

DVDO



DVDO-Matrix-42

4 x 2 4K HDMI Matrix Switcher

User Manual

Version: V1.0.0



Important Safety Instructions



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.



6. Clean this apparatus only with dry cloth.



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.



7. Unplug this apparatus during lightning storms or when unused for long periods of time.



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.



8. Protect the power cord from being walked on or pinched particularly at plugs.



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



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



5. Do not place sources of naked flames, such as lighted candles, on the unit.



10. Refer all servicing to qualified service personnel.

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Introduction

Overview

DVDO-Matrix-42 is a 4x2 HDMI matrix switcher with HDCP 2.2 compatibility, it allows up to four Ultra HD 4K sources to be independently routed to two Ultra HD displays.

It features resolutions up to 4K@60Hz 4:4:4 8-bit. It supports digital optical audio de-embedding from output 2 and analog audio de-embedding from output 1. The switcher also supports ARC function on output 2.

It supports matrix switching control through IR and API commands, EDID management via RS232 interface is also provided, it also allows automatic/manual CEC control to TURN ON/OFF the connected display by input signal status detection.

Features

- Routes four HDMI sources to two 4K HDR Ultra HD displays
- HDCP 2.2 compliant
- Supports up to 4K Ultra HD and DCI resolutions(4096x2160@60Hz)
- Each output supports scaling from 4K to 1080P independently
- Analog audio de-embedded from output 1
- Digital audio de-embedded from HDMI output 2 or HDMI ARC from TV
- Supports 12-bit Deep Color, 3D, Lip Sync and loss-less HD audio formats pass through
- Rich control options, include RS-232, IR and push button controls

Package Contents

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

- DVDO-Matrix-42 x 1
- DC 5V 1A Power Adapter (with US, UK, EU, AU Pins) x 1
- IR Remote x 1
- Phoenix Male Connectors (3.5mm, 3 Pins) x 1
- Mounting Brackets (with Screws) x 2
- User Manual x 1

Specifications

| Technical | |
|-----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Input | 4 x HDMI IN (Type-A female connector) |
| Output | 2 x HDMI OUT (Type-A female connector) |
| Video Signal Type | HDMI with 4K@60 4:4:4, HDR 10, HLG & Dolby Vision, HDCP 2.2 |
| Input/Output Resolution Supported | <p>VESA: 800x600⁸, 1024x768⁸, 1280x768⁸, 1280x800⁸, 1280x960⁸, 1280x1024⁸, 1360x768⁸, 1366x768⁸, 1440x900⁸, 1600x900⁸, 1600x1200⁸, 1680x1050⁸, 1920x1200⁸</p> <p>SMPTE: 720x576P⁶, 1280x720P^{6,7,8}, 1920x1080P^{2,5,6,7,8}, 3840x2160^{2,3,5,6,8}, 4096x2160^{2,3,5,6,8}</p> <p>2 = at 24 Hz, 3 = at 25 Hz, 5 = at 30 Hz, 6 = at 50 Hz, 7 = at 59.94 Hz, 8 = 60 Hz</p> |
| Audio Format Supported | <p>HDMI IN/OUT: Fully supports audio formats in HDMI 2.0 specification, including PCM 2.0/5.1/7.1, Dolby TrueHD, Dolby Atmos, DTSHD Master Audio and DTS:X</p> <p>AUDIO OUT: Only support PCM 2.0;</p> <p>S/PDIF OUT: Support PCM 2.0/5.1, Dolby digital and DTS up to 5.1 Channel.</p> |
| Maximum Data Rate | 18 Gbps |
| Control Method | IR, RS232, Front Panel Button |

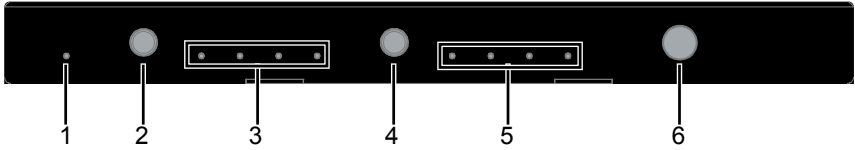
| General | |
|---------------------------------|----------------------------------------------------------------------------|
| Operating Temperature | 0°C to 45°C (32°F to 113°F) |
| Storage Temperature | -20°C to 70°C (-4°F to 158°F) |
| Humidity | 10% to 90%, non-condensing |
| ESD Protection | Human-body Model: ±8kV (Air-gap discharge)/ ±4kV (Contact discharge) |
| Power Supply | DC 5V 1A |
| Power Consumption (Maximum) | 3.3W |
| Device Dimension (W x H x D) | 220mm x 21mm x 100.2mm/ 8.66" x 0.83" x 3.94" |
| Product Weight | 0.48kg/1.06lb |

Transmission Distance

| Cable Type | Range | Supported Video |
|------------|------------------------|--------------------|
| HDMI | Input: 15m/50ft | 1080P@60Hz |
| | Output: 10m/33ft | |
| | Input/Output: 10m/33ft | 4K@30Hz |
| | Input/Output: 5m/16ft | 4K@60Hz 4:4:4 8bit |

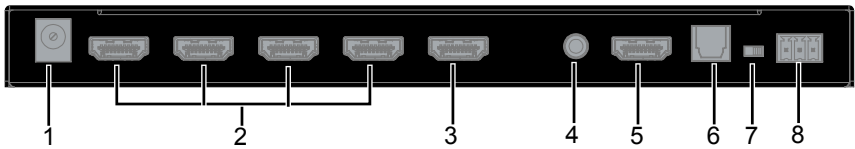
Panel Description

Front Panel



| No. | Name | Description |
|-------|-----------------------|-------------------------------------------------------------------------------------|
| 1 | POWER LED | On: The device is powered on. Off: The device is powered off. |
| 2 | OUTPUT1 Switch Button | Click to select input source for OUTPUT1. |
| 3 & 5 | INPUT LED (1-4) | On: HDMI IN (1-4) is selected. Off: HDMI IN (1-4) is not selected. |
| 4 | OUTPUT2 Switch Button | Click to select input source for OUTPUT2. |
| 6 | IR Window | Receive IR signals. |

Rear Panel



| No. | Name | Description |
|-------|----------------|-------------------------------------------------|
| 1 | DC 5V | Connect the power supply provided. |
| 2 | HDMI IN (1-4) | Connect to the HDMI source using an HDMI cable. |
| 3 & 5 | HDMI OUT 1 & 2 | Connect to HDMI displays such as TV. |

| No. | Name | Description |
|-----|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 4 | AUDIO OUT | Connect to audio device such as Amplifier for analog de-embedded audio output from HDMI OUT1. |
| 6 | SPDIF OUT | Connect to audio devices such as AV system for digital de-embedded audio output from HDMI Out2 or ARC audio output from the TV connected to HDMI OUT2. |
| 7 | DIP Switch | De-embedded: SPDIF Out outputs de-embedding from HDMI OUT2; ARC: ARC mode. SPDIF Out outputs the ARC audio from the TV connected to HDMI OUT2. |
| 8 | RS232 | Connect to a control PC or control system for RS232 serial control. |

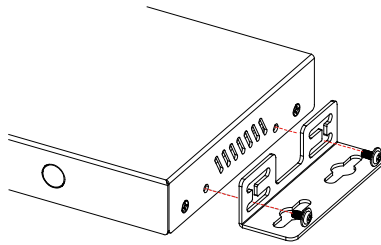
Installation and Wiring

Installation

Note: Before installation, please ensure the device is disconnected from the power source.

Steps to install the device in a suitable location:

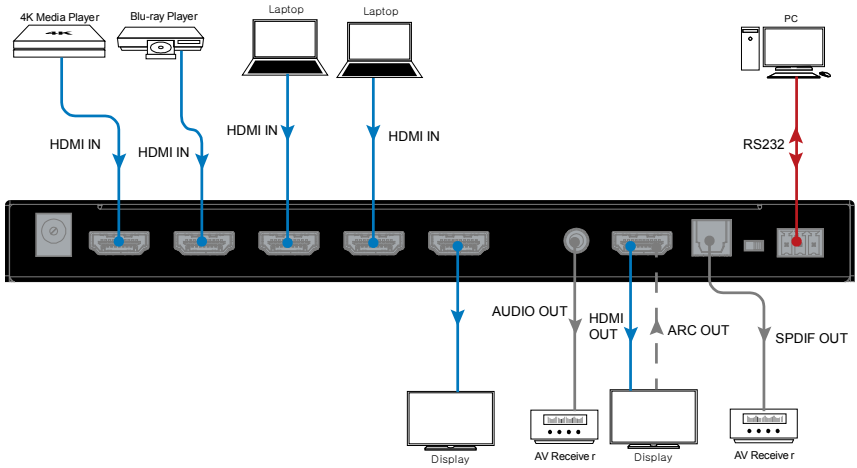
1. Attach the installation bracket to the enclosure using the screws provided in the package separately.
2. The bracket is attached to the enclosure as shown.



3. Mount and secure the device to a surface or a suitable location with the mounting screws.

Wiring

1. Connect HDMI sources (such as Blu-ray player, Apple TV, 4K media player, etc) to the HDMI IN ports.
2. Connect the HDMI display devices (such as TV) to the HDMI OUT 1-2.
3. Connect audio receivers to the SPDIF OUT and AUDIO OUT ports.
4. Connect a control PC or a control system to RS232 port.
5. Connect the included DC 5V power supply to the device.
6. Power on all attached devices.

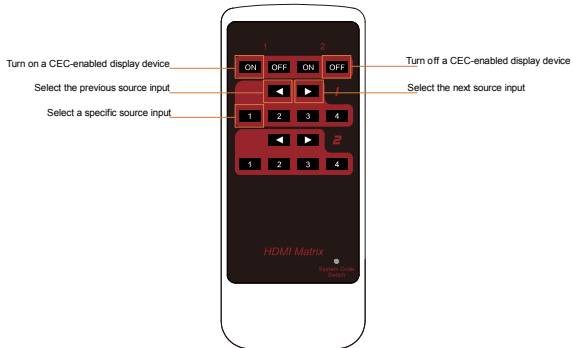


Note: Slide the DIP switch to De-embedded mode, the SPDIF Out of Output2 will output the digital de-embedded audio from HDMI Out2.

Slide the DIP switch to ARC mode, the SPDIF Out of Output2 will output the ARC audio from the TV connected to HDMI Out2.

IR Remote Control

The included remote-control handset can be used to turn on and off a CEC-enabled display device and to switch the HDMI source for each display device.

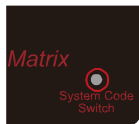


Note:

- As the internal battery inside the remote control of our device is packaged by insulation slice, please remove the insulation slice before use.
- Please make sure that the remote is pointed directly at the IR receiver window.

System Code Switch

The IR Remote provided with the Matrix is shipped in “00” IR system code. In the event that Remote’s IR signal interferes with IR devices, e.g. TV, DVD player, the Remote can be switched to “4E” code by short pressing the System Code Switch on the Remote panel. At the same time, you must redefine the IR system code of the Matrix using the API command.



RS232 Control

Advanced users may need to control the matrix through RS232 serial communication. Connect a control PC or control system to the RS232 port of the switcher.

A professional RS232 serial interface software (e.g. Serial Assist) may be needed as well.

Before executing the API command through RS232 serial connection, please ensure RS232 interface of the device and the control PC are configured correctly.

| Parameters | Value |
|--------------|------------|
| Baud Rate | 115200 bps |
| Data Bits | 8 bits |
| Parity | None |
| Stop Bits | 1 bit |
| Flow Control | None |

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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