

harman/kardon

Service Manual

BDP 1/120 BDP 10/230 Blu-ray players



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harman/kardon, Inc.
8500 Balboa Blvd.

Northridge, CA. 91329

Released 2010

Discontinued XXXX

Rev0 8/2010

BDP 10 TECHNICAL SPECIFICATIONS

Applicable Disc:

Disc Formats: 12cm (5") or 8cm (3") BD-Video, DVD-Video, standard-conforming DVD-R, DVD+R, DVD-RW DVD+RW, DVD-RAM, CD, CD-R, CD-RW, DivX or MP3 discs

Region Code: BD-Video disc with Code B or Open Region DVD-Video disc with Code 2 or 0 only

DVD Layers: Single-side/single-layer, single-side/dual-layer, dual-side/dual-layer

Video Format: MPEG-2, MPEG-4 AVC (H.264), SMPTE VC1 (VC-9)

Audio Formats: Dolby® TrueHD; Dolby Digital Plus; Dolby Digital; DTS-HD Master Audio™ (pass-through only); LPCM; MPEG-1 and 2, layer 2; MP3; Windows Media® 9

Still-Image format: JPEG

Video Signal System: PAL or NTSC

HDMI™ Output: Video: up to 1080p
HDMI™: (V.1.3a with x.v.Color™, Dolby TrueHD, DTS-HD Master Audio and PCM up to 7.1 channels)
HDCP: version 1.1-compliant

Composite Video Output: 1V p-p/75 ohms, sync negative polarity

Component Video Output: Y: 1V p-p/75 ohms, sync negative polarity
Pr: 0.7V p-p/75 ohms
Pb: 0.7V p-p/75 ohms

Analog Audio Output: 2V RMS (1kHz, 0dB)

Frequency Response:
DVD (Linear PCM): 2Hz – 22kHz +0/–0.5dB (48kHz sampling)
2Hz – 44kHz +0/–1.5dB (96kHz sampling)
2Hz – 88kHz +0/–0.5dB (192kHz sampling)
CD: 2Hz – 20kHz +0/–0.5dB

Signal/Noise Ratio (SNR): -100dB (± 3dB), A-weighted

Dynamic Range:
DVD: 100dB (18-bit)/105dB (20-bit)
CD/DVD: 96dB (16-bit)

THD/1kHz: DVD/CD: 0.0025%

Wow & Flutter: Below measurable limits

AC Power: 110-240V AC/50-60Hz

Power Consumption: ≤1 Watt (standby)/28 watts (max)

Dimensions (H x W x D): 66mm x 440mm x 352mm (2-5/8" x 17-5/16" x 13-7/8")

Weight: 3.7kg (8.2 lb)

Shipping Dimensions (H x W x D): 149mm x 470mm x 565mm (5-7/8" x 18-1/2" x 22-1/4")

Shipping Weight: 5.5kg (12 lb)

Depth measurement includes knobs, buttons and terminal connections. Height measurement includes feet and chassis.

All features, specifications and appearance are subject to change without notice.

Harman Kardon and Logic 7 are trademarks of Harman International Industries, Incorporated, registered in the United States and/or other countries. Designed to Entertain is a trademark of Harman International Industries, Incorporated.

BD-Live, the "BD-LIVE" logo, Blu-ray Disc, the "Blu-ray Disc" logo, BonusView and the "BONUSVIEW" logo are trademarks of the Blu-ray Disc Association.

Dolby and Pro Logic are registered trademarks, and the double-D symbol and MLP Lossless are trademarks, of Dolby Laboratories.

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HD-DVD and the DVD logos are trademarks of the DVD Format/Logo Licensing Corporation (DVD FLLC).

HDMI (High-Definition Multimedia Interface) is a trademark or registered trademark of HDMI Licensing LLC.

iPod is a trademark of Apple Inc., registered in the U.S. and other countries.

Java and all Java-based trademarks and logos are trademarks or registered trademarks of Sun Microsystems, Inc. in the U.S. and other countries.

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Please register your product at www.harmankardon.com. Note: You'll need your serial number. At the same time, you can choose to be notified about new products and/or special promotions.



BDP 1 TECHNICAL SPECIFICATIONS

Applicable Disc:

Disc Formats:	5" (12cm) or 3" (8cm) BD-Video, DVD-Video, standard-conforming DVD-R, DVD+R, DVD-RW, DVD+RW, DVD-RAM, CD, CD-R, CD-RW or MP3 discs
Region Code:	BD-Video disc with Code A or Open Region DVD-Video disc with Code 1 or 0 only
DVD Layers:	Single-side/single-layer, single-side/dual-layer, dual-side/dual-layer
Video Format:	MPEG-2, MPEG-4 AVC (H.264), SMPTE VC1 (VC-9)
Audio Formats:	Dolby® TrueHD; Dolby Digital Plus; Dolby Digital; DTS-HD Master Audio™ (pass-through only); LPCM; MPEG-1 and 2, layer 2; MP3; Windows Media® 9
Still-Image format:	JPEG
Video Signal System:	NTSC
HDMI™ Output:	Video: up to 1080p HDMI™: (V.1.3a with x.v.Color™, Dolby TrueHD, DTS-HD Master Audio and PCM up to 7.1 channels) HDCP: version 1.1-compliant
Composite Video Output:	1V p-p/75 ohms, sync negative polarity
Component Video Output:	Y: 1V p-p/75 ohms, sync negative polarity Pr: 0.7V p-p/75 ohms Pb: 0.7V p-p/75 ohms

Analog Audio Output:	2V RMS (1kHz, 0dB)
Frequency Response:	
DVD (Linear PCM):	2Hz – 22kHz +0/–0.5dB (48kHz sampling) 2Hz – 44kHz +0/–1.5dB (96kHz sampling) 2Hz – 88kHz +0/–0.5dB (192kHz sampling)
CD:	2Hz – 20kHz +0/–0.5dB
Signal/Noise Ratio (SNR):	–100dB (±3dB), A-weighted
Dynamic Range:	
DVD:	100dB (18-bit)/105dB (20-bit)
CD/DVD:	96dB (16-bit)
THD/1kHz:	DVD/CD: 0.0025%
Wow & Flutter:	Below measurable limits
AC Power:	110–240V AC/50–60Hz
Power Consumption:	≤1 Watt (standby)/28 watts (max)
Dimensions (H x W x D):	2-5/8" x 17-5/16" x 13-7/8" (66mm x 440mm x 352mm)
Weight:	8.2 lb (3.7kg)
Shipping Dimensions (H x W x D):	5-7/8" x 18-1/2" x 22-1/4" (149mm x 470mm x 565mm)
Shipping Weight:	12 lb (5.5kg)

Depth measurement includes knobs, buttons and terminal connections. Height measurement includes feet and chassis.

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Kodak is a registered trademark, and Photo CD is a trademark, of Eastman Kodak Company.

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This product incorporates copyright protection technology that is protected by U.S. patents and other intellectual property rights. Use of this copyright protection technology must be authorized by Macrovision, and is intended for home and other limited viewing uses only unless otherwise authorized by Macrovision. Reverse engineering or disassembly is prohibited.



Please register your product at www.harmankardon.com. Note: You'll need your serial number. At the same time, you can choose to be notified about new products and/or special promotions.

SAFETY INFORMATION for BDP10

Important Safety Instructions

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with a dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched, particularly at plugs, convenience receptacles and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket or table specified by the manufacturer or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over. 
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

15. Do not expose this apparatus to dripping or splashing and ensure that no objects filled with liquids, such as vases, are placed on the apparatus.
16. To completely disconnect this apparatus from the AC Mains, disconnect the power supply cord plug from the AC receptacle.
17. The mains plug of the power supply cord shall remain readily operable.
18. Do not expose batteries to excessive heat such as sunshine, fire or the like.



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

WARNING: To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.

Declaration of Conformity



We, Harman Consumer Group, Inc.
2, Route de Tours
72500 Château-du-Loir,
FRANCE

declare in own responsibility, that the product described in this owner's manual is in compliance with technical standards:

- EN 55013:2001
- EN 55020:2002
- EN 61000-3-2:2000
- EN 61000-3-3:1995+A1:2001
- EN 60065:2002

Jurjen Amsterdam
Harman Consumer Group, Inc.
02/09



CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN



CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

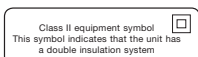
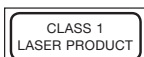


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The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.



SAFETY INFORMATION

for BDP10

Important Safety Information

Verify Line Voltage Before Use

Your BDP 10 has been designed for use with 110–240-volt AC current, and the plug is specifically designed for 230-volt applications. Connection to a line voltage other than that for which the plug is intended can create a safety and fire hazard and may damage the unit.

If you have any questions about the voltage requirements for your specific model, or about the line voltage in your area, contact your selling dealer before plugging the unit into a wall outlet.

Do Not Use Extension Cords

To avoid safety hazards, use only the power cord attached to your unit. We do not recommend that extension cords be used with this product. As with all electrical devices, do not run power cords under rugs or carpets or place heavy objects on them. Damaged power cords should be replaced immediately by an authorized service center with a cord meeting factory specifications.

Handle the AC Power Cord Gently

When disconnecting the power cord from an AC outlet, always pull the plug; never pull the cord. If you do not intend to use the unit for any considerable length of time, disconnect the plug from the AC outlet.

Do Not Open the Cabinet

There are no user-serviceable components inside this product. Opening the cabinet may present a shock hazard, and any modification to the product will void your guarantee. If water or any metal object such as a paper clip, wire or staple accidentally falls inside the unit, disconnect it from the AC power source immediately, and consult an authorized service center.

Installation Location

- To ensure proper operation and to avoid the potential for safety hazards, place the unit on a firm and level surface. When placing the unit on a shelf, be certain that the shelf and any mounting hardware can support the weight of the product.
- Make certain that proper space is provided both above and below the unit for ventilation. If this product will be installed in a cabinet or other enclosed area, make certain that there is sufficient air movement within the cabinet. Under some circumstances, a fan may be required. The unit should be placed on its own shelf, not directly on top of another component.
- Do not place the unit directly on a carpeted surface.
- Avoid installation in extremely hot or cold locations, or in an area that is exposed to direct sunlight or heating equipment.
- Avoid moist or humid locations.
- Do not obstruct the ventilation slots on the unit, or place objects directly over them.
- Due to the heat generated by operation of the BDP 10 and other components in your system, there is the remote possibility that the rubber padding on the bottom of the unit's feet may leave marks on certain wood or veneer materials. Use caution when placing the unit on soft woods or other materials that may be damaged by heat or heavy objects. Some surface finishes may be particularly sensitive to absorbing such marks, due to a variety of factors beyond Harman Kardon's control, including the nature of the finish, cleaning materials used, and normal heat and vibration caused by the use of the product, or other factors. We recommend that caution be exercised in choosing an installation location for the component and in normal maintenance practices, as your warranty will not cover this type of damage to furniture.

Cleaning

When the unit gets dirty, wipe it with a clean, soft, dry cloth. If necessary, and only after unplugging the AC power cord, wipe it with a soft cloth dampened with mild soapy water, then a fresh cloth with clean water. Wipe it dry immediately with a dry cloth. NEVER use benzene, aerosol cleaners, thinner, alcohol or any other volatile cleaning agent. Do not use abrasive cleaners, as they may damage the finish of metal parts. Avoid spraying insecticide near the unit.

Moving the Unit

Before moving the unit, be certain to disconnect any interconnection cords with other components, and make certain that you disconnect the unit from the AC outlet.

NOTE: To avoid damage to the BDP 10 that may not be covered by the warranty, remove the disc from the unit before it is moved. Once the BDP 10 is installed, a disc may be left in the unit when it is turned off, but the unit should NEVER be moved with a disc left in the disc tray.

Important Information for the User

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. The limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio-frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communication. However, there is no guarantee that harmful interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept interference received, including interference that may cause undesired operation.

NOTE: Changes or modifications may cause this unit to fail to comply with Part 15 of the FCC Rules and may void the user's authority to operate the equipment.

CAUTION: The BDP 10 uses a laser system. To prevent direct exposure to the laser beam, do not open the cabinet enclosure or defeat any of the safety mechanisms provided for your protection. DO NOT STARE INTO THE LASER BEAM. To ensure proper use of this product, please read this Owner's Manual carefully and retain it for future use. Should the unit require maintenance or repair, please contact your local Harman Kardon service center. Refer servicing to qualified personnel only.

Unpacking

The carton and shipping materials used to protect your new player during shipment were specially designed to cushion it from shock and vibration. We suggest that you save the carton and packing materials for use in shipping if you move, or should the unit ever need repair.


To minimize the size of the carton in storage, you may wish to flatten it. This is done by carefully slitting the tape seams on the bottom and collapsing the carton. Other cardboard inserts may be stored in the same manner. Packing materials that cannot be collapsed should be saved along with the carton in a plastic bag.

If you do not wish to save the packaging materials, please note that the carton and other sections of the shipping protection are recyclable. Please respect the environment and discard those materials at a local recycling center.

It is important that you remove the protective plastic film from the front-panel lens. Leaving the film in place will affect the performance of your remote control.

SAFETY INFORMATION for BDP1

Important Safety Instructions

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with a dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched, particularly at plugs, convenience receptacles and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket or table specified by the manufacturer or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over. 
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
15. Do not expose this apparatus to dripping or splashing and ensure that no objects filled with liquids, such as vases, are placed on the apparatus.
16. To completely disconnect this apparatus from the AC Mains, disconnect the power supply cord plug from the AC receptacle.
17. The mains plug of the power supply cord shall remain readily operable.
18. Do not expose batteries to excessive heat such as sunshine, fire or the like.

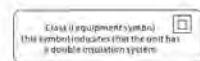
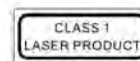


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The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.


WARNING: To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.




CAUTION

RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION: To reduce the risk of electric shock, do not remove cover (or back). No user-serviceable parts inside. Refer servicing to qualified service personnel.

 The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

 The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

SAFETY INFORMATION for BDP1

Important Safety Information

Verify Line Voltage Before Use

Your BDP 1 has been designed for use with 110–240-volt AC current, and the plug is specifically designed for 120-volt applications. Connection to a line voltage other than that for which the plug is intended can create a safety and fire hazard and may damage the unit.

If you have any questions about the voltage requirements for your specific model, or about the line voltage in your area, contact your selling dealer before plugging the unit into a wall outlet.

Do Not Use Extension Cords

To avoid safety hazards, use only the power cord attached to your unit. We do not recommend that extension cords be used with this product. As with all electrical devices, do not run power cords under rugs or carpets or place heavy objects on them. Damaged power cords should be replaced immediately by an authorized service center with a cord meeting factory specifications.

Handle the AC Power Cord Gently

When disconnecting the power cord from an AC outlet, always pull the plug; never pull the cord. If you do not intend to use the unit for any considerable length of time, disconnect the plug from the AC outlet.

Do Not Open the Cabinet

There are no user-serviceable components inside this product. Opening the cabinet may present a shock hazard, and any modification to the product will void your guarantee. If water or any metal object such as a paper clip, wire or staple accidentally falls inside the unit, disconnect it from the AC power source immediately, and consult an authorized service center.

Installation Location

- To ensure proper operation and to avoid the potential for safety hazards, place the unit on a firm and level surface. When placing the unit on a shelf, be certain that the shelf and any mounting hardware can support the weight of the product.
- Make certain that proper space is provided both above and below the unit for ventilation. If this product will be installed in a cabinet or other enclosed area, make certain that there is sufficient air movement within the cabinet. Under some circumstances, a fan may be required. The unit should be placed on its own shelf, not directly on top of another component.
- Do not place the unit directly on a carpeted surface.
- Avoid installation in extremely hot or cold locations, or in an area that is exposed to direct sunlight or heating equipment.
- Avoid moist or humid locations.
- Do not obstruct the ventilation slots on the unit, or place objects directly over them.
- Due to the heat generated by operation of the BDP 1 and other components in your system, there is the remote possibility that the rubber padding on the bottom of the unit's feet may leave marks on certain wood or veneer materials. Use caution when placing the unit on soft woods or other materials that may be damaged by heat or heavy objects. Some surface finishes may be particularly sensitive to absorbing such marks, due to a variety of factors beyond Harman Kardon's control, including the nature of the finish, cleaning materials used, and normal heat and vibration caused by the use of the product, or other factors. We recommend that caution be exercised in choosing an installation location for the component and in normal maintenance practices, as your warranty will not cover this type of damage to furniture.

Cleaning

When the unit gets dirty, wipe it with a clean, soft, dry cloth. If necessary, and only after unplugging the AC power cord, wipe it with a soft cloth dampened with mild soapy

water, then a fresh cloth with clean water. Wipe it dry immediately with a dry cloth. NEVER use benzene, aerosol cleaners, thinner, alcohol or any other volatile cleaning agent. Do not use abrasive cleaners, as they may damage the finish of metal parts. Avoid spraying insecticide near the unit.

Moving the Unit

Before moving the unit, be certain to disconnect any interconnection cords with other components, and make certain that you disconnect the unit from the AC outlet.

NOTE: To avoid damage to the BDP 1 that may not be covered by the warranty, remove the disc from the unit before it is moved. Once the BDP 1 is installed, a disc may be left in the unit when it is turned off, but the unit should NEVER be moved with a disc left in the disc tray.

Important Information for the User

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. The limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio-frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communication. However, there is no guarantee that harmful interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept interference received, including interference that may cause undesired operation.

NOTE: Changes or modifications may cause this unit to fail to comply with Part 15 of the FCC Rules and may void the user's authority to operate the equipment.

CAUTION: The BDP 1 uses a laser system. To prevent direct exposure to the laser beam, do not open the cabinet enclosure or defeat any of the safety mechanisms provided for your protection. DO NOT STARE INTO THE LASER BEAM. To ensure proper use of this product, please read this Owner's Manual carefully and retain it for future use. Should the unit require maintenance or repair, please contact your local Harman Kardon service center. Refer servicing to qualified personnel only.

Unpacking

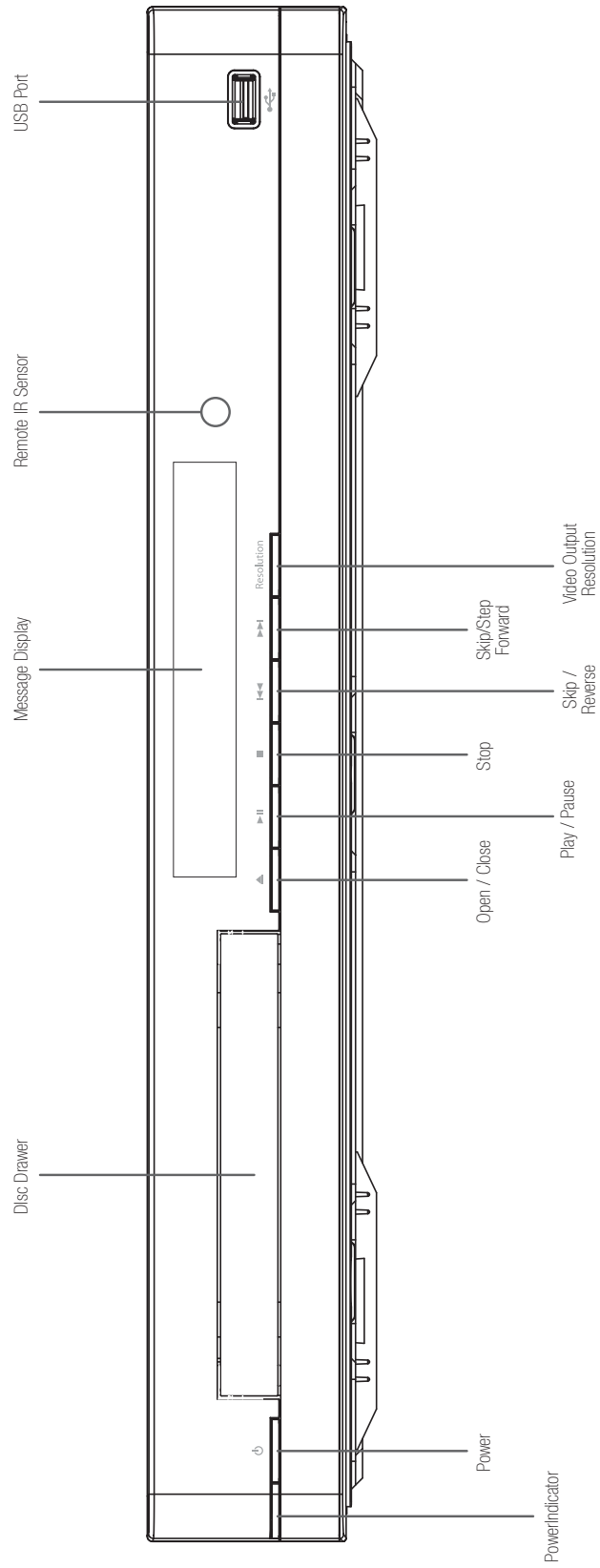
The carton and shipping materials used to protect your new player during shipment were specially designed to cushion it from shock and vibration. We suggest that you save the carton and packing materials for use in shipping if you move, or should the unit ever need repair.

To minimize the size of the carton in storage, you may wish to flatten it. This is done by carefully slitting the tape seams on the bottom and collapsing the carton. Other cardboard inserts may be stored in the same manner. Packing materials that cannot be collapsed should be saved along with the carton in a plastic bag.

If you do not wish to save the packaging materials, please note that the carton and other sections of the shipping protection are recyclable. Please respect the environment and discard those materials at a local recycling center.

It is important that you remove the protective plastic film from the front-panel lens. Leaving the film in place will affect the performance of your remote control.

FRONT-PANEL CONTROLS



NOTE: To make it easier to follow the instructions throughout the manual that refer to this illustration, a copy of this page may be downloaded from the Product Support section at www.harmankardon.com.

FRONT-PANEL CONTROLS

Power Indicator: Turns amber when the BDP 10 is plugged in and the rear-panel Master Power Switch is turned on, indicating that the BDP 10 is in Standby mode and may be turned on using either the front-panel or remote Power switch. Turns white when the BDP 10 is turned on.

Power: Press to turn on the BDP 10, when it is connected to an AC power source and the rear-panel Master Power Switch is on.

Disc Drawer: Holds the discs to be played. Carefully seat all discs in the recess in the tray. To avoid damaging the drawer, do not press down on it when open.

Message Display: Various status messages appear in the text display. When content is playing, the track and chapter information and the running time appear. Other indicators will light to display the current playback mode, video settings or other aspects of the BDP 10's status. See page 10 for details.

Open/Close: Press to open or close the disc drawer.

Play/Pause (▶||): Press to start, pause or resume playback.

Stop (■): Press to stop playback. When a video is playing, press it once for Resume mode, and twice to fully stop playback.

Skip Reverse (◀◀): Press once to return to the beginning of the current chapter or track. Quickly press again to skip to previous chapters or tracks.

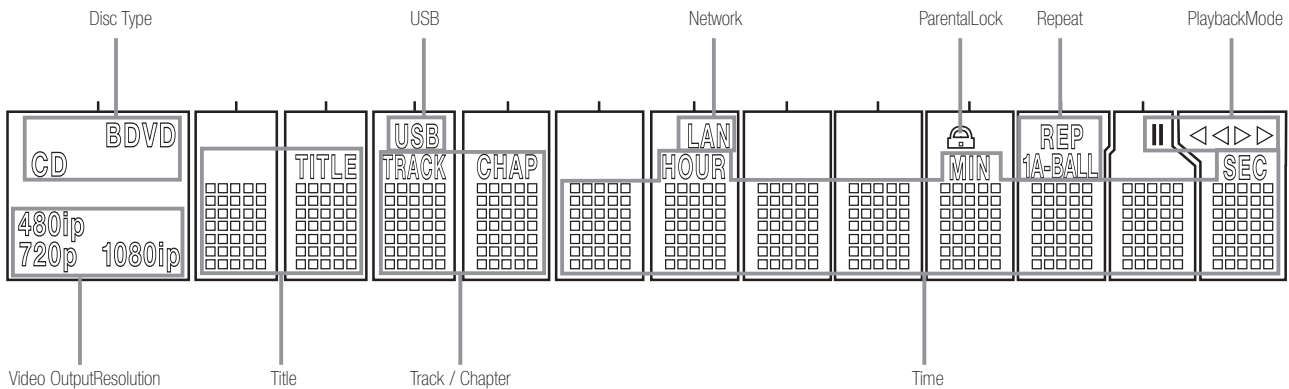
Skip/Step Forward (▶▶): Each press advances to the next chapter or track. For frame-by-frame advance (forward only), press the Pause Button, then tap the Skip/Step Forward Button.

Video Output Resolution: Press to display the current video output resolution. Each additional press changes to the next setting. Only settings compatible with the TV and type of video connection will be available.

Remote IR Sensor: This sensor receives infrared commands from the remote control. Make sure that it is not blocked.

USB Port: Connect a USB storage device, such as a flash drive or external hard-disc drive, to play additional content. DO NOT connect card readers, computers, keyboards, pointing devices or other peripheral products to the BDP 10. Do not connect an iPod here.

MESSAGE DISPLAY



NOTE: To make it easier to follow the instructions that refer to the controls and connectors in this illustration, a larger copy may be downloaded from the Product Support section for this product at www.harman-kardon.com.

Disc Type: Indicates the current disc as BD (Blu-ray Disc), DVD or CD.

USB: Lights when a USB drive is selected as the playback source.

Network: This indicator lights when the RJ45 jack is connected to a live network.

Parental Lock: Lights in red when the parental-lock system is active.

Repeat: These indicators light when any of the Repeat functions are in use.

Playback Mode: These indicators light to show the current playback mode:

- ▶ Lights when content is playing in the Normal or Slow Play mode.
- ▶▶ Lights in the Fast Search Forward mode, with the speed shown on screen.
- || Lights when the disc is paused.
- ◀◀ Lights when the disc is in the Fast Search Reverse mode, with the speed shown on screen.

Time: These positions show the running time of the current media.

Track/Chapter: When a video disc is playing, these two positions show the current chapter. When a CD is playing, they will show the current track number.

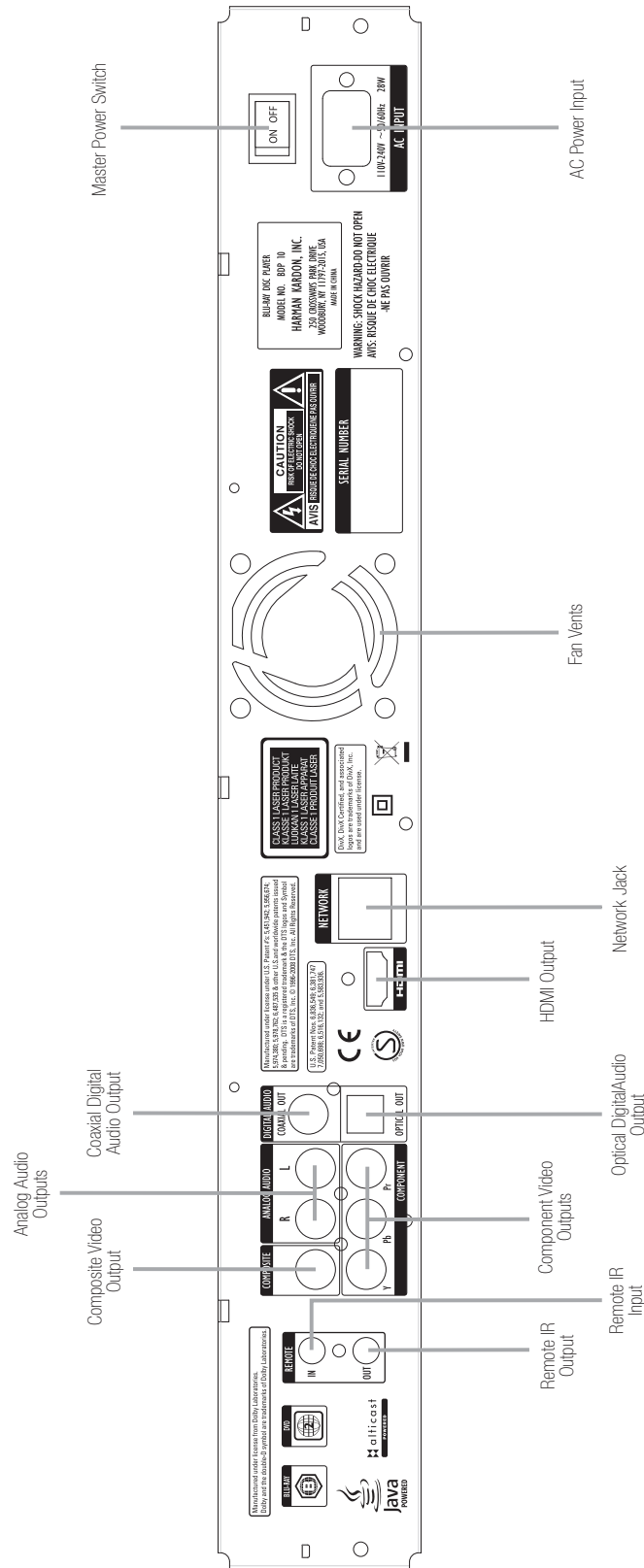
Title: These two positions show the current title number when a video disc is playing.

Video Output Resolution: Indicates the current video output resolution. For the HDMI Output, the resolution is set automatically to the maximum capability of the TV, but may be changed to a lower setting. For the Component Video Output, it must be adjusted manually by pressing the front-panel Video Output Resolution Button, and it may be set lower than the TV's maximum capability. When the Composite Video Output is in use, this indicator will always default to 576i/480i (interlaced scan), and cannot be changed.

NOTE: The 576i/480i resolution is not available via the HDMI Output. If the HDMI Output is connected simultaneously with the Composite Video Output, this indicator will reflect the HDMI Output's resolution, and the signal at the Composite Video Output will remain at 576i/480i.

REAR-PANEL CONNECTIONS

for BDP10



NOTE: To make it easier to follow the instructions throughout the manual that refer to this illustration, a copy of this page may be downloaded from the Product Support section at www.harmankardon.com.

REAR-PANEL CONNECTIONS for BDP10

Remote Infrared (IR) Input and Output: When the front-panel Remote IR sensor is blocked, connect the IR Output of your receiver/processor or an optional IR receiver to the Remote IR Input jack. The Remote IR Output may be connected to the Remote IR Input of a compatible product for remote control through the BDP 10. When several devices are used, connect them in "daisy chain" fashion.

Composite Video Output: If your video display does not have HDMI or component video inputs, connect this video output to your A/V receiver/processor or directly to the display.

Component Video Outputs: If your A/V receiver, surround processor or video display is not equipped for HDMI or DVI, connect these jacks to the corresponding inputs on the receiver or TV. If your video display has component input jacks marked "High Definition," use those jacks.

Analog Audio Outputs: If you are not using either HDMI or a separate optical or coaxial digital audio connection, connect these jacks to the A/V receiver or TV. Connect these jacks in addition to a digital audio connection to make recordings for personal use, or for a multizone system.

Coaxial and Optical Digital Audio Outputs: If your A/V receiver or surround processor is not capable of processing the audio from an HDMI stream, connect either of these digital audio outputs (but not both) to the receiver/processor.

HDMI Output: Connect to an HDMI-compatible A/V receiver or video display device. If your A/V receiver or surround processor is capable of decoding audio from the HDMI stream, no further audio connection is needed.

NOTE: If your A/V receiver or video display uses DVI connections, use an optional HDMI-to-DVI adapter or cable, and make a separate audio connection. If your DVI-equipped display is not HDCP-compliant, you must use an analog video connection.

Network Jack: Connect this standard RJ45 jack to a broadband network (Ethernet) connection so that you may take full advantage of BD-Live updates, features and enhancements of the BonusView system. When the network connection is "live," the lights on either side of the jack will flash to indicate network activity.

NOTE: When the BDP 10 is used with an IP-based or wireless control device, connect a router/access point here, making certain that one connection runs from the router to a broadband Internet connection.

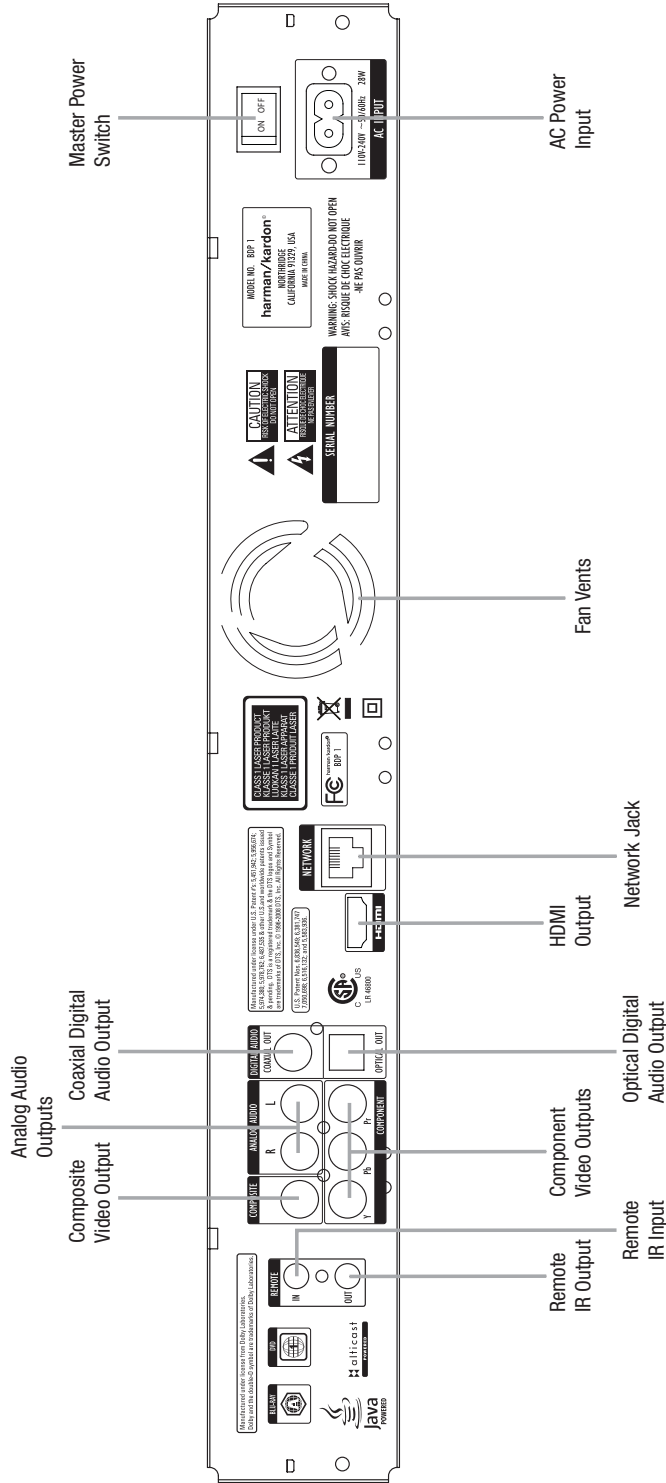
Master Power Switch: Flip on to apply power to the BDP 10, placing it in the Standby mode. When the unit will not be used for an extended period of time, or whenever it is necessary to remove the unit from the AC power lines, flip the switch off.

AC Power Input: Connect the supplied AC power cord to this socket first, and then to an unswitched AC outlet. Should the cord become damaged, contact your authorized Harman Kardon dealer for a replacement.

Fan Vents: This area contains vents used by the BDP 10's fan to cool the system. Maintain a clearance of at least 3 inches to the nearest surface, to avoid overheating the unit.

REAR-PANEL CONNECTIONS

for BDP1



NOTE: To make it easier to follow the instructions throughout the manual that refer to this illustration, a copy of this page may be downloaded from the Product Support section at www.harmankardon.com.

REAR-PANEL CONNECTIONS for BDP1

Remote Infrared (IR) Input and Output: When the front-panel Remote IR sensor is blocked, connect the IR Output of your receiver/processor or an optional IR receiver to the Remote IR Input jack. The Remote IR Output may be connected to the Remote IR Input of a compatible product for remote control through the BDP 1. When several devices are used, connect them in "daisy chain" fashion.

Composite Video Output: If your video display does not have HDMI or component video inputs, connect this video output to your A/V receiver/processor or directly to the display.

Component Video Outputs: If your A/V receiver, surround processor or video display is not equipped for HDMI or DVI, connect these jacks to the corresponding inputs on the receiver or TV. If your video display has component input jacks marked "High Definition," use those jacks.

Analog Audio Outputs: If you are not using either HDMI or a separate optical or coaxial digital audio connection, connect these jacks to the A/V receiver or TV. Connect these jacks in addition to a digital audio connection to make recordings for personal use, or for a multizone system.

Coaxial and Optical Digital Audio Outputs: If your A/V receiver or surround processor is not capable of processing the audio from an HDMI stream, connect either of these digital audio outputs (but not both) to the receiver/processor.

HDMI Output: Connect to an HDMI-compatible A/V receiver or video display device. If your A/V receiver or surround processor is capable of decoding audio from the HDMI stream, no further audio connection is needed.

NOTE: If your A/V receiver or video display uses DVI connections, use an optional HDMI-to-DVI adapter or cable, and make a separate audio connection. If your DVI-equipped display is not HDCP-compliant, you must use an analog video connection.

Network Jack: Connect this standard RJ45 jack to a broadband network (Ethernet) connection so that you may take full advantage of BD-Live updates, features and enhancements of the BonusView system. When the network connection is "live," the lights on either side of the jack will flash to indicate network activity.

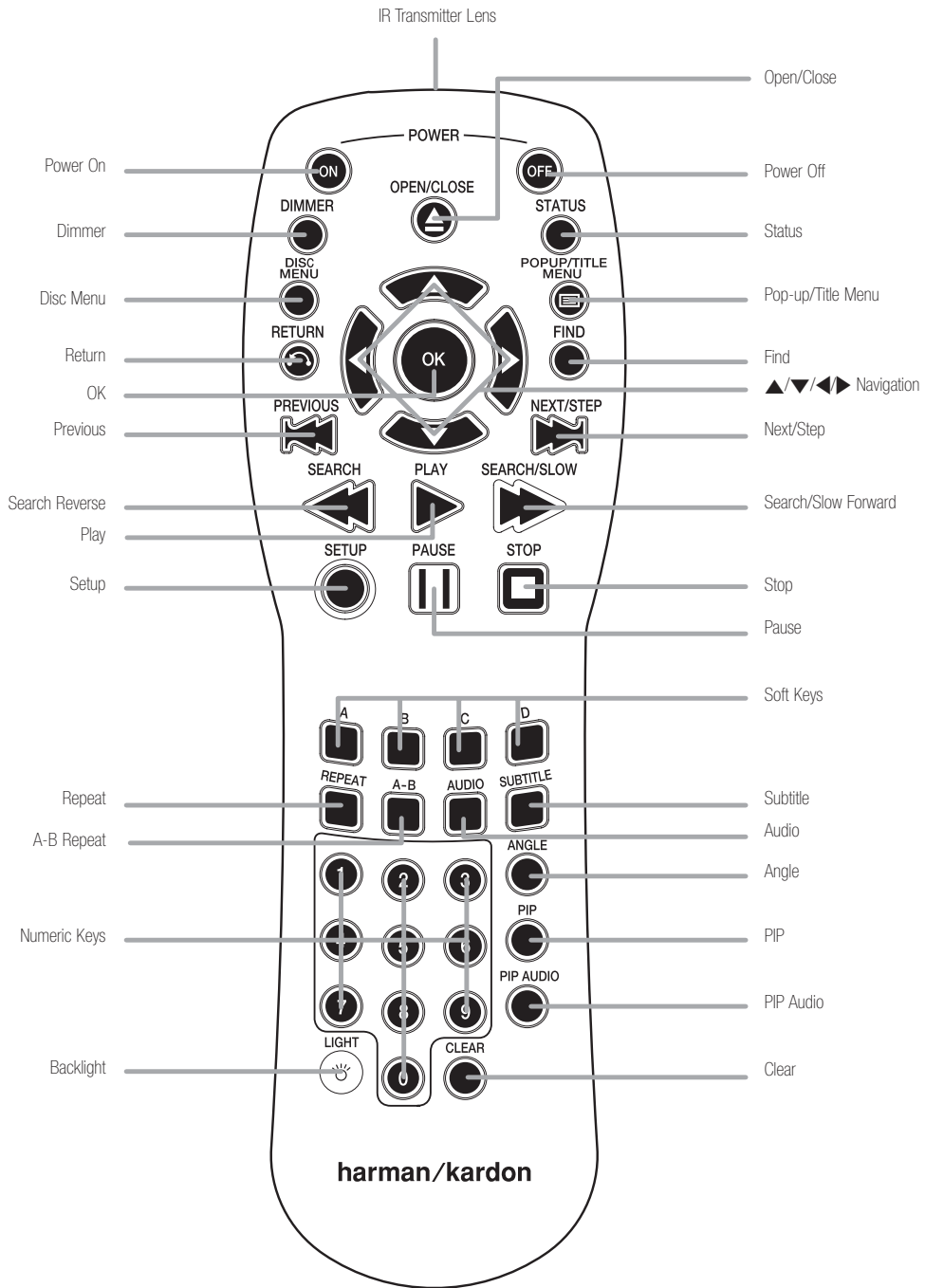
NOTE: When the BDP 1 is used with an IP-based or wireless control device, connect a router/access point here, making certain that one connection runs from the router to a broadband Internet connection.

Master Power Switch: Flip on to apply power to the BDP 1, placing it in the Standby mode. When the unit will not be used for an extended period of time, or whenever it is necessary to remove the unit from the AC power lines, flip the switch off.

AC Power Input: Connect the supplied AC power cord to this socket first, and then to an unswitched AC outlet. Should the cord become damaged, contact your authorized Harman Kardon dealer for a replacement.

Fan Vents: This area contains vents used by the BDP 1's fan to cool the system. Maintain a clearance of at least 3 inches to the nearest surface, to avoid overheating the unit.

REMOTE CONTROL FUNCTIONS



NOTE: To make it easier to follow the instructions throughout the manual that refer to this illustration, a copy of this page may be downloaded from the Product Support section at www.harmankardon.com.

REMOTE CONTROL FUNCTIONS

IR Transmitter Lens: When buttons are pressed on the remote, infrared codes are emitted through this lens. Make sure it is pointing toward the BDP 10.

Power On: Press to turn on the BDP 10 when it is in the Standby mode.

Power Off: Press to turn off the BDP 10, placing it in the Standby mode.

Open/Close: Press to open or close the disc drawer.

Dimmer: Press to change the front-panel display to half- or full-brightness, or to turn it off. When the indicators are fully dimmed, the Power Indicator will remain lit to remind you that the unit is on. Press any button to temporarily return the front panel to full-brightness.

Status: Press during playback to display the current title and chapter or track.

Disc Menu: Press to view a disc's main menu. Playback will pause.

Popup/Title Menu: Press while a BD-Video disc is playing to display a menu bar at the bottom of the screen or elsewhere, depending on the disc. This is one of the Blu-ray Disc system's most exciting innovations, as video playback will continue while you access the disc's setup, scene selection and special features submenus and make adjustments on the fly. If you select "Disc Menu", play will stop and the main disc menu will appear. Depending on the disc, other functions may be implemented as popup menus during playback.

Navigation (▲/▼/◀/▶): These buttons are used to navigate the on-screen menus. When still images are displayed, use the ◀/▶ Buttons to scroll through the images in the folder.

OK Button: Press to enter a menu selection.

Return: Press to return to the previous menu or menu selection level.

Find: While a disc is playing, press to jump to a different location on the disc. Each press changes the search mode: Title, Chapter or Time. Use the Numeric Keys to specify the location, and press the OK Button.

Previous: Press once to return to the start of the current chapter or track. Press it again to step through previous chapters or tracks.

Next/Step: When content is playing, each press advances to the next chapter or track. When video content is playing, press the Pause Button first, then each press of this button advances the video one frame. The Step function is not available in reverse.

Search Reverse: Press to scan backward through the current program. Each press changes the speed: 2x, 4x, 8x, 16x, 32x, 64x or 128x. The slow-motion function is not available in reverse.

Play: Press to begin playback.

Search/Slow Forward: Press to scan forward through the current program. Each press changes the speed: 2x, 4x, 8x, 16x, 32x, 64x or 128x. For slow-motion play of video content, press the Pause Button first, then each press of this button changes the speed: 1/8x, 1/4x or 1/2x.

Setup: Press to configure system options.

Pause: Press to momentarily pause playback. Press again to resume. While paused, press the Next Step Button for frame-by-frame advance, or press the Search Forward Button for slow-motion play.

Stop: When audio content is playing, press to stop playback. When a BD or DVD disc is playing, press once to place the unit in the Resume mode, where pressing the Play button will resume playback from the place where it stopped. Press the Stop Button twice when a BD or DVD disc is playing to bring the unit to a "full stop."

Soft Keys: These four color-coded buttons are used for Blu-ray Disc special features, and are defined by the disc.

Repeat: Press to repeat the current title or chapter while a DVD disc is playing, or to repeat the current track or all tracks on an audio CD. Each press changes the Repeat mode, or turns off Repeat play. To repeat content on a data disc or USB drive, first create a playlist. See pages 23 to 24 for more information.

A-B Repeat: Press to select a passage for repeat play. The first press determines the beginning of the passage, the second press defines the end point and the third press cancels A-B Repeat play. The A-B Repeat function is only available for some Blu-ray Disc media.

Audio: Press to select from the available audio format and/or language options.

Subtitle: Press to select from the available subtitle language options.

Angle: When a BD or DVD disc is playing and multiple-angle content is available (as indicated on screen), press this button to toggle through the available views.

PIP: Press to switch to a secondary video stream while playing a BD-Video disc with BonusView special features.

PIP Audio: Press to switch to a secondary audio track while playing a BD-Video disc with BonusView special features.

Numeric Keys: Press these buttons to enter numeric data.

Backlight: Press to activate the remote's backlighting system.

Clear: Press to clear menus from the on-screen display, or to cancel alphanumeric entries.

INSTALLATION

for BDP10

IMPORTANT NOTE: All components, including the BDP 10, should be turned off and unplugged from AC power before beginning installation. Do not plug any components back in until after all connections are completed.

Step One – Placement

Other system components, especially audio/video receivers and amplifiers, generate massive amounts of heat that will damage the sensitive laser components of the BDP 10. Although the BDP 10 is equipped with a fan that will turn on occasionally to compensate for heat conditions, it is strongly recommended that you place the BDP 10 on its own shelf. Do not stack components on top of each other.

Step Two – Connect the BDP 10 to an AV Receiver or Processor (Preferred)

If the receiver is HDMI-capable, connect the HDMI Output to the receiver's HDMI input. See Figure 1.



Figure 1— HDMI Output

If the receiver has a DVI input and is HDCP-compliant, use an HDMI-to-DVI adapter, and make a separate audio connection.

If the receiver does not have an HDMI or DVI input, select one video connection, in order of preference: component video or composite video. See Figure 2.

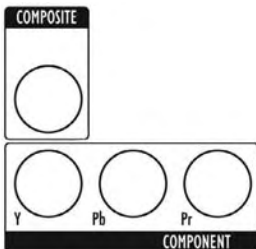


Figure 2 – Component and Composite Video Outputs

For non-HDMI products, a separate audio connection is required. If available, connect either the Optical or Coaxial Digital Audio Output to the receiver. See Figure 3.

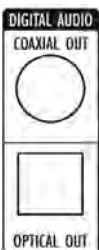


Figure 3 – Coaxial and Optical Digital Audio Outputs

Connect the Analog Audio Outputs to a receiver that does not have an available digital audio input. If digital audio connections have been made to the receiver, make an analog connection for recording, multizone systems or as a backup. See Figure 4.

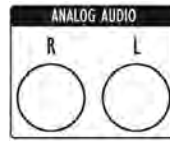


Figure 4 – Analog Audio Outputs
Skip to Step Four.

Step Three – Connect the BDP 10 Directly to a Television (Alternate)

If an A/V receiver or processor was used, you may skip this step, or you may make a second connection from the BDP 10 directly to the TV to bypass the home theater system for casual viewing. If you do not have an audio system, connect the BDP 10 to the TV as explained below.

If the television is HDMI-capable, connect the HDMI Output to the TV's HDMI input. See Figure 1.

If the TV has only a DVI input and is HDCP-compliant, use an HDMI-to-DVI adapter, and make a separate audio connection.

If the television does not have an HDMI or DVI input, select one video connection, in order of preference: component video or composite video. See Figure 2.

For non-HDMI TVs, a separate audio connection is required. Although some TVs may be equipped with an optical or coaxial digital audio connection, most likely you will use a 2-channel analog connection. Connect the Analog Audio Outputs shown in Figure 4 to the TV.

Step Four – Connect a USB Storage Device

Connect a compatible USB client device to the front-panel USB port. The USB drive may be used as virtual memory for the BD-Live system, or as a playback source. See Figure 5 and page 22.

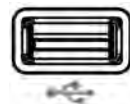


Figure 5 – Front-Panel USB Port

Step Five – Connect the Remote IR Input and Output (Optional)

Connect the BDP 10's Remote IR Input to the compatible IR output of another product, or to an IR receiver or controller, such as the optional Harman Kardon HE 1000. When daisy chaining devices to allow for remote control up and down the chain, connect the Remote IR Output to the next product's IR input. See Figure 6. The BDP 10 is compatible with "stripped carrier" IR signals.

INSTALLATION for BDP10



Figure 6 – Remote IR Input and Output

Point the remote toward the front panel of the BDP 10. The IR receiver is located immediately to the right of the Message Display. Make sure no objects are blocking the remote's path. Bright lights, fluorescent lights and plasma video displays may interfere with the remote's functioning. The remote has a range of about 6 m, depending on the lighting conditions. It may be used at an angle of up to 30 degrees to either side of the BDP 10.

If the remote seems to operate intermittently, make sure the batteries have been inserted correctly, or replace both batteries with fresh ones.

Step Six – Network Connection

Connect the Network Jack to a router or Ethernet-compatible controller. See Figure 7. The network connection is used for BD-Live discs to access the Internet for updates to the disc content and special features.

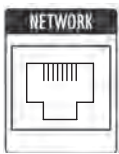


Figure 7 – Network Jack

Step Seven – Plug In AC Power

To avoid possible damage from a transient power surge at plug-in, turn off the Master Power Switch. Plug the female end of the AC Power cord into the receptacle (see Figure 8), and the male end into an unswitched AC outlet.

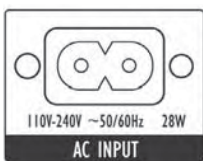


Figure 8 – Master Power Switch and AC Power Input

Step Eight – Insert Batteries in Remote

The BDP 10 remote control uses two AA batteries (included).

To remove the battery cover located on the back of the remote, lift the tab until the latch releases, and lift the battery cover up. Insert the batteries as shown in Figure 9, observing the correct polarity.

To replace the cover, insert the two small tabs at the top of the cover into the recesses at the top of the battery compartment, and lower the cover, pressing the latch at the bottom until it snaps shut.



Figure 9 – Remote Battery Compartment

INSTALLATION

for BDP1

IMPORTANT NOTE: All components, including the BDP 1, should be turned off and unplugged from AC power before beginning installation. Do not plug any components back in until after all connections are completed.

Step One – Placement

Other system components, especially audio/video receivers and amplifiers, generate massive amounts of heat that will damage the sensitive laser components of the BDP 1. Although the BDP 1 is equipped with a fan that will turn on occasionally to compensate for heat conditions, it is strongly recommended that you place the BDP 1 on its own shelf. Do not stack components on top of each other.

Step Two – Connect the BDP 1 to an A/V Receiver or Processor (Preferred)

If the receiver is HDMI-capable, connect the HDMI Output to the receiver's HDMI input. See Figure 1.



Figure 1— HDMI Output

If the receiver has a DVI input and is HDCP-compliant, use an HDMI-to-DVI adapter, and make a separate audio connection.

If the receiver does not have an HDMI or DVI input, select one video connection, in order of preference: component video or composite video. See Figure 2.

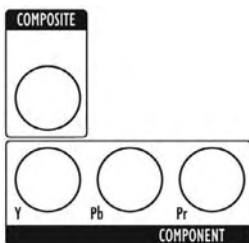


Figure 2 – Component and Composite Video Outputs

For non-HDMI products, a separate audio connection is required. If available, connect either the Optical or Coaxial Digital Audio Output to the receiver. See Figure 3.

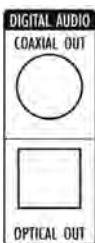


Figure 3 – Coaxial and Optical Digital Audio Outputs

Connect the Analog Audio Outputs to a receiver that does not have an available digital audio input. If digital audio connections have been made

to the receiver, make an analog connection for recording, multizone systems or as a backup. See Figure 4.

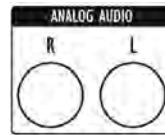


Figure 4 – Analog Audio Outputs

Skip to Step Four.

Step Three – Connect the BDP 1 Directly to a Television (Alternate)

If an A/V receiver or processor was used, you may skip this step, or you may make a second connection from the BDP 1 directly to the TV to bypass the home theater system for casual viewing. If you do not have an audio system, connect the BDP 1 to the TV as explained below.

If the television is HDMI-capable, connect the HDMI Output to the TV's HDMI input. See Figure 1.

If the TV has only a DVI input and is HDCP-compliant, use an HDMI-to-DVI adapter, and make a separate audio connection.

If the television does not have an HDMI or DVI input, select one video connection, in order of preference: component video or composite video. See Figure 2.

For non-HDMI TVs, a separate audio connection is required. Although some TVs may be equipped with an optical or coaxial digital audio connection, most likely you will use a 2-channel analog connection. Connect the Analog Audio Outputs shown in Figure 4 to the TV.

Step Four – Connect a USB Storage Device

Connect a compatible USB client device to the front-panel USB port. The USB drive may be used as virtual memory for the BD-Live system, or as a playback source. See Figure 5 and page 22.

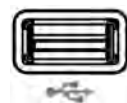


Figure 5 – Front-Panel USB Port

Step Five – Connect the Remote IR Input and Output (Optional)

Connect the BDP 1's Remote IR Input to the compatible IR output of another product, or to an IR receiver or controller, such as the optional Harman Kardon HE 1000. When daisy chaining devices to allow for remote control up and down the chain, connect the Remote IR Output to the next product's IR input. See Figure 6. The BDP 1 is compatible with "stripped carrier" IR signals.

INSTALLATION for BDP1

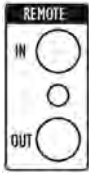


Figure 6 – Remote IR Input and Output

Point the remote toward the front panel of the BDP 1. The IR receiver is located immediately to the right of the Message Display. Make sure no objects are blocking the remote's path. Bright lights, fluorescent lights and plasma video displays may interfere with the remote's functioning. The remote has a range of about 20 feet (6 meters), depending on the lighting conditions. It may be used at an angle of up to 30 degrees to either side of the BDP 1.

If the remote seems to operate intermittently, make sure the batteries have been inserted correctly, or replace both batteries with fresh ones.

Step Six – Network Connection

Connect the Network Jack to a router or Ethernet-compatible controller. See Figure 7. The network connection is used for BD-Live discs to access the Internet for updates to the disc content and special features.



Figure 7 – Network Jack

Step Seven – Plug In AC Power

To avoid possible damage from a transient power surge at plug-in, turn off the Master Power Switch. Plug the female end of the AC Power cord into the receptacle (see Figure 8), and the male end into an unswitched AC outlet.

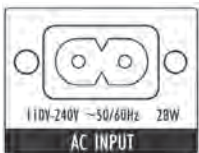


Figure 8 – Master Power Switch and AC Power Input

Step Eight – Insert Batteries in Remote

The BDP 1 remote control uses two AA batteries (included).

To remove the battery cover located on the back of the remote, lift the tab until the latch releases, and lift the battery cover up. To replace the cover, insert the two small tabs at the top of the cover into the recesses at the top of the battery compartment, and lower the cover, pressing the latch at the bottom until it snaps shut.

Insert the batteries as shown in Figure 9, observing the correct polarity.



Figure 9 – Remote Battery Compartment

Software upgrade

Preparation to upgrade software *

- 1) Start the CD Burning software and create a new CD project (Data Disc)
- 2) Burn the appointed data onto a blank CDR

A. Procedure for software upgrade:

- 1) Power on the set and insert the prepared Upgrade CDR.
- 2) The set will start reading disc & response with the following display TV screen:
Upgrade File DETECTED
Upgrade?
Press Play TO START.
- 3) Press <OK> button to confirm, then screen will display :
Files coping...
UPGRADING...
- 4) The upgraded tray will automatically open when files coping complete, then take out the disc.
- 5) About 1 minute later, the tray will automatically close when upgrading complete.
- 6) Restart the set after above steps;

Remark: If the upgraded software shows an error message:

- A. Same version: Upgrade software twice.
- B. Different version: Upgrade the software versions one after the other, and make sure to upgrade the current version first.

B. Read out the software versions to confirm upgrading

- 1) Power on the set and press <Setup> button on the remote control.
- 2) Then press down cursor on the remote control to choose "System", and press the right cursor on the remote control to choose "software version".

The software version and other information are displayed on the TV screen as follows:

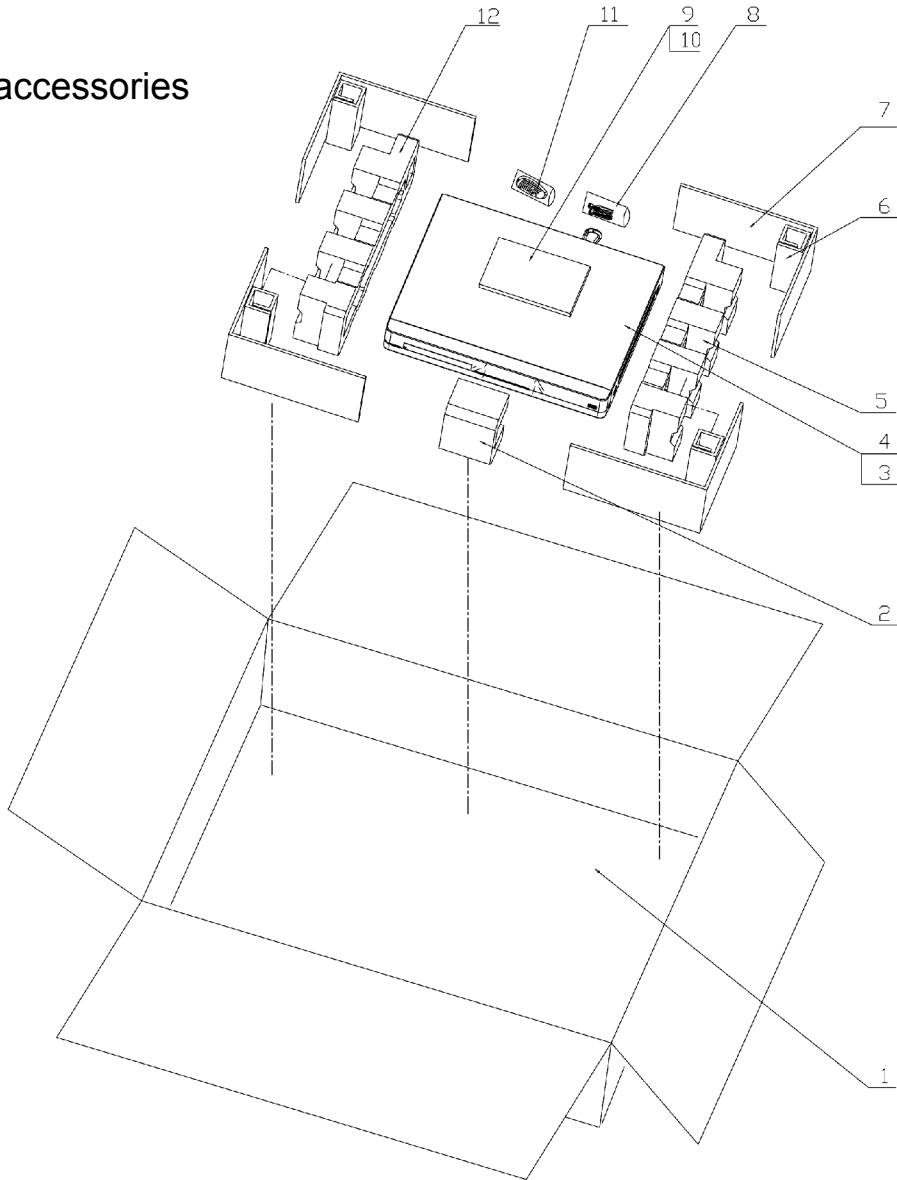
Version information

CFE Version:X.XX.XX
APP Version:BDP_XX_VX.XX
LOADER Version:XXXX
FP MCU Version:HarmanXX_XXX

* The other upgrade SW way is by memory, the steps are the same as CDR's, create the upgrade file into memory, and connect the USB flash drive to the USB socket on set, then press "USB" on remote control to access the content and play the upgrade file as above upgrade procedure.

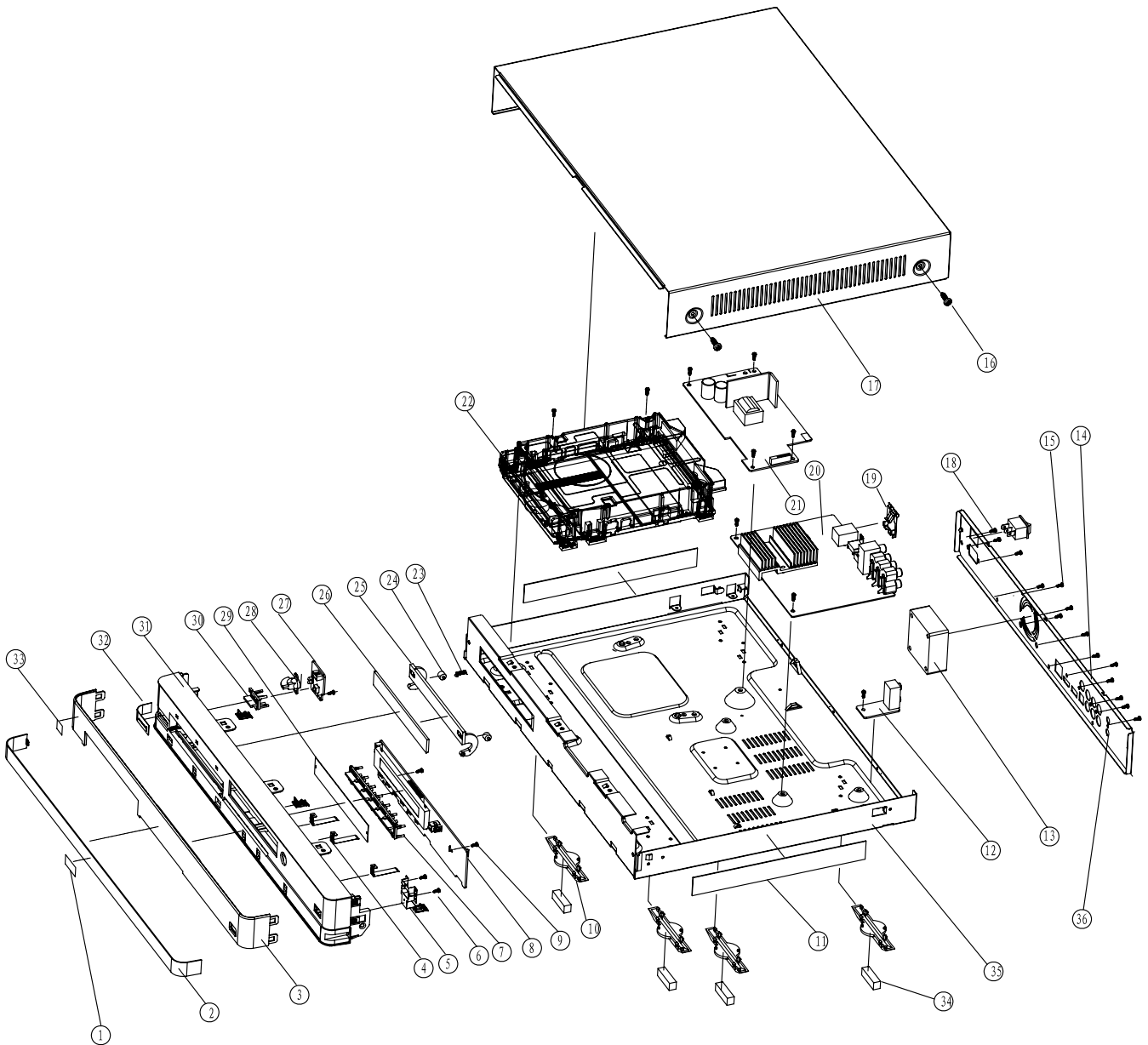
Caution: The set MUST NOT be powered off during upgrading, otherwise the Main Board will be irreparably damaged.

Packaging/accessories









Item	Description	Part Number	Qty
1	Outer Carton BDP1	76-982790-0ATB2	1
	Outer Carton BDP10	76-982790-0ATB1	1
2	Front Protector		1
3	Plastic Bag		1
4	BDP1	BDP 1	1
	BDP10	BDP 10	1
5	Foam End, Right		1
6	Corner Protectors		4
7	Corner Protectors		4
8	HDMI cable	46-HDI015-19G	1
	3-conductor analog audio/video cable	41-UH1500-0KKCD	1
	AC power cord BDP1	51-BC0150-0LSA9-M	1
	AC power cord BDP10	51-DC0150-0CRA4	1
9	Owner's Manual BDP1 or BDP10	Visit www.harmankardon.com	1
10	Plastic Bag		1
11	Remote control BDP1 or BDP10	RB17H00 or 06-RB17H0-00X	1
	AA Batteries		2
12	Foam End, Left		1

Exploded View for BDP10 & BDP1:




It's a general mechanical exploded view for BDP10 & BDP1, please refer to the model set for detailed information.
 ASSY 1 includes components:3.7.25.26.28.30.31







PARTS LIST: BDP10

 Location No.	TCL P/N.	Description	Q'ty
8	08-00BDP1-FB0	ASSY-FB BD	1
12	08-00BDP1-IR0	ASSY-IR BD	1
20	08-00BDP1-MA0	ASSY-MAIN BD	1
27	08-00BDP1-SW0	ASSY-SW BD	1
 21	08-0BDP10-PW0	ASSY-PW BD	1
ASSY1	02-BDP1F1-XXOB2	ASSY-FRONT PANEL	1
1.2	08-00BDP1-XXO	ASSY-DECORATIVE ALUMINIUM-BAR	1
 22	05-BLURAY-BP04	LOADER BP-04 (later changed, see below	1
AVCABLE	41-UH1500-0KKCD	AUDIO/VIDEO CABLE[LOW CADMIUM] 1500mm	1
—	46-SATA03-XXX	SATA POWER CORD	1
—	46-SATA10-XXX	SATA SIGNAL CORD 15CM	1
 POWERCORD	51-DC0150-0CRA4	EUROPEAN POWER CORD 1.5m	1
34	54-981610-000	RUBBER PAD	4
14	67-BDP1B1-1E0B2	BACK PANEL	1
 35	67-BDP1R1-1E0B1	BOTTOM PLATE	1
17	67-BDP1T1-0E0B1	TOP COVER	1
IFU	72-0BDP10-120B1	USER MANUAL	1
DBOX	76-982790-0ATB1	DISPLAY BOX	1
CABLE	46-KS006T-03FG	2PIN CABLE	1
13	43-FS512S-214	DC FAN	1
HDMICABLE	46-HDI015-19G	HDMI GILDED LINE 1.5M	1
RC	06-RB17H0-00X	HARMAN REMOTE CONTROL	1
—	57-BDWDF1-000	LOADER BUCKLE	1
 —	67-H97889-1A9	HEATSINK	1
—	48-POW036-XX0	POWER SWITCH	1
1	67-981640-0A0	LOGO	1


SAFETY PRECAUTION

The parts identified by  mark are critical for safety. Replace only with part number specified. The mounting position of replacement is to be identical with originals. The substitute replacement parts which do not have the same safety characteristics as specified in the parts list may create shock, fire or other hazards.

PARTS LIST: BDP1

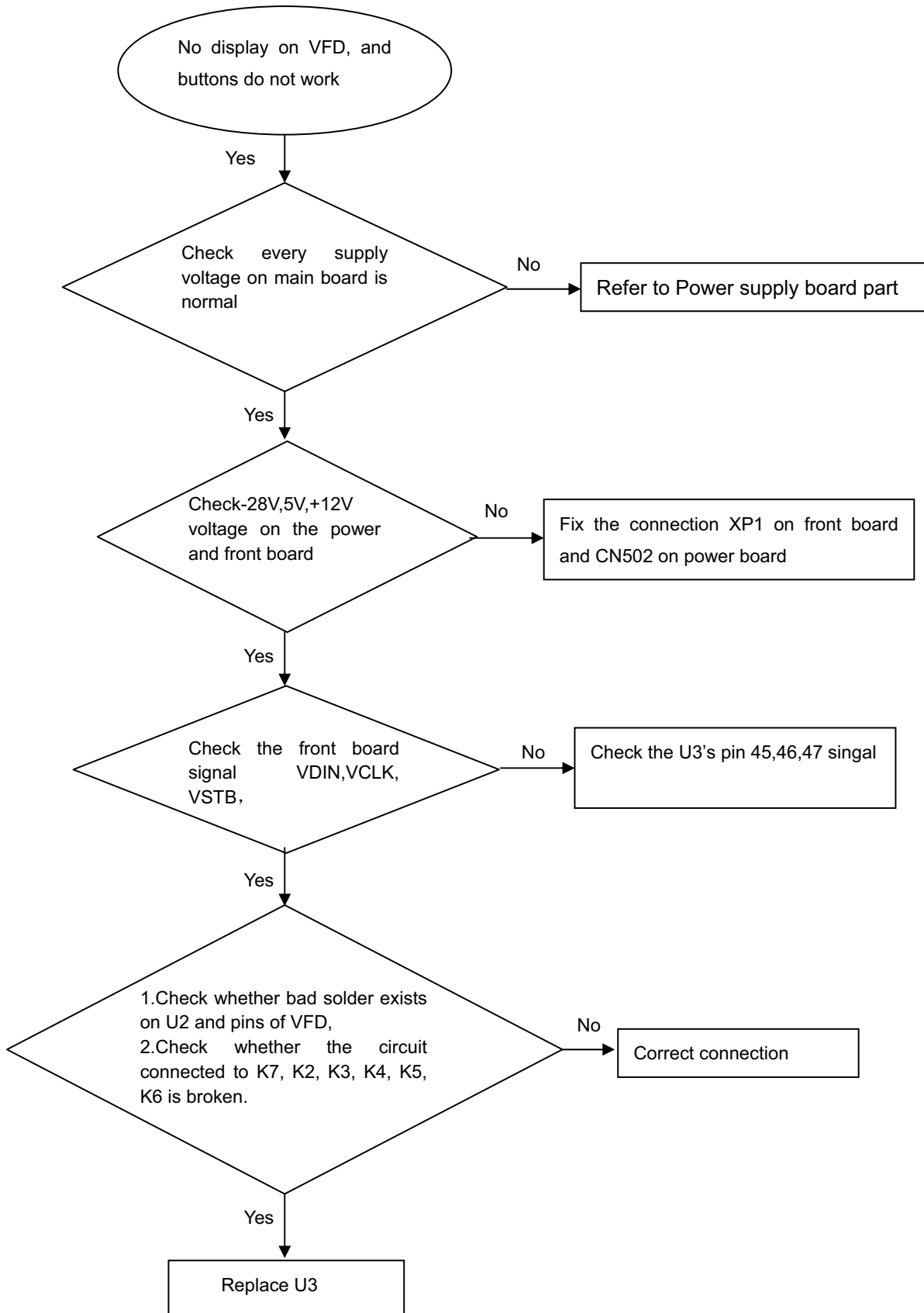
 Location No.	TCL P/N.	Description	Q'ty
8	08-00BDP1-FB0	ASSY-FB BD	1
12	08-00BDP1-IR0	ASSY-IR BD	1
20	08-00BDP1-MA1	ASSY-MAIN BD	1
27	08-00BDP1-SW0	ASSY-SW BD	1
 21	08-00BDP1-PW0	ASSY-PW BD	1
ASSY1	02-BDP1F1-XXOB1	ASSY-FRONT PANEL	1
1.2	08-00BDP1-XXO	ASSY-DECORATIVE ALUMINIUM-BAR	1
 22	05-BLURAY-BP04	LOADER BP-04 (later changed, see below)	1
AVCABLE	41-UH1500-0KKCD	AUDIO/VIDEO CABLE[LOW CADMIUM] 1500mm	1
—	46-SATA03-XXX	SATA POWER CORD	1
—	46-SATA10-XXX	SATA SIGNAL CORD 15CM	1
 POWERCORD	51-BC0150-0LSA9-M	POWER CORD 1.5m	1
34	54-981610-000	RUBBER PAD	4
14	67-BDP1B1-1E0B1	BACK PANEL	1
 35	67-BDP1R1-1E0B1	BOTTOM PLATE	1
17	67-BDP1T1-0E0B1	TOP COVER	1
IFU	visit www.harmankardon.com	OWNER'S MANUAL	1
DBOX	76-982790-0ATB2	DISPLAY BOX	1
CABLE	46-KS006T-03FG	2PIN CABLE	1
13	43-FS512S-214	DC FAN	1
HDMICABLE	46-HDI015-19G	HDMI GILDED LINE 1.5M	1
RC	06-RB17H0-00X	HARMAN REMOTE CONTROL	1
—	57-BDWDF1-000	LOADER BUCKLE	1
 —	67-H97889-1A9	HEATSINK	1
—	48-POW036-XX0	POWER SWITCH	1
1	67-981630-0A0	LOGO	1

SAFETY PRECAUTION

The parts identified by  mark are critical for safety. Replace only with part number specified. The mounting position of replacement is to be identical with originals. The substitute replacement parts which do not have the same safety characteristics as specified in the parts list may create shock, fire or other hazards.

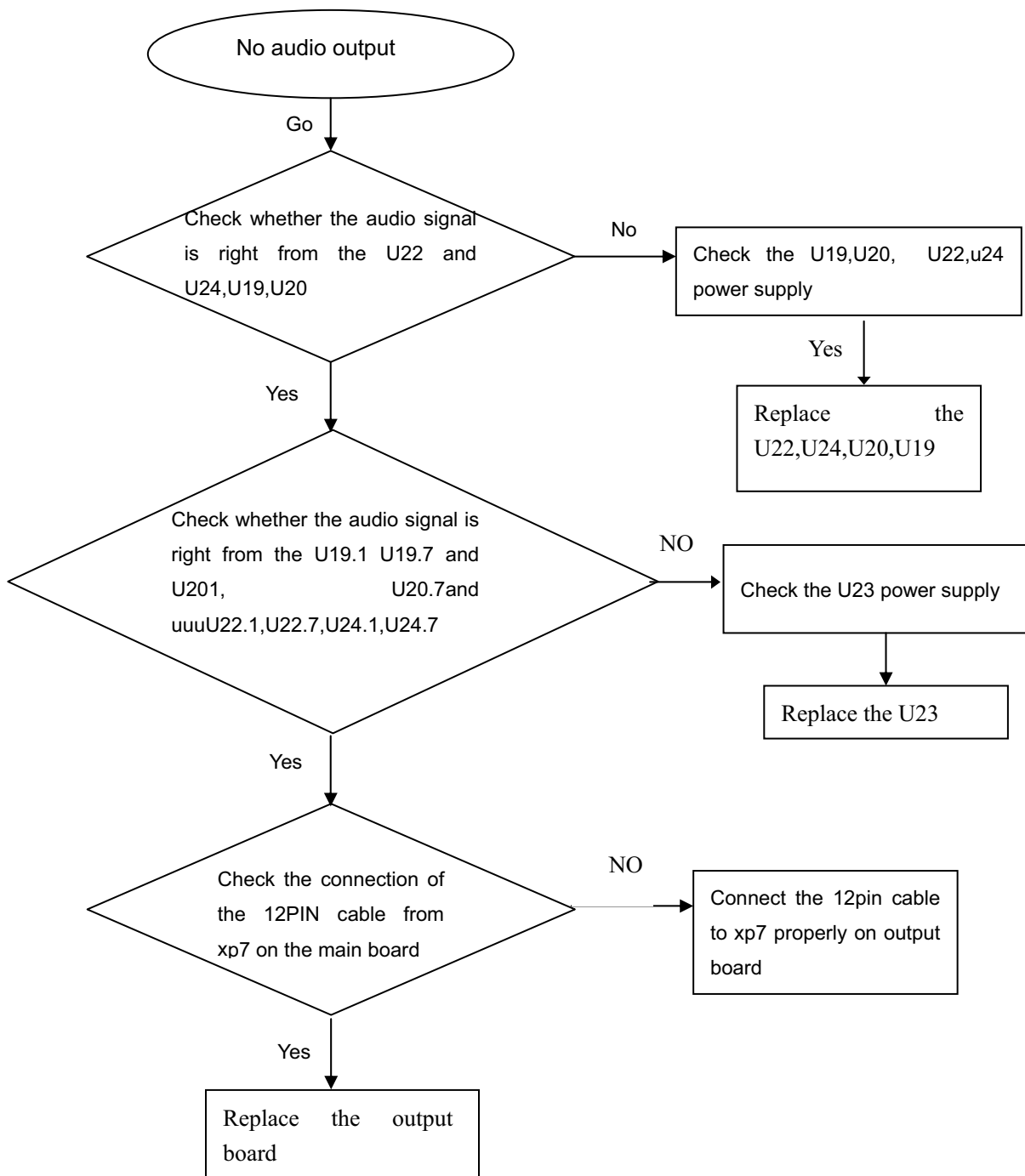
Trouble shooting chart

No display on VFD, and buttons do not work



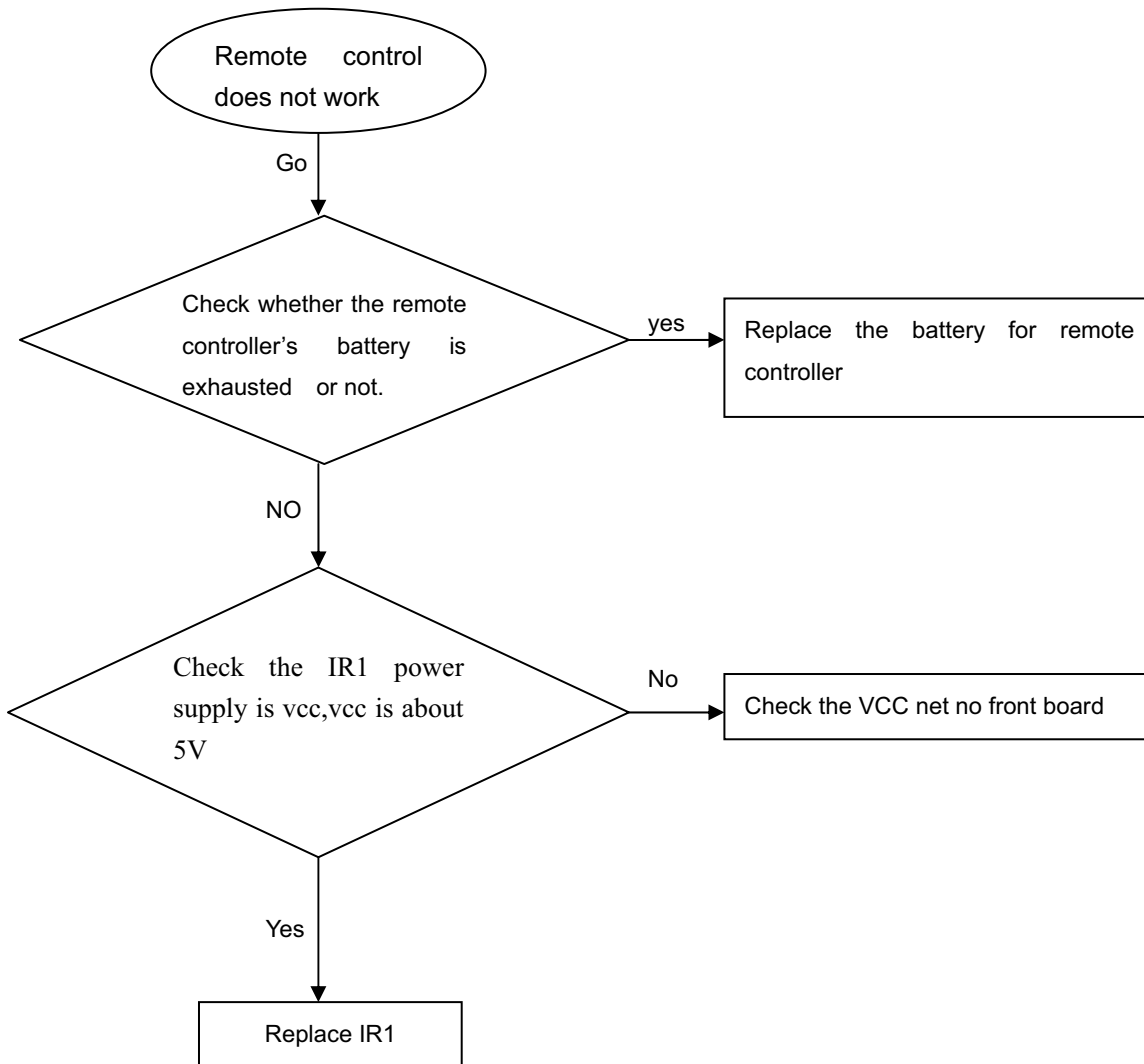
Trouble shooting chart

No audio output



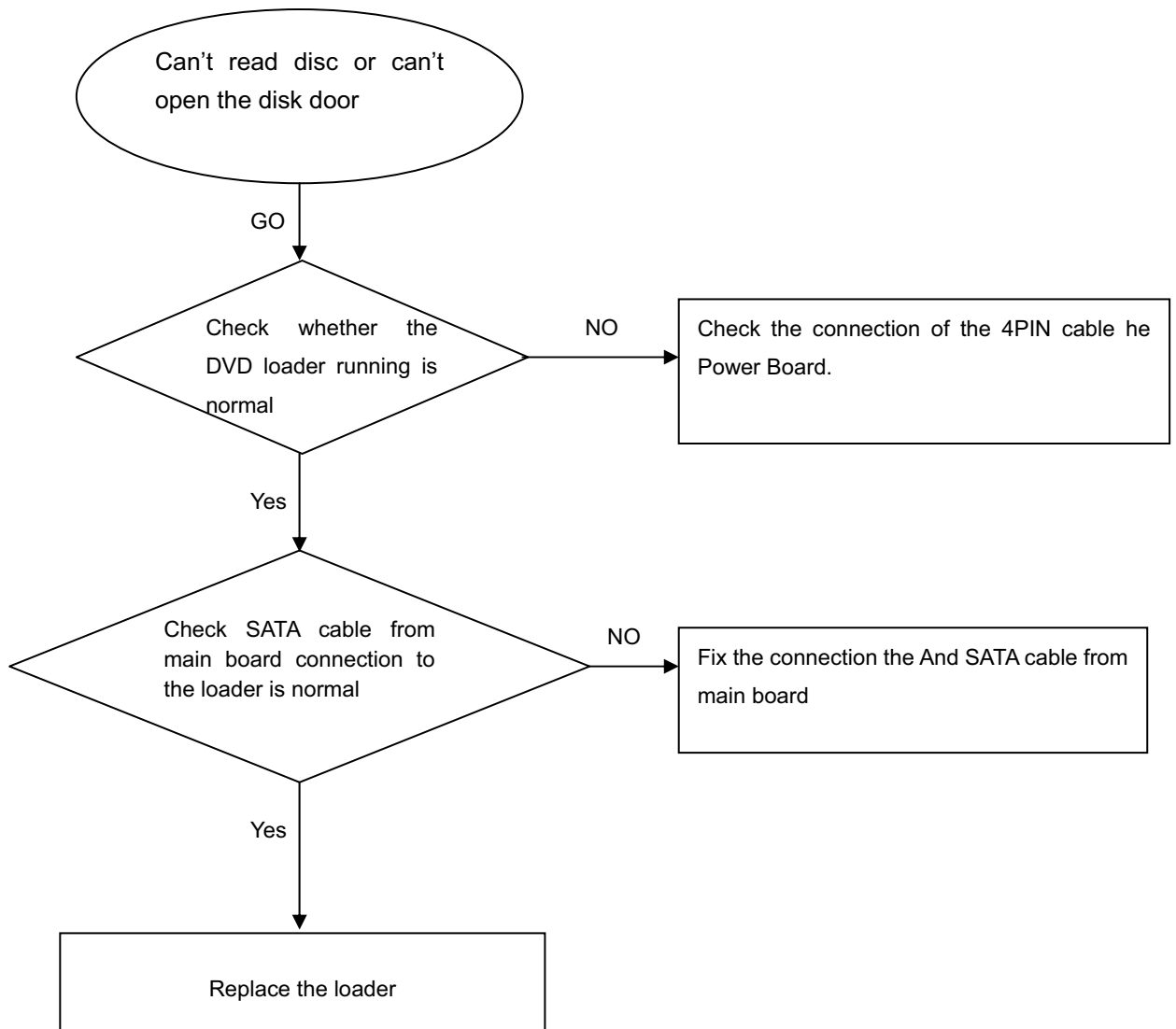
Trouble shooting chart

Remote control does not work



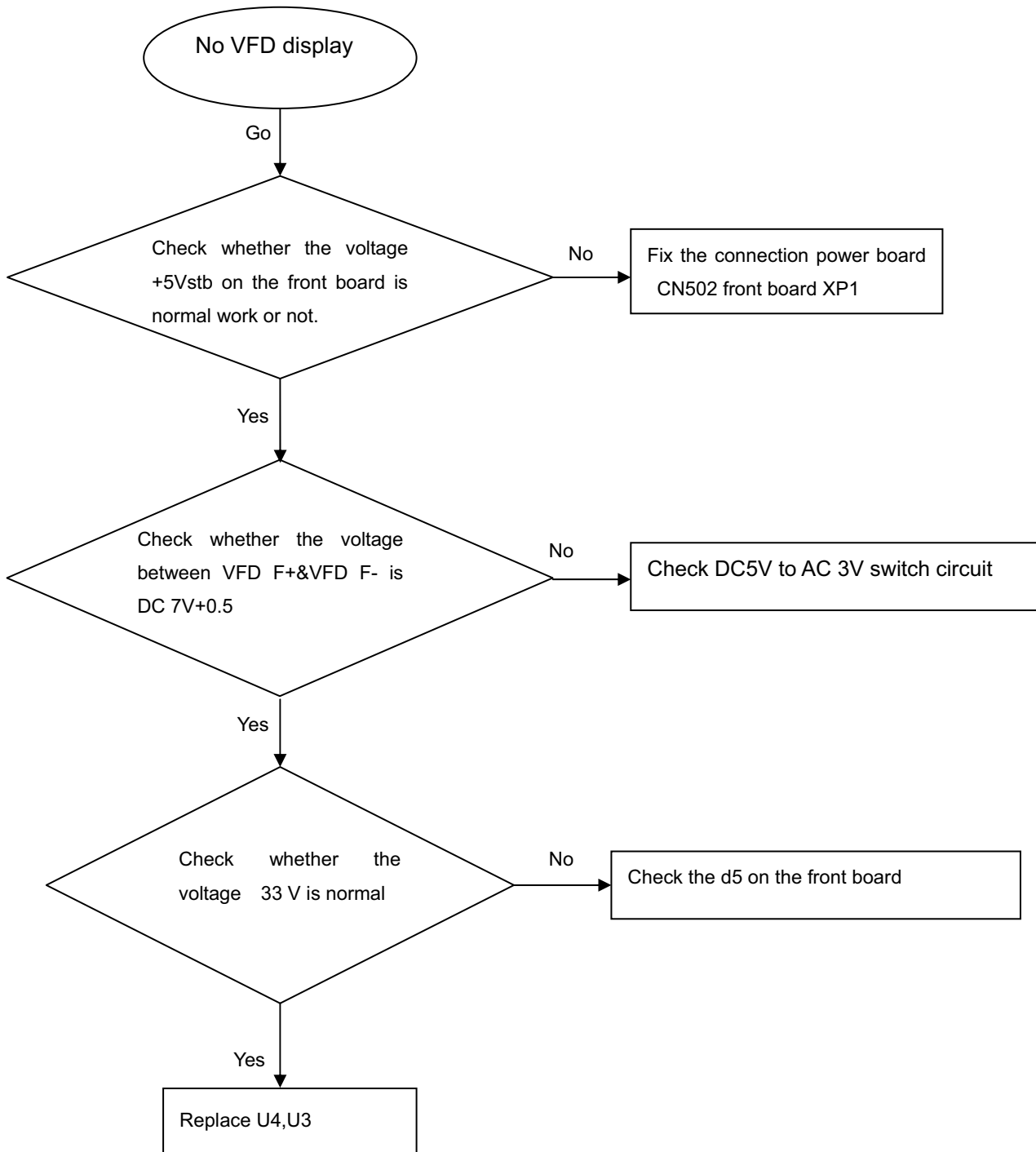
Trouble shooting chart

Can't read disc or can't open the disk door



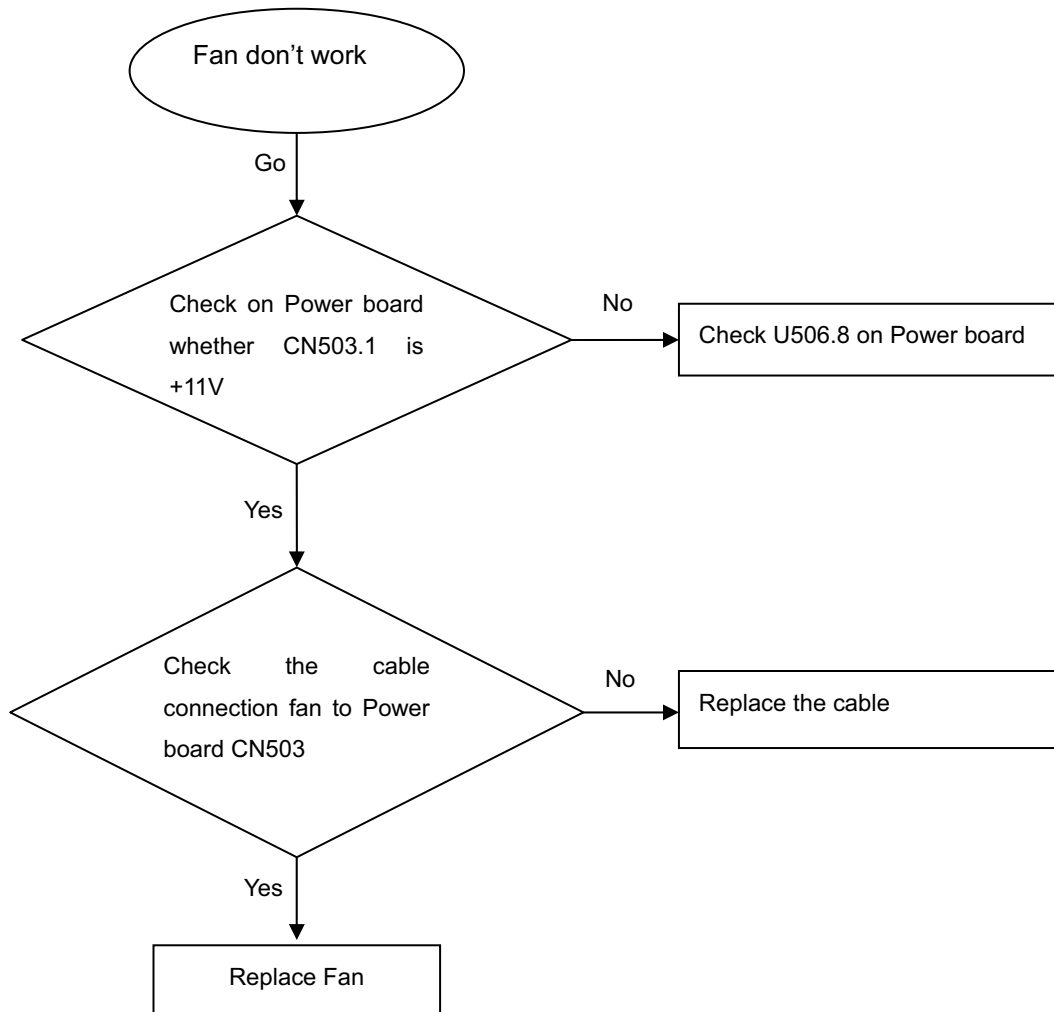
Trouble shooting chart

No VFD display

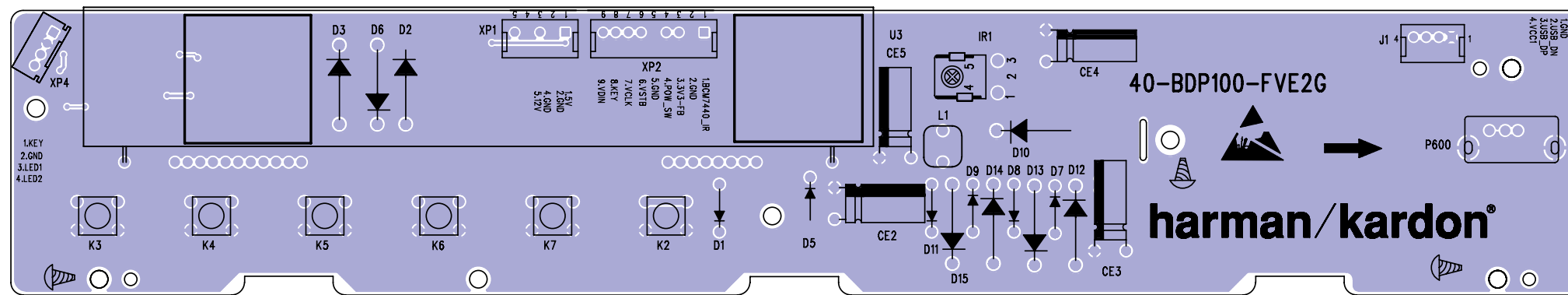


Trouble shooting chart

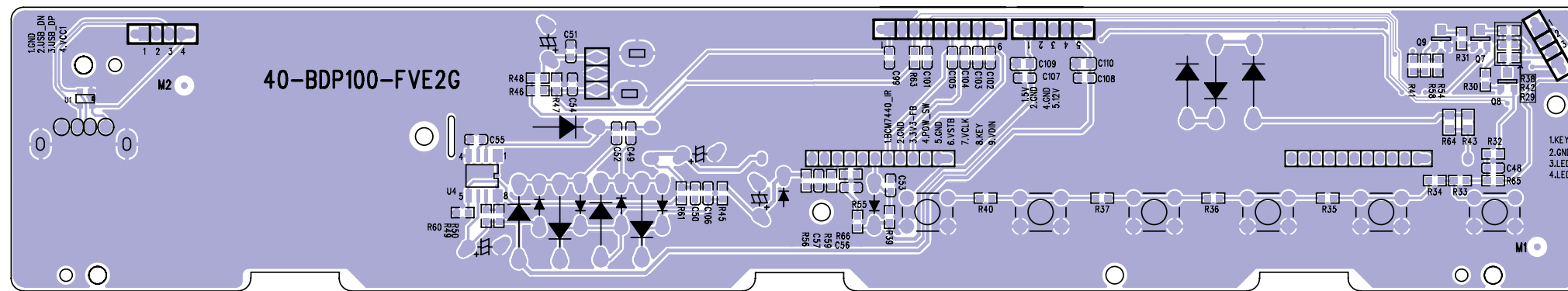
Fan don't work



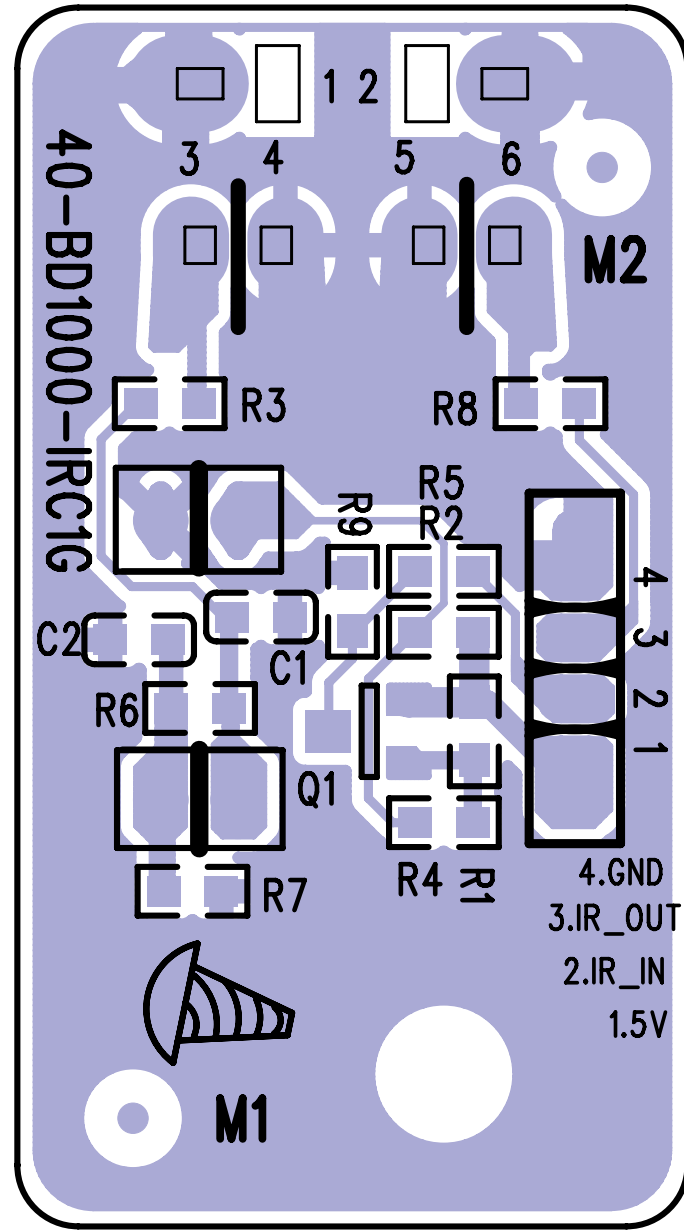
Front Board Print-layout (Top side):



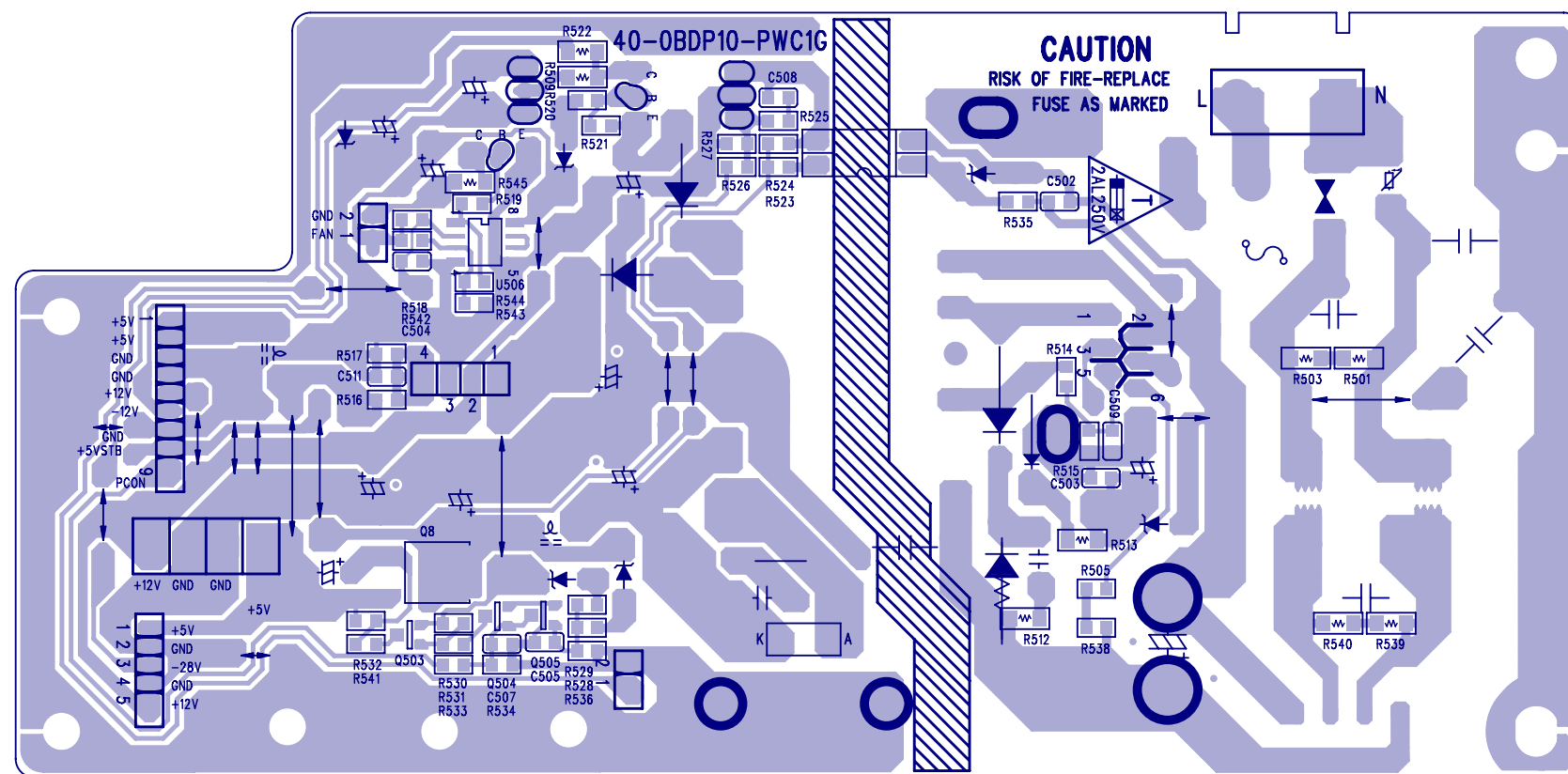
Front Board Print-layout (Bottom side):



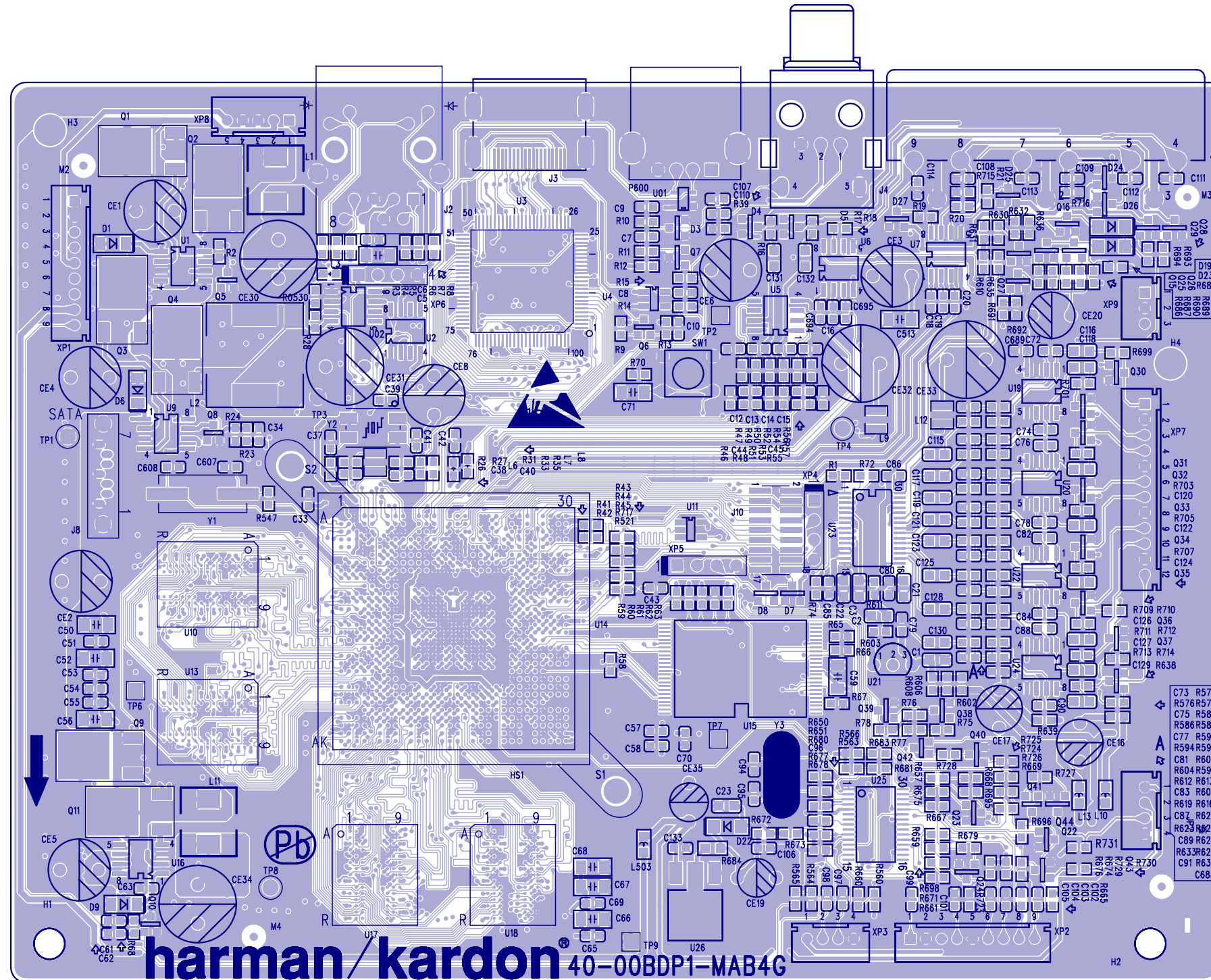
IR Board Print-layout (Bottom side):



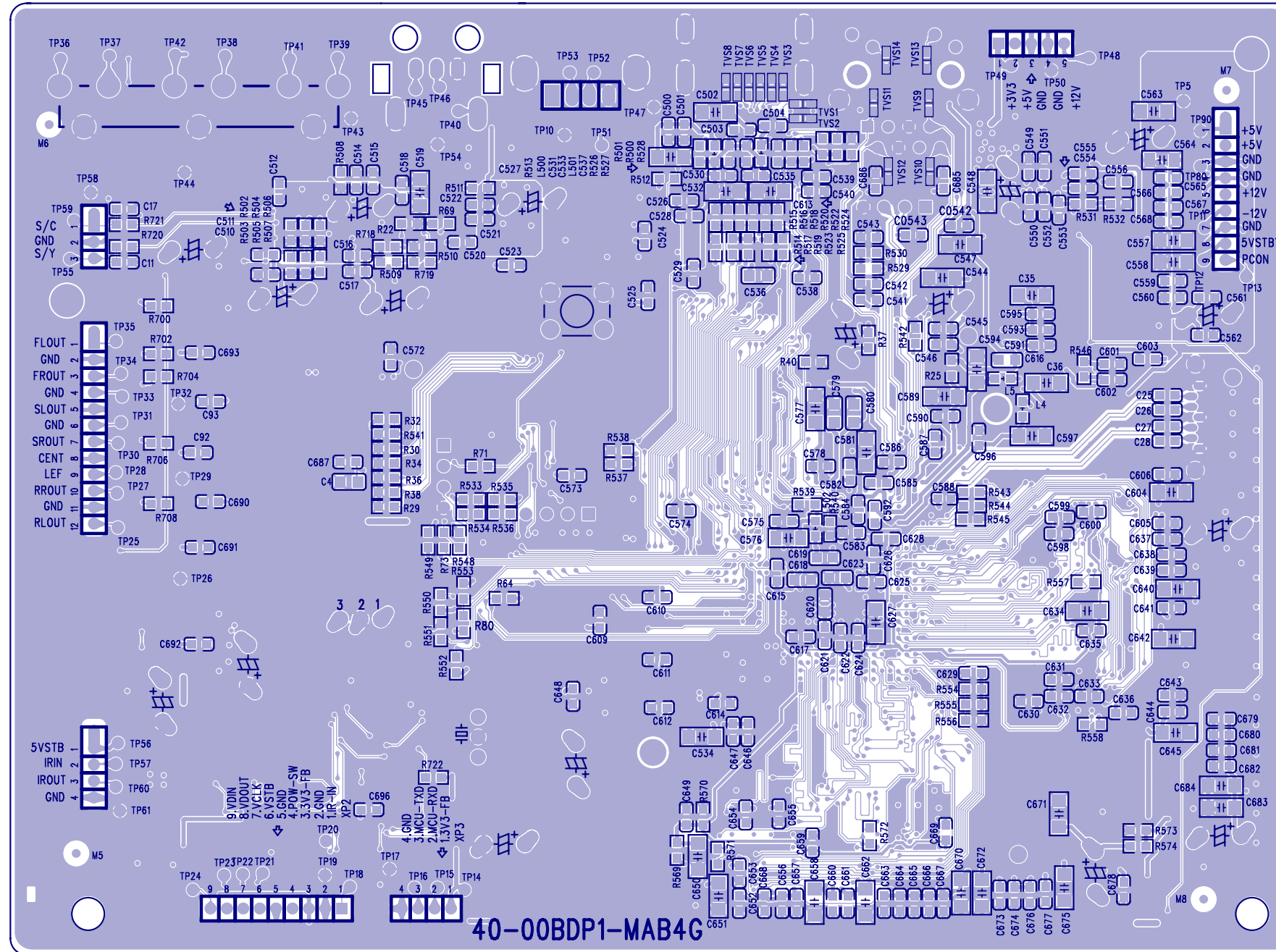
Power Board Print-layout (Bottom side):



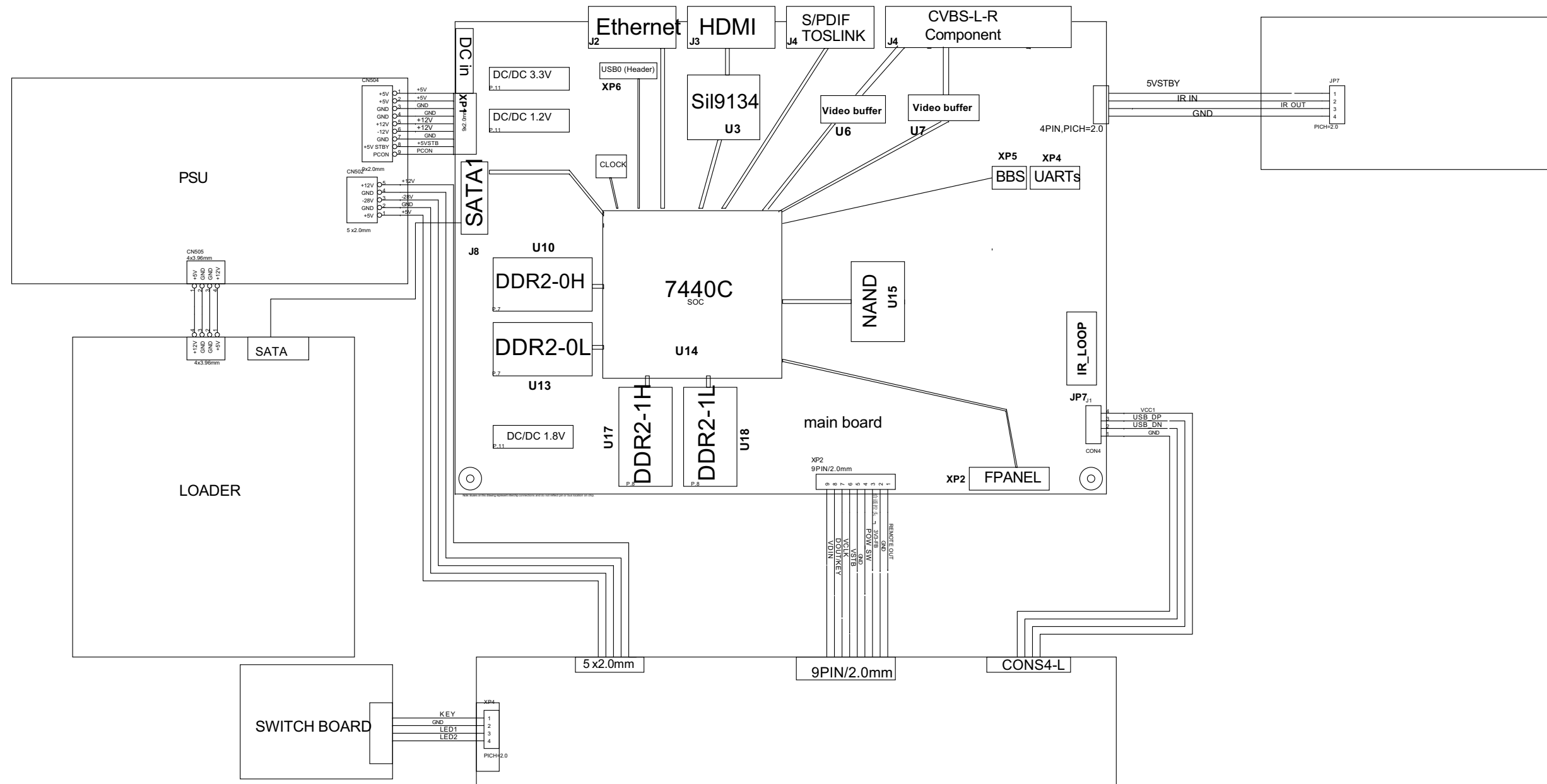
Main Board Print-layout (Top side):7-20



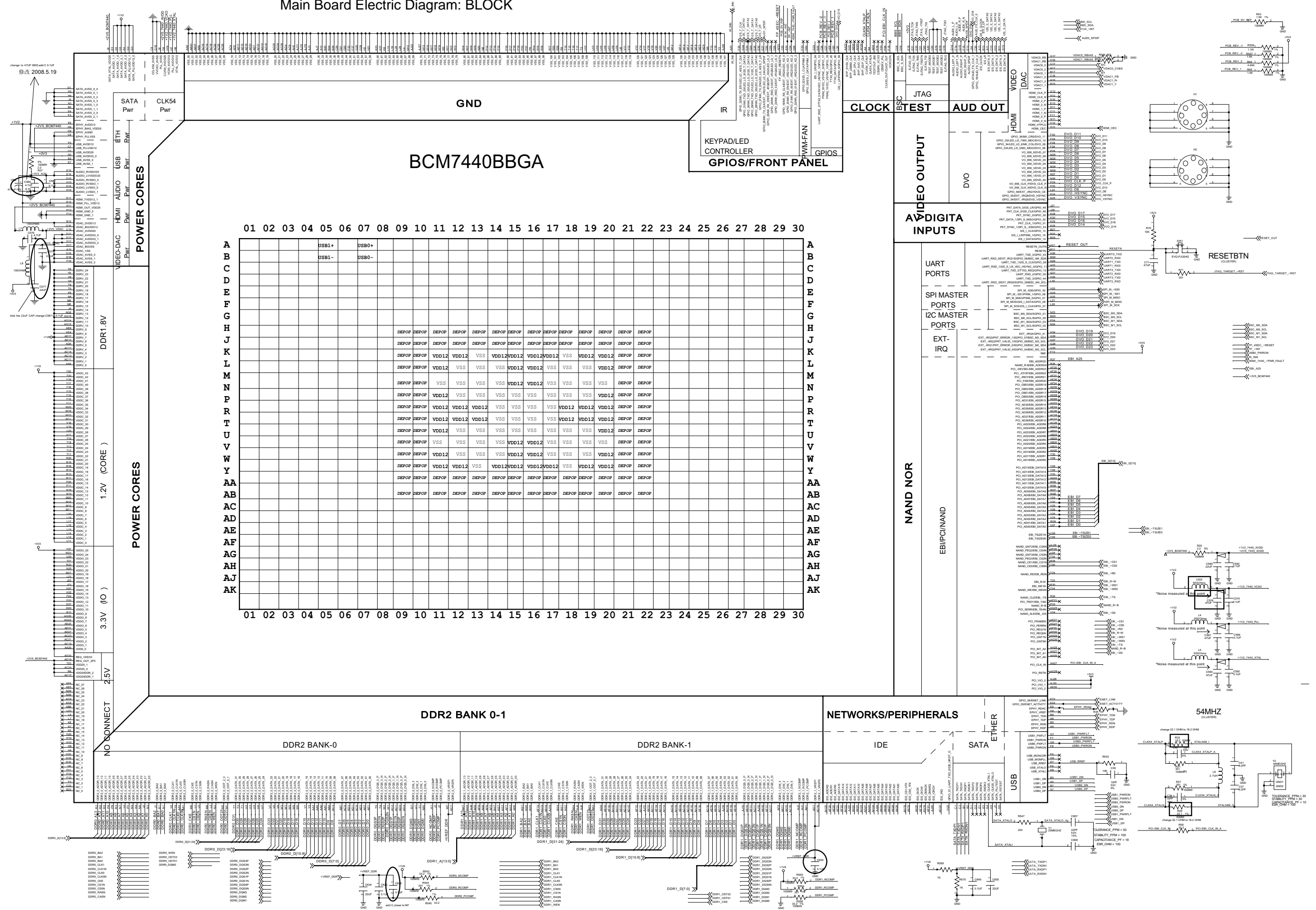
Main Board Print-layout (Bottom side):



Harman BDP 10/BDP 1 Block Diagram

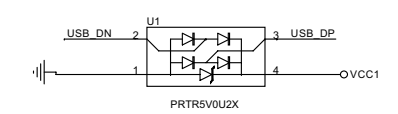
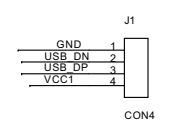
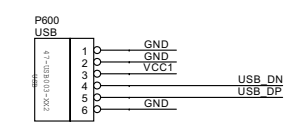
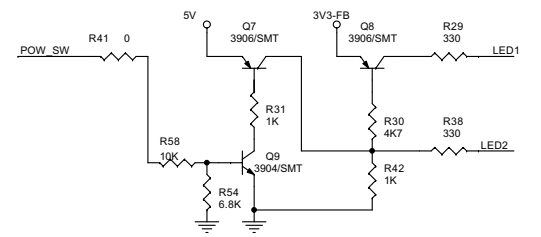
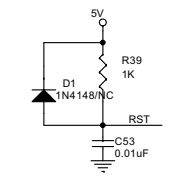
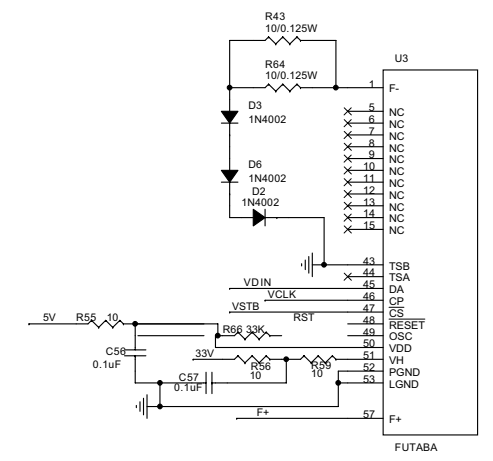
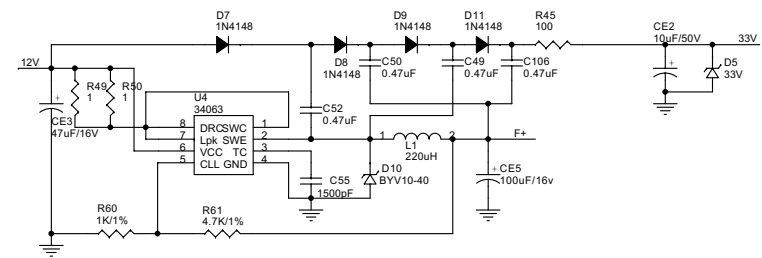
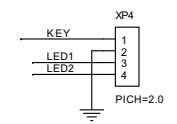
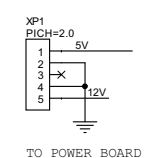
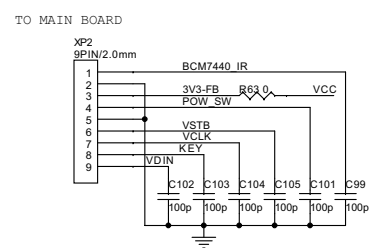
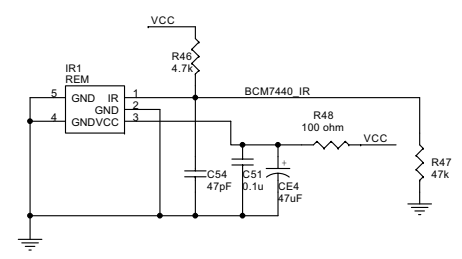
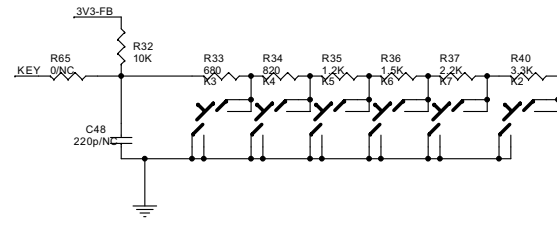


Main Board Electric Diagram: BLOCK



	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30		
A																																
B																																
C																																
D																																
E																																
F																																
G																																
H																																
I																																
J																																
K																																
L																																
M																																
N																																
P																																
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AA																																
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AC																																
AD																																
AE																																
AF																																
AG																																
AH																																
AJ																																
AK																																

Front Board Electric Diagram: MCU+VFD(FUTABA)



A

B

C

D

E

Switch Board Electric Diagram:

1

1

2

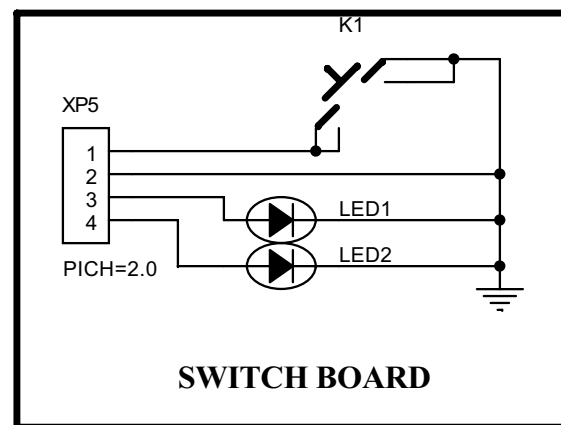
2

3

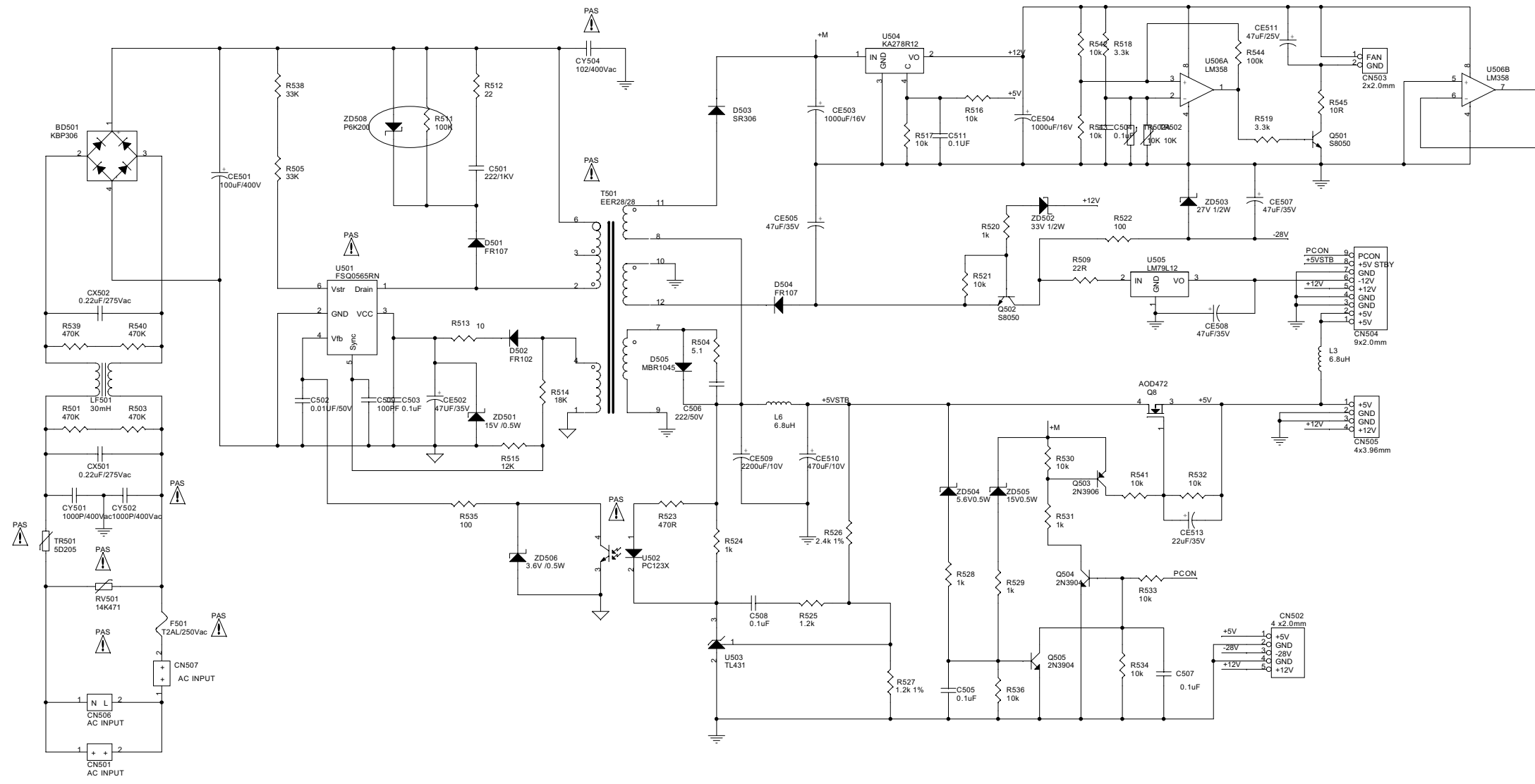
3


4

4



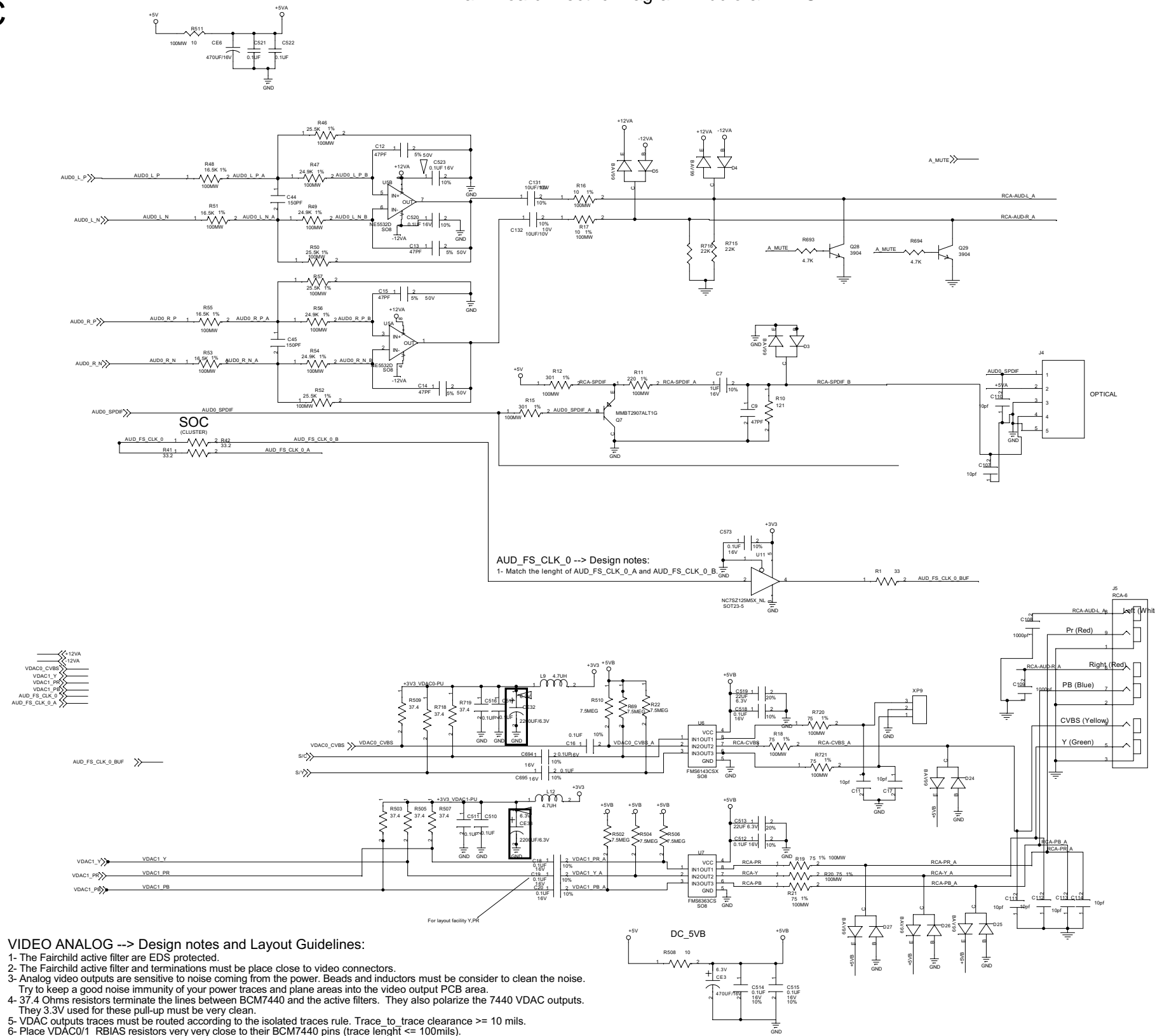
Power Board Electric Diagram:



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

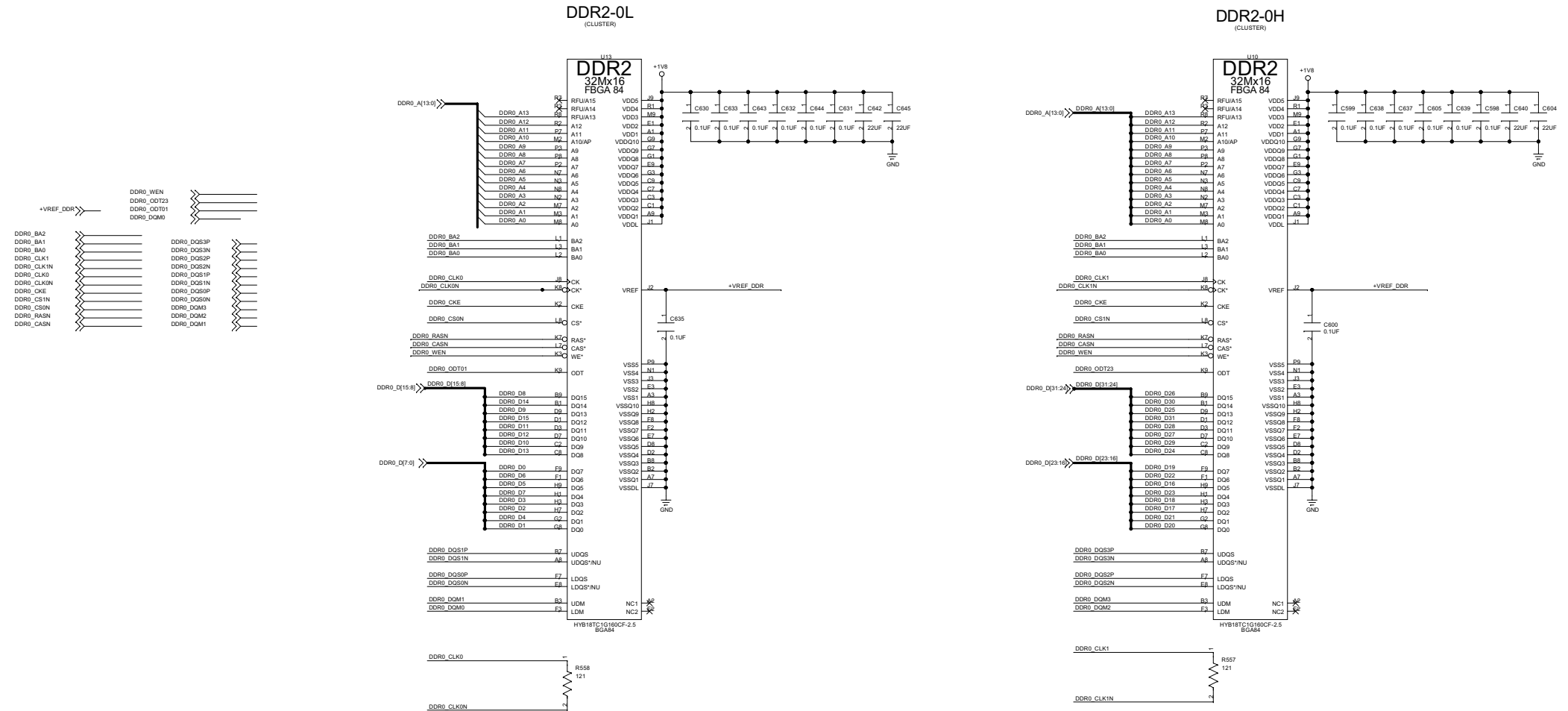
Audio & VDAC

Main Board Electric Diagram: Audio & VDAC



DDR2 BANK-0

Main Board Electric Diagram:DDR2 BANK-0

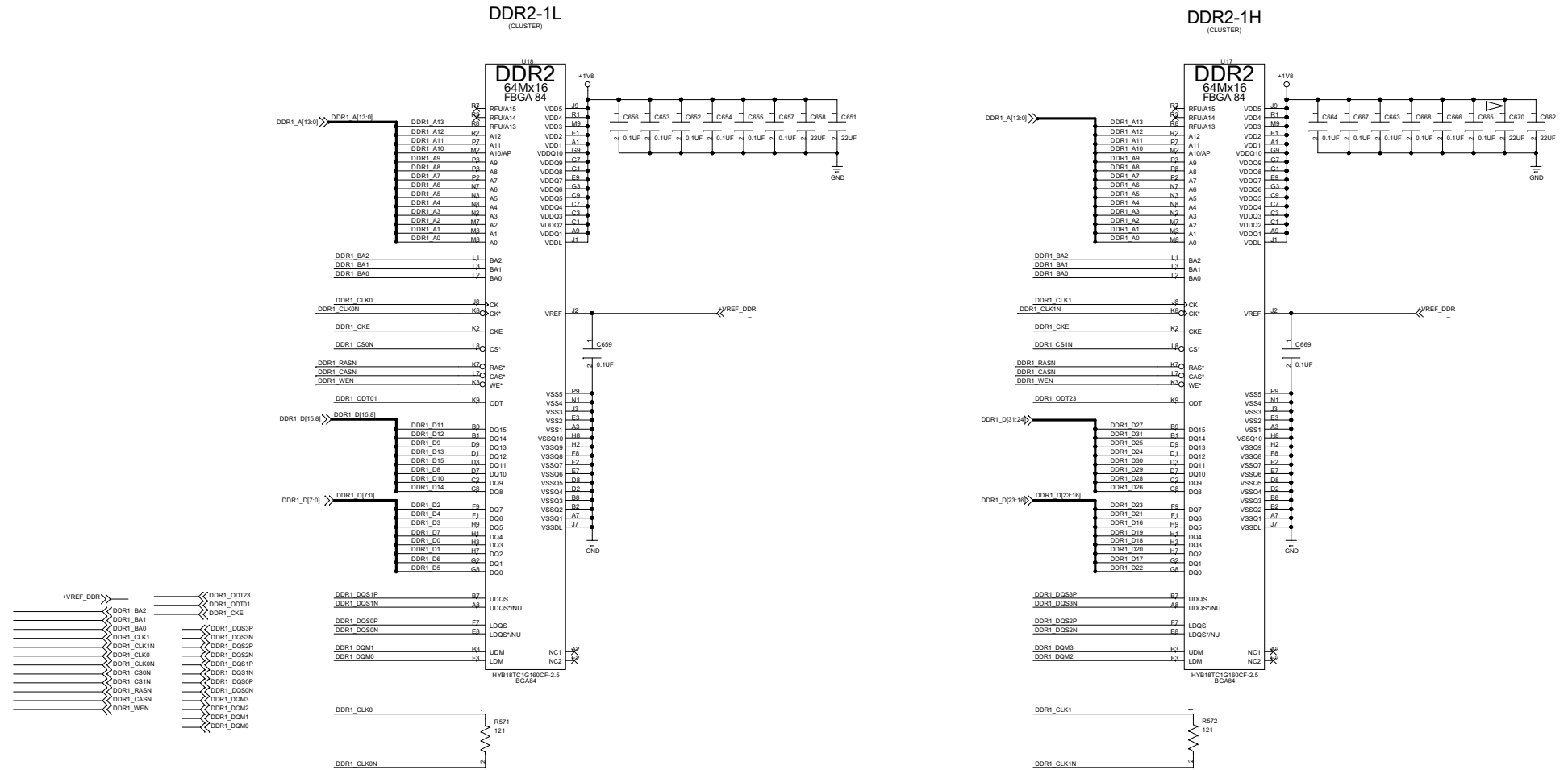


BCM7440 DDR2 2x16 --> Design notes and Layout Guidelines:

- 1- Place 121 ohms clock termination at the end of the differential trace.
- 2- Pin swapping can only be done on data lines inside each group of 8 bit (Byte Lane).
- 3- Length of all Data signals into a Byte Lane should be matched together (<100 mils).
- 4- Length of all Data signals between Byte Lane should be matched together (<400 mils).
- 5- DDR2 clock and DQS P/N traces must be routed as 100 Ohms Differential pairs. Traces width and gap according to PCB stackup.
- 6- When developing the PCB floor plan, the proximity of the DDR2 device to the memory controller is an important factor.
 - To avoid the use of external address termination on high-speed DDR2, the address trace length should be less than 2.5in.
 - * If those requirements can not be reached, refer to JEDEC JESD79-2B standard for design rules and terminations.

DDR2 BANK-1

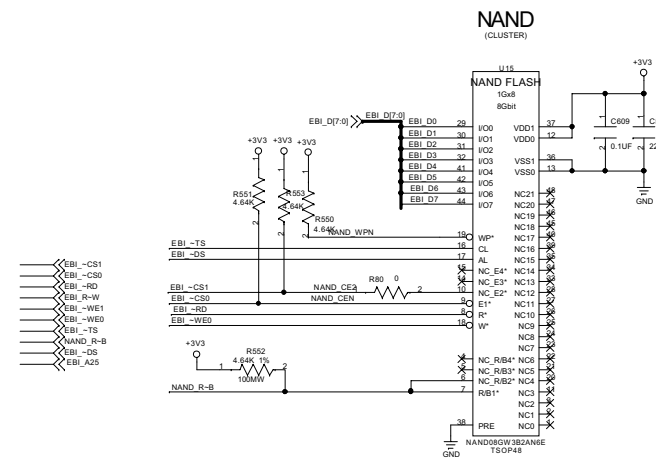
Main Board Electric Diagram: DDR2 BANK-1



- BCM7440 DDR2 2x16 --> Design notes and Layout Guidelines:
- 1- Place 121 ohms clock termination at the end of the differential trace.
 - 2- Pin swapping can only be done on data lines inside each group of 8 bit (Byte Lane).
 - 3- Length of all Data signals into a Byte Lane should be matched together (<100 mils).
 - 4- Length of all Data signals between Byte Lane should be matched together (<400 mils).
 - 5- DDR2 clock and DQS P/N traces must be routed as 100 Ohms Differential pairs. Traces width and gap according to PCB stackup.
 - 6- When developing the PCB floor plan, the proximity of the DDR2 device to the memory controller is an important factor.
 - To avoid the use of external address termination on high-speed DDR2, the address trace length should be less than 2.5in.
 - * If those requirements can not be reached, refer to JEDEC JESD79-2B standard for design rules and terminations.

NAND

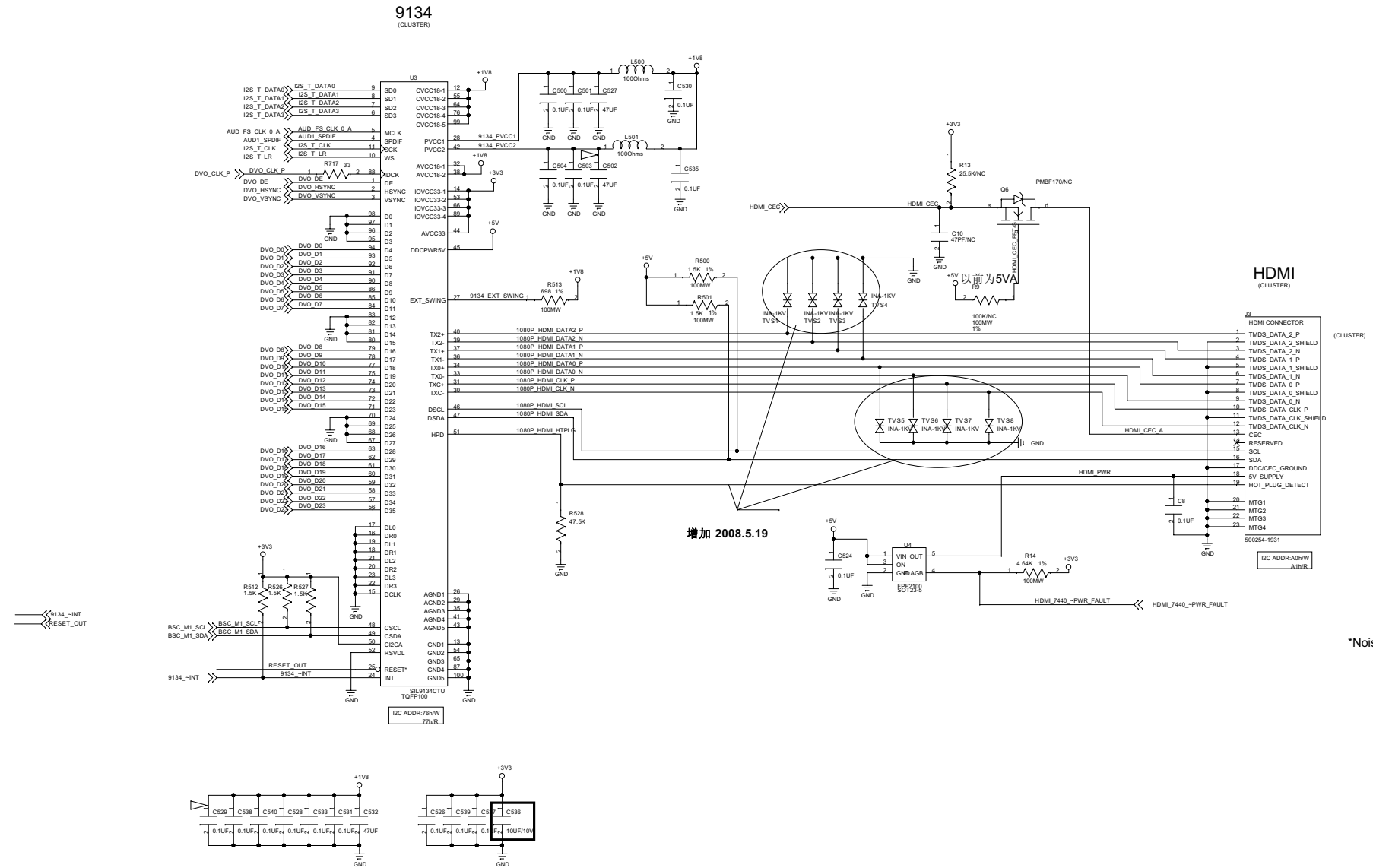
Main Board Electric Diagram: NAND



EBI	NAND	PCI
EBI_ADDR25	-----	-----
EBI_ADDR24	-----	-----
EBI_ADDR15	-----	PCI_AD31
EBI_ADDR14	-----	PCI_AD30
EBI_ADDR13	-----	PCI_AD29
EBI_ADDR12	-----	PCI_AD28
EBI_ADDR11	-----	PCI_AD27
EBI_ADDR10	-----	PCI_AD26
EBI_ADDR9	-----	PCI_AD25
EBI_ADDR8	-----	PCI_AD24
EBI_ADDR7	-----	PCI_AD23
EBI_ADDR6	-----	PCI_AD22
EBI_ADDR5	-----	PCI_AD21
EBI_ADDR4	-----	PCI_AD20
EBI_ADDR3	-----	PCI_AD19
EBI_ADDR2	-----	PCI_AD18
EBI_ADDR1	-----	PCI_AD17
EBI_ADDR0	-----	PCI_AD16
EBI_DATA15	-----	PCI_AD15
EBI_DATA14	-----	PCI_AD14
EBI_DATA13	-----	PCI_AD13
EBI_DATA12	-----	PCI_AD12
EBI_DATA11	-----	PCI_AD11
EBI_DATA10	-----	PCI_AD10
EBI_DATA9	-----	PCI_AD9
EBI_DATA8	-----	PCI_AD8
EBI_DATA7	NAND I/O7	PCI_AD7
EBI_DATA6	NAND I/O6	PCI_AD6
EBI_DATA5	NAND I/O5	PCI_AD5
EBI_DATA4	NAND I/O4	PCI_AD4
EBI_DATA3	NAND I/O3	PCI_AD3
EBI_DATA2	NAND I/O2	PCI_AD2
EBI_DATA1	NAND I/O1	PCI_AD1
EBI_DATA0	NAND I/O0	PCI_AD0
EBI_ADDR19	-----	PCI_-CBE03
EBI_ADDR18	-----	PCI_-CBE02
EBI_ADDR17	-----	PCI_-CBE01
EBI_ADDR16	-----	PCI_-CBE00
EBI_ADDR20	-----	PCI_PAR
-----	-----	PCI_-FRAME
EBI_-TA	-----	PCI_-TDY
EBI_ADDR21	-----	PCI_-IRDY
EBI_ADDR22	-----	PCI_-STOP
EBI_ADDR23	-----	PCI_-DEVSEL
EBI_-TEA	-----	PCI_-SERR
-----	-----	PCI_-PERR
EBI_-CS2	-----	PCI_-REQ3
EBI_-CS4	-----	PCI_-REQ2
-----	-----	PCI_-REQ1
-----	-----	PCI_-REQ0
EBI_-CS3	-----	PCI_-GNT3
EBI_-CS5	-----	PCI_-GNT2
-----	-----	PCI_-GNT1
-----	-----	PCI_-GNT0
-----	-----	PCI_CLK_IN
-----	-----	PCI_-RST
-----	-----	PCI_INT_A2
-----	-----	PCI_INT_A1
-----	-----	PCI_INT_A0
EBI_-CS1	NAND CE1	-----
EBI_-CS0	NAND CE0	-----
EBI_-RD	NAND RE	-----
EBI_-WE1	-----	-----
EBI_-WE0	NAND WE	-----
EBI_-TSIZE1	-----	-----
EBI_-TSIZE0	-----	-----
EBI_-TS	NAND_CLE	-----
EBI_-TA2	NAND_R-B	-----
EBI_-DS	NAND_ALE	-----
EBI_R-W	-----	-----

DVO, SIL9134, HDMI

Main Board Electric Diagram: DVO, SIL9134, HDMI



HDMI --> Design notes and Layout Guidelines:

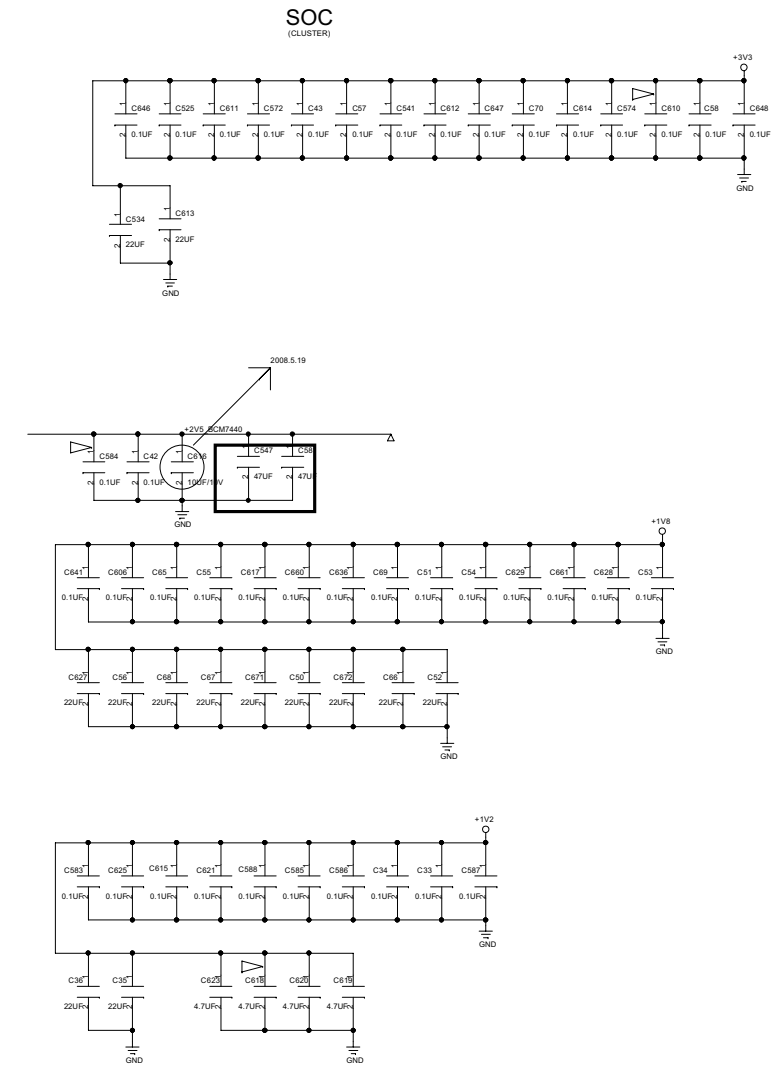
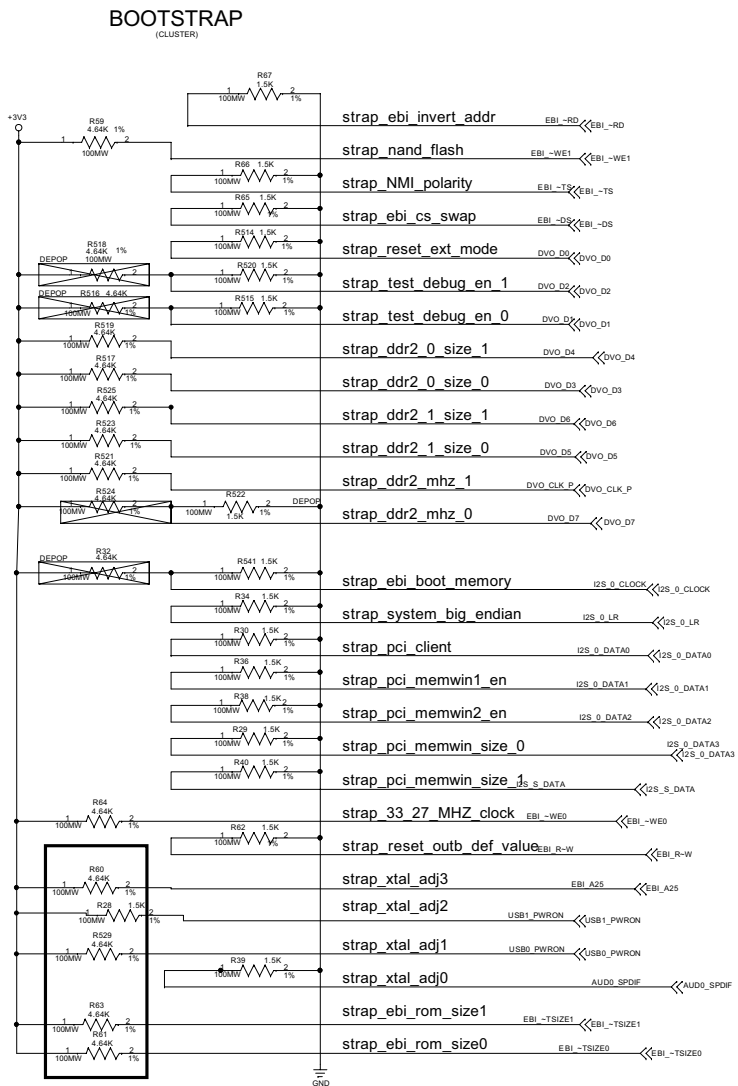
- 1- HDMI Data and clock/P/N traces must be routed as 100 Ohms Differential pairs. Traces width and gap according to PCB stackup.
- 2- Match trace length of P/N differential pairs. 20 mils max within a pair and 100 mils max between pairs.
- 3- Route differential pairs above the GND plane. Do not split the GND plane under differential pairs.
- 4- Use minimum number of VIA.
- 5- When possible, use higher clearance distance between differentials pairs and any others traces (>15 mils).
- 6- If higher than 2KV protection is necessary on HDMI port use low capacitance ESD protections close to the HDMI connector.
- 7- Consider limiting current to Maximum 500mA on HDMI 5V power.

Main Board Electric Diagram: BOOT STRAP OPTIONS & BCM7440B

Boot Strap Options

BCM7440 Power

0	strap_ebi_invert_addr	1: Invert upper bits of EBI address 0: Do not invert EBI address
1	strap_nand_flash	1: External NAND FLASH present 0: External NOR FLASH present
0	strap_NMI_polarity	1: High-active interrupt 0: Low-active interrupt
0	strap_ebi_cs_swap	1: Swap CS_0 and CS_1 signals 0: No swap
0	strap_reset_ext_mode	
0	strap_test_debug_en_1	
0	strap_test_debug_en_0	
1	strap_ddr2_0_size_1	3: DDR2 Controller Manual Initialization 2: DDR2 bank 0 size = 256/512 MB 1: DDR2 bank 0 size = 128 MB 0: DDR2 bank 0 size = 64 MB
1	strap_ddr2_0_size_0	3: DDR2 Controller Manual Initialization 2: DDR2 bank 0 size = 256/512 MB 1: DDR2 bank 0 size = 128 MB 0: DDR2 bank 0 size = 64 MB
1	strap_ddr2_1_size_1	3: DDR2 Controller Manual Initialization 2: DDR2 bank 0 size = 256/512 MB 1: DDR2 bank 0 size = 128 MB 0: DDR2 bank 0 size = 64 MB
1	strap_ddr2_1_size_0	3: DDR2 Controller Manual Initialization 2: DDR2 bank 0 size = 256/512 MB 1: DDR2 bank 0 size = 128 MB 0: DDR2 bank 0 size = 64 MB
1	strap_ddr2_mhz_1	3: DDR2 Banks = 400/800 MHz 2: DDR2 Banks = 333/667 MHz 1: DDR2 Banks = 266/533 MHz 0: DDR2 Banks = 200/400 MHz
0	strap_ddr2_mhz_0	3: DDR2 Banks = 400/800 MHz 2: DDR2 Banks = 333/667 MHz 1: DDR2 Banks = 266/533 MHz 0: DDR2 Banks = 200/400 MHz
0	strap_spi_slave_enable	1: SPI slave port configured 0: SPI slave port configured Fix.
0	strap_ebi_boot_memory	1: Boot Flash = 16 bits 0: Boot Flash = 8 bits
0	strap_system_big_endian	1: System is big endian 0: System is little endian
0	strap_pci_client	1: PCI in client (slave) mode 0: PCI in bridge (master) mode
0	strap_pci_memwin1_en	1: PCI memwin 1 enable 0: PCI memwin 1 disable
0	strap_pci_memwin2_en	1: PCI memwin 2 enable 0: PCI memwin 2 disable
0	strap_pci_memwin_size_1	13: 256 MByte window 12: 128 MByte window 11: 64 MByte window 10: 32 MByte window
0	strap_pci_memwin_size_0	13: 256 MByte window 12: 128 MByte window 11: 64 MByte window 10: 32 MByte window
1	strap_33_27_MHZ_clock	1: 33 MHz clock output 0: 27 MHz clock output
0	strap_reset_outb_def_value	
0	strap_xtal_adj3	Adjust the 54MHz oscillator bias current
0	strap_xtal_adj2	
0	strap_xtal_adj1	
0	strap_xtal_adj0	
0	strap_ebi_rom_size1	3: NOR: 4 MBytes NAND: Disable ECC 2: NOR: 8 MBytes NAND: Disable ECC 1: NOR: 16 MBytes NAND: Enable ECC 0: NOR: 64 MBytes NAND: Enable ECC
0	strap_ebi_rom_size0	3: NOR: 4 MBytes NAND: Disable ECC 2: NOR: 8 MBytes NAND: Disable ECC 1: NOR: 16 MBytes NAND: Enable ECC 0: NOR: 64 MBytes NAND: Enable ECC

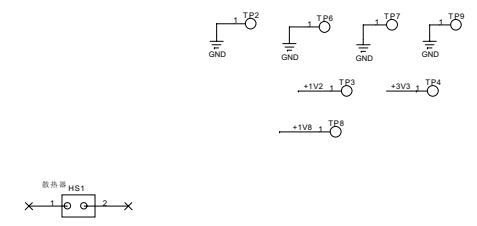
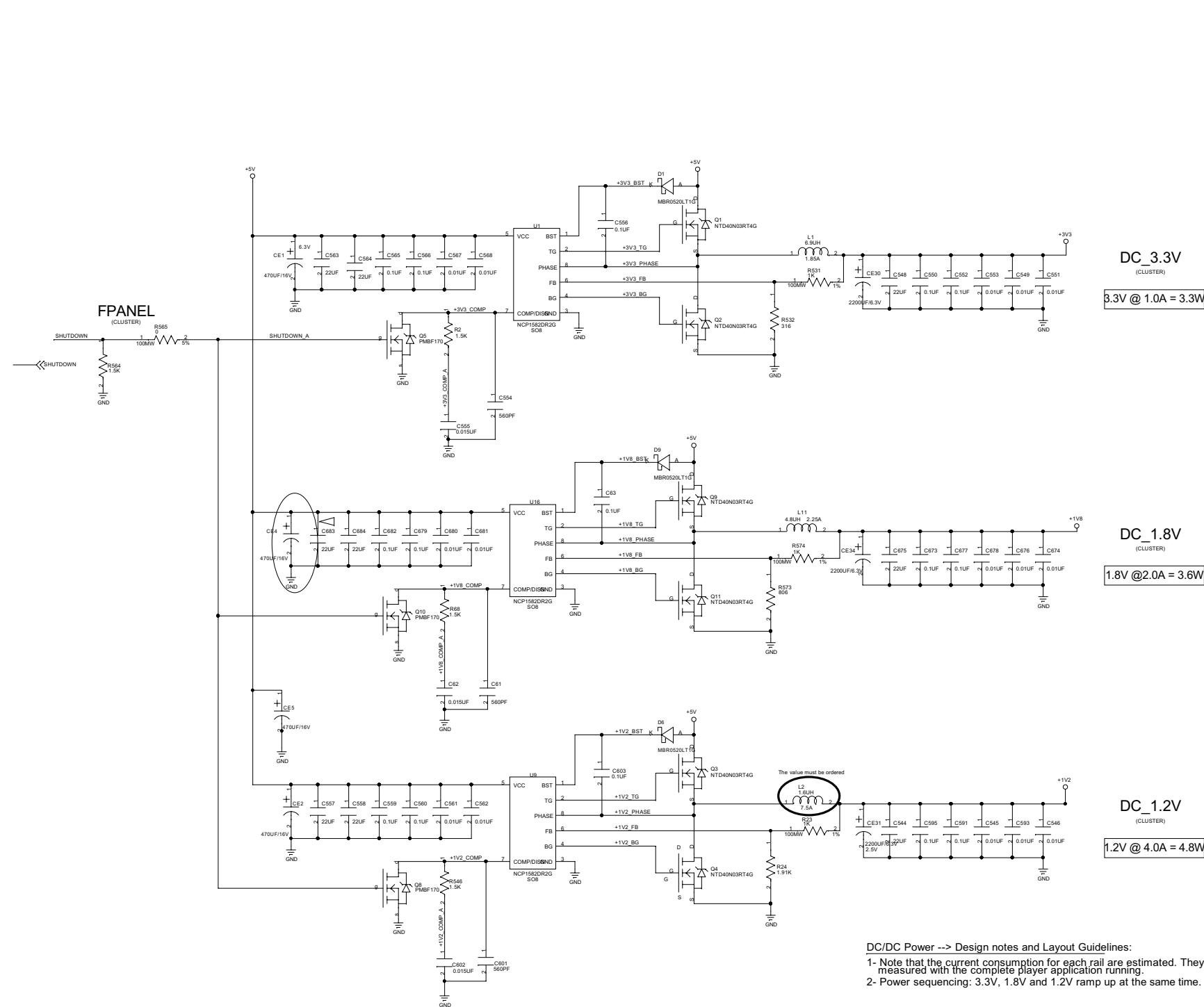


Boot strap option --> Design notes and Layout Guidelines:

- 1- Note these configuration resistors do not need to be close to the BCM7440. So, place them at the destination of the trace. It will clear the BCM7440 area and help the chip layout.

Main Board Electric Diagram: DC/DC CONVERTERS

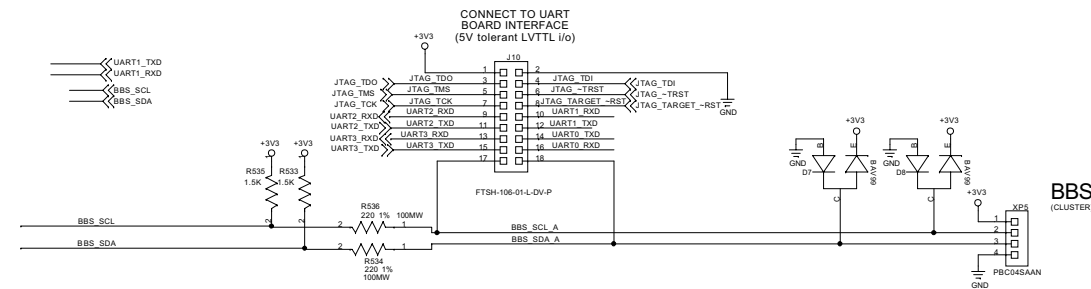
DC/DC Converters



DC/DC Power --> Design notes and Layout Guidelines:
 1- Note that the current consumption for each rail are estimated. They must be measured with the complete player application running.
 2- Power sequencing: 3.3V, 1.8V and 1.2V ramp up at the same time.

Main Board Electric Diagram: RTC, FPANEL, UART, BBS

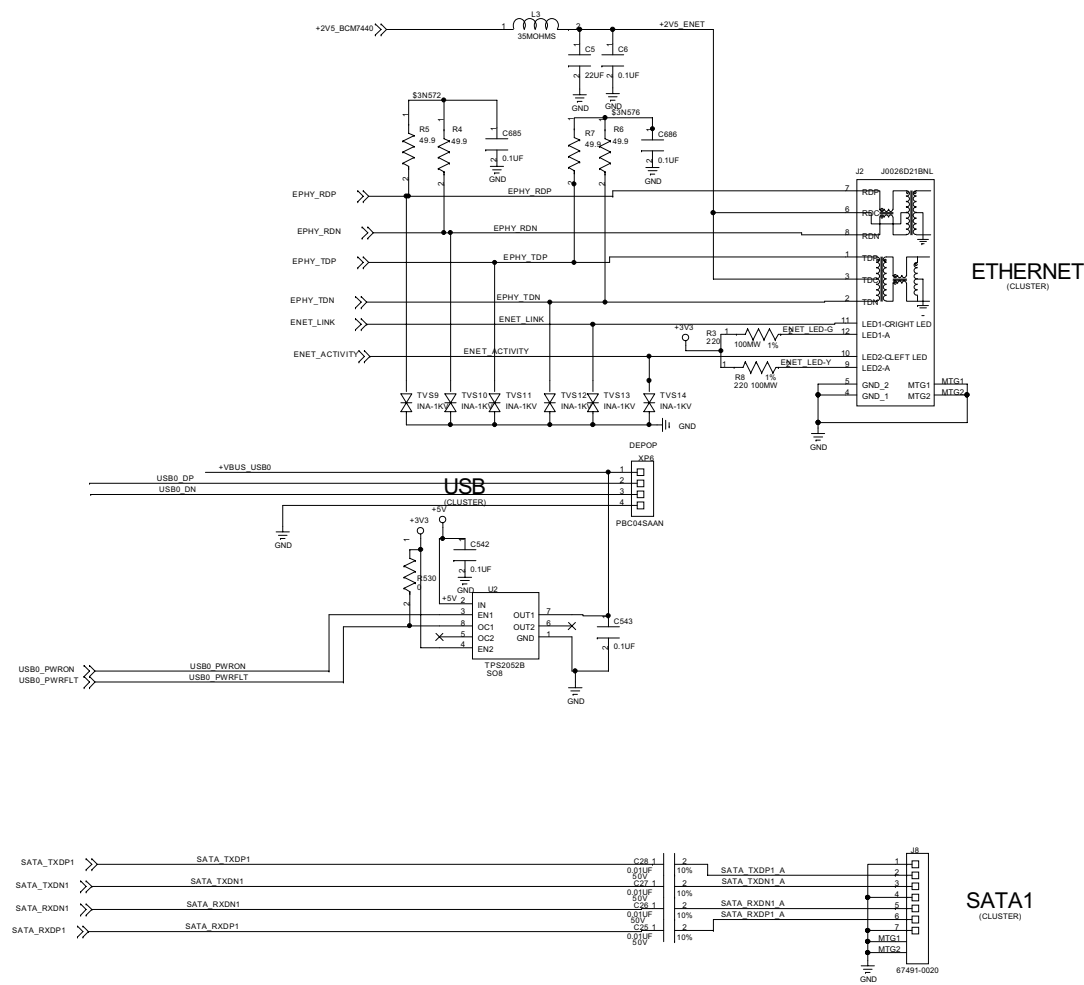
RTC, FPANEL, UART, BBS
RESET, CLOCK, GPIO, IRQ



Main Board Electric Diagram: Ethernet, SATA, USB

Ethernet, SATA, IDE

- USB1_PWRON
- USB0_PWRFLT
- USB0_PWRON
- USB0_DN
- USB0_DP
- USB1_PWRFLT
- USB1_DN
- USB1_DP

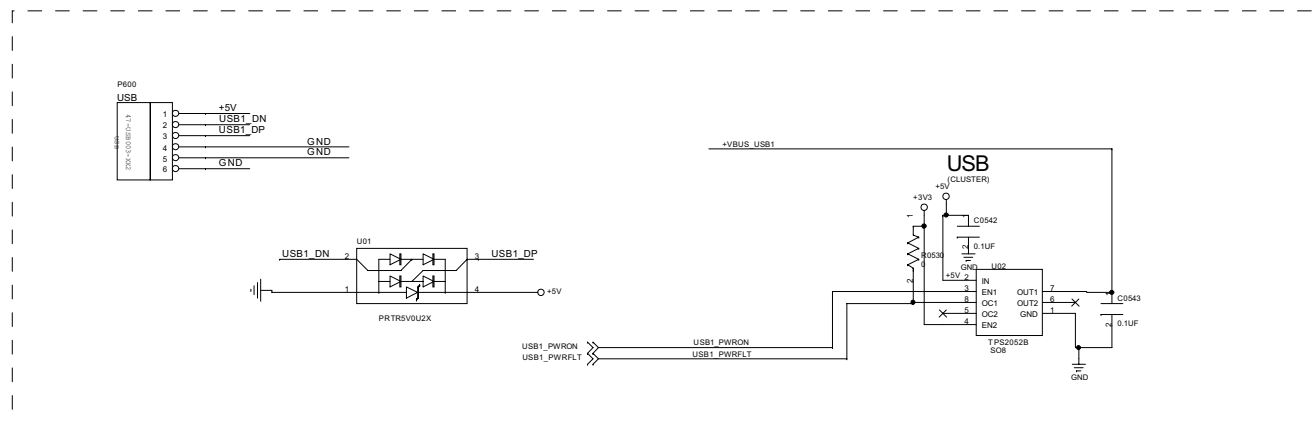


ETHERNET : Design notes and Layout Guidelines:

- 1- Ethernet Data DP/DN traces must be routed as 100 Ohms Differential pairs.
- 2- Match trace length of DP/DN differential pairs. 100 mils max within a pair.
- 3- Route differential pairs above the GND plane. Do not split the GND plane under differential pairs.
- 4- Use minimum number of VIA.
- 5- When possible, use higher clearance distance between differentials pairs and any others traces (>15 mils).
- 6- For fanout facility, all the ethernet terminations can be place close to the connector.
- 7- Use a 15 mils trace to route 2.5V.
- 8- Place EPHY_RDAC resistor close to BCM7440.

SATA : Design notes and Layout Guidelines:

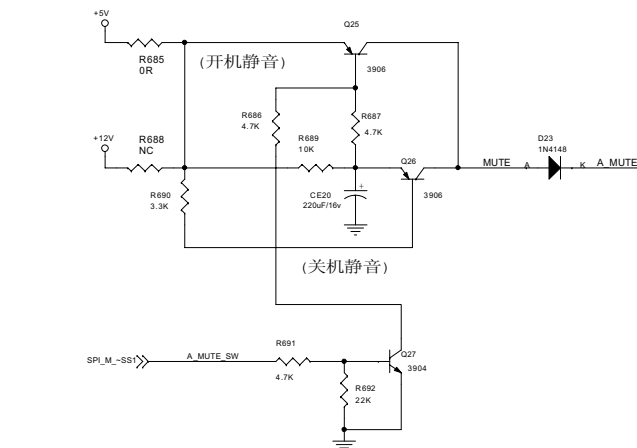
- * SATA speed is 1.5Gbs, keep traces as short as possible.
- 1- SATA Data DP/DN traces must be routed as 100 Ohms Differential pairs.
 - 2- Match trace length of DP/DN differential pairs. 20 mils max within a pair.
 - 3- Route differential pairs above the GND plane. Do not split the GND plane under differential pairs.
 - 4- Use minimum number of VIA.
 - 5- When possible, use higher clearance distance between differentials pairs and any others traces (>15 mils).
 - 6- Place series capacitors close to connectors.
 - 7- Place SATA 25MHz xtal and passive component close close to BCM7440.



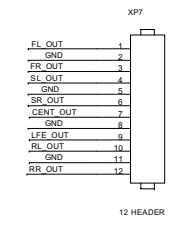
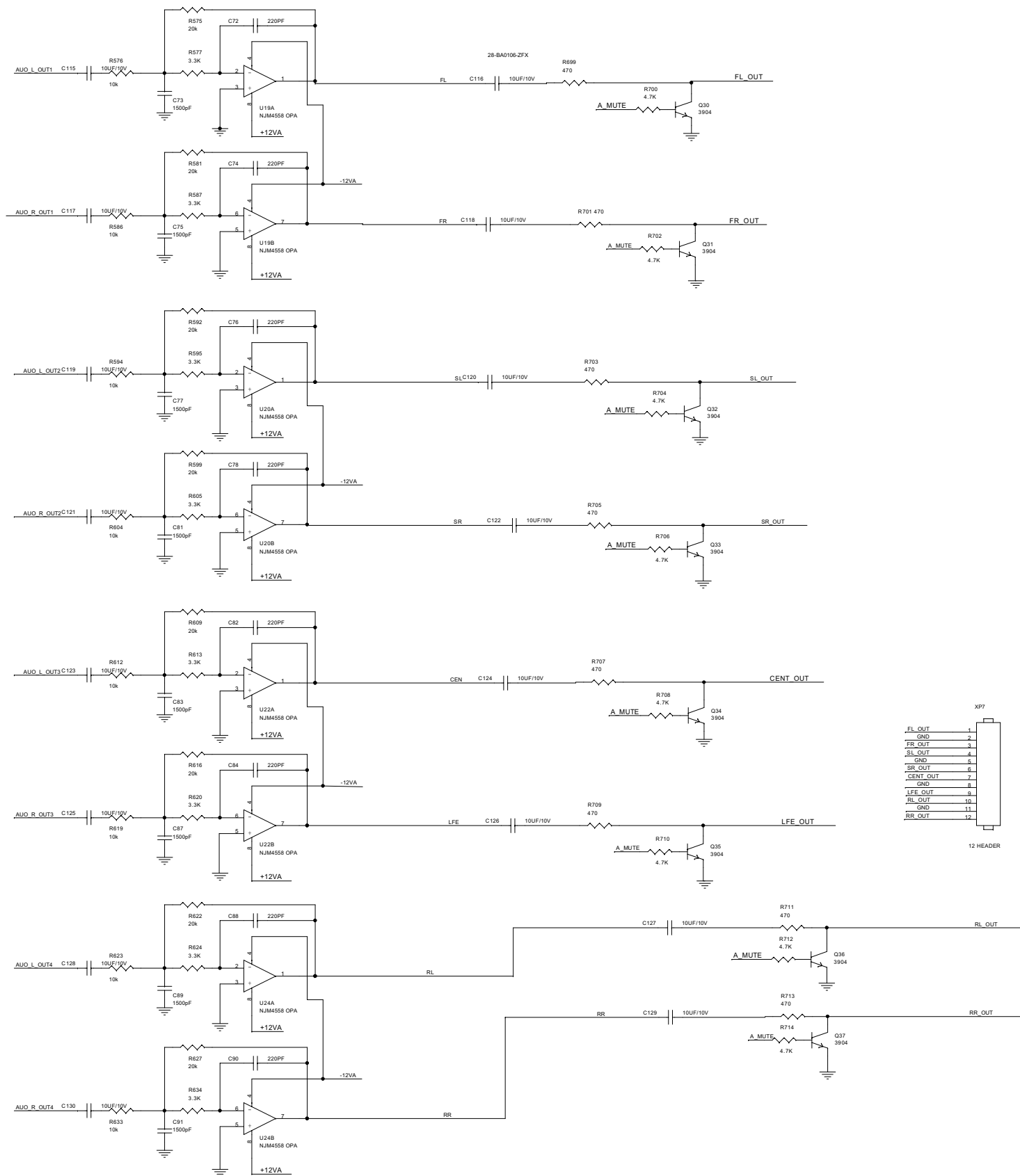
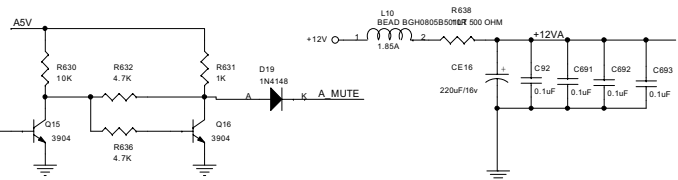
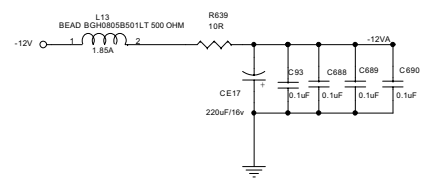
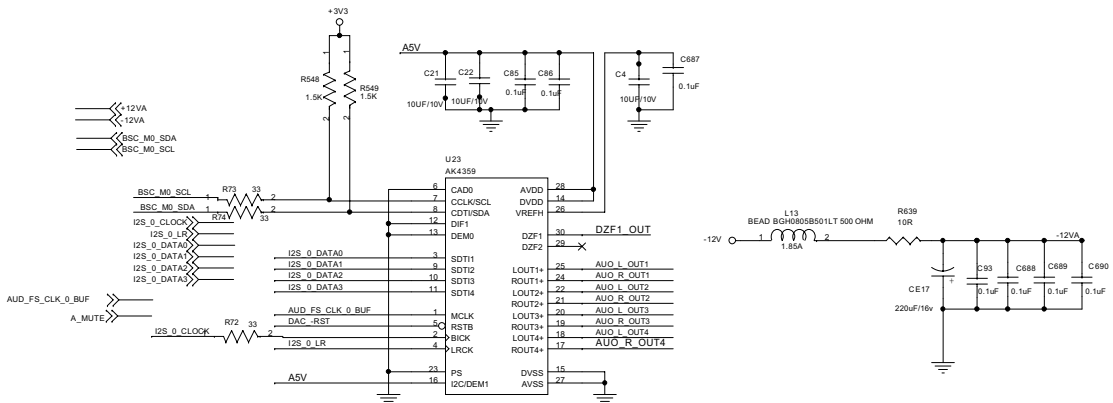
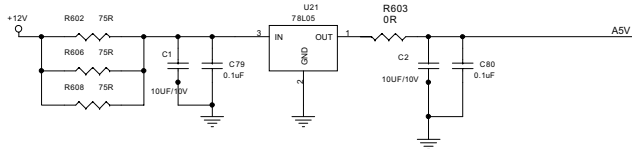
Main Board Electric Diagram:7.1 AUDIO OUTPUTS

7.1 AUDIO OUTPUTS

mute circuit

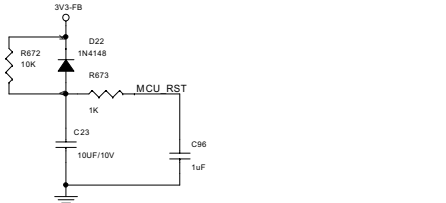
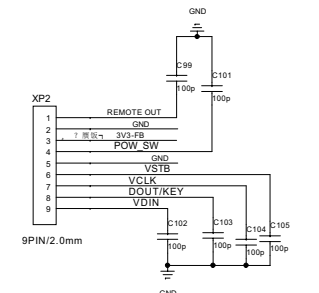
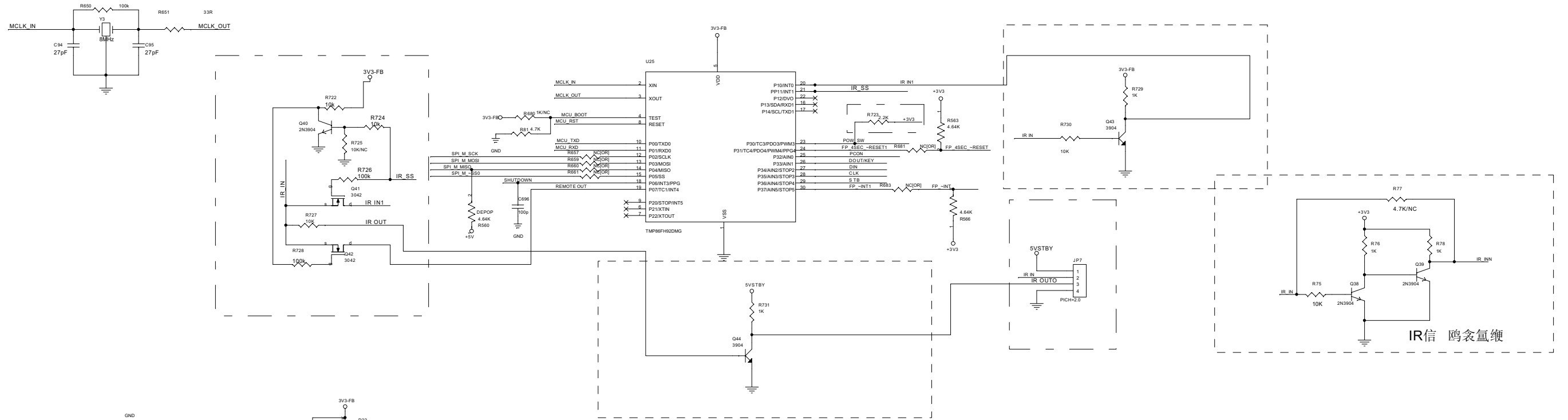


28-CC0106-KBX(10UF/16V 1206)
28-BA0106-ZFX(10UF/16V 0805)



MCU

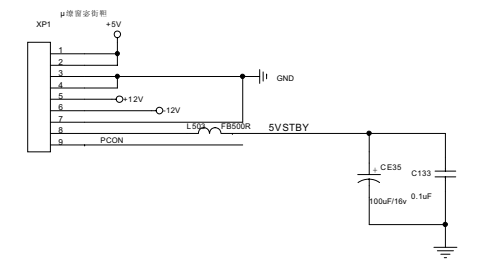
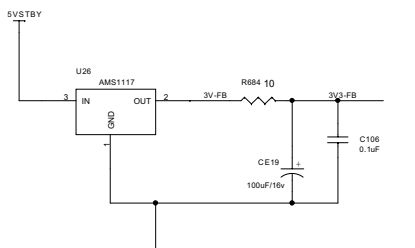
Main Board Electric Diagram: MCU



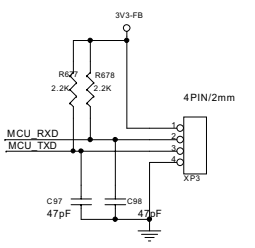
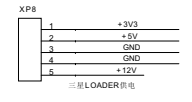
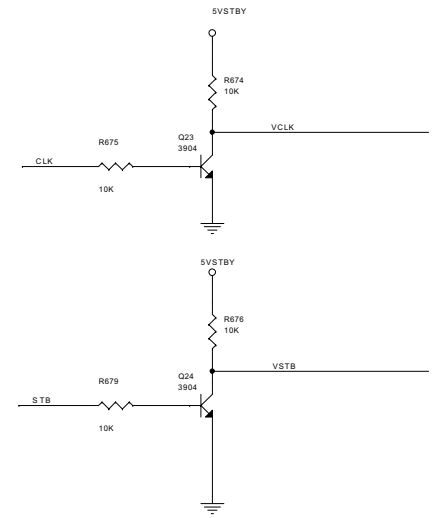
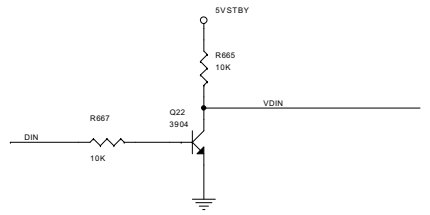
直接连到VFD

SPI_M_SCK	R668	NC[OR]	VCLK
SPI_M_MOSI	R669	NC[OR]	VDIIN
SPI_M_SS0	R671	NC[OR]	VSTB
CLK	R666	NC[OR]	VCLK
DIN	R667	NC[OR]	VDIIN
STB	R668	NC[OR]	VSTB

通过电平 恩能FD



- SHUTDOWN
- FP_4SEC-RESET
- FP_4SEC-RESE1
- FP_4SEC-RESE2
- FP_4SEC-RESE3
- FP_4SEC-RESE4
- FP_4SEC-RESE5
- FP_4SEC-RESE6
- FP_4SEC-RESE7
- FP_4SEC-RESE8
- FP_4SEC-RESE9
- FP_4SEC-RESE10
- FP_4SEC-RESE11
- FP_4SEC-RESE12
- FP_4SEC-RESE13
- FP_4SEC-RESE14
- FP_4SEC-RESE15
- FP_4SEC-RESE16
- FP_4SEC-RESE17
- FP_4SEC-RESE18
- FP_4SEC-RESE19
- FP_4SEC-RESE20
- FP_4SEC-RESE21
- FP_4SEC-RESE22
- FP_4SEC-RESE23
- FP_4SEC-RESE24
- FP_4SEC-RESE25
- FP_4SEC-RESE26
- FP_4SEC-RESE27
- FP_4SEC-RESE28
- FP_4SEC-RESE29
- FP_4SEC-RESE30
- SPI_M_SCK
- SPI_M_MOSI
- SPI_M_MISO
- SPI_M_SS0



Troubleshooting tips and solutions to common service problems**BDP1/BDP10****TIP# HKTT2010-01**

Subject: Retrieve a Blu-ray/DVD/CD disc from the tray without power

This method will allow you to retrieve a disc without power in the BDP1/10 or pull out the disc tray if needed.

Remove all screws holding the top cover on: four screws at the rear and four on the sides. Remove the top cover.

Tip the unit up to view the bottom of the chassis near the front panel; there are two open slots under the disc mechanism.

(With one free hand, reach inside the unit to support the Blu-ray/DVD/CD disc; it may fall out when you release the loader mechanism in the next step.)

In the slots, you can see a white bar inside. Using a small flat-blade screwdriver, move the slotted bar as far to the right as it will go; this will unlock the loader mechanism and free the disc.

The disc should now be free and can be pulled out the rear of the loader mechanism, if it has not fallen out already. Now move the white bar back to the left, to its original location.

NOTE there is also a method where you can open the tray without removing the top cover, but in the process of tipping the unit up to slide the mechanism release, the disc may drop out of the tray (and may possibly scratch the disc) and into the unit, so you would still need to remove the top cover.

In this method, you will need to locate the white locking bar under the unit as described above, without tipping the unit upright. Once this is done, open the hinged tray door with your fingernail. Use a pair of long-nosed pliers to reach in and pull the tray out of the loader, exposing the disc.

