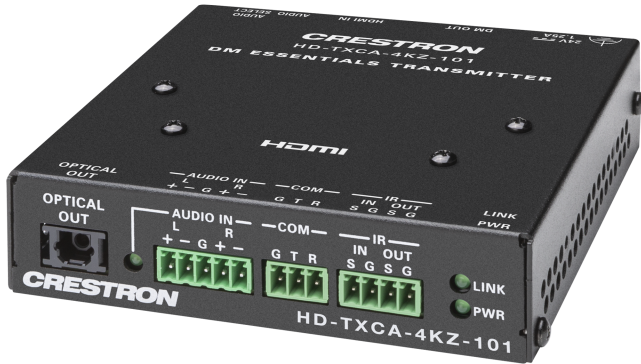


DM® Essentials 4K60 4:4:4 Transmitter for HDMI®, RS-232, IR, and Analog Audio Extension over CATx Cable



- *Point-to-point extension of HDMI®, RS-232, IR, and analog audio signals over CAT5e or higher cable*
- *DM® Essentials transmission distance up to 130 ft (40 m) for UHD and 4K signals or up to 230 ft (70 m) for 1080p, WUXGA, and 2K signals*
- *4K60 4:4:4 capability*
- *HDR10, HDR10+, and Dolby Vision® video formats*
- *Compliance with HDCP 2.3*
- *Analog audio embedding*
- *S/PDIF optical digital audio output for audio return from the HD-RXCA-4KZ-101*
- *CEC (Consumer Electronics Control) pass-through capability*
- *Bidirectional RS-232 and IR pass-through capability*
- *EDID pass-through capability*
- *Compact, surface-mountable design*
- *Power from 24VDC power pack (included) or from remote DM Essentials receiver or DMPS Essentials switcher*

The HD-TXCA-4KZ-101 is a DM® Essentials 4K60 4:4:4 transmitter designed to interoperate with a DM® Essentials receiver or DMPS Essentials switcher for the transmission of HDMI®, RS-232, IR, and analog audio signals. A CAT5e or higher twisted pair cable (Crestron [DM-CBL-8G](#) or [DM-CBL-ULTRA](#) sold separately) is needed to connect the HD-TXCA-4KZ-101 to the DM Essentials receiver or DMPS Essentials switcher. For 1080p, WUXGA, and 2K signals, a cable length of up to 230 ft (70 m) is supported. For UHD and 4K signals, a cable length of up to 130 ft (40 m) is supported.¹

Interoperability with a DM Essentials Receiver or DMPS Essentials Switcher

The DM Essentials output port of the HD-TXCA-4KZ-101 must be connected to a DM Essentials input port of a DM Essentials receiver or DMPS Essentials switcher. Examples of supported DM Essentials 4K60 4:4:4 receivers are the [HD-RXC-4KZ-101](#) and [HD-RXCA-4KZ-101](#). Supported DMPS Essentials switchers are the [HD-PS622](#), [HD-PS621](#), [HD-PS402](#), [HD-PS401](#), and [HD-RX-4K-210-C-E](#).

The HD-TXCA-4KZ-101 can be configured and controlled only when it is used with a DMPS Essentials switcher. The web interface of the switcher can be used to configure the HD-TXCA-4KZ-101. In addition, control system programming and .AV Framework™ software support of the HD-TXCA-4KZ-101 is hosted by the switcher.

4K60 4:4:4 and HDR Support

The HD-TXCA-4KZ-101 supports video resolutions up to 4K60 with 4:4:4 color sampling. HDR10, HDR10+, and Dolby Vision® video formats are also supported.²

Analog Audio Embedding

The analog audio input port of the HD-TXCA-4KZ-101 enables a balanced/unbalanced stereo audio source to be embedded with the video signal from the HDMI input. An audio selection push button is provided to switch between analog and HDMI audio inputs as desired. The audio selection push button is functional only when the HD-TXCA-4KZ-101 is used with a DM Essentials 4K60 4:4:4 receiver or a DMPS Essentials HD-PS Series switcher.

S/PDIF Optical Digital Audio Return

The HD-TXCA-4KZ-101 receives S/PDIF optical digital audio from a device (for example, a display) connected to the S/PDIF optical digital audio input of the HD-RXCA-4KZ-101. The S/PDIF optical digital audio output of the HD-TXCA-4KZ-101 then transmits the audio to an AV receiver. Supported S/PDIF digital audio formats are Dolby Digital®, Dolby Digital EX, DTS®, DTS ES, and LPCM up to 6 channels.

Compact, Surface-Mountable Design

Compact in design, the HD-TXCA-4KZ-101 can be mounted onto a flat surface such as the underside of a table, behind a credenza, or inside a podium. It can also be attached to a single rack rail in the back of an equipment cabinet. The HD-TXCA-4KZ-101 can receive power from the included power pack or from the remote DM Essentials receiver or DMPS Essentials switcher.³

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Specifications

Video

Input Signal Type	HDMI® with HDR10, HDR10+, Dolby Vision®, Deep Color, and 4K60 4:4:4 support ² (DVI and Dual-Mode DisplayPort™ interface compatible ⁴)
Output Signal Type	DM® Essentials with HDR10, HDR10+, Dolby Vision, Deep Color, and 4K60 4:4:4 support ²
Copy Protection	HDCP 2.3
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
Interlaced	1920x1080 FHD 1080p	60 Hz	4:4:4	12 bit
	1920x1080 HD 1080i	30 Hz	4:4:4	12 bit

NOTE: The maximum supported resolution is 4K60 with 4:4:4 color sampling. Custom resolutions are supported at pixel clock rates up to 600 MHz.

Audio

Input Signal Type	HDMI, analog stereo
Output Signal Type	DM Essentials, digital S/PDIF optical (TOSLINK® connector)
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
Analog Format	Stereo 2-channel
Analog-to-Digital Conversion	24-bit 48 kHz

Analog Performance

Frequency Response: 20 Hz to 20 kHz
 ±0.5 dB;
 S/N Ratio: >95 dB 20 Hz to 20 kHz
 A-weighted;
 THD+N: <0.005% @ 1 kHz;
 Stereo Separation: ≤80 dB

Communications

HDMI	HDCP 2.3, EDID, CEC pass-through
DM Essentials	HDCP 2.3, EDID pass-through
RS-232	2-way serial pass-through up to 115.2k baud (TD/RD only)
IR	Bidirectional IR signal pass-through up to 60 kHz

Connectors

IR IN/OUT	(1) 4-pin 3.5 mm detachable terminal block; Comprised of (1) IR input port and (1) IR output port; IR IN is for connection from a Crestron IR control port or other IR signal source and passes the IR input signal to the IR OUT port on the DM Essentials receiver; IR OUT is for connection to an IR emitter (IRP2 , sold separately) and transmits the IR signal from the IR IN port on the DM Essentials receiver; Supports IR up to 60 kHz
COM	(1) 3-pin 3.5 mm detachable terminal block; Bidirectional RS-232 port; Passes RS-232 TD/RD data to/from the COM port on a DM Essentials receiver; Supports up to 115.2k baud
HDMI IN	(1) HDMI Type A connector, female; HDMI digital video/audio input; DVI and Dual-Mode DisplayPort™ interface compatible ⁴
DM OUT	(1) 8-pin RJ-45 yellow connector, female, shielded; DM Essentials output port for connection to a DM Essentials receiver or DMPS Essentials switcher ¹
24V 1.25A	(1) 2.1 x 5.5 mm DC power connector; 24VDC power input; PW-2420RU power pack included ³
OPTICAL OUT	(1) JIS F05 female (TOSLINK) optical fiber connector; S/PDIF optical digital audio output

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AUDIO IN	(1) 5-pin 3.5 mm detachable terminal block; Balanced/unbalanced stereo line-level audio input; Input Impedance: 24k Ohms balanced/unbalanced; Maximum Input Level: 4 Vrms balanced, 2 Vrms unbalanced
Ground	(1) Chassis ground lug

Controls and Indicators

LINK	(1) Green LED, indicates that a DM Essentials link is established.
PWR	(1) LED, indicates that power is being applied to the device. Amber indicates that the device is booting. Green indicates that the device is operational.
AUDIO SELECT	(1) Push button, enables selection of HDMI or analog audio
AUDIO, HDMI IN	(1) Green LED, indicates that HDMI audio is selected
AUDIO IN	(1) Green LED, indicates that analog audio is selected
HDMI IN	(1) Green LED, indicates that the device is receiving an HDMI signal
DM OUT	(2) LEDs on RJ-45 connector. Green indicates that a DM Essentials link is established. Flashing amber indicates non-HDCP video, and solid amber indicates HDCP video.

Power

Power Pack (Included)	Input: 100-240VAC Output: 24VDC 2.5A Model: PW-2420RU ³
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Environmental

Temperature	32° to 104°F (0° to 40°C)
Humidity	20% to 90% RH (non-condensing)

Enclosure

Chassis	Metal, black finish, vented sides, 2 mounting brackets included
Mounting	Freestanding, surface mountable, or attachment to a single rack rail

Dimensions

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

Weight

11.92 oz (338 g)

Compliance

Regulatory Model: M202047002

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

To search for product certificates, refer to support.crestron.com/app/certificates.

Model

HD-TXCA-4KZ-101

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Included Accessories

PW-2420RU

Desktop Power Pack, 24VDC, 2.5A, 2.1 mm

Available Accessories

For a list of available accessories, visit the [HD-TXCA-4KZ-101](#) product page.

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Notes:

1. For DM Essentials connections, use Crestron [DM-CBL-8G](#), Crestron [DM-CBL-ULTRA](#), or third-party CAT5e or higher cable. For information about the maximum transmission distance for each cable type, refer to [Online Help Answer ID 1001567](#).

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. Cables are sold separately.
2. 4K60 4:4:4 performance and HDR support require the use of HDMI cables and couplers with a minimum TMDS bandwidth of 18 Gbps. If 4K60 4:2:0 or 4K30 4:4:4 performance is acceptable, cables and couplers with a minimum bandwidth of 10.2 Gbps may be used. Bandwidth loss is cumulative; therefore, performance may be reduced when inserting multiple cables and couplers inline.
3. When a surface-mountable DM Essentials transmitter is paired with a surface-mountable DM Essentials receiver, either the power pack included with the transmitter or the receiver can be used to power both devices. A power pack must not be connected to both devices simultaneously.

When a surface-mountable DM Essentials transmitter is paired with a wall plate DM Essentials receiver, the power pack included with the transmitter is used to power both devices.

When a DM Essentials transmitter is paired with a DMPS Essentials switcher, the switcher provides power to the DM Essentials transmitter. The DM Essentials transmitter must not be connected to the included power pack.
4. The HDMI input requires an appropriate adapter or interface cable to accommodate a Dual-Mode DisplayPort or DVI signal. CBL-HD-DVI interface cables are sold 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.

This product is covered under the Crestron standard limited warranty. Refer to www.crestron.com/warranty for full details.

The specific patents that cover Crestron products are listed online at patents.crestron.com.

Certain Crestron products contain open-source software. For specific information, please visit www.crestron.com/opensource.

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HDMI

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