HD-DA-2

1-to-2 HDMI Distribution Amplifier & Audio Converter

1 Introduction

The HD-DA-2 provides a compact yet sophisticated HDMI splitter solution with additional capabilities for converting HDMI audio to analog and merging DVI or HDMI video with a separate digital audio signal. Complete the following procedure to setup your HD-DA-2.

3 DIP Switch Overview

The HD-DA-2 is field programmable using seven DIP switches. The DIP switches control the routing and EDID information that is relayed to the source (e.g., Blu-ray player) from the device connected to the HD-DA-2 (e.g., HD display). DIP switches have two states, OFF (down) or ON (up). Based on the AV configuration, a DIP switch setting may be ignored and is represented in this document as an X in place of the DIP switch illustration. DIP switch number 8 is not used.

The HD-DA-2 must be power cycled for the settings to be applied.

Refer to the illustration below for a visual reference of the DIP switch positions.

DIP switch in the OFF (down) position

DIP switch in the ON (up) position

DIP switch position is ignored

DIP Switch Description:

Switch 1   Audio Select: Allows you to choose between passing audio from the **HDMI IN** port or embedding audio from an SPDIF source.

Switch 2   Embedded Audio Source: If embedding audio from an SPDIF source (switch 1 = ON) audio will be received on the **AUDIO IN OPTICAL** or **AUDIO IN SPDIF** port.

Switch 3 & 4   Audio EDID Control: When used, these switch configurations control the audio EDID presented to the source. The primary EDID control (switches 5, 6 and 7) may override switches 3 and 4. The unit may be set to copy the audio EDID from **HDMI OUT 1** or **HDMI OUT 2**, or may force either of two pre-determined modes: LBR and 2CH PCM or 2CH PCM only.

Switch 5, 6 & 7   Primary EDID Control: These switches are used to control the EDID presented to the source. Certain switch configurations control audio and video EDID (indicated by (A/V) in the table). Other switch configurations control video only (V). When using the (A/V) configurations, switches 3 and 4 are overridden. Using the (V) configurations, switches 3 and 4 control audio EDID. The user may elect to copy the EDID from **HDMI OUT 1** or **HDMI OUT 2**, or may elect to present to the source only the resolutions common to both outputs.

Audio Input Source		SPDIF Source		Audio EDID			Audio/Video EDID			
	Switch 1		Switch 2		Switch 3	Switch 4		Switch 5	Switch 6	Switch 7
HDMI IN	OFF	RCA	OFF	Copy HDMI 1 Audio EDID	OFF	OFF	Copy HDMI 1 EDID (A/V)	OFF	OFF	OFF
SPDIF Source	ON	OPTICAL	ON	Copy HDMI 2 Audio EDID	ON	OFF	Copy HDMI 2 EDID (A/V)	ON	OFF	OFF
				LBR (DTS, AC3) or 2CH PCM	OFF	ON	Copy HDMI 1 EDID (V)	OFF	ON	OFF
				2CH PCM Only	ON	ON	Copy HDMI 2 EDID (V)	ON	ON	OFF
							Best Common (V)	OFF	OFF	ON

2 Mounting

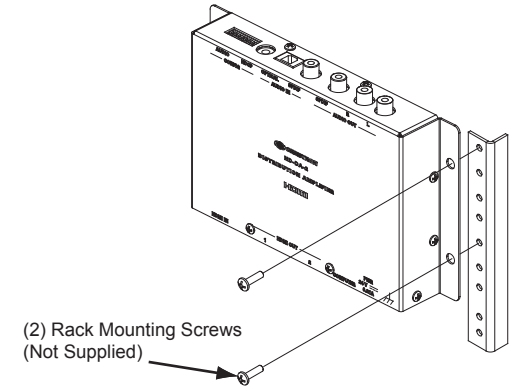Mount the HD-DA-2 onto a wall or rack as appropriate for your installation.

Wall Mounting

Using four mounting screws (not supplied), attach the distribution amplifier to the wall as shown below.

(4) Mounting Screws (Not Supplied)
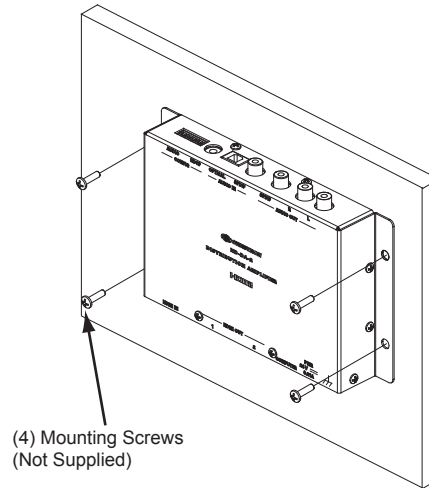
Rack Mounting

Mount the HD-DA-2 to the front or rear rail of a rack as follows:

1. Position the left or right mounting flange of the device so the holes align with the holes in the rack (mounting with the right flange is shown below).

2. Secure the device to the rack using two rack mounting screws (not supplied).

(2) Rack Mounting Screws (Not Supplied)

For Regulatory Compliance information, refer to the latest version of Doc. 7043.

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4 **Applications**

This section shows three common setups for the HD-DA-2. There are many other applications that can be configured using the table on the previous page.

Video Distribution

The HD-DA-2 can be used to distribute one HDMI video source to two devices using their best common video EDID information. Connect the video source to the **HDMI IN** port on the unit. Connect the devices (e.g., displays) to the **HDMI OUT 1** and **HDMI OUT 2** ports.
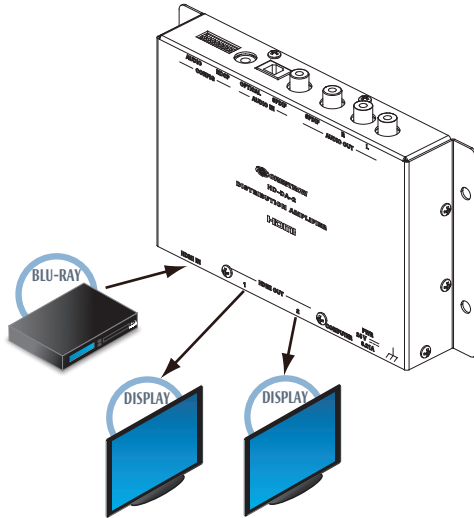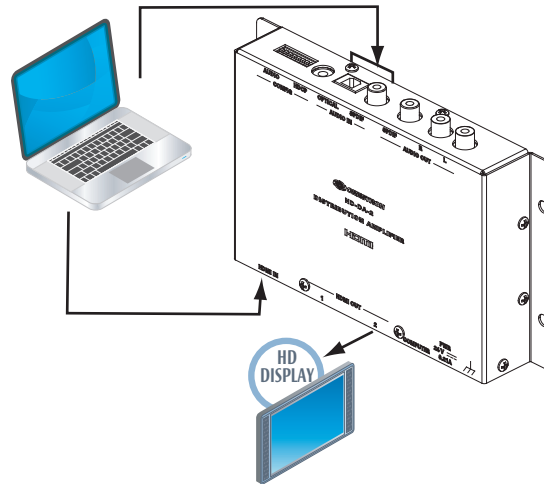

To configure the DIP switches to send the best common video to **HDMI OUT 1** and **HDMI OUT 2,** and send 2CH PCM audio to both displays, move the DIP switches to the positions shown in the following illustration.
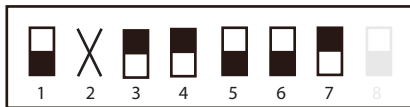
Audio Embedding

The HD-DA-2 can be used to embed digital audio from DVI or HDMI sources that do not transmit audio with the video. For example, video from a computer via a DVI to HDMI conversion cable. In this scenario digital audio must be sent to the HD-DA-2 separately from the video.

To connect a computer to the HD-DA-2 make the following connections. Connect the video output from the computer to the **HDMI IN** port on the unit. Connect the digital audio out from the computer to the **AUDIO IN OPTICAL** port on the HD-DA-2.
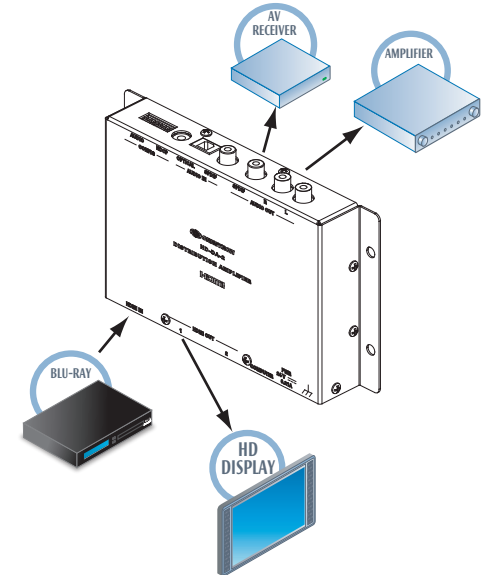

To configure the DIP switches to embed audio from the **OPTICAL** port, receive video at **HDMI IN** and send audio and video to **HDMI OUT 2** move the DIP switches to the positions shown in the following illustration.

Audio Extraction

The HD-DA-2 can be used to extract audio from an HDMI source and feed the audio to an AV receiver and/or amplifier. Connect the video source to the **HDMI IN** port on the unit. Connect the AV receiver to the **AUDIO OUT SPDIF** port and/or the amplifier to the **AUDIO OUT R L** ports.

To configure the DIP switches to route audio to an AV receiver and/or amplifier move the DIP switches to the positions shown in the following illustration.

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5 **Rotary Switch**

Use a small screwdriver to set the number of HDCP keys necessary for the setup. The switch allows up to 16 keys to be set using the alpha numeric rotary switch (A - F corresponds to 10 - 15, and 0 corresponds to 16). The HD-DA-2 must be power cycled for the settings to be applied.

View the third party HDCP limits PDF on the Crestron website (www.crestron.com/hdcplimits) to calculate the appropriate setting for the device.

6 **Apply Power**

After all connections have been made and the unit is properly grounded, apply power to the HD-DA-2.

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