DVDO

DVDO-Xtend-RX100
HDBaseT 2.0 Receiver with USB and Audio De-embedding

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.

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.

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.

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

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

6. Clean this apparatus only with dry cloth.

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

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

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

10. Refer all servicing to qualified service personnel.

Table of Contents

Introduction

This product is an HDBT 2.0 receiver that designed to work with an HDBT wall plate transmitter, reliably extending UHD video, multi-channel audio, USB 2.0, RS232 signal and power up to 100m/330ft over a single Cat X cable.

It supports USB 2.0 pass-through, providing a solution for users who need to remote control PC sources with keyboard, mouse, interactive display or USB streaming devices over distance. RS232 port allows bi-directional RS232 serial communication. With PSE module built-in, it can carry power to the transmitter with PD module via a single power supply.

Features

- Simple, ultra-slim and cost-effective HDBT 2.0 receiver
- HDBT input and HDMI output support resolutions up to 4K@60Hz (YUV 4:2:0) and HDCP 2.2
- HDBT transmission up to 100m/330ft at 1080P@60Hz and 4K@60Hz (YUV 4:2:0) via a Cat 6/6a/7 cable
- HDBT transmission up to 100m/330ft at 1080P@60Hz and up to 90m/295ft at 4K@60Hz (YUV 4:2:0) via a Cat 5e cable
- Supports analog audio pass-through from transmitter to receiver
- Supports analog audio de-embedding for HDMI output
- High-speed USB 2.0 pass-through over HDBT
- Provides four USB Device ports for remote KVM (Keyboard, Video, Mouse) control
- Supports bi-directional RS232 serial communication to control the RS232-enabled device when works with a normal HDBT transmitter
- Supports bi-directional RS232 serial communication to control a wall plate transmitter when works with this transmitter

- Built-in PSE to power remote HDBT transmitter

Package Contents

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

- DVDO-Xtend-RX100 Receiver x 1
- DC 12V Power Adapter (with US, UK, EU and AU pins) x 1
- Phoenix Male Connector (3.5mm, 3 Pins) x 1
- Mounting Brackets (with Screws) x 2

Specifications

Technical	
Input	1 x HDBT
Input Signal Type	HDBT 2.0
Input/Output Resolutions Supported	VESA: $800x600^8$, $1024x768^8$, $1280x768^8$, $1280x800^8$, $1280x960^8$, $1280x1024^8$, $1360x768^8$, $1366x768^8$, $1440x900^8$, $1600x900^8$, $1600x1200^8$, $1680x1050^8$, $1920x1200^8$ SMPTE: $720x480P^{7,8}$, $720x576P^6$, $1280x720P^{6,7,8}$, $1920x1080P^{6,7,8}$, $3840x2160P^{2,3,5,6,8}$, $4096x2160P^{2,3,5,6,8}$ 1 = at 23.98Hz, 2 = at 24Hz, 3 = at 25Hz, 4 = at 29.97Hz, 5 = at 30Hz, 6 = at 50Hz, 7 = at 59.94Hz, 8 = 60Hz **Note:** 4096x2160/3840x2160@50/60Hz is based on chroma sub-sampling 4:2:0 8-bit only.
Input Video Level	0.5~1.0V p-p
Maximum Pixel Clock	297MHz
Output	1 x HDMI OUT
Output Signal Type	HDMI 1.4
Video Impedance	100ohms
Audio Format	**HDMI Out:** Fully supports audio formats in HDMI 2.0 specification, including PCM 2.0/5.1/7.1, Dolby TrueHD, Dolby Atmos, DTS-HD Master Audio and DTS:X **AUDIO Out** (Unbalanced mini jack): Stereo
Control Method	1 x RS232, 4 x USB Devices

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 2A

| General	
Power Consumption (Max)	8W
Device Dimension (W x H x D)	210mm x 25mm x 90.2mm/8.27" x 0.98" x 3.55"
Product Weight	0.46kg/1.01lbs

Transmission Distance

Note: The use of T568B straight-through Category cables is recommended.

Cable Type	Range	Supported Video
Cat 5e	90m/295ft	4K@60Hz 4:2:0 8bit
	100m/328ft	1080P@60Hz
Cat 6/6a/7	100m/328ft	4K@60Hz 4:2:0 8bit, 1080P@60Hz

Panel Description

Front Panel
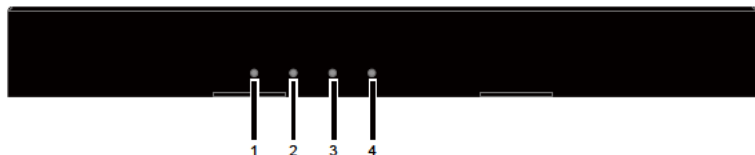
ID	Name	Description
1	Power LED (Red)	**On:** The device is powered on. **Off:** The device is powered off.
2	Status LED (Blue)	**Blinking slowly:** The device is working properly. **Off:** The device is not working properly.
3	HDCP LED (Blue)	**On:** HDCP protected content is being transmitted. **Blinking:** Non-HDCP protected content is being transmitted. **Off:** No content is being transmitted.
4	Link LED (Green)	**On:** HDBT link is normal. **Blinking/Off:** Link error or no link.

Rear Panel
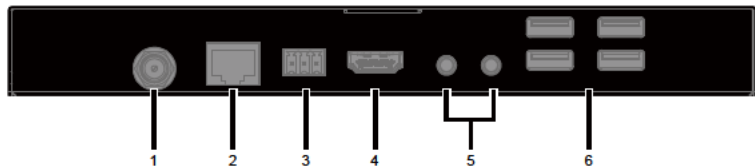
ID	Name	Description
1	DC 12V	DC 12V power input; connect the power adapter provided.
2	HDBT IN	Connect to HDBT OUT of the transmitter via a Cat X cable.
3	RS232	For bi-directional RS232 serial communication. Please see RS232 Operation section for more information.
4	HDMI OUT	Connect to an HDMI display.

| ID	Name	Description
5	AUDIO OUT	Unbalanced stereo audio output. • **De-embed (left)**: For audio de-embedding from the HDMI output. • **Pass Through (right)**: For audio pass-through from Audio IN port on the transmitter to this port.
6	USB DEVICE	Connect to USB devices (e.g. keyboard, mouse, USB camera, USB flash drive, etc.).

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.
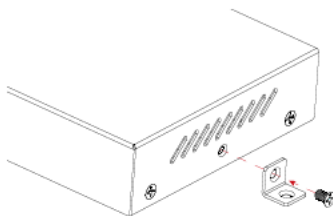
3. Repeat steps 1-2 for the other side of the unit.
4. Attach the brackets to the surface you want to hold the unit against using the screws (provided by others).

Wiring

Warnings:

- Before wiring, disconnect the power from all devices.
- During wiring, connect and disconnect the cables gently.

Steps for device wiring:

1. Connect video and audio sources to an HDBT transmitter.
2. Connect a USB Host device to USB port of the transmitter.
3. Connect HDBT OUT of the transmitter to HDBT IN of this receiver via a Cat 5e/6/7 cable.
4. Connect an HDMI display (e.g. TV, LED/LCD display, projector, etc.) to

HDMI OUT of the receiver.

5. Connect audio devices (e.g. earphone, speaker) to De-embed and Pass-through ports of the receiver.

6. Connect USB Devices to USB DEVICE of the receiver.

7. Connect DC 12V power adapter provided to the receiver. It can power this receiver and the transmitter with PD module. Power on all devices.
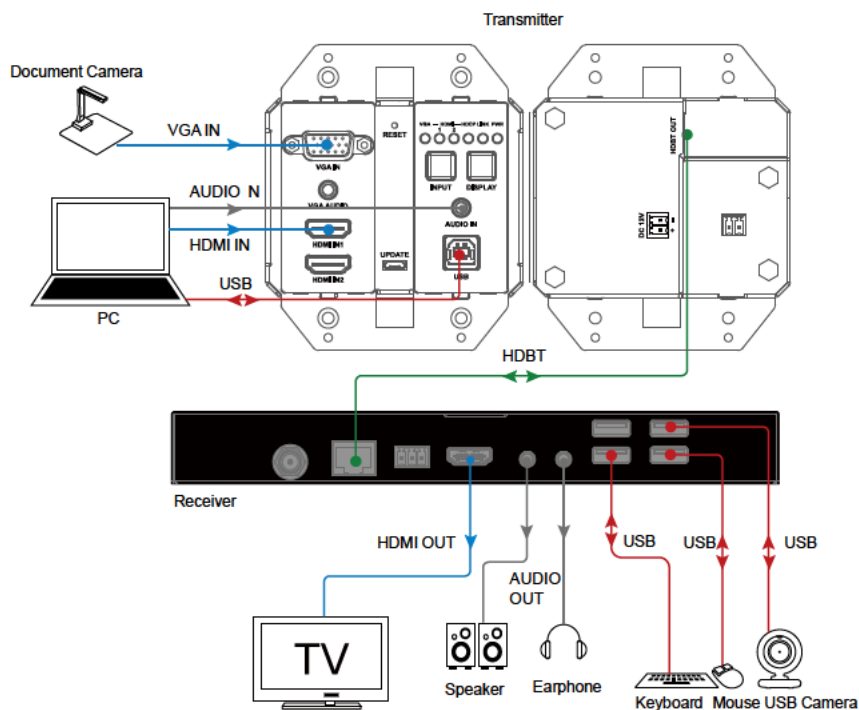
RS232 Operation

The receiver provides a RS232 port that allowing for RS232 bi-directional serial communication. You can control a RS232-enabled device connected to receiver at transmitter side.

Steps to control the RS232 device at transmitter side:

1. Connect RS232: Connect a RS232-enabled device (e.g. a projector) to RS232 port of the receiver.
2. Connect HDBT IN of the receiver to HDBT OUT of an HDBT transmitter.
3. Connect a host computer to the transmitter.
4. When all is set, serial commands can be transmitted between the computer and the projector bi-directionally to control the projector.
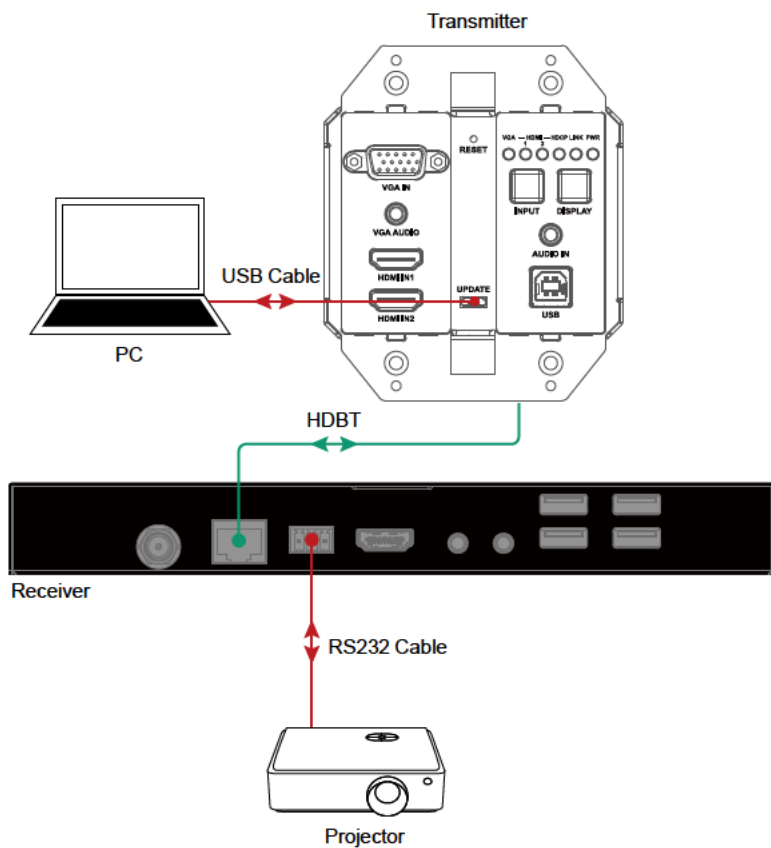
Warranty Terms and Conditions

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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