

DVDO



DVDO-Controller-1 HDMI In-line Controller

User Manual

Version: V1.0.0



Important Safety Instructions

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|--|--|--|---|
| | <p>1. Do not expose this apparatus to rain, moisture, dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on the apparatus.</p> | | <p>6. Clean this apparatus only with dry cloth.</p> |
| | <p>2. Do not install or place this unit in a bookcase, built-in cabinet or in another confined space. Ensure the unit is well ventilated.</p> | | <p>7. Unplug this apparatus during lightning storms or when unused for long periods of time.</p> |
| | <p>3. To prevent risk of electric shock or fire hazard due to overheating, do not obstruct the unit's ventilation openings with newspapers, tablecloths, curtains, and similar items.</p> | | <p>8. Protect the power cord from being walked on or pinched particularly at plugs.</p> |
| | <p>4. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.</p> | | <p>9. Only use attachments / accessories specified by the manufacturer.</p> |
| | <p>5. Do not place sources of naked flames, such as lighted candles, on the unit.</p> | | <p>10. Refer all servicing to qualified service personnel.</p> |

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Introduction

DVDO-Controller-1 is an HDMI in-line controller which supports resolutions up to 4K@60Hz (chroma sub-sampling 4:4:4 8-bit) and HDCP 2.2.

Its digital or analog audio output allows audio to be de-embedded from HDMI input and sent to audio distribution system, such as AVR or Zone Amplifier. Its rotary EDID switch has 15 EDID presets and can help negotiate the HDMI handshake in certain situations, such as an old HDMI display with DDC channel invalid, or DVI display with audio amplified requirement.

By auto-detecting input signal status, it could automatically trigger CEC commands to turn on or off TV with CEC support, pre-loaded RS232 commands to power on or standby projector, and to turn on or off projection screen through relay control.

Features

- Supports video resolutions up to 4K@60Hz 4:4:4 8-bit and HDCP 2.2.
- HDMI audio de-embedded out with digital coaxial and analog stereo.
- Rotary switch for EDID management with 15 EDID presets.
- Built-in CEC controller from HDMI out.
- Built-in RS232 controller to pre-load and store RS232 command of sink device.

Key Benefits

- Automatic CEC/RS232 commands to power on/standby display device by detecting input signal status.
- Built-in relay control to automatically turn projector screen on/off by detecting input signal status.
- Automatic input cable equalization and signal regeneration compensation.

Package Contents

Before you start the installation of the product, please check the package contents as below:

- DVDO-Controller-1 x 1
- DC 12V 1A Power Adapter (with US, UK, EU, AU Pins) x 1
- Phoenix Male Connectors (3.5mm, 3 Pins) x 3
- Mounting Brackets (with Screws) x 2
- User Manual x 1

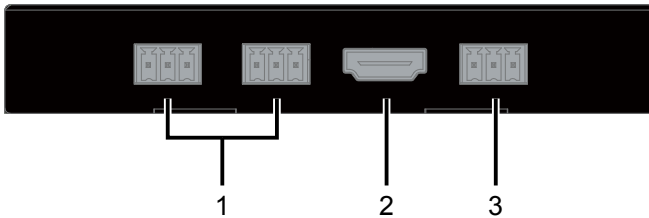
Specifications

Technical	
Input	1 x HDMI
Output	1 x HDMI
Input/Output Signal Type	HDMI up to 4K@60Hz (4:4:4 8-bit), HDCP 2.2
Input/Output Resolution Supported	VESA: 800x600@60Hz, 1024x768@60Hz, 1280x768@60Hz, 1280x800@60Hz, 1280x960@60Hz, 1280x1024@60Hz, 1360x768@60Hz, 1366x768@60Hz, 1440x900@60Hz, 1600x900@60Hz, 1600x1200@60Hz, 1680x1050@60Hz, 1920x1200@60Hz SMPTE: 4096x2160@24/25/30/50/60Hz, 3840x2160@24/25/30/50/60Hz, 1080P@24/25/30/50/60Hz, 1080I@50/60Hz, 720P@50/60Hz, 576P@50Hz, 480P@60Hz
Input Video Level	0.5-1.2 V p-p
Input DDC Signal	5V p-p
Maximum Pixel Clock	600MHz
Video Impedance	100 Ω
Maximum Data Rate	18Gbps

General	
Operating Temperature	0°C to 45°C (32°F to 113°F)
Storage Temperature	-20°C to 70°C (-4°F to 158°F)
Humidity	10% to 90%, non-condensing
ESD Protection	Human-body Model: ±8kV (Air-gap discharge)/ ±4kV (Contact discharge)
Power Supply	DC 12V 1A
Power Consumption (Max)	2W
Device Dimensions (W x H x D)	120mm x 20mm x 80mm/ 4.72" x 0.79" x 3.15"
Product Weight	0.23kg/0.51lb

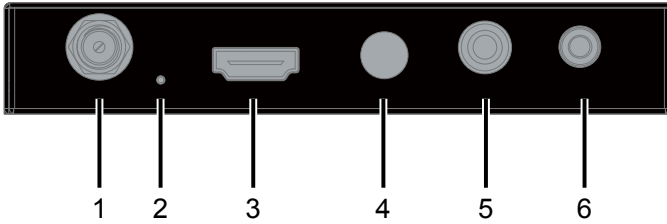
Panel Description

Front Panel



No.	Name	Description
1	Relay 1-2	Connect to the projector screen to turn it on/off through relay control.
2	HDMI Out	Connect to an HDMI display device.
3	RS232	Pre-load and store RS-232 commands for controlling display device.

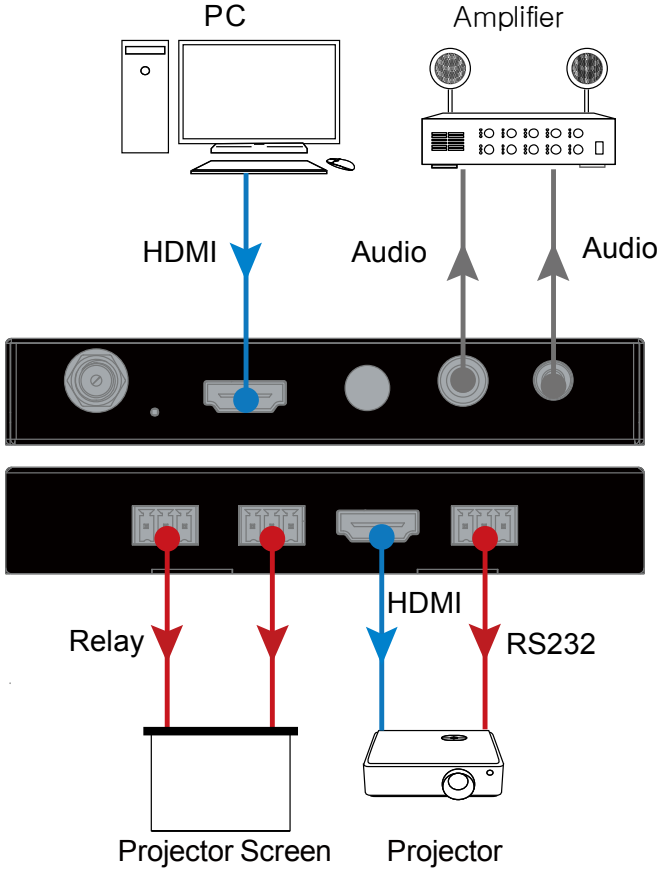
Rear Panel



No.	Name	Description
1	DC 12V	Connect to the power adapter provided.
2	Power LED	LED On: Power is applied to the device.
3	HDMI In	Connect to an HDMI source device.
4	EDID	Switch for EDID Management with 15 EDID presets.
5	S/PDIF Out	RCA coaxial port for HDMI audio extracted output. Connect to an audio receiver for S/PDIF digital audio output.
6	Audio Out	3.5mm audio jack for HDMI audio extracted output. Connect to an audio receiver for stereo audio output when the source content is stereo PCM.

Installation and Wiring

1. Connect an HDMI source (such as PC, Blu-ray, games console, satellite/cable TV, media server etc.) to HDMI IN port of this device.
2. Connect an HDMI display device (Such as projector) to the HDMI OUT port of this device.
3. Connect audio receivers to the S/PDIF OUT port and AUDIO OUT port of this device.
4. Connect projector to the RS232 port for pass-through the commands to control the projector.
5. Connect projection screen to the RELAY1 and RELAY2 ports to control the projection screen on/off.
6. Connect the power adapter provided. Power on all devices.



EDID Management

EDID (Extended Display Identification Data) is a data structure provided by a digital display to describe its capabilities to a video source. This device features multiple EDID presets which can be performed by using the EDID rotary switch on rear panel.



By default, the EDID switch is set in position 0. Should any compatibility issues occur, please set EDID using the following table.

Position	Descriptions
0 (Default)	Copy EDID from HDMI Out
1	Set 3840x2160@60Hz 2CH as input EDID
2	Set 3840x2160@30Hz 2CH as input EDID
3	Set 1920x1080@60Hz 2CH as input EDID
4	Set 1280x720@60Hz 2CH as input EDID
5	Set 1920x1200@60Hz 2CH as input EDID
6	Set 1680x1050@60Hz 2CH as input EDID
7	Set 1600x1200@60Hz 2CH as input EDID
8	Set 1600x900@60Hz 2CH as input EDID
9	Set 1440x900@60Hz 2CH as input EDID
A	Set 1400x1050@60Hz 2CH as input EDID
B	Set 1360x768@60Hz 2CH as input EDID
C	Set 1280x1024@60Hz 2CH as input EDID
D	Set 1280x960@60Hz 2CH as input EDID
E	Set 1280x768@60Hz 2CH as input EDID
F	Set 1024x768@60Hz 2CH as input EDID

Note:

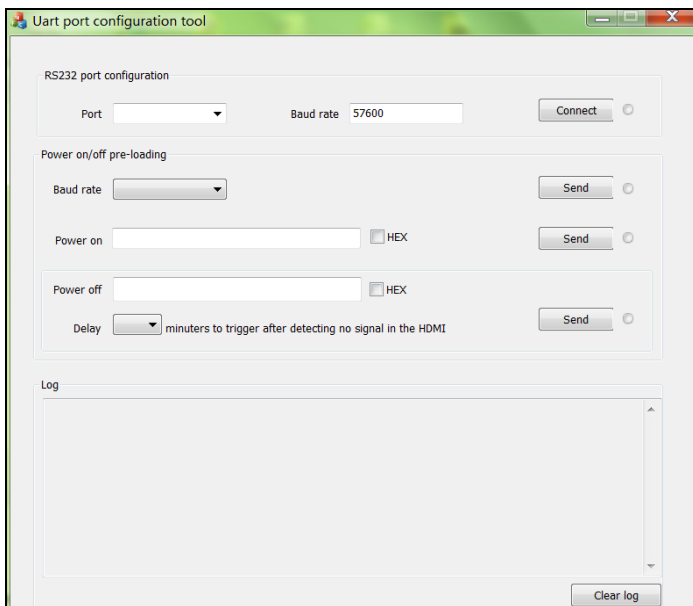
1. If EDID copy fails, 1920x1080@60Hz with stereo audio will be set as input EDID.
2. You must reboot the device for EDID settings to take effect.

RS232 Control Tool

RS232 port configuration tool is one control tool running on PC to pre-load the RS232 commands for this device to control the sink device. Connect a PC to this device via a UART-to-USB cable, running the configuration tool to set the connection parameters correctly before sending the pre-loading commands to this device. The default baud rate for this device is 57600.

RS232 port configuration tool menus are described below:

- **Baud rate:** Choose the correct baud rate according to the sink device.
Note: This might be different than the setting of 57600 above and is determined by the sink device you are connecting to.
- **Power on:** Pre-load and store the command for “power on” to a sink device, then click “Send” to send and store it on the device.
- **Power off:** Pre-load and store the command for “power off” to a sink device, then click “Send” to send and store it on the device.
Note: If the sink device requires hex commands, make sure the Hex box is checked.
- **Delay:** Set delay time (0~30minutes) the sink device will power off automatically after it cannot detect the input signal, click “Send” to take effect.



Warranty Terms and Conditions

For the following cases we shall charge for the service(s) claimed for the products if the product is still remediable and the warranty card becomes unenforceable or inapplicable.

1. The original serial number (specified by us) labeled on the product has been removed, erased, replaced, defaced or is illegible.
2. The warranty has expired.
3. The defects are caused by the fact that the product is repaired, dismantled or altered by anyone that is not from an authorized service partner. The defects are caused by the fact that the product is used or handled improperly, roughly or not as instructed in the applicable User Guide.
4. The defects are caused by any force majeure including but not limited to accidents, fire, earthquake, lightning, tsunami and war.
5. The service, configuration and gifts promised by salesman only but not covered by normal contract.
6. We preserve the right for interpretation of these cases above and to make changes to them at any time without notice.

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