HDMI AUDIO DE-EMBEDDER
B-240-HD-2AC

BINARY

INSTALLATION MANUAL

DTS®
DTS-HD®
DTS-HD MSTR™

Blue
Red
Purple

Digital
Digital+
TrueHD

BINARY
B-240-HD-2AC

DOLBY AUDIO™

dts
2.0+Digital Out

FC CE

IMPORTANT SAFETY INSTRUCTIONS

To reduce the risk of fire or electric shock, read and follow all instructions and warnings in this manual. Keep this manual for future reference.

1. Do not expose this apparatus to rain or moisture. Do not expose this equipment to dripping or splashing, and ensure that no objects filled with liquids, such as vases, are placed on the equipment. Do not use this apparatus near water.

2. Do not remove cover. No user serviceable parts inside. Refer servicing to qualified service personnel.

3. Clean only with a dry cloth.

4. Do not block any ventilation openings. Install according to manufacturer's instructions.

5. Do not install near any heat sources such as radiators, heat registers, stoves or other apparatus (including amplifiers) that produce heat.

6. Do not override the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades - 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.

7. Protect the power cord from being walked on or pinched, particularly at the plug end and where the power cord is attached to the apparatus.

8. Only use attachments/accessories specified by the manufacturer.

9. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as when the power-supply cord or plug is damaged, liquid has been spilled on or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, the apparatus does not operate normally, or it has been dropped.

10. To completely disconnect this equipment from power, disconnect the power supply cord from the power outlet.

LEGAL NOTICE

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

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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.

CAUTION

CAUTION: TO REDUCE THE RISK OF ELECTRICAL SHOCK.

DO NOT REMOVE COVER. NO USER SERVICEABLE PARTS INSIDE.

REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

PRODUCT OVERVIEW

Welcome to Binary. This product is engineered to provide years of exceptional reliability. We appreciate your business, and we stand committed to providing our customers with the highest degree of quality and service in the industry.

This audio de-embedder extracts audio from an HDMI signal, then decodes and downmixes from multichannel Dolby® and DTS® audio formats into two-channel analog audio. Additionally, it can pass multichannel audio through on the HDMI output, while simultaneously distributing 2 channel analog audio on the analog outputs.

PACKAGE CONTENTS

- 1 x B-240-HD-2AC
- 2 x rack ears for mounting (screws included)
- 1 x 12 V power supply
- 4 x self-adhesive mounting feet
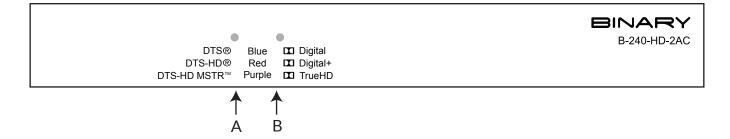- 1 x Installation manual

FEATURES

- Supports all common HDMI audio formats including Dolby TrueHD and DTS-HD Master Audio™
- Supports video resolutions up to 4K2K @ 30 Hz
- Selector switch for audio for the HDMI Out port
- HDCP 1.4 compliant
- CEC pass through
- Decodes and downmixes Dolby audio formats (Dolby Digital, Dolby Digital Plus, Dolby TrueHD) and DTS audio formats (DTS®, DTS-HD®, DTS-HD Master Audio™ multichannel) to two-channel analog audio
- Downmixes multichannel (2–8 channel) PCM audio to two-channel analog audio

RECOMMENDED FOR INSTALLATION

- Phillips screwdriver (for rack ear attachment)
- AV source (such as a DVD, Blu-ray, or STB)
- Binary brand high-speed HDMI cables to connect the source to the B-240-HD-2AC
- Binary brand analog audio cables

Front Panel

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                                                              BINARY
                                                          B-240-HD-2AC
              DTS®      Blue    ◻◻ Digital
          DTS-HD®      Red     ◻◻ Digital+
      DTS-HD MSTR™   Purple   ◻◻ TrueHD

                    ↑       ↑
                    A       B
```

A. **DTS® Audio Format Indicator LED**

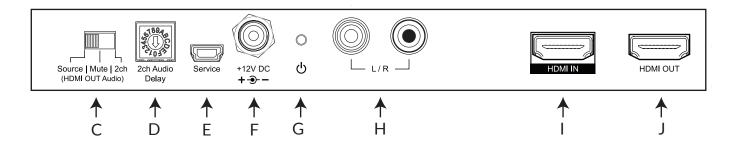The color of this LED indicates the DTS® audio format received from the HDMI source, as shown here:

- Blue: DTS®

- Red: DTS-HD®

- Purple: DTS-HD Master Audio™

B. **Dolby Audio Format Indicator LED**

The color of this LED indicates the Dolby audio format received from the HDMI source, as shown here:

- Blue: Dolby Digital

- Red: Dolby Digital Plus

- Purple: Dolby TrueHD

Rear Panel

C.   **HDMI Out Audio Switch**

Selects the desired audio setting for HDMI output.

- Source: Pass through multichannel from HDMI input to HDMI output.

- Mute: Only sends video to HDMI output, no audio

- 2ch: HDMI will output 2 channel audio.

D.   **Audio Delay (Analog Only)**

Adjust to delay the RCA 2 channel output to match the HDMI video signal.

E.   **Service Port**

Update firmware.

F.   **Thread Locking Power Connector**

Connect to the included 12V DC, 2A power supply.

G.   **Power LED**

Lights up blue when the unit has power.

H.   **RCA Output**

This outputs analog 2 channel audio to connect to amplifier.

I.   **HDMI In**

HDMI input to connect to a source.

J.   **HDMI Out**

HDMI output to connect to a display or AVR (sink).

The audio de-embedder gives you the flexibility you need for dozens of custom applications. Here are examples of three of the most common uses:
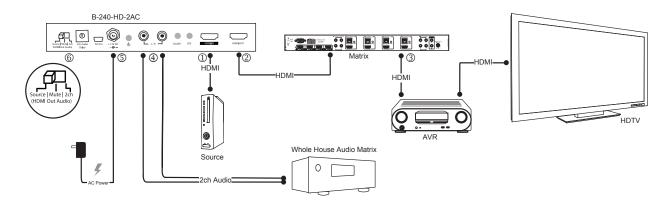
- To install whole-house stereo sound, see *Equipment Rack / Whole-House Audio*

- To install stereo sound in one zone only, see *In-Room Two-Channel Amplifier*

- To deliver HDMI stereo to your television, see *TV Audio*

This unit has two EDID modes for the audio channel: in pass-through mode, the EDID is read from the display/sink. In any other mode, the audio EDID is fixed. Call technical support if you want to ensure your custom plan is supported.

Equipment Rack / Whole-House Audio

In this application, the whole-house audio matrix uses two-channel audio. We need to create a second zone that uses multichannel audio for the zone's AVR.
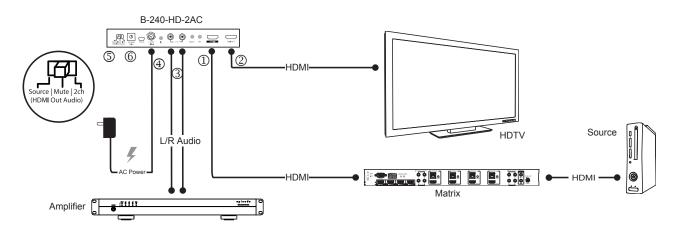
1. Connect the HDMI output of the source to the HDMI IN port of the audio de-embedder.

2. Connect the HDMI OUT of the audio de-embedder to the HDMI input of the video matrix.

3. Connect the HDMI output of the video matrix to the AVR and video display.

4. Connect the analog audio cables from the RCA outputs on the de-embedder to the audio inputs of the whole house audio matrix

5. Connect power to the B-240-HD-2AC.

6. Set the HDMI OUT audio switch to **Source** to pass the original HDMI audio signal through to the HDMI OUT of the B-240-HD-2AC. This will distribute two-channel analog audio to the whole house audio matrix. See *Rear Panel* for more details.

In-Room Two-Channel Amplifier

Follow the instructions below to change a multichannel audio setup to 2 channel audio for distribution to the amplifier and speakers.
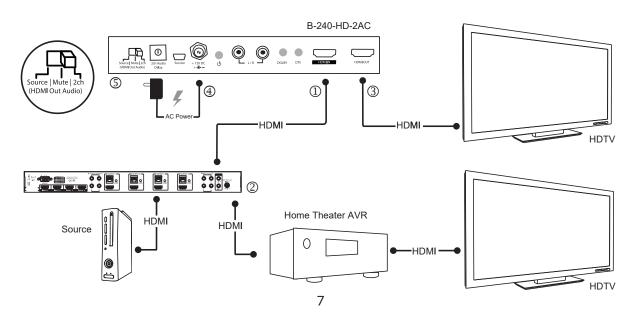
1. Connect the HDMI output of the source to the HDMI input of the matrix switcher and HDMI OUT from matrix to HDMI IN on the audio de-embedder.

2. Connect the HDMI OUT on the de-embedder to the HDMI input of the video display.

3. Connect the audio cables from the RCA outputs on the de-embedder to the audio inputs of the amplifier.

4. Connect power to the B-240-HD-2AC.

5. Set the HDMI OUT Audio switch to **Mute** to output video via HDMI without audio, while sending 2 channel audio to the in-room amplifier.

6. Adjust the audio delay as needed. See *Rear Panel* for more details.

TV Audio

Follow the instructions below to change a whole home multichannel audio setup to 2 channel audio in a single zone without changing the multichannel setup in the rest of the house.

1. Connect the HDMI output of the matrix to the HDMI IN port of the de-embedder.

2. Connect the AVR to an HDMI OUT port on the matrix, then connect the AVR to the HDMI IN port on the TV.

3. Connect the HDMI OUT on the de-embedder to the HDMI input of the HDTV.

4. Connect power to the B-240-HD-2AC.

5. Set the HDMI OUT Audio switch to **2ch** to output video and 2 channel audio via HDMI to the TV. See *Rear Panel* for more details.

SPECIFICATIONS

Technical	
HDMI Compliance	3D & 4K2K@ 30 Hz
HDCP Compliance	HDCP 1.4
Decode & Downmix	Dolby formats: Dolby Digital, Dolby Digital Plus, Dolby TrueHD DTS formats: DTS®, DTS-HD®, DTS-HD Master Audio™ 2–8 Channel PCM
Analog Audio Outputs	2 VRMS @ 10 kΩ impedance load

Connections	
Analog Audio	RCA Jack
Power	12V DC
USB (firmware updates only)	USB Mini-B

Mechanical	
Weight	1 lb.
Power Consumption	7 W (maximum)
Operation Temperature	32–122 °F / 0–50 °C
Relative Humidity	20–90% (no condensation)

Certifications and Compliance	
Product	CE, FCC, RoHS 2 Directive 2011/65/EU CE-marking
Power Supply	CE, FCC, UL, RoHS 2 Directive 2011/65/EU CE-marking, EISA 2007

SUPPORT

Need Help? Call Tech Support!

If you need further clarification, please call tech support at 866.838.5052, or email support@snapav.com. For other information, instructional videos, support documentation, or ideas, visit our website and view your item's product page at www.snapav.com.

2-Year Limited Warranty

This Binary product has a 2-Year Limited Warranty. This warranty includes parts and labor repairs on all components found to be defective in material or workmanship under normal conditions of use. This warranty shall not apply to products that have been abused, modified or disassembled. Products to be repaired under this warranty must be returned to SnapAV or a designated service center with prior notification and an assigned return authorization (RA) number.

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