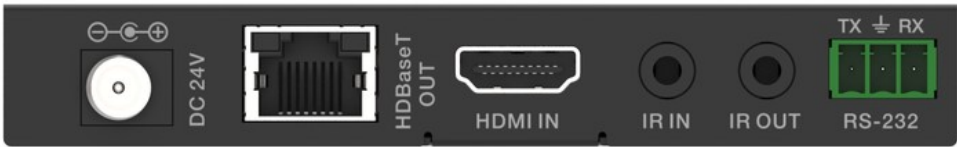


18Gbps 4K60 HDMI over HDBaseT Extender Kit with PoC - 40m 4K / 70m 1080p

Power Both Ends from One Adaptor - 4K60 4:4:4 10-bit HDR, HDCP 2.2, Bi-Directional IR & RS-232 over a Single CAT6



Delivers 4K60 4:4:4 HDR from the rack or lectern to a display or projector up to 40 m (131 ft) away, with power needed at only one end of the run. The kit is a compact black metal transmitter and receiver, each 4.53 x 2.56 x 0.67 in (115 x 65 x 17 mm), linked by a single straight-through CAT6 cable that also carries 1080p to 70 m (230 ft). One 24V/1A adaptor plugged into either unit powers both over the cable, so a ceiling projector or a display above a fireplace needs no outlet. It is the right choice for classrooms, meeting rooms, hospitality venues and residential media rooms where a clean single-display run with full 18Gbps video and control matters more than eARC, USB or Ethernet extension.

The link is HDMI 2.0b at 18Gbps with HDCP 2.2 and 1.4. It passes 10-bit HDR and HBR audio, including Dolby TrueHD, DTS-HD Master Audio, Dolby Atmos and DTS:X, with CEC bypass. Two independent IR channels and bi-directional RS-232 on 3-pin Phoenix connectors share the same cable. A control system at the rack can drive the display, and a handheld remote at the display can still operate the source. Two IR emitter cables and two IR receiver cables are in the box, so both directions work out of the box. Nothing touches the network, so there is no IP addressing to plan and no IT sign-off to wait for. Link and HDCP status lamps on both units show at a glance whether the cable run or the source is the problem. The single strongest differentiator is Power over Cable from either end: the adaptor goes wherever the outlet is, at the source or at the display.

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

- ✓ HDMI 2.0b (18Gbps), HDCP 2.2/1.4 and DVI compliant
- ✓ Video resolutions up to 4K2K@50/60Hz (YUV 4:4:4); 4K60 to 131 ft (40m), 1080p to 230 ft (70m)
- ✓ 10-bit HDR pass-through
- ✓ HDMI High Bit Rate (HBR) audio pass-through, including Dolby TrueHD, DTS-HD Master Audio, Dolby Atmos and DTS:X
- ✓ CEC bypass
- ✓ Power over Cable (PoC): one 24V/1A power supply at either the transmitter or the receiver powers both units; PoC power consumption less than 10W
- ✓ Bi-directional IR control on two independent channels, carried with the HDMI signal over the HDBaseT link
- ✓ Bi-directional RS-232 control on 3-pin Phoenix connectors, carried with the HDMI signal over the HDBaseT link
- ✓ Single CAT6 cable with straight-through wiring; enters protection mode, with no video, if a crossover cable is connected
- ✓ Connection Signal and Data Signal indicator lamps on each unit show link quality and HDMI/HDCP status

2. Package Contents

- ✓ 1x HDMI 18Gbps Transmitter
- ✓ 1x HDMI 18Gbps Receiver
- ✓ 2x Wideband IR Tx (blaster) cable
- ✓ 2x Wideband IR Rx (receiver) cable
- ✓ 1x 24V/1A Power Adaptor

3. Specifications

VIDEO		
	HDMI Compliance	HDMI 2.0b
	HDCP Compliance	HDCP 2.2 and HDCP 1.4
	DVI	Compliant
	Video Bandwidth	18Gbps
	Video Resolutions	Up to 4K2K@50/60Hz (YUV 4:4:4), 4K2K@30Hz, 1080p@120Hz, 1080p 3D@60Hz
	Color Space	RGB, YCbCr 4:4:4, YCbCr 4:2:2
	Color Depth	10-bit, 12-bit
	HDR	10-bit HDR pass-through
	CEC	Bypass
AUDIO		
	HDMI Audio Formats (Pass-Through)	LPCM 2/5.1/7.1CH, Dolby Digital, DTS 5.1, Dolby Digital Plus, Dolby TrueHD, DTS-HD Master Audio, Dolby Atmos, DTS:X
	HBR Audio	Pass-through
TRANSMISSION		
	Signal Type	HDBaseT
	Cable	Single CAT6, straight-through wiring (crossover not supported)
	Maximum Distance	230 ft (70m) at 1080p; 131 ft (40m) at 4K
	230 ft (70m)	1080p@60Hz 36-bit; 3D 1080p@30Hz 36-bit
	131 ft (40m)	1080p@60Hz 48-bit; 1080p@120Hz 24-bit; 3D 1080p@60Hz 36-bit; 4K2K@30Hz 24-bit; 4K2K@50/60Hz (YUV 4:2:0); 4K2K@50/60Hz (YUV 4:4:4)



continued

ESD Protection		Human body model: ±8kV air-gap discharge, ±4kV contact discharge
CONTROL		
	IR	Bi-directional, two independent channels (Channel 1: RX to TX; Channel 2: TX to RX)
	RS-232	Bi-directional pass-through, 3-pin Phoenix (TX, GND, RX)
TRANSMITTER CONNECTIONS		
	Inputs	1 x HDMI In (Type A, 19-pin female); 1 x IR In (3.5mm stereo mini-jack); 1 x RS-232 (3-pin Phoenix)
	Outputs	1 x HDBaseT Out (RJ45); 1 x IR Out (3.5mm stereo mini-jack)
	Power	1 x DC 24V jack
RECEIVER CONNECTIONS		
	Inputs	1 x HDBaseT In (RJ45); 1 x IR In (3.5mm stereo mini-jack); 1 x RS-232 (3-pin Phoenix)
	Outputs	1 x HDMI Out (Type A, 19-pin female); 1 x IR Out (3.5mm stereo mini-jack)
	Power	1 x DC 24V jack
INDICATORS (EACH UNIT)		
	Power LED	On: system powered
	Connection Signal	Steady: good link; flashing: poor link; off: no link
	Data Signal	Steady: HDMI with HDCP; flashing: HDMI without HDCP; off: no HDMI signal
POWER		
	Power Supply	Input AC 100-240V, 50/60Hz; output DC 24V/1A (CE/FCC/UL certified)
	Power over Cable (PoC)	One adaptor at either unit powers both
	PoC Power Consumption	Less than 10W
	Power Consumption	24W (max)
MECHANICAL		
	Housing	Metal enclosure
	Color	Black
	Dimensions (W x D x H)	4.53 x 2.56 x 0.67 in (115 x 65 x 17 mm)
	Weight	0.89 lbs (405 g), transmitter and receiver together
	Package Dimensions	8.46 x 6.10 x 2.76 in (215 x 155 x 70 mm)
ENVIRONMENTAL		
	Operating Temperature	32 to 104°F (0 to 40°C)
	Storage Temperature	-4 to 140°F (-20 to 60°C)
	Relative Humidity	20 to 90% RH (non-condensing)

4. Before you start: CAT cable wiring

Use a straight-through CAT cable between the transmitter and the receiver, wired to the same standard at both ends. Do not use a crossover cable. If the extender detects a crossover cable it goes into protection mode, and no video reaches the display.



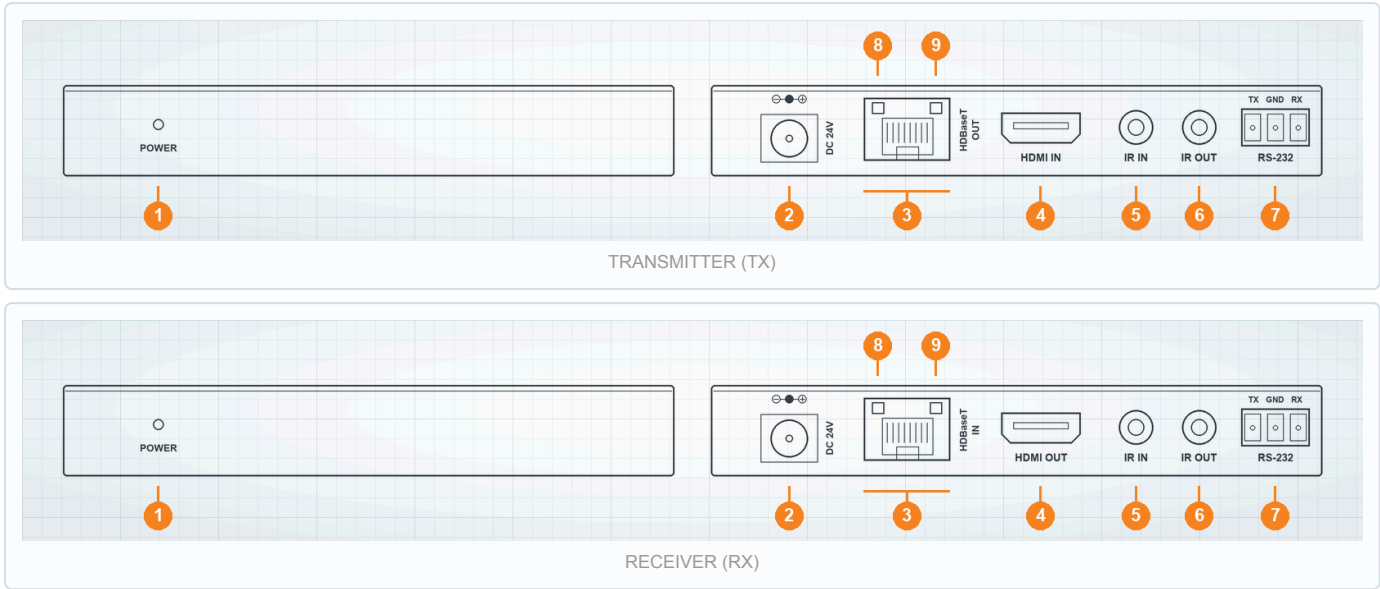
5. Introduction

The EXT-HDBT18G-70M sends an 18Gbps HDMI signal to a compatible display up to 230 ft (70m) away over a single CAT cable. The transmitter converts the HDMI signal to standard HDBaseT, and the receiver converts it back to HDMI at the display.

Infrared control signals travel over the same cable in both directions. From the display end you can control the source with its own remote, and from the source end you can control the display with its own remote. RS-232 control signals also travel over the cable in both directions.

The full 230 ft (70m) reach applies to 1080p signals. 4K signals travel a shorter distance. See **Transmission distance** below.

6. Panel descriptions



The manual shows each unit's connectors and indicators in one numbered drawing. It does not split them into front and rear panels.

TRANSMITTER

No.	Name	Description
1	Power LED	Lights to show that the system has power.
2	DC 24V	Connect the 24V/1A adaptor here and plug it into an AC wall outlet. With POC you only need an adaptor at one of the two units.
3	HDBaseT Out	Standard HDBaseT output. Connect it to the receiver with a straight-through UTP cable.
4	HDMI In	Connect your HDMI source here, such as a Blu-ray player or a PS4.
5	IR In	Channel 2 IR receiver input. Connect a Wideband IR Rx cable here.
6	IR Out	Channel 1 IR transmitter output. Connect a Wideband IR Tx cable here.
7	RS-232	Phoenix connector that carries serial control signals between the transmitter and the receiver.
8	Connection Signal Indicator Lamp	Shows the link status between the transmitter and the receiver (see below).
9	Data Signal Indicator Lamp	Shows the HDMI signal status (see below).



RECEIVER

No.	Name	Description
1	Power LED	Lights to show that the system has power.
2	DC 24V	Connect the 24V/1A adaptor here and plug it into an AC wall outlet. With POC you only need an adaptor at one of the two units.
3	HDBaseT In	Standard HDBaseT input. Connect it to the transmitter with a straight-through UTP cable.
4	HDMI Out	Connect your HDTV or monitor here with an HDMI cable.
5	IR In	Channel 1 IR receiver input. Connect a Wideband IR Rx cable here.
6	IR Out	Channel 2 IR transmitter output. Connect a Wideband IR Tx cable here.
7	RS-232	Phoenix connector that carries serial control signals between the transmitter and the receiver.
8	Connection Signal Indicator Lamp	Shows the link status between the transmitter and the receiver (see below).
9	Data Signal Indicator Lamp	Shows the HDMI signal status (see below).

READING THE INDICATOR LAMPS

Both units have the same two lamps, and they mean the same thing on each unit.

Connection Signal Indicator Lamp: Steady light means the transmitter and receiver have a good connection. Flashing means the connection is poor; check the cable and its terminations. If the lamp is dark, the two units are not connected.

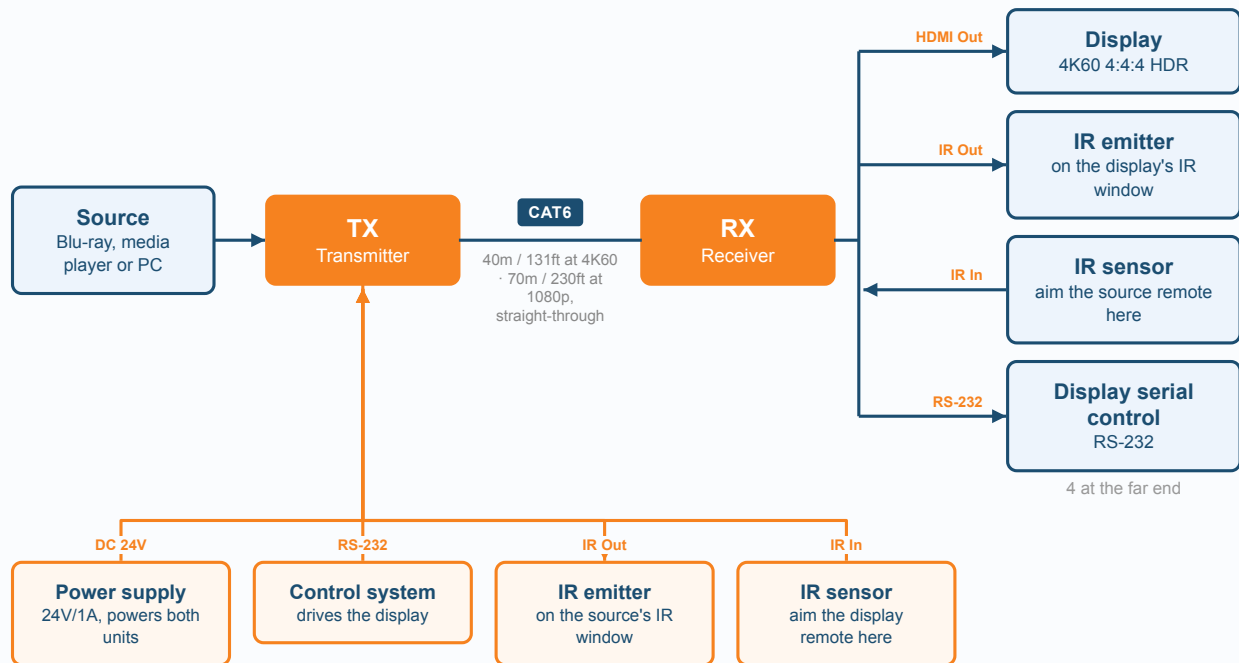
Data Signal Indicator Lamp: Steady light means an HDMI signal with HDCP is present. Flashing means an HDMI signal without HDCP is present. If the lamp is dark, there is no HDMI signal.



7. Connection Diagram

TYPICAL SETUP

18Gbps 4K60 HDMI over HDBaseT Extender Kit with PoC - 40m 4K / 70m 1080p



How it works: The link is HDMI 2.0b at 18Gbps with HDCP 2.2 and 1.4. It passes 10-bit HDR and HBR audio, including Dolby TrueHD, DTS-HD Master Audio, Dolby Atmos and DTS:X, with CEC bypass. Two independent IR channels and bi-directional RS-232 on 3-pin Phoenix connectors share the same cable. A control system at the rack can drive the display, and a handheld remote at the display can still operate the source. Two IR emitter cables and two IR receiver cables are in the box, so both directions work out of the box. Nothing touches the network, so there is no IP addressing to plan and no IT sign-off to wait for. Link and HDCP status lamps on both units show at a glance whether the cable run or the source is the problem. The single strongest differentiator is Power over Cable from either end: the adaptor goes wherever the outlet is, at the source or at the display.

8. Troubleshooting

Q: There is no picture on the display. What should I check first?

A: Check that the Power LED is lit on both units. Then look at the Connection Signal lamp: if it is dark, the two units are not linked, so check that the CAT cable is plugged into HDBaseT Out and HDBaseT In and that it is wired straight-through, not crossover. A crossover cable puts the extender into protection mode.

Q: The Connection Signal lamp is flashing. What does that mean?

A: A flashing Connection Signal lamp means the link between the transmitter and the receiver is poor. Check the CAT cable and re-terminate both ends to the same standard. A steady lamp means a good link.



Q: The link is good but the Data Signal lamp is off. What now?

A: A dark Data Signal lamp means no HDMI signal is arriving, so check that the source is powered on, outputting video and connected to HDMI In on the transmitter. When HDMI is present, the lamp lights steady for content with HDCP and flashes for content without HDCP.

Q: 1080p works but 4K drops out or shows no picture. Why?

A: 4K signals reach 131 ft (40m), and only 1080p@60Hz 36-bit and 3D 1080p@30Hz 36-bit reach the full 230 ft (70m). On a run longer than 40m, shorten the cable or set the source to a 1080p signal that works at that distance.

Q: The remote does not control the far device through the extender. What should I check?

A: Check that the IR cables are in the right jacks for the direction you want. The IR Rx sensor goes in IR In at the end where you aim the remote, and the IR Tx emitter goes in IR Out at the other end, placed over the device's IR window. Also check that the Connection Signal lamp shows a good link.

Need help? — For additional support, visit kanexpro.com/support, or scan the QR code below for the product page.

9. Installation FAQ

Q: What cable do I run between the transmitter and the receiver?

A: Run a single CAT6 cable with straight-through wiring, terminated to the same standard at both ends. Crossover cables are not supported. If the extender detects a crossover cable it goes into protection mode, and no video reaches the display.

Q: How do I connect the source and the display?

A: Connect the HDMI source, such as a Blu-ray player or game console, to HDMI In on the transmitter. Connect HDBaseT Out on the transmitter to HDBaseT In on the receiver, then connect HDMI Out on the receiver to the TV or monitor.

Q: Where do I plug in the power adaptor?

A: Plug the 24V/1A adaptor into the DC 24V jack on either the transmitter or the receiver, whichever end has an outlet. That unit powers the other one over the CAT cable, so leave the other unit's DC jack empty.

Q: Where do the IR cables go?

A: To control the source from the display end, plug an IR Rx cable into IR In on the receiver and an IR Tx emitter into IR Out on the transmitter, with the emitter over the source's IR window. To control the display from the source end, plug an IR Rx cable into IR In on the transmitter and an IR Tx emitter into IR Out on the receiver, with the emitter over the display's IR window.

10. Integration FAQ

Q: How does a control system send RS-232 through the extender?

A: Connect the control system or computer to the 3-pin Phoenix RS-232 connector (TX, GND, RX) on one unit. Connect the device you want to control to the RS-232 connector on the other unit. Serial commands then pass between them over the CAT cable in either direction.

Q: Can IR run in both directions at the same time?

A: Yes. The kit carries two independent IR channels. Channel 1 runs from the receiver to the transmitter, so you can control the source from the display end. Channel 2 runs from the transmitter to the receiver, so you can control the display from the source end.

Q: Can the control system be at either end of the link?

A: Yes. RS-232 is a bidirectional pass-through, so the controller can connect to the transmitter or to the receiver, with the controlled device on the other unit.

Q: Does the extender itself take control commands?

A: No. The EXT-HDBT18G-70M passes RS-232 and IR through between its two ends but does not respond to them itself. It has no network interface.

