

# HD-EXT4-C

## 4K HDMI® over HDBaseT® Extender w/Analog Audio

- > HDBaseT® Certified 4K Ultra HD signal extender
- > Extends uncompressed digital video, audio, and control signals over a single CAT type twisted pair cable<sup>[1]</sup>
- > Supports cable lengths up to 330 ft (100 m) for all resolutions up to 4K and Ultra HD using DM® Ultra cable<sup>[1]</sup>
- > Supports cable lengths up to 330 ft (100 m) for 1080p, WUXGA, and 2K using DM 8G® cable or CAT5e<sup>[1]</sup>
- > Supports cable lengths up to 230 ft (70 m) for 4K and UHD using DM 8G cable, or 165 ft (50 m) using CAT5e<sup>[1]</sup>
- > Can also extend a stereo analog audio signal via a second cable<sup>[2]</sup>
- > Compatible with HDMI®, DVI, and DisplayPort Multimode sources<sup>[3]</sup>
- > Compatible with HDMI and DVI display devices<sup>[3]</sup>
- > Supports Dolby® TrueHD, DTS-HD®, and uncompressed 7.1 linear PCM audio
- > HDCP 2.2 compliant
- > Passes CEC and EDID
- > 24VDC power pack included
- > Available in white or black
- > No programming or configuration required

The Crestron® 4K HDMI® over HDBaseT® Extender (HD-EXT4-C) delivers a professional-grade digital HD AV signal extension solution for use in the home, classroom, auditorium, or corporate boardroom. Without any special setup or configuration, the HD-EXT4-C enables the transmission of ultra high-definition digital video and audio over wire runs up to 330 feet (100 meters) using a single CAT type twisted pair cable. For applications that include an analog audio signal, the HD-EXT4-C can also handle stereo line-level audio over a second cable.<sup>[1,2]</sup>

*NOTE: The HD-EXT4-C is composed of one HD-TX4-C transmitter and one HD-RX4-C receiver. These components are only sold as part of the HD-EXT4-C package.*

### 4K Ultra HD Signal Extension

Using HDBaseT technology, the HD-EXT4-C allows for the extension of uncompressed HDMI signals over a single CAT type twisted pair cable. In addition to HDMI, it is also compatible with DVI and DisplayPort Multimode sources, and DVI display devices.<sup>[2]</sup> Without relying on signal-degrading compression or inferior HDMI signal boosting, HDBaseT reliably transports the full resolution signal from source to display — intact and uncompromised.

The HD-EXT4-C handles uncompressed Full HD 1080p, Ultra HD, 2K, and 4K video signals with support for 3D, Deep Color, and HDCP 2.2. Audio capabilities include support for high-bitrate 7.1 audio formats like Dolby® TrueHD and DTS-HD Master Audio™ as well as uncompressed linear PCM. All signals are transported over a single CAT type cable, supporting 1080p, WUXGA, and 2K signals at distances up to 330 feet (100 m) using Crestron DM® Ultra or DM 8G® Cable, or third-party CAT5e.



Higher resolutions up to UHD and 4K are supported at distances up to 330 feet (100 m) using DM Ultra Cable, 230 feet (70 m) using DM 8G Cable, or 165 feet (50 m) using CAT5e.<sup>[1]</sup>

### Legacy Audio Device Support

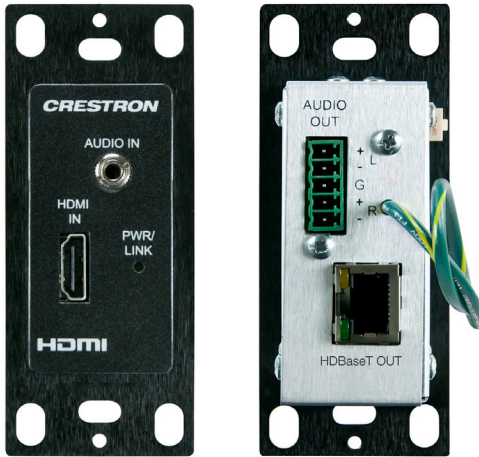
In addition to carrying digital video and audio, the HD-EXT4-C also provides for the extension of an analog audio signal to support DVI devices (and certain HDMI devices) that may not include or support an embedded digital audio channel. Enabling the extension of analog audio simply requires an additional twisted-pair type cable.<sup>[2]</sup>

### Uncompromised and Uncomplicated

Crestron HDMI over HDBaseT products afford a very dependable signal extension solution that's simple to implement. No special configuration or programming is required — just connect your source and display and enjoy high-quality video and audio from across the room — or the other end of the house.

The HD-EXT4-C is composed of one transmitter and one receiver (HD-TX4-C and HD-RX4-C, both included). The transmitter can be mounted in a single-gang wall box, or attached to any flat surface or inside an equipment rack. The compact receiver can be mounted discreetly behind a display device or wherever else it needs to go. Linking the two components requires just one or two CAT type cables.<sup>[1,2]</sup> Crestron offers the cable and connectors for a complete, easy, and reliable wiring solution. A range of professional AV interface cables and wall plates is also available to complement the HD-EXT4-C for a total custom installation solution.

# HD-EXT4-C 4K HDMI® over HDBaseT® Extender w/Analog Audio



HD-TX4-C-B – Front & Rear View



HD-RX4-C-B – Top, Front & Rear View

## HD-EXT4-C-B SYSTEM (Includes HD-TX4-C-B & HD-RX4-C-B)

### SPECIFICATIONS

#### Maximum HDBaseT® Cable Lengths

| Cable Type:        | DM-CBL-ULTRA<br>DM® Ultra<br>Cable | DM-CBL-8G<br>DM 8G®<br>Cable | CAT5e<br>(or better)<br>UTP or STP <sup>[1]</sup> |
|--------------------|------------------------------------|------------------------------|---|
| Resolution:        |                                    |                              |   |
| 1080p60 Full HD    | 330 ft<br>(100 m)                  | 330 ft<br>(100 m)            | 330 ft<br>(100 m)                                 |
| 1920x1200 WUXGA    |                                    |                              |   |
| 1600x1200 UXGA     |                                    |                              |   |
| 2048x1080 2K DCI   |                                    | 230 ft<br>(70 m)             | 165 ft<br>(50 m)                                  |
| 2560x1440 WQHD     |                                    |                              |   |
| 2560x1600 WQXGA    |                                    |                              |   |
| 3840x2160 Ultra HD |                                    |                              |   |
| 4096x2160 4K DCI   |                                    |                              |   |

#### Video

##### Maximum Resolutions:

| Scan Type   | Resolution                                  | Frame Rate | Color Sampling | Color Depth |
|-------------|---|------------|----------------|-------------|
| Progressive | 4096x2160 4K DCI<br>&<br>3840x2160 Ultra HD | 24 Hz      | 4:4:4          | 30 bit      |
|             |   | 30 Hz      | 4:4:4          | 24 bit      |
|             |   | 30 Hz      | 4:2:2          | 36 bit      |
|             |   | 60 Hz      | 4:2:0          | 24 bit      |
|             | 2560x1600 WQXGA                             | 60 Hz      | 4:4:4          | 36 bit      |
|             | 1920x1080 HD1080p                           | 60 Hz      | 4:4:4          | 36 bit      |
| Interlaced  | 1920x1080 HD1080i                           | 30 Hz      | 4:4:4          | 36 bit      |

NOTE: Common resolutions are shown; other custom resolutions are supported at pixel clock rates up to 300 MHz

Input Signal Types: HDMI® w/Deep Color, 3D, & 4K (DVI & DisplayPort Multimode compatible<sup>[3]</sup>)

Output Signal Types: HDMI w/Deep Color, 3D, & 4K (DVI compatible<sup>[3]</sup>)

#### Audio

Input Signal Types: HDMI (DisplayPort Multimode compatible<sup>[3]</sup>), analog stereo

Output Signal Types: HDMI, analog stereo

Formats, HDMI: Dolby Digital®, Dolby Digital EX, Dolby Digital Plus, Dolby® TrueHD, DTS®, DTS-ES, DTS 96/24, DTS-HD High Res, DTS-HD Master Audio™, LPCM up to 8 channels

Formats, Analog: Stereo 2-channel

Performance (analog): Frequency Response: 20Hz to 20kHz ±0.25dB;  
S/N Ratio: >93dB, 20Hz to 20kHz A-weighted;  
THD+N: 0.01% @ 20Hz to 20kHz;  
Stereo Separation: >85dB

#### Communications

HDMI: Passes HDCP 2.2, EDID, & CEC

#### Connectors – HD-TX4-C Transmitter

**HDMI IN:** (1) 19-pin Type A HDMI female;  
HDMI digital video/audio input;  
Also supports DVI or Displayport Multimode<sup>[3]</sup>

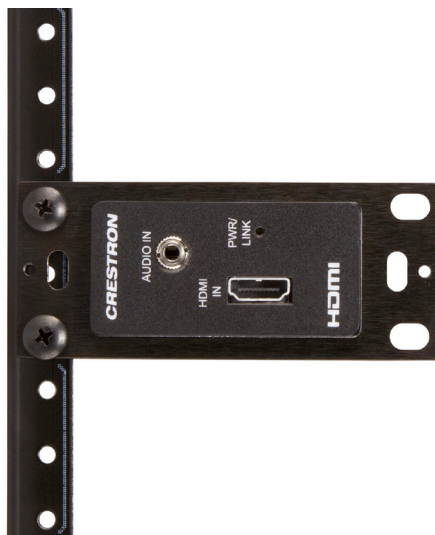
**AUDIO IN:** (1) 3.5mm TRS mini phone jack;  
Unbalanced stereo line-level audio input;  
Maximum Input Level: 2 Vrms;  
Input Impedance: 15k Ohms

**AUDIO OUT L, R (rear):** (1) 5-pin 3.5mm detachable terminal block;  
Connects to the AUDIO IN port of the HD-RX4-C receiver via a dedicated STP or UTP cable<sup>[2]</sup>

# HD-EXT4-C 4K HDMI® over HDBaseT® Extender w/Analog Audio



HD-TX4-C-B w/Surface Mount Bracket



HD-TX4-C-B & HD-RX4-C-B Attached to Rack Rails

**Ground (rear):** (1) Flying lead, chassis ground connection

**HDBaseT OUT (rear):** (1) 8-pin RJ45 female, shielded;  
Connects to the HDBaseT IN port of the HD-RX4-C receiver via CAT5e, Crestron DM-CBL-8G, or Crestron DM-CBL-ULTRA cable<sup>[1]</sup>

## Connectors – HD-RX4-C Receiver

**AUDIO OUT:** (2) RCA female;  
Unbalanced stereo line-level audio output;  
Maximum Output Level: 1.85 Vrms;  
Output Impedance: 100 Ohms

**G:** (1) 6-32 screw, chassis ground lug

**HDMI OUT:** (1) 19-pin Type A HDMI female;  
HDMI digital video/audio output;  
Also supports DVI<sup>[3]</sup>

**HDBaseT IN:** (1) 8-pin RJ45 female, shielded;  
Connects to the HDBaseT OUT port of the HD-TX4-C transmitter via CAT5e, Crestron DM-CBL-8G, or Crestron DM-CBL-ULTRA cable<sup>[1]</sup>

**AUDIO IN R, L:** (1) 5-pin 3.5mm detachable terminal block;  
Connects to the AUDIO OUT port of the HD-TX4-C transmitter via a dedicated STP or UTP cable<sup>[2]</sup>

**PWR 24VDC 0.75A:** (1) 2.1 x 5.5 mm DC power connector;  
24 Volt DC power input (PW-2407WU power pack included)

## Controls & Indicators – HD-TX4-C Transmitter

**PWR/LINK:** (1) dual-color amber/green LED, indicates operating power supplied via HD-RX4-C<sup>[4]</sup>, and indicates HDBaseT link status and HDMI input signal presence

**HDBaseT OUT (rear):** (2) LEDs, green LED indicates link status, amber LED indicates video and HDCP signal presence

**SW1 (side):** (1) slide switch, enables hot plug detect

## Indicators – HD-RX4-C Receiver

**PWR:** (1) green LED, indicates operating power supplied via local power pack

**HDBaseT IN:** (2) LEDs, green LED indicates link status, amber LED indicates video and HDCP signal presence

## Power Requirements

**Power Pack:** 0.75 Amp @ 24 Volts DC;  
100-240 Volts AC, 50/60 Hz power pack, model PW-2407WU, included<sup>[4]</sup>

## Environmental

**Temperature:** 32° to 104°F (0° to 40°C)

**Humidity:** 10% to 90% RH (non-condensing)

**Heat Dissipation:** HD-TX4-C: 2 BTU/hr;  
HD-RX4-C: 11 BTU/hr

## Enclosure – HD-TX4-C Transmitter

**Construction:** Metal, black finish with white or black polycarbonate label overlay

**Flush Wall Mount:** 1-gang mountable in an extra-deep electrical box (2-1/2 inch deep minimum), requires decorator style faceplate (not included)

**Surface Mount:** Surface mount bracket included

**Rack Mount:** Attachable to a single 19-inch EIA rack rail

## Enclosure – HD-RX4-C Receiver

**Construction:** Aluminum w/polycarbonate label overlay and (4) integral mounting flanges

**Mounting:** Freestanding, surface mount, or attach to a single rack rail



# HD-EXT4-C 4K HDMI® over HDBaseT® Extender w/Analog Audio

## Dimensions

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**HD-TX4-C Transmitter:** Height: 4.12 in (105 mm);  
Width: 1.72 in (44 mm);  
Depth: 2.38 in (61 mm)

**HD-RX4-C Receiver:** Height: 1.43 in (37 mm);  
Width: 3.91 in (100 mm);  
Depth: 4.85 in (124 mm)

## Weight

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**HD-TX4-C Transmitter:** 5.8 oz (165 g)

**HD-RX4-C Receiver:** 11.6 oz (330 g)

## MODELS & ACCESSORIES

### Available Models

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**HD-EXT4-C-B\_SYSTEM:** 4K HDMI® over HDBaseT® Extender w/Analog Audio, Black

**HD-EXT4-C-W\_SYSTEM:** 4K HDMI® over HDBaseT® Extender w/Analog Audio, White

### Included Accessories

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**PW-2407WU:** Wall Mount Power Pack 24VDC, 0.75A, Universal  
(Qty. 1 included)

### Available Accessories

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**DM-CBL-ULTRA-NP:** DigitalMedia™ Ultra Cable, Non-Plenum Type CMR

**DM-CBL-ULTRA-P:** DigitalMedia™ Ultra Cable, Plenum Type CMP

**DM-CBL-ULTRA-LSZH:** DigitalMedia™ Ultra Cable, Low Smoke Zero Halogen

**DM-CONN:** Connector for DM-CBL-ULTRA

**DM-CBL-8G-NP:** DigitalMedia 8G™ Cable, non-plenum

**DM-CBL-8G-P:** DigitalMedia 8G™ Cable, plenum

**DM-8G-CONN-WG:** Connector with Wire Guide for DM-CBL-8G

**DM-8G-CRIMP-WG:** Crimping Tool for DM-8G-CONN-WG

**DM-8G-CONN:** Connector for DM-CBL-8G

**DM-8G-CRIMP:** Crimping Tool for DM-8G-CONN

**CBL Series:** Crestron® Certified Interface Cables

**MP-WP Series:** Media Presentation Wall Plates

**MPI-WP Series:** Media Presentation Wall Plates - International Version

## Notes:

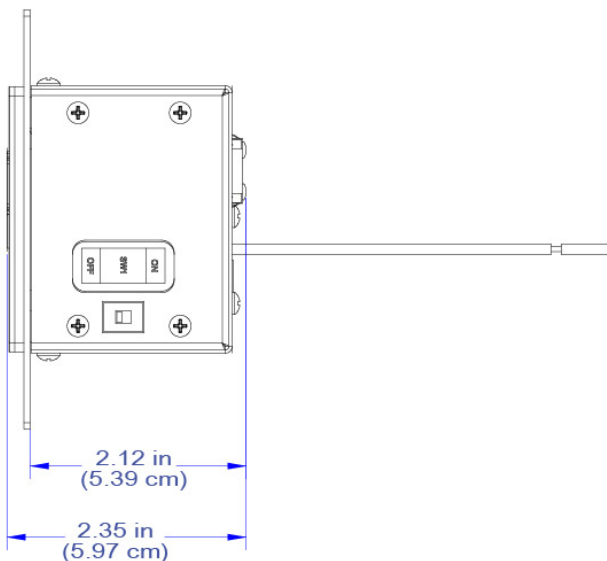
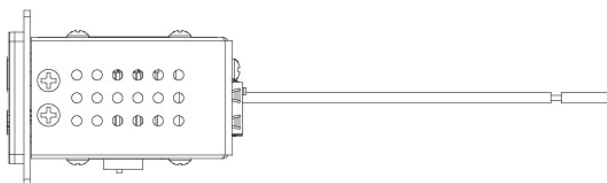
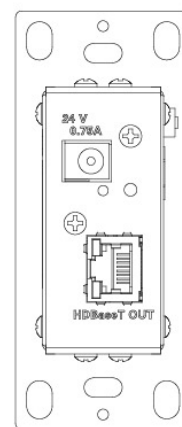
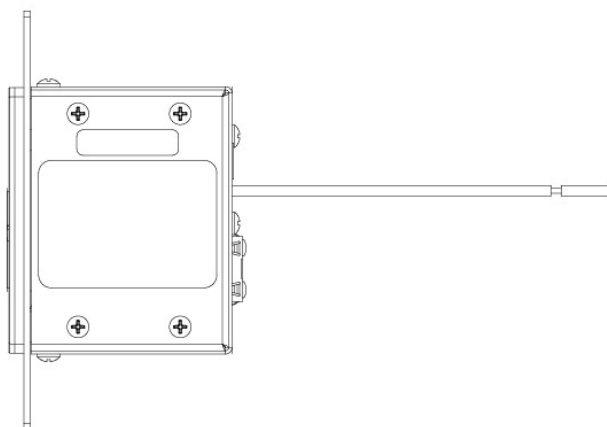
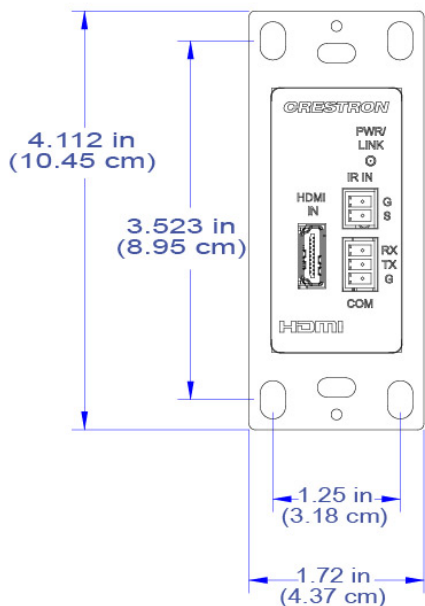
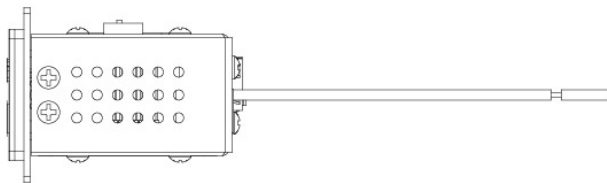
1. The maximum cable length for HDBaseT is dependent upon the type of cable and resolution of the video signal. Refer to the "Maximum HDBaseT Cable Lengths" table for a detailed overview. Shielded cable and connectors are recommended to safeguard against unpredictable environmental electrical noise which may impact performance at resolutions above 1080p. All wire and cables are sold separately.
2. For the balanced analog "AUDIO" connection between the HD-TX4-C transmitter and HD-RX4-C receiver, use dual-twisted pair shielded audio cable or quality CAT5 (or better) UTP or STP. Crestron DM-CBL-8G DigitalMedia 8G Cable is recommended.
3. HDMI IN requires an appropriate adapter or interface cable to accommodate a DVI or DisplayPort Multimode signal. HDMI OUT requires an appropriate adapter or interface cable to accommodate a DVI signal. [CBL-HD-DVI](#) interface cables are available separately.
4. The power pack must be connected to the HD-RX4-C receiver. Power is passed to the HD-TX4-C transmitter via the HDBaseT connection. Please note, the HD-TX4-C and HD-RX4-C are not PoH compatible. They cannot be powered by, or supply power to, another HDBaseT device. They may however be connected to such devices without risk of malfunction.

This product may be purchased from an authorized Crestron dealer. To find a dealer, please contact the Crestron sales representative for your area. A list of sales representatives is available online at [www.crestron.com/salesreps](http://www.crestron.com/salesreps) or by calling 800-237-2041.

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