

## DM Lite® 4K60 4:4:4 Transmitter and 4x1 Auto-Switcher for HDMI® and USB-C® DisplayPort™ Signal Extension over CATx Cable with Device Charging



- *Interoperability with a DM Lite® receiver or DMPS Lite™ switcher*
- *Point-to-point extension of an HDMI® or USB-C® DisplayPort™ signal over a CAT5e or higher cable*
- *USB-C inputs with DisplayPort Alt Mode capability*
- *DM Lite 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*
- *Automatic switching of HDMI and USB-C DisplayPort inputs*
- *Charging capability provided by the USB-C DisplayPort inputs*
- *CEC (Consumer Electronics Control) pass-through capability*
- *EDID pass-through capability*
- *Compact, surface-mountable design*
- *Power from 24VDC power pack (included) or from remote DM Lite receiver or DMPS Lite switcher*

The HD-TX-4KZ-421-CHGR is a DM Lite® 4K60 4:4:4 transmitter designed to interoperate with a DM Lite® receiver or DMPS Lite™ switcher. The paired transmitter and receiver enable extension of HDMI® or USB-C® DisplayPort™ AV 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 higher twisted pair cable must be used to connect the HD-TX-4KZ-421-CHGR to the DM Lite receiver or DMPS Lite switcher.<sup>1</sup>

### Interoperability with a DM Lite Receiver or DMPS Lite Switcher

The DM Lite output port of the HD-TX-4KZ-421-CHGR must be connected to a DM Lite input port of a DM Lite 4K60 4:4:4 receiver, DM Lite 4K60 4:2:0 receiver, or DMPS Lite switcher.

The HD-TX-4KZ-421-CHGR can be configured and controlled only when it is used with a DMPS Lite switcher. The web interface of the switcher can be used to configure the HD-TX-4KZ-421-CHGR. In addition, control system programming and .AV Framework™ software support of the HD-TX-4KZ-421-CHGR is hosted by the switcher.

### 4K60 4:4:4 and HDR Support

The HD-TX-4KZ-421-CHGR supports video resolutions up to 4K60 with 4:4:4 color sampling. HDR10, HDR10+, and Dolby Vision® video formats are also supported.<sup>2</sup>

### Automatic Switching of Inputs

When the HD-TX-4KZ-421-CHGR is used with a DMPS Lite switcher, the web interface of the switcher or control system programming hosted by the switcher can be used to configure AV switching behavior. Switching among the HDMI and USB-C DisplayPort inputs occurs based on the last connected input or on the routing priority assigned to each input. In addition, input selection push buttons on the front panel of the HD-TX-4KZ-421-CHGR enable the desired input to be selected manually.

### USB-C DisplayPort Inputs with Charging Capability

When the HD-TX-4KZ-421-CHGR is powered by the included power pack, each USB-C DisplayPort input can charge a connected AV source such as a laptop with up to 60W of power. If the HD-TX-4KZ-421-CHGR is powered by a remote DM Lite receiver or DMPS Lite switcher, no charging capability is provided by the USB-C inputs.

### Compact, Surface-Mountable Design

Compact in design, the HD-TX-4KZ-421-CHGR 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-TX-4KZ-421-CHGR can receive power from the included power pack or from the remote DM Lite receiver or DMPS Lite switcher.<sup>3</sup>

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### Specifications

#### Video

<b>Input Signal Types</b>	HDMI® (DVI and Dual-Mode DisplayPort™ interface compatible <sup>4</sup> ) and DisplayPort over USB-C® (DisplayPort Alt Mode) with HDR10, HDR10+, Dolby Vision®, Deep Color, and 4K60 4:4:4 support <sup>2</sup>
<b>Output Signal Type</b>	DM Lite® with HDR10, HDR10+, Dolby Vision, Deep Color, and 4K60 4:4:4 support <sup>2</sup>
<b>Copy Protection</b>	HDCP 2.3
<b>Resolutions</b>	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 (HDMI inputs only)	1920x1080 FHD 1080p	60 Hz	4:4:4	12 bit
	1920x1080 HD 1080i	30 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 USB-C DisplayPort inputs do not support interlaced video.

#### Audio

<b>Input Signal Types</b>	HDMI, DisplayPort over USB-C (DisplayPort Alt Mode)
<b>Output Signal Type</b>	DM Lite
<b>Digital Formats</b>	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

#### Communications

<b>HDMI</b>	HDCP 2.3, EDID, CEC pass-through
<b>USB-C</b>	HDCP 2.3, EDID, CEC pass-through
<b>USB</b>	USB host for one <a href="#">TT-100</a> series cable caddy (sold separately)
<b>DM Lite</b>	HDCP 2.3, EDID pass-through

#### Connectors

<b>HDMI INPUT 1-2</b>	(2) HDMI Type A connectors, female; HDMI digital video/audio inputs; DVI and Dual-Mode DisplayPort interface compatible <sup>4</sup>
<b>60W USB INPUT 3-4</b>	(2) USB Type C® connectors, female; Digital video/audio inputs using DisplayPort Alt Mode; Can also charge connected AV sources with up to 60W of power per port <sup>5</sup>
<b>DM LITE OUT</b>	(1) 8-pin RJ-45 yellow connector, female, shielded; DM Lite output port for connection to a DM Lite receiver or DMPS Lite™ switcher <sup>1</sup>
<b>24V 7.5A</b>	(1) 2.5 x 5.5 mm DC power connector; 24VDC power input; PW-2475DU power pack included <sup>3</sup>
<b>SERVICE</b>	(1) USB 2.0 Type-A connector, female; Used for firmware loading, configuration management, or as a USB host port for one <a href="#">TT-100</a> series cable caddy (sold separately); Can also provide up to 5V 500 mA power to a USB powered device
<b>Ground</b>	(1) Chassis ground lug

#### Controls and Indicators

<b>PWR</b>	(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.
<b>AUTO</b>	(1) Push button for enabling or disabling automatic switching of inputs; (1) LED, green indicates that automatic switching of inputs is enabled
<b>SETUP</b>	(1) Push button for Ethernet setup (applicable only when used with a DMPS Lite switcher); (1) LED, red indicates that the SETUP push button is pressed

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**INPUT 1-4** (4) Push buttons for manual input selection;  
(4) LEDs, green indicates that the corresponding input is routed to an output, and amber indicates that a source is detected but is not routed to an output.

**DM LITE OUT** (2) LEDs on RJ-45 connector.  
Green indicates that a DM Lite link is established.  
Flashing amber indicates non-HDCP video, and solid amber indicates HDCP video.

### Power

**Power Pack (Included)** Input: 100-240VAC  
Output: 24VDC 7.5A  
Model: PW-2475DU<sup>3</sup>

### Environmental

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

### Enclosure

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

### Dimensions

**Height** 1.20 in. (30 mm)  
**Width** 8.52 in. (216 mm)  
**Depth** 5.23 in. (133 mm)

### Weight

1.69 lb (0.77 kg)

### Compliance

**Regulatory Model: M202046003**

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

To search for product certificates, refer to [support.crestron.com/app/certificates](http://support.crestron.com/app/certificates).

### Model

**HD-TX-4KZ-421-CHGR**

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### Included Accessory

**PW-2475DU**  
Desktop Power Pack, 24VDC, 7.5A

### Available Accessories

For a list of available accessories, visit the [HD-TX-4KZ-421-CHGR](http://HD-TX-4KZ-421-CHGR) product page.

Notes:

- For DM Lite 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.
- For HDMI inputs, 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.  
For USB-C DisplayPort inputs, 4K60 4:4:4 performance and HDR support require the use of USB 3.2 Gen 1 (5 Gbps) cables with support for DisplayPort Alt Mode (DisplayPort 1.4 video, 4K60 4:4:4, 2 lanes). Cables are sold separately.
- When a surface-mountable DM Lite transmitter is paired with a surface-mountable DM Lite 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 Lite transmitter is paired with a wall plate DM Lite receiver, the power pack included with the transmitter is used to power both devices.  
When a DM Lite transmitter is paired with a DMPS Lite switcher, the switcher provides power to the DM Lite transmitter. The DM Lite transmitter must not be connected to the included power pack.
- 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.
- In order for a USB-C DisplayPort input to charge the connected AV source, the HD-TX-4KZ-421-CHGR must be powered by the included power pack. If the HD-TX-4KZ-421-CHGR is powered by a remote DM Lite receiver or DMPS Lite switcher, no charging capability is provided by a USB-C input.  
[CBL-USB3G1-C-C-6](#) and [CBL-USB3G2-C-C-3](#) 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](http://www.crestron.com/How-To-Buy/Find-a-Representative) or contact us for additional information by visiting [www.crestron.com/contact/our-locations](http://www.crestron.com/contact/our-locations) for your local contact.

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The original language version of this document is U.S. English.  
All other languages are a translation of the original document.

The product warranty can be found at [www.crestron.com/warranty](http://www.crestron.com/warranty).

The specific patents that cover Crestron products are listed online at [patents.crestron.com](http://patents.crestron.com).

Certain Crestron products contain open-source software. For specific information, please visit [www.crestron.com/opensource](http://www.crestron.com/opensource).

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## HDMI

Specifications are subject to change without notice.

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