DMPS Lite™ 4K Multiformat 2x1 AV Switch and Receiver with PoE+

- *4K/60 4:2:0 capability*
- *One DM Lite® port for interoperability with one DM Lite transmitter*
- *One HDMI® input*
- *One HDMI output with 4K scaler*
- *Gigabit Ethernet PoE+ powered device (PD) port*
- *Stereo line level audio output*
- *IR, RS-232, relay, and I/O control ports*
- *CEC (Consumer Electronics Control) capability*
- *Automatic switching of inputs*
- *EDID management*
- *HDCP management including HDCP 2.2 support*
- *Built-in web interface for easy configuration and monitoring*
- *Compatibility with Crestron® 3-Series® or later control systems*
- *.AV Framework™ technology support*
- *XiO Cloud® service support*
- *Native integration with Cisco Webex® and Touch 10 devices*
- *Compact surface-mountable design*

The Crestron HD-RX-4K-210-C-E-POE is a DMPS Lite™ multiformat AV switch and receiver that provides HDMI® video switching and audio presentation capabilities in areas such as conference rooms and classrooms. Compatible with all DM Lite® transmitters, the HD-RX-4K-210-C-E-POE provides one DM Lite input for connection to one transmitter. A CATx (CAT5e or higher) twisted pair cable connects a transmitter to the HD-RX-4K-210-C-E-POE for the transmission of HDMI signals. For resolutions up to 2K, the maximum transmission distance is 230 ft (70 m). For higher resolutions up to 4K, the maximum transmission distance is 130 ft (40 m).[1]

NOTE: Power is transmitted over the CATx cable that connects the HD-RX-4K-210-C-E-POE to a DM Lite transmitter.

In addition to one DM Lite input, the HD-RX-4K-210-C-E-POE provides one HDMI input that can be connected to a local AV source or to an optional Crestron® media presentation wall plate (MP-WP152 or MPI-WP150 Series, sold separately).

Automatic Switching of Inputs

Automatic switching between the DM Lite input and HDMI input can occur based on the last connected input or on the routing priority assigned to each input. Switching behavior is configurable using the web interface or programmable using a Crestron control system. In addition, input selection push buttons on the front panel of the HD-RX-4K-210-C-E-POE enable the desired input to be selected manually.

HDMI Output with 4K Scaler

A single HDMI output with a built-in scaler connects to a display or other device with an HDMI input. Input resolutions are automatically scaled to match the native resolution of the display device, resulting in optimal image quality. For applications requiring comprehensive EDID management, the web interface can be used to ensure that every input is displayed at its optimal resolution and format. Input resolutions up to 4K60 4:2:0 are supported.

Gigabit Ethernet PoE+ Powered Device (PD) Port

The HD-RX-4K-210-C-E-POE includes a Gigabit Ethernet PoE+ PD port that can be connected to a PoE+ port on a Gigabit Ethernet switch. PoE+ eliminates the need for the HD-RX-4K-210-C-E-POE or the connected DM Lite transmitter to be connected to the PW-2412WU power pack (sold separately for the HD-RX-4K-210-C-E-POE).[2]

DMPS Lite™ 4K Multiformat 2x1 AV Switch and Receiver with PoE+

Device Control

Equipped with onboard control ports, the HD-RX-4K-210-C-E-POE can control various devices in a room. The COM (RS-232) port and CEC over the HDMI output can enable the display device to be turned on or off automatically without the use of a control system. With the use of a control system, the IR port can also control the display device. Two relay ports are provided for controlling a projection screen and other low-voltage contact-closure activated equipment. Two Versiport I/O ports enable the integration of devices such as power sensors and motion detectors. An Ethernet port connection to a LAN also provides control by enabling use of the built-in web interface as well as connection to a control system.

NOTE: The IR, COM, and Ethernet ports cannot be used to extend signals over a DM Lite connection.

Native Integration with Cisco Webex® and Touch 10 Devices

Native integration of the Cisco API enables source inputs of the HD-RX-4K-210-C-E-POE to be added to a compatible Cisco Webex video conference system that is controlled by a Cisco Touch 10 control unit. Eliminating the need for control system programming, integration with Cisco® devices is accomplished by using the Crestron Configuration tool, which is hosted on the Crestron website at configuration.crestron.com. Configuration includes the selection of the desired Crestron and Cisco hardware models and the assignment of HD-RX-4K-210-C-E-POE input names and icons for use on the Cisco Touch 10 screen. The resulting configuration file is then downloaded from the website and loaded to the HD-RX-4K-210-C-E-POE using the HD-RX-4K-210-C-E-POE web interface. Communication is established between the HD-RX-4K-210-C-E-POE and Cisco devices, enabling the Cisco Touch 10 to display and control the additional HD-RX-4K-210-C-E-POE inputs.

Compact Design

Compact in design, the HD-RX-4K-210-C-E-POE can be mounted onto a flat surface such as a wall or attached to the underside of a table. The device can also be mounted to a rack rail.

Specifications

Video

Switcher: 2x1 auto-switching or manual, audio-follows-video, Crestron Auto-Locking® and QuickSwitch HD™ technologies

Scaler (HDMI Output): 4K video scaler with intelligent frame rate conversion, Deep Color support, content-adaptive noise reduction, 3:2/2:2 pull-down detection and recovery

Input Signal Types: HDMI with Deep Color and 4K (DVI and Dual-Mode DisplayPort™ interface compatible[3]) on Input 1, DM Lite with Deep Color and 4K on Input 2

Output Signal Types: HDMI with Deep Color and 4K (DVI compatible[4])

Copy Protection: HDCP 2.2

Maximum Resolutions: Common resolutions are listed below for the HDMI and DM Lite inputs.

Scan Type	Resolution	Frame Rate	Color Sampling	Color Depth
Progressive	4096x2160 DCI 4K and 3840x2160 4K UHD	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 HD 1080p	60 Hz	4:4:4	36 bit

NOTES:

- Custom resolutions are supported at pixel clock rates up to 300 MHz.
- Interlaced video sources are not supported.

Scaler Output Resolutions, HDMI:

Auto (EDID preferred), 1280x720p@50Hz (720p50), 1280x720p@60Hz (720p60), 1920x1080i@25Hz (1080i25), 1920x1080i@30Hz (1080i30), 1920x1080p@30Hz (1080p30), 1920x1080p@25Hz (1080p25), 1920x1080p@24Hz (1080p24), 1920x1080p@50Hz (1080p50), 1920x1080p@60Hz (1080p60), 3840x2160p@24Hz, 3840x2160p@25Hz, 3840x2160p@30Hz, 4096x2160p@24Hz, 4096x2160p@25Hz, 4096x2160p@30Hz, 3840x2160p@50Hz, 3840x2160p@60Hz, 4096x2160p@50Hz, 4096x2160p@60Hz

DMPS Lite™ 4K Multiformat 2x1 AV Switch and Receiver with PoE+

Audio

Input Signal Types: HDMI (Dual-Mode DisplayPort compatible[3]), DM Lite

Output Signal Types: HDMI, stereo analog

Digital Formats: 2-channel LPCM

Analog Formats: Stereo 2-channel

Digital-to-Analog Conversion: 24-bit 48 kHz

Output Impedance: 200 ohms balanced, 100 ohms unbalanced

Maximum Output Level: 4 Vrms balanced, 2 Vrms unbalanced

Output Volume: -80 to +20 dB level adjustment range plus Mute

Mute: Enable or disable independently for HDMI and analog audio output

Analog Output Performance:

Frequency Response: 20 Hz to 20 kHz ±0.5 dB
S/N Ratio: >95 dB @ 10 dBV, 20 Hz to 20 kHz, A-weighted
THD+N: <0.005% @ 1 kHz and 10 dBV
Stereo Separation: 20 Hz to 20 kHz ≤80 dB

Acoustic Noise: Not applicable (fanless)

Communications

Ethernet: 100/1000 Mbps, auto-switching, auto-negotiating, auto-discovery, full/half duplex, CIP, DHCP, web browser setup and control

RS-232: 2-way device control and monitoring up to 115.2k baud with hardware and software handshaking

IR: 1-way device control via infrared up to 60 kHz

HDMI: HDCP 2.2, EDID, CEC

DM Lite: HDCP 2.2, EDID

Connectors

HDMI INPUT 1: (1) HDMI Type A connector, female;
HDMI digital video/audio input;
DVI and Dual-Mode DisplayPort interface compatible[3]

DM Lite INPUT 2: (1) 8-pin RJ-45 yellow connector, female, shielded;
DM Lite input port for connection to a DM Lite transmitter

HDMI OUTPUT: (1) HDMI Type A connector, female;
HDMI digital video/audio output;
DVI compatible[4]

NOTE: CEC over the HDMI output provides Power On/Off control of the display device without a control system or full programmable control of any device with a control system.

AUDIO L/R: (1) 5-pin 3.5 mm detachable terminal block;
Balanced/unbalanced stereo line-level audio output;
Maximum Output Level: 4 Vrms balanced, 2 Vrms unbalanced;
Output Impedance: 200 ohms balanced, 100 ohms unbalanced

Ethernet: (1) 8-pin RJ-45 connector, female;
100BASE-TX/1000BASE-T Ethernet port;
PoE+ Powered Device (PD) port,
IEEE 802.3at Type 2 PoE+ Class 4 (25.5 W) compliant[2]

I/O 1-2: (2) 2-pin detachable terminal blocks;
Comprised of 2 Versiport digital input/output or analog input ports (referenced to GND);
Digital Input: Rated to 0-24 VDC, input impedance 20k ohms, logic threshold >3.125 V low/0 and <1.875 V high/1;
Digital Output: 250 mA sink from maximum 24 VDC, catch diodes for use with real world loads;
Analog Input: Rated for 0-10 VDC, protected to 24 VDC maximum, input impedance 21k ohms with pull-up resistor disabled;
Programmable 5 V, 2k ohms pull-up resistor per pin

RELAY 1-2: (2) 2-pin detachable terminal blocks;
Comprised of 2 normally open, isolated relays;
Rated 1 A, 30 VAC/VDC;
MOV arc suppression across contacts

IR: (1) 2-pin 3.5 mm detachable terminal block;
IR output control port; supports IR up to 60 kHz;
IRP2 emitter sold separately

NOTE: The IR port provides Power On/Off control of the display device with the use of a control system.

COM: (1) 5-pin 3.5 mm detachable terminal block;
Bidirectional RS-232 port;
Supports RS-232 up to 115.2k baud with hardware and software handshaking

NOTE: The COM port provides Power On/Off control of the display device without a control system or full programmable control of any device with a control system.

CRESTRON

DMPS Lite™ 4K Multiformat 2x1 AV Switch and Receiver with PoE+

24V 1.25A: (1) 2.1 x 5.5 mm DC power connector;
24 VDC power input;
PW-2412WU power pack (optional, sold separately)

NOTE: Either POE+ or the optional power pack can be used to power the HD-RX-4K-210-C-E and the connected DM Lite transmitter. A power pack must not be connected to both devices simultaneously.

SERVICE: (1) USB Type A connector, female;
For factory use only

Controls and Indicators

PWR: (1) LED, indicates that power is being applied to the HD-RX-4K-210-C-E-POE from PoE+ or from the power pack connected to either the HD-RX-4K-210-C-E-POE or the transmitter. Amber indicates that the HD-RX-4K-210-C-E-POE is booting. Green indicates that the HD-RX-4K-210-C-E-POE is operational.

INPUT 1-2: (2) Push buttons for manual input selection and (2) LEDs. Green indicates that video is switched. Amber indicates that video is detected but is not switched.

AUTO: (1) Push button to enable or disable automatic switching, and (1) green LED to indicate that automatic switching is enabled

SETUP: (1) Red LED and (1) push button for display of IP address on the HDMI output

DM Lite: (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.

Ethernet: (2) LEDs on RJ-45 connector. Green indicates that an Ethernet link is established. Flashing amber indicates Ethernet activity.

Power

PoE+ or optional power pack for supplying power to the HD-RX-4K-210-C-E-POE and the connected DM Lite transmitter:

PoE+: IEEE 802.3at Type 2 Class 4 (25.5 W) compliant powered device (PD), powered by a PoE+ port of Gigabit Ethernet switch[2]

Power Pack (Optional):

    Input: 100-240 VAC, 50/60 Hz
    Output: 1.25 A @ 24 VDC
    Model: PW-2412WU (sold separately)

NOTE: A power pack must not be connected to the HD-RX-4K-210-C-E-POE and DM Lite transmitter simultaneously.

Power Consumption: 10.5 W typical

Environmental

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

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

Heat Dissipation: 35.8 BTU/hr

Enclosure

Chassis: Metal, black finish, vented sides, 2 mounting flanges attached

Mounting: Surface or rack rail mount

Dimensions

Height: 5.11 in. (130 mm)

Width: 10.53 in. (268 mm) with mounting flanges attached

Depth: 1.10 in. (28 mm)

Weight

2.3 lb (1.05 kg) with mounting flanges attached

Compliance

Regulatory Model: M1845001
UL® Listed for US and Canada, CE, IC, FCC Part 15 Class B digital device

Model

HD-RX-4K-210-C-E-POE: DMPS Lite™ 4K Multiformat 2x1 AV Switch and Receiver with PoE+

Accessories

For a list of accessories, visit the HD-RX-4K-210-C-E-POE product page.

DMPS Lite™ 4K Multiformat 2x1 AV Switch and Receiver with PoE+

Notes:

1. For the DM Lite connection, use Crestron DM-CBL-8G, Crestron DM-CBL-ULTRA, or third-party CAT5e or higher 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 sold separately. DM Lite ports are not compatible with DigitalMedia 8G+®, HDBaseT®, PoE, or PoDM technology or any other type of CATx based interface or network.

2. To receive PoE+, the HD-RX-4K-210-C-E-POE requires connection to a PoE+ port of a Gigabit Ethernet switch or other equipment that has a PoE+ power sourcing equipment (PSE) port. Cabling that connects to a PoE+ PSE port is designed for intrabuilding use only.

3. 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.

4. 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 by calling 855-263-8754.

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.

Crestron, the Crestron logo, .AV Framework, 3-Series, Auto-Locking, DigitalMedia, DigitalMedia 8G+, DM Lite, DMPS Lite, QuickSwitch HD, and XiO Cloud are either trademarks or registered trademarks of Crestron Electronics, Inc. in the United States and/or other countries. Cisco and Cisco Webex are either trademarks or registered trademarks of Cisco Technology, Inc. in the United States and/or other countries. HDBaseT is either a trademark or registered trademark of the HDBaseT Alliance in the United States and/or other countries. HDMI and the HDMI logo are either trademarks or registered trademarks of HDMI Licensing LLC in the United States and/or other countries. Microsoft and Azure are either trademarks or registered trademarks of Microsoft Corporation in the United States and/or other countries. UL is either a trademark or registered trademark of Underwriters Laboratories, Inc. in the United States and/or other countries. DisplayPort is either a trademark or registered trademark of Video Standards Association in the United States and/or other countries. Other trademarks, registered trademarks, and trade names may be used in this document to refer to either the entities claiming the marks and names or their products. Crestron disclaims any proprietary interest in the marks and names of others. Crestron is not responsible for errors in typography or photography.

Specifications are subject to change without notice.

©2021 Crestron Electronics, Inc.

Rev 11/16/21

DMPS Lite™ 4K Multiformat 2x1 AV Switch and Receiver with PoE+

10.53 in.
(268 mm)

5.00 in.
(127 mm)

5.11 in.
(130 mm)

CRESTRON

HD-RX-4K-210-C-E-POE

4K MULTIFORMAT SWITCH AND RECEIVER

HDMI

8.36 in.
(213 mm)

1.10 in.
(28 mm)

CRESTRON