu-ray Disc Association.

-  is a trademark of DVD Format/Logo Licensing Corporation.
- Corporation and product names mentioned herein are trademarks or registered trademarks of the respective corporations.

❖ Discs that cannot be played

- HD DVDs
- DVD-RAM discs

It is possible that some discs other than the ones listed above may not be playable either.



Note

- Some discs cannot be played, even if one of the logo marks on the previous page is indicated.
- To play 8 cm discs, set the disc in the 8 cm disc depression in the center of the disc tray. No adapter is necessary. 8 cm BD-ROMs cannot be played.

❖ About audio formats

The following audio formats are supported on this player:

- Dolby TrueHD
- Dolby Digital Plus
- Dolby Digital
- DTS-HD Master Audio
- DTS-HD High Resolution Audio
- DTS Digital Surround
- MPEG audio (AAC)
- Linear PCM

To enjoy the surround sound of Dolby TrueHD, Dolby Digital Plus, DTS-HD Master Audio and DTS-HD High Resolution Audio, it is recommended to connect the player to an AV receiver or amplifier compatible with these audio formats using an HDMI cable. After loading a BD containing sound in one of these audio formats, select the audio format on the menu screen.

Manufactured under license from Dolby Laboratories. Dolby and the double-D symbol are trademarks of Dolby Laboratories.

Manufactured under license under U.S. Patent Nos: 5,956,674; 5,974,380; 6,226,616; 6,487,535; 7,392,195; 7,272,567; 7,333,929; 7,212,872 & other U.S. and worldwide patents issued & pending. DTS-HD, the Symbol, & DTS-HD and the Symbol together are registered trademarks & DTS-HD Master Audio | Essential is a trademark of DTS, Inc. Product includes software. © DTS, Inc. All Rights Reserved.

❖ Playing BDs

- BDs (BDMV) compatible with the formats below can be played.
 - Blu-ray Disc Read-Only (ROM) Format Version 2
 - Blu-ray Disc Recordable (R) Format Version 2
 - Blu-ray Disc Rewritable (RE) Format Version 3

This player supports BD-ROM Profile 5.



“Blu-ray 3D” and “Blu-ray 3D” logo are trademarks of Blu-ray Disc Association.

BONUSVIEW functions such as playback of secondary video (Picture-in-Picture) and secondary audio can be used. The data used with the BONUSVIEW functions (the secondary video (Picture-in-Picture) and secondary audio data) may be stored in the storage. For details on secondary video and secondary audio playback, refer to the disc's instructions.

BONUSVIEW™

“BONUSVIEW” is trademark of Blu-ray Disc Association.

BD-LIVE functions such as downloading movie trailers or additional audio and subtitle languages and playing on-line games can be enjoyed over the Internet. The data downloaded with the BD-LIVE function (trailers, etc.) is stored in the storage. Refer to the disc's instructions for details about BD-LIVE functions.



“BD-LIVE” logo is trademark of Blu-ray Disc Association.

With BD-ROMs, it is possible to use BD-J (Java) applications to create highly interactive titles, for example including games.



Oracle and Java are registered trademarks of Oracle and/or its affiliates. Other names may be trademarks of their respective owners.

- BDs (BD-RE) compatible with the formats below can be played.
 - Blu-ray Disc Recordable (R) Format Version 1
 - Blu-ray Disc Rewritable (RE) Format Version 2

❖ Playing DVDs



This label indicates playback compatibility with DVD-RW discs recorded in VR format (Video Recording format). However, for discs recorded with a record-only-once encrypted program, playback can only be achieved using a CPRM compatible device.

The AVCHD is a high definition (HD) digital video camera recorder format recording high-definition onto certain media by using highly efficient codec technologies.



“AVCHD” and the “AVCHD” logo are trademarks of Panasonic Corporation and Sony Corporation.

❖ About region numbers

Blu-ray Disc Player and BD-ROM or DVD-Video discs are assigned region numbers according to the region in which they are sold.

(BDP-LX55/YXCXN5, BDP-LX55/VXCXN5, BDP-LX55/FWLXCXN)

This player's region numbers are:

- BD-ROM:
 - Europe, Australia and New Zealand models : B
 - Russia models : C
 - Others : A
- DVD-Video:
 - Europe models : 2
 - Australia and New Zealand models : 4
 - Russia models : 5
 - Others : 3

(BDP-53FD/UCXCXN)

This player's region numbers are:

- BD-ROM: A
- DVD-Video: 1

Discs not including these numbers cannot be played. Discs playable on this player are as shown below.

- BDs: A (including A) and ALL
- DVDs: 1 (including 1) and ALL

Discs not including these numbers cannot be played. Discs playable on this player are as shown below.

- BDs:
 - Europe, Australia and New Zealand models : B (including B) and ALL
 - Russia models : C (including C) and ALL
 - Others : A (including A) and ALL
- DVDs:
 - U.K. models : 2 (including 2) and ALL
 - Australia and New Zealand models : 4 (including 4) and ALL
 - Russia models : 5 (including 5) and ALL
 - Others : 3 (including 3) and ALL

❖ Playing CDs

Regarding copy protected CDs: This player is designed to conform to the specifications of the Audio CD format. This player does not support the playback or function of discs that do not conform to these specifications.

❖ DualDisc playback

A DualDisc is a two-sided disc, one side of which contains DVD content — video, audio, etc. — while the other side contains non-DVD content such as digital audio material.

The DVD side of a DualDisc can be played on this player.

The non-DVD, audio side of the disc is not compatible with this player.

It is possible that when loading or ejecting a DualDisc, the opposite side to that being played will be scratched. Scratched discs may not be playable.

For more detailed information on the DualDisc specification, please refer to the disc manufacturer or disc retailer.

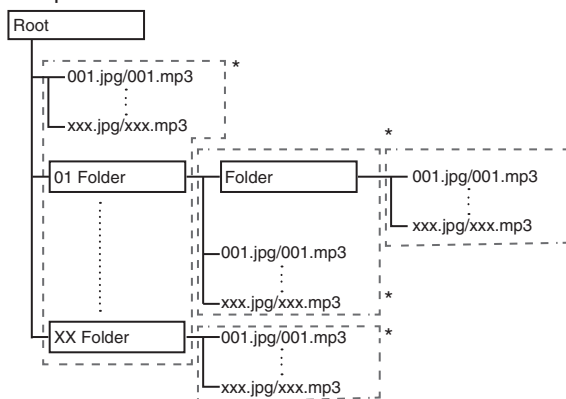
❖ Playing discs created on computers or BD/DVD recorders

- It may not be possible to play discs recorded using a computer due to the application settings or computer's environment settings. Record discs in a format playable on this player. For details, contact the dealer.
- It may not be possible to play discs recorded using a computer or a BD/DVD recorder, if burn quality is not good due to characteristics of the disc, scratches, dirt on the disc, dirt on the recorder's lens, etc.

❖ About video, audio, and image files and folders

Audio and image files can be played on this player when the folders on the disc or USB memory device are created as described below.

Example of folder structure:



* The number of folders and files within a single folder (including the root directory) is limited to a maximum of 256. Also, keep the number of folder layers to a maximum of 5.



Note

- The file and folder names displayed on this player may differ from those displayed on a computer.

Playable files

Video, image and audio files recorded on DVDs and CDs can be played.



Caution

- In DVD, only the one recorded by the ISO 9660 file system can be played.
- Some files may not be playable.
- For some files, it may not be possible to use certain functions during playback.
- It may not be possible to play some files, even if they have the extension of a file playable on this player.
- Files protected by DRM (Digital Rights Management) cannot be played (not including DivX VOD files).

❖ Supported video file formats

• DivX Plus HD

DivX Certified[®] to play DivX[®] and DivX Plus[™] HD (H.264/MKV) video up to 1080p HD including premium content.

ABOUT DIVX VIDEO: DivX[®] is a digital video format created by DivX, Inc. This is an official DivX Certified[®] device that plays DivX video. Visit divx.com for more information and software tools to convert your files into DivX video.

ABOUT DIVX VIDEO-ON-DEMAND: This DivX Certified[®] device must be registered in order to play purchased DivX Video-on-Demand (VOD) movies. To obtain your registration code, locate the DivX VOD section in your device setup menu. Go to vod.divx.com for more information on how to complete your registration.



DivX[®], DivX Certified[®], DivX Plus[™] HD and associated logos are trademarks of DivX, Inc. and are used under license.



Note

- This DivX[®] Certified device must be registered in order to play DivX Video-on-Demand (VOD) content. First generate the DivX VOD registration code for your device and submit it during the registration process. Important: DivX VOD content is protected by a DivX DRM (Digital Rights Management) system that restricts playback to registered DivX Certified devices. If you try to play DivX VOD content not authorized for your device, the message **Authorization Error** will be displayed and your content will not be played. Learn more at www.divx.com/vod.
 - This player's DivX VOD registration code can be checked at **HOME MENU** → **Initial Setup** → **Playback** → **DivX(R) VOD DRM** → **Registration Code**.
 - The number of views is restricted for some DivX VOD files. When such files are played on this player, the remaining number of views is displayed. Files for which the remaining number of views has reached 0 cannot be played (**This DivX rental has expired** is displayed). Files for which the number of views is not restricted can be played as many times as you like (the remaining number of views is not displayed).

- **MKV**

MKV files can be played.

- MKV is a file format allowing multiple audio and video files to be held in a single file.
- The files that can be played are as follows:
Resolution: Up to 1 280 x 720
Extension: “.mkv” or “.MKV”

A

- **Windows Media™ Video (WMV)**

Windows Media™ Video (WMV) files can be played.

- The files that can be played are as follows:
Resolution: Up to 1 280 x 720
Extension: “.wmv” or “.WMV”
- Files encoded using the Windows Media™ Encoder 9 series are supported.
- Windows Media is either a registered trademark or trademark of Microsoft Corporation in the United States and/or other countries.
- This product includes technology owned by Microsoft Corporation and cannot be used or distributed without a license from Microsoft Licensing, Inc.

B

❖ **Supported image file formats**

- **JPEG**

- **Progressive JPEG**

File format: JFIF Ver. 1.02/Exif Ver. 2.2
Resolution: Up to 4 096 x 4 096 pixels

C

❖ **Supported audio file formats**

- **Windows Media™ Audio 9 (WMA9)**

Bit rate: Up to 192 kbps
Sampling frequencies: 22.05 kHz, 32 kHz, 44.1 kHz and 48 kHz

- **MPEG-1 Audio Layer 3 (MP3)**

Bit rate: Up to 320 kbps
Sampling frequencies: 8 kHz, 11.025 kHz, 12 kHz, 16 kHz, 22.05 kHz, 24 kHz, 32 kHz, 44.1 kHz and 48 kHz

D

- **Free Lossless Audio Codec (FLAC)**

Sampling frequencies: 96 kHz to 192 kHz
Quantization bitrate: 16 bit, 24 bit
Channel: 2ch

❖ **Playable file extensions**

- **Video files**

.divx, .mkv, .wmv and .avi

- **Image files**

.jpg and .jpeg

E

- **Audio files**

.wma and .mp3
.flac

F

3. BASIC ITEMS FOR SERVICE

3.1 CHECK POINTS AFTER SERVICING

A

To keep the product quality after servicing, confirm recommended check points shown below.

No.	Procedures	Check points
1	Confirm the firmware version on Test Mode.	The version of the firmware must be latest. Update firmware to the latest one, if it is not the latest.
2	Confirm whether the customer complain has been solved. If the customer complain occurs with the specific disc, use it for the operation check.	The customer complain must not be reappeared. Video, audio and operations must be normal.
3	Play back a CD. (track search)	Audio and operations must be normal.
4	Play back a DVD. (Menu operation, Title/chapter search)	Video, audio and operations must be normal.
5	Play back a BD. (Menu operation, Title/chapter search)	Video, audio and operations must be normal.
6	Check the appearance of the product.	No scratches or dirt on its appearance after receiving it for service.

B

See the table below for the items to be checked regarding video and audio.

Item to be checked regarding video	Item to be checked regarding audio
Block noise	Distortion
Horizontal noise	Noise
Dot noise	Volume too low
Disturbed image (video jumpiness)	Volume too high
Too dark	Volume fluctuating
Too bright	Sound interrupted
Color disappearance	
Mottled color	

C

D

Cleaning



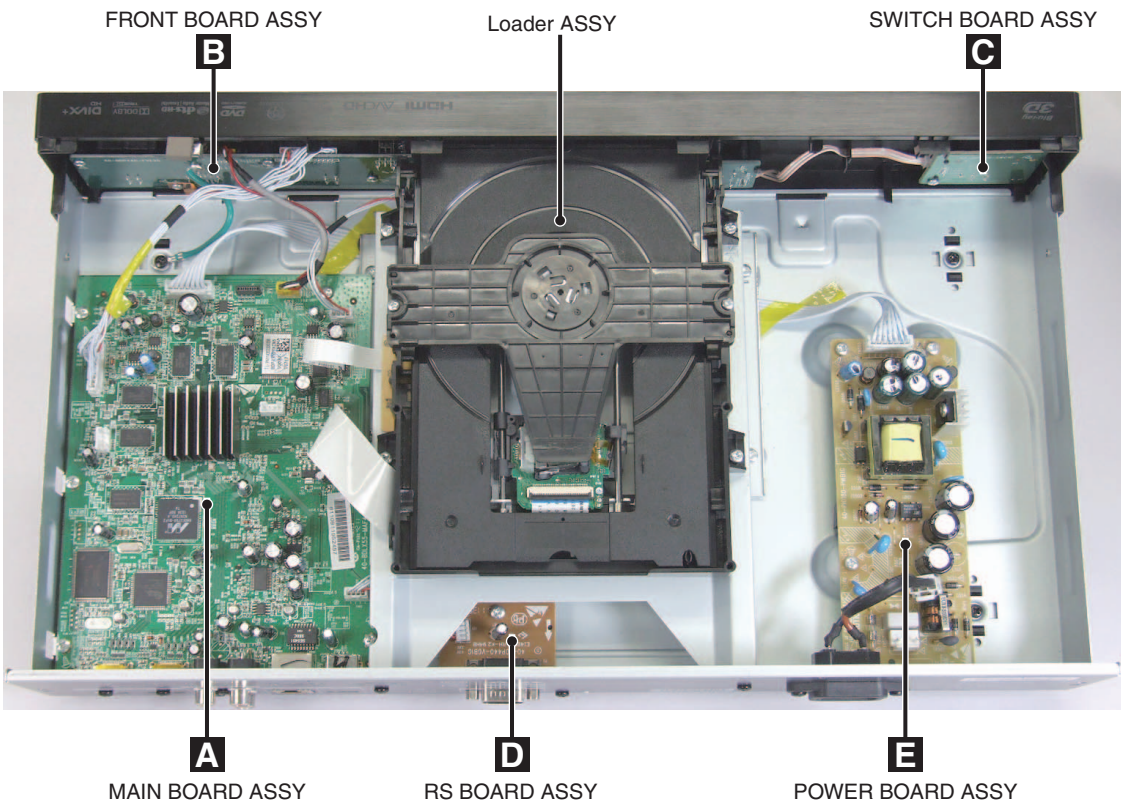
Be sure to clean the following positions by using the prescribed cleaning tools shown below as occasion demands.

Position to be cleaned	Name	Part No.	Remarks
Pickup leneses	Cleaning liquid	GEM1004	Refer to "7. DISASSEMBLY".
	Cleaning paper	GED-008	

E

F

3.2 PCB LOCATIONS



NOTES: ● Parts marked by “NSP” are generally unavailable because they are not in our Master Spare Parts List.
● The ⚠ mark found on some component parts indicates the importance of the safety factor of the part.
Therefore, when replacing, be sure to use parts of identical designation.

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
LIST OF ASSEMBLIES							
	1..	MAIN BOARD ASSY (BDP-LX55/YXCN5,BDP-LX55/VXCN5)	08-BDLX55-MA0/Y	⚠	1..	POWER BOARD ASSY (BDP-LX55/YXCN5,BDP-LX55/VXCN5)	08-BDLX55-PW2
	1..	MAIN BOARD ASSY (BDP-LX55/FWLXCN)	08-BDLX55-MA0/F	⚠	1..	POWER BOARD ASSY(BDP-LX55/FWLXCN)	08-BDLX55-PW0
	1..	MAIN BOARD ASSY (BDP-53FD/UCXCN)	08-BDLX55-MA0/U	⚠	1..	POWER BOARD ASSY(BDP-53FD/UCXCN)	08-BDLX55-PW1
	1..	FRONT BOARD ASSY	08-BDLX55-FV0		1..	Loader ASSY	08-BL2000-LD4-TL
	1..	SWITCH BOARD ASSY	08-BDLX55-SW0-TL				
	1..	RS BOARD ASSY	08-BDP440-RS0-TL				

3.3 JIGS LIST

Name	Jig No.	Remarks
DVD Test Disc (DVD-Video)	GGV1025	Check of DVD-Video
BD-ROM Test Disc	GGV1350	Check of BD-ROM
BD-ROM Test Disc (One layer type)	GGV1368	For Adjustment
Emergency Disc Ejection Rod	GGF1529	Emergency disc ejection

Emergency Disc Ejection Rod (GGF1529)

4. BLOCK DIAGRAM

4.1 OVERALL CONNECTION DIAGRAM

A

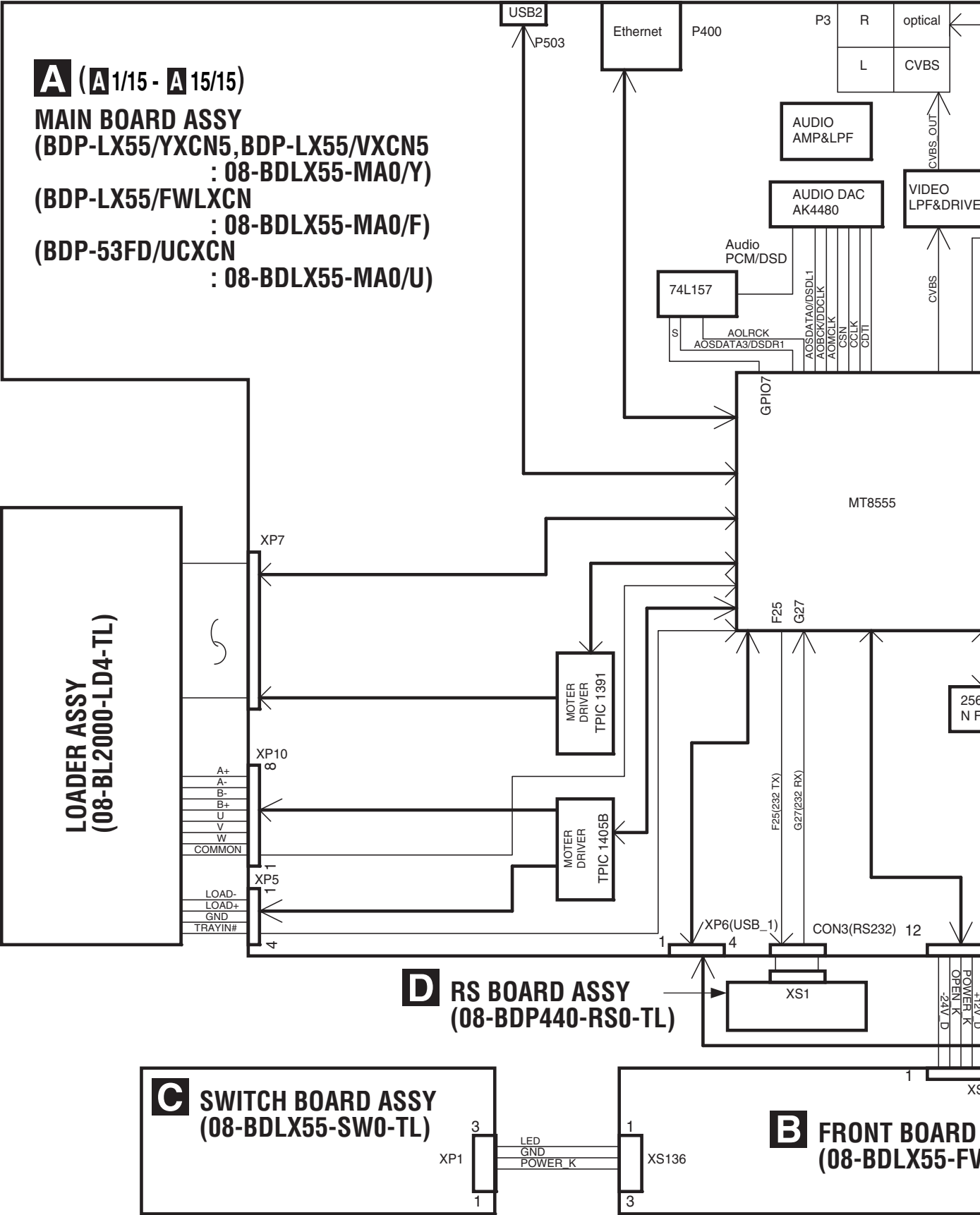
B

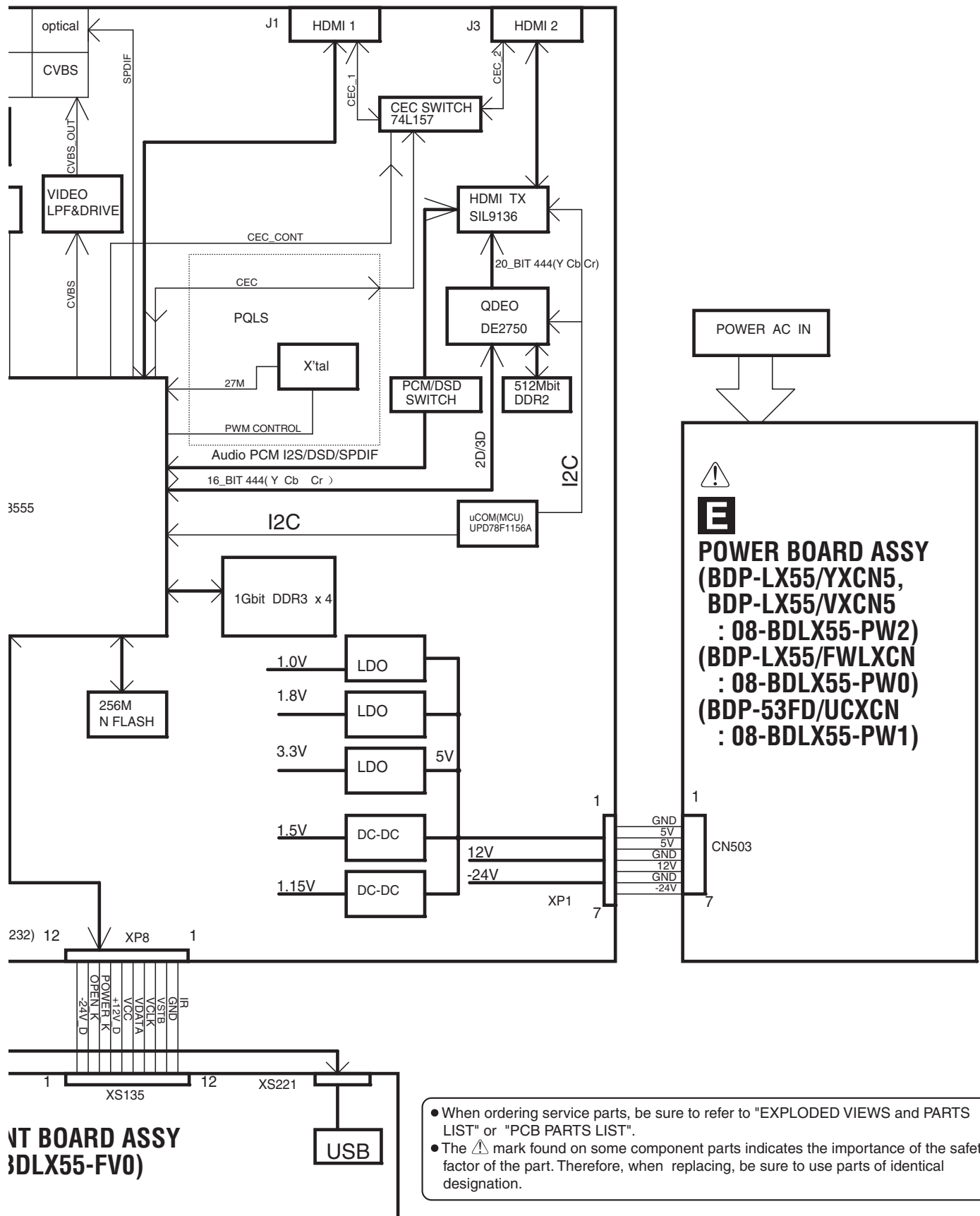
C

D

E

F



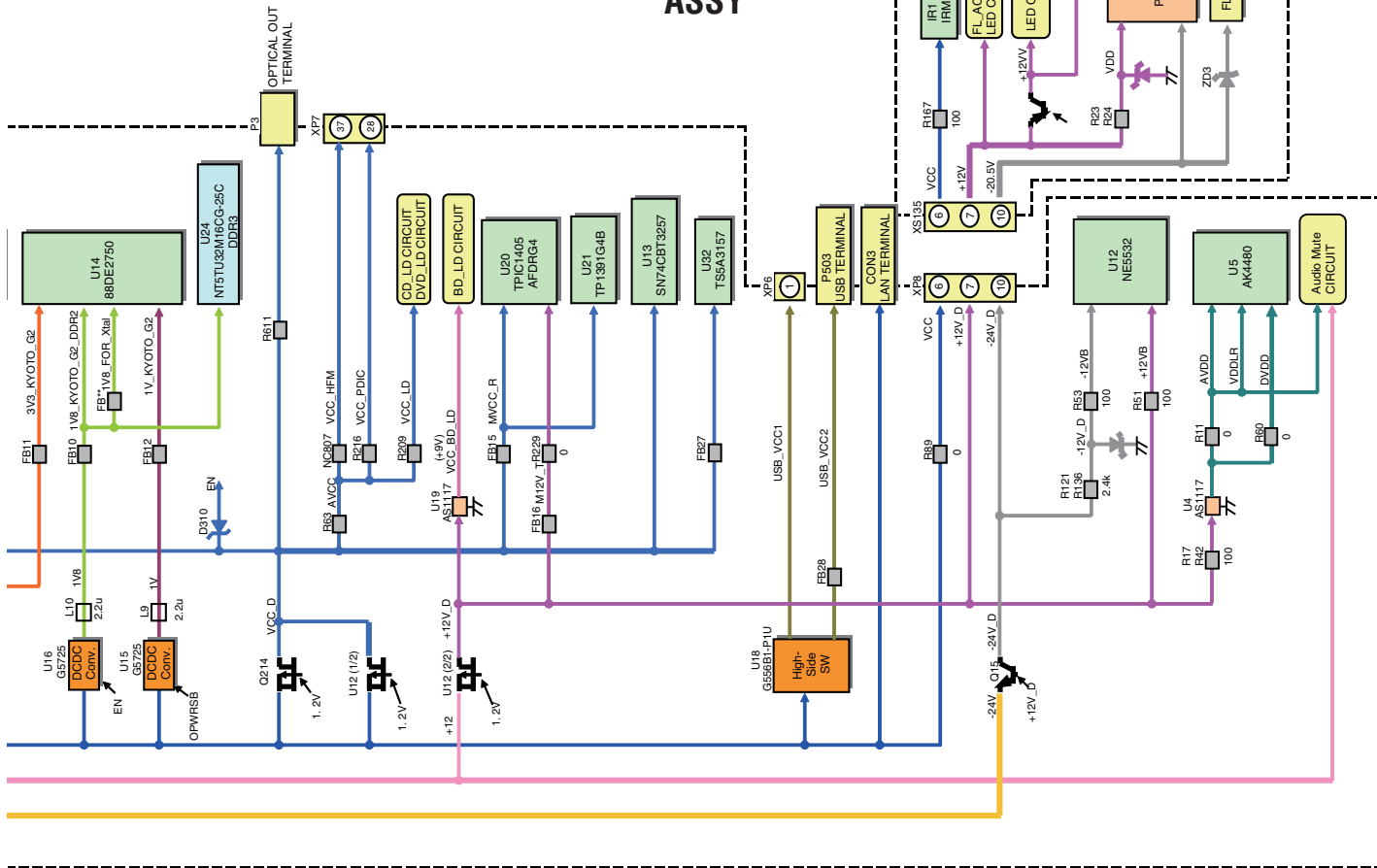


4



B FRONT BOARD ASSY

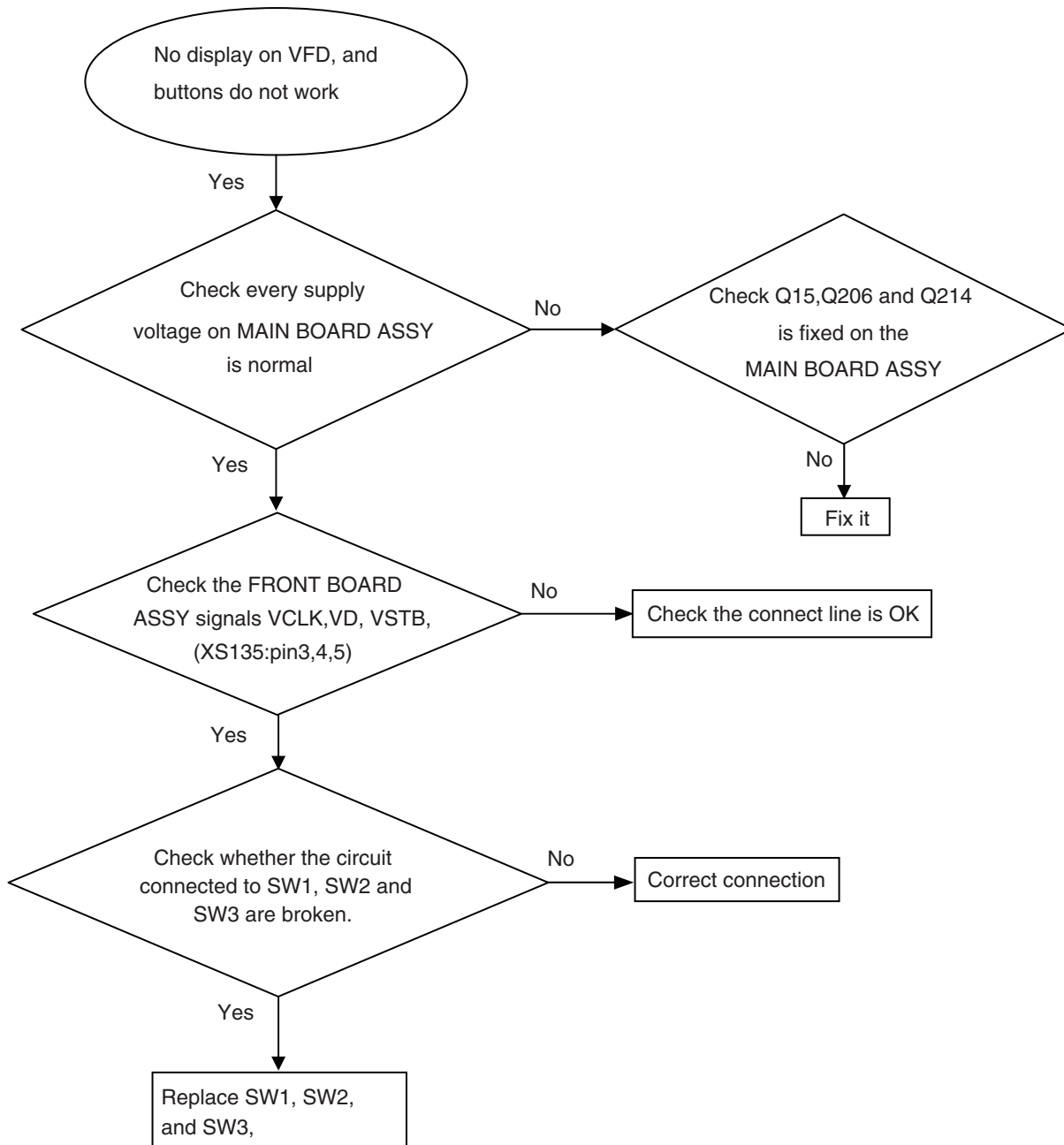
C SWITCH BOARD ASSY



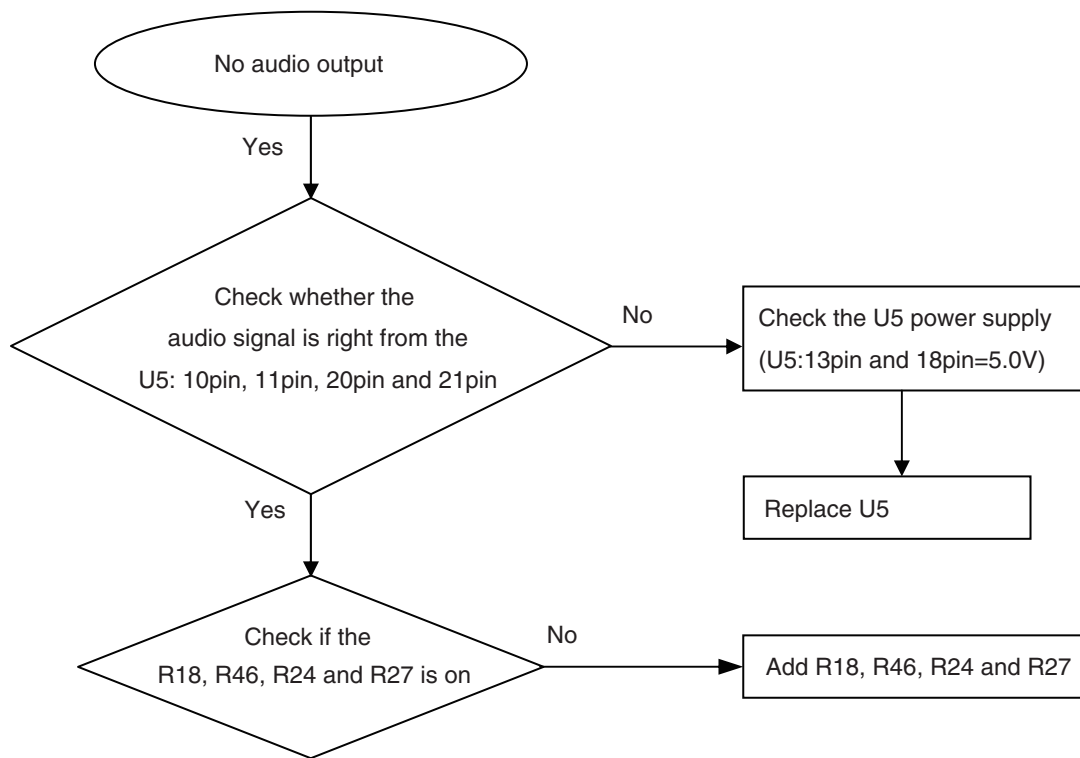
5. DIAGNOSIS

5.1 DIAGNOSIS FLOWCHART

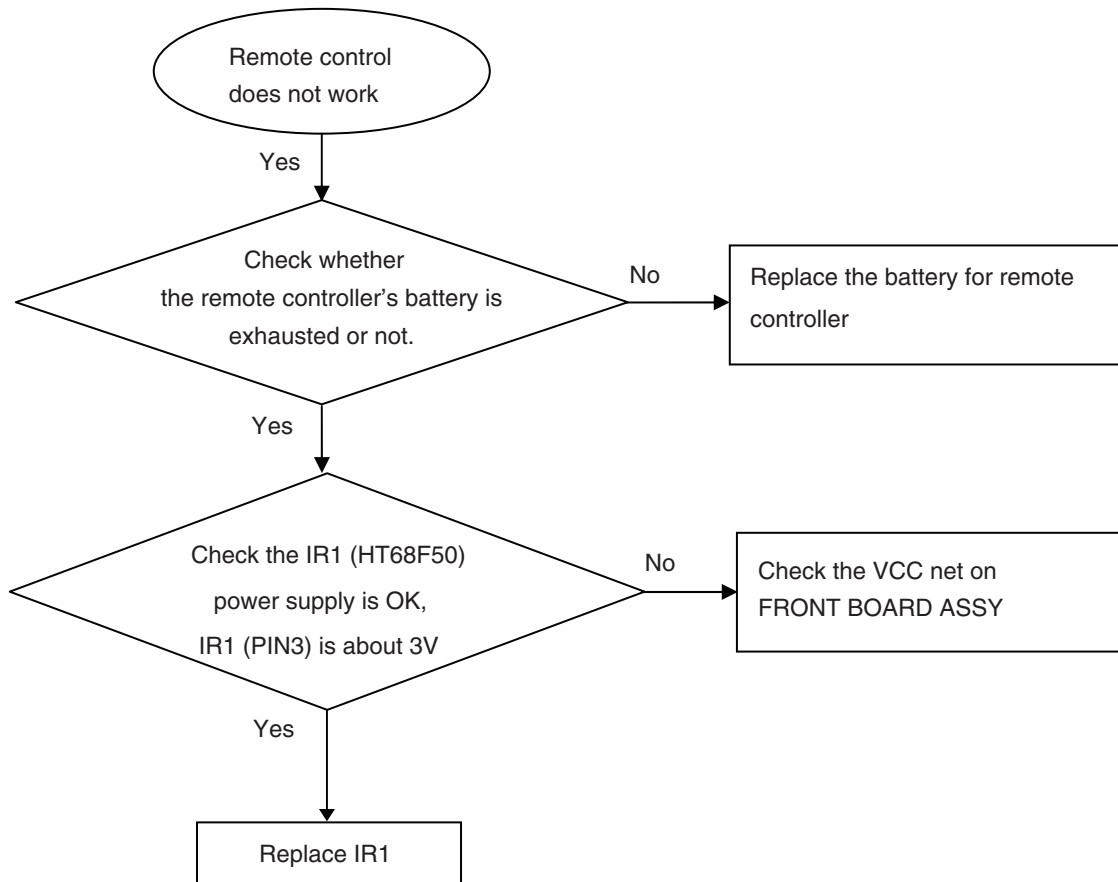
1) No display on VFD, and buttons do not work



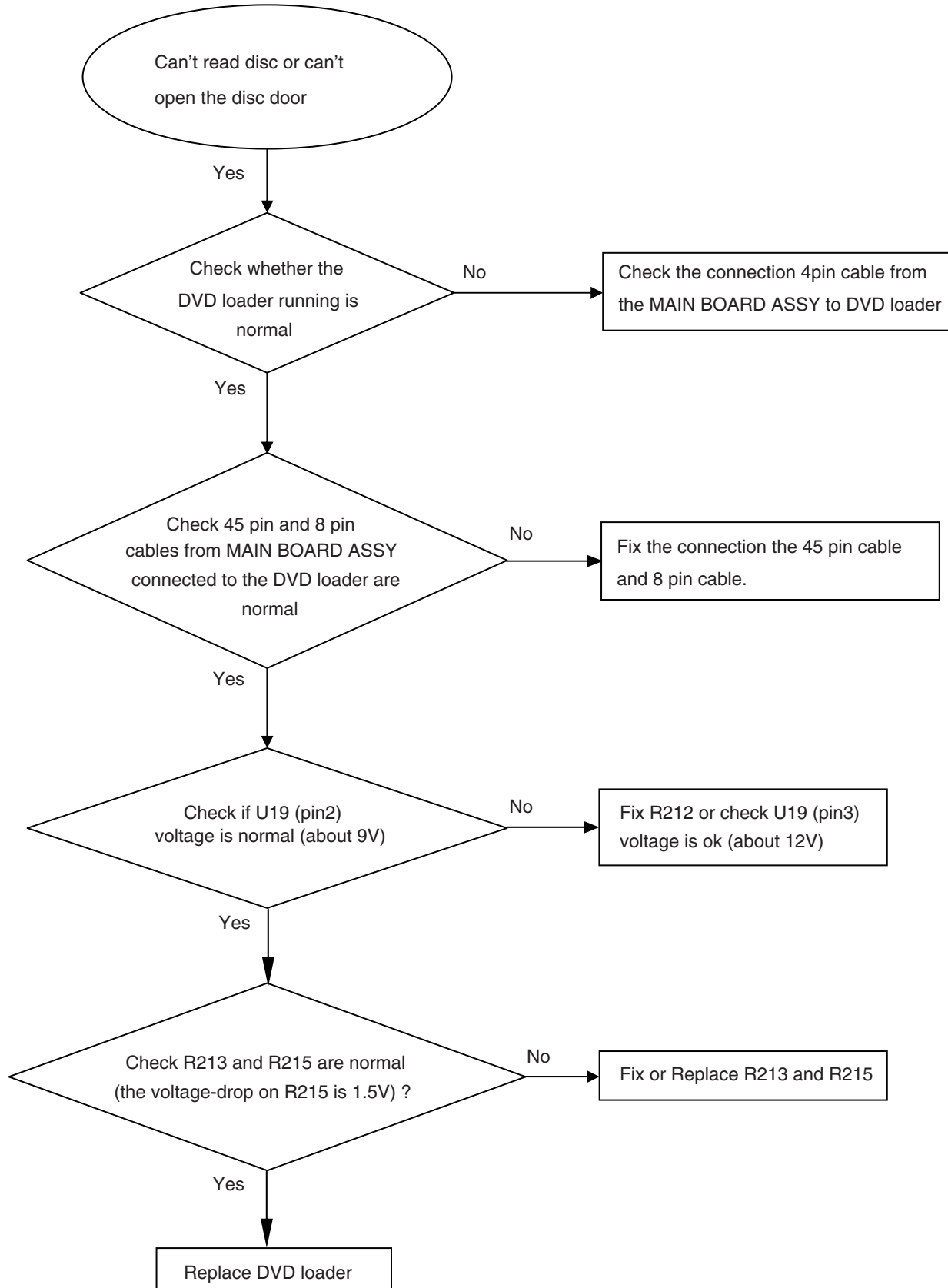
2) No audio output



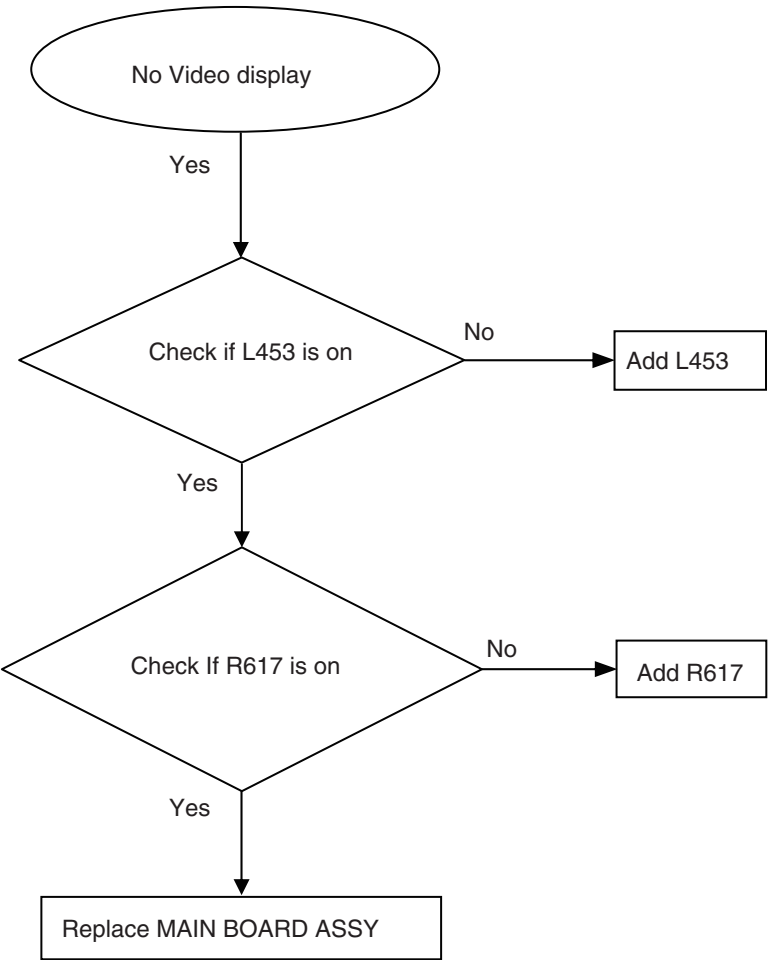
3) Remote control does not work



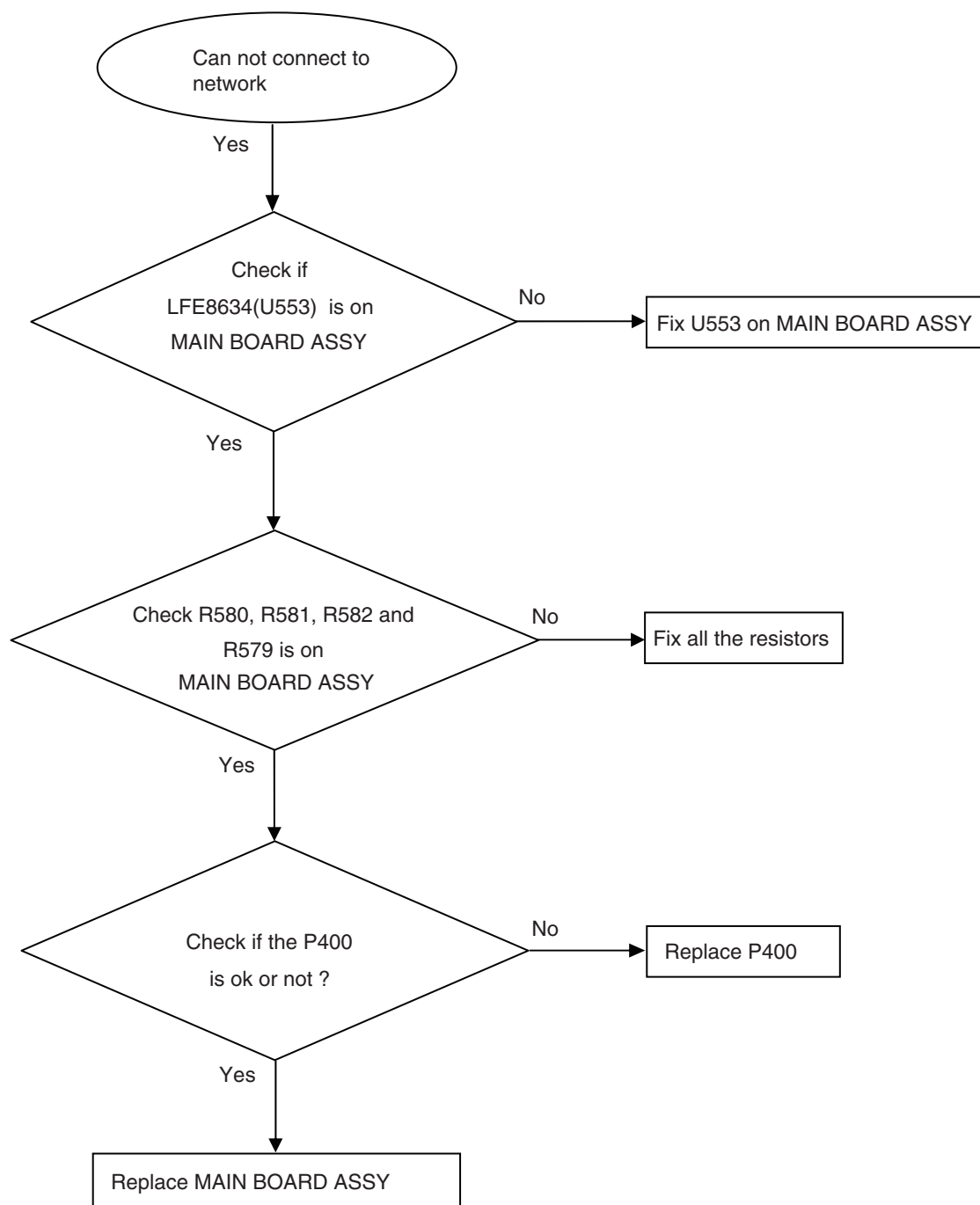
4) Can't read disc or can't open the disc door



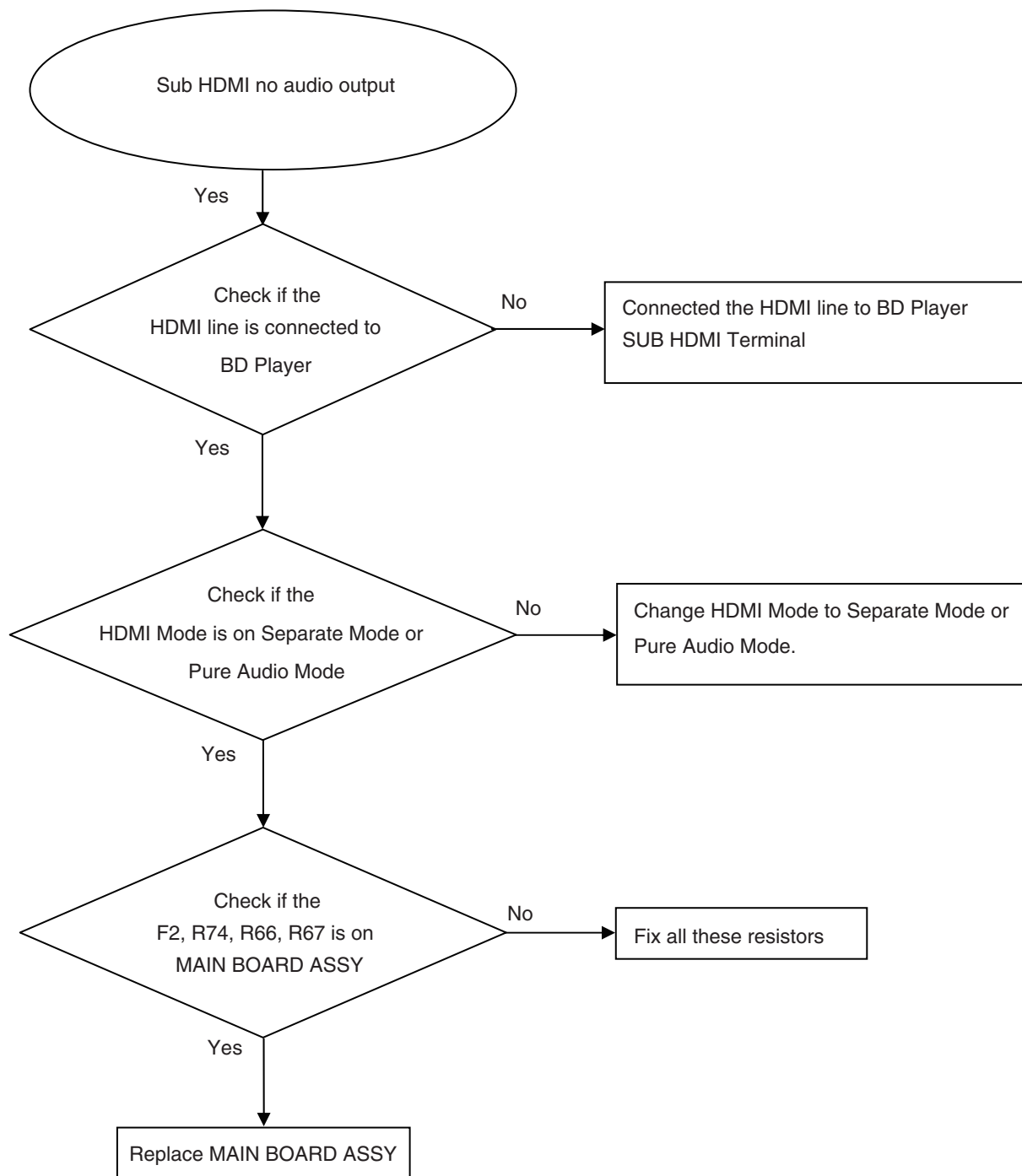
5) No video display



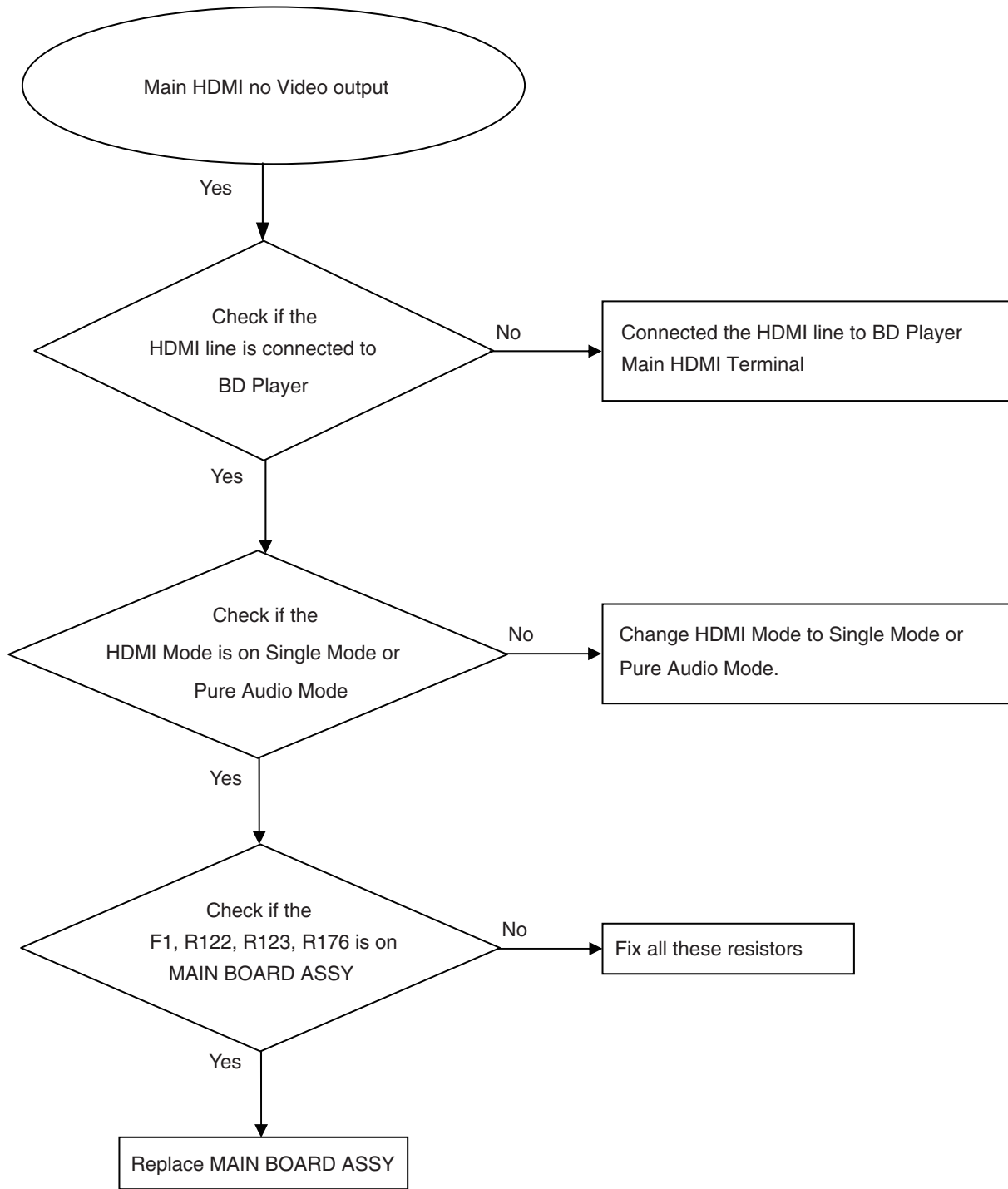
6) Can not connect to network



7) Sub HDMI no audio output



8) Main HDMI no video output



6. SERVICE MODE

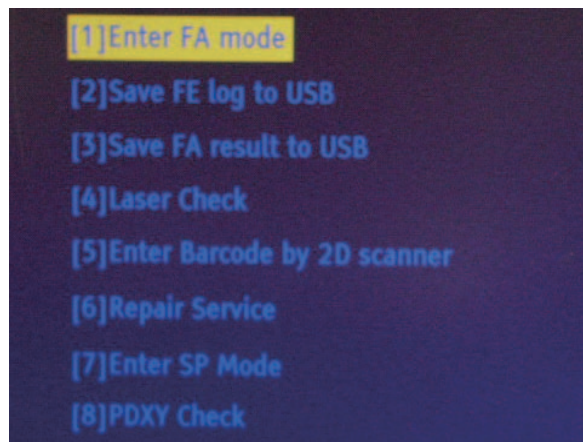
In Service Mode, there is a mixture of Design and Development, Production Line Menu and Service Menu. Here, menu items that are usable in Service and instructions are listed. Only use the menu explained in this document. Others are for Design and Product lines.

6.1 HOW TO ENTER TO SERVICE MODE

1. Press [Home Menu] on the remote controller and select "Initial Setup" from the home menu.



2. Pressing the number keys on the remote control in the following order [5] ⇒ [1] ⇒ [7] ⇒ [7] will display the Menu screen. (If it does not appear, slowly press the number keys with a 1 second interval.)



6.2 DESCRIPTION OF EACH ITEM

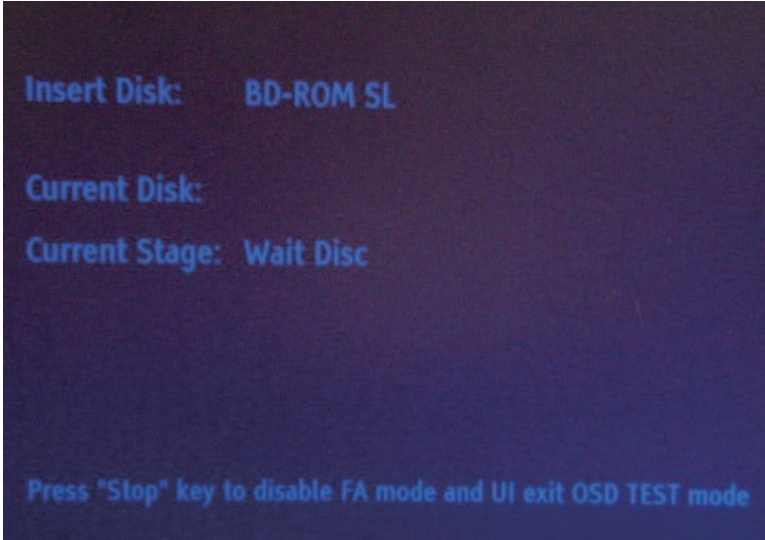
- [1] Enter FA mode
Implemented when exchanging the Loader and MAIN BOARD ASSY. Refer to "FA Mode" for details.
- [2] Save FE log to USB
For Design and Development purposes and cannot be used for Service.
- [3] Save FA result to USB
For Design and Development purposes and cannot be used for Service.
- [4] Laser Check
Verifies laser diode. Refer to "Laser Check" for details.
- [5] Enter Barcode by 2D scanner
For Production line purposes and cannot be used for Service.
- [6] Repair Service
For the former model and will not be used to exchange this Loader.
- [7] Enter SP Mode
Mainly for Production Line, but some items can be used in Service. Please see "SP Mode" for details.
- [8] PDXY Check
Verifies misalignment of optical axis. Refer to "PDXY Check" for details.

6.3 DETAILED DESCRIPTION OF ITEMS USED IN SERVICE

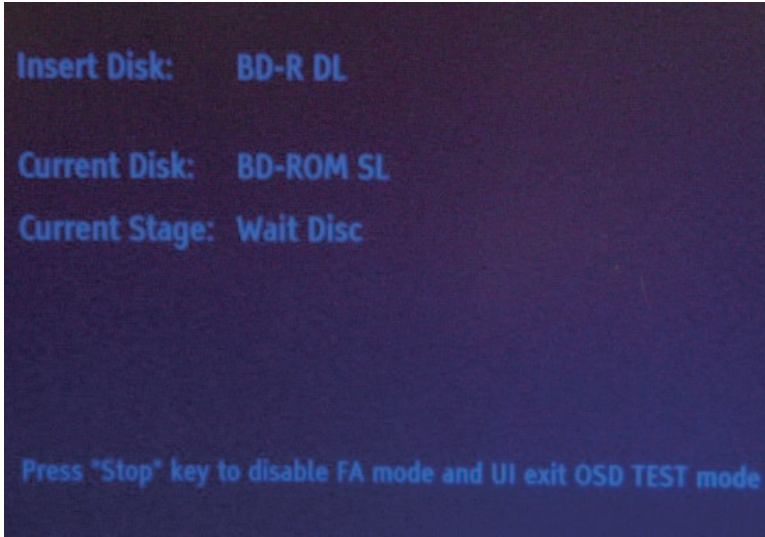
1. [1] Enter FA mode

A In "FA mode," playback of the pick-up area is adjusted first, and then playback verification process is done on all playable discs. Adjustments on initial playback need to be made when exchanging the Loader and MAIN BOARD ASSY in Service, so implement "FA mode" as in the following instructions.

-
- ① Select "[1]Enter FA mode" with the up-and-down key on the remote control on the Service Mode screen and press the [ENTER] key. (Window below will appear)



-
- ② The tray will open automatically, so insert GGV1368 and close the tray manually (push the tray in)
- ③ Adjustments will initiate, and when they are properly completed, the tray will re-open and [Insert Disc: BD-R DL] will appear.



-
- ④ Remove the disc from the tray and press the [Stop] key. You will exit Service Mode and return to the Home Menu screen and finish.
- F

2. [4] Laser Check

Verifies the output value of each laser diode inside the pick-up area. Implement according to the following procedures.

- ① Select "[4] Laser Check" with the ▼ key from the Service Mode screen and press the "ENTER" key.
(perform without disc in tray)
- ② After a few seconds, measurement and judgment results will be displayed as follows, and the tray will open automatically.
If all Measurement values (Meas) are less than the total numeric value of the Target value (hex) and 80 (hex) combined, [PASS] will appear, and if any of them goes over, [NG] will appear.

Example BD

Target: 0x41d Meas: 0x43 OK because
 $\xrightarrow{\quad\quad\quad} 0x41d + 0x80 = 0x49d$ Meas is 0x49d or less

BD Measurement values: The hexadecimal single-digit will not be displayed in Meas. Therefore in the above example, Measurement values of up to 0x49 are considered OK, and 0x50 are considered NG.

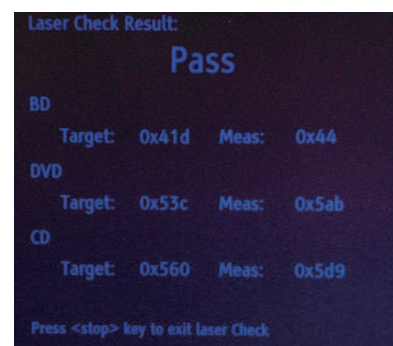
DVD

Target: 0x53c Meas: 0x5a7 → OK
 $\xrightarrow{\quad\quad\quad} 0x53c + 0x80 = 0x5bc$

CD

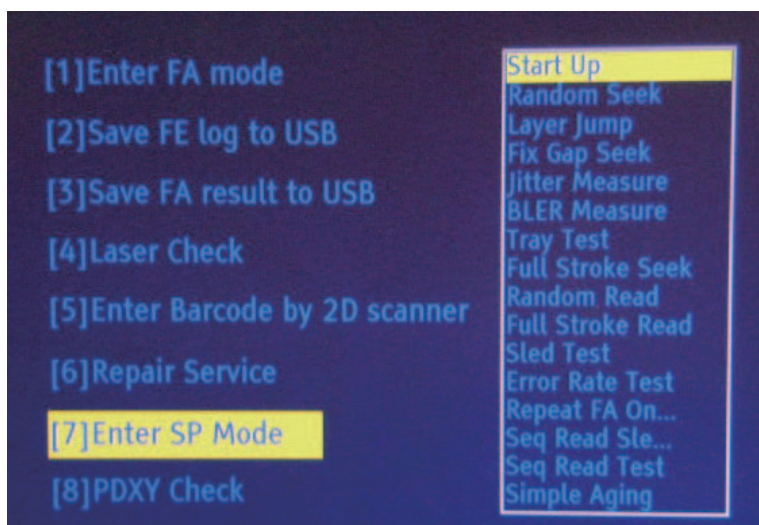
Target: 0x560 Meas: 0x5d7 → OK
 $\xrightarrow{\quad\quad\quad} 0x560 + 0x80 = 0x5e0$

("0x" is simply to express the hex, so it is not necessary in the calculation)



3. [7] Enter SP Mode

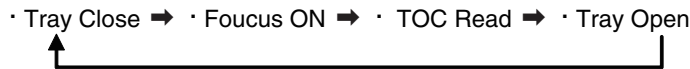
There are 15 items in the SP Mode, the main items being for Production line and Design/Development. The following is to explain items usable in Service. Other items require time for completion, or are not suited for Service purposes. If you select them by mistake, press the [Stop] key to end that item you accidentally selected.
(none of the items will affect the main unit)



3-1. Start Up

[Content of test]

Implements initial movement of the disc servo continuously.
Implement the following process 20,000 cycles.



(1 cycle 15 seconds x 20000=completed in approx. 83 hours 20 minutes)

Can be implemented on all of CD, DVD, and BD. Cannot change disc during process.

[Instructions]

- ① Select "[7] Enter SP Mode" with the ▼ key from the Service Mode screen, and press the [ENTER] key.
- ② The SP Mode window menu will be displayed, so select "Start Up" and press the [ENTER] key.
- ③ The tray will automatically open and the dedicated screen will appear. Place the disc you wish to use on the tray, and push it in manually. ([Close] key will not function)
- ④ Start Up mode will be initiated, and count will start. Implement 20,000 times (4E20 in hex), and if no errors occur, "Pass" will appear.
If errors do occur, they will be counted. Therefore, errors can be identified without finishing the process.

[Effective indications]

- Tray sometimes does not open, discs sometimes are not recognized, discs sometime do not playback, (When indications are related to discs, implement on the type of disc which has been pointed out.
If it is the disc on which the indications occurred, possibility of reoccurrence is higher.)

3-2. Jitter Measure / BLER Measure

[Content of test]

Measures the Jitter or the Block Error Rate (BLER) of the disc inserted.
Only Pass or NG will be displayed, not Measurement values.
All of CD, DVD, and BD can be judged.

[Instructions]

- ① Select "[7] Enter SP Mode" with the ▼ key from the Service Mode screen, and press the [ENTER] key.
- ② The SP Mode window menu will be displayed, so select either "Jitter Measure" "BLER Measure," and press the [ENTER] key.
- ③ The tray will automatically open and the dedicated screen will appear. Place the disc you wish to use on the tray, and push it in manually. ([Close] key will not function)
- ④ The tray will reopen automatically. Measurement will start when you push the tray in manually.
- ⑤ When test is completed, "Pass" or "NG" is displayed.

[Effective indications]

Defect related to playback (blocked noise, sound jumping, image jumping, disc is paused, freeze of screen etc.)
If an NG is generated in a specific disc only, the defect is likely to be caused by the disc. If an NG is generated in other discs too, the defect is likely to be caused by the drive part.
However, even if Pass is displayed after this test, it is difficult to determine that the Driver is normal with these Pass judgments only.

3-3. Simple Aging

[Content of Test]

Performs random playback of disc randomly. Implement the following process 800 cycles.

· Tray close → · 50 times of short playback on voluntary points → · Tray open



1cycle BD : 75 seconds x 800 times = Completed in a total of approx. 16 hours 40 minutes

DVD: Approx. 100 seconds x 800 times = Completed in a total of approx. 22 hours 12 minutes

CD : Approx. 105 seconds x 800 times = Completed in a total of approx. 23 hours 20 minutes

[Instructions]

- ① Select "[7] Enter SP Mode" with the ▼ key from the Service Mode screen, and press the [ENTER] key.
- ② The SP Mode window menu will be displayed, so select "Simple Aging" and press the [ENTER] key.
- ③ The tray will automatically open and the dedicated screen will appear. Place the disc you wish to use on the tray, and push it in manually. ([Close] key will not function)
- ④ The tray will reopen automatically. Aging will start when you push the tray in manually.

Note 1: [Total test count] display should always be 1 (essentially, 9C40, which is the hex of the 40000, the total of Random 50-time playback x 800 times should be displayed).

Note 2: Accumulated sum for [Current test count] is counted up until "9C3D" (39997 in decimal), however later it is expressed as "32" and is finished.

· Error List

The following serves as the Error List generated in SP MODE.

Error code	Error name	Discription
12	PWR_CURVE_ERROR	Power curve chk-sum error
22	STARTUP_TIMEOUT_ERROR	Over time-out criteria
23	MEDIA_MISMATCH	Wrong disc
25	DISCID_ERROR 0x25	Disc ID error
26	MEDIUM_SUPPORT_ERROR	Unsupported disc
31	TRAYOUT_ERROR	Over tray-out time-out criteria
32	TRAYIN_ERROR	Over tray-in time-out criteria
33	FLASH_UPDATE_ERROR	Updating FA result failed
36	OPU_TEMP_ERROR	Abnormal OPU temperature
41	SEEK_TIMEOUT_ERROR	Over seek time-out criteria
42	SEEK_CMD_FAIL_ERROR	Seek cmd failed
51	READ_TOC_ERROR	Read TOC cmd failed
52	TOC_TIMEOUT_ERROR	Over read TOC time-out criteria
61	PIPO_TIMEOUT_ERROR	Over time-out criteria
62	PIPO_C1C2_ERROR	Read PIPO cmd failed
63	PIPO_C1C2_OVER	Over PIPO criteria
71	RD_CMD_FAIL_ERROR	Read cmd failed
72	RD_CMD_ERROR	Cmd error or illegal mode
73	RD_TIME_OUT_ERROR	Over read cmd time-out criteria
81	CHECK_FA_TABLE_ERROR	FA table chk-sum error

4. [8] PDXY Check

For PDXY Check, the misalignment of pick-up optical axis can be checked.

The optical axis misalignments of X-axis and Y-axis are displayed [PDX] and [PDY] with %, respectively.

All of CD, DVD, and BD can be measured.

The method for calculating PDX and PDY is shown below.

$$PDX = ((A+B)-(C+D)) / (A+B+C+D)$$

$$PDY = ((A+D)-(B+C)) / (A+B+C+D)$$

[Instructions]

- ① Insert a disc (BD, DVD, CD) in a normal mode. If the playback starts, pause it.

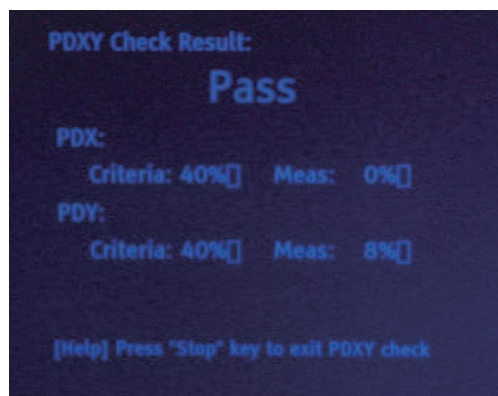
Display the home menu and enter into the Service Mode.

In this mode, the measurement can be carried out at an arbitrary place. After a disc is inserted, play and stop the point you want to measure, and then enter into the Service Mode.

(The pick-up position does not return even in this status. The measurement at the place is available.)

- ② Select "[8] PDXY Check" with the ▼ key from the Service Mode screen, and press the [ENTER] key.

- ③ After the measurement is started and completed, the measurement value is displayed. If the value is within the reference value, "Pass" is displayed.



[Effective indications]

Defect related to playback (block noise, sound jumping, image jumping, disc is paused, freeze of screen etc.)

If an NG is generated in a specific disc only, the defect is likely to be caused by the disc. If an NG is generated in other discs too, the defect is likely to be caused by the pick-up part. If the measurement value is very close to 40% even if an NG is not generated, the NG is likely to be caused by the disc.

7. DISASSEMBLY

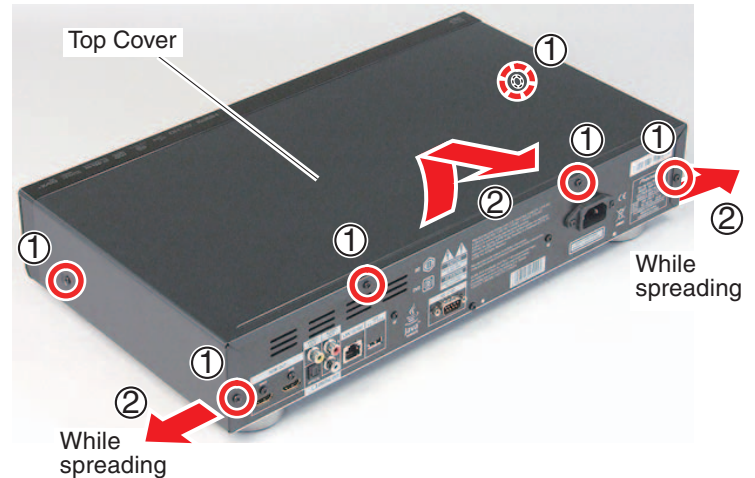
Note 1 : Do NOT look directly into the pickup lens. The laser beam may cause eye injury.

Note 2 : Even if the unit shown in the photos and illustrations in this manual may differ from your product, the procedures described here are common.

[1] CD Door Section

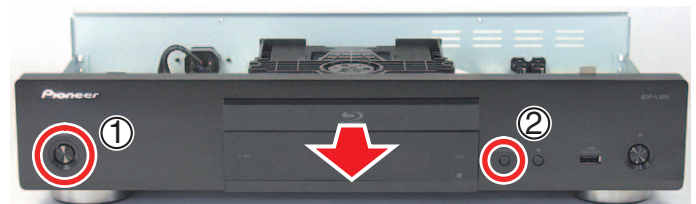
[1-1] Top Cover

- (1) Remove the six screws (63-B30060-3H3-TL) on the side.
- (2) Remove upward the Top Cover while spreading the rear side of Top Cover.

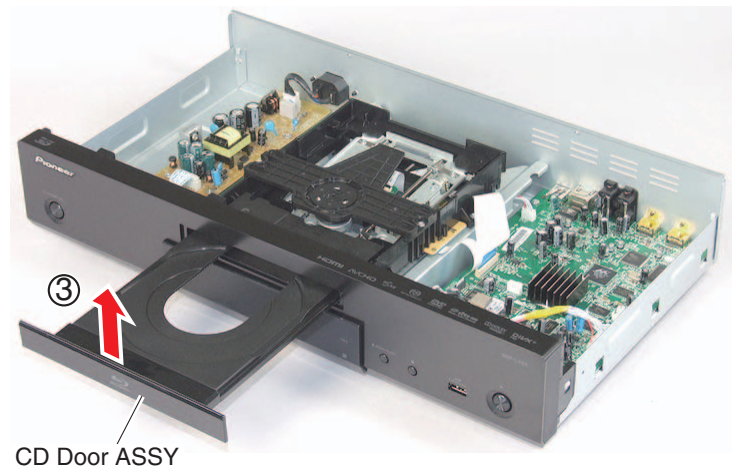


[1-2] CD Door ASSY

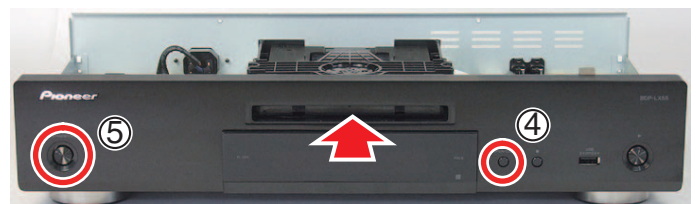
- (1) Press the STANDBY/ON button to turn on the power.
- (2) Press the OPEN/CLOSE button to open the Tray.



- (3) Remove upward the CD Door ASSY.



- (4) Press the OPEN/CLOSE button to close the Tray.
- (5) Press the STANDBY/ON button to turn off the power.

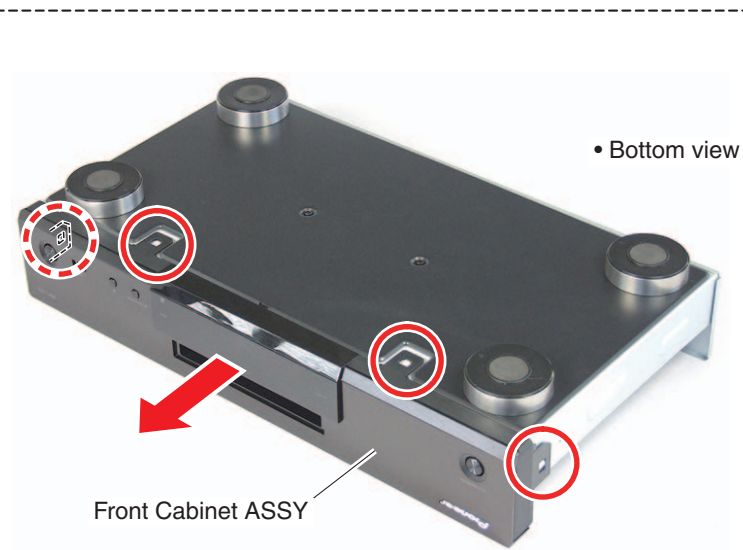
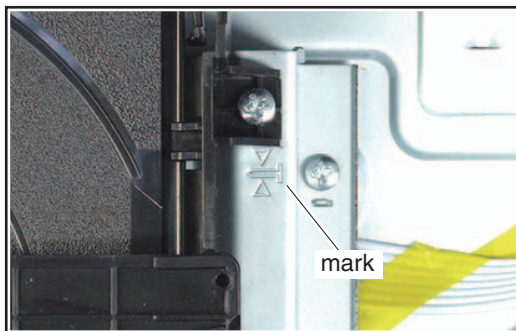
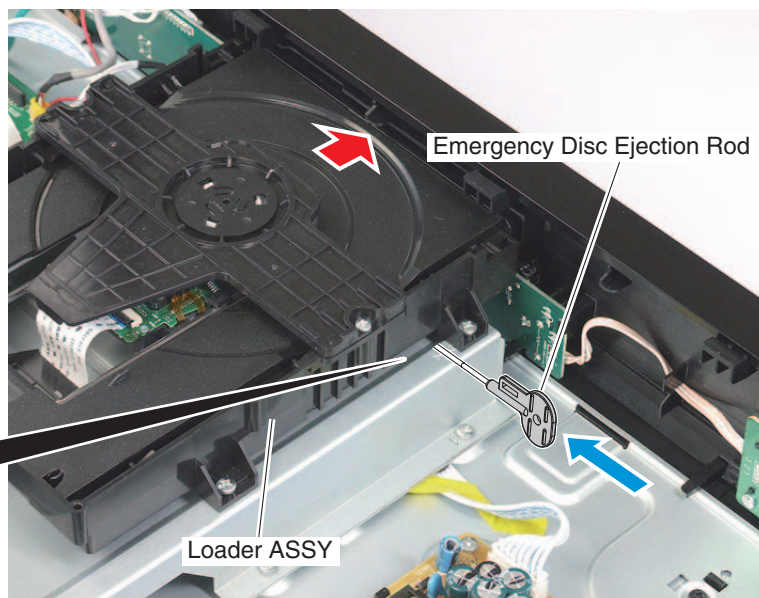


• **How to open the Tray when the power cannot be turned on**

When the Tray cannot be opened because the power cannot be turned on, it can be opened using the Emergency Disc Ejection Rod (GGF1529). (A long, thin rod about 1 mm in diameter can be used in place of the rod.)

Emergency Disc Ejection Rod is inserted from the side of Loader ASSY, and slide the Loading Rack in the direction of blue arrow, as indicated in the photo.

If the Tray pops out a little, fully pull it out by hand.

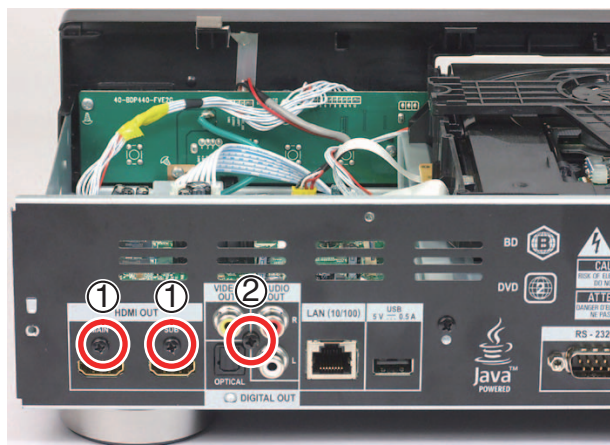


[2] Front Cabinet Section

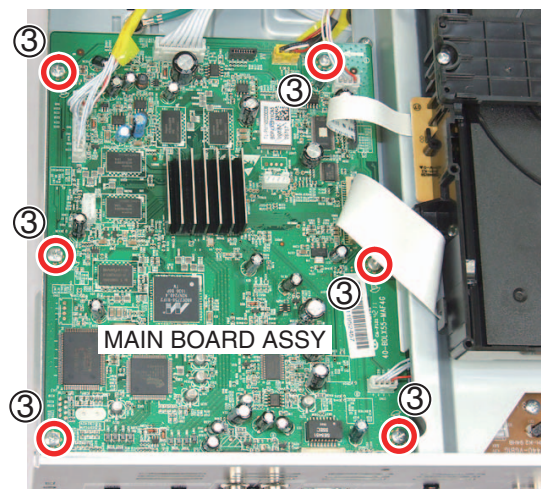
- (1) Unhook the four hooks of the Front Cabinet ASSY and remove the Front Cabinet Section.

[3] MAIN BOARD ASSY

- (1) Remove the two screws on the rear side. (64-B30040-3H8-TL)
- (2) Remove the screw on the rear side. (63-B30070-3H4-TL)

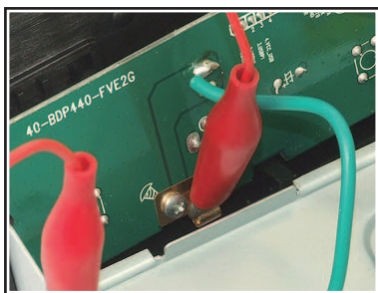


- (3) Remove the six screws (63-B30060-3H4-TL) of the MAIN BOARD ASSY.

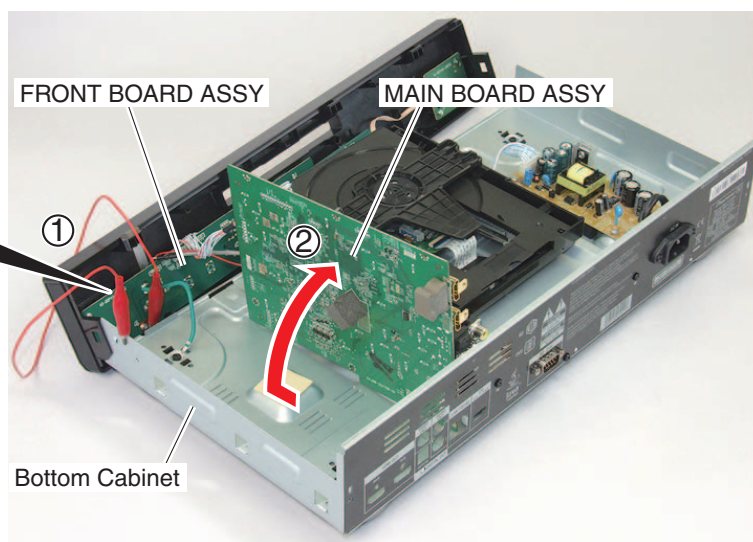


[4] Diagnosis

- (1) Connect the FRONT BOARD ASSY to the ground of the Bottom Cabinet.



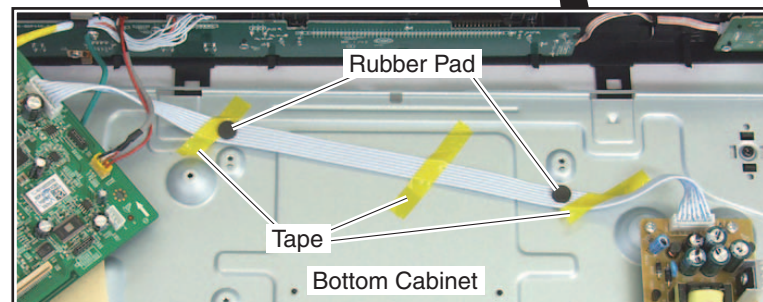
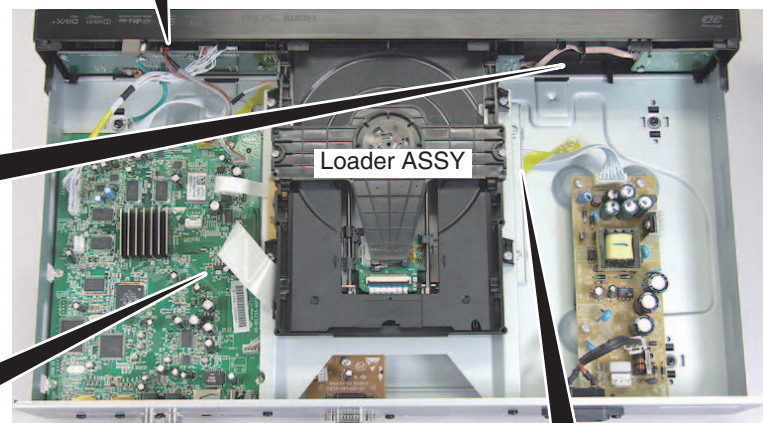
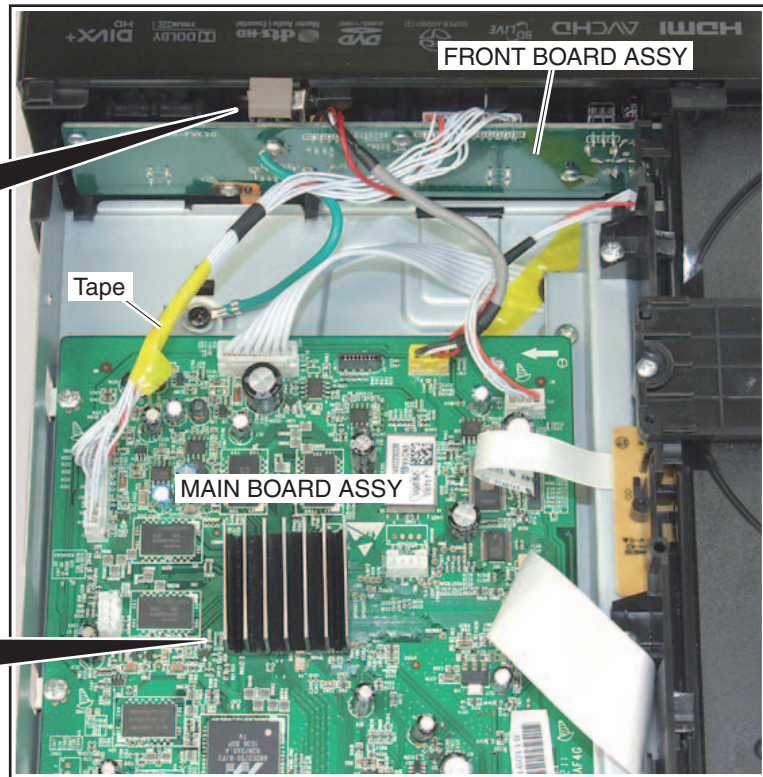
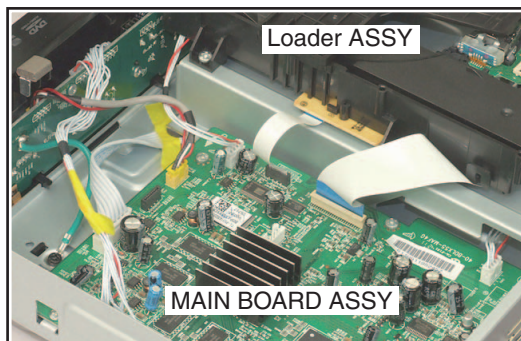
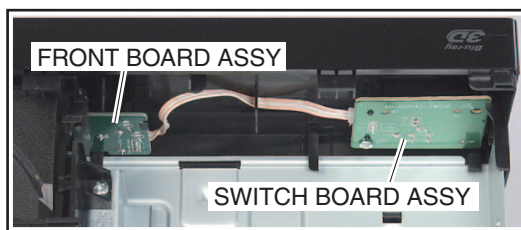
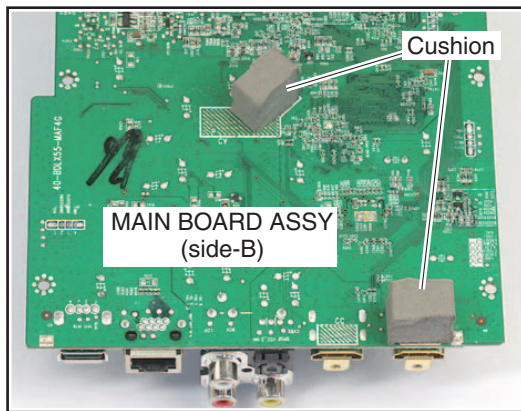
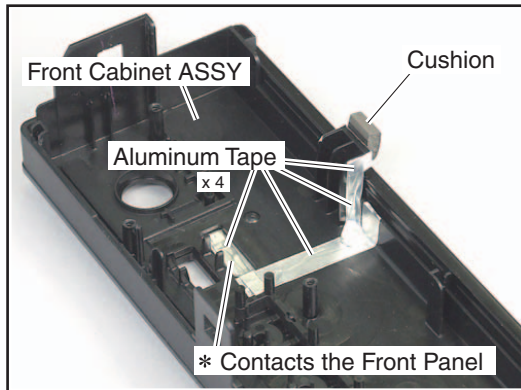
- (2) Set up the MAIN BOARD ASSY and allocate each unit as shown in the photo.



Notes on assembling

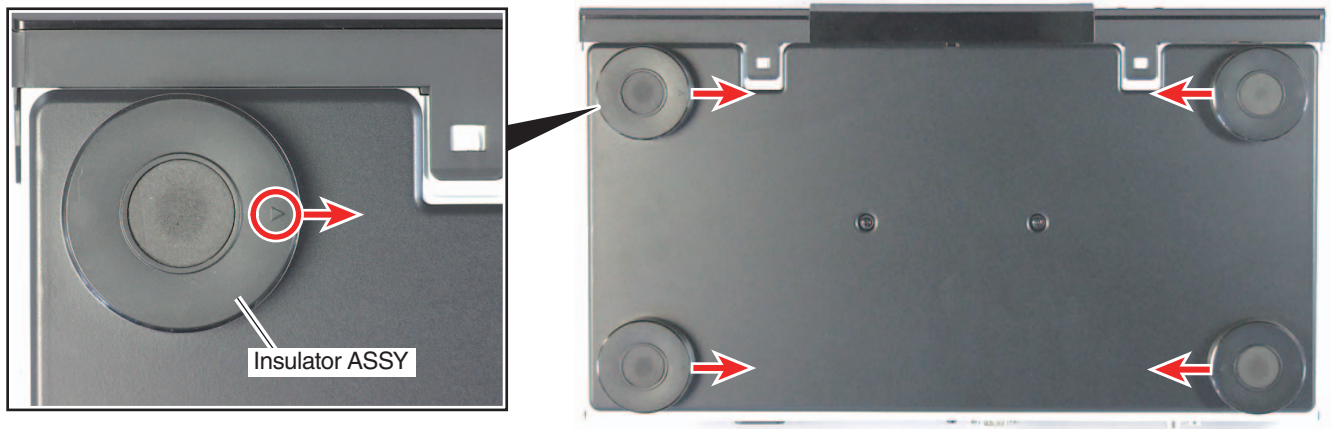
A [1] Styling of cables etc.

When you attach each unit, make styling, connection of cables and other parts as shown in the photo.



[2] Direction of Insulator

Align the mark at under surface of the Insulator ASSY with the direction of photo.



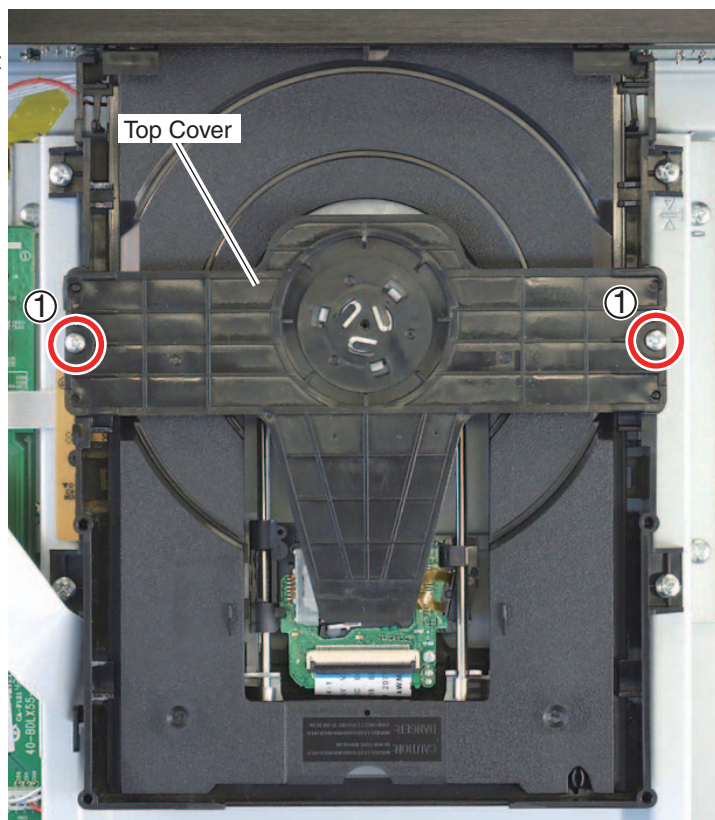
• Bottom view

Cleaning the Pickup Lenses

A [1] Top Cover

- (1) Remove the two screws.
- (2) Remove the Top Cover.

↑
Front



Clean the pickup lenses when it is stained, using following cleaning materials:

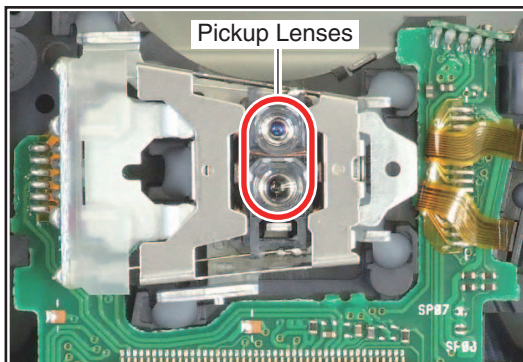
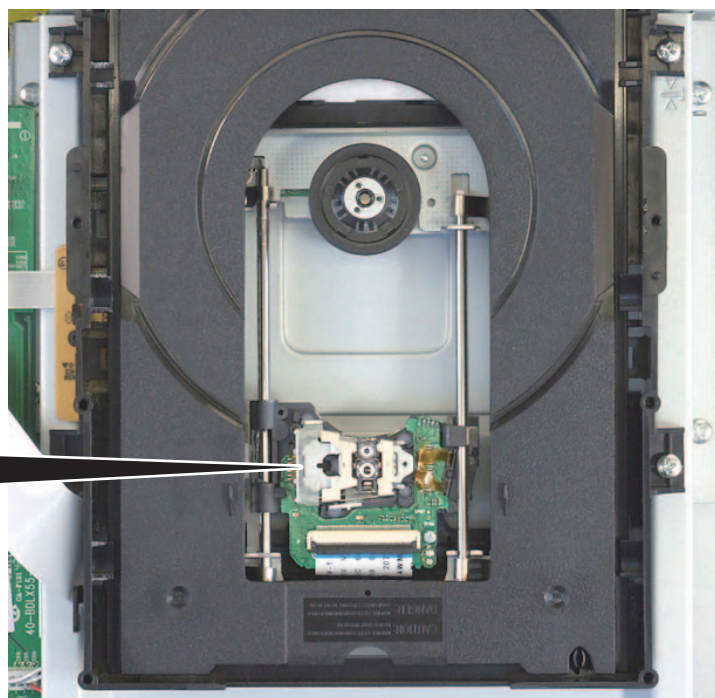
Cleaning liquid : GEM1004

Cleaning paper : GED-008

D

Caution:

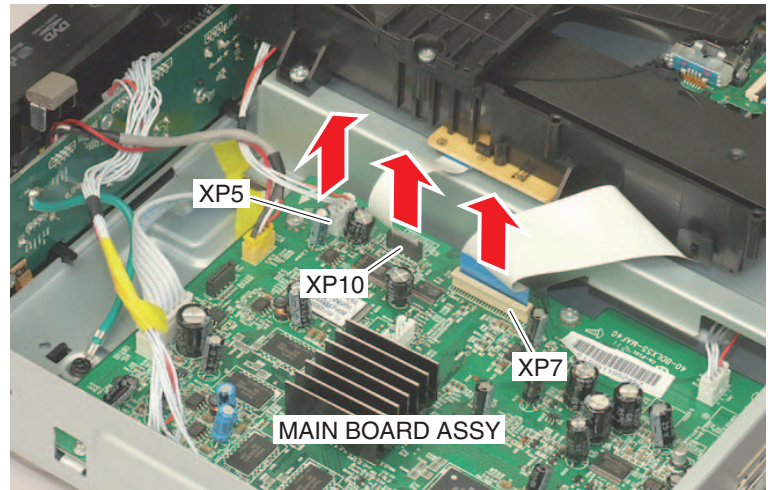
The pickup for Blu-ray is a high-precision component; therefore, clean the lens with enough care so as not to cause a misalignment in the optical axis.



F

Replace the Loader ASSY

- (1) Disconnect the three connectors (XP5, XP10, XP7) from the MAIN BOARD ASSY.



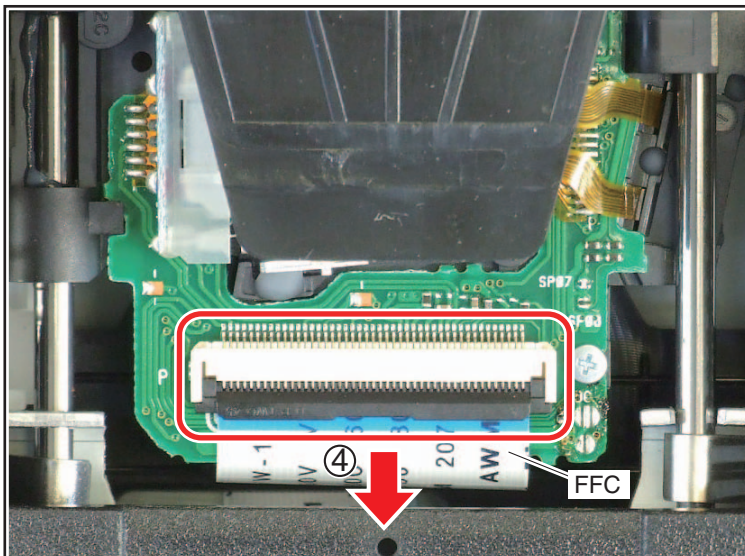
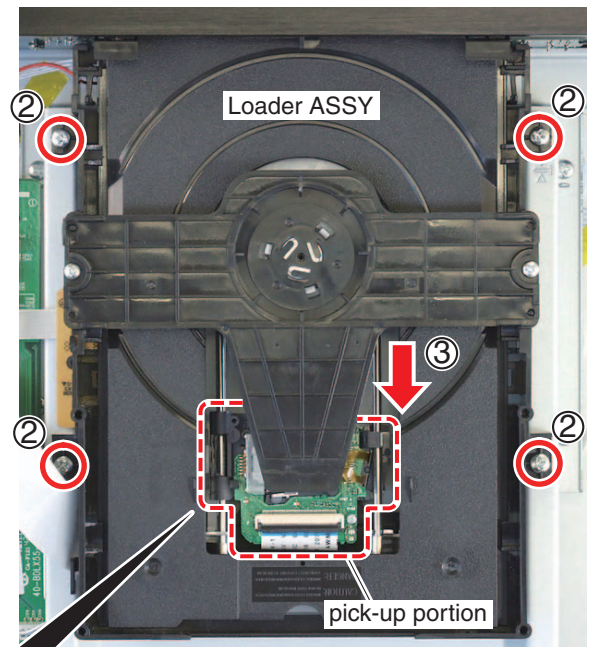
- (2) Remove the four screws and then remove the Loader ASSY.

The Loader ASSY (08-BL2000-LD4-TL) for service is common with BDP-140/440 but the length of 2 piece FFC is different from that of original Loader ASSY.
Please replace FFC to the ones belonging to LX55 by referring to the steps, 3 through 8, below;

- (3) Shift the Pick-Up Portion backward.
- (4) Remove the FFC.

Caution: A lock mechanism is existed in the connector.
Please lock the cable to connector when you install the FFC.

Front



(5) Remove the FFC Holder and the FFC by removing the hooks at left and right hand side of the FFC Holder located at bottom side of the Loader ASSY.

(6) Remove the FFC 8pin.

Caution: A lock mechanism is existed in the XP4 connector.
Please lock the cable to connector when you install the FFC 8pin.

(7) Remove 2 pieces of the FFC for the Loader ASSY to replace (for service) following the same steps, 3 through 6.

(8) Attach 2 pieces of the FFC which were removed at steps 3 through 6 onto the Loader ASSY to replace with reversed steps.

Notes on assembling:

Slide the FFC Holder until the two hooks are rocked with clicks.

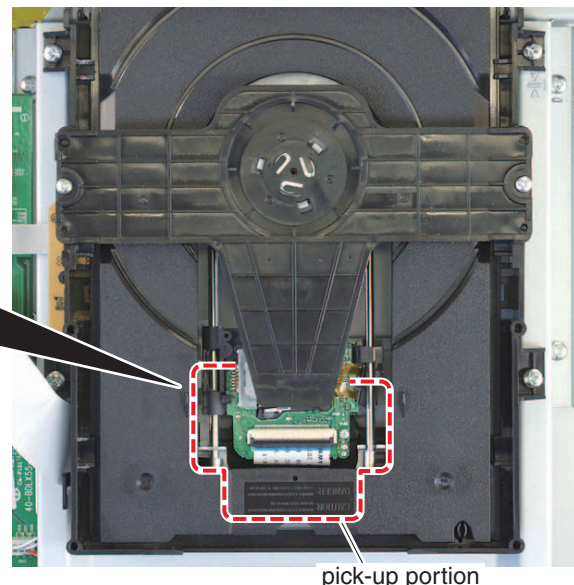
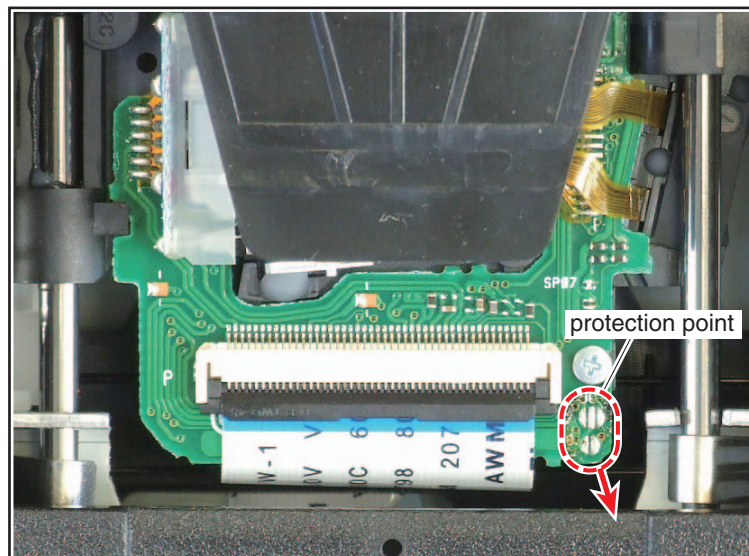
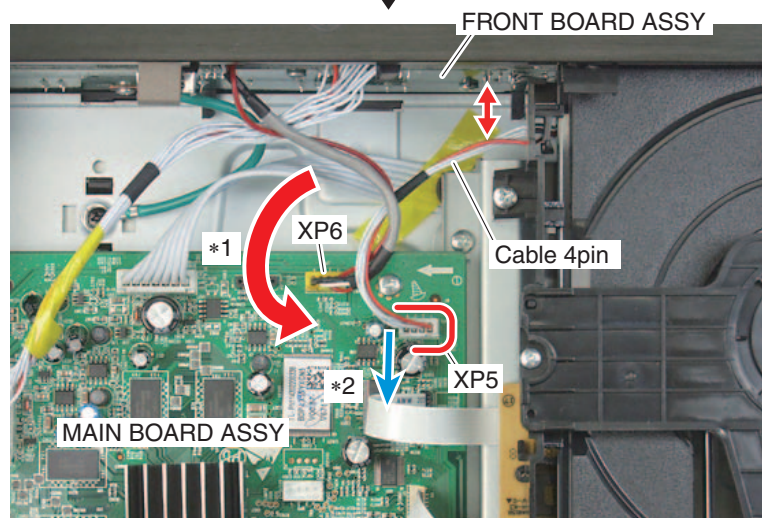
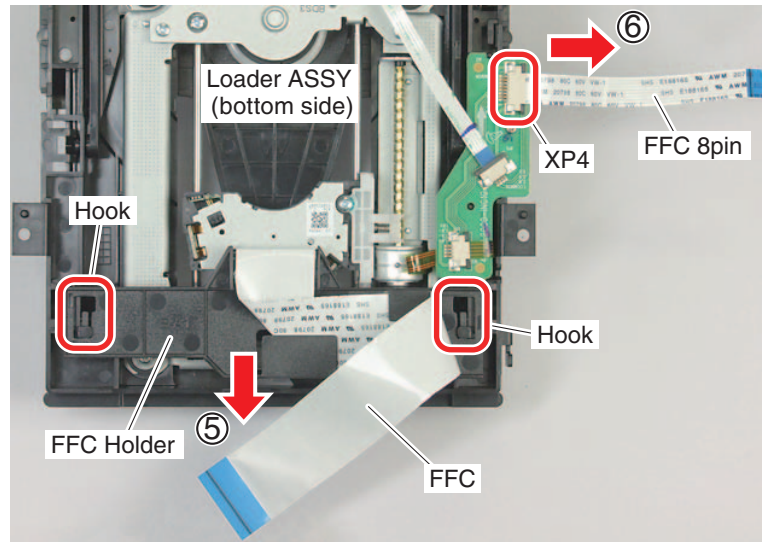
(9) Attach the Loader ASSY to replace on main body.
(Refer to steps 2 through 1.)

Notes on assembling:

*1: When you connect the Cable 4pin (with connector) to the XP5 of the MAIN BOARD ASSY, mount it after rotating the left-hand-side of the XP6 as shown on the photograph.

*2: Further, pull the vicinity of connector for the Cable 4pin backward once not to touch the cable with the FRONT BOARD ASSY.

(10) Please remove solder at protection point to the arrow-mark direction by using soldering iron with your right-hand while holding the pick-up portion with your left-hand after the completion of all mounting.



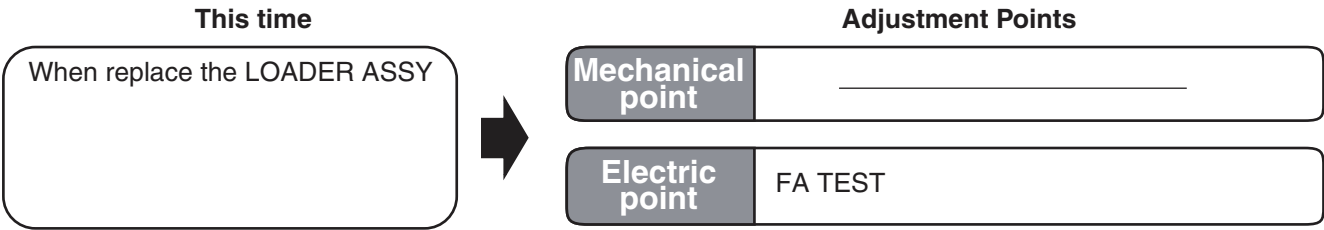
5678

8. EACH SETTING AND ADJUSTMENT

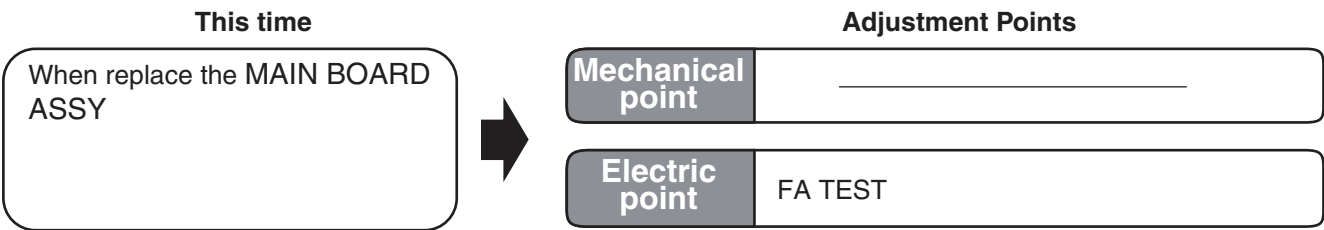
8.1 NECESSARY ADJUSTMENT POINTS

Note : Be sure to update the firmware before starting adjustments or settings.

[1] When replace the LOADER ASSY



[2] When replace the MAIN BOARD ASSY



- Note :**
- Be sure to check the version of firmware after MAIN BOARD ASSY is replaced. If it is not the latest firmware, update it.
 - Please confirm that the USB memory is recognized after inserting the USB memory to the USB terminal. (Due to protect wrong connection)

8.2 FIRMWARE UPDATE

Because of customer's demand, for the path of firmware update, the file name, and the specification of update are constantly changing.

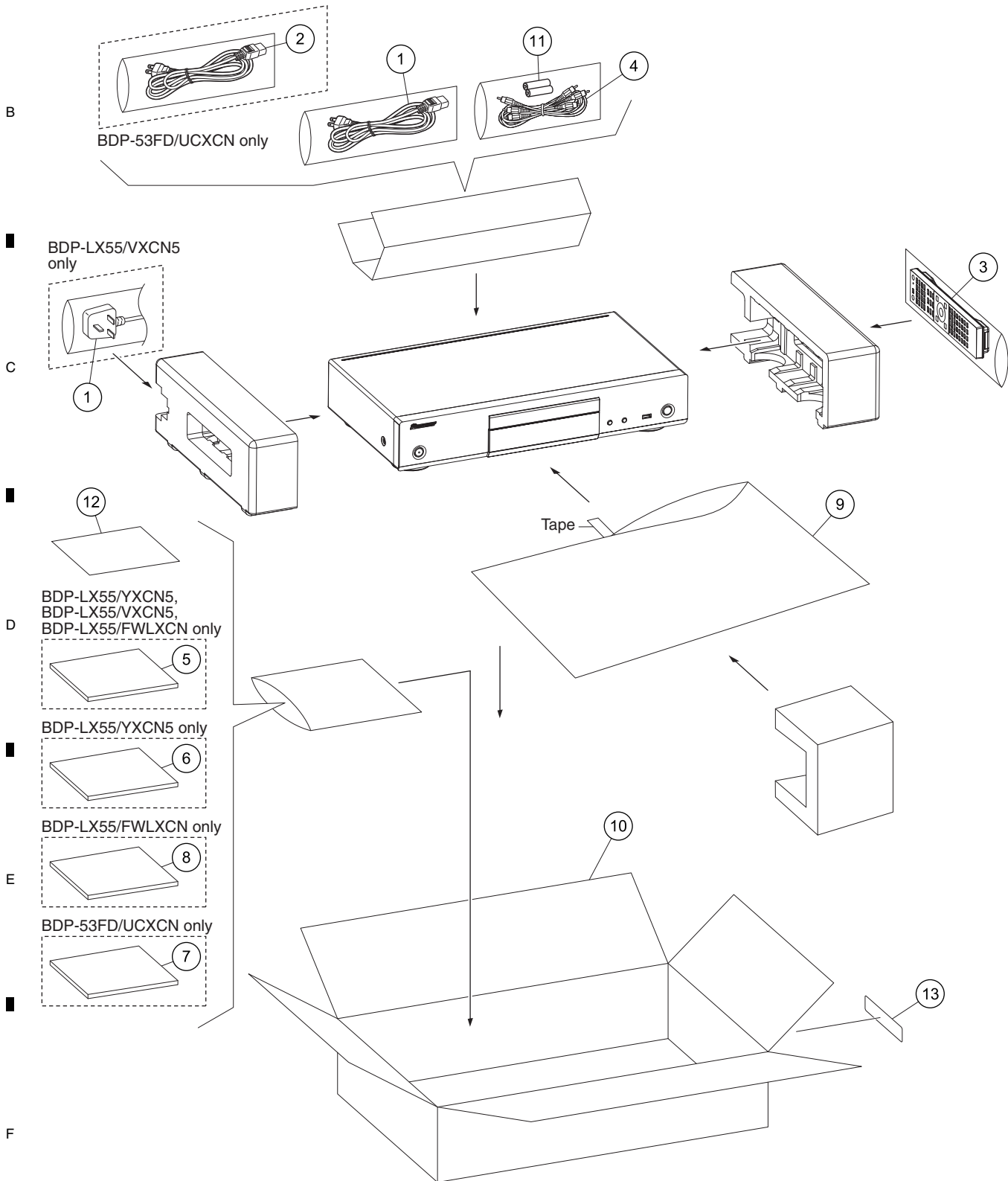
The following are the steps of update:

1. Before upgrade, please check the current version of firmtware installed in this machine.
You can press HomeMenu button to enter the menu, after that, press ▲/▼/◀/▶ button to display "Home Menu"⇒"Initial Setup"⇒"Options"⇒"System Information", then you can see the information of current firmware version by pressing the enter button.
2. Save the updating file [DLdiscidentifier.txt],[DVD.bin] and [BDP-140_Vxx.xx.bin] to the USB memory route path.
3. After step 2, please insert the USB memory into machine. While the screen shows the information that a USB memory has been inserted, please press HomeMenu button to enter the menu, then find "USB devices" through "Home Menu"⇒"Initial Setup"⇒"Options"⇒"Update"⇒"USB Storage".
After press the enter button, the system will search the upgrade file itself to upgrade.
4. After reset, the machine is available for test.

9. EXPLODED VIEWS AND PARTS LIST

- NOTES:
- Parts marked by “NSP” are generally unavailable because they are not in our Master Spare Parts List.
 - The  mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
 - Screws adjacent to ▼ mark on product are used for disassembly.
 - For the applying amount of lubricants or glue, follow the instructions in this manual. (In the case of no amount instructions, apply as you think it appropriate.)

9.1 PACKING SECTION



(1) PACKING SECTION PARTS LIST

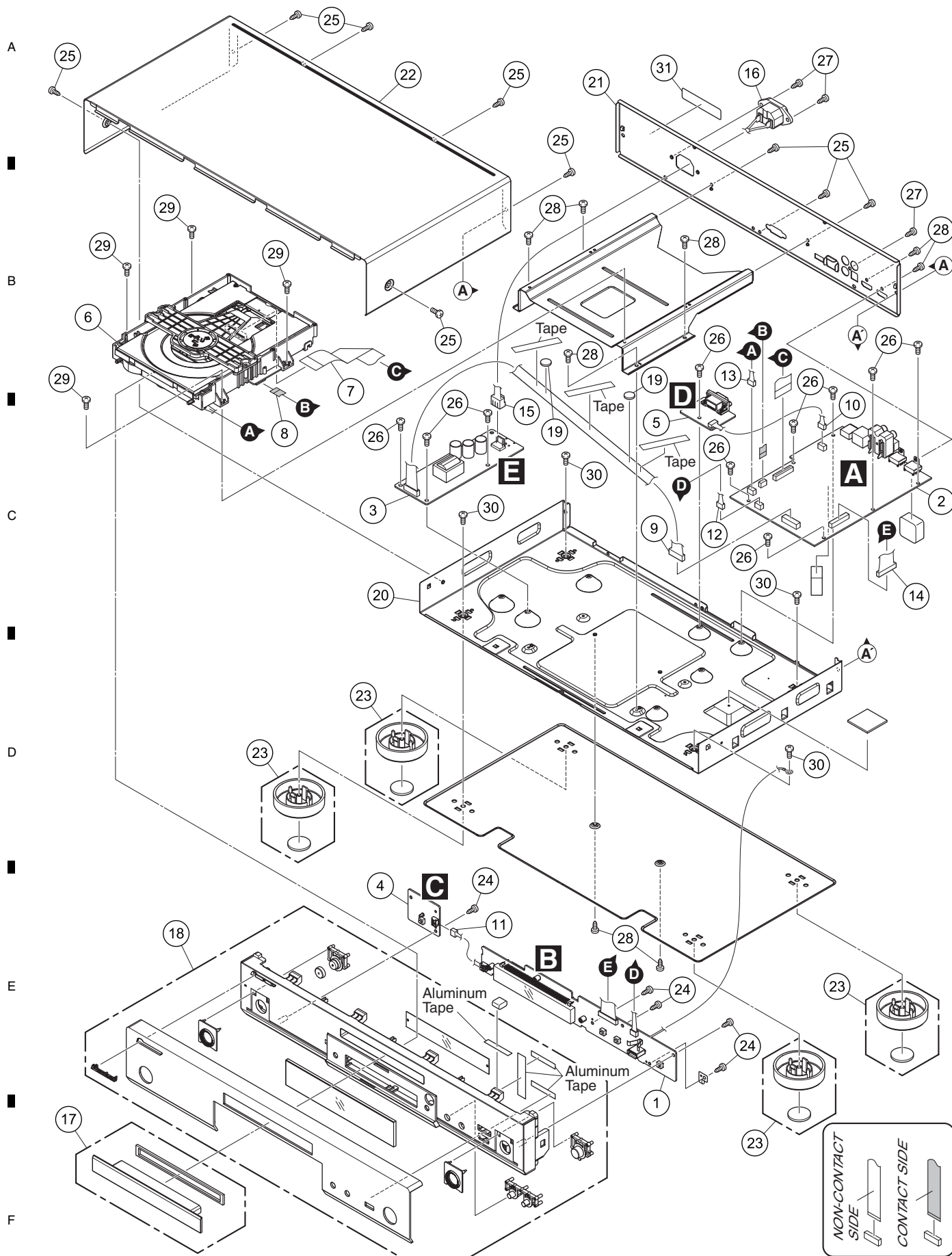
Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
⚠	1	AC Power Cord	See Contrast table (2)		11	AAA/R03 Dry Cell Battery	•••••
⚠	2	Power Cord	See Contrast table (2)	NSP	12	Warranty Card	•••••
	3	Remote Control Unit	See Contrast table (2)	NSP	13	Serial Label	•••••
	4	Video/Audio Cable	41-UH1500-0KK8A-TL				
	5	Operating Instructions (En)	See Contrast table (2)				
	6	Operating Instructions (Fr, De, It, Ni, Es)	See Contrast table (2)				
	7	Operating Instructions (En, Fr, Es)	See Contrast table (2)				
	8	Operating Instructions (Ch)	See Contrast table (2)				
	9	Polyethylene Bag	See Contrast table (2)				
	10	Packing Case	See Contrast table (2)				

(2) CONTRAST TABLE

BDP-LX55/YXCN5, BDP-LX55/VXCN5, BDP-LX55/FWLXCN and BDP-53FD/UCXCN are constructed the same except for the following:

Mark	No.	Symbol and Description	BDP-LX55/ YXCN5	BDP-LX55/ VXCN5	BDP-LX55/ FWLXCN	BDP-53FD/ UCXCN
⚠	1	AC Power Cord	ADG7062	ADG7104	ADG7104	ADG7061
⚠	2	Power Cord	Not used	Not used	Not used	51-AC0180-0LU08
	3	Remote Control Unit	06-RC2531-A000	06-RC2531-A000	06-RC2531-A000	06-RC2521-A000
	5	Operating Instructions (En)	72-DPLX55-EN0B1	72-DPLX55-EN0B1	72-DPLX55-EN0B1	Not used
	6	Operating Instructions (Fr, De, It, Ni, Es)	72-DPLX55-YX0B1	Not used	Not used	Not used
	7	Operating Instructions (En, Fr, Es)	Not used	Not used	Not used	72-BD53FD-USAB1
	8	Operating Instructions (Ch)	Not used	Not used	72-DPLX55-TW0B1	Not used
	9	Polyethylene Bag	74-056045-50HB	74-056045-50HB1-TL	74-056045-50HB1-TL	74-056045-50HB1-TL
	10	Packing Case	76-106630-0ATC1	76-106630-0ATC3	76-106630-0ATC6	76-106630-0ATC2

9.2 EXTERIOR SECTION



(1) EXTERIOR SECTION PARTS LIST

Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	FRONT BOARD ASSY	08-BDLX55-FV0	NSP 16	AC Inlet	AKP7213
2	MAIN BOARD ASSY	See Contrast table (2)	17	CD Door ASSY	See Contrast table (2)
3	POWER BOARD ASSY	See Contrast table (2)	18	Front Cabinet ASSY	See Contrast table (2)
4	SWITCH BOARD ASSY	08-BDLX55-SW0-TL	19	Rubber Pad	54-106480-000-TL
5	RS BOARD ASSY	08-BDP440-RS0-TL	20	Bottom Cabinet	67-BD14R1-2E0
6	Loader ASSY	08-BL2000-LD4-TL	21	Back Plate	See Contrast table (2)
7	FFC 220mm	46-EE022C-45BU-TL	22	Top Cover	67-BD44T1-1E0B1
8	FFC 8pin 80mm	46-FF008C-08BV	23	Insulator ASSY	
9	Cable 7pin 360mm	46-FF036T-07H	24	S/T Screw B 2.6 X 6 BF	63-B26060-BF4-TL
10	Cable 4pin 60mm	46-FH006T-04SA	25	S/T Screw B 3.6	63-B30060-3H3-TL
11	Cable 3pin 100mm	46-FH010T-03P-TL	26	ST Screw B 3 X 6 Silver	63-B30060-3H4-TL
12	Cable 4pin 100mm	46-FH010T-04MA	27	Screw	63-B30070-3H4-TL
13	Cable 4pin 100mm	46-FH010T-04S	28	Triangle/C Screw B 3 X 4	64-B30040-3H8-TL
14	Cable 12pin 160mm	46-FH016T-12S	29	Screw	
15	Cable 2pin 60mm	46-KL006T-03EC	30	Screw	
			31	Serial Label	

(2) CONTRAST TABLE

BDP-LX55/YXCN5, BDP-LX55/VXCN5, BDP-LX55/FWLXCN and BDP-53FD/UCXCN are constructed the same except for the following:

Mark No.	Symbol and Description	BDP-LX55/ YXCN5	BDP-LX55/ VXCN5	BDP-LX55/ FWLXCN	BDP-53FD/ UCXCN
2	MAIN BOARD ASSY	08-BDLX55-MA0/Y	08-BDLX55-MA0/Y	08-BDLX55-MA0/F	08-BDLX55-MA0/U
3	POWER BOARD ASSY	08-BDLX55-PW2	08-BDLX55-PW2	08-BDLX55-PW0	08-BDLX55-PW1
17	CD Door ASSY	08-BDLX55-DA	08-BDLX55-DA1	08-BDLX55-DA1	08-BDLX55-DA2
18	Front Cabinet ASSY	08-BDLX55-FA0	08-BDLX55-FA0	08-BDLX55-FA0	08-BDLX55-FA1
21	Back Plate	67-BD44B2-0E0B1	67-BD44B2-0E0B1	67-BD44B2-0E0B6	67-BD44B2-0E0B2

- When ordering service parts, be sure to refer to "EXPLODED VIEWS and PARTS LIST" or "PCB
- The  mark found on some component parts indicates the importance of the safety factor of the Therefore, when replacing, be sure to use parts of identical designation.

A

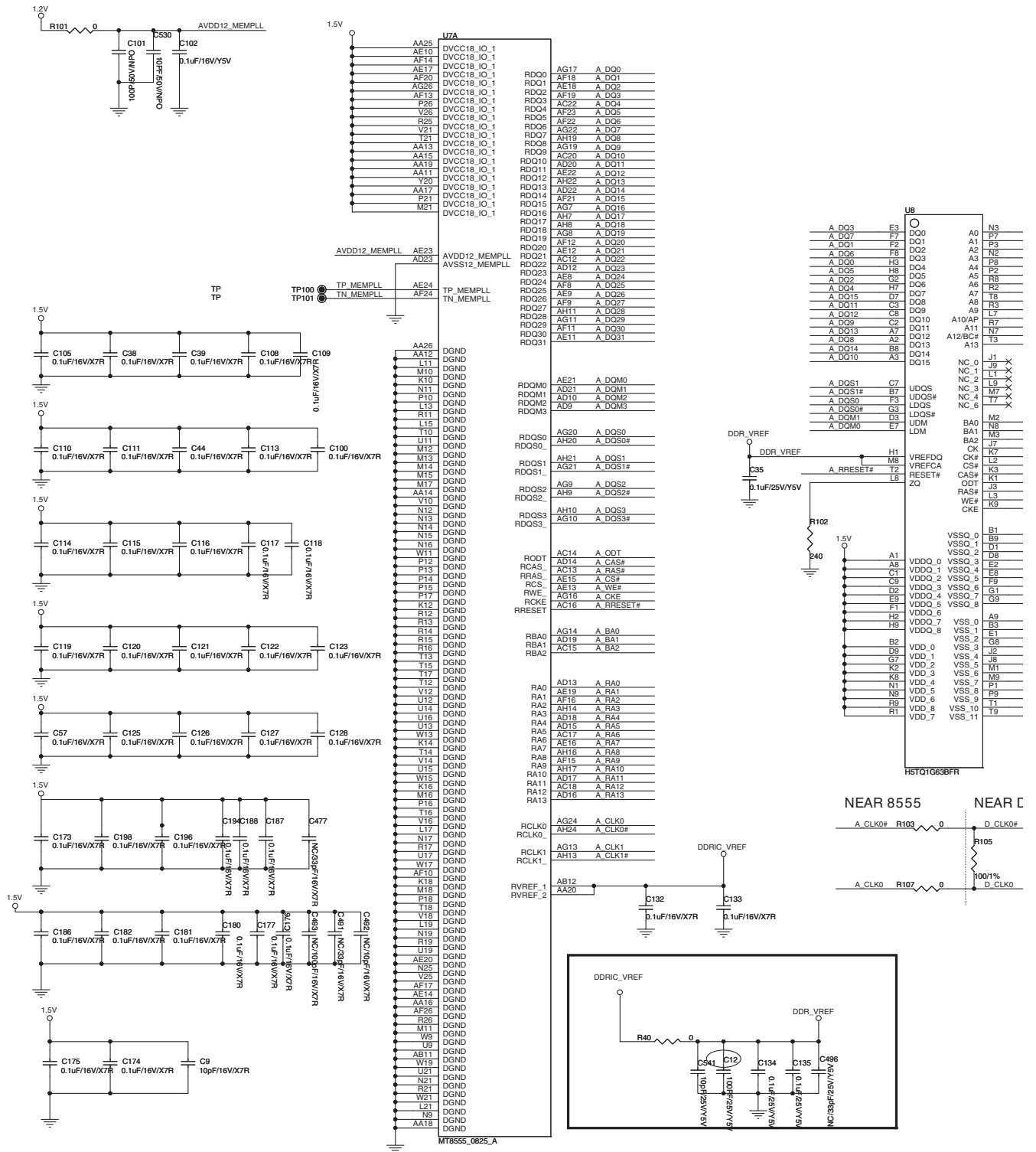
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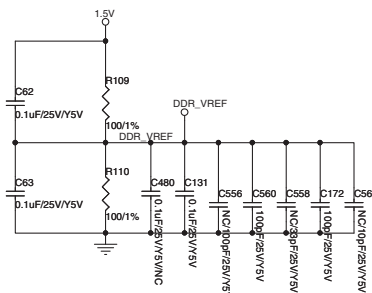
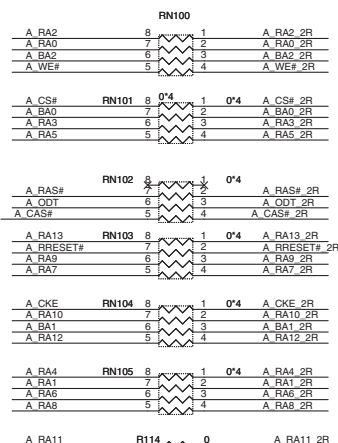
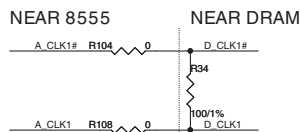
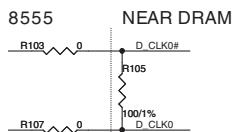
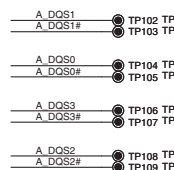
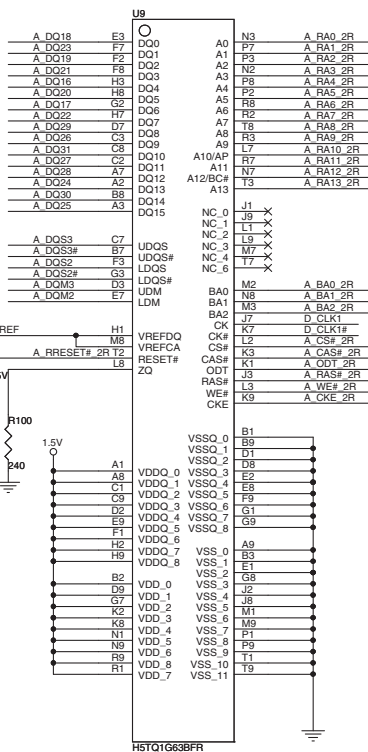
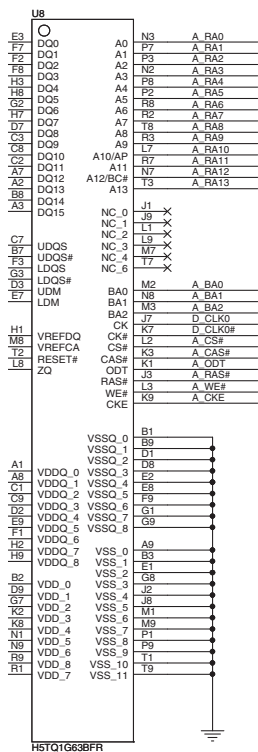
A 1/15

10.2 MAIN BOARD ASSY (2/15) : DDR-1 (Sheet No.3)

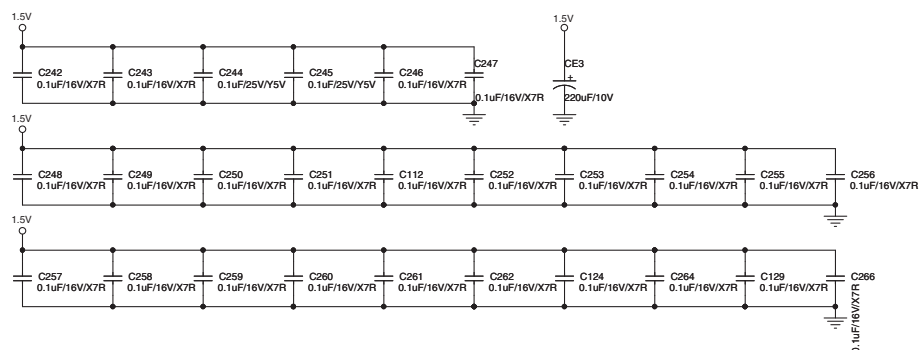
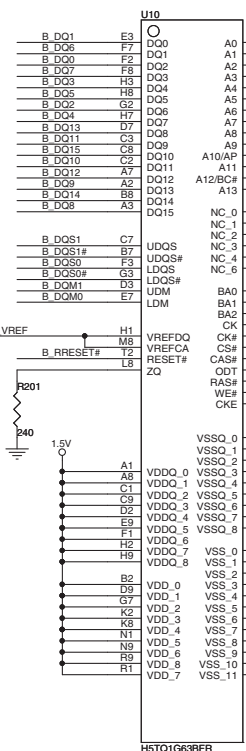
Main Board Circuit Diagram:MT8555-DDR Part 1



A2/15 MAIN BOARD ASSY (2/15) **(BDP-LX55/YXCN5, BDP-LX55/VXCN5 : 08-BDLX55-MA0/Y)** **(BDP-LX55/FWLXCN : 08-BDLX55-MA0/F)** **(BDP-53FD/UCXCN : 08-BDLX55-MA0/U)**



4



A3/15

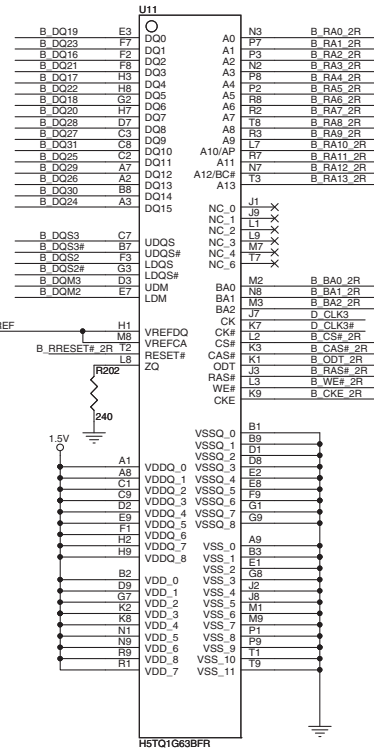
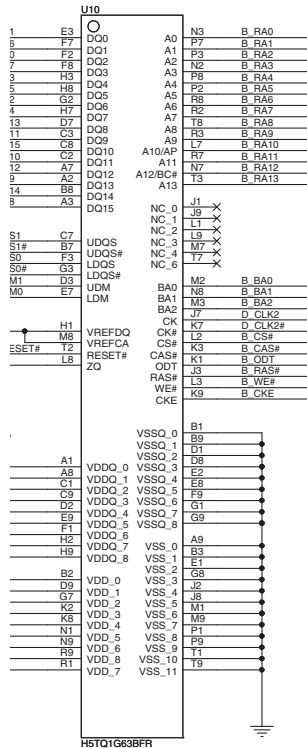
MAIN BOARD ASSY (3/15)

(BDP-LX55/YXCN5, BDP-LX55/VXCN5 : 08-BDLX55-MA0/Y)

(BDP-LX55/FWLXCN : 08-BDLX55-MA0/F)

(BDP-53FD/UCXCN : 08-BDLX55-MA0/U)

Diagram: MT8555-DDR Part 2

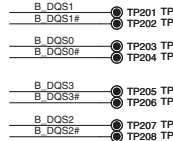
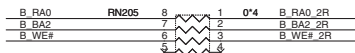
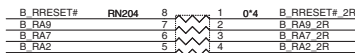
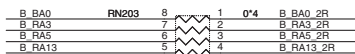
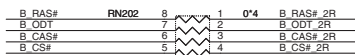
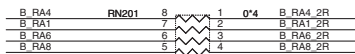
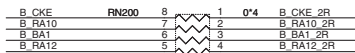


NEAR 8555

NEAR DRAM

NEAR 8555

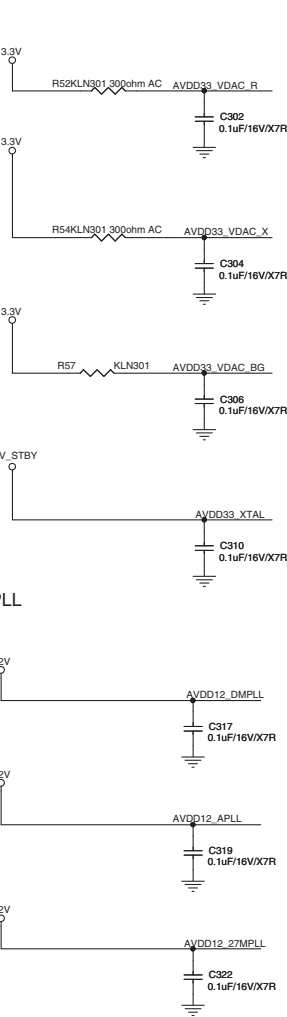
NEAR DRAM



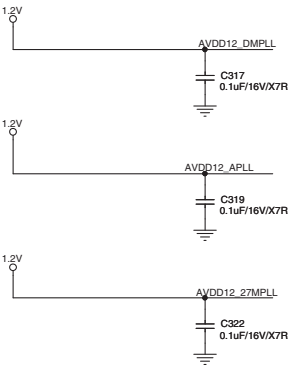
10.4 MAIN BOARD ASSY (4/15) : HDMI (Sheet No.5)

Main Board Circuit Diagram:MT8555_HDMI_Output

3.3V Analog Power

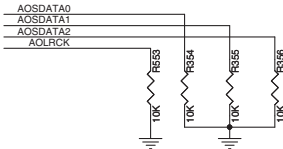


PLL

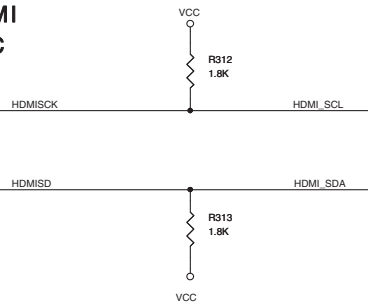


For PLL testing

Reserved hardware trap



HDMI DDC

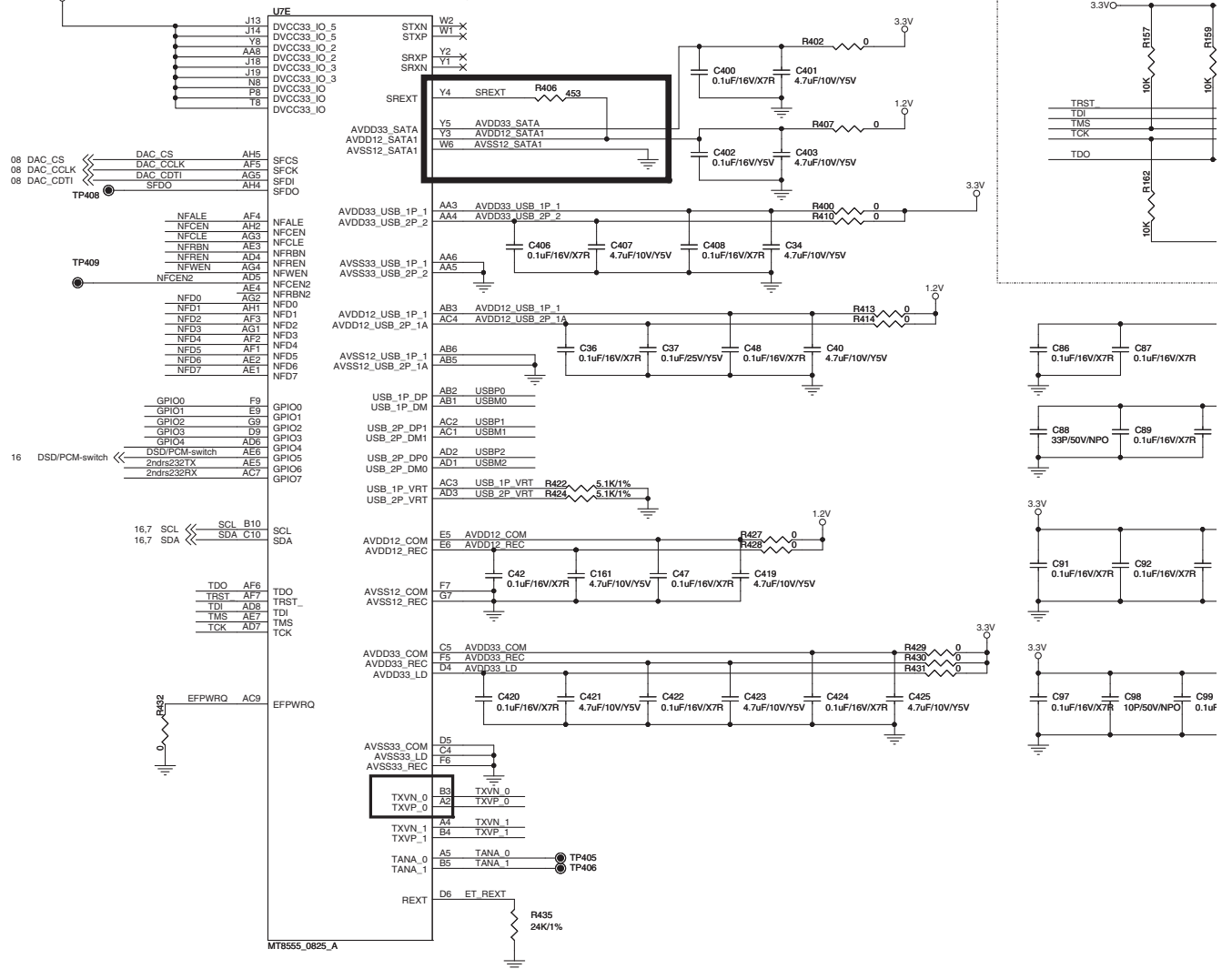


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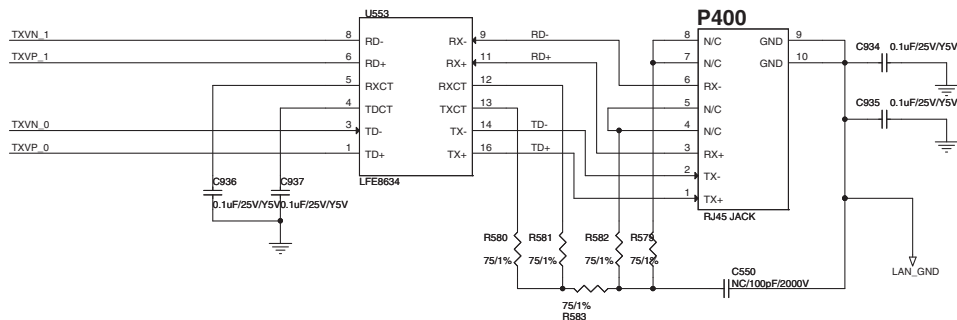


10.5 MAIN BOARD ASSY (5/15) : FLASH (Sheet No.6)

Main Board Circuit Diagram:MT8555-Flash



ETHERNET PHY



PCB TOP USE

USB VCC1
USBP0
USBM0

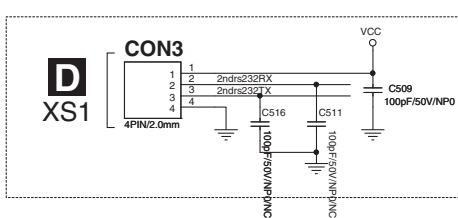
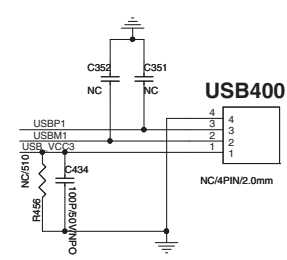
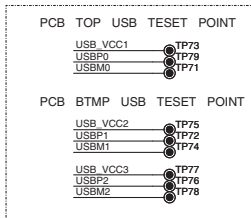
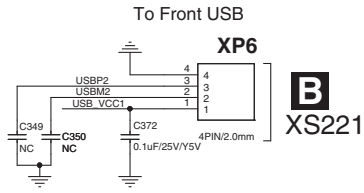
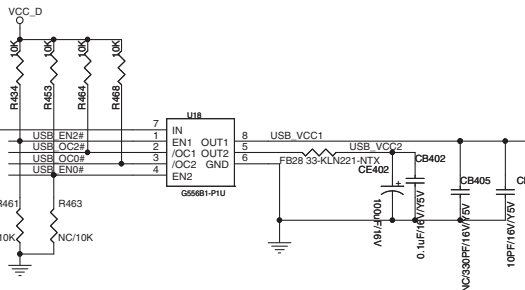
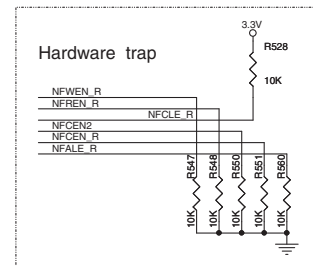
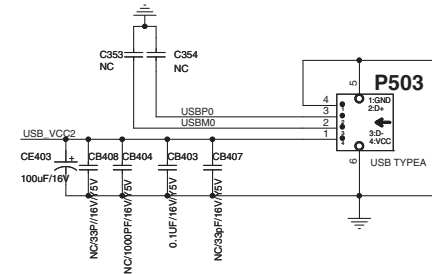
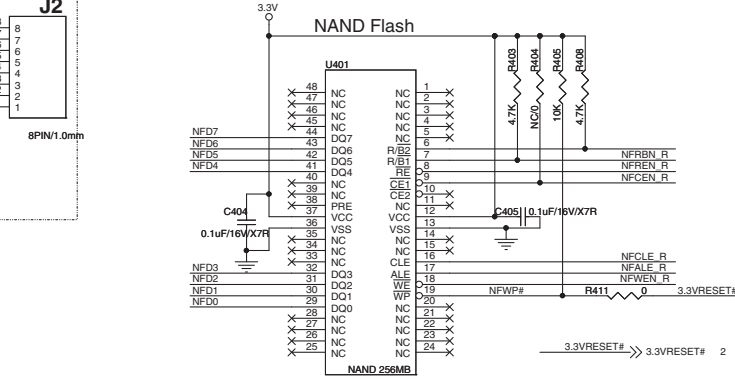
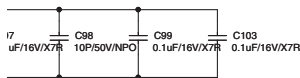
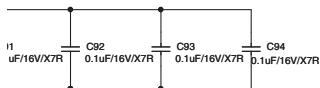
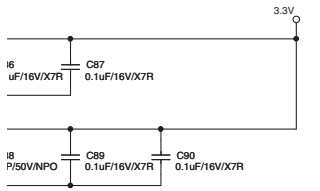
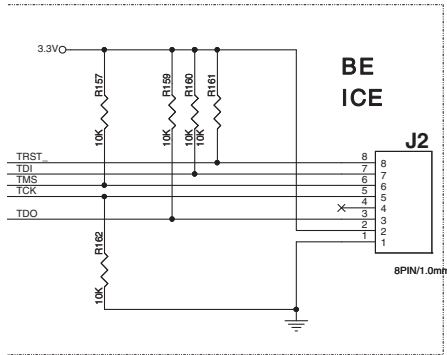
PCB BTMP USE

USB VCC2
USBP1
USBM1
USB VCC3
USBP2
USBM2

NFALE
NFCEN
NFCLE
NFRBN
NFRBN
NFRBN
NFRBN

GPI00 R441
GPI01 R442
GPI02 R443
GPI03 R444
GPI04 R445

A5/15 MAIN BOARD ASSY (5/15) (BDP-LX55/YXCN5, BDP-LX55/VXCN5 : 08-BDLX55-MA0/Y) (BDP-LX55/FWLXCN : 08-BDLX55-MA0/F) (BDP-53FD/UCXCN : 08-BDLX55-MA0/U)



RS232C JACK FOR CONTROL BOX

NFALE

NFALE_R

NFCEN

NFCEN_R

NFCLE

NFCLE_R

NFRBN

NFRBN_R

NFRFN

NFRFN_R

NFWEN

NFWEN_R

USB EN2#

USB OC2#

GPI00

R441

33

TP81

GPI01

R442

33

DE2750_DE

GPI02

R443

33

USB EN0#

GPI03

R444

33

USB OC0#

GPI04

R445

100

MCU-INT

A



C

D

E

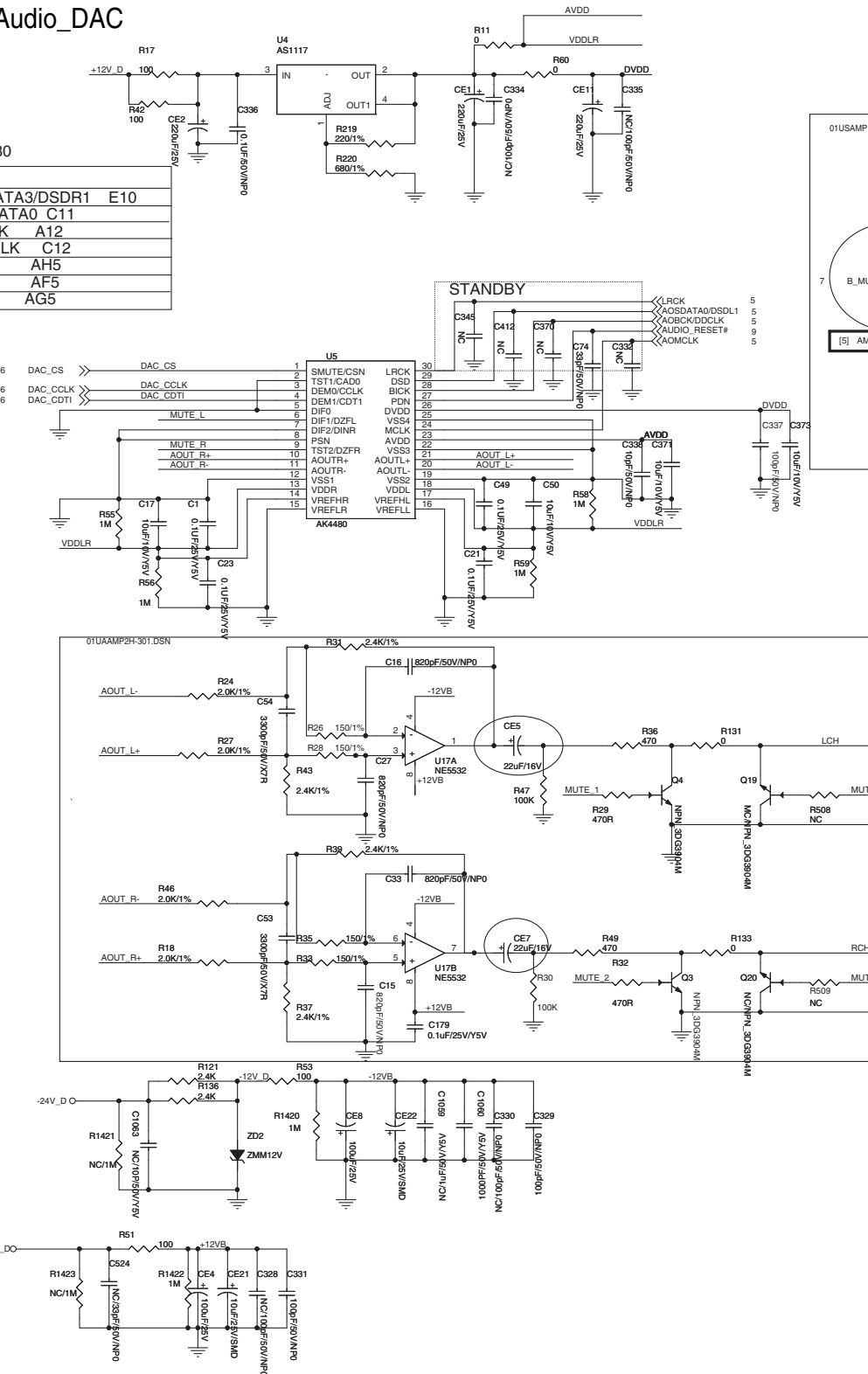
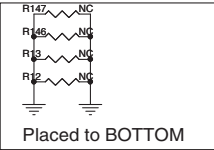
F

10.7 MAIN BOARD ASSY (7/15) : AUDIO DAC (Sheet No.8)

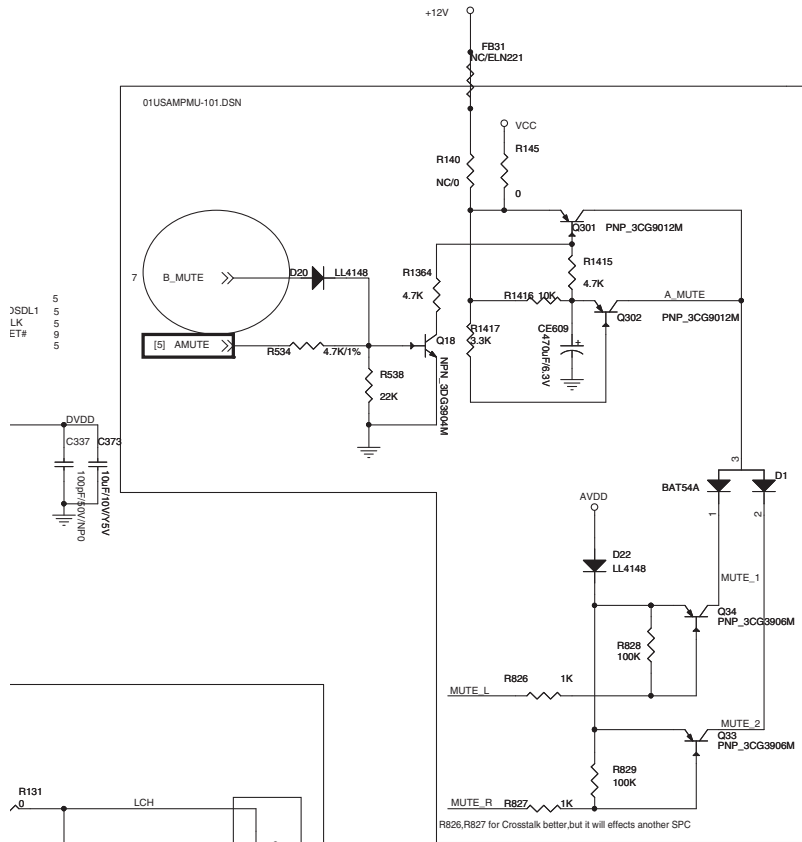
Main Board Circuit Diagram:Audio_DAC

PCM/DSD SWITCH FOR DA/C AKM4480

AKM4480	PCM	DSD
LRCK	AOLRCK B12	AOSDATA3/DSDR1 E10
DSD	AOSDATA0/DSDL1	/AOSDATA0 C11
BICK	AOBCK/DDCLK	/AOBCK A12
MCLK	AOMCLK	/AOMCLK C12
SMUTE/CSN	DAC_CS	/SFCS AH5
DEMO/CCLK	DAC_CCLK	/SFCK AF5
DEM1/CDT1	DAC_CDTI	/SFDI AG5



A7/15 MAIN BOARD ASSY (7/15) **(BDP-LX55/YXCN5, BDP-LX55/VXCN5 : 08-BDLX55-MA0/Y)** **(BDP-LX55/FWLXCN : 08-BDLX55-MA0/F)** **(BDP-53FD/UCXCN : 08-BDLX55-MA0/U)**



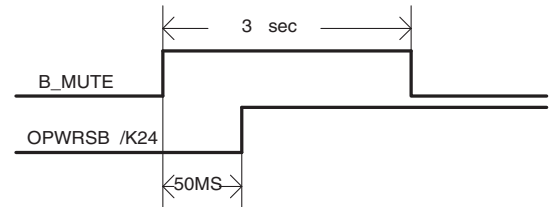
AC CABLE CONNECTER TO AC POWER

MT8032 B_MUTE pin must out "H" at first time

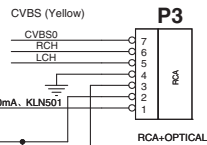
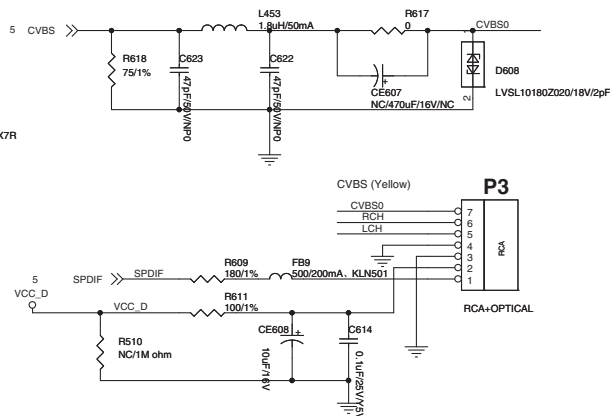
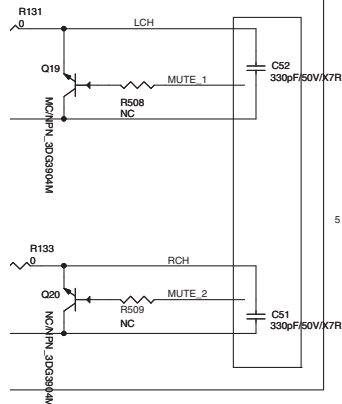
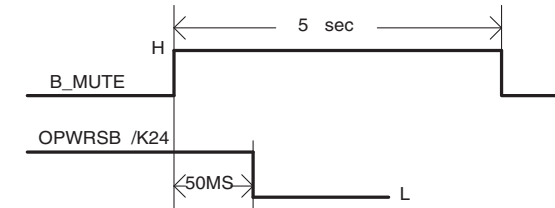
MT8555

ETTXD3B_MUTE

POWER ON



B POWER OFF

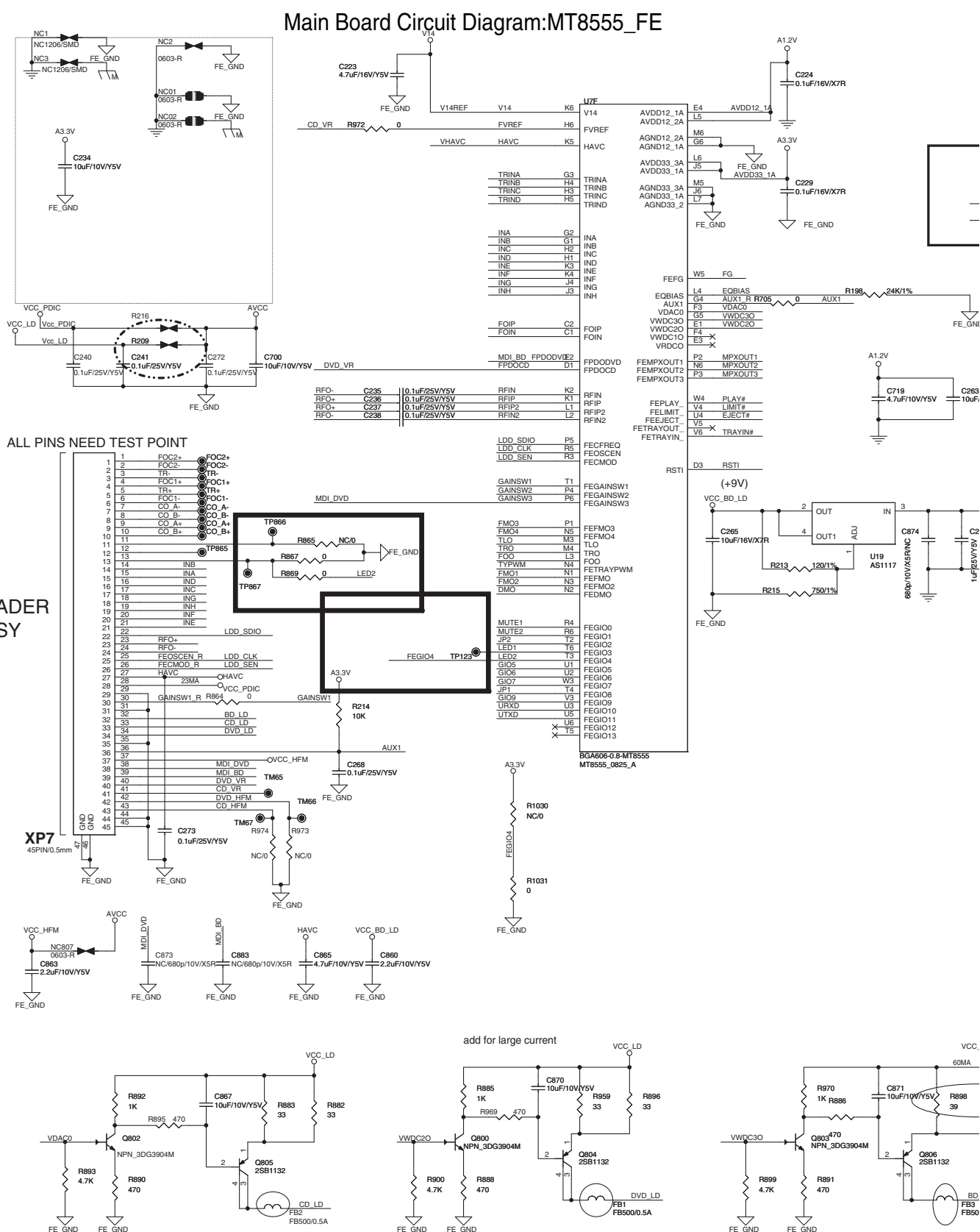


F

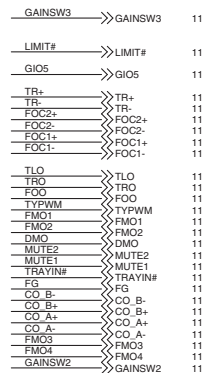
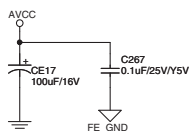
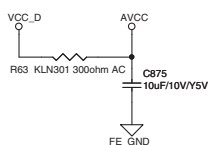
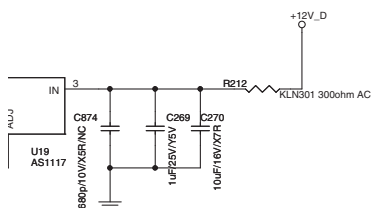
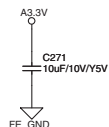
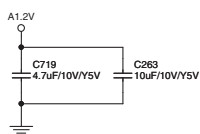
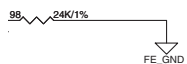
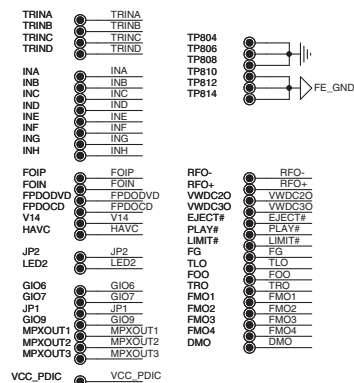
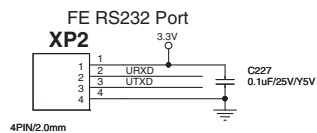
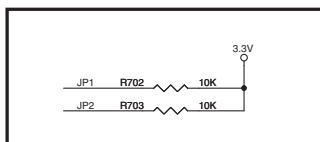


△

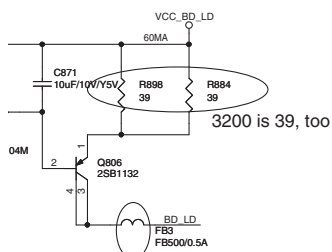
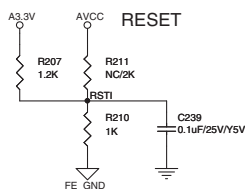
F



A9/15 MAIN BOARD ASSY (9/15) **(BDP-LX55/YXCN5, BDP-LX55/VXCN5 : 08-BDLX55-MA0/Y)** **(BDP-LX55/FWLXCN : 08-BDLX55-MA0/F)** **(BDP-53FD/UCXCN : 08-BDLX55-MA0/U)**

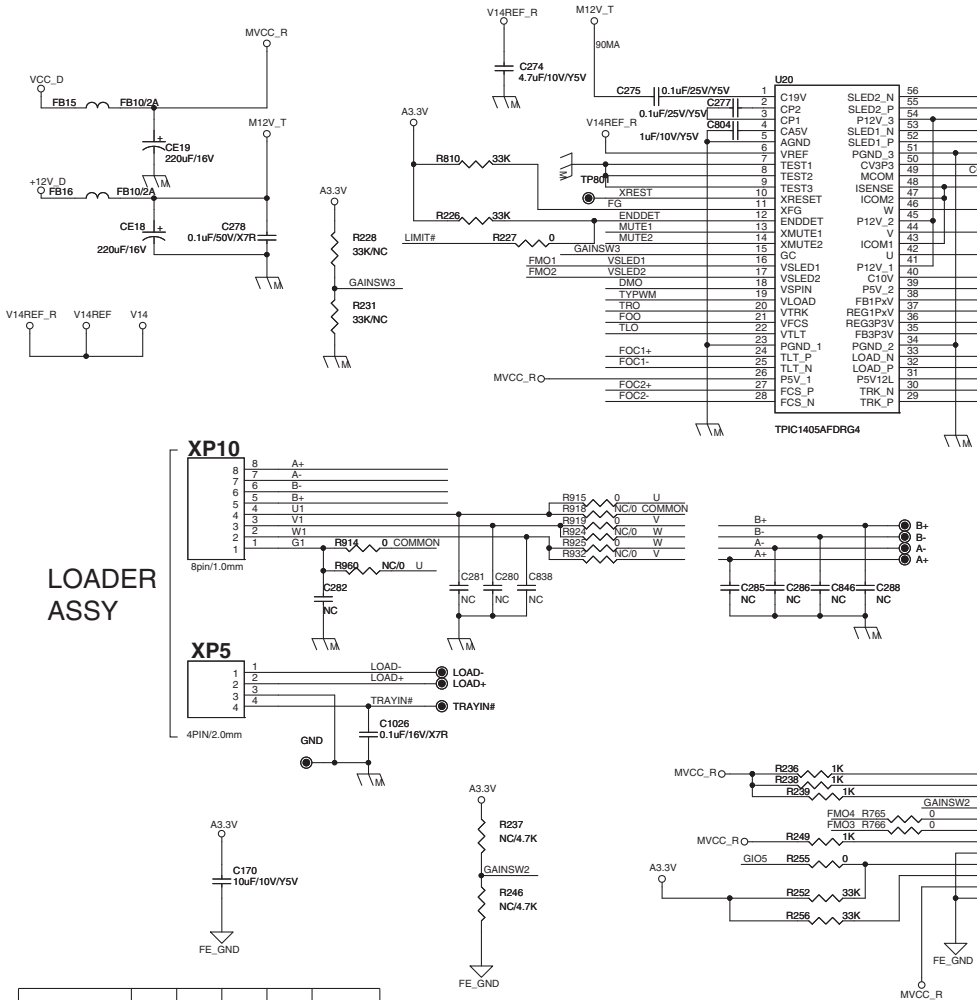


Reserved for FE POWER



10.10 MAIN BOARD ASSY (10/15) : MOTOR DRIVER+CPU (Sheet No.11)

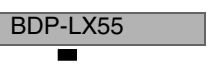
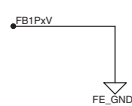
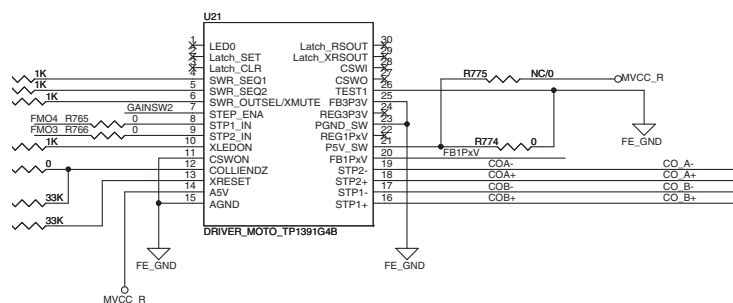
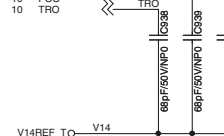
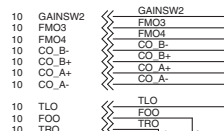
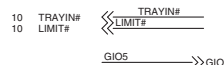
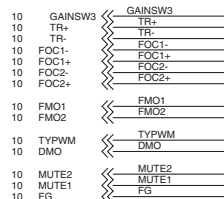
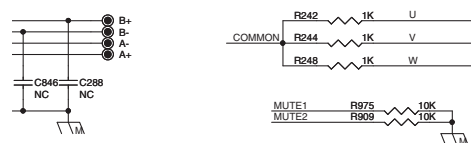
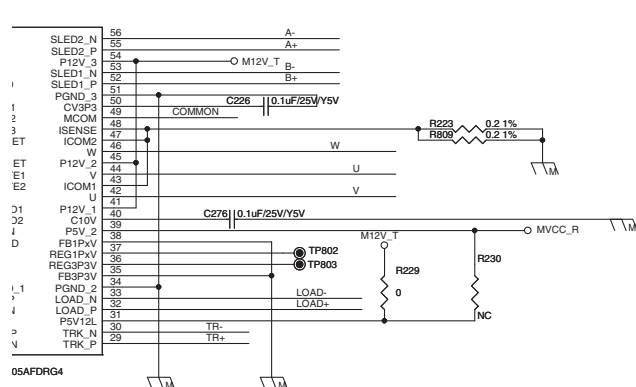
Main Board Circuit Diagram:TPIC1405AFD-Driver+SANYO OPU



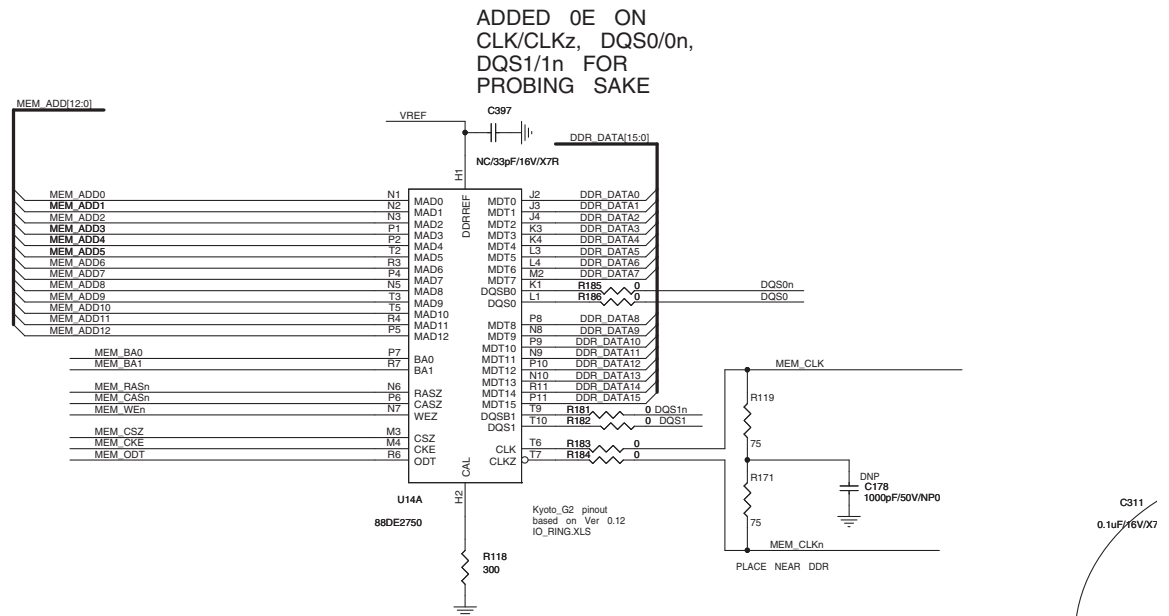
sanyo 414H08	R915	R919	R925	R914	0 R
	R918	R924	R932	R960	NC
Hitach HOP-B1350	R918	R924	R932	R960	NC
	R915	R919	R925	R914	0 R

When use Hitach OPU R863 is 10K

A10/15 MAIN BOARD ASSY (10/15) **(BDP-LX55/YXCN5, BDP-LX55/VXCN5 : 08-BDLX55-MA0/Y)** **(BDP-LX55/FWLXCN : 08-BDLX55-MA0/F)** **(BDP-53FD/UCXCN : 08-BDLX55-MA0/U)**



Main Board Circuit Diagram:QDEO-DDR2



A



C



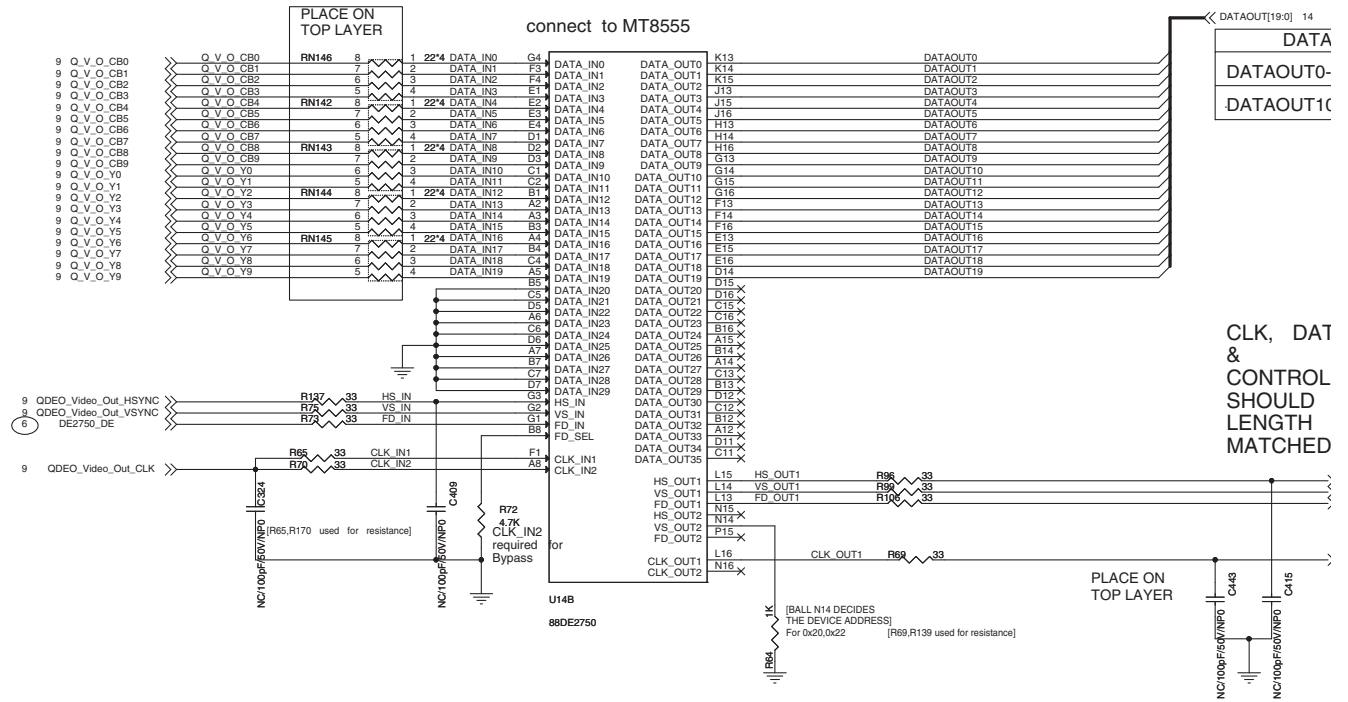
F

10.12 MAIN BOARD ASSY (12/15) : POWER-DADT (Sheet No.13)

Main Board Circuit Diagram:QDEO-Power-dadt

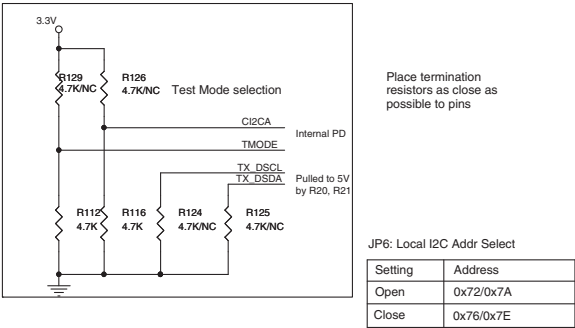
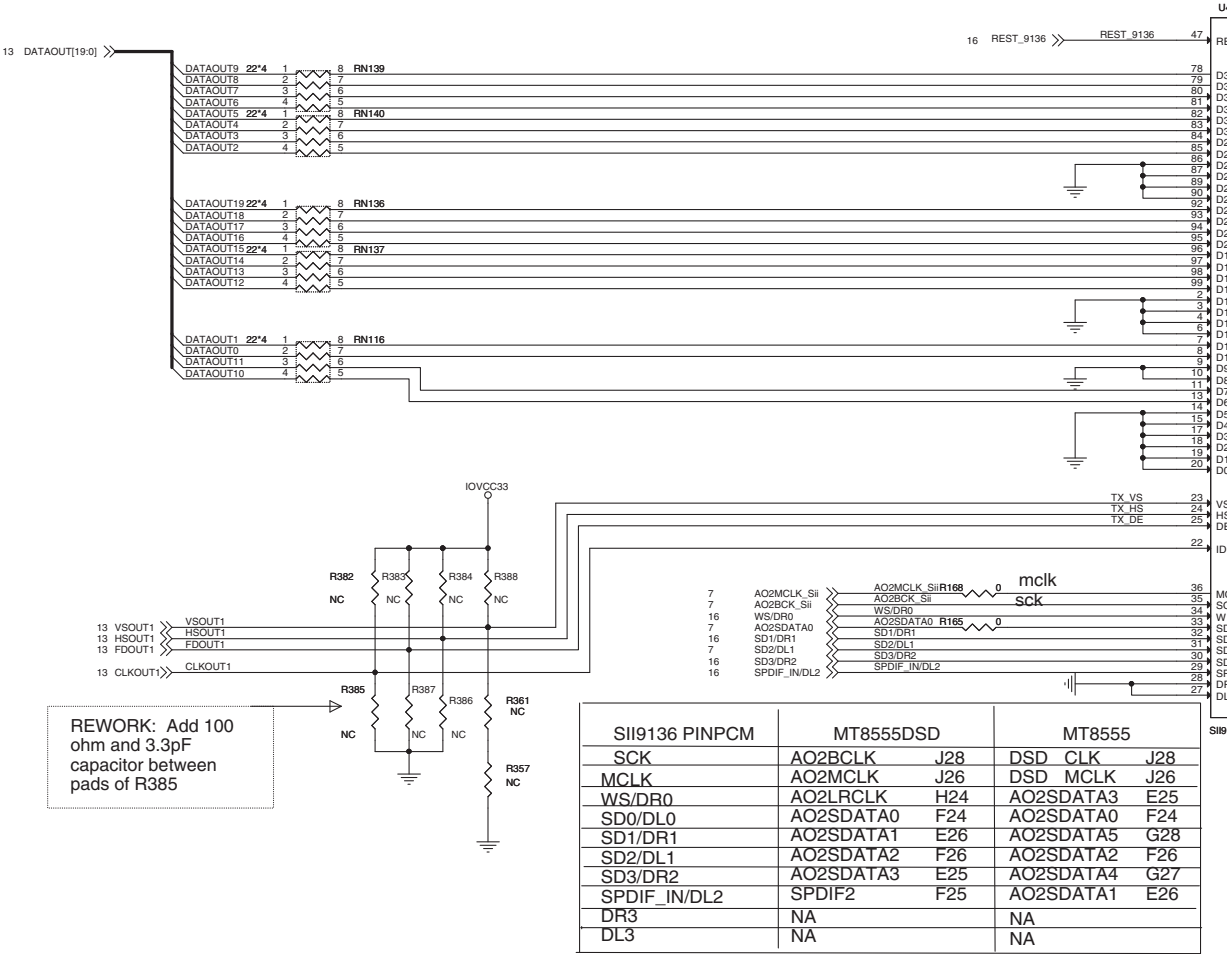
R-PACK TO BE
PLACED CLOSE
TO KYOTO_G2

connet to SIL 9136

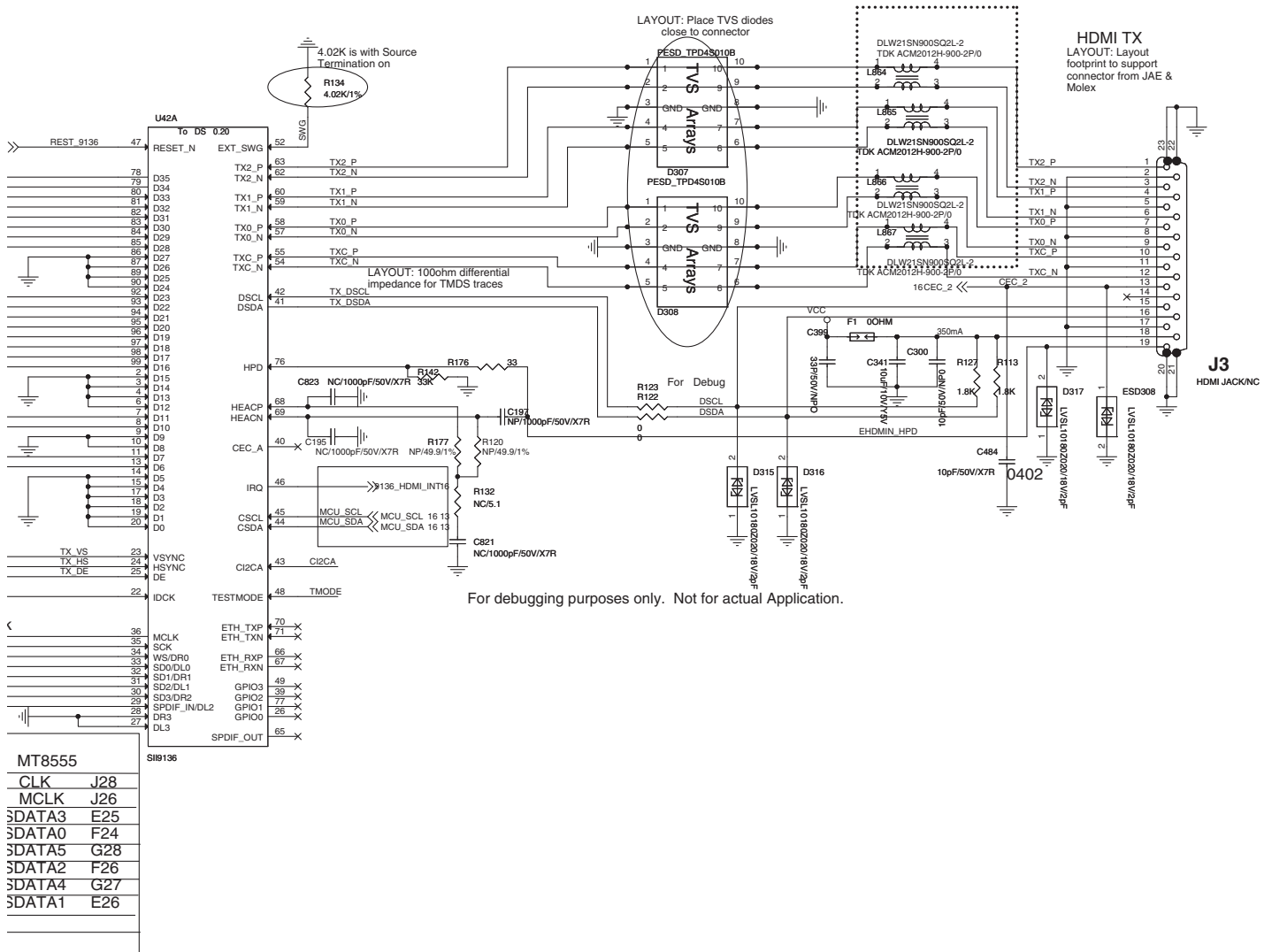


10.13 MAIN BOARD ASSY (13/15) : INTERFACE (Sheet No.14)

Main Board Circuit Diagram:HDMI_TX SIL9136 inter face

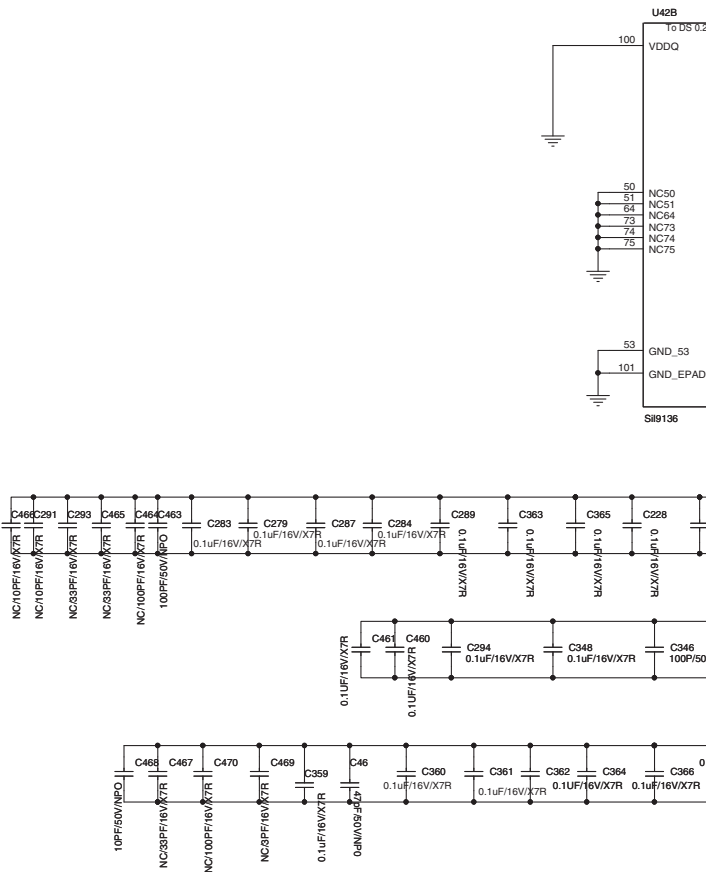


A13/15 MAIN BOARD ASSY (13/15)
(BDP-LX55/YXCN5, BDP-LX55/VXCN5 : 08-BDLX55-MA0/Y)
(BDP-LX55/FWLXCN : 08-BDLX55-MA0/F)
(BDP-53FD/UCXCN : 08-BDLX55-MA0/U)

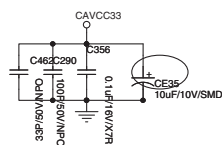
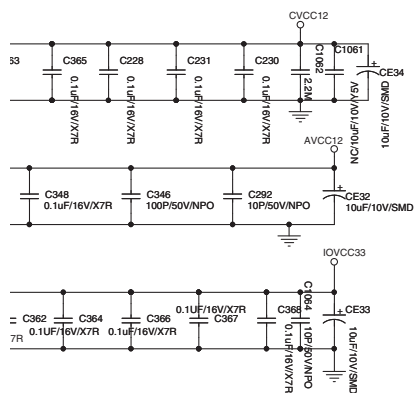
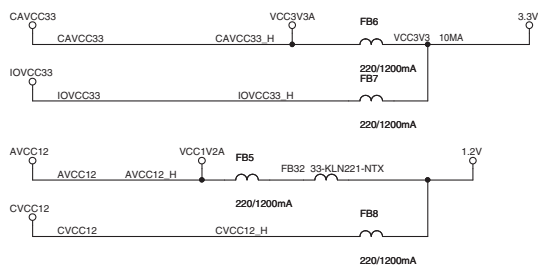
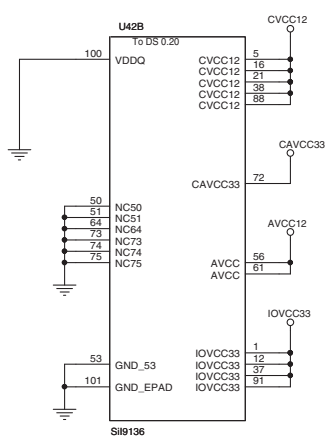


10.14 MAIN BOARD ASSY (14/15) : SIL9136-POWER (Sheet No.15)

Main Board Circuit Diagram:SIL9136-Power



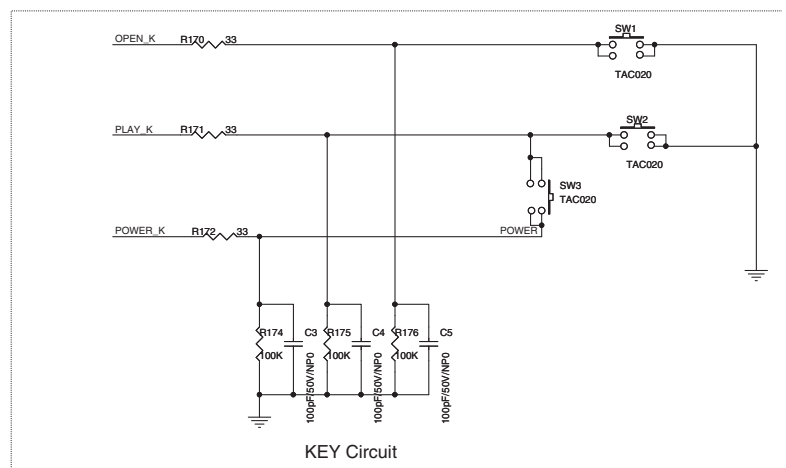
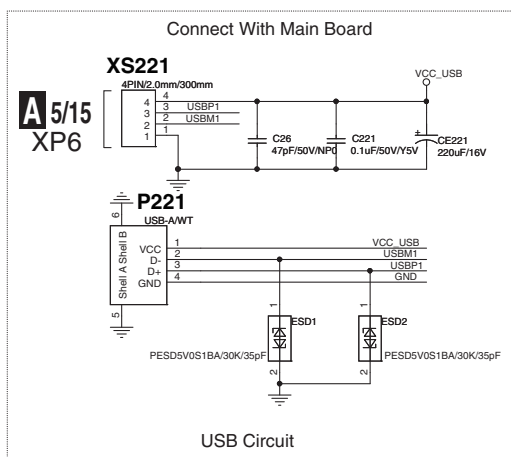
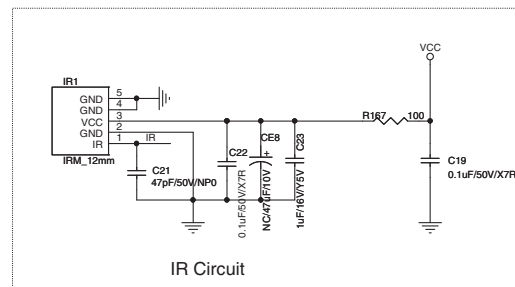
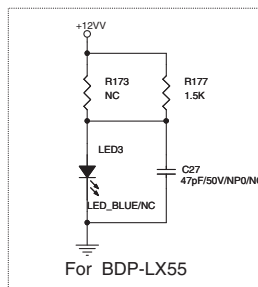
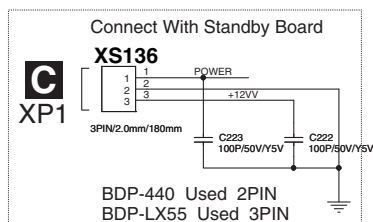
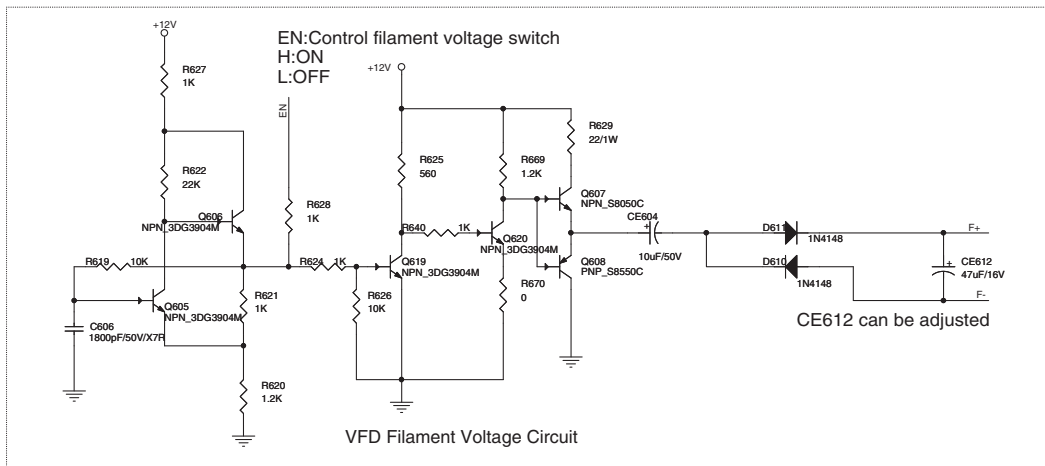
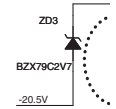
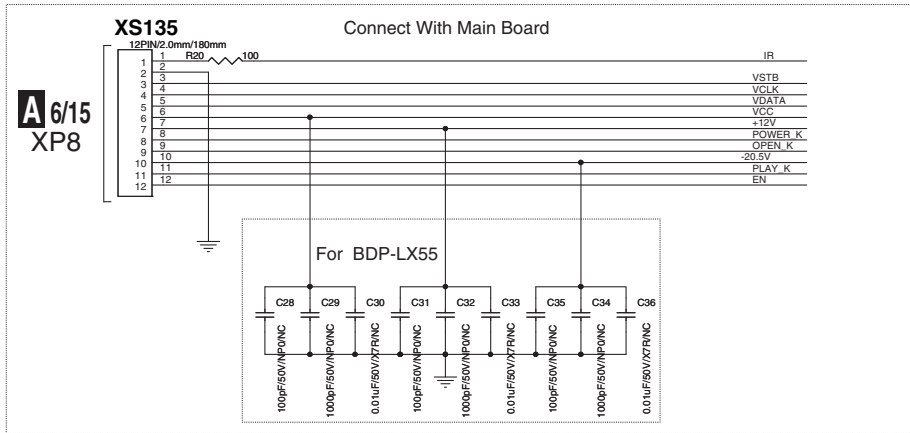
A^{14/15} MAIN BOARD ASSY (14/15)
 (BDP-LX55/YXCN5, BDP-LX55/VXCN5 : 08-BDLX55-MA0/Y)
 (BDP-LX55/FWLXCN : 08-BDLX55-MA0/F)
 (BDP-53FD/UCXCN : 08-BDLX55-MA0/U)



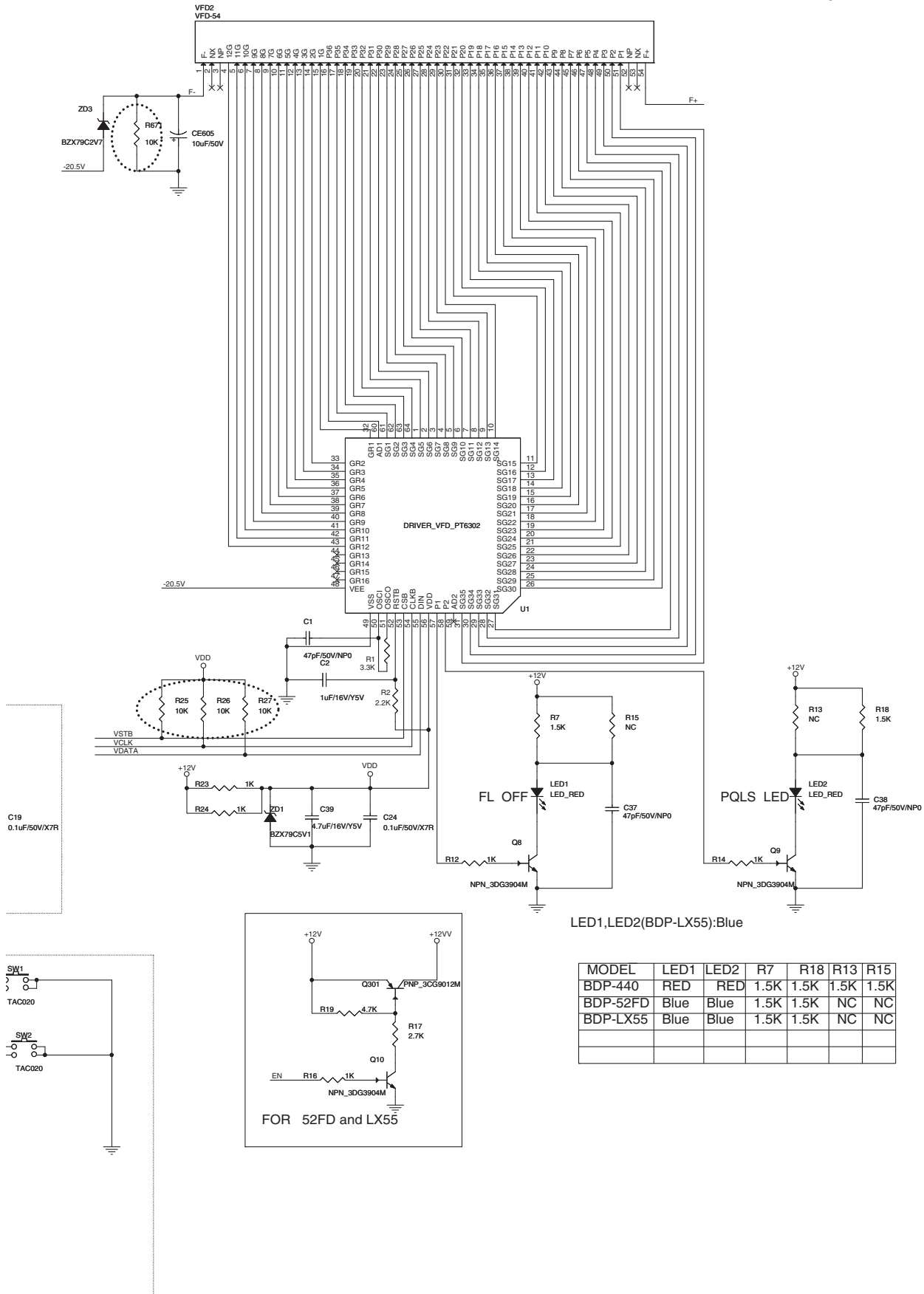
A



10.16 FRONT BOARD ASSY

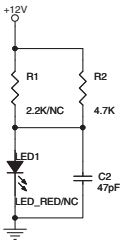


B **FRONT BOARD ASSY** **(08-BDLX55-FV0)**

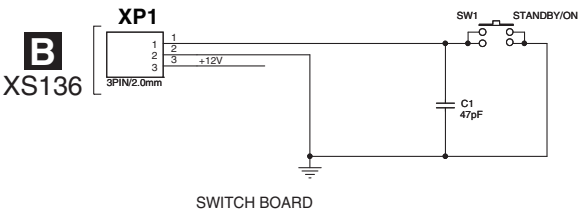


C SWITCH BOARD ASSY
(08-BDLX55-SW0-TL)

Switch Board Circuit Diagram:

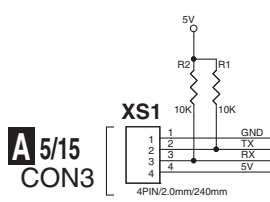


The BD player need LED, USE R1,R2,LED1

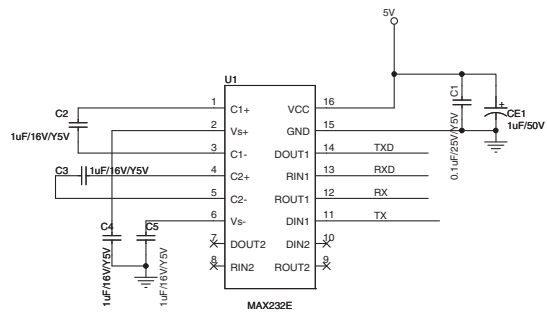


D RS BOARD ASSY
(08-BDP440-RS0-TL)

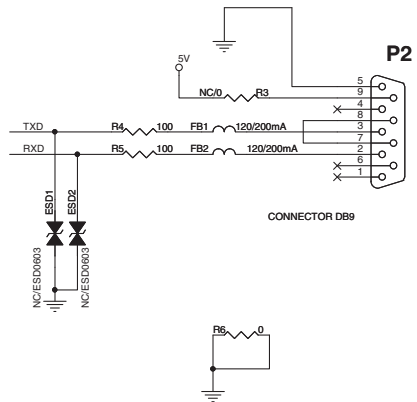
A



B



C

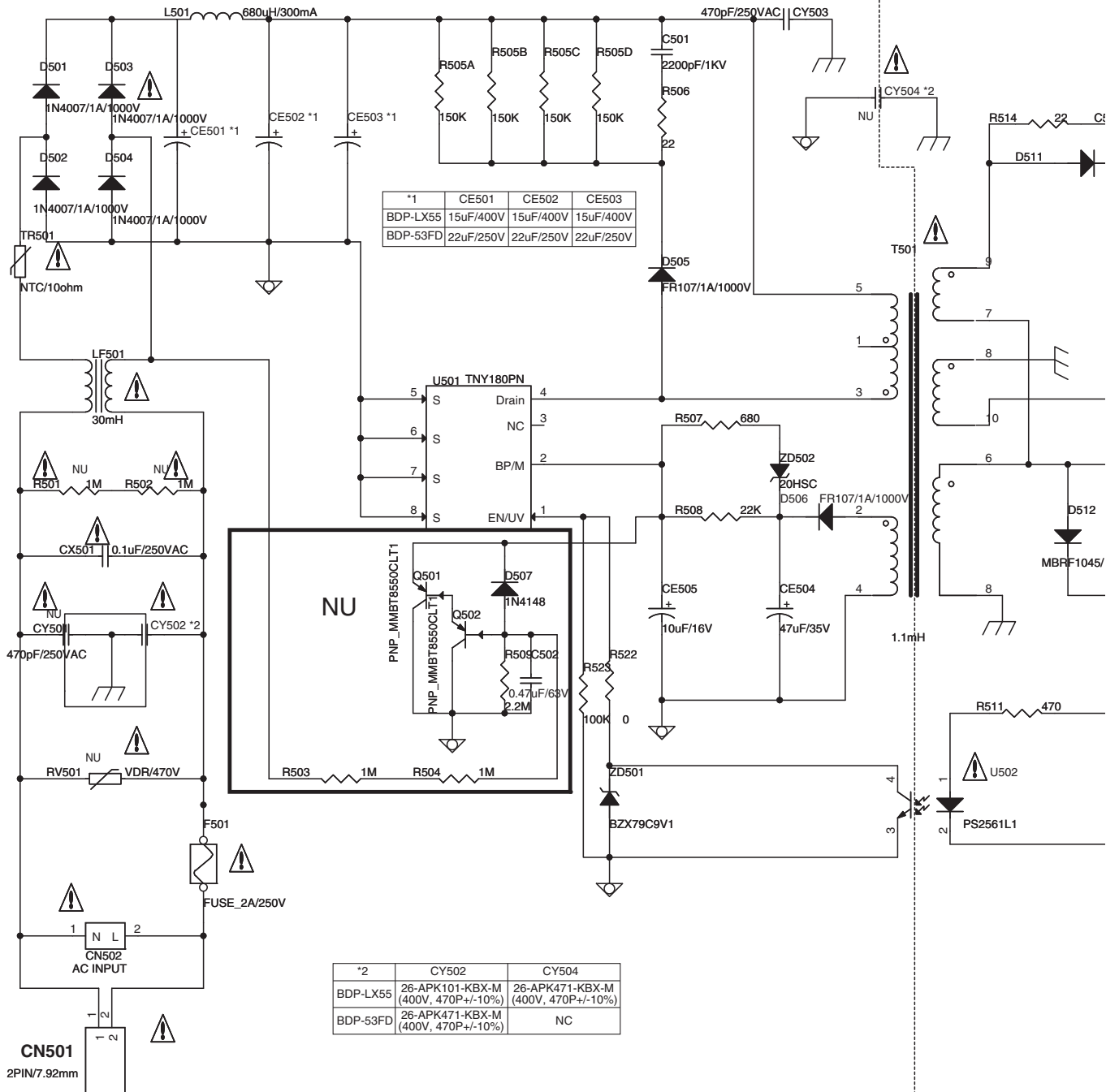


D

E

10.19 POWER BOARD ASSY

Power Board Circuit Diagram:



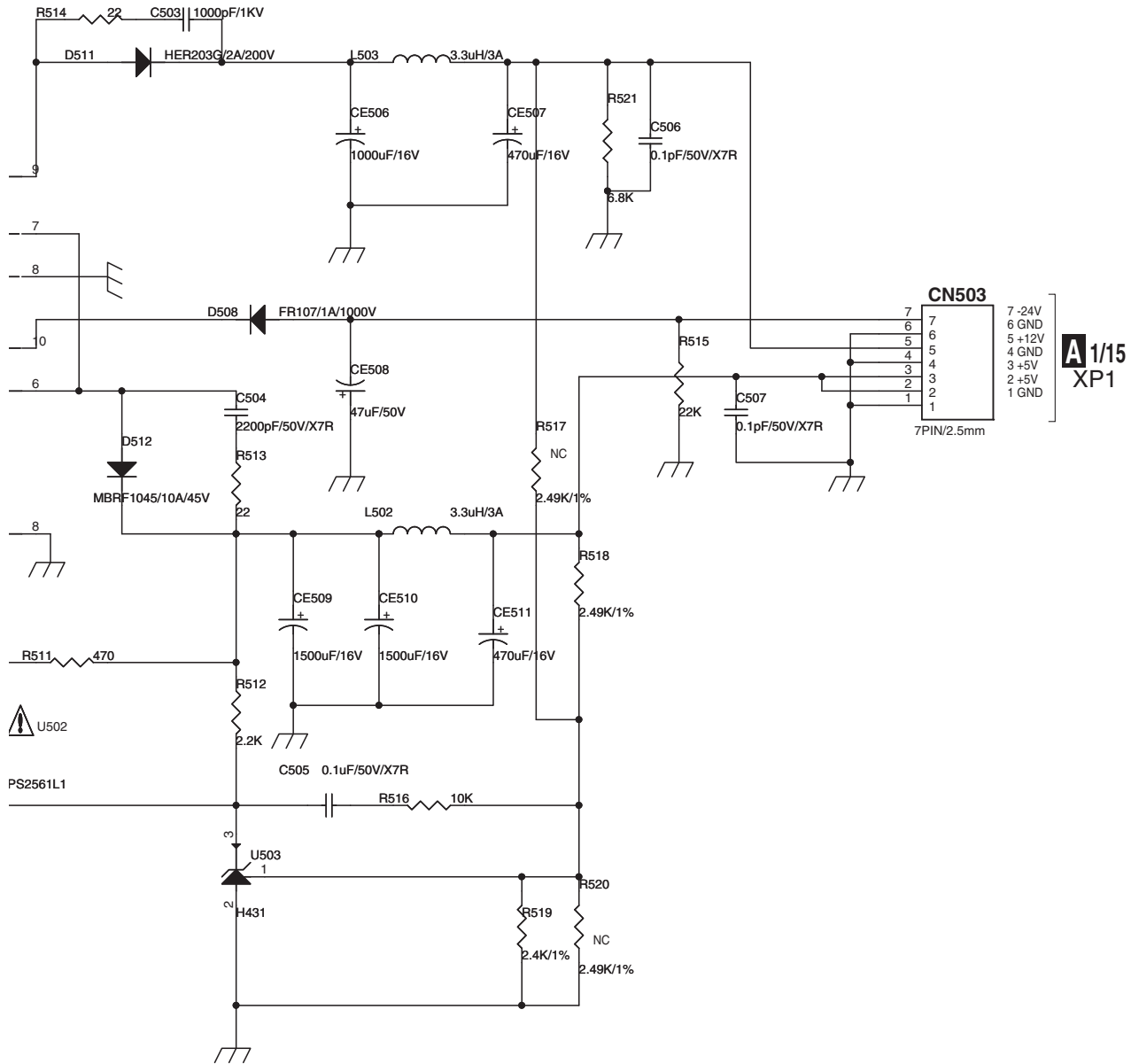
NU:NO USE THE PLACE

*** CAUTION :**
THE PARTS MARKED WITH ⚠ ARE IMPORTANT PARTS ON THE SAFETY.
PLEASE USE THE PARTS HAVING THE DESIGNATED PARTS NUMBER WITHOUT FAIL.



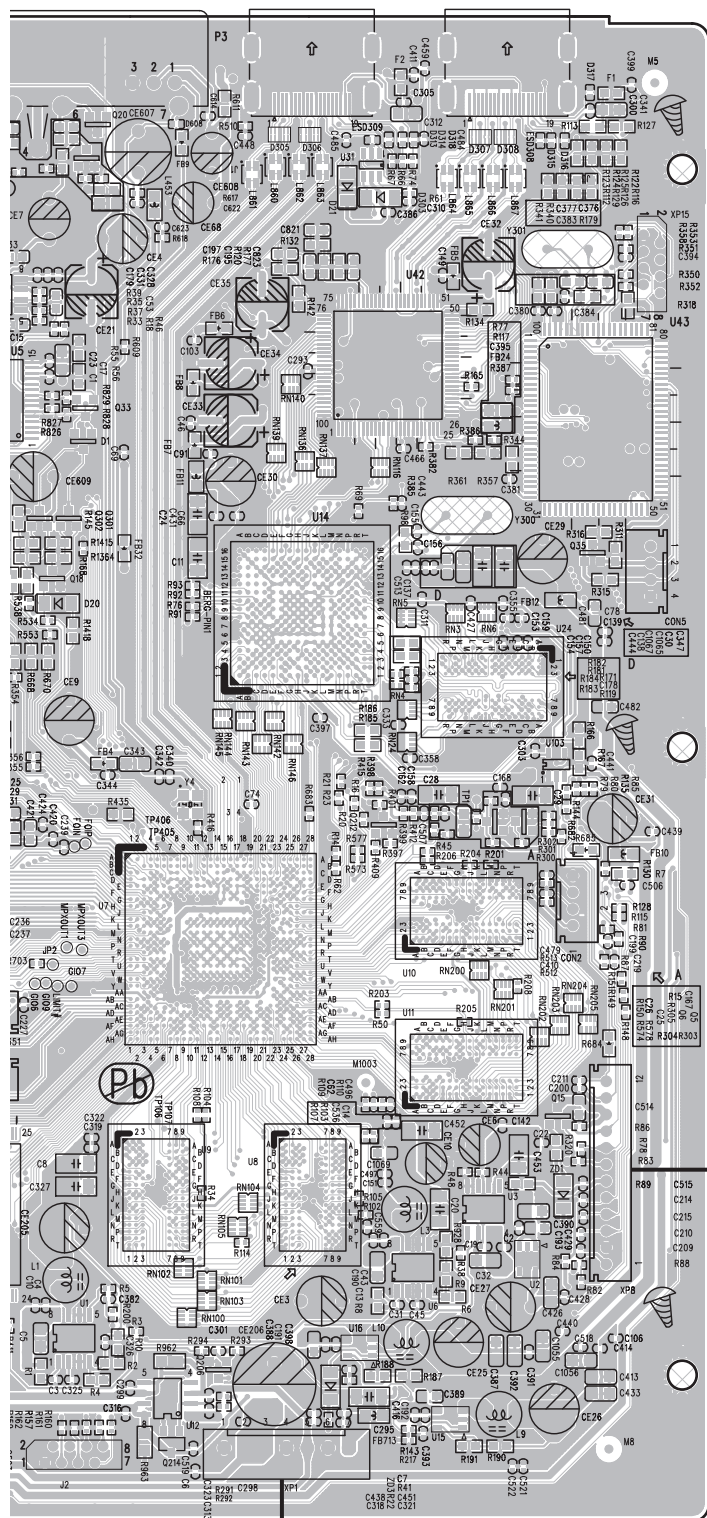
POWER BOARD ASSY

(BDP-LX55/YXCN5, BDP-LX55/VXCN5 : 08-BDLX55-PW2)
(BDP-LX55/FWLXCN : 08-BDLX55-PW0)
(BDP-53FD/UCXCN : 08-BDLX55-PW1)



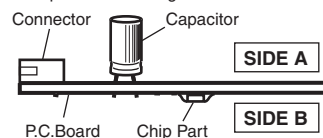
SIDE A

A

XP8
B XS135XP1
E CN503

NOTE FOR PCB DIAGRAMS :

1. The parts mounted on this PCB include all necessary parts for several destinations. For further information for respective destinations, be sure to check with the schematic diagram.
2. View point of PCB diagrams.

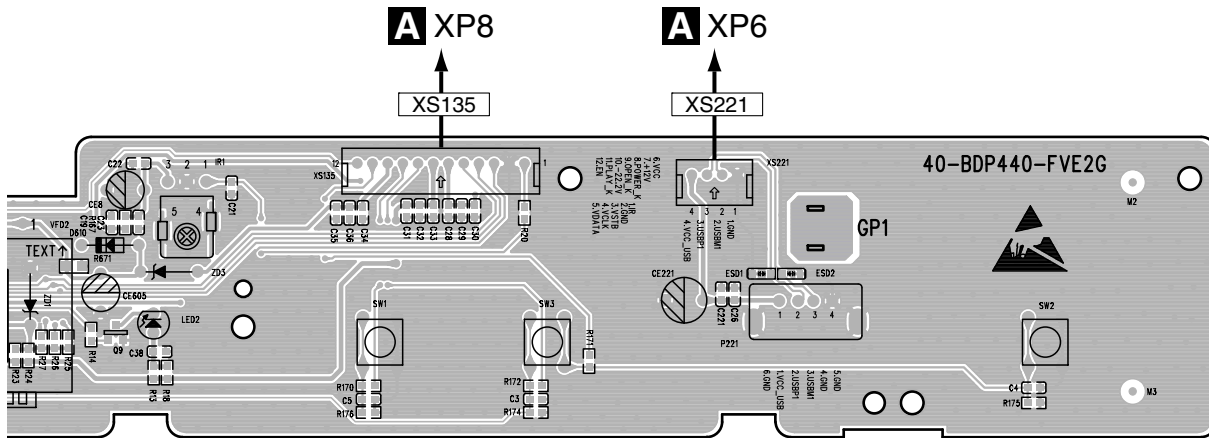


BDP-LX55

A

SIDE A

A

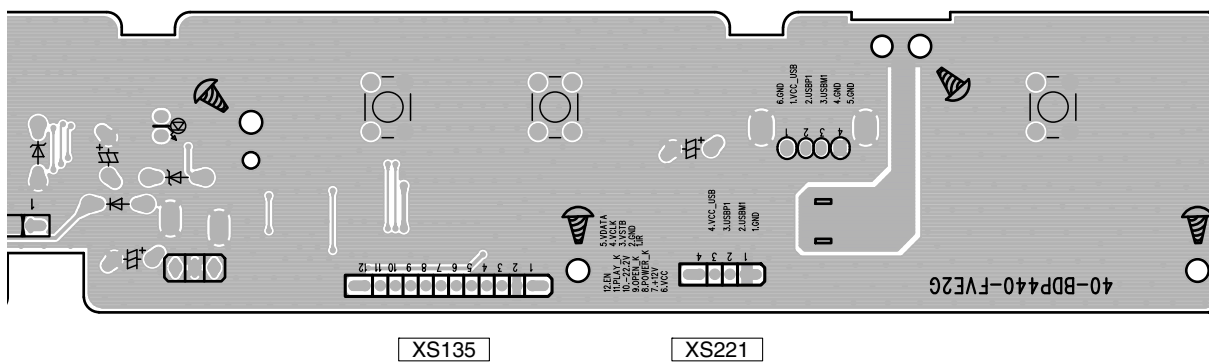


B

C

SIDE B

D



E

F

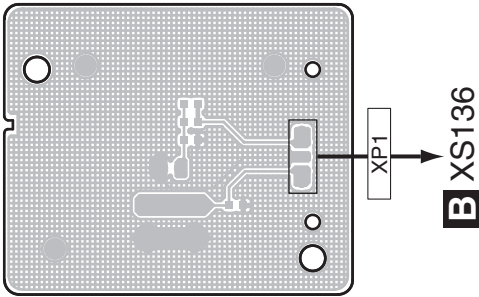
B

11.3 SWITCH BOARD, RS BOARD and POWER BOARD ASSYS

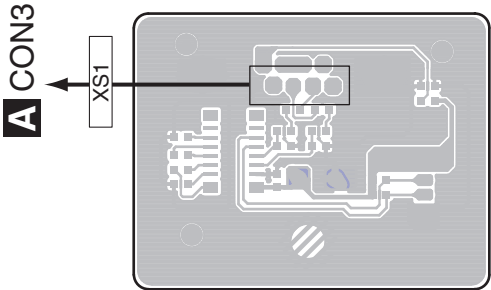
SIDE A

SIDE A

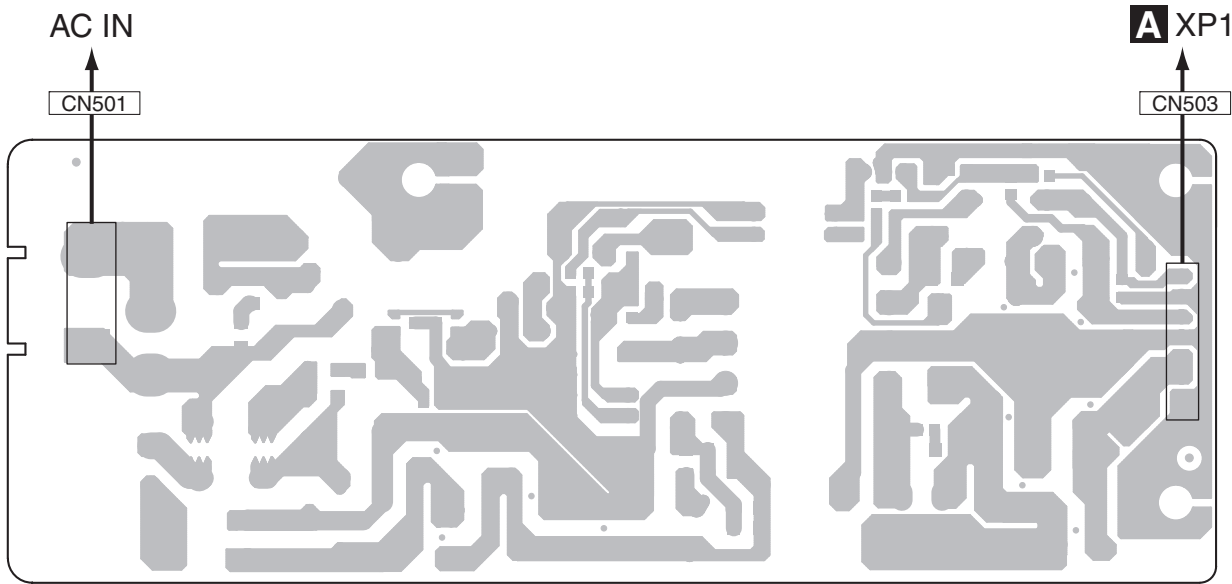
C SWITCH BOARD ASSY



D RS BOARD ASSY



E POWER BOARD ASSY



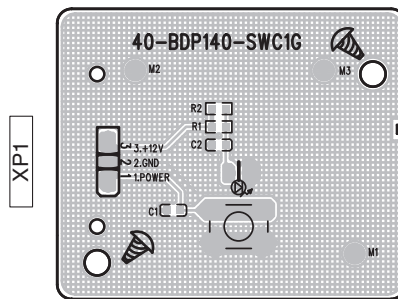
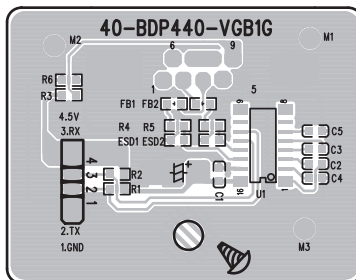
C D E

C D E

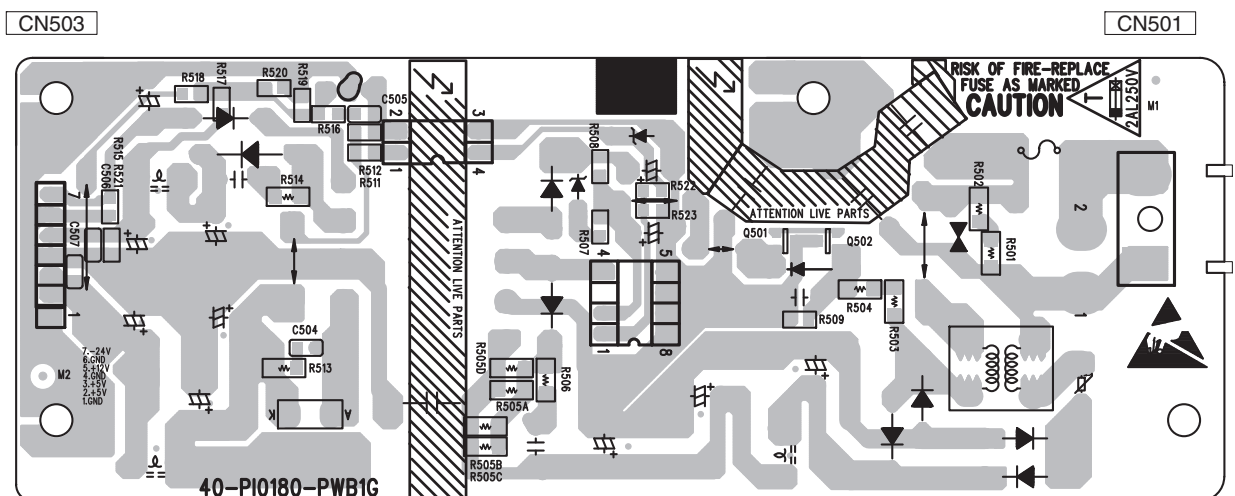
SIDE B

SIDE B

C SWITCH BOARD ASSY

**D RS BOARD ASSY**

E POWER BOARD ASSY



CN501

40-PI0180-PWB1G

**RISK OF FIRE—REPLACE
FUSE AS MARKED
CAUTION**

ATTENTION LIVE PARTS

C D E

C D E

12. PCB PARTS LIST

NOTES: ● Parts marked by “NSP” are generally unavailable because they are not in our Master Spare Parts List.
● The Δ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
● When ordering resistors, first convert resistance values into code form as shown in the following examples.
Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47 k ohm (tolerance is shown by J = 5%, and K = 10%).
560 Ω $\rightarrow$ 56 $\times 10^1$ $\rightarrow$ 561 RD1/4PU $\begin{bmatrix} 5 \\ 6 \end{bmatrix} \begin{bmatrix} 1 \\ J \end{bmatrix}$
47 k Ω $\rightarrow$ 47 $\times 10^3$ $\rightarrow$ 473 RD1/4PU $\begin{bmatrix} 4 \\ 7 \end{bmatrix} \begin{bmatrix} 3 \\ J \end{bmatrix}$
0.5 Ω $\rightarrow$ R50 RN2H $\begin{bmatrix} R \\ 5 \end{bmatrix} \begin{bmatrix} 0 \\ K \end{bmatrix}$
1 Ω $\rightarrow$ 1R0 RS1P $\begin{bmatrix} 1 \\ R \end{bmatrix} \begin{bmatrix} 0 \\ K \end{bmatrix}$
Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).
5.62 k Ω $\rightarrow$ 562 $\times 10^1$ $\rightarrow$ 5621 RN1/4PC $\begin{bmatrix} 5 \\ 6 \end{bmatrix} \begin{bmatrix} 2 \\ 1 \end{bmatrix} F$

Mark No. Description Part No.

LIST OF ASSEMBLIES

1..MAIN BOARD ASSY (BDP-LX55/YXCN5,BDP-LX55/VXCN5)	08-BDLX55-MA0/Y
1..MAIN BOARD ASSY (BDP-LX55/FWLXCN)	08-BDLX55-MA0/F
1..MAIN BOARD ASSY (BDP-53FD/UCXCN)	08-BDLX55-MA0/U
1..FRONT BOARD ASSY	08-BDLX55-FV0
1..SWITCH BOARD ASSY	08-BDLX55-SW0-TL
1..RS BOARD ASSY	08-BDP440-RS0-TL

Δ 1..POWER BOARD ASSY (BDP-LX55/YXCN5,BDP-LX55/VXCN5)	08-BDLX55-PW2
Δ 1..POWER BOARD ASSY(BDP-LX55/FWLXCN)	08-BDLX55-PW0
Δ 1..POWER BOARD ASSY(BDP-53FD/UCXCN)	08-BDLX55-PW1

Mark No. Description Part No.

A MAIN BOARD ASSY

SEMICONDUCTORS	
IC U42A	SIH9136CTU
MISCELLANEOUS	
0 PC PART	58-116390-000
0 THERNALSILICA	59-116380-000
0 ELECTRIC SPONGE	54-117640-000
0 TRANSFORMER	36-TRF292-SX0
0 CRYSTAL RESONATOR 20	45-QSC20M-OY0BT
0 CABLE 1 PIN GROUND W	46-40501H-01X

B FRONT BOARD ASSY

MISCELLANEOUS	
SW1,SW2,SW3 SWITCH TACT TSAB-1	48-TAC020-XX1-TL