

DM® Essentials 4K60 4:4:4 eARC Transmitter/Receiver Kit for HDMI®, RS-232, IR, and Analog Audio Signal Extension over CATx Cable



- 4K video with 4:4:4 color sampling
- Transmitter and receiver for extension of an HDMI® AV signal and eARC or optical digital audio signals over a CAT5e or greater cable
- eARC support available on HDMI® connection to display - supports all Dolby® audio formats up to Dolby Atmos® and all DTS® formats up to DTS:X®
- Video, audio, and power extension over a CAT5e (or greater) cable
- Signal extension distance up to 330 ft (100 m) for resolutions up to 2K or up to 230 ft (70 m) for higher resolutions up to 4K
- HDCP 2.3 compliant
- RS-232, IR, EDID, and Consumer Electronics Control (CEC) pass-through capability
- Low-profile installation
- 100-240VAC power pack included

The [HD-EARC KIT](#) consists of a transmitter (HD-TXC-EARC) and receiver (HD-RXC-EARC), which enable the extension of HDMI® AV and eARC (Enhanced Audio Return Channel) or optical digital audio signals. This is useful in applications where an AV source is located remotely from its destination, such as a display, projector, or codec solution. A CAT5e or greater twisted pair cable must be used to connect the transmitter and receiver.

NOTE: Power is transmitted over the CATx cable that connects the transmitter to the receiver.

4K60 4:4:4 and HDR Support

The HD-EARC KIT supports video resolutions up to 4K60 with 4:4:4 color sampling. HDR10, HDR10+, and Dolby Vision® video formats are also supported¹.

eARC and S/PDIF Audio Extraction

The HDMI output of the HD-RXC-EARC receiver supports Enhanced Audio Return Channel (eARC) connectivity, allowing audio to be extracted from a connected display and transmitted back to the HDMI connector of the HD-TXC-EARC transmitter. Extracting audio from the display via the eARC connection means only a single cable is required for video and bidirectional audio. An optical TOSLINK® S/PDIF input is also available on the receiver to extract 2-channel LPCM digital audio from the display. These connections allow local audio content from the display (such as smart TV streaming applications) to be sent back to the transmitter. The **HDMI/OPTICAL** switch on the transmitter determines which audio output connection on the HD-TXC-EARC is prioritized.

Compact, Surface-Mountable Design

Compact in design, the transmitter and receiver of the HD-EARC KIT can be mounted onto a flat surface such as a wall behind a flat-panel display or on a ceiling above a projector. They can each also be attached to a single rack rail in the back of an equipment cabinet. The power pack supplied with the HD-TXC-EARC transmitter powers both units in the kit.

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Specifications

Video

Input Signal Types	HDMI with Deep Color and 4K (DVI and Dual-Mode DisplayPort™ interface compatible ²)
Output Signal Types	HDMI with Deep Color and 4K (DVI compatible ³)
Copy Protection	HDCP 2.3 compliant
Resolutions	Common resolutions are listed in the following table

Scan Type	Resolution	Frame Rate	Color Sampling	Color Depth
Progressive	4096x2160 DCI 4K & 3840x2160 4K UHD	24 Hz	4:4:4	12 bit
		30 Hz	4:4:4	12 bit
		60 Hz	4:2:2	12 bit
		60 Hz	4:4:4	8 bit
	2560x1600 WQXGA	60 Hz	4:4:4	8 bit
	1920x1080 FHD 1080p	60 Hz	4:4:4	12 bit

NOTES:

- The maximum supported resolution is 4K60 with 4:4:4 color sampling. Custom resolutions are supported at pixel clock rates up to 600 MHz.
- The HD-EARC KIT does not support interlaced video.

Audio

Input Signal Types	HDMI eARC, S/PDIF
Digital Formats, HDMI	Dolby Digital®, Dolby Digital EX, Dolby Digital Plus, Dolby TrueHD, Dolby Atmos®, DTS®, DTS ES, DTS 96/24, DTS HD® High Res, DTS HD Master Audio, DTS:X®, LPCM up to 8 channels
Digital Formats, S/PDIF	Dolby Digital, Dolby Digital EX, DTS, DTS-ES, LPCM up to 6 channels

Communications

RS-232	Two way device control and monitoring up to 115.2k baud; Hardware and software handshaking
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IR	One way device control via infrared up to 60 kHz
HDMI	HDCP 2.3, EDID, CEC
DM Essentials	HDCP 2.3, EDID
eARC	Enhanced audio return channel via HDMI; Supports all Dolby® audio formats up to Dolby Atmos® and all DTS® formats up to DTS:X®

Connectors - Transmitter (HD-TXC-EARC)

24V 1.25A	(1) 2.1 x 5.5 mm DC power connector; 24VDC power input; PW-2420RU power pack included
DM OUT	(1) 8-pin RJ-45 connector, female, shielded; DM Essentials output port for connection to the receiver ¹
HDMI IN/EARC OUT	(1) HDMI Type A connector, female; HDMI digital video/audio input; DVI and Dual-Mode DisplayPort interface compatible ² ; Transmits eARC audio signal from the HDMI OUT/EARC IN port of the receiver
OPTICAL OUT	(1) TOSLINK® S/PDIF connector, female; Digital audio output; Transmits digital audio signal from the OPTICAL IN port of the receiver
USB	(1) USB Type-A connector, female; For firmware loading
COM	(1) 3-pin 3.5 mm detachable terminal block; Bidirectional RS-232 port; Supports RS-232 up to 115.2k baud; Passes communications through to the COM port of the receiver
IR IN	(1) 2-pin 3.5 mm detachable terminal blocks; Comprises (1) IR input port; For connection from a Crestron IR control port or other IR signal source; Passes the IR input signal to the IR OUT port on the receiver; Supports IR up to 60 kHz

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IR OUT (1) 2-pin 3.5 mm detachable terminal blocks;
Comprises (1) IR output port;
For connection to an IR emitter ([IRP2](#), sold separately);
Transmits the IR signal from the **IR IN** port on the receiver;
Supports IR up to 60 kHz

Connectors - Receiver (HD-RXC-EARC)

DM IN (1) 8-pin RJ-45 connector, female, shielded;
DM Essentials link port for connection to the transmitter¹

HDMI OUT/EARC IN (1) HDMI Type A connector, female;
HDMI digital video/audio output;
DVI and Dual-Mode DisplayPort interface compatible³;
Receives eARC audio signal from the connected display and passes it through to the **HDMI IN/EARC OUT** port of the transmitter

OPTICAL IN (1) TOSLINK® S/PDIF connector, female;
Digital audio input;
Receives digital audio signal from a connected source and passes it to the **OPTICAL OUT** port of the transmitter

USB (1) USB Type-A connector, female;
For firmware loading

COM (1) 3-pin 3.5 mm detachable terminal block;
Bidirectional RS-232 port;
Supports RS-232 up to 115.2k baud;
Passes communications through to the **COM** port of the transmitter

IR IN (1) 2-pin 3.5 mm detachable terminal blocks;
Comprises (1) IR input port;
For connection from a Crestron IR control port or other IR signal source;
Passes the IR input signal to the **IR OUT** port on the transmitter;
Supports IR up to 60 kHz

IR OUT (1) 2-pin 3.5 mm detachable terminal blocks;
Comprises (1) IR output port;
For connection to an IR emitter ([IRP2](#), sold separately);
Transmits the IR signal from the **IR IN** port on the transmitter;
Supports IR up to 60 kHz

Controls and Indicators - Transmitter

HDMI/OPTICAL (1) 2-position slider switch;
Selects which audio output connector to prioritize on the HD-TXC-EARC

PWR (1) Green/amber bi-color LED;
Amber indicates that the device is booting;
Green indicates that the device is operational

DM OUT (2) LEDs on RJ-45 connector, one green and one amber;
Green indicates that DM Essentials link is established;
Flashing amber indicates non-HDCP video;
Solid amber indicates HDCP video

HDMI IN/EARC OUT (1) Green LED, indicates that the device is receiving an HDMI signal and/or transmitting an eARC digital audio signal

OPTICAL OUT (1) Green LED, indicates an S/PDIF digital audio signal is present at the **OPTICAL OUT** connector

Controls and Indicators - Receiver

PWR (1) Green/amber bi-color LED;
Amber indicates that the device is booting;
Green indicates that the device is operational

DM IN (2) LEDs on RJ-45 connector, one green and one amber;
Green indicates that DM Essentials link is established;
Flashing amber indicates non-HDCP video;
Solid amber indicates HDCP video

HDMI OUT/EARC IN (1) Green LED, indicates that the device is transmitting an HDMI signal and/or receiving an eARC digital audio signal

OPTICAL IN (1) Green LED, indicates that the device is receiving a S/PDIF digital audio signal

Power

Power Pack (included with transmitter) Input: 100-240VAC;
Output: 24VDC 2.5A;
Model: [PW-2420RU](#)

Power Consumption 30 W typical

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Environmental

Temperature	32° to 104°F (0° to 40°C)
Humidity	Transmitter: 20% to 90% RH (noncondensing); Receiver: 20% to 90% RH (noncondensing)
Heat Dissipation	102 BTU/hr
Ambient Noise Level	N/A (fanless)

Construction

Chassis	Metal, black finish, vented sides, 2 mounting flanges
Mounting	Surface or rack rail mount

Dimensions - Transmitter

Height	4.13 in. (105 mm)
Width	4.18 in. (106 mm)
Depth	1.08 in. (27 mm)

Dimensions - Receiver

Height	4.13 in. (105 mm)
Width	4.18 in. (106 mm)
Depth	1.08 in. (27 mm)

Weight

Transmitter	12.02 oz (341 g)
Receiver	11.95 oz (339 g)

Compliance

Regulatory Model: M202243001

Intertek® Listed for US and Canada, CE, IC, FCC Part 15 Class B digital device

Models

HD-EARC KIT

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Notes:

- For the DM CATx cable connection, use Crestron [DM-CBL-8G](#), Crestron [DM-CBL-ULTRA](#), or third-party CAT5e or greater cable. To safeguard against unpredictable environmental electrical noise that may impact performance at resolutions above 1080p, shielded cable and connectors are recommended for all applications, and are required when bundling multiple cables in a wire run. Wire and cables are sold separately. The DM Essentials ports in this kit are not compatible with DigitalMedia 8G+®, HDBaseT®, PoE, or PoDM technology or any other type of CATx based interface or network.
- The HDMI input requires an appropriate adapter or interface cable to accommodate a DVI or Dual-Mode DisplayPort signal. [CBL-HDI-DVI](#) interface cables are available separately.
- The HDMI output requires an appropriate adapter or interface cable to accommodate a DVI signal. [CBL-HDI-DVI](#) interface cables are available separately.

This product may be purchased from select authorized Crestron dealers and distributors. To find a dealer or distributor, please contact the Crestron sales representative for your area. A list of sales representatives is available online at www.crestron.com/How-To-Buy/Find-a-Representative or contact us for additional information by visiting www.crestron.com/contact/our-locations for your local contact.

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HDMI

Specifications are subject to change without notice.

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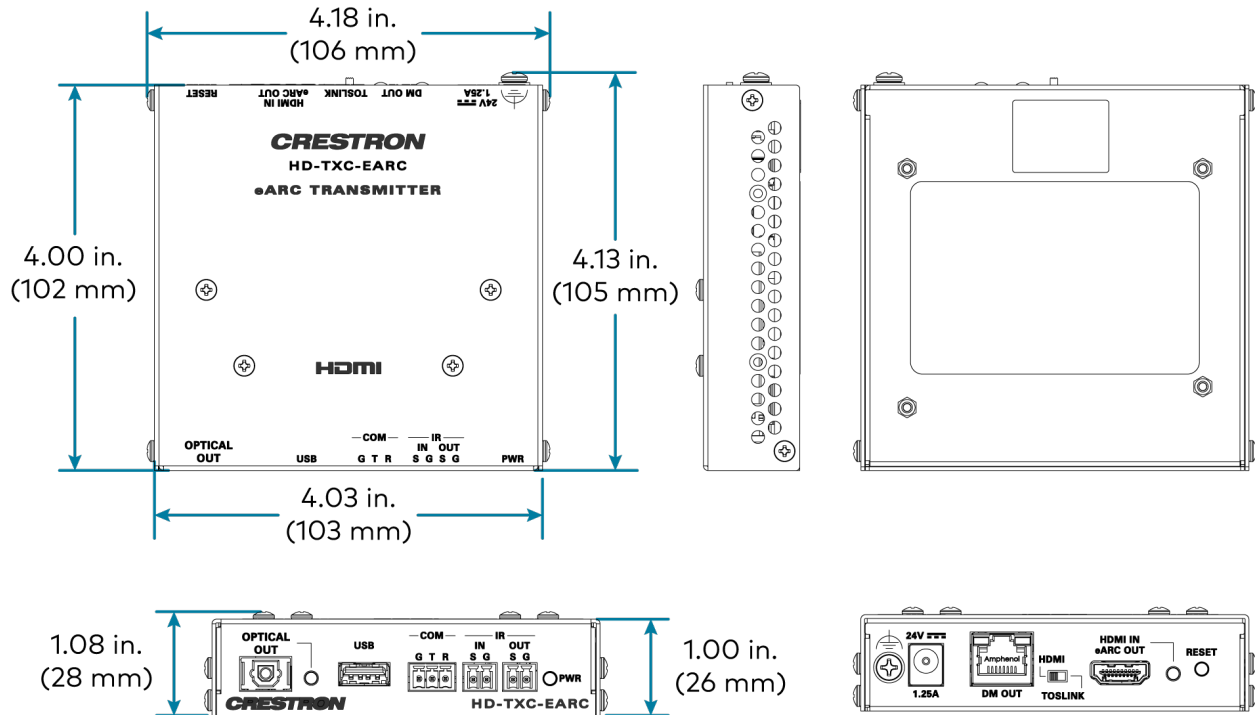
Available Accessories

For a list of available accessories, visit the [HD-EARC KIT](#) product page.

HD-EARC KIT

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HD-TXC-EARC



HD-RXC-EARC

