

# UHBX-P1

## HDMI over UTP Extender with HDBaseT™ and PoH (Sender + Receiver )



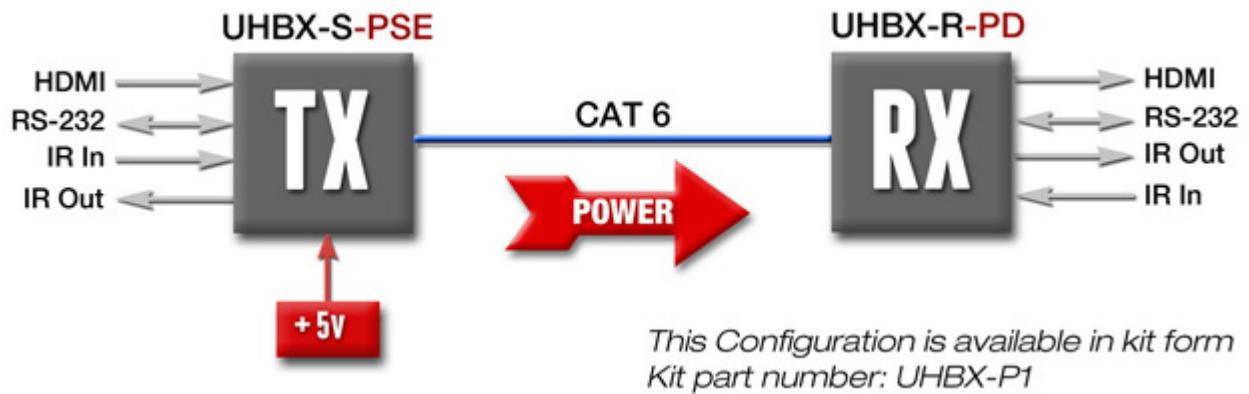
- Extends HDMI or DVI video to 500 ft on just one Cat6
- Includes RS232 and IR extension in both directions
- Supports virtually all HDMI and DVI resolutions including 4Kx2K
- Only one end requires power, other side is powered via UTP
- Power-over-HDBaseT™ meets IEEE 802.3af standard
- Sturdy metal enclosures with mounting provisions
- Complies fully with HDBaseT™ standard
- Runs from just one +5vDC supply
- RS232 Supports all baud rates regardless of presence of video
- IR extension is carrier frequency agnostic and supports 30 KHz to 60 KHz modulation to provide compatibility across all IR standards
- Fully isolates ground between TX and RX sides
- Compact, Rugged, Reliable, and Economical
- Made in USA

UHBX-P1 is an extender kit ( combination of UHBX-S-PSE + UHBX-R-PD ) from Hall Research that utilizes HDBaseT™ technology. It can send HDMI, IR, bi-directional RS-232, and PoH (Power-over-HDBaseT™) to 500 ft (150 m) on a single Cat6 cable. The extender uses only one +5v power supply, internally creates 48v PoH and complies with IEEE 802.3af handshake. The P1 extender's sender unit provides power to the receiver. In standard mode the UHBX-P1 supports DVI and HDMI signals of virtually any resolution up to 4K x 2K to 330 ft (100m), and in Long Reach mode it supports resolutions to 1920x1080 to 500 ft (150 m). The devices are housed in compact and sturdy metal enclosures and have convenient mounting provisions. They are designed and manufactured in the USA. The end identified as PSE (power sourcing equipment) injects power on to the Cat6 cable and the side identified as PD (powered device) is powered through the Cat6 cable. The PSE side requires connection of an AC adapter that supplies 5v DC, while the PD side is simply powered through the RJ45 connector from the opposite side.

Full-duplex RS232 Serial Port extension is provided that can operate at any baud rate to 115,200 (independent of video activity). The extender can also extend IR from one end to the other. IR Detector and IR Emitter cables are sold separately. The IR extension preserves the modulation(carrier) frequency and provides compatibility to virtually any standard. It supports modulation range from 30 KHz to 60 KHz.

Two user selectable distance modes are available: Standard(default) and Long Reach. If the length of UTP cable is less than 100 meters (330 ft), then STD mode should be used. For the lengths above 330 ft Long Reach (L.R.) mode must be set. Long Reach setting can extend maximum of 1080p@60 Hz, 8-bit color (does not support deep-color or 4Kx2K) , RS232, IR and Power up to 500ft (150m)

## Block Diagram



## Specifications

|                        |  |
|------------------------|--|
| Max Distance:          | Standard Mode (STD): 330 ft (100m)<br>Long Reach Mode (LR) : 500 ft (150m)   |
| Video Standards:       | DVI (single link) and HDMI (compliant with HDMI 1.4 video specifications including 12 bit color depth, 3D video and 4K support)  |
| Signal Type:           | TMDS   |
| Connectors:            | Locking HDMI   |
| Video Resolutions:     | DVI: VGA (640x480) to WUXGA (1920x1200)  |
| HDTV:                  | 480i to 1080p  |
| Digital Cinema:        | 4K (4096x2160)   |
| Audio Formats:         | Supports 4K@60 Hz (4:2:0 8 bit color) or 4K@30 Hz (4:4:4 and 8 bit color)<br>All HDMI Embedded Audio including: LPCM 7.1CH, Dolby TrueHD and DTS-HD Master Audio (32-192kHz sample rate) |
| DDC:                   | Pass-Thru DDC for reading EDID directly from remotely connected LCD and HDCP handshake   |
| CEC:                   | Pass-Thru DDC for Consumer Electronics Control compatible devices  |
| RS232:                 | Bi-directional (full-duplex) any baud rate upto 115,200  |
| IR:                    | Extended in both directions. Carrier modulation range from 30 KHz to 60 KHz  |
| PoH:                   | Power-over-HDBaseT™ meets IEEE 802.3af standard. PD side identifies as Class 2 (3.84–6.49 watts). Actual power consumption of PD side is 5.5 watts max                                   |
| Power Supply:          | 100 VAC to 240 VAC, 50-60 Hz, external; 5 VDC, 3.2 A, regulated<br>Actual DC current (powering both –PSE and –PD sides) 1.8A max   |
| Power:Sender:          | 3.5 watts (12 BTU) maximum   |
| Receiver:              | 5.5 watts (19 BTU) maximum   |
| Temp/humidity:Storage: | -40 to +158 °F (-40 to +70 °C) / 10% to 90%, non-condensing  |
| Operating:             | +32 to +122 °F (0 to +50 °C) / 10% to 90%, non-condensing  |
| Cooling:               | Convection   |
| Mounting:              | End plates have L bracket with hole for surface mounting   |
| Enclosure:             | Metal (Steel ends and Aluminum extrusion)  |
| Dimensions:            | 1.18" H x 4.13" W x 4.57" D (30mm H x 105mm W x 116mm D) Depth excludes connectors   |
| Product weight:        | Sender: 9.3 oz (0.58 lb or 264 g)  |
| Receiver:              | 10 oz (0.63 lb or 284 g)<br>Kit (shipping) 37 oz (2.3 lb or 1050 g) includes: sender, receiver, power supply, power cord, HDMI cable, manual, and packaging                              |
| Vibration:             | ISTA 1A in carton (International Safe Transit Association)   |
| Safety:                | CE   |
| EMI/EMC:               | CE, FCC Class A  |
| MTBF:                  | 90,000 hours (Calculated Estimate)   |
| Warranty:              | 2 years parts and labor  |