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HALL TECHNOLOGIES DSCV2-70-TX-US 4K UHD In-Wall Transmitter with USB Host and CEC Triggering User Manual

Contents

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HDMI IN1

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HDMI IN2

USB-C

HDMI   USB HDCP LINK PWR
1   2   -C

ON
OFF

INPUT   DISPLAY

AUDIO IN

USB HOST
(HDMI 1&2)

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.

Introduction

Overview

This product is a 3 x 1 auto switching HDBaseT 2.0 transmitter that supports long distance transport of HDMI, USB-C and high-speed USB 2.0 signals up to 40m/131ft using a Cat 5e/6/6a/7 cable. It is 4K compatible with a max resolution of 4K@60Hz/4:2:0 8bit deep color. The PoH feature enables the transmitter to be powered by an HDBT receiver.

The transmitter allows you to automate the display power ON by using pre-loaded RS232 commands whenever a video signal is introduced to the system. It will also turn the display power OFF after a specified amount of time has passed when no video signal is present. It gives you the ability to turn the display ON or OFF as well and

switch from one input to another manually using the control buttons on the transmitter panel.

This product is ideal for situations where USB must be extended alongside HDMI for display interactivity for items such as interactive whiteboards or projectors.

Note: The transmitter must be used with an HDBaseT 2.0 receiver (e.g., DSCV-70-RX, sold separately) to complete the extension circuit.

Features

- Two HDMI inputs, One USB-C input and one HDBT output
- Transmits 4K@60Hz (YUV 4:2:0 color sub-sampling) up to 40m/131ft and 1080P@60Hz signal up to 70m/230ft via a Cat 6a/7 cable
- Transmits 4K@60Hz (YUV 4:2:0 color sub-sampling) signal up to 35m/115ft and 1080P@60Hz signal up to 60m/197ft via a Cat 5e/6 cable
- Supports automatic switching
- Additional analog audio input pass-through allows for audio distribution to the HDBT receiver side
- High-speed USB 2.0 pass-through over HDBT up to 70m
- PoH capable – can be powered by connected receiver with PSE module
- Firmware upgrade through Micro USB port

Package Contents

- 1 x Transmitter
- 1 x Wall Plate Plastic Panel (2-Gang US, with Screws)
- 1 x USB B to A Cable
- 1 x Phoenix Male Connector (3.5mm, 4 Pins)
- 4 x Mounting Screws
- 1 x User Manual

Specifications

Technical	
Input/Output Port	2 x HDMI IN, 1 x USB-C, 1 x AUDIO IN (Unbalanced stereo 3.5mm), 1 x USB HOST, 1 x HDBT OUT, 1 x RS232 (5-Pin 3.5mm Phoenix connector), 1 x UPDATE (Micro USB)
Input Video Signal	HDMI (4K@60Hz YUV 4:2:0, HDCP 2.2), USB-C DP Alt mode
Output Video Signal	HDBT 2.0
	HDMI:
	VESA:
	800×6008, 1024×7688, 1280×7208, 1280×7688,
	1280×8008, 1280×9608, 1280×10248, 1360×7688,
Input/Output	1366×7688, 1440×9008, 1600×9008, 1600×12008,
Resolution	1680×10508, 1920×10808, 1920×12008, 2560×14408, 2560×16008
Supported	SMPTE: 3840x2160P2,5,8(YUV4:2:0), 4096x2160P2,5,8(YUV4:2:0)
	USB-C: Same as above
	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 = 60 Hz
Audio Format	**HDMI/USB-C:** 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 IN:** Stereo
Maximum Pixel Clock	340MHz
Maximum Data Rate	10.2Gbps
Control Method	Auto Switching, Front panel buttons, API commands

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)

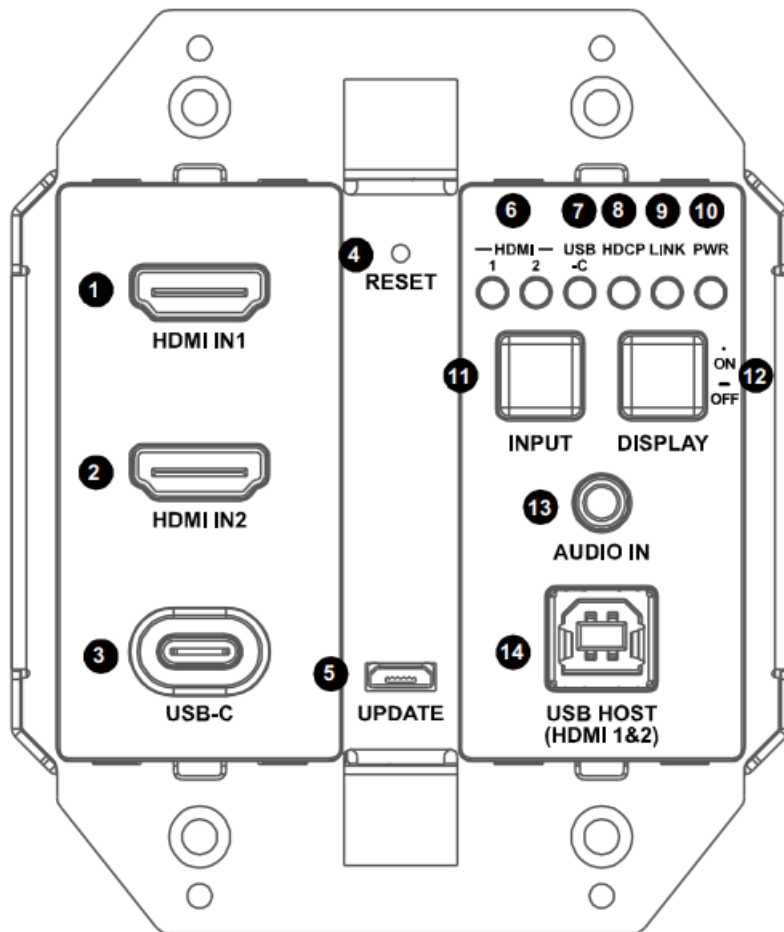| General	
Power Supply	PoH, powered by connected receiver with PSE module; or local power supply through the 12V phoenix connector
Power Consumption (Max)	7.8W
Device Dimension (WxHxD)	89mm x 38.4mm x 105.6mm/3.5" x 1.51" x 4.16"
Product Weight	0.3kg/0.66lbs

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
Cat 6a/7	40m/131ft	4K@60 4:2:0 24bpp

Panel Description

Front Panel

ID	Name	Description
1&2	HDMI IN 1-2	HDMI inputs 1&2. Connect to HDMI sources.
3	USB-C	USB-C input. Connect to a USB-C source.
4	RESET	Use this button to reset device. When the transmitter is powered on, use a pointed stylus to hold down this button for five or more seconds and then release, the transmitter will reboot and restore to its factory defaults.
5	UPDATE	Micro USB port for firmware update or RS232 serial control.
6	HDMI LEDs (1-2)	**On:** Corresponding HDMI input signal is being transmitted. **Off:** No HDMI signal is being transmitted or signal is unstable.
7	USB-C LED	**On:** Corresponding USB-C input signal is being transmitted. **Off:** No USB-C signal is being transmitted or signal is unstable.
8	HDCP LED	**On:** Video signal is being transmitted.

ID	Name	Description
		Off: No video signal is being transmitted.
9	LINK LED	**On:** HDBT link is normal. **Off**/**Blinking:** No HDBT link or link error.
10	POWER LED	**On:** The transmitter is powered on. **Off:** The transmitter is powered off.
11	INPUT Selection Button	Input selection button. Press this button to select input among HDMI and USB-C sources.
12	DISPLAY On/Off Button	Display On/Off button. **Display On:** Short press to turn on the display device. **Display Off:** Hold press for at least 3 seconds to turn off the display device.
13	AUDIO IN	Pass-through audio input. Connect to an audio source.
14	USB HOST (HDMI 1&2)	USB-B input. Connect to a USB host device.

Rear Panel
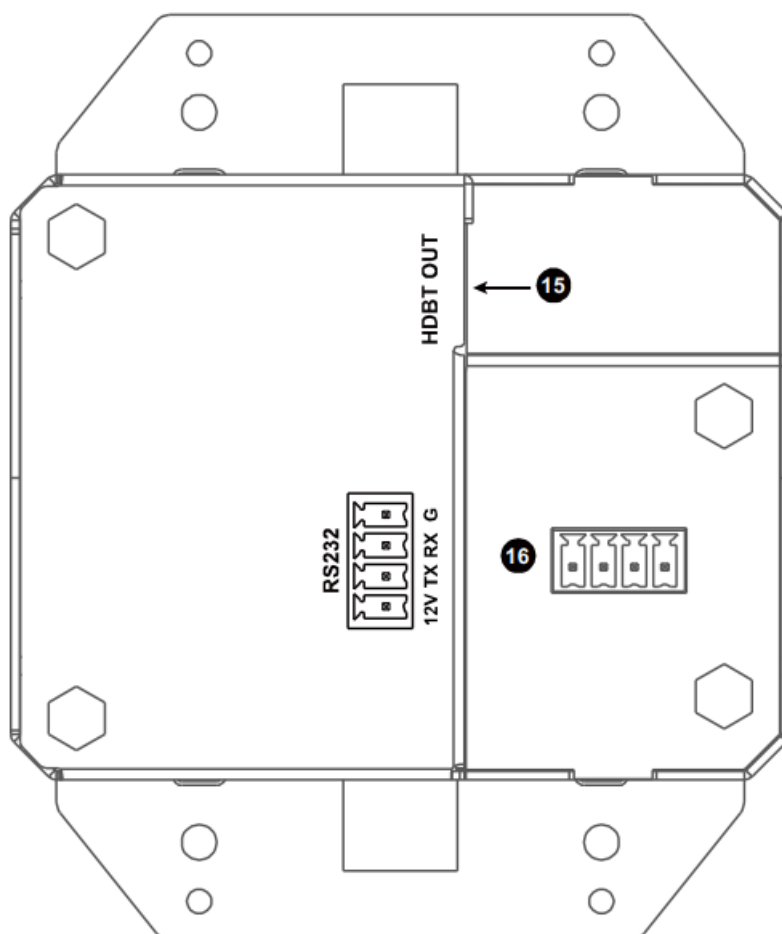
| ID	Name	Description
15	HDBT OUT	HDBaseT Output. Connect to an HDBT receiver.
16	RS232	Pins TX, RX and G are used to connect to a third-party device for controlling this transmitter. Pins 12V and G are used for providing 12V power (max 5W) to the third-party device or for connecting a local 12V power adapter.

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
2. Connect HDBT OUT of the transmitter to HDBT IN of an HDBT receiver via a Cat 5e/6/6a/7 cable.
3. For additional control option: Connect a control keypad to RS232 of the transmitter.

4. Connect an HDMI display and USB devices to the receiver.

5. Power on the receiver.

6. Connect the video sources and USB host device to the transmitter.

7. Select a desired video source through automatic or manual switching function.
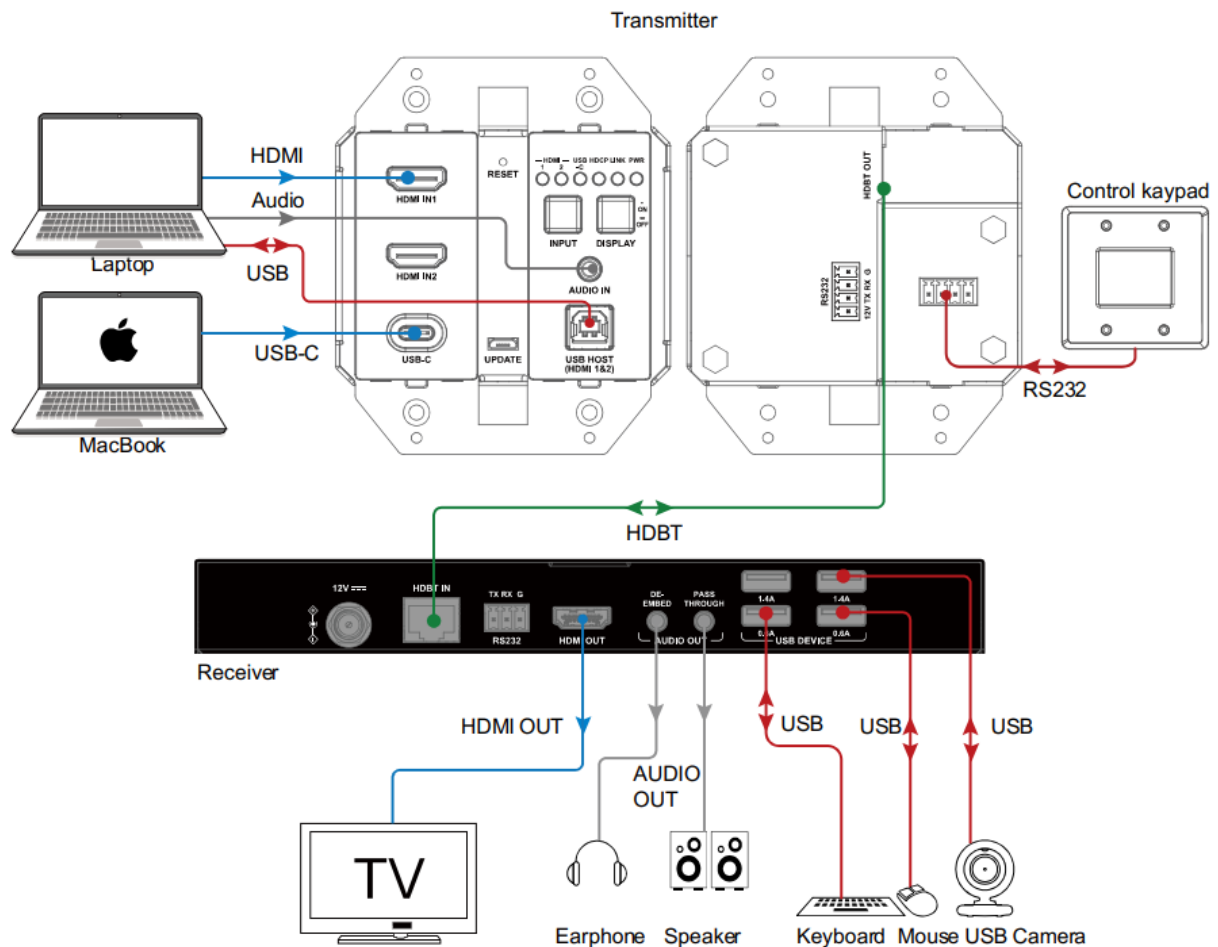
Automatic Switching

- The transmitter offers automatic switching function.
- The automatic switching function follows the Last-In-First-Out rule. For example, if a new active source is connected, the transmitter will automatically switch to this source. If the source selected
- is removed, the transmitter will automatically switch to the source with top priority (default priority: USB-C > HDMI IN 1 > HDMI IN 2).
- If you want the display to play video from a specific video source:
- Disconnect the cable from your desired video source, and then connect it again.
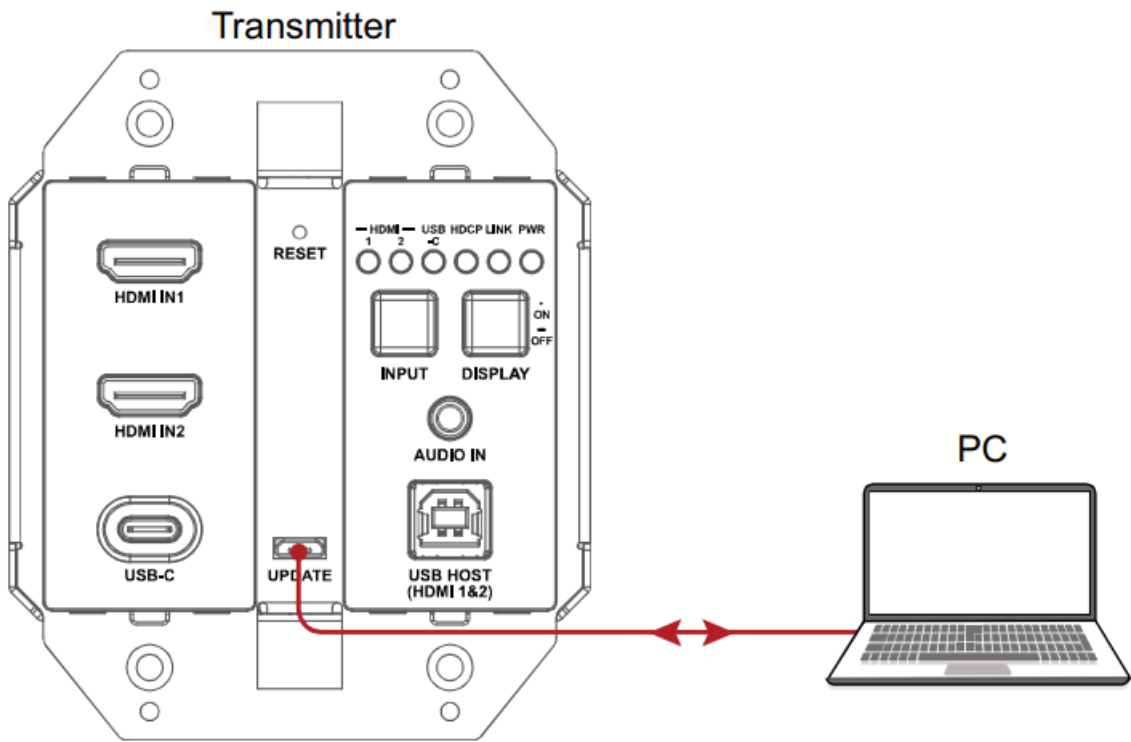- Use the Input Selection button on the front panel or API commands to select your desired video source.

Note: The automatic switching function can detect the input signal with 5V only. If the selected source in standby mode provides a continuous 5V power output, this function will not work, i.e., the transmitter will not switch the input to other active sources. In this case, please turn off the selected source in standby mode or remove it from the transmitter.

Device Control

Advanced users can control the transmitter via API command through UPDATE port: connect a control PC to the UPDATE port of the transmitter (see the following figure). API command for device control is available in the separate document "API Command Set_EX0101-N008-H20&H21". A professional RS232 serial interface software (e.g., Serial Assist) may be needed as well.

Before sending the API command to control the transmitter, ensure the transmitter and control PC are configured correctly.

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

Documents / Resources

HALL TECHNOLOGIES DSCV2-70-TX-US 4K UHD In-Wall Transmitter with USB Host and CEC Triggering [pdf] User Manual

DSCV2-70-TX-US 4K UHD In-Wall Transmitter with USB Host and CEC Triggering, DSCV2-70-TX-US, 4K UHD In-Wall Transmitter with USB Host and CEC Triggering

References

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