



User Manual

EXT-C211UETH-HDBT3

18G USB-C EXTENDER SET OVER HDBT3 WITH USB 2.0 AND 1G ETHERNET



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Version: EXT-C211UETH-HDBT3_2026V1.0

Preface

Read this user manual carefully before using the product. Pictures shown in this manual are for reference only. Actual products may vary depending on model and specification.

This manual is intended for operating instructions only. For maintenance assistance, please contact your local distributor. The functions described in this version correspond to manual version 1.0.0. In the constant effort to improve the product, we reserve the right to make changes to functions or parameters without notice or obligation. Please contact your dealer for the latest details.

FCC Statement

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. It has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a commercial installation.

Operation of this equipment in a residential area is likely to cause interference, in which case the user at their own expense will be required to take whatever measures may be necessary to correct the interference.

Any changes or modifications not expressly approved by the manufacturer would void the user's authority to operate the equipment.

SAFETY PRECAUTIONS

To ensure the best performance of 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 people.
- Do not dismantle the housing or modify the module. It may result in electrical shock or burn.
- Using supplies or parts that do not meet the product's 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 good ventilation to avoid damage caused by overheating.
- Keep the module away from liquids.
- Spillage in the housing may result in fire, electrical shock, or equipment damage. If an object or liquid falls or spills onto the housing, unplug the module immediately.
- Do not twist or pull the cable ends with excessive force. This may 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 of scrapped devices: do not burn or mix with general household waste. Please dispose of them as electrical waste.

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1. Product Introduction

The EXT-C211UETH-HDBT3 is an 18G USB-C extender set over HDBaseT 3.0 with USB 2.0 and 1G Ethernet. The extender set consists of one transmitter and one receiver and is designed for professional AV installations requiring uncompressed 4K60 4:4:4 video, USB extension, Ethernet extension, and audio functionality over a single CAT6A solid core cable.

The system uses HDBaseT 3.0 technology to transmit 4K60 4:4:4 or 1080p video signals up to 100 meters (328 feet) without compression or quality degradation. The transmitter provides two switchable inputs: one USB-C DisplayPort Alt Mode input and one HDMI 2.0b input. Source switching can be performed manually or automatically.

The extender set supports audio de-embedding on both transmitter and receiver, ARC/eARC audio return functionality, bi-directional IR, RS-232 pass-through control, and 1G Ethernet extension. Flexible USB operation allows the active host to be located on either the transmitter or receiver side, depending on the installation.

The USB-C input supports video, USB data, Ethernet access, and up to 100W charging when an external USB-C PD power supply is connected to the PD port. Bi-directional 24V PoC enables either the transmitter or receiver to power the other unit, so only one 24V power supply is required for the complete system.

1.1. Key Features

- HDBaseT 3.0 (VS3000) technology for extension of HDMI 2.0b 18 Gbps signals without compression.
- Extends 4K60 4:4:4 or 1080p video signals up to 100 meters (328 feet) over a single CAT6A solid core cable.
- Supports HDR, HDR10, HLG and Dolby Vision pass-through.
- Transmitter features two switchable inputs: one USB-C DisplayPort Alt Mode input and one HDMI 2.0b input.
- Manual or automatic input switching.
- HDMI 2.0b loop output on transmitter.
- HDCP 2.3/2.2/1.x pass-through compliant.
- HDCP input and output management.
- EDID management.
- HPD (5V) behavior management.
- Audio de-embedding on both transmitter and receiver.
- ARC/eARC audio return support.
- USB-C input supports up to 100W charging when an external USB-C PD power supply is connected to the PD port.
- USB-C and USB-B host ports support 1G Ethernet pass-through when network is connected on either transmitter or receiver side.
- Two USB 5 Gbps local ports and two USB 2.0 remote ports on both transmitter and receiver.
- USB dynamic switching follows the active video source when the transmitter is selected as the host side.
- USB device power management: AUTO follows the active host; ON keeps USB device power always on.
- HDMI and USB-C inputs support ultra-wide aspect ratios, including 21:9 formats such as 3840x1620@60.
- Bi-directional IR, RS-232 pass-through control and Ethernet extension.
- Bi-directional 24V PoC - only one power adapter is required for the complete system.

1.2. Packing List

- 1x EXT-C211UETH-HDBT3 Transmitter
- 1x EXT-C211UETH-HDBT3 Receiver
- 1x 24V@2.7A DC Power Supply (EU/UK/US)
- 4x Mounting Ears with Screws (attached by default)
- 8x Rubber Feet
- 2x 5-pin Phoenix Connectors (Audio)
- 4x 3-pin Phoenix Connectors (RS-232 / IR IN)
- 2x 2-pin Phoenix Connectors (IR OUT)
- 1x User Manual

Note: Please contact your distributor immediately if any damage or defect in the components is found.

1.3. Optional Accessories

The following IR accessories are available separately for IR pass-through applications:

- SP-IRE-2P IR Emitter Cable
- SP-IRR-3P IR Receiver Cable

1.4. Customer Service

TiGHT AV provides a limited warranty for this product for five years from the date of purchase (the purchase invoice shall prevail).

For more information, see the TiGHT AV general warranty statement at <https://tightav.com/warranty-statement> or scan the QR code below.



2. Technical Specification

Video and Audio	
HDMI Compliance	HDMI 2.0b
HDCP Compliance	HDCP 2.3 and HDCP 1.x
USB-C Compliance	2-lane DisplayPort Alt Mode, USB Gen 3.2 Gen 2
DisplayPort Compliance	DisplayPort 1.4a
Video Bandwidth	18 Gbps
HDBaseT Transmission Distance	Up to 4K60: 328ft/100m using Cat6A
Supported Video Resolutions	640x480p60Hz, 800x600p60Hz, 1024x768p60Hz, 1280x1024p60Hz, 1360x768p60Hz, 1440x900p60Hz, 1440x1050p60Hz, 1600x1200p60Hz, 720x480i59.94Hz(480i59), 720x480p59.94Hz(480p59), 720x576i50Hz(576i50), 720x576p50Hz(576p50), 1280x720p50Hz(720p50), 1280x720p59.94Hz(720p59), 1280x720p60Hz(720p60), 1920x1080i50Hz(1080i50), 1920x1080i59.94Hz(1080i59), 1920x1080i60Hz(1080i60), 1920x1080p23.98Hz(1080p23), 1920x1080p24Hz(1080p24), 1920x1080p25Hz(1080p25), 1920x1080p29.97Hz(1080p29), 1920x1080p30Hz(1080p30), 1920x1080p50Hz(1080p50), 1920x1080p59.94Hz(1080p59), 1920x1080p60Hz(1080p60), 3840x2160p23.98Hz(2160p23), 3840x2160p24Hz(2160p24), 3840x2160p25Hz(2160p25), 3840x2160p29.97Hz(2160p29), 3840x2160p30Hz(2160p30), 3840x2160p50Hz(2160p50), 3840x2160p59.94Hz(2160p59), 3840x2160p60Hz(2160p60), 3840x1620p60Hz*, 4096x2160p23.98Hz, 4096x2160p24Hz, 4096x2160p25Hz, 4096x2160p29.97Hz, 4096x2160p30Hz, 4096x2160p50Hz, 4096x2160p59.94Hz, 4096x2160p60Hz
Color Depth	8/10/12bit
Color Space	RGB, YCbCr 4:4:4, YCbCr 4:2:2, YCbCr 4:2:0
HDR	HDR, HDR10, HDR10+, Dolby Vision, HLG
Audio Formats	USB-C/HDMI IN, HDMI OUT: LPCM, Dolby Digital/Plus/EX, Dolby True HD, Dolby Atmos, DTS, DTS-EX, DTS-96/24, DTS High Res, DTS-HD Master Audio, DSD AUDIO BREAKOUT: Optical OUT: Up to LPCM/Dolby/DTS 5.1CH Line OUT: LPCM 2CH

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Output Impedance	600 Ohm balanced
	300 Ohm unbalanced
Output Level (Max)	Max 8.2dBu (2Vrms) balanced audio Max 2.2dBu (1Vrms) unbalanced audio
Frequency Response	20Hz to 20kHz (± 0.5 dB)
Dynamic Range	> 90dB@0dBu, 1kHzA-weighted
Audio S/N Ratio	> 90dB@0dBu, 1kHzA-weighted
Audio THD+N	< 0.01% at +4dBu, 1kHz
Stereo Channel Separation	>100dB@1kHz to 20kHz
Audio Output Delay	<1ms
USB Standard	
USB Host	(1) USB-C: USB 3.2 Gen1 (1) USB-B: USB 3.2 Gen1
USB Devices Remote	(2) USB-A: USB 2.0, 5V@500mA
USB Devices Local	(2) USB-A: USB 3.2 Gen1, 5V@900mA
USB Tiers per TX and RX KIT	USB 3.2 Gen1: 2 Tiers USB 2.0: 4 Tiers
USB-C Power Charging	100W PD3.0 (external USB-C power supply)
USB 2.0 Bandwidth over HDBaseT	Up to 272Mbps
Control TX/RX	
IR IN	(1) 3-pin Phoenix connector 5V-S-GND
IR OUT	(1) 2-pin Phoenix connector S-GND
IR Level	5Vp-p
IR Bandwidth	Wideband 20k - 60kHz
RS232	(1) 3-pin Phoenix connector RX-TX-GND BAUD 2400-115200
CEC	Pass-through (when ARC switch is selected to PASS)
LAN passthrough over HDBaseT	(1) RJ45 port, 10/100/1000Base-T auto negotiation.
General	
Operating Temperature	32°F ~ 104°F / 0°C ~ 40°C
Storage Temperature	-4°F ~ 140°F / -20°C ~ 60°C
Operating Humidity	20% ~ 80% (relative humidity, no condensation)
Storage Humidity	10% ~ 90% (relative humidity, no condensation)
Housing	Metal Enclosure
Dimensions	Transmitter: 230mm [W] x 130mm [D] x 25mm [H] Receiver: 180mm [W] x 130mm [D] x 25mm [H]
Shipping Dimensions Kit	Box: 287mm [W] x 245mm [D] x 60mm [H]
Weight	Transmitter: 748g Receiver: 607g
Shipping Weight Kit	Box: 2600g
Power Supply	DC 24V/2.7A (US/UK/EU standard, CE/FCC/UL certified)
Power Consumption (Max)	64.8W (fully loaded, PoC mode)
Standby Power Consumption	6.5W

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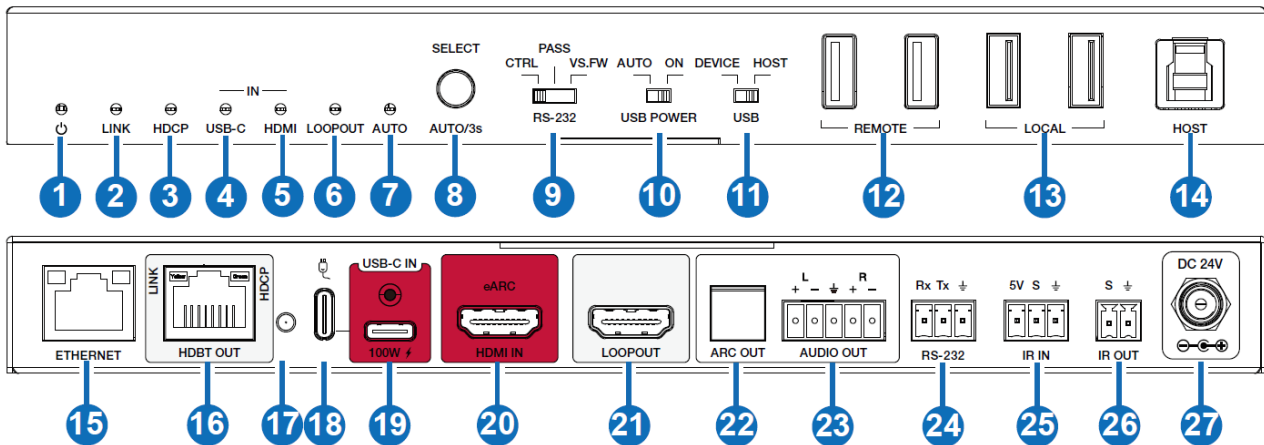
Bi-directional PoC	Supported
ESD Protection	IEC 61000-4-2:
	±8kV (Air-gap discharge) & ±4kV (Contact discharge)
Safety Compliance	FCC, CE
Environmental Compliance	RoHS, REACH, WEEE
Supply Chain Compliance	NDAA Section 889 compliant**

*Only USB-C input supports 3840x1620p60Hz

**NDAA Section 889 compliance is based on TiGHT AV's reasonable inquiry into the specified product model, hardware revision and firmware version. Declaration available upon request.

3. Panel Description

3.1. Transmitter



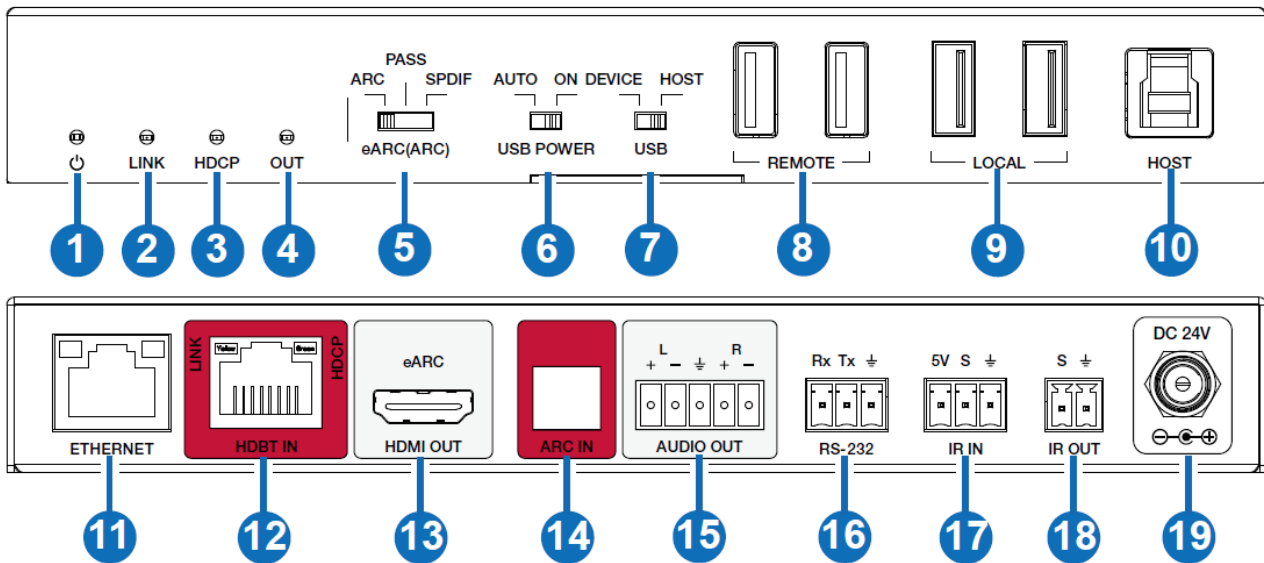
Transmitter front and rear panel

No.	Name	Function Description
1	Power LED (Green)	Light on: The unit is powered on. Light off: The unit is powered off. Light blinks at 2Hz: The firmware is being upgraded.
2	LINK LED (Blue)	Light on: Transmitter and receiver are linked via HDBaseT. Light off: Transmitter and receiver are not linked.
3	HDCP LED (Blue)	Light on: The video signal contains HDCP content. Light blinks: The video signal contains no HDCP content. Light off: No HDMI video signal input.
4	USB-C LED	The USB-C LED illuminates blue when USB-C input is selected.
5	HDMI LED	The HDMI LED illuminates blue when HDMI input is selected.
6	LOOP OUT LED (Blue)	Light on: There is signal output from the HDMI LOOP OUT. Light off: There is no signal output from the HDMI LOOP OUT.
7	AUTO LED (Blue)	Light on: The auto-switching mode is enabled. Light off: The auto-switching mode is disabled.
8	SELECT button	Short press the button to switch the HDMI/USB-C input. Press and hold the button for 3 seconds to enable/disable the auto-switching mode.
9	RS-232 DIP switch	DIP switch to select RS-232 function. CTRL mode: MCU control (Baud rate: 9600)

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		PASS mode: Bidirectional RS-232 signal pass-through VS.FW mode: Valens VS3000 chipset upgrade
10	USB POWER DIP switch	DIP switch to select USB device power mode on transmitter. AUTO mode: follows the active HOST (default). When USB-HOST/USB-C input is detected, USB OUT 5V is turned on. When USB-HOST/USB-C input is not detected, USB OUT 5V is turned off. ON mode: USB OUT 5V is always on.
11	HOST/DEVICE USB DIP switch	HOST mode: The HOST (USB-C or USB-B) on the transmitter side accesses remote USB 2.0 and local USB 5 Gbps devices (default). DEVICE mode: The USB 2.0 devices on the transmitter side are accessed by the HOST on the receiver side.
12	USB-A REMOTE ports	Two type-A USB 2.0 ports for USB devices (e.g. mouse, keyboard, and camera) accessible by the receiver HOST port over HDBaseT. 5VDC@500mA for USB 2.0.
13	USB-A LOCAL ports	Two type-A USB 5 Gbps ports for USB devices (e.g. mouse, keyboard, and camera) for local access for USB HOST devices (USB-C or USB-B). 5VDC@900mA for USB 5 Gbps.
14	USB-B HOST port	Type-B USB 3.0 port for HDMI USB HOST connection. Access the remote USB 2.0 ports on receiver and the two local USB 5 Gbps ports. Connected to PC, supporting network access.
15	ETHERNET port	RJ45 port, 10/100/1000 Base-T, half/full duplex, auto-negotiation. Used for Ethernet extension together with the ETHERNET port of receiver. Supports local Ethernet pass-through to USB HOST ports (USB-C and USB-B)
16	HDBaseT OUT	HDBaseT 3.0 port, connected to the HDBaseT IN port of Receiver with a CAT6A cable. It is used for various signals pass-through. The LINK LED illuminates when there is a valid HDBaseT link between the transmitter and the receiver. The HDCP LED illuminates when the video contains HDCP content; Off when no HDCP.
17	Charging LED	The charging LED illuminates green when the USB-C port is actively charging the connected USB-C source.
18	Charging port	USB Type-C port for external PD power supply, up to 100W. Connects to the USB-C power adapter.
19	USB-C IN port	USB-C input port, supporting DP Alt mode, A/V transmission, USB 3.0, 1G Ethernet access and up to 100W PD when using external PD supply.
20	HDMI IN (eARC) port	HDMI signal input port, connected to HDMI signal source device, supporting eARC/ARC and CEC.
21	HDMI LOOP OUT port	Local HDMI loop output for selected input source (HDMI IN or USB-C IN)
22	ARC OUT port	ARC audio output port, connected to audio player (e.g. amplifier) for ARC audio output via optical S/PDIF (TOSLINK).
23	AUDIO OUT port	Balanced analog audio output port. The output follows the HDMI LOOP OUT port and can be connected to an audio system (e.g. amplifier) for audio de-embedding from the selected video input source (HDMI/USB-C input).
24	RS-232 port	RS-232 serial port for MCU control, bidirectional RS-232 signal pass-through or FW upgrade. Used in conjunction with the RS-232 switch.
25	IR IN port	IR signal input port, connected to the 5V IR Receiver cable for IR signal pass-through.
26	IR OUT port	IR signal output port, connected to the IR Blaster cable for IR signal pass-through.
27	DC 24V port	DC 24V locking connector for the power adapter connection. Note that the extender kit supports PoC function. This means that when either the transmitter or receiver is powered by the 24V/3.75A power adapter, the other unit does not require a separate power supply.

3.2. Receiver



Receiver front and rear panel

No.	Name	Function Description
1	Power LED (Green)	Light on: The unit is powered on. Light off: The unit is powered off. Light blinks at 2Hz: The firmware is being upgraded.
2	LINK LED (Blue)	Light on: Transmitter and receiver are linked via HDBaseT. Light off: Transmitter and receiver are not linked.
3	HDCP LED (Blue)	Light on: The video signal contains HDCP content. Light blinks: The video signal contains no HDCP content. Light off: No HDMI video signal input.
4	OUT LED (Blue)	Light on: There is valid HDMI video signal output. Light off: There is no HDMI video signal output.
5	eARC(ARC) DIP switch	DIP switch for ARC mode selection. ARC mode: ARC input via the HDMI output port. CEC is not supported or passed through. PASS mode (default): Supports ARC input and CEC pass-through via the HDMI output port. SPDIF mode: ARC input via the receiver SPDIF input port.
6	USB POWER DIP switch	DIP switch to select USB device power mode on receiver. AUTO mode: follows the active HOST (default). When USB-HOST input is detected, USB OUT 5V is turned on. When USB-HOST input is not detected, USB OUT 5V is turned off. ON mode: USB OUT 5V is always on.
7	HOST/DEVICE USB DIP switch	HOST mode: The HOST (USB-C or USB-B) on the transmitter side accesses remote USB 2.0 and local USB 5 Gbps devices. DEVICE mode: The USB 2.0 devices on the transmitter side are accessed by the HOST on the receiver side (default).
8	USB-A REMOTE ports	Two type-A USB 2.0 ports for USB devices (e.g. mouse, keyboard, and camera) accessible for the transmitter HOST devices (USB-C or USB-B) over HDBaseT. Used in conjunction with the HOST/DEVICE USB switch. Supports 5VDC@500mA for USB 2.0.
9	USB-A LOCAL ports	Two type-A USB 5 Gbps ports for USB devices (e.g. mouse, keyboard, and camera) for local access for USB HOST device (USB-B). Supports 5VDC@900mA for USB 5 Gbps.
10	USB-B HOST port	Type-B USB 3.0 port for HDMI USB HOST connection. Access the remote USB 2.0 ports on transmitter and the two local USB 5 Gbps ports. Connected to PC, supporting network access.

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11	ETHERNET port	RJ45 port, 10/100/1000 Base-T, half/full duplex, auto-negotiation. Used for Ethernet extension together with the ETHERNET port of transmitter. Supports local Ethernet pass-through to USB HOST ports (USB-B).
12	HDBaseT IN port	HDBaseT 3.0 port, connected to the HDBaseT OUT port of transmitter with a CAT6A cable. It is used for various signals pass-through. The LINK LED illuminates when there is a valid HDBaseT link between the transmitter and the receiver. The HDCP LED illuminates when the video contains HDCP content; Off when no HDCP.
13	HDMI OUT (eARC) port	HDMI signal output port, connected to HDMI display device, supporting eARC/ARC and CEC.
14	ARC IN port	ARC audio input port, connected to ARC audio source device (e.g. TV) for ARC audio input via optical S/PDIF (TOSLINK).
15	AUDIO OUT port	Balanced analog audio output port. The output follows the HDMI OUT port and can be connected to an audio system (e.g. amplifier) for audio de-embedding from the video source.
16	RS-232 port	RS-232 serial port for MCU control, bidirectional RS-232 signal pass-through or FW upgrade. Used in conjunction with the RS-232 switch.
17	IR IN port	IR signal input port, connected to the 5V IR Receiver cable for IR signal pass-through.
18	IR OUT port	IR signal output port, connected to the IR Blaster cable for IR signal pass-through.
19	DC 24V port	DC 24V locking connector for the power adapter connection. Note that the extender kit supports PoC function. This means that when either the transmitter or receiver is powered by the 24V/3.75A power adapter, the other unit does not require a separate power supply.

4. System Connection

4.1. Usage Precaution

Make sure all equipment is powered off before making connections. Use high-quality cables that meet the required bandwidth and length specifications.

For HDBaseT transmission, use a single CAT6A solid core cable. The network cable connection method must be a direct connection. Do not use a crossover connection.

- Recommended HDBaseT cable: CAT6A solid core or better.
- Maximum HDBaseT distance: 100 meters / 328 feet.
- Do not connect the HDBaseT port directly to a standard Ethernet switch.
- Use surge protection where electrical spikes, surges, or lightning may occur.

4.2. Installation

The transmitter and receiver may be installed on a flat surface or mounted using the included mounting ears. Install the units in a location with good ventilation and keep the units away from liquids, dust and excessive heat.

4.3. Power Connection

Connect the supplied 24V DC power adapter to either the transmitter or receiver. The extender set supports bi-directional 24V PoC, so the other unit is powered through the HDBaseT link and does not require a separate power supply.

Note: Use only the supplied power adapter or a replacement approved by TiGHT AV.

4.4. Video Connection

Connect the HDMI or USB-C source to the transmitter. Connect the HDMI display to the receiver HDMI OUT port. The transmitter HDMI LOOP OUT port can be used for a local display or local HDMI system.

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- USB-C IN supports DisplayPort Alt Mode, A/V transmission, USB data, 1G Ethernet access, and up to 100W PD when an external USB-C PD power supply is connected to the PD port.
- HDMI IN supports HDMI 2.0b, 4K60 4:4:4, HDR10, HLG, Dolby Vision, and HDCP 2.3/2.2/1.x.

4.5. Audio Connection

Connect the balanced analog AUDIO OUT port on the transmitter or receiver to an audio system if audio de-embedding is required. The analog audio output follows the selected video source.

For ARC/eARC applications, connect the ARC/eARC source and sound system according to the required ARC mode described in section 5.

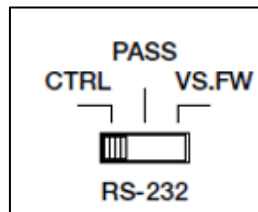
4.6. Ethernet Connection

Connect the ETHERNET port on either the transmitter or receiver to the network. The extender provides 10/100/1000 Base-T Ethernet extension between transmitter and receiver and supports local Ethernet pass-through to the USB host ports.

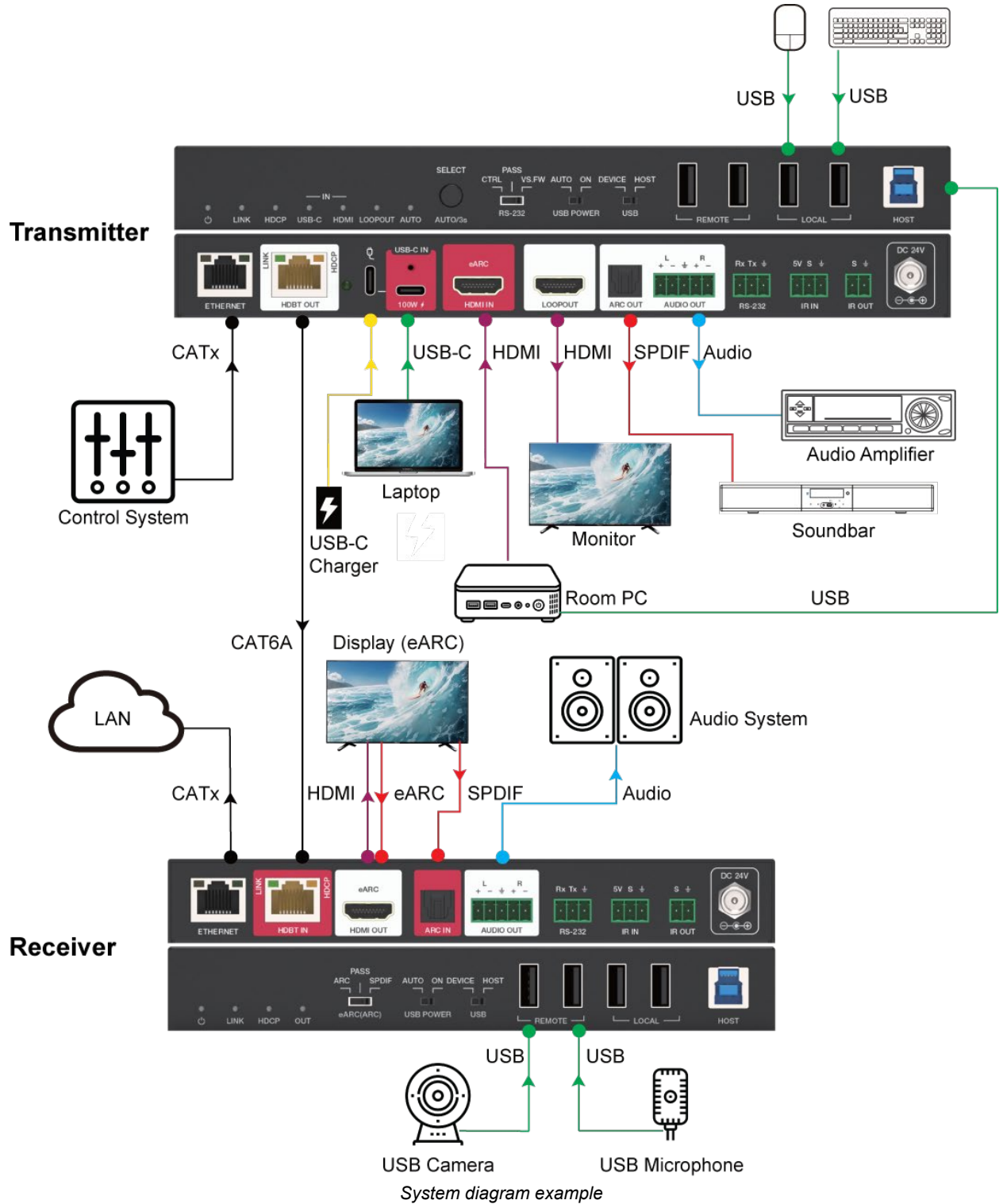
4.7. RS-232 and IR Connection

The RS-232 port can be used for unit control (CTRL), bi-directional RS-232 pass-through (PASS), or Valens VS3000 chipset upgrade (VS.FW) depending on the RS-232 DIP switch position on the transmitter.

Connect the optional IR receiver cable to IR IN and the optional IR emitter cable to IR OUT for bi-directional IR pass-through.



4.8. System design example



5. ARC and USB Mode Applications

5.1. ARC Mode Switching

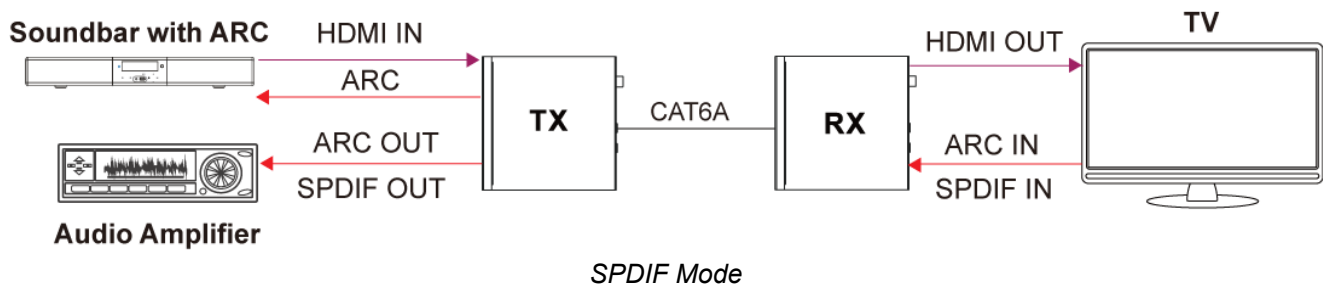
The receiver eARC (ARC) DIP switch selects how ARC/eARC audio is routed through the extender system. The available modes are ARC, PASS and SPDIF.

Mode	Function
ARC	ARC input via the receiver HDMI OUT port. CEC is not supported or passed through in this mode.
PASS	ARC input and CEC pass-through via the receiver HDMI OUT port. This is the default mode.
SPDIF	ARC audio input via the receiver ARC IN optical S/PDIF port.

5.1.1. SPDIF Mode

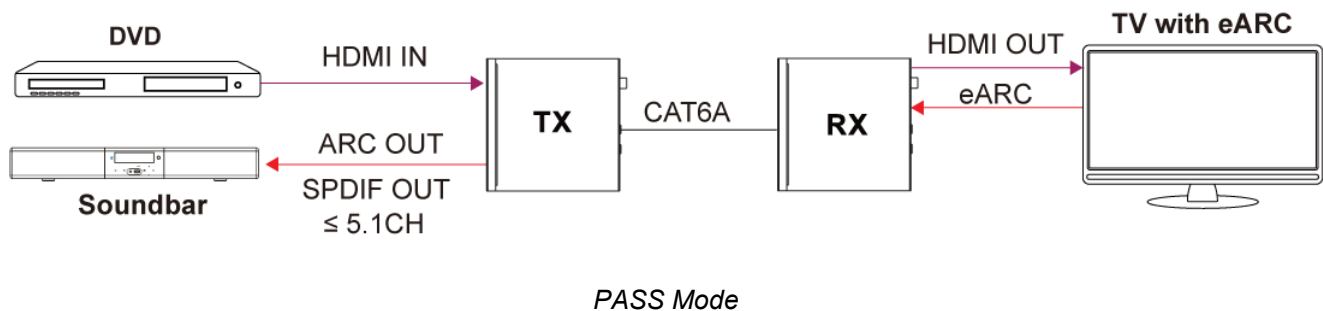
When the eARC (ARC) DIP switch is set to SPDIF, ARC audio is returned from the receiver ARC IN port and output to the amplifier or soundbar through the transmitter HDMI IN (eARC) or ARC OUT port.

Note: If ARC audio is returned from the receiver ARC IN port to a soundbar through the transmitter HDMI IN (eARC) port, volume, standby and power-on control of the AVR/soundbar device cannot be controlled by the TV remote control.



5.1.2. PASS Mode

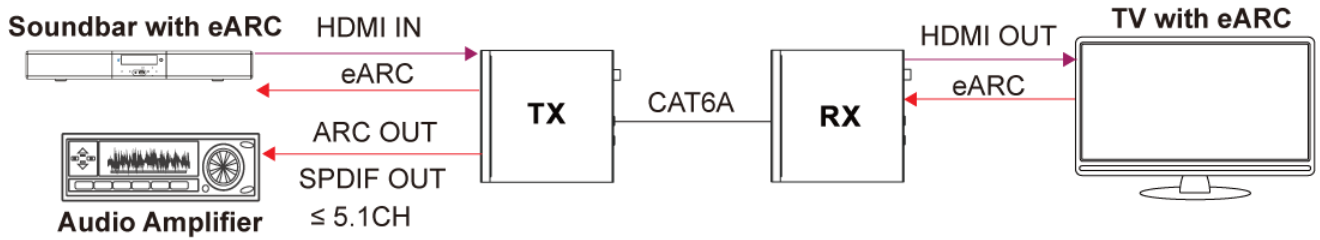
When the eARC (ARC) DIP switch is set to PASS, ARC audio is returned from the receiver HDMI OUT (eARC) port and output to the amplifier or soundbar through the transmitter HDMI IN (eARC) or ARC OUT port. ARC should be initiated by the receiver-side TV. CEC pass-through is supported in this mode.



5.1.3. ARC Mode

When the eARC (ARC) DIP switch is set to ARC, ARC/eARC audio is returned from the receiver HDMI OUT (eARC) port and output to the amplifier or soundbar through the transmitter HDMI IN (eARC) or ARC OUT port. CEC is not supported in this mode.

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ARC Mode

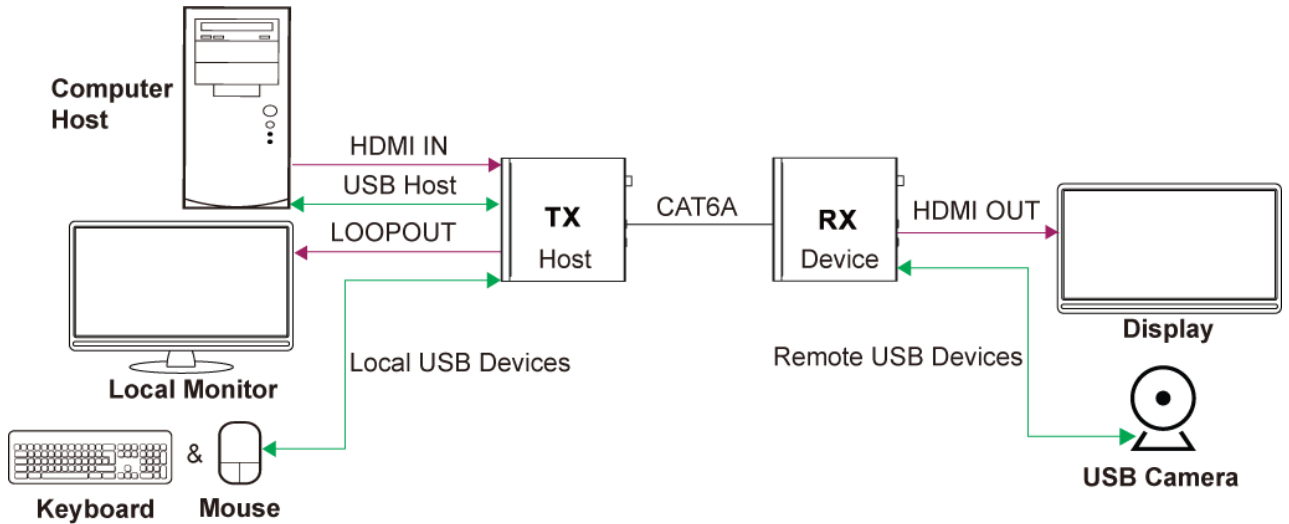
Note: In ARC and PASS mode, the SPDIF output supports audio up to 5.1CH.

5.2. USB Mode Applications

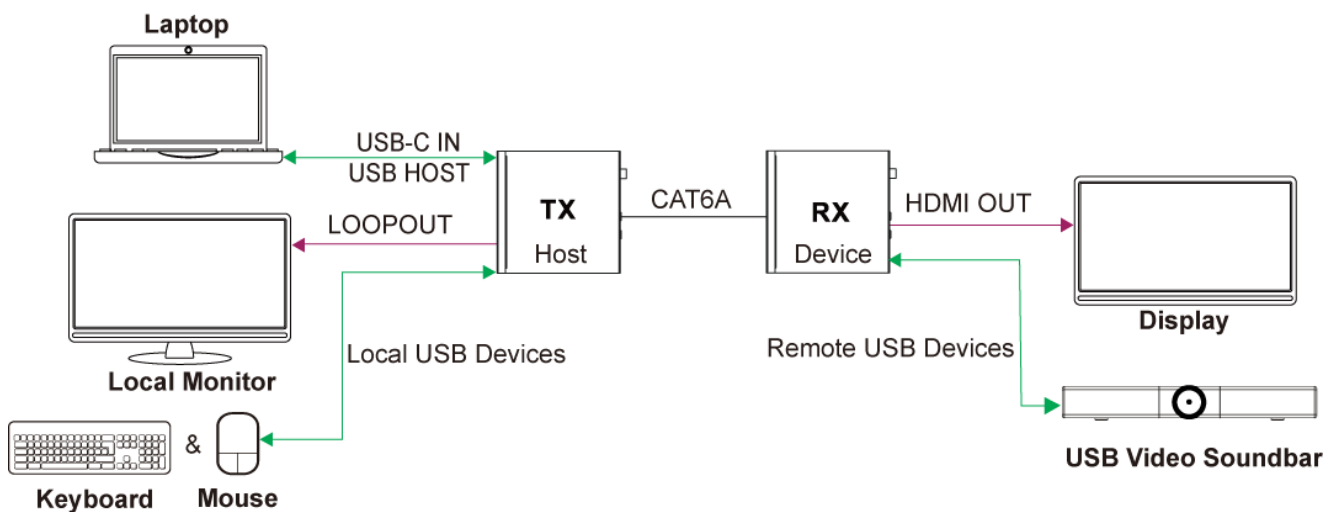
The extender supports flexible USB transmission. The HOST/DEVICE USB DIP switches on the transmitter and receiver defines which side has the active USB host and which side provides remote USB device ports.

5.2.1. USB from Transmitter to Receiver

Use this mode when the USB host is connected to the transmitter side and USB devices are required on the receiver side.



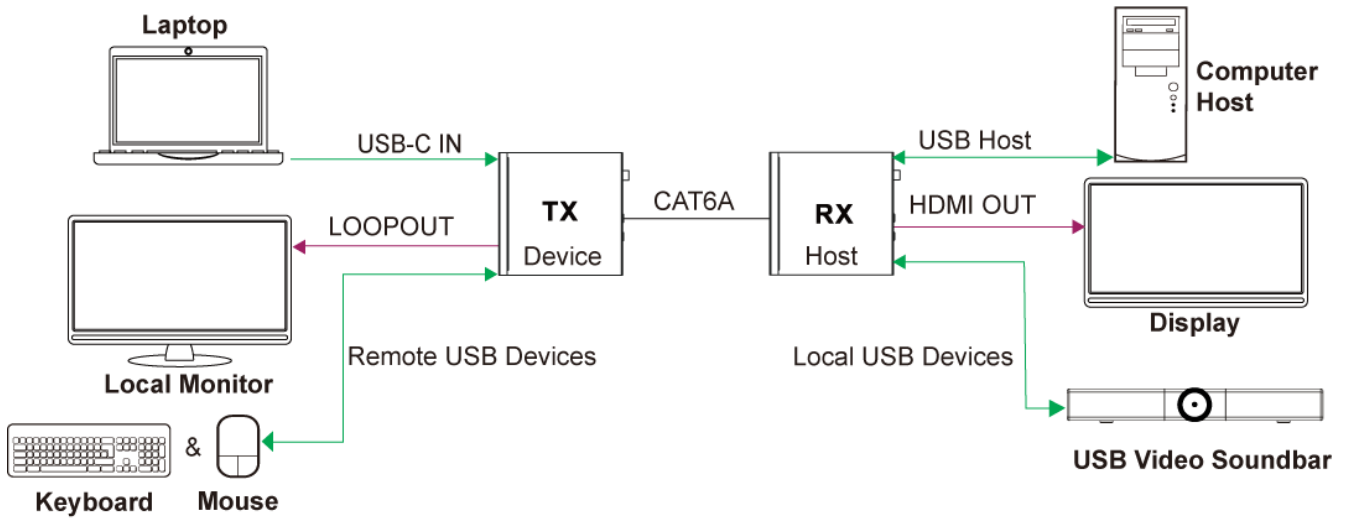
USB Host Side TX - HDMI Host



USB Host Side TX - USB-C Host

5.2.2. USB from Receiver to Transmitter

Use this mode when the USB host is connected to the receiver side and USB devices are required on the transmitter side.



USB Host Side RX – Computer Host

6. Device Control

6.1. RS-232 Control

On the TX device set the RS232 dip switch to CTRL mode. Establish a connection between the RS232 port and a control device, such as a PC or control system using an RS232 cable. A comprehensive list of commands is available for device control. To send these commands from a PC, it is necessary to install RS232 control software, such as Docklight. Once the RS232 control software is installed, ensure that the COM port parameters, including baud rate, data bits, stop bits, and parity bits, are configured accurately.

Communication protocol: RS232 communication protocol default parameters:

- Baud rate: 9600
- Data bit: 8
- Stop bit: 1
- Parity bit: none.

6.2. API Commands

ASCII commands are case-sensitive. Commands should be sent according to the protocol table below.

- Command ending symbol <CR>
- Feedback ending with symbols <CR><LF>
- Delimiter symbol "!"
- All characters are in lowercase

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Command	Function	Command Example	Response Example
Device Settings			
getstatus	Query system status.	getstatus	EXT-C211U-ETH-HDBT3! tx firmware V1.0.0! rx firmware V1.0.0! fplock,on! usbeth,1:on! usbeth,2:on! usbeth,3:off! set,1,1! set,2,1! mute,1:on! mute,2:off! edid,1:1 copy! edid,2:1 internal! autoswitch,1:on! autoswitch,2:off! usbcpower,on! in 1,link:y! in 2,link:n! out 1,link:y! out 2,link:n! hdmisync,1:on! hdmisync,2:off! setser,3:8,2,1!
getfirmware	Query firmware version	getfirmware	tx firmware V10.0.01! rx firmware V10.0.01!
reset	Reset to factory default	reset	reset ok
reboot	Reboot the device	reboot	reboot ok
poweron	Exit standby power mode	poweron	poweron ok
poweroff	Enter standby power mode	poweroff	poweroff ok
getpower	Query power mode status	getpower	poweron!
fplock,z	Enable or disable front panel lock. Z=on/off	fplock,on	fplock,on ok
getfplock	Query front panel lock status	getfplock	fplock,on!
usbeth,x:z	Set USB host access network, x = 0 - 3 0 - TX/RX all USB hosts 1 - TX USB-C host 2 - TX USB-B host 3 - RX USB-B host z=on/off	usbeth,1:on	usbeth,1:on ok
getusbeth,x	Query USB host access network status, x = 0 - 3 0 - TX/RX all USB hosts 1 - TX USB-C host 2 - TX USB-B host 3 - RX USB-B host	getusbeth,1	usbeth,1:on!
AV Settings			
set,y:x	Switch video input [x] to output [y] x = 1 - 2 1 - USB-C input 2 - HDMI input y = 0 - 2 0 - all outputs 1 - TX HDMI output 2 - RX HDMI output	set,1:1	set,1:1 ok
getset	Query the video routing of all outputs	getset	set,1:1! set,2:1!

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getset,y	Query the input source of output port [y] y = 0 - 2 0 - all outputs 1 - TX HDMI output 2 - RX HDMI output	getset,1	set,1:1!
mute,y:z	Mute/Unmute analog output port [y] y = 0 - 2 0 - all outputs 1 - TX analog output 2 - RX analog output z = on/off	mute,1:off	mute,1:off ok
getmute	Query mute status for analog output on TX and RX	getmute	mute,1:on! mute,2:off!
HDCP Management			
hdcpadvertising,x:z	x = 0~2 0 = All inputs 1 = USB~C 2 = HDMI z = on/off	Sets the HDCP compatibility on or off for input "x".	hdcpadvertising,1:on ok hdcpadvertising,2:on ok
gethdcpadvertising	Query HDCP advertising status (HDCP compatibility mode).	gethdcpadvertising	hdcpadvertising,1:on! hdcpadvertising,2:off!
hdcp,y:on	Enable HDCP always on for output [y] y = 0 - 2 0 - all outputs 1 - TX HDMI output 2 - RX HDMI output	hdcp,0:on	hdcp,0:on ok
hdcpfollowdisplay,y	Output [y] HDCP mode follows the display y = 0 - 2 0 - all outputs 1 - TX HDMI output 2 - RX HDMI output	hdcpfollowdisplay,0	hdcpfollowdisplay,0 ok
hdcpfollowinput,y	Output [y] HDCP mode follows the input source y = 0 - 2 0 - all outputs 1 - TX HDMI output 2 - RX HDMI output	hdcpfollowinput,0	hdcpfollowinput,0 ok
gethdcpoutputs	Query the current HDCP mode for all output ports.	gethdcpoutputs	out 1 follow display! out 2 follow input!
EDID Management			
resetedid,x	Reset to the default EDID for input [x] x = 0 - 2 0 - all inputs 1 - USB-C input 2 - HDMI input	resetedid,0	resetedid,0 ok
setuseredid:xx	Upload user-defined EDID xx = U1 - U4 U1 - user-defined EDID 1 U2 - user-defined EDID 1 U3 - user-defined EDID 1 U4 - user-defined EDID 1	setuseredid:U1	setuseredid:U1 ok Please upload EDID file within 10s

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setedid,x:z	Set EDID zz for input [x] x = 0 - 2 0 - all inputs 1 - USB-C input 2 - HDMI input zz = 1 - 12 1 - 1920x1080@60 8bit Stereo 2 - 1920x1080@60 8bit High Definition Audio 3 - 3840x2160@30Hz 8bit Stereo Audio 4 - 3840x2160@30Hz Deep Color High Definition Audio 5 - 3840x2160@60Hz 4:2:0 Deep Color Stereo Audio 6 - 3840x2160@60Hz Deep Color Stereo Audio (default) 7 - 3840x2160@60Hz Deep Color High Definition Audio 8 - 3840x2160@60Hz Deep Color HDR LPCM 6CH 9 - User-defined EDID 1 10 - User-defined EDID 2 11 - User-defined EDID 3 12 - User-defined EDID 4	setedid,1:1	setedid,1:1 ok
getedidout,y	Read the output [y] EDID and print it. y = 1 - 2 1 - TX HDMI output 2 - RX HDMI output	getedidout,2	edidout, 2: -----
edidcopy,y,x	Copies EDID from output y and set to input [x] x = 0 - 2 0 - all inputs 1 - USB-C input 2 - HDMI input y = 1 - 2 1 - TX HDMI output 2 - RX HDMI output	edidcopy,1,1	edidcopy,1,1 ok
getedidin,x	Query EDID of input [x] x = 0 - 2 0 - all inputs 1 - USB-C input 2 - HDMI input	getedidin,0	edid,1:1 internal! edid,2:1 internal!
Function Settings			
autoswitch,y:z	Enable auto-switching mode for output [y] y = 0 - 2 0 - all outputs 1 - TX HDMI output only 2 - RX HDMI output only z = on/off	autoswitch,1:on	autoswitch,1:on ok
getautoswitch	Gets the autoswitch mode for outputs.	getautoswitch	autoswitch,1:on! autoswitch,2:off!
usbcpower,z	Turns on or off the charging on the USB-C input. z = on/off	usbcpoweroff	usbcpower,off ok
getusbcpower	Query the charging status for the USB-C port.	getusbcpower	usbcpower,on!
getinputstatus	Query inputs status.	getinputstatus	in 1,link:y! in 2,link:n!
gethpdoutputs	Query output port HPD (Hot Plug Detect) connection status.	gethpdoutputs	out 1,link:y! out 2,link:n!
hdmisync,y:z	Turn on the HDMI Sync mode (5V) of output [y]. y = 0 - 2 0 - all outputs 1 - TX HDMI output 2 - RX HDMI output z = on/off	hdmisync,1,on	hdmisync,1:on ok

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gethdmisync	Query the HDMI output Sync (5V) mode status.	gethdmisync	hdmisync,1:off! hdmisync,2:on!
videomute,y:z	Mutes video (sends black video image) on output [y] y = 0 - 2 0 = all outputs 1 = TX HDMI output 2 = RX HDMI output z = on/off	videomute,0:off	videomute,0:off ok
getvideomute	Query video mute status on HDMI LOOP OUT on TX and HDMI OUT on RX	getvideomute	videomute,1:off! videomute,2:on!
hdmiaudio,y:z	Enable or disable HDMI audio (video is still on) for output [y] y = 0 - 2 0 = all outputs 1 = TX HDMI output 2 = RX HDMI output z = on/off	hdmiaudio,0:off	hdmiaudio,0:off ok
gethdmiaudio,y	Query HDMI audio status for HDMI output [y] y = 0 - 2 0 = all outputs 1 = TX HDMI output 2 = RX HDMI output	gethdmiaudio,0	hdmiaudio,1:off! hdmiaudio,2:on!
setser,x:y,z,a	set serial communication port baudrate, databit,parity and stop bits. x = 1~7 (baudrate) 1 = 2400 2 = 4800 3 = 9600 4 = 19200 5 = 38400 6 = 57600 7 = 115200 y = 5~8 (databit) z = 0~4 (parity) 0 = Even 1 = Mark 2 = None 3 = Odd 4 = Space a = 1-2 (stop bits) 1 = 1 2 = 2	setser,1:8,2,1	setser,1:8,2,1 ok
getser	Query the serial port setting	getser	setser,3:8,2,1!

7. Environment and recycling information



7.1. Disposal of electric and electronic devices EC Directive 2012/19/EU

This product must not be treated as regular household waste. It must be returned to a collection point for recycling electrical and electronic devices. Further information is available from your municipality, your municipality's waste disposal services, or the retailer where you purchased your product.

7.2. Packaging recycling information

	SCATOLA CORRUGATED PAPER BOX	RACCOLTA CARTA MIXED PAPER AND CARD
	BUSTA PER DEVICE DEVICE BAG	RACCOLTA CARTA MIXED PAPER AND CARD
	BUSTA PER ACCESSORI ACCESSORY BAG	RACCOLTA CARTA MIXED PAPER AND CARD

Verifica le disposizioni del tuo comune
Check the regulations of your municipality

Note: This manual can be recycled as paper (mixed paper and card).



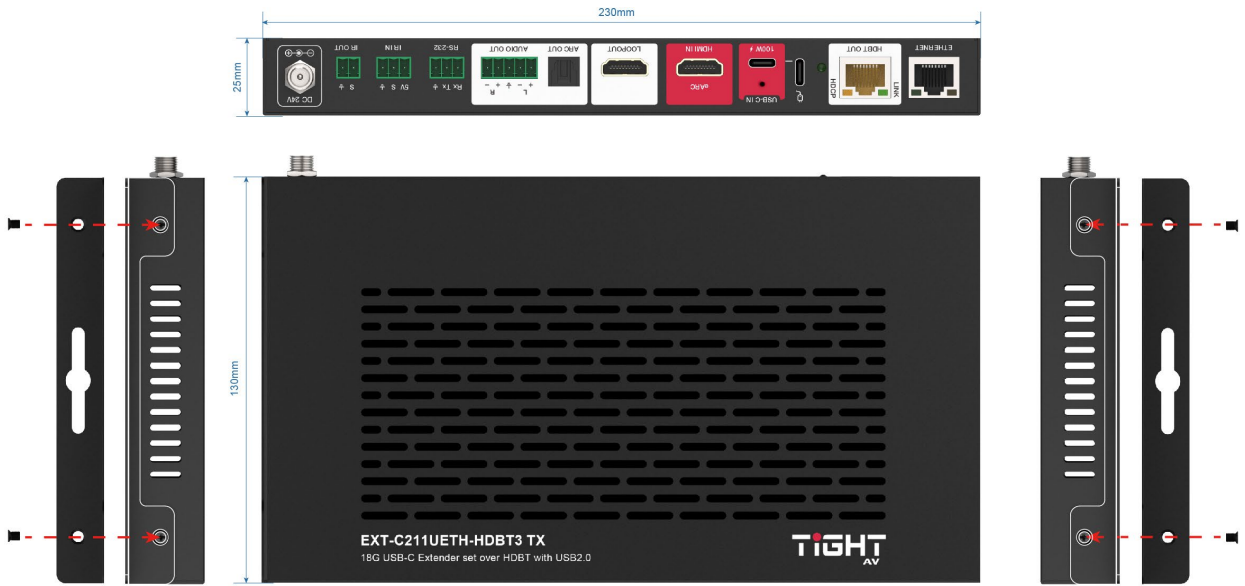
8. Troubleshooting

Problem	Possible cause / Action
No power LED	Check that the 24V power supply is connected to either transmitter or receiver. Check that the HDBaseT cable is connected if the opposite unit is powered by PoC.
No HDBaseT link	Use a direct CAT6A solid core cable. Do not route the HDBaseT link through a network switch. Check cable termination and cable length.
No video output	Check selected input, source output resolution, HDMI/USB-C cable quality, display input selection and HDCP compatibility.
USB devices not working	Check HOST/DEVICE USB DIP switch positions on both transmitter and receiver. Check that USB device power is set to AUTO or ON as required.
No charging on USB-C source	Connect an external USB-C PD power supply to the transmitter PD port. Confirm that the USB-C source supports USB-C Power Delivery.
No ARC/eARC audio	Check the receiver eARC (ARC) DIP switch mode and verify that the connected TV/audio device supports the selected ARC/eARC mode.
RS-232 not working	Check RS-232 DIP switch mode. Use CTRL for unit control and PASS for bi-directional pass-through. Confirm baud rate and wiring.

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9. Drawings and Dimensions

The mechanical dimensions are listed in the technical specification. Panel drawings below are for reference only.



Transmitter drawing



Receiver drawing

Unit	Dimensions (W x D x H)	Weight
Transmitter	230 mm x 130 mm x 25 mm	748 g
Receiver	180 mm x 130 mm x 25 mm	607 g