

4K30Hz HDBaseT HDMI Extender over Cat5e/6 with PoC - 70M

Power the Far End Without an Outlet - Single 12V PoC Supply, Bi-directional IR & RS-232, HDCP 2.2, 4K30 to 40m



The EXT-HDBT70C carries one HDMI source to a distant display over a single Cat5e/6 run, and powers the far end across the same cable — no outlet, no second power brick behind the screen. The kit pairs a transmitter and a receiver in a compact black metal enclosure with mounting ears, driving 1080p to 70 meters and 4K2K@30Hz 4:4:4 to 40 meters over HDBaseT at 10.2 Gbps. Power Over Cable feeds both units from one 12V/1A supply connected at either end, which makes this the right choice for classrooms, huddle rooms, digital-signage endpoints and single-zone residential displays where reach, single-cable installation and embedded control matter more than 4K60 or HDR bandwidth the job never uses.

Bi-directional IR and bi-directional RS-232 pass-through travel inside the same cable as the video, so the far-end display can be switched, powered and volume-adjusted and the head-end source controlled from the remote room, all without pulling a separate control run. The link is HDCP 2.2 compliant for protected 4K sources and built to HDMI 1.4, with ESD-protected ports and status indicators for HDCP state and transmitter-to-receiver link quality. The single strongest advantage is spec-right economy: full HDBaseT transport with PoC, IR and RS-232 control delivered at a 4K30 design ceiling, so integrators standardizing many small rooms are not forced to overbuy an 18 Gbps link.

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.

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1. Features

- ✓ HDCP 2.2 compliant.
- ✓ Supports video resolution up to 4K2K@30Hz, as specified in HDMI 1.4.
- ✓ Supports 10.2 Gbps video bandwidth.
- ✓ Maximum transmission distance over a single Cat5e/6 cable: 70 meters for 1080p@60Hz/36-bit and 3D 1080p@30Hz/36-bit; 40 meters for 1080p@60Hz/48-bit, 1080p@120Hz/24-bit, 3D 1080p@60Hz/36-bit, and 4K2K@30Hz/24-bit.
- ✓ Supports PoC (Power Over Cable): connect a 12V/1A power supply to either the transmitter or the receiver, and the other unit does not require its own power supply.
- ✓ Bi-directional IR and RS-232 control-signal pass-through.
- ✓ ESD protection to IEC 61000-4-2: ±8 kV air-gap discharge, ±4 kV contact discharge.
- ✓ Data and connection status indicators report HDCP state and transmitter-to-receiver link quality.
- ✓ Compact black metal enclosure with mounting ears for flexible installation behind a display or in a rack.

2. Specifications

TECHNICAL	
HDMI Compliance	HDMI 1.4
HDCP Compliance	HDCP 2.2
Bandwidth	10.2 Gbps
Video Resolutions	Up to 4K2K@30Hz 4:4:4
Transmission Mode	HDBaseT
Transmission Distance	1080p ≤ 70 m; 4K×2K ≤ 40 m
ESD Protection	IEC 61000-4-2: ±8 kV (air-gap discharge), ±4 kV (contact discharge)
CONNECTIONS - TRANSMITTER	
Input	1× HDMI In [Type A, 19-pin female]
Output	1× HDBaseT Out [RJ45]
Control	1× IR In and 1× IR Out [3.5 mm stereo mini-jack]; 1× RS-232 [phoenix connector]
CONNECTIONS - RECEIVER	
Input	1× HDBaseT In [RJ45]
Output	1× HDMI Out [Type A, 19-pin female]
Control	1× IR In and 1× IR Out [3.5 mm stereo mini-jack]; 1× RS-232 [phoenix connector]
PHYSICAL	
Housing	Metal enclosure
Color	Black
Dimensions (each unit)	4.72" × 2.91" × 0.63" (120 × 74 × 16 mm), W × D × H
Weight (each unit)	0.53 lbs (0.24 kg)
POWER	
Power Supply Input	AC 100-240 V, 50/60 Hz
Power Supply Output	DC 12 V / 1 A
Power Consumption	10 W (max)
ENVIRONMENTAL	
Operating Temperature	0 °C ~ 40 °C / 32 °F ~ 104 °F



continued

Storage Temperature	-20 °C ~ 60 °C / -4 °F ~ 140 °F
Relative Humidity	20 ~ 90 % RH (non-condensing)

PACKAGE CONTENTS		
	1×	HDMI 70M HDBaseT Extender (Transmitter)
	1×	HDMI 70M HDBaseT Extender (Receiver)
	1×	Power Adaptor (12V DC, 1A)
	1×	IR Receiver Cable (1.5 meters)
	1×	IR Blaster Cable (1.5 meters)
	4×	Mounting Ears
	2×	3-pin Phoenix Connectors
	1×	User Manual

3. Introduction

This extender uses HDBaseT technology to carry an HDMI signal, together with bi-directional IR and RS-232 control, up to 70 m over a single Cat5e/6 cable. It converts the HDMI signal into a standard HDBaseT signal and transmits it through the LAN cable. From the remote end you can control either the source device or the display device through bi-directional IR pass-through, and the unit also passes RS-232 through. The supported resolution is up to 4K2K@30Hz. Typical uses are video conferencing systems, multimedia broadcasting, and general HDMI signal extension.

4. Certifications

The manual states CE, FCC and UL, but only in the context of the bundled power adapter's output specification ("US/EU standards, CE/FCC/UL certified"). No certification marks are stated for the extender units themselves. A human should confirm whether these marks may be listed for the product as a whole. (See Flags.)

5. Operation Controls and Functions

TRANSMITTER PANEL

NO.	NAME	FUNCTION
1	In	HDMI signal input port. Connect the HDMI source device here.
2	IR In	Works with the far-end IR Out port. Connect a 12 V IR receiver to collect the IR signal, so you can control the far-end display device from the local end.
3	IR Out	Works with the far-end IR In port. Connect a 12 V IR blaster to send the IR signal, so the input source device can be controlled from the remote end.
4	RS-232 connector	Connect to a control system or PC with the 3-pin phoenix connector for RS-232 command transmission.
5	DC 12V	DC 12 V power supply port. Supports the bi-directional POC function.
6	Power LED	The red LED lights when the transmitter is powered on.
7	HDBaseT Out	Connect to the HDBaseT In port of the receiver with a Cat5e/6 cable.

continued

NO.	NAME	FUNCTION
8	RS-232 Mode switch	Set the switch to Ctrl for RS-232 pass-through control mode. Set it to Update to update mode, then connect the RS-232 port to a PC to update the Valens IC program.
9	Data Signal Indicator (green)	Steady: HDMI signal with HDCP. Flashing: HDMI signal without HDCP. Off: no HDMI signal.
10	Connection Signal Indicator (yellow)	Steady: transmitter and receiver are well connected. Flashing: transmitter and receiver are poorly connected. Off: transmitter and receiver are not connected.

RECEIVER PANEL

NO.	NAME	FUNCTION
1	Out	HDMI signal output port. Connect the HDMI display device here.
2	IR In	Works with the far-end IR Out port. Connect a 12 V IR receiver to collect the IR signal, so you can control the far-end display device from the local end.
3	IR Out	Works with the far-end IR In port. Connect a 12 V IR blaster to send the IR signal, so the input source device can be controlled from the remote end.
4	RS-232 connector	Connect to a control system or PC with the 3-pin phoenix connector for RS-232 command transmission.
5	DC 12V	DC 12 V power supply port. Supports the bi-directional POC function.
6	Power LED	The red LED lights when the receiver is powered on.
7	HDBaseT In	Connect to the HDBaseT Out port of the transmitter with a Cat5e/6 cable.
8	RS-232 Mode switch	Set the switch to Ctrl for RS-232 pass-through control mode. Set it to Update to update mode, then connect the RS-232 port to a PC to update the Valens IC program.
9	Data Signal Indicator lamp (green)	Steady: HDMI signal with HDCP. Flashing: HDMI signal without HDCP. Off: no HDMI signal.
10	Connection Signal Indicator lamp (yellow)	Steady: transmitter and receiver are well connected. Flashing: transmitter and receiver are poorly connected. Off: transmitter and receiver are not connected.

6. POC (Power Over Cable) Application Example

The manual documents this as an illustrated application example (its "Description 1"). The source text supplied here contains only the section heading; the accompanying diagram and any descriptive caption were not included in the extracted text. See the Features and panel entries above for the POC behavior the manual does state: powering either the transmitter or the receiver from a single 12V/1A supply powers the other unit over the Cat5e/6 cable. (Diagram content flagged for the artwork audit.)



7. Bi-directional Infrared Control Application Example

The manual documents this as an illustrated application example (its "Description 2"). Only the section heading was present in the supplied text; the diagram and caption were not included. The IR pass-through behavior is described in the transmitter and receiver panel tables above (IR In / IR Out ports 2 and 3). (Diagram content flagged for the artwork audit.)

8. Bi-directional RS-232 Control Application Example

The manual documents this as an illustrated application example (its "Description 3"). Only the section heading was present in the supplied text; the diagram and caption were not included. The RS-232 pass-through behavior is described in the panel tables above (RS-232 connector, port 4; RS-232 Mode switch, port 8). (Diagram content flagged for the artwork audit.)

9. Application Example

The manual closes with a general application example. Only the heading was present in the supplied text; the diagram was not included. (Diagram content flagged for the artwork audit.)

Note: the manual also carries the standard HDMI trademark acknowledgement ("The terms HDMI, HDMI High-Definition Multimedia Interface, and the HDMI Logo are trademarks or registered trademarks of HDMI Licensing LLC...").

10. Application Example

4K30Hz HDBaseT HDMI Extender over Cat5e/6 with PoC - 70M

EXT-HDBT70C
HDMI



Displays

How it works: Bi-directional IR and bi-directional RS-232 pass-through travel inside the same cable as the video, so the far-end display can be switched, powered and volume-adjusted and the head-end source controlled from the remote room, all without pulling a separate control run. The link is HDCP 2.2 compliant for protected 4K sources and built to HDMI 1.4, with ESD-protected ports and status indicators for HDCP state and transmitter-to-receiver link quality. The single strongest advantage is spec-right economy: full HDBaseT transport with PoC, IR and RS-232 control delivered at a 4K30 design ceiling, so integrators standardizing many small rooms are not forced to overbuy an 18 Gbps link.

11. Troubleshooting

Q: The display shows no picture through the EXT-HDBT70C. What should I check?

A: Check the green Data Signal Indicator: off means no HDMI signal, so confirm the source is connected to the transmitter's In port. Then check the yellow Connection Signal Indicator is steady, which confirms the transmitter and receiver are well connected over the Cat5e/6 cable.

Q: The picture is dropping out or unstable on the EXT-HDBT70C. What should I check?

A: A flashing yellow Connection Signal Indicator means the transmitter and receiver are poorly connected, so check the Cat5e/6 cable and its termination. Also confirm the run is within limits: 4K2K@30Hz is supported only up to 40 m, while 1080p runs up to 70 m.

Q: Neither EXT-HDBT70C unit shows a Power LED. What should I check?

A: The red Power LED lights when a unit is powered on, so confirm the 12V DC / 1A adapter is connected to the DC 12V port on at least one unit; through POC that unit powers the other over the Cat5e/6 cable.

Q: RS-232 commands are not passing through the EXT-HDBT70C. What should I check?

A: Confirm the RS-232 Mode switch is set to Ctrl for pass-through control mode rather than Update, and that the control system is wired to the RS-232 port with the 3-pin phoenix connector.

Need help? — For additional support, contact KanexPro technical support at support@kanexpro.com or 888.975.1368, or scan the QR code below for the product page.



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