



The Leader in Video Distribution

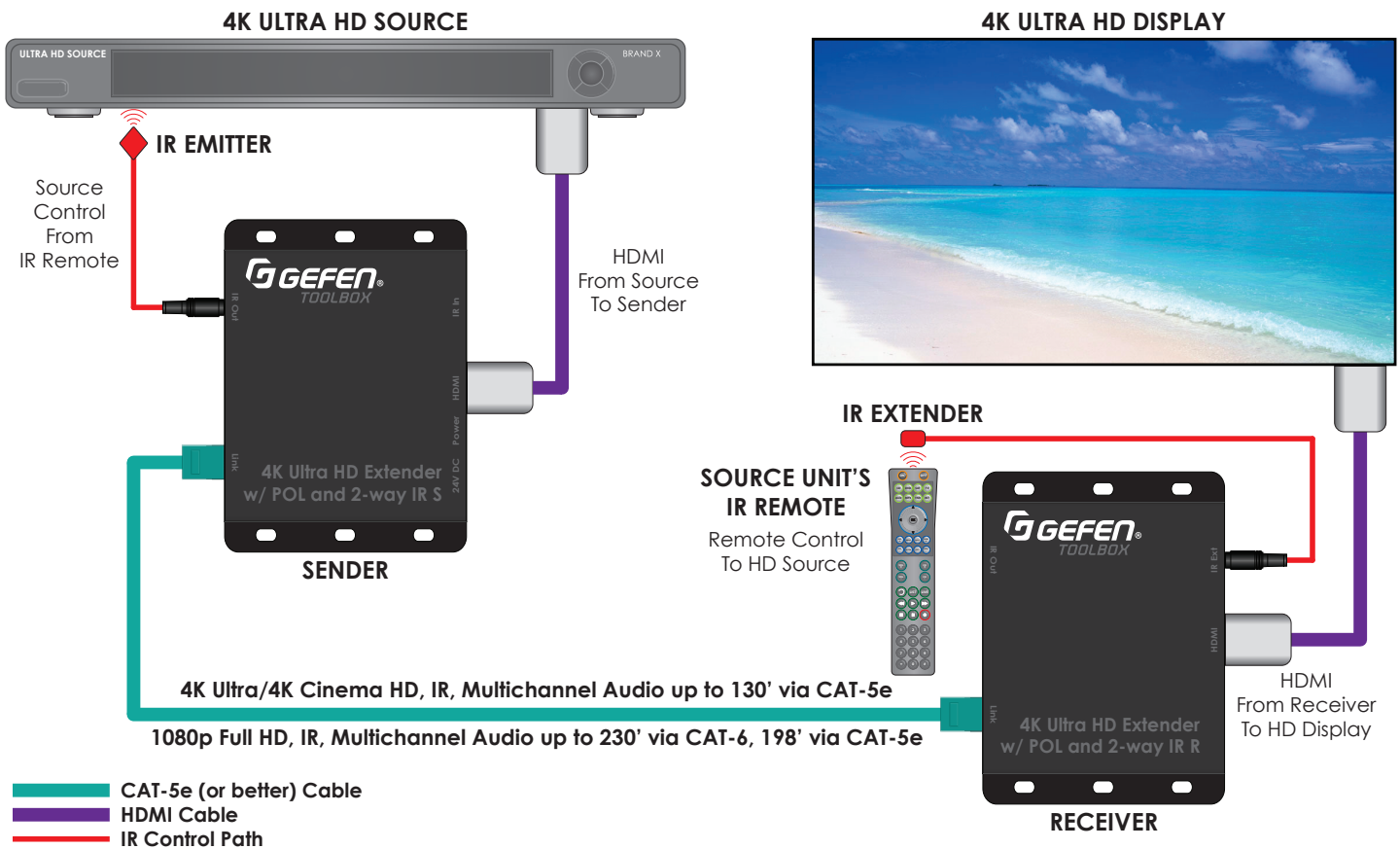
Extenders

4K Ultra HD HDMI Extenders

Gefen's implementation of HDBaseT™ Technology extends the possibilities of remote Ultra HD display installation. HDMI resolutions up to 4K Ultra HD can be combined with multichannel audio, 2-way IR, RS-232 and Ethernet to assure full video signal quality, audio content and source control.

4K resolutions can be extended up to 330 feet (100m) on a single CAT-5e, 1080p Full HD up to 495 feet (150m). The compact chassis of the Senders and Receivers connect with a single CAT5e/6 cable and use a single power supply to increase design options and simplify installation.

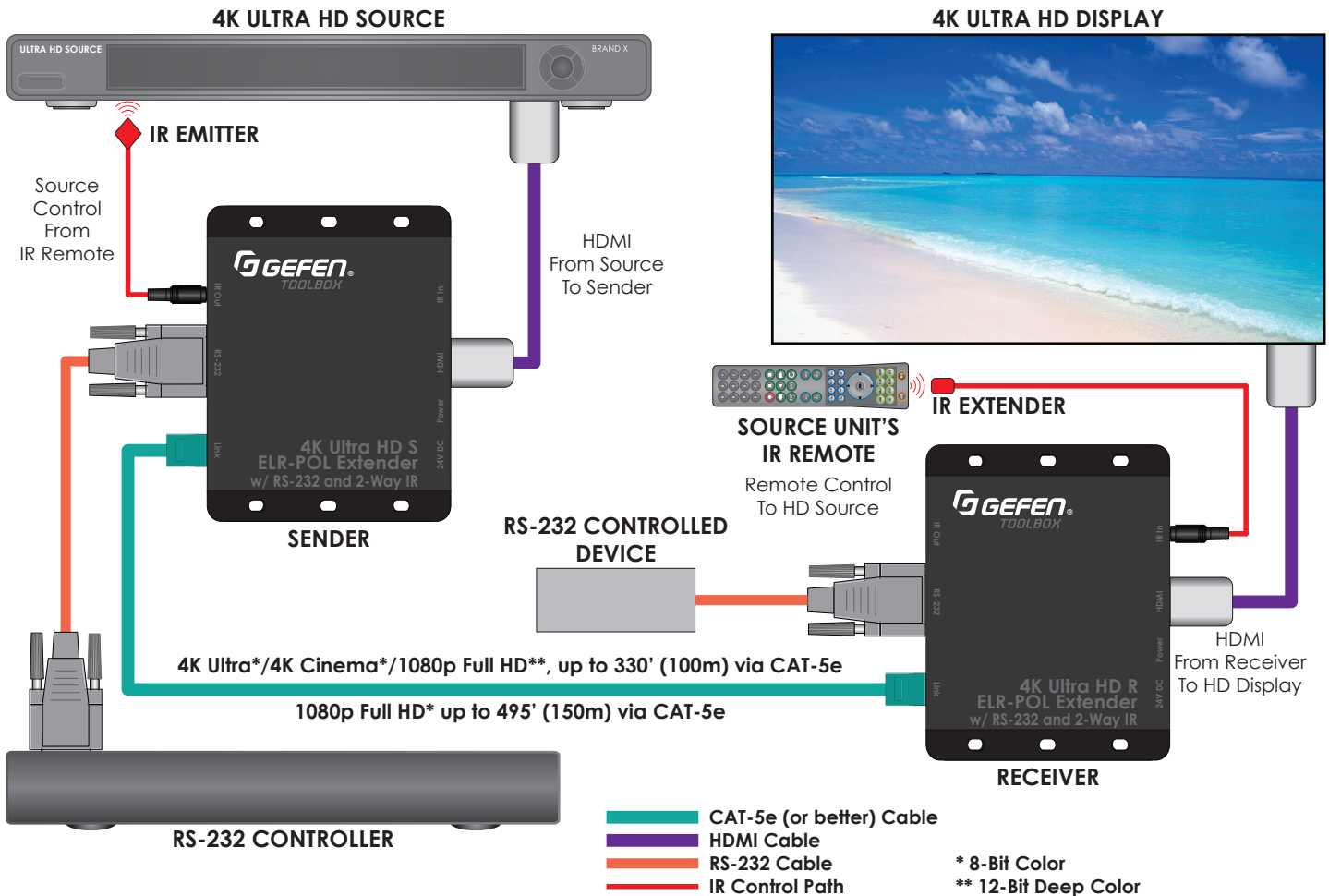
Application 1 - 4K Ultra HD Extender for HDMI with POL, 2-Way IR, 4K up to 130' (40m), 1080p Full HD up to 230' (70m)



The illustration shows a typical application for a Gefen 4K Ultra HD Extender. This application features the Gefen **GTB-HDBT-POL-BLK** 4K Ultra HD Extender. The 4K Ultra HD source is connected to the Sender via HDMI Cable. 4K Ultra/4K Cinema HD video, LPCM 7.1 channel's audio, Dolby® TrueHD, Dolby Digital® Plus and DTS-HD Master Audio™ and 2-way IR are then transmitted over CAT-5e (min) cable to the Receiver up to 130 feet (40m) away. 1080p Full HD can be transmitted up to 230 feet (70m) via CAT-6 or up to 198 feet (60m) via CAT-5e. The 2-way IR allows control of the source from the Receiver location, or control of the display (display ON/OFF, etc) from the Sender location...all over a single CAT-6/5e cable.

Gefen 4K Ultra HD Extenders

Application 2 - 4K Ultra HD ELR Extender for HDMI with 2-Way IR, RS-232, 4K up to 330' (100m), 1080p Full HD up to 495' (150m)



This application, featuring the **GTB-UHD2IRS-ELRPOL-BLK**, adds additional transmission range and RS-232 control to 4K Ultra HD and 1080p Full HD extension.

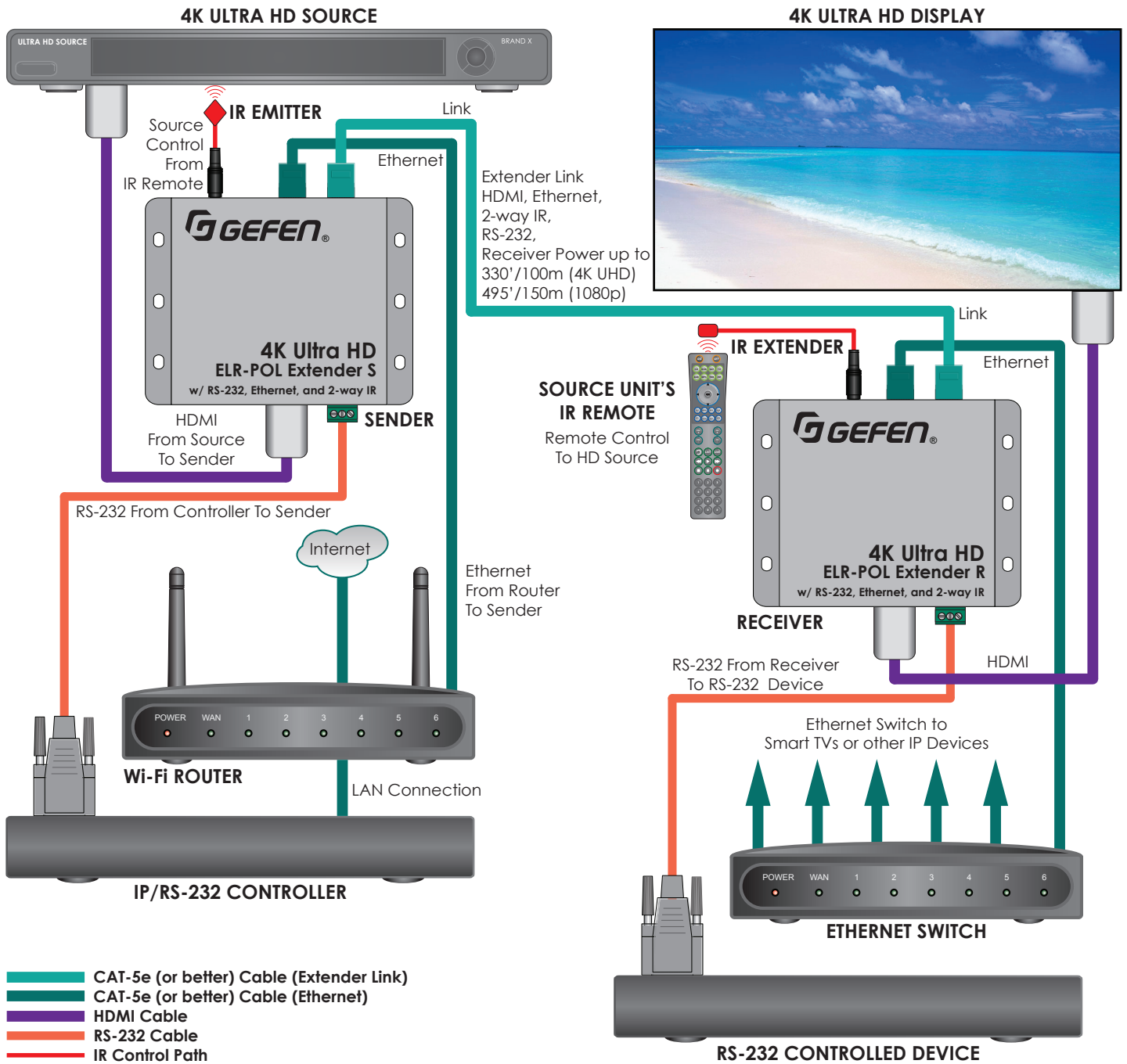
This ELR (Extra Long Range) 4K Ultra HD Extender with POL (Power Over Line) can transmit 4K Ultra/4K Cinema HD video, LPCM 7.1 channel audio, Dolby® TrueHD, Dolby Digital® Plus and DTS-HD Master Audio™, RS-232 and 2-way IR up to 330 feet (100m) over a single CAT-5e cable. 1080p Full HD can be transmitted up to 495 feet (150m) via CAT-5e.

For greater control flexibility, in addition to 2-way IR, the GTB-UHD2IRS-ELRPOL-BLK also provides RS-232 control extension. Elements of automation can be incorporated by connecting an RS-232 controller to the Sender and transmitting RS-232 commands to the Receiver for control of RS-232 devices located near the Receiver.

In addition to RS-232 control, 2-way IR allows control of the Ultra HD source from the Receiver location, or control of the display, (display ON/OFF, etc) or other IR controlled devices from the Sender location.

Gefen 4K Ultra HD Extenders

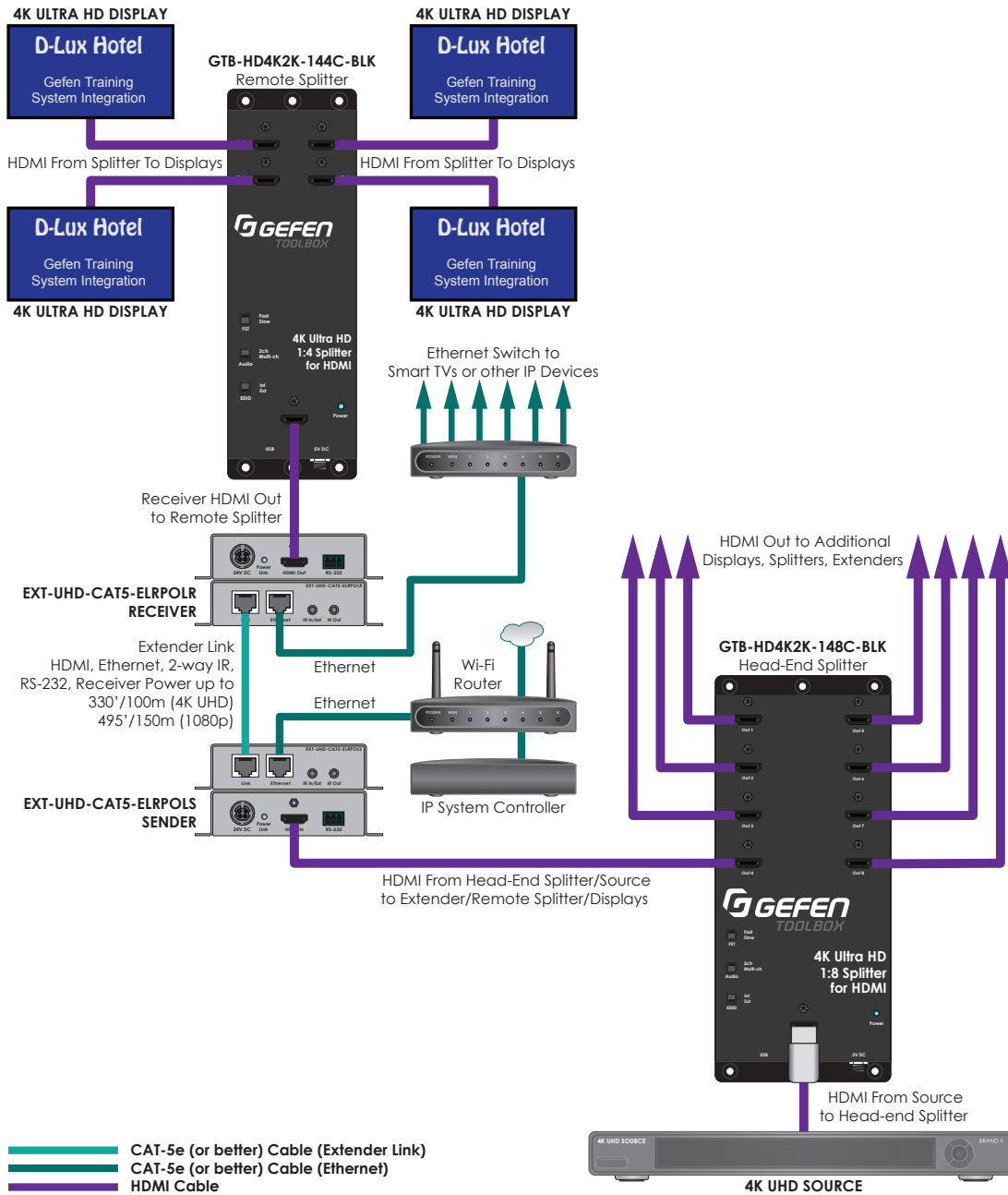
Application 3 - 4K Ultra HD ELR-POL Extender for HDMI with Ethernet, 2-Way IR, RS-232, 4K up to 330' (100m), 1080p Full HD up to 495' (150m)



The **EXT-UHD-CAT5-ELRPOL** includes all of the features shown in the previous applications...including ELR (Extra Long Range)...and adds Ethernet extension. This now allows extending 4K Ultra HD (or 1080p Full HD), HBR (High Bit Rate) lossless digital audio, RS-232, 2-way IR and Ethernet...all on a single shielded CAT-5e/6 cable making 10/100BaseT reliable, wired Ethernet available at the remote location without the need to run a separate cable.

Gefen 4K Ultra HD Extenders

Application 4 - Using Splitters & Extenders for Remote Ultra HD Display Clusters with IP Control



This application shows how to incorporate Gefen splitters and extenders to create a 4K Ultra HD distribution system with remote 4K Ultra HD display clusters and IP (and/or RS-232/2-way IR) control for Smart TVs or other IP, RS-232 and IR controlled devices.

Inserting a Gefen Extender, EXT-UHD-CAT5-ELRPOL shown, between a Head-end Splitter and Remote Splitters can extend HDMI, Ethernet, 2-way IR, RS-232 and Receiver Power to create remote Ultra HD display clusters for video distribution or digital signage in bars, hotels or other commercial applications.

Gefen 4K Ultra HD Extenders

Settings

GTB-HDBT-POL-BLK

The GTB-HDBT-POL-BLK is designed for fast, clean installation and stable, reliable performance. Just hook it up and it's ready to go!

GTB-UHD2IRS-ELRPOL-BLK

Long Reach Mode - In the **ON** position, resolutions up to 1080p Full HD can be extended to a maximum distance of 495 feet (150m). In this configuration, color depth is limited to 8-bit color. In the **OFF** position (default), all resolutions up to 4K x 2K can be extended up to 330 feet (100m). 1080p Full HD up to 12-bit Deep Color can also be extended up to 330 feet (100m) in this configuration.

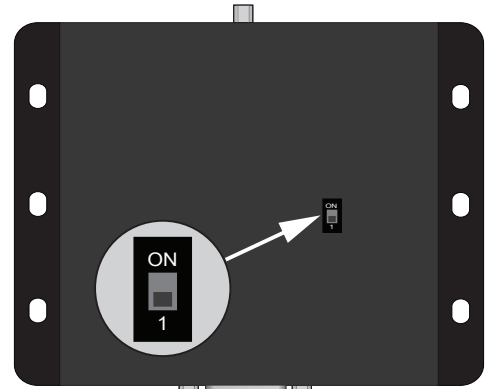
EXT-UHD-CAT5-ELRPOL

EDID Management - When **Sender Switch 1** is in the **ON** position, all video and audio features of the connected device (display or other sink device) will be passed through to the source. When **Sender Switch 1** is in the **OFF** position, the Sender copies and then modifies the downstream EDID to support only up to 1080p60, 8-bit color in 'long-reach' mode.

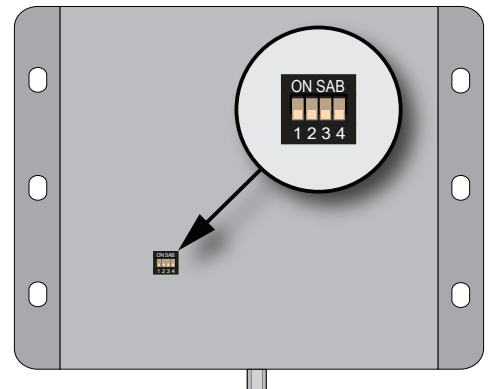
HPD Mode - Hot Plug Detect is an HDMI feature that senses if the HDMI cable has been disconnected from the source or display (sink device). When **Sender Switch 1** is in the **OFF** position, HPD will toggle, depending on the HPD status of the display (sink) or source device. When **Sender Switch 1** is in the **ON** position, HPD is always high, even when the display is hot-plugged (disconnected from, then reconnected to the source device).

HDBT (HDBaseT) Mode - HDBT Normal Mode (default), **Sender Switch 3 OFF**, allows all resolutions up to 4K x 2K to be extended up to 330 feet (100m). **HDBT Long-Reach Mode, Sender Switch 3 ON**, allows resolutions up to 1080p Full HD @ 8-bit color to be extended up to a maximum distance of 495 feet (150m).

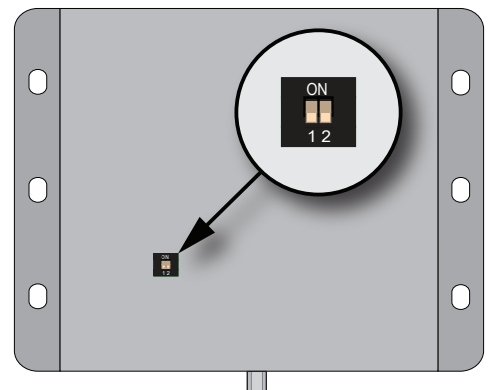
RS-232 Mode - Toggles between RS-232 pass-through mode and service mode. When **Sender Switch 4** and **Receiver Switch 1** are in the OFF position, RS-232 data is passed between the Sender and Receiver units. When **Sender Switch 4** and **Receiver Switch 1** are in the **ON** position, the Sender and Receiver are set for firmware update.



GTB-UHD2IRS-ELRPOL-BLK Receiver



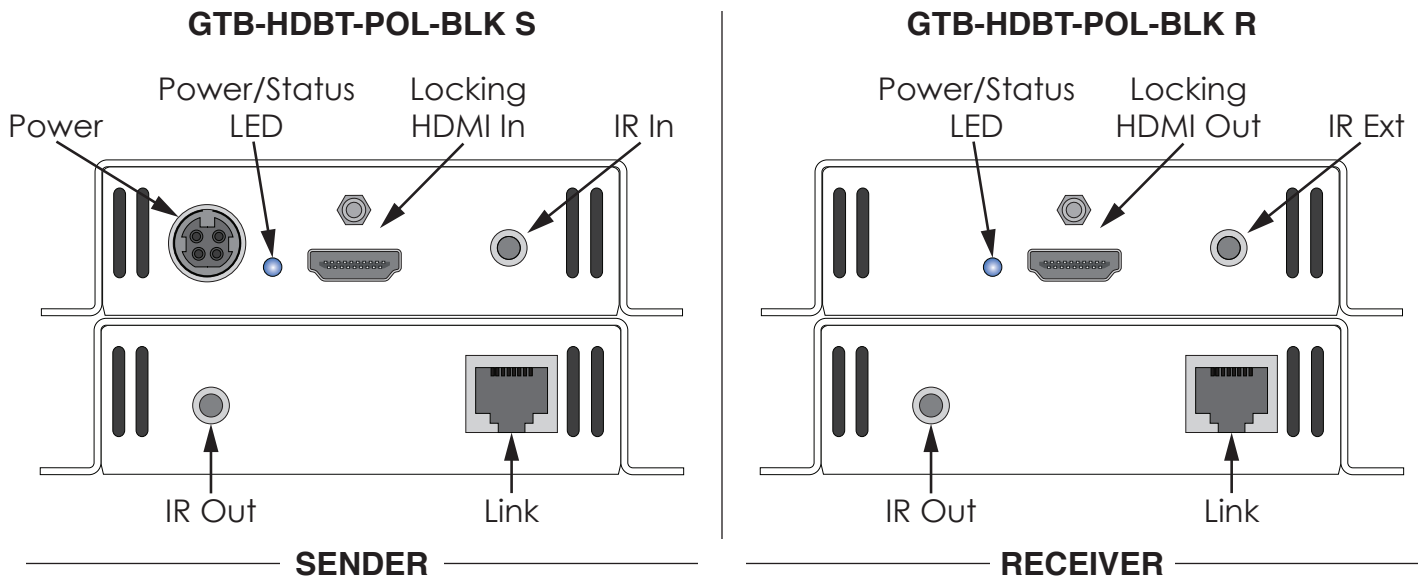
EXT-UHD-CAT5-ELRPOL Sender



EXT-UHD-CAT5-ELRPOL Receiver

Gefen 4K Ultra HD Extenders

Connections



Features & Benefits

Features

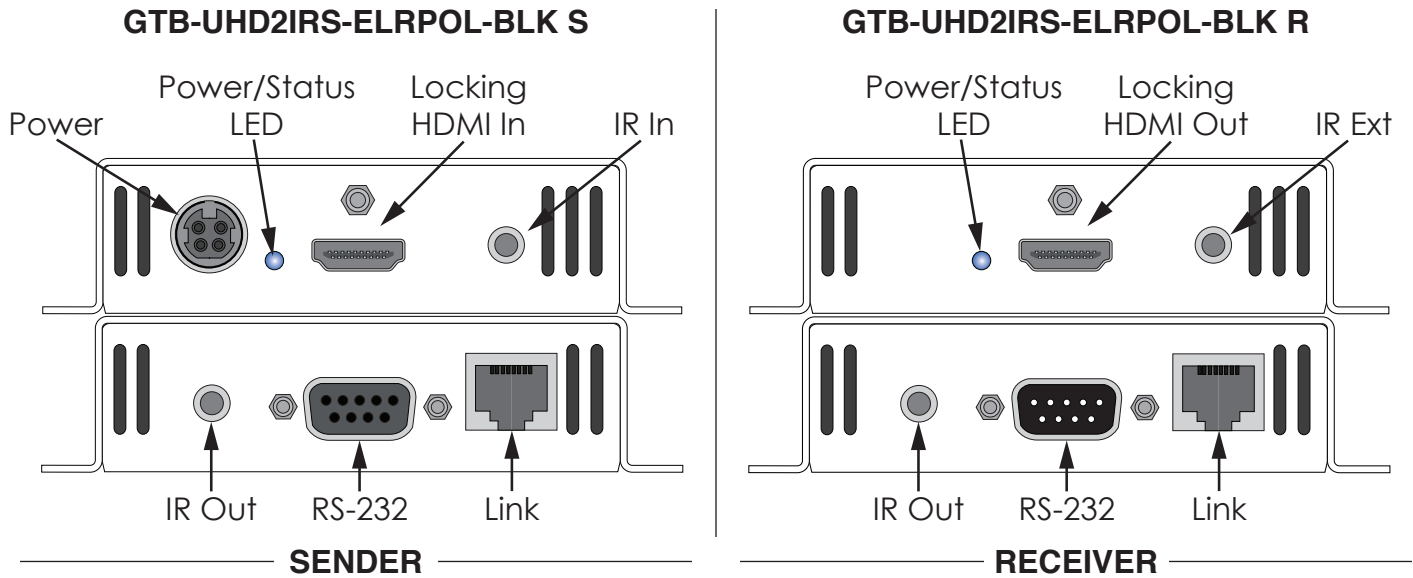
- Extends 4K Ultra HD (3840 x 2160 @ 60Hz 4:2:0, or 30Hz, 4:4:4 up to 130 feet (40m) over a single CAT-5e cable (8-bit color)
- Extends 4K Cinema HD (4096 x 2160 @ 24 or 30Hz 4:4:4), up to 130 feet (40m) over a single CAT-5e cable
- Extends 1080p Full HD up to 230 feet (70m) over a single CAT-6 cable, or 198 feet (60m) over CAT-5e
- Uses Gefen's implementation of HDBase™ Technology
- Gefen POL (Power Over Line) sends power from the Sender to the Receiver over the same CAT5e/6 cable as the HDMI signal
- Bi-Directional IR control, HDMI 2.0, HDCP 2.2 and 1.4, 12-bit Deep Color (up to 1080p), LPCM 7.1 audio, Dolby® TrueHD, Dolby Digital® Plus and DTS-HD Master Audio™, 3DTV pass-through, CEC pass-through, Lip Sync pass-through

Benefits

- Allows locating a Ultra HD Display well beyond the limit of a standard HDMI connection...typically 15 feet
- Extends HDMI signal, multichannel audio, bi-directional IR and power to the Receiver via a single CAT5e/6...simplifying installation & reducing cost
- No loss of video signal quality or multi-channel audio content over extended run
- Bi-directional IR allows source control from the viewing area via IR Remote and IR control from an automation system or base station to control the display or other devices located near the Receiver
- Compact chassis allows surface mount of the Sender just about anywhere in an equipment cabinet and the Receiver behind the display

Gefen 4K Ultra HD Extenders

Connections



Features & Benefits

Features

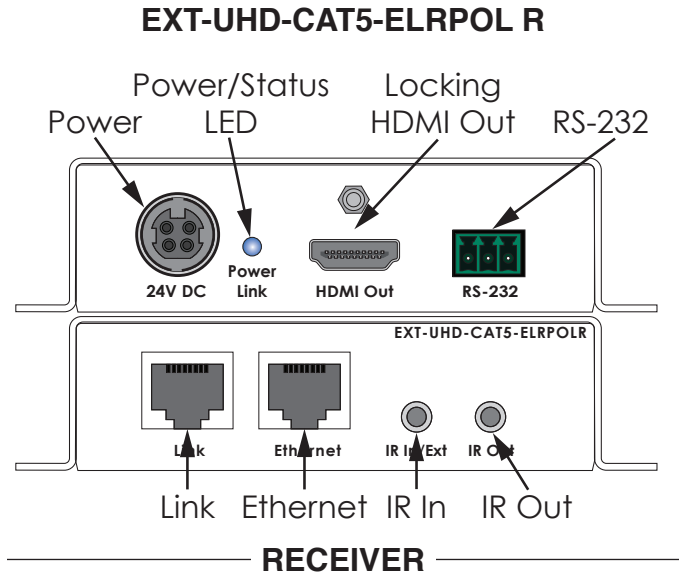
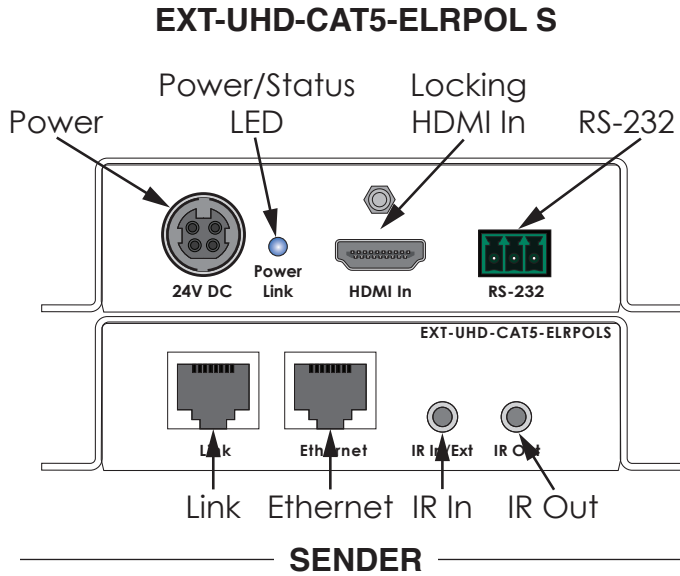
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- Extends 4K Cinema HD (4096 x 2160 @ 24 or 30Hz 4:4:4), up to 330 feet (100m) over a single CAT-5e cable
- Extends 1080p Full HD up to 330 feet (100m) over a single CAT-5e cable (up to 12-bit Deep Color), or 495 feet (150m) over CAT-5e (8-bit color)
- Uses Gefen's implementation of HDBase™ Technology
- Gefen POL (Power Over Line) sends power from Sender to Receiver over same CAT5e/6 cable as HDMI signal
- Bi-Directional IR control, RS-232, HDMI 2.0, HDCP 2.2 and 1.4, 12-bit Deep Color (up to 1080p), LPCM 7.1 audio, Dolby® TrueHD, Dolby Digital® Plus and DTS-HD Master Audio™, 3DTV pass-through, CEC pass-through, Lip Sync pass-through

Benefits

- Gefen Trademarked ELR (Extra Long Range) technology allows 4K Ultra HD extension up to 330 feet (100m), 1080p Full HD up to 495 feet (150m)
- RS-232 extension provides additional control and automation options for control of RS-232 devices located near the Receiver
- Extends HDMI signal, multichannel audio, bi-directional IR, RS-232 and power to the Receiver via a single CAT5e/6...simplifying installation & reducing cost
- No loss of video signal quality or multi-channel audio content over extended run
- Bi-directional IR allows source control from the viewing area via IR Remote and IR control from an automation system or base station to control the display or other devices located near the Receiver
- Compact chassis allows surface mount of the Sender just about anywhere in an equipment cabinet and the Receiver behind the display

Gefen 4K Ultra HD Extenders

Connections



Features & Benefits

Features

- Same features as GTB-UHD2IRS-ELRPOL-BLK with these additional features:
- Ethernet extension up to the same distance as any given video resolution
- Advanced EDID management for HPD (Hot Plug Detect) Mode, HDBT (HDBaseT) Mode (long-reach mode) and RS-232 Mode for RS-232 pass-through or Firmware Upgrade Mode
- Bi-directional POL (Power over Line) allows connection of power supply at Sender or Receiver

Benefits

- Same benefits as GTB-UHD2IRS-ELRPOL-BLK with these additional benefits:
- Ethernet extension allows additional control and automation options for control of IP devices located near the Receiver
- Advanced EDID management provides setup options for improved performance and stability
- Upgradeable firmware helps assure optimal performance and compatibility with latest HDMI technologies



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