# HD-RXU-4KZ-202

## DM® Essentials 4K60 4:4:4 Receiver for HDMI®, USB-C®, and USB 2.0 Signal Extension over CATx Cable



- *DM® Essentials receiver functionality designed to interoperate with a DM Essentials HD-TXU-4KZ Series transmitter*
- *Point-to-point extension of an HDMI® AV signal and USB 2.0 data signals over CAT5e or higher cable*
- *Two inputs with automatic switching:*
  - *One HDMI input with associated USB 2.0 USB-C® input*
  - *One DM Essentials input*
- *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*
- *Enterprise-grade security*
- *Compliance with HDCP 2.3*
- *Integrated web server for device configuration and management*
- *Automatic display control using CEC (Consumer Electronics Control)*
- *EDID management*
- *Interoperability with a Crestron 3-Series® or later control system*
- *XiO Cloud® service support*
- *.AV Framework™ technology support*
- *Compact, surface-mountable design*
- *Power from 24VDC power pack (included)*

The HD-RXU-4KZ-202 is a DM® Essentials 4K60 4:4:4 receiver designed to interoperate with a DM Essentials HD-TXU-4KZ Series transmitter for the extension of HDMI® and USB 2.0 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 (Crestron DM-CBL-8G or DM-CBL-ULTRA sold separately) must be used to connect the HD-RXU-4KZ-202 to the DM Essentials transmitter.[1]

### Interoperability with HD-TXU-4KZ Series Transmitters

For interoperability between the HD-RXU-4KZ-202 and an HD-TXU-4KZ Series transmitter, the DM Essentials input port of the HD-RXU-4KZ-202 must be connected to the DM Essentials output port of the HD-TXU-4KZ Series transmitter.

> **NOTE:** USB 2.0 data extension is not supported if the HD-RXU-4KZ-202 is paired with a DM Essentials transmitter other than an HD-TXU-4KZ Series transmitter or paired with a DMPS Essentials HD-PS Series switcher.

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

The HD-RXU-4KZ-202 supports video resolutions up to 4K60 with 4:4:4 color sampling. HDR10, HDR10+, and Dolby Vision® video formats are also supported.[2]

### Integrated Web Server

The HD-RXU-4KZ-202 includes a web server that enables device configuration and management. The web server also enables device, network, and other types of status information to be viewed.

### Automatic Switching of Inputs

The web interface of the HD-RXU-4KZ-202 or control system programming can be used to configure AV switching behavior. Switching between the HDMI and DM Essentials inputs occurs based on the last connected input or on the routing priority assigned to each input. In addition, input and output selection push buttons on the front of the HD-RXU-4KZ-202 enable the desired input and output be selected manually.

### USB 2.0 Data Extension

Two USB 2.0 host ports are provided on the HD-RXU-4KZ-202, enabling connection to a wide variety of supported USB 2.0 peripheral devices.[3]

### Compact, Surface-Mountable Design

Compact in design, the HD-RXU-4KZ-202 can be mounted onto a flat surface such as a wall behind a flat-panel display or the ceiling above a projector. It can also be attached to a single rack rail in the back of an equipment cabinet. The HD-RXU-4KZ-202 receives power from the included power pack.[4]

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## Specifications

### Video

| | |
|---|---|
| **Input Signal Type** | DM® Essentials with HDR10, HDR10+, Dolby Vision®, Deep Color, and 4K60 4:4:4 support[2] |
| **Output Signal Type** | HDMI® 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 | 5120x2160 5K Ultra-Wide | 30 Hz | 4:4:4 | 8 bit |
| | 5120x2160 5K Ultra-Wide | 60 Hz | 4:2:0 | 8 bit |
| | 5120x1440 5K Super-Wide | 60 Hz | 4:4:4 | 8 bit |
| | 4096x2160 DCI 4K & 3840x2160 4K UHD | 24 Hz | 4:4:4 | 36 bit |
| | | 30 Hz | 4:4:4 | 36 bit |
| | | 60 Hz | 4:2:2 | 36 bit |
| | | 60 Hz | 4:4:4 | 24 bit |
| | 2560x1600 WQXGA | 60 Hz | 4:4:4 | 36 bit |
| | 1920x1080 FHD 1080p | 60 Hz | 4:4:4 | 36 bit |
| Interlaced (HDMI only) | 1920x1080 HD 1080i | 30 Hz | 4:4:4 | 36 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

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|---|---|
| **Input Signal Type** | HDMI, DM Essentials |
| **Output Signal Type** | HDMI |

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| **Digital Formats** | 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

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|---|---|
| **HDMI** | HDCP 2.3, EDID, CEC pass-through |
| **DM Essentials** | HDCP 2.3, EDID pass-through; USB 2.0 up to 300 Mbps |
| **USB** | USB signal extension via USB 2.0 host ports; USB host for one TT-100 series cable caddy (sold separately) via SERVICE port |
| **Ethernet** | 100/1000 Mbps, autoswitching, autonegotiating, autodiscovery, full/half duplex, DHCP, Web browser setup and control, Crestron control system integration, IEEE 802.1X, Secure CIP, Authentication, SSH/SSL, TLS |

### Connectors

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|---|---|
| **HDMI OUTPUT 1-2** | (2) HDMI Type A connectors, female; HDMI digital video/audio outputs; DVI compatible[5] |
| **HDMI INPUT 1** | (1) HDMI Type A connector, female; HDMI digital video/audio input; DVI and Dual-Mode DisplayPort interface compatible[5] |
| **DEVICE INPUT 1** | (1) USB Type-C® connector, female; USB 2.0 device port associated with HDMI input for AV sources that require USB 2.0 support; USB signal extender port for connection to a computer or other USB 2.0 host[3] |
| **DM IN 2** | (1) 8-pin RJ-45 yellow connector, female, shielded; DM Essentials input port for connection to the DM Essentials output port of a DM Essentials transmitter or DMPS Essentials switcher[1] |
| **LAN** | (1) 8-pin RJ-45 connector, female; 100BASE-TX/1000BASE-T Ethernet port for device configuration and management |
| **24V 1.9A** | (1) 2.1 x 5.5 mm DC power connector; 24VDC power input; PW-2420RU power pack included[4] |

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| | |
|---|---|
| **HOST** | (2) USB Type-A connectors, female;<br>USB 2.0 host ports;<br>USB signal extender ports for connection to USB mice, keyboards, or other USB 2.0 peripheral devices;[3]<br>Available Power: 500 mA @ 5VDC per port |
| **SERVICE** | (1) USB 2.0 Type-A connector, female;<br>Used for firmware loading and configuration management;<br>Can also provide up to 5V 500 mA power to a USB powered device |
| **Ground** | (1) Chassis ground lug |

## Controls and Indicators

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|---|---|
| **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. |
| **AUTO** | (1) Push button for enabling or disabling automatic switching of inputs;<br>(1) LED, green indicates that automatic switching of inputs is enabled |
| **SETUP** | (1) Push button for Ethernet setup;<br>(1) LED, red indicates that the SETUP push button is pressed |
| **INPUT 1** | (1) Push button for manual selection of HDMI input;<br>(1) LED, green indicates that the HDMI input is routed to an output, and amber indicates that a source is detected but is not routed to an output |
| **INPUT 2** | (1) Push button for manual selection of DM Essentials input;<br>(1) LED, green indicates that the DM Essentials input is routed to an output, and amber indicates that a source is detected but is not routed to an output |
| **OUTPUT 1** | (1) Push button for manual selection of HDMI output 1;<br>(1) bicolor green/amber LED;<br>Green indicates that a display or other destination device is detected and HDMI output 1 is transmitting video;<br>Amber indicates that a display or other destination device is detected but no video is routed to the output |

| | |
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| **OUTPUT 2** | (1) Push button for manual selection of HDMI output 2;<br>(1) bicolor green/amber LED;<br>Green indicates that a display or other destination device is detected and HDMI output 2 is transmitting video;<br>Amber indicates that a display or other destination device is detected but no video is routed to the output |
| **DM IN 2** | (2) LEDs on RJ-45 connector;<br>Green indicates that a DM Essentials link is established;<br>Flashing amber indicates non-HDCP video;<br>Solid amber indicates HDCP video |
| **LAN** | (2) LEDs on RJ-45 connector;<br>Green indicates that a 100 Mbps link is established;<br>Solid amber indicates that a 1000 Mbps link is established;<br>Flashing amber indicates 1000 Mbps Ethernet activity |

## Power

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|---|---|
| **Power Pack (Included)** | Input: 100-240VAC<br>Output: 24VDC 1.3A<br>Model: PW-2420RU[4] |

## Environmental

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| **Temperature** | 32° to 104°F (0° to 40°C) |
| **Humidity** | 20% to 90% RH (noncondensing) |

## Enclosure

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

## Dimensions

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|---|---|
| **Height** | 1.2 in. (30 mm) |
| **Width** | 8.52 in. (216 mm) |
| **Depth** | 6.48 in. (165 mm) |

## Weight

1.95 lb (0.88 kg)

## Compliance

**Regulatory Model: M202047008**

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-RXU-4KZ-202**
DM® Essentials 4K60 4:4:4 Receiver for HDMI®, USB-C®, and USB 2.0 Signal Extension over CATx Cable

## Included Accessories

**PW-2420RU**
Desktop Power Pack, 24VDC, 2.5A, 2.1 mm

## Available Accessories

For a list of available accessories, visit the HD-RXU-4KZ-202 product page.

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 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. The HD-RXU-4KZ-202 is engineered to deliver maximum compatibility with the widest possible range of USB devices. Crestron does not guarantee that all USB devices are compatible with the HD-RXU-4KZ-202.

4. The HD-RXU-4KZ-202 is powered by the included power pack. The HD-RXU-4KZ-202 cannot receive power from a remote DM Essentials transmitter.

5. 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.

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Rev 04/14/25

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8.52 in.
(216 mm)

8.36 in.
(212 mm)

6.48 in.
(165 mm)

6.28 in.
(160 mm)

1.12 in.
(28 mm)

1.20 in.
(30 mm)