SCT-HDBT3KVM-TRX

HDBT 3.0 KVM Transceiver

User Manual

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Version: SCT-HDBT3KVM-TRX_2024 V1.0.1

Preface

Read this user manual carefully before using the product. Pictures shown in this manual are for reference only. Different models and specifications are subject to real product.

This manual is only for operation instruction, please contact the local distributor for maintenance assistance. The functions described in this version were updated till June, 2021. In the constant effort to improve the product, we reserve the right to make functions or parameters changes without notice or obligation. Please refer to the dealers for the latest details.

SAFETY PRECAUTIONS

To ensure the best from the product, please read all instructions carefully before using the device. Save this manual for further reference.

- Unpack the equipment carefully and save the original box and packing material for possible future shipment.
- Follow basic safety precautions to reduce the risk of fire, electrical shock and injury to persons.
- Do not dismantle the housing or modify the module. It may result in electrical shock or burn.
- Using supplies or parts not meeting the products' specifications may cause damage, deterioration or malfunction.
- Refer all servicing to qualified service personnel.
- To prevent fire or shock hazard, do not expose the unit to rain, moisture or install this product near water.
- Do not put any heavy items on the extension cable in case of extrusion.
- Do not remove the housing of the device as opening or removing housing may expose you to dangerous voltage or other hazards.
- Install the device in a place with fine ventilation to avoid damage caused by overheat.
- Keep the module away from liquids.
- Spillage into the housing may result in fire, electrical shock, or equipment damage. If an object or liquid falls or spills on to the housing, unplug the module immediately.
- Do not twist or pull by force ends of the cable. It can cause malfunction.
- Do not use liquid or aerosol cleaners to clean this unit. Always unplug the power to the device before cleaning.
- Unplug the power cord when left unused for a long period of time.
- Information on disposal for scrapped devices: do not burn or mix with general household waste, please treat them as normal electrical wastes.

Table of Contents

1. Introduction

1.1. Overview

This device is an HDBT 3.0 extender based on the new generation of HDBT 3.0 platform, which can transmit the uncompressed HDMI2.0 video signal up to 4K@60Hz 4:4:4 8-bit over 100m Cat 6a cable.

1.2. Features

- **Transceiver design.** It can be arbitrarily set as a transmitter or a receiver and can be switched at any time, making the installation easier.
- **Uncompressed video.** It transmits 4K@60Hz 4:4:4 8-bit signal without compression and supports any HDR format, including Dolby Vision and HDR10+.
- **KVM.** Supports USB 2.0 & analog audio pass through with variable direction.
- **HDMI loop-out**. It supports local HDMI loop-out when it is set as transmitter mode.
- **Audio de-embedding**. Supports audio de-embedding at both ends.
- **1G/100Mbps network.** Supports 1G/100M adaptive network transparent transmission.
- **Multiple signal transmission support (e.g., IR, RS232).**
- **Two-way PoH.** Supports two-way PoH function, only need to connect one power adapter at one end, making the installation more flexible.

1.3. Package Contents

- 1 x Transceiver
- 1 x DC 12V Power Adapter
- 1 x AC Power Cord (with EU Pins)
- 1 x IR Emitter
- 1 x Broadband IR Receiver (30kHz-50kHz)
- 2 x Phoenix Male Connectors (3.5mm, 3 Pins)
- 2 x Mounting Brackets (with Screws)
- 1 x User Manual

1.4. Specifications

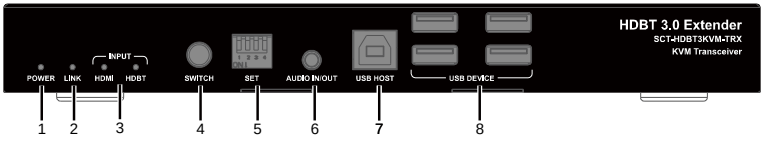
Technical	
Video Input	Transmitter mode: 1 x HDMI Receiver mode: 1 x HDMI, 1 x HDBT
Input Video Signal	HDMI with 4K@60 YUV 4:4:4, HDCP 2.2
Video Output	Transmitter: 1 x HDMI, 1 x HDBT Receiver: 1 x HDMI
Output Video Signal	HDBT, HDMI
Input/Output Resolutions	4096 x 2160[2,5,6,7,8(YUV 4:4:4)], 3840 x 2160[2,5,8(YUV 4:4:4)], 2560x1600[8], 2560x1440[8], 1920x1200[8], 1920x1080P[8], 1680x1050[8], 1600x1200[8], 1600x900[8], 1440x900[8], 1366x768[8], 1360x768[8], 1280x1024[8], 1280x960[8], 1280x800[8], 1280x768[8], 1280x720[8], 1024x768[8], 800x600[8] 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
Audio Input	1x analog audio (pass-through)
Audio Output	1x analog audio (pass-through) 1x analog audio (audio de-embedding)
Audio Format	• Audio In/Out: Stereo • HDMI In/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 • HDBT: Same as HDMI In/Out
Maximum Pixel Clock	600MHz
Maximum Data Rate	18Gbps
USB Spec	USB 2.0 and backward compatible with USB 1.1/1.0

Technical	
USB Port	1x USB 2.0 host port (type-B) 4x USB 2.0 device ports (type-A)
Control Method	RS232
Transmission Distance	• 1080P: 100m • 4K@60Hz 4:2:0: 100m • 4K@60Hz 4:4:4: 100m over Cat 6a/7 cable

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	DC12V 3A
Power Consumption (Max)	18.96W
Device Dimension (W x H x D)	215mm x 25mm x 120mm/8.46” x 0.98” x 4.72”
Product Net Weight	0.60kg/1.32lbs

1.5. Panel Descriptions

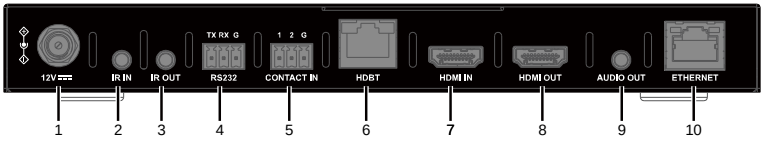
1.5.1. Front Panel



ID	Name	Description
1	Power LED	• On: The device is powered on. • Off: The device is powered off.
2	Link LED	• On: The HDBT ports between this device and another transceiver are connected. • Off: The HDBT ports between this device and another transceiver are not connected.
3	Input	• HDMI LED On: The HDMI In is selected as input video source. • HDBT LED On: The HDBT is selected as input video source. **Note:** These two LED indicators indicate the input

ID	Name	Description
		source selection status of receiver only.
4	Switch	Press this button to select the input video source between HDMI In and HDBT In for receiver.
5	Set	4-Pin DIP Switch for settings of transceiver's working mode (transmitter/receiver), USB mode (USB Host/USB Device), Audio In/Out and RS-232 working mode (RS232 pass-through, API control or firmware update). For more information, see "DIP Switch Settings" section.
6	Audio In/Out	This port can be configured as Audio Input or Audio Output port. For more information, see "DIP Switch Settings" section.
7	USB Host	USB 2.0 Type-B port. Connect to a USB host device (e.g., PC).
8	USB Device	USB 2.0 Type-A port. Connect to USB slave devices (e.g., keyboard, mouse, etc.).

1.5.2. Rear Panel



ID	Name	Description
1	DC 12V	Connect to the power adapter provided.
2	IR In	Connect to the IR receiver provided.
3	IR Out	Connect to the IR emitter provided.
4	RS232	Connect to a RS232 device for bi-directional RS232 pass-through, API control or firmware upgrade. The default baudrate of this port is 115200.
5	Contact In	Connect to a keypad or push button to select the input video source between HDMI In and HDBT In for receiver.
6	HDBT	Connect to another transceiver for HDBT transmission.
7	HDMI In	Connect to an HDMI source device.
8	HDMI Out	Connect to an HDMI display device.
9	Audio Out	Connect to an audio receiver (e.g., speaker) for audio de-embedding output. **Note:** The AUDIO OUT port can only output audio when the device is connected to a display via HDMI OUT port. For example, when the device is configured as a transmitter, it is necessary to connect to a display

ID	Name	Description
		via local HDMI OUT, and then the AUDIO OUT port can output audio.
10	Ethernet	Connect either side to the wireless router for Ethernet pass-through.

2. Installation and Wiring

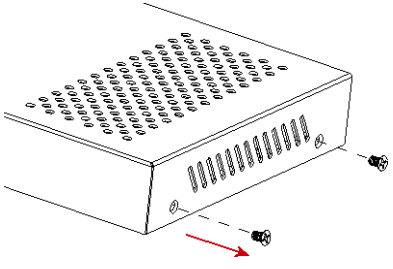
2.1. Installation

Warnings:

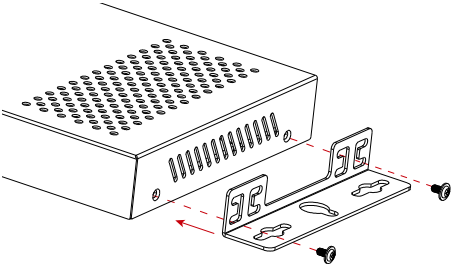
- Before wiring, disconnect the power from the device.
- During wiring, connect and disconnect the cables gently.

To install the device to a suitable location, perform the following:

1. Remove the two screws on one side of the enclosure.



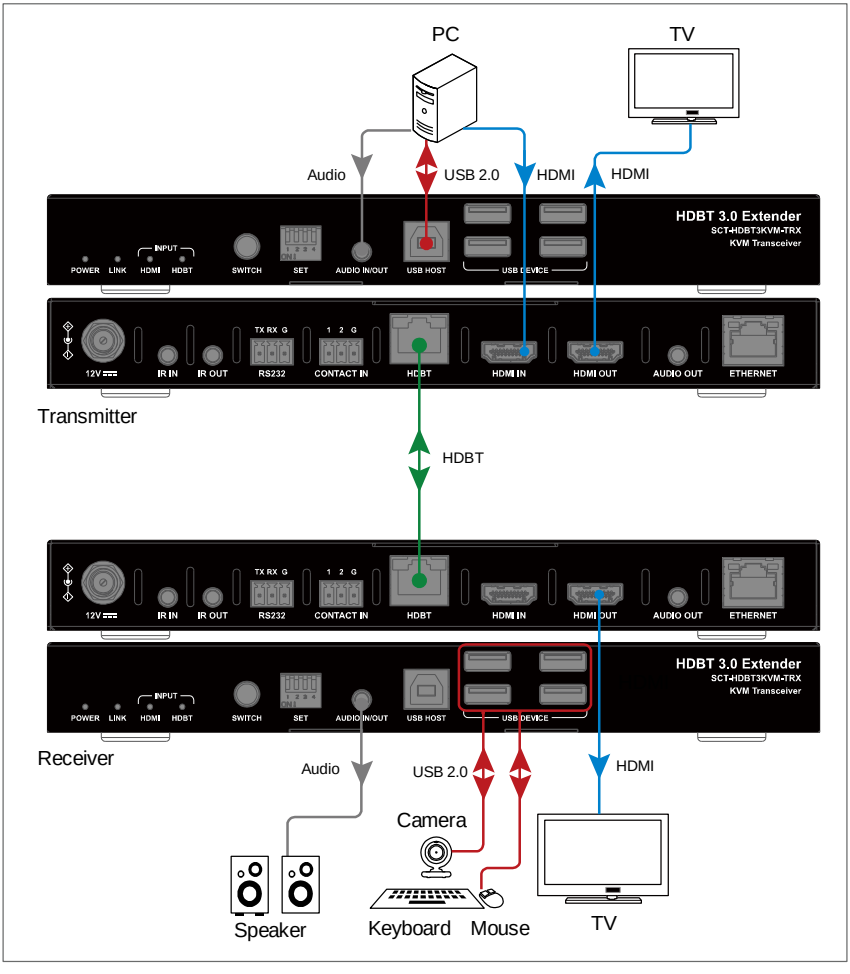
2. Attach the installation bracket to the enclosure using the screws provided. The bracket is attached to the enclosure as shown.



3. Repeat steps 1-2 for the other side of the device.

4. Attach the brackets to the surface you want to hold the device against using the screws (not included).

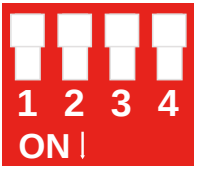
2.2. Wiring



3. DIP Switch Settings

This device equips a 4-pin DIP switch for settings of working mode (transmitter/receiver), USB mode (USB Host/USB Device), Audio In/Out and RS-232 working mode (RS232 pass-through, API control or firmware update).

By default, all the four switches are set in (up, up, up, up) positions.



The following table shows how the DIP Switch functions:

DIP Position				Function
1	2	3	4	
up				Set as Transmitter
down				Set as Receiver
	up			Set as USB Host and Audio In (analog audio pass through)
	down			Set as USB Device and Audio Out (analog audio pass through)
		up	up	RS232 pass through
		down	up	RS232 for API and MCU update
		up	down	RS232 for HDBT update
		down	down	Reserved

4. Customer Service

The return of a product to our Customer Service implies the full agreement of the terms and conditions hereinafter. There terms and conditions may be changed without prior notice.

4.1. Warranty

The limited warranty period of the product is fixed three years.

4.2. Scope

These terms and conditions of Customer Service apply to the customer service provided for the products or any other items sold by authorized distributor only.

4.3. Warranty Exclusion:

- Warranty expiration.
- Factory applied serial number has been altered or removed from the product.
- Damage, deterioration or malfunction caused by:
  - ✓ Normal wear and tear.
  - ✓ Use of supplies or parts not meeting our specifications.
  - ✓ No certificate or invoice as the proof of warranty.
  - ✓ The product model showed on the warranty card does not match with the model of the product for repairing or had been altered.
  - ✓ Damage caused by force majeure.
  - ✓ Servicing not authorized by distributor.
  - ✓ Any other causes which does not relate to a product defect.
- Shipping fees, installation or labor charges for installation or setup of the product.

4.4. Documentation:

Customer Service will accept defective product(s) in the scope of warranty coverage at the sole condition that the defeat has been clearly defined, and upon reception of the documents or copy of invoice, indicating the date of purchase, the type of product, the serial number, and the name of distributor.
Remarks: Please contact your local distributor for further assistance or

solutions.

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