

18Gbps USB-C 4K60 HDBaseT 3.0 Extender with 100W PD (70m)

The KanexPro EXT-USBCPD4K-70M is an 18Gbps HDBaseT 3.0 extender that extends USB-C video and USB 2.0 signals up to 230ft/70m for 4K30Hz (4:4:4 8bit) and 130ft/40m for 4K60Hz (4:4:4 8bit) via a single CAT6A/7 cable. The transmitter features 1× USB-C input, 1× dedicated USB-C charging port, and 2× local USB devices. USB-C input supports DP Alt-mode standards (v1.2a) and USB 2.0 data. The receiver features 1× HDMI output and 4× USB devices. TX/RX both support RS-232 signal pass-through and bidirectional 24V PoC function.

Surge Protection Recommended — This product contains sensitive electrical components that may be damaged by electrical spikes, surges, electric shock, or lightning strikes. Use of surge protection systems is highly recommended.

Caution — The network cable connection method required for this product is direct interconnection (T-568B). Please do not cross connect.

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FEATURES

- ✓ HDBaseT 3.0 extender with USB-C input supporting DP Alt Mode (v1.2a) for video, USB 2.0 data, and power delivery
- ✓ 18Gbps video bandwidth with uncompressed 4K60 4:4:4 (8-bit) up to 40m and 4K30 4:4:4 (8-bit) up to 70m over CAT6A/7
- ✓ USB-C Power Delivery up to 100W via dedicated CHARGE port on the transmitter
- ✓ HDMI 2.0b output on receiver with HDCP 2.3 compliance for secure content playback
- ✓ HDR, HDR10+, Dolby Vision, and HLG pass-through for full dynamic range support
- ✓ Four USB 2.0 device ports on the receiver (3× USB-A, 1× USB-C) with 5V/1A per port
- ✓ RS-232 signal pass-through and API command control via SERVICE port for room automation
- ✓ Bidirectional 24V PoC — power either TX or RX, the other unit powers over the CAT cable

PACKAGE CONTENTS

1× Transmitter (TX) • 1× Receiver (RX) • 2× 3-pin 3.5mm Phoenix Connector (male) • 1× 24V/2.7A Desktop Power Supply • 1× User Manual



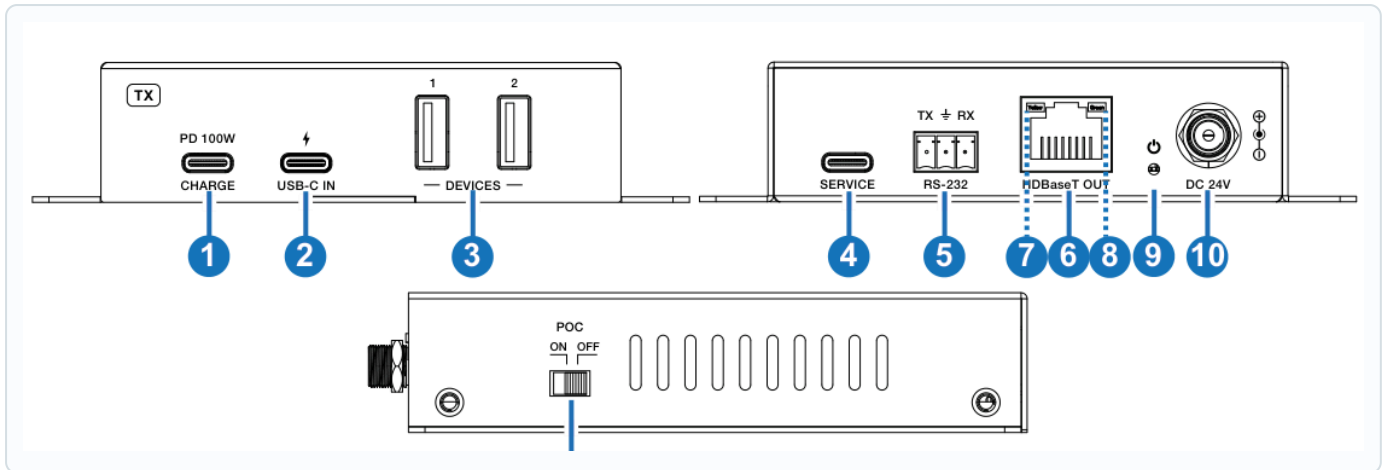
Specifications

TECHNICAL	
HDMI Compliance	HDMI 2.0b
HDCP Compliance	HDCP 2.3
Video Bandwidth	18 Gbps
Video Resolution	Up to 4K@60Hz (4:4:4 8bit)
Color Space	RGB, YCbCr 4:4:4, YCbCr 4:2:2, YCbCr 4:2:0
Color Depth	8/10/12-bit
HDR Formats	HDR, HDR10, HDR10+, Dolby Vision, HLG
Audio Formats	USB-C/HDMI passthrough: LPCM 2.0/5.1/7.1CH, Dolby TrueHD, Dolby Atmos, DTS-HD Master Audio, DTS:X
USB Compliance	USB 2.0
ESD Protection	IEC 61000-4-2: ±8kV (air-gap) & ±4kV (contact)
Transmission Distance	4K60Hz (4:4:4 8bit): up to 130ft/40m • 4K30Hz (4:4:4 8bit): up to 230ft/70m • USB 2.0: up to 230ft/70m (CAT6A/7)
CONNECTION — TRANSMITTER	
Front Panel	1× CHARGE [USB-C, 24-pin female] 1× USB-C IN [USB-C, 24-pin female] 2× USB 2.0 DEVICES [USB-A, 4-pin female]
Rear Panel	1× SERVICE [USB-C with USB 2.0 only, 12-pin female, FW upgrade] 1× RS-232 [3-pin phoenix, 3.5mm pitch] 1× HDBaseT OUT [RJ45, 24V PoC] 1× Power LED [Red] 1× DC 24V [24V/2.7A, 19mm locking connector]
Side Panel	1× PoC ON/OFF [1-pin DIP switch]
CONNECTION — RECEIVER	
Front Panel	1× HDMI OUT [HDMI Type A, 19-pin female] 1× USB 2.0 DEVICES [USB-C, 12-pin female] 3× USB 2.0 DEVICES [USB-A, 4-pin female]
Rear Panel	1× SERVICE [USB-C with USB 2.0 only, 12-pin female, FW upgrade] 1× RS-232 [3-pin phoenix, 3.5mm pitch] 1× HDBaseT IN [RJ45, 24V PoC] 1× Power LED [Red] 1× DC 24V [24V/2.7A, 19mm locking connector]
Side Panel	1× PoC ON/OFF [1-pin DIP switch]
MECHANICAL	
Housing	Metal Enclosure, Black
Dimensions	TX/RX: 120mm (W) × 113mm (D) × 25.5mm (H)
Weight	TX: 353g • RX: 352g
Power Supply	AC 100–240V 50/60Hz → DC 24V/2.7A (CE/FCC/UL)
Power Consumption	TX/RX with full USB devices: 51.36W • Without USB devices: 10.08W
Operating Temp	32–104°F / 0–40°C
Storage Temp	–4–140°F / –20–60°C
Operating Humidity	20–80% RH (non-condensing)
Storage Humidity	10–90% RH (non-condensing)



Operation Controls and Functions

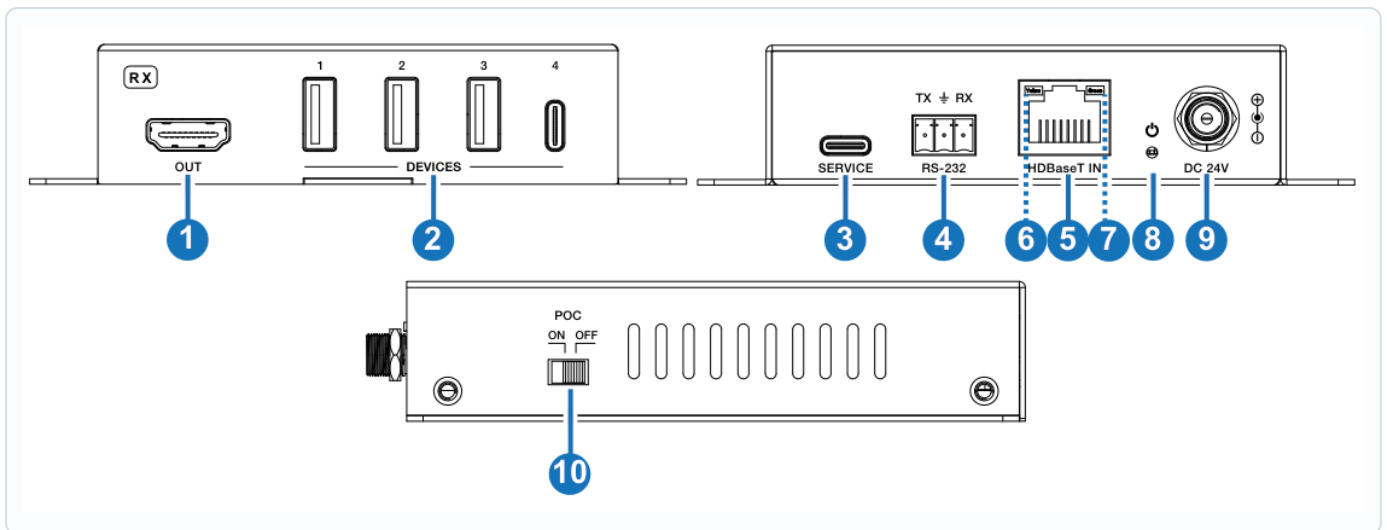
5.1 TRANSMITTER PANEL



No.	Name	Function Description
1	CHARGE port	USB-C power input port, supporting up to 100W power input. Connect to an external USB-C charger; the USB-C IN port can then power the connected device.
2	USB-C IN port	USB-C port with three functions: (1) USB audio/video signal input, connected to source device. (2) USB 2.0 signal transmission. (3) USB-C charging — when CHARGE port is connected to power supply, USB-C IN provides 100W charging for external devices.
3	DEVICES 1-2	Two USB 2.0 ports for USB flash drive, keyboard, USB camera, or other USB devices. Maximum power supply 5V/1A per port.
4	SERVICE port	Firmware update and API command control port.
5	RS-232 port	RS-232 serial port for signal pass-through.
6	HDBaseT OUT	HDBaseT output port. Connect to RX HDBaseT IN with CAT6A cable for signal pass-through.
7	Link LED (Green)	On: TX and RX are linked. Off: not linked.
8	Signal LED (Yellow)	On: video with HDCP. Flashing: video without HDCP. Off: no video signal.
9	Power LED (Red)	On: TX is powered on. Off: TX is powered off.
10	DC 24V	24V/2.7A power supply input. Supports PoC: when one end is powered, the other does not need power.
11	PoC Switch	DIP switch to turn on/off the PoC function.



5.2 RECEIVER PANEL



No.	Name	Function Description
1	HDMI OUT	HDMI signal output port. Connect to HDMI display device such as TV or monitor.
2	DEVICES 1-4	Four USB 2.0 ports (3× USB-A, 1× USB-C) for USB flash drive, keyboard, USB camera, or other devices. Maximum power supply 5V/1A per port.
3	SERVICE port	Firmware update port.
4	RS-232 port	RS-232 serial port for signal pass-through.
5	HDBaseT IN	HDBaseT input port. Connect to TX HDBaseT OUT with CAT6A cable for signal pass-through.
6	Link LED (Green)	On: TX and RX are linked. Off: not linked.
7	Signal LED (Yellow)	On: video with HDCP. Flashing: video without HDCP. Off: no video signal.
8	Power LED (Red)	On: RX is powered on. Off: RX is powered off.
9	DC 24V	24V/2.7A power supply input. Supports PoC: when one end is powered, the other does not need power.
10	PoC Switch	DIP switch to turn on/off the PoC function.



API Commands

Connect the SERVICE port of the transmitter to a PC or control system with a USB-C cable. Open a serial command tool to send ASCII commands. Communication protocol: Baud rate 115200, Data bit 8, Stop bit 1, Parity none. End mark: <CR><LF>

Command	Function	Example	Default
help	List all commands	help	—
?	List all commands	?	—
get fw version	Get firmware version	get fw version	—
set tx source x	Set TX input source (x=0: OFF, 1: USB-C, 2: AVMUTE, 3: Internal pattern)	set tx source 1	1
get tx source	Get TX input source	get tx source	—
set reboot	Reboot the device	set reboot	—
set reset	Reset to factory defaults	set reset	—
get status	Get system status (input, cable, HDCP, EDID, output resolution, color)	get status	—
set tx pattern x y	Set TX internal pattern generator. Resolution x (01–07): 1080P60, 4K60, 4K30, 4K25, 4K24, 720P60, 480P60. Pattern y (01–12): Black, Checkboard, Strip, Red, Green, Blue, White, Ramp, Red ramp, Green ramp, Blue ramp, PRBS	set tx pattern 1 2	—
get tx pattern	Get TX pattern output resolution and pattern	get tx pattern	—
set tx input hdcp y	Set TX input HDCP (y=0: OFF, 1: HDCP 1.4, 2: HDCP 2.2)	set tx input hdcp 2	HDCP 2.2
get tx input hdcp	Get TX input HDCP status	get tx input hdcp	—
get tx usbc5v	Get TX USB-C host input 5V status	get tx usbc5v	—
set tx output hdcp y	Set TX output HDCP mode (y=0: Reserved, 1: Follow sink, 2: Follow source, 3: Force HDCP 1.4, 4: Force HDCP 2.2)	set tx output hdcp 1	Follow sink
get tx output hdcp	Get TX output HDCP mode	get tx output hdcp	—



API COMMANDS (CONTINUED)

Command	Function	Example	Default
set tx edid to y	Set TX input EDID (y=00–18): 00: Copy from RX HDMI output, 01–03: 1080p60 (2CH/5.1CH/7.1CH), 04–06: 4K30 4:4:4 (2CH/5.1CH/7.1CH), 07–09: 4K60 4:2:0 (2CH/5.1CH/7.1CH), 10–12: 4K60 4:4:4 (2CH/5.1CH/7.1CH), 13: WUXGA 1920×1200 2CH, 14–16: DVI (1280×1024/1080p/1200p, no audio), 17–18: User Defined 1/2	set tx edid to 0	0
get tx edid	Get TX input EDID setting	get tx edid	—
get tx edid data	Get TX input EDID raw data	get tx edid data	—
set user edid x <y>	Set user-defined EDID (x=0: both, 1: User 1, 2: User 2). y = 256 bytes EDID hex data	set user edid 1 <00 FF FF FF...>	—
get user edid x	Get user-defined EDID data (x=0: both, 1: User 1, 2: User 2)	get user edid 1	—
set hdbt update	Set SERVICE to HDBT UART for firmware update	set hdbt update	—

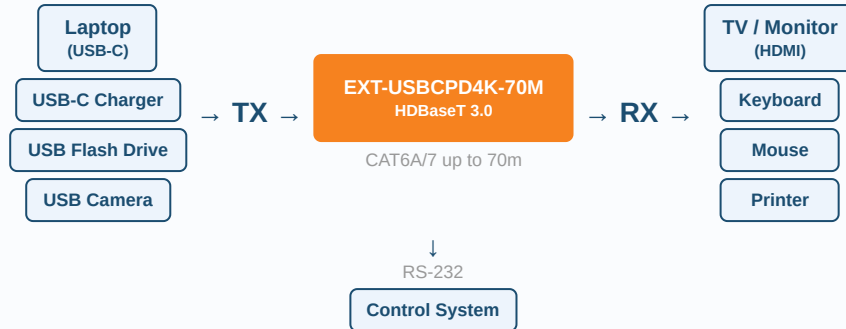
DEFAULT SETTINGS

PARAMETER	DEFAULT VALUE
TX Source	USB-C (1)
TX Input HDCP	HDCP 2.2
TX Output HDCP	Follow Sink (1)
TX EDID	00 — Copy EDID from RX HDMI Output
PoC	ON (DIP switch)



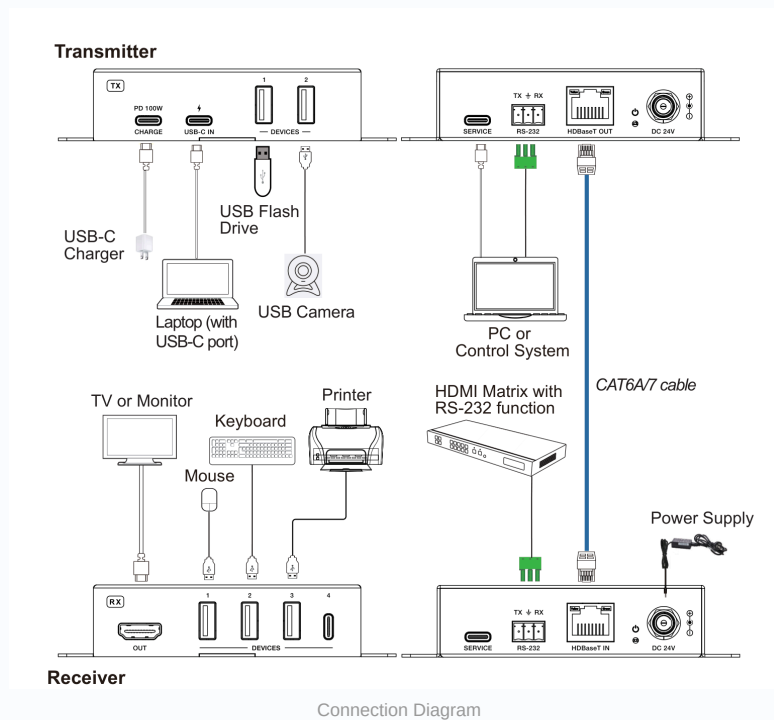
Application Example

USB-C BYOD Extension with USB 2.0 Peripherals



How it works: Connect a USB-C laptop to the TX USB-C IN port. Video (DP Alt Mode) and USB 2.0 data are transported over a single CAT6A/7 cable via HDBaseT 3.0 to the RX. The RX outputs HDMI to the display and provides 4 USB 2.0 ports for peripherals. Connect a USB-C charger to the TX CHARGE port to deliver up to 100W back to the laptop. RS-232 passes through for room control integration.

PoC: Power one end (TX or RX) with the 24V adapter; the other end powers over the CAT cable. Enable PoC via the DIP switch on both units.



Troubleshooting

Q: No video on the display after connecting a USB-C laptop?

A: Verify the laptop supports DP Alt Mode over USB-C — not all USB-C ports output video. Check the Link LED (green) on both TX and RX to confirm the HDBaseT link is established. Try a different CAT6A cable or shorter run to rule out cable quality issues. Use the `get status` API command to check connection state.

Q: USB devices connected to the receiver are not recognized?

A: Confirm the USB-C source device supports USB 2.0 data over USB-C. Ensure each USB device does not exceed the 5V/1A power limit per port. Try connecting the device to a TX-side USB port to verify the device itself works. Check that the CAT6A cable is wired using the direct interconnection method (T-568B).

Q: Laptop is not charging when connected to USB-C IN?

A: The CHARGE port must be connected to an external USB-C charger (up to 100W). The USB-C IN port only delivers power when the CHARGE port has an active power source. Verify the charger supports USB-C PD and that both cables are fully seated.

Q: How do I control the extender remotely?

A: Connect a USB-C cable from the TX SERVICE port to a PC. Open a serial terminal at 115200 baud, 8N1. Type `help` or `?` to list all available commands. RS-232 signals pass through between TX and RX for third-party control system integration.

