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DSCV1-70-TX

1-gang 4K Wall-plate Transmitter

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.



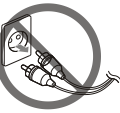
5. Do not place sources of naked flames, such as lighted candles, on the unit.



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.

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Introduction

Overview

This product is a 1-gang wall-plate transmitter. It supports resolutions up to 4K@60 4:2:0 8bit, and HDCP 2.2 compatibility. It can transmit 4K signal up to 35m/115ft via a single Cat 5e/6 cable and up to 40m/131ft via a single Cat 6a/7 cable. With one-way PoH function, the transmitter can be powered by the receiver with PSE module. The transmitter also features USB pass-through and RS232 pass-through over HDBT, and it also supports firmware upgrading through RS232 port.

Features

- HDMI 1.4 with 4K@60Hz 4:2:0 8bit and HDCP 2.2 compatibility.
- Supports signal transmission up to 35m/115ft for 4K and 60m/197ft for 1080P via a single Cat 5e/6 cable.
- Supports signal transmission up to 40m/131ft for 4K and 70m/230ft for 1080P via a single Cat 6a/7 cable.
- Supports one-way PoH, the transmitter can be powered by the receiver with PSE module.
- Supports USB pass-through and RS232 pass-through via HDBT port.
- Supports firmware upgrade through RS232 port and can be set through the DIP switch.

Package Contents

- 1 x Transmitter
- 1 x Phoenix Connector (3.5mm, 2 Pins)
- 1 x Phoenix Connector (3.5mm, 3 Pins)
- 1 x 1–Gang US Socket Cover, White (with Screws)
- 1 x User Manual

Specifications

Technical	
Input/Output Port	1 x HDMI IN, 1 x HDBT OUT, 1 x RS232, 1 x USB HOST, 1 x DIP Switch, 1 x DC 12V IN (2-Pin Phoenix Connector)
Input/Output Resolution Supported	<p>VESA: 800x600⁸, 1024x768⁸, 1024x768⁸, 1280x768⁸, 1280x800⁸, 1280x960⁸, 1280x1024⁸, 1360x768⁸, 1366x768⁸, 1400x1050⁸, 1440x900⁸, 1600x900⁸, 1600x1200⁸, 1680x1050⁸, 1920x1200⁸</p> <p>SMPTE: 1280x720P^{1,2,3,4,5,6,7,8}, 1920x1080I^{6,8}, 1920x1080P^{1,2,3,4,5,6,7,8}, 3840x2160^{2,3,5,6,8}, 4096x2160^{2,3,5,6,8}</p> <p>1 = at 23.98 Hz, 2 = at 24 Hz, 3 = at 25 Hz, 4 = at 29.97 Hz, 5 = at 30 Hz, 6 = at 50 Hz, 7 = at 59.94 Hz, 8 = at 60 Hz</p> <p>NOTE: 4096x2160/3840x2160@50Hz/60Hz is based on chroma sub-sampling 4:2:0 8-bit only</p>
Input/Output Audio formats Supported	<p>HDMI: Supports multi-channel audio formats, including PCM 2.0/5.1/7.1, Dolby TrueHD, Dolby Atmos, DTS-HD Master Audio and DTS:X</p> <p>AUDIO OUT: Stereo</p>
Maximum Data Rate	10.2Gbps
Maximum Pixel Clock	340MHz

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, with PoH function, the transmitter can be powered by the receiver with PSE module
Power Consumption (Max)	13.44W
Device Dimension (W x H x D)	45mm x 45.3mm x 105.6mm/ 1.77" x 1.78" x 4.16"
Product Weight	0.16kg/0.35lb

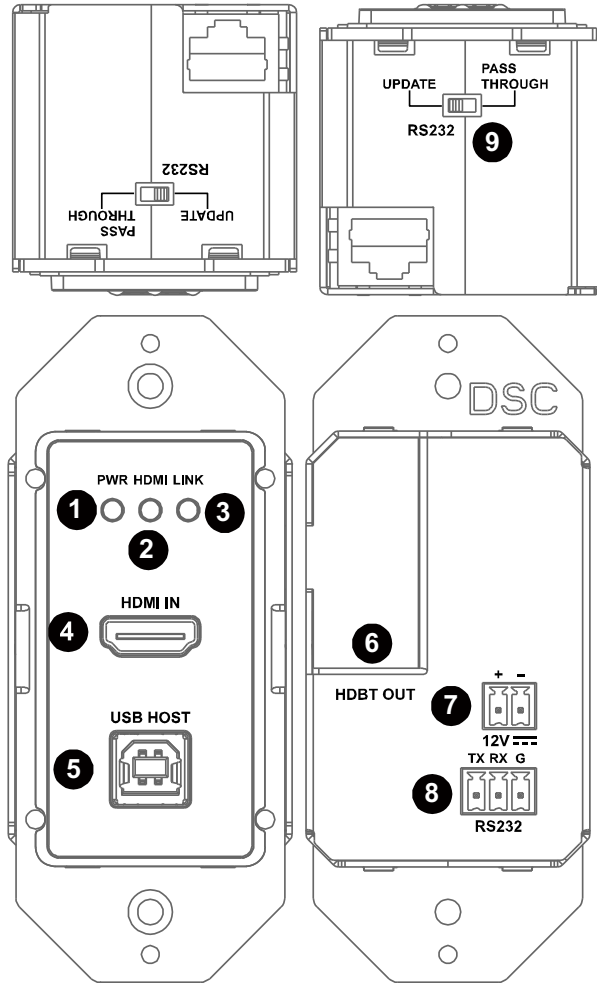
Transmission Distance

Note: T568B straight-through Category cable is recommended.

Cable Type	Range	Supported Video
Cat 5e/6	60m/197ft	1080P@60 36bpp
Cat 6a/7	70m/230ft	
Cat 5e/6	35m/115ft	4K@30Hz 4:4:4 24bpp 4K@60 4:2:0 24bpp
Cat 6a/7	40m/131ft	

Panel Description

Transmitter



ID	Name	Description
1	POWER LED	<ul style="list-style-type: none"> On: The device is powered on. Off: The device is powered off.
2	HDMI LED	<ul style="list-style-type: none"> On: HDMI input signal is active. Off: No HDMI signal input.
3	LINK LED:	<ul style="list-style-type: none"> On: HDBT link is normal. Blinking/Off: No HDBT link or link error.

ID	Name	Description
4	HDMI IN	Connect to an HDMI source device.
5	USB HOST	Connect USB host PC.
6	HDBT OUT	Connect to the HDBT receiver.
7	DC 12V	12V reserved power supply. Connect to a DC 12V power adapter. With one-way PoH function supported, the transmitter can be powered by the receiver with PSE module.
8	RS232	Connect to a RS232 enabled device for RS232 pass-through or firmware upgrade.
9	RS232 DIP Switch	Set the function of RS232 port. PASS-THROUGH: The RS232 port is used to commands pass-through via HDBT. Users can use API command to upgrade its MCU firmware in this mode. UPDATE: The RS232 port is used to upgrade Valens firmware.

Wiring

Wiring

Warnings:

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

Steps for device wiring:

1. Connect HDBT OUT port of the transmitter to HDBT IN port of the receiver (such as DSCV-70-RX) via a single Cat 5e/6/6a/7 cable.
Note: Ensure that the Cat x cable length doesn't exceed the maximum transmission distance (please refer to "Specification" section to get the maximum transmission distance).
2. Connect an HDMI source to HDMI IN port of transmitter.
3. Connect an HDMI display to HDMI OUT port of receiver.
4. Connect additional functions options.
 - USB pass-through: Connect USB host PC to HOST port of the transmitter and connect USB devices such as keyboard and mouse to USB DEVICE ports of the receiver. The

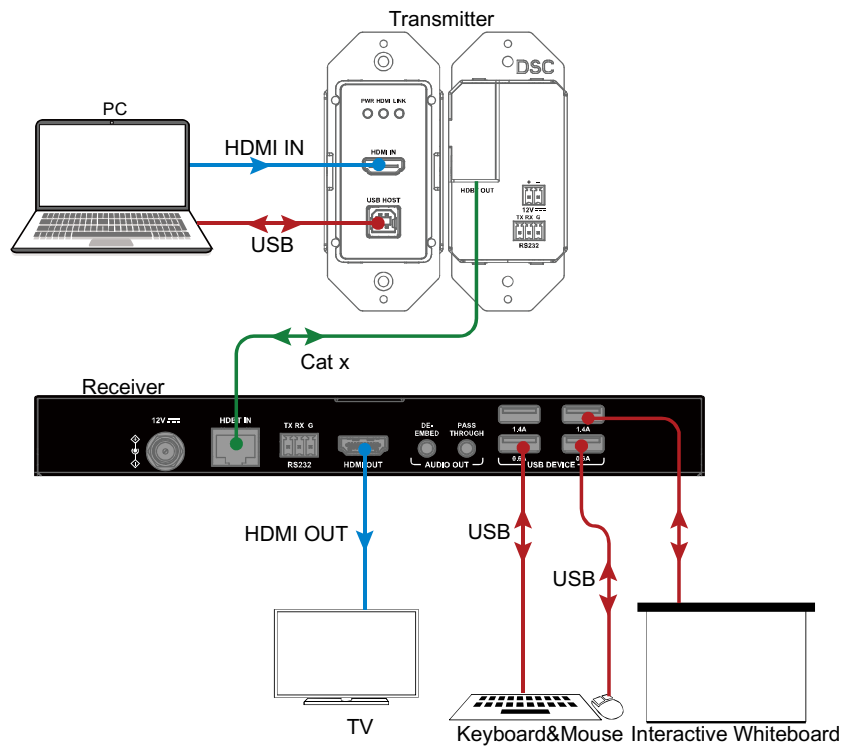
connected USB devices can be connected to the host PC.

- RS232 pass-through: Set the DIP switch of the transmitter to PASS-THROUGH position, connect a RS232 enabled device such as a PC to RS232 port of the transmitter and receiver respectively.

5. Connect the provided DC 12V power adapter to the receiver.

Note: With one-way PoH function supported, the transmitter can be powered by the receiver with PSE module, no additional power adapter is needed to be connected to the transmitter.

6. Power on all attached devices.



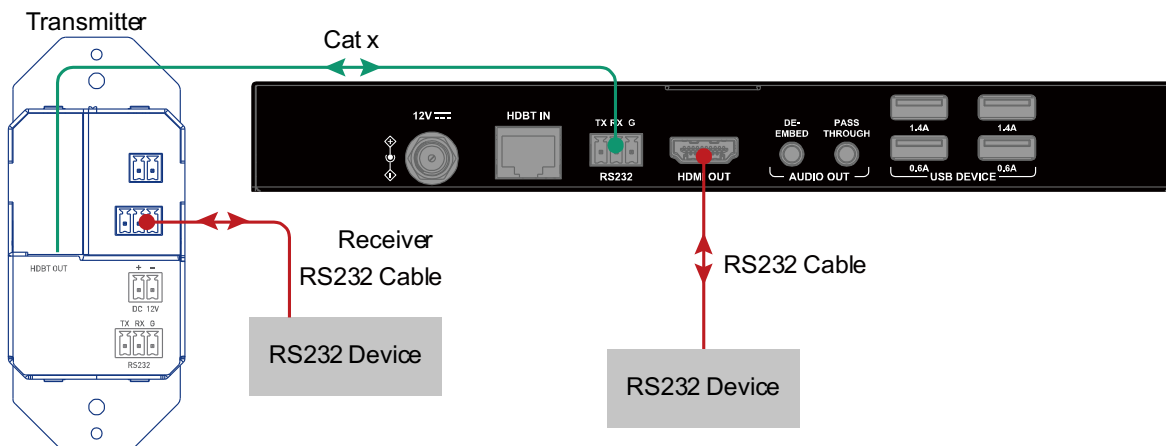
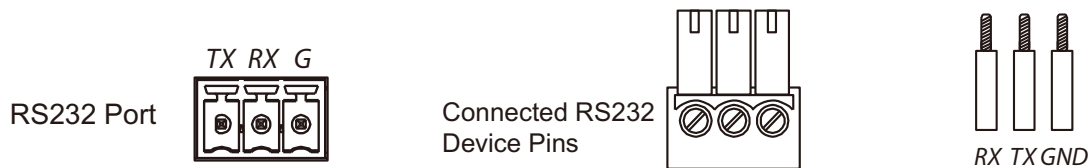
RS232 Pass-Through

RS232 ports can be used for bi-directional RS232 signal pass-through between the transmitter and receiver. Set the DIP switch of the transmitter to the position of PASS-THROUGH. Connect RS232 enabled devices (such as PC) to RS232 ports of the transmitter and receiver. Before executing the API commands through RS232, please ensure RS232 interface of the device and the connected PC are configured correctly. RS232 default settings are as follows:

Parameters	Value
Baud Rate	115200 bps
Data bits	8 bits
Parity	None
Stop bits	1 bit
Flow control	None

Note: In Pass-through mode, API commands also can be sent to the transmitter from transmitter side or receiver side to change baud rate, get its firmware version or upgrade its MCU, etc. (please refer to the separate document “API Command Set DSCV1-70-TX” to get detail commands information).

Pins and wiring figures are as follows:





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