DMPS3-4K-50

DigitalMedia™

3-Series® 4K DigitalMedia™ Presentation System 50

- *Ultra high-definition, multi-format presentation switcher, scaler, audio DSP, and control system*
- *Out of the box Crestron Connect It™ collaboration system functionality*
- *Supports up to four TT-100 series Crestron Connect It Cable Caddies [1]*
- *Built-in .AV Framework™ delivers a fully-functional system without any programming [3]*
- *Integrated 3-Series Control System® allows fully-programmable room control*
- *Includes four auto-switching HDMI®, VGA, and stereo analog audio inputs [6]*
- *Also supports Dual-Mode DisplayPort, DVI, and analog video sources [4,5]*
- *Input auto-detection configures each input automatically*
- *QuickSwitch HD™ technology manages HDCP keys for fast, reliable switching*
- *Performs automatic AV signal format management via EDID*
- *Provides adjustable input level compensation on each audio input*
- *Provides a single HDMI output*
- *Features a built-in, high-performance 4K scaler*
- *Upscales input signals to match the native resolution of any screen — including 4K and Ultra HD displays!*
- *Downscales 4K, UHD, and ultra high-resolution computer signals to fit 1080p and other lower-resolution displays*
- *Handles any input resolution from standard NTSC 480i or PAL 576i, to UHD and 4K*
- *Provides intelligent frame rate conversion, content-adaptive noise reduction, and motion-adaptive de-interlacing*
- *Provides 3D to 2D signal conversion, and passes 3D video (without scaling) to 3D displays [7]*
- *Provides a balanced stereo audio output with graphic EQ, limiting, and delay*
- *Enables analog-to-HDMI audio embedding and de-embedding [6]*
- *Handles Dolby® TrueHD, Dolby Atmos®, DTS-HD®, and uncompressed 7.1 linear PCM audio [8]*
- *Includes onboard IR, RS-232, and Cresnet® control ports*
- *Supports Crestron® touch screens, keypads, and wireless remotes*
- *Supports XPanel with Smart Graphics® computer and web based control*
- *Supports iPhone®, iPad®, and Android™ control apps*
- *Supports universal remotes via built-in RC-5 compatible IR receiver*
- *Communicates natively with Crestron Fusion®*
- *Enables IT-friendly network integration via SNMP*
- *Includes front panel controls for switching and volume adjustment*
- *Includes customizable front panel label strips*
- *Allows complete AV setup and adjustment via a web browser*
- *Features an internal universal power supply for worldwide compatibility*
- *Mounts under the table or in a single 19" rack space*

The DMPS3-4K-50 from Crestron® provides an ultra high-definition presentation switcher and control solution that's perfect for huddle rooms, conference rooms, and classrooms. It integrates the control system, multi-format switcher, 4K video scaler, and audio DSP all into one compact device that mounts conveniently under a conference table or in an equipment rack. Built-in Crestron Connect It™ functionality affords a complete collaboration solution that's easy and affordable to deploy in any small to medium sized meeting space. Without requiring any programming, the DMPS3-4K-50 is easily configurable for a variety of media presentation applications.

Auto-switching HDMI®, VGA, and analog audio inputs provide the essential connectivity needed to manage multiple computers and other media sources. The selected input source is routed to one HDMI output and one stereo analog audio output. Built-in 4K scaling ensures the highest possible image quality, and compatibility with the widest range of sources and displays.

4K Ultra HD

The DMPS3-4K-50 handles 4K and Ultra HD video signals, which is essential to ensure support for the latest generation of computers and monitors with native resolutions beyond 1080p and WUXGA.

Crestron Connect It™

Crestron Connect It is a cost-effective, simple-to-use presentation solution that provides tabletop BYOD connectivity and one-touch control for multiple participants around a conference table. Simply add up to four Crestron Connect It Cable Caddies (TT-100 series [1]) to the DMPS3-4K-50. Its auto-switching inputs support individual HDMI, VGA, and analog audio connections at each cable caddy. Four USB ports on the DMPS3-4K-50 provide power and communications for each cable caddy.

A fully functional Crestron Connect It system is enabled right out of the box by simply connecting the cable caddies and input cables. Additional settings and AV adjustments are available through a simple web browser setup screen. In addition to the Crestron Connect It devices, the DMPS3-4K-50 can also accommodate an AirMedia® Presentation Gateway without any additional programming.[2]

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DMPS3-4K-50 — Rear View

No Programming Required!

Installing the DMPS3-4K-50 is easy, fast, and affordable. Built-in .AV Framework™ technology delivers a fully-functional presentation system with simplified configuration and a choice of control options and other add-ons. For complete details on the capabilities supported by .AV Framework, please visit: www.crestron.com/avframework.[3]

Multi-Format Auto-Switcher

The DMPS3-4K-50 provides high-performance automatic switching between four groups of inputs, each including HDMI, VGA, and unbalanced stereo audio. The HDMI inputs are compatible with DVI and Dual-Mode DisplayPort sources, and the VGA inputs can handled RGB, composite, S-Video, and component video sources. Digital audio is supported by the HDMI inputs, plus each analog audio input may be used in combination with its corresponding VGA or HDMI video input. Input auto-detection eliminates the need to configure the inputs — simply connect your source and the DMPS3-4K-50 selects the right audio and video combination.[4,5,6]

4K Scaler

With its high-performance 4K video scaler on board, the DMPS3-4K-50 ensures an optimal image from every video source. It allows all types of video and computer sources to be viewed reliably and look their best on any display up to 4K. It accepts any input resolution, from standard definition NTSC 480i to ultra high-definition DCI 4K, and scales it perfectly to match the native resolution of any screen up to DCI 4K (4096 x 2160). Interlaced sources are converted to progressive scan using motion-adaptive deinterlacing. Intelligent frame rate conversion enables support for 24p and PAL format sources. And, 3D to 2D conversion allows 3D content to be viewed on 2D-only displays.[7]

Flexible Audio Outputs

The switched audio signal is routed to the HDMI output as well as to a separate balanced analog audio output, with individual level adjustments provided for each output. All inputs and outputs support stereo audio, with the option to configure the analog output for mono. Dolby® TrueHD, Dolby Atmos®, DTS-HD®, and 7.1 linear PCM audio signals can also be routed through the HDMI inputs and output.[8]

Professional Audio DSP

The analog audio output includes professional digital signal processing, allowing the signal to be adjusted for optimum performance and sound quality. The analog output is ideally designed to be connected to an external power amplifier and used to drive a set of ceiling or wall mount speakers. In addition to volume, bass, treble, and mute controls, the DSP provides 10-band graphic equalization, fully-adjustable limiting, and up to 80 ms of delay. All settings are adjustable using the DMPS3-4K-50's web browser user interface for easy setup. The output volume level is also adjustable using the front panel volume knob.

EDID Format Management

The DMPS3-4K-50 provides comprehensive management of the EDID (Extended Display Identification Data) information that passes between display devices and input sources, ensuring that each source gets displayed at its optimal resolution and format. Most applications require no changes to the default settings. For applications requiring custom configuration, the DMPS3-4K-50 allows for easy assessment of each device's format and resolution capabilities, with the ability to configure signals appropriately for the most desirable and predictable behavior.

QuickSwitch HD™ Technology

Handling digital media signals means handling HDCP (High-bandwidth Digital Content Protection), the encryption scheme used by content providers to protect their DVDs, Blu-ray™ discs, and broadcast signals against unauthorized copying. Viewing HDCP encrypted content requires a source device to "authenticate" each display and signal processor in the system and issue it a "key" before delivering an output signal. Crestron QuickSwitch HD manages these keys to ensure fast, reliable switching and immunity to "blackouts."

Integrated 3-Series Control System®

Its built-in 3-Series control system enables the DMPS3-4K-50 to provide complete, customizable control of every AV device, as well as room lighting, window shades, and projection screens, without requiring a separate control processor. Onboard control ports include one IR port and one RS-232 COM port, as well as Cresnet® and Ethernet. The DMPS3-4K-50 supports the full line of Crestron touch screens, keypads, and wireless remotes for a user experience custom tailored to the specific requirements of each end-user. Support for Crestron control apps and Crestron Fusion® delivers the industry's most powerful platform for remotely controlling and managing multiple rooms using computers and mobile devices.

CEC Embedded Device Control

For controlling third-party AV devices, the DMPS3-4K-50 provides an alternative to conventional IR, RS-232, and Ethernet by harnessing the CEC (Consumer Electronics Control) signal embedded in HDMI. Using CEC, many devices can be controlled right through their HDMI connections, eliminating the need for any dedicated serial cables or IR emitters.

DMPS3-4K-50 3-Series® 4K DigitalMedia™ Presentation System 50

SPECIFICATIONS

Operating System

Crestron 3-Series; real-time, preemptive, multi-threaded/multitasking kernel; Transaction-Safe Extended FAT file system; supports up to 10 simultaneously running programs; preloaded DMPS3 .AV Framework Base Program; out-of-the-box "Crestron Connect It" functionality

Control System Memory

SDRAM: 1 GB
Flash: 4 GB

Communications

Ethernet: 10/100 Mbps, auto-switching, auto-negotiating, auto-discovery, full/half duplex, industry-standard TCP/IP stack, UDP/IP, CIP, DHCP, SSL, TLS, SSH, SFTP (SSH File Transfer Protocol), FIPS 140-2 compliant encryption, IEEE 802.1X, SNMP, BACnet™/IP [9], IPv4 or IPv6, Active Directory authentication, IIS v.6.0 web server, SMTP e-mail client, RSTP, Private Network Mode
Cresnet: Cresnet master mode
USB: USB host ports for Crestron Connect It devices and firmware update via USB flash drive; USB device port for computer console (setup)
RS-232: 2-way device control and monitoring up to 115.2k baud with hardware and software handshaking
IR/Serial: 1-way device control via infrared up to 1.2 MHz or serial TTL/RS-232 (0-5 Volts) up to 115.2k baud; built-in RC-5 compatible IR receiver
HDMI: HDCP, EDID, CEC

NOTE: Supports management of HDCP and EDID; supports management of CEC between the connected HDMI devices and the control system

Video

Switcher: 8x1 (organized as multi-format 4x1), auto-switching, auto-detecting multi-format digital/analog source inputs, QuickSwitch HD technology
Scaler: 4K video scaler, motion-adaptive deinterlacer, intelligent frame rate conversion, Deep Color support, 3D to 2D conversion [7], content-adaptive noise reduction, widescreen format selection (zoom, stretch, maintain aspect-ratio, or 1:1)
Input Signal Types: HDMI w/Deep Color, 3D, & 4K (DVI & Dual-Mode DisplayPort compatible [4]); RGB/VGA (RGBHV, RGBS, RGsB); component (YPbPr); S-Video (Y/C); composite (NTSC, PAL) [5]
Output Signal Types: HDMI w/Deep Color, 3D, & 4K (DVI compatible [4])
Analog-To-Digital Conversion: 10-bit 165 MHz per each of 3 channels

Maximum Scaler Output Resolutions:

Output Type	Scan Type	Resolution	Frame Rate	Color Sampling	Color Depth
HDMI	Progressive	4096x2160 DCI 4K or 3840x2160 4K UHD	24 Hz	4:4:4	30 bit
			30 Hz	4:4:4	24 bit
			30 Hz	4:2:2	36 bit
		2560x1600 WQXGA	60 Hz	4:4:4	36 bit
		1920x1080 HD1080p	60 Hz	4:4:4	36 bit

Maximum Scaler Input Resolutions:

Input Type	Scan Type	Resolution	Frame Rate	Color Sampling	Color Depth
HDMI	Progressive	4096x2160 DCI 4K or 3840x2160 4K UHD	24 Hz	4:4:4	30 bit
			30 Hz	4:4:4	24 bit
			30 Hz	4:2:2	36 bit
		2560x1600 WQXGA	60 Hz	4:4:4	36 bit
		1920x1080 HD1080p	60 Hz	4:4:4	36 bit
	Interlaced	1920x1080 HD1080i	30 Hz	4:4:4	36 bit
RGB/VGA	Progressive	1600x1200 UXGA	60 Hz	n/a	
		1920x1200 WUXGA	60 Hz	n/a	
Component [5]	Progressive	1920x1080 HD1080p	60 Hz	n/a	
	Interlaced	1920x1080 HD1080i	30 Hz	n/a	
Composite or S-Video [5]	Interlaced	480i NTSC or 576i PAL	60 Hz	n/a	

Maximum Pass-Through Resolutions:

Input Type	Scan Type	Resolution	Frame Rate	Color Sampling	Color Depth
HDMI	Progressive	4096x2160 DCI 4K or 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 HD1080p	60 Hz	4:4:4	36 bit
	Interlaced	1920x1080 HD1080i	30 Hz	4:4:4	36 bit
RGB/VGA	Progressive	1600x1200 UXGA	60 Hz	n/a	
		1920x1200 WUXGA	60 Hz	n/a	
Component [5]	Progressive	1920x1080 HD1080p	60 Hz	n/a	
	Interlaced	1920x1080 HD1080i	30 Hz	n/a	
Composite or S-Video [5]	Interlaced	480i NTSC or 576i PAL	60 Hz	n/a	

NOTE: Common resolutions are shown; other custom resolutions are supported at pixel clock rates up to 300 MHz for digital inputs and output, or 165 MHz for analog inputs

Audio – General

Switcher/Mixer: 8x1 (organized as multi-format 4x1) stereo source switcher, auto-detecting digital/analog source inputs, stereo DSP for analog output, 4x1 multichannel source switcher, digital audio mixer bypass mode for multichannel pass-through to digital output
Analog-To-Digital Conversion: 24-bit 48 kHz
Digital-To-Analog Conversion: 24-bit 48 kHz
Frequency Response: 20 Hz to 20 kHz ±0.5 dB
S/N Ratio: >108 dB, 1 kHz, A-weighted (digital source); >103 dB, 1 kHz, A-weighted (analog source)
THD+N: <0.002%, 20 Hz to 20 kHz (digital source); <0.005%, 20 Hz to 20 kHz (analog source)

Stereo Separation: >108 dB (digital source);
>103 dB (analog source)

Audio – Source Inputs

Typical of 8 source input channels (Audio Inputs 1 – 4, HDMI Inputs 1 – 4)
Input Signal Types: Analog 2-channel [6], HDMI (Dual-Mode DisplayPort compatible [4])
Analog Formats: Stereo 2-channel
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, LPCM up to 8 channels [8]
Input Compensation: ±10.0 dB [8]

Audio – Analog Line Output

Output Signal Type/Format: Stereo 2-channel
Source: -80 to +10 dB Level adjustment range, plus Mute and Balance
Master Volume: -80 to +10 dB Level adjustment range, plus Mute and Mono
Bass: ±12.0 dB
Treble: ±12.0 dB
Equalization: 10-band graphic
GEQ Center Frequencies: 31.5, 63, 125, 250, 500, 1k, 2k, 4k, 8k, 16k Hz
GEQ Gain: ±12.0 dB per band
Delay: 0.0 to 80.0 ms
Limiter Threshold: -80 to 0 dBz
Limiter Ratio: 1:1 to 10:1
Limiter Attack: 1 to 250 ms
Limiter Release: 1 to 1000 ms
Limiter Curve: Hard or soft knee

Audio – Digital Output

Output Signal Types: HDMI
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, LPCM up to 8 channels [8]
Source: -80 to +10 dB Level adjustment range, plus Mute and Balance [8]
Master Volume: -80 to +10 dB Level adjustment range, plus Mute [8]

Connectors – Audio/Video Inputs

VGA IN 1 – 4: (4) HD15 female;
Analog VGA/RGB/video inputs;
Signal Types: VGA, RGB, component, S-Video, or composite [5];
Formats: RGBHV, RGBS, RGsB, YPbPr, Y/C, NTSC or PAL;
Input Level: 0.5 to 1.5 Vp-p with built-in DC restoration;
Input Impedance: 75 Ohms nominal;
Sync Detection: RGBHV, RGBS, RGsB, YPbPr;
Sync Input Level: 3 to 5 Vp-p;
Sync Input Impedance: 2.2k Ohms

AUDIO IN 1 – 4: (4) 3.5 mm TRS mini phone jacks;
Unbalanced stereo line-level analog audio inputs;
Input Impedance: 32k Ohms unbalanced;
Maximum Input Level: 2.8 Vrms unbalanced;
Note: If an HDMI input is selected but no digital audio signal is detected, the corresponding analog audio input is activated (AUDIO 1 for HDMI 1, etc.). Please note, the analog audio inputs do not pass audio if the HDMI video input resolution is higher than 1920x1200.

HDMI IN 1 – 4: (4) 19-pin Type A HDMI female;
Digital video/audio inputs;
Signal Types: HDMI, DVI, or Dual-Mode DisplayPort [4]

Connectors – Audio/Video Outputs

HDMI OUT: (1) 19-pin Type A HDMI female;
Digital video/audio output;
Signal Types: HDMI, DVI [4]

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

Connectors - Control & Power

IR OUT: (1) 3.5 mm mini-phone jack;
IR/Serial output port;
IR output up to 1.2 MHz;
1-way serial TTL/RS-232 (0-5 Volts) up to 115.2k baud

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

LAN: (1) 8-pin RJ45 female;
10Base-T/100Base-TX Ethernet port

USB 1 – 4: (4) USB Type A female;
USB 2.0 host ports for TT-100 series Crestron Connect It Cable Caddies [1];
Also enables firmware update via USB flash drive

G: (1) 6-32 screw, chassis ground lug

NET: (1) 4-pin 3.5 mm detachable terminal block;
Cresnet Master port;
Available Cresnet Power: 24 Watts

100-240V~1.4A 50/60Hz: (1) IEC 60320 C14 main power inlet;
Mates with removable power cord, included

COMPUTER (front): (1) USB Type B female;
USB computer console port;
For setup only

IR IN (front): (1) Infrared sensor;
IR Frequency: 36 to 38 kHz;
IR Formats: Crestron format, RC5;
Allows control from IR wireless remotes using the Crestron or RC-5 command sets

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Controls & Indicators

PWR: (1) Bi-color green/amber LED, indicates operating power supplied from AC line power, turns amber while booting and green when operating
NET: (1) Yellow LED, indicates Cresnet bus activity
MSG: (1) Red LED, indicates internal control system has generated an error message
HW-R: (1) Recessed pushbutton for hardware reset, reboots the control system
SW-R: (1) Recessed pushbutton for software reset, restarts the software program
AUTO INPUT SELECT: (1) Pushbutton and bi-color green/amber LED, selects auto-switching mode
VGA INPUT SELECT 1 – 4: (4) Pushbuttons for manual input selection, and (4) bi-color green/amber LEDs to indicate the current active input and signal presence at each corresponding VGA input
HDMI INPUT SELECT 1 – 4: (4) Pushbuttons for manual input selection, and (4) bi-color green/amber LEDs to indicate the current active input and signal presence at each corresponding HDMI input
VOLUME: (1) Continuous turn rotary encoder, adjusts the analog audio output volume
LAN (rear): (2) LEDs, bi-color LED (left) indicates Ethernet speed and activity, green LED (right) indicates Ethernet link status

Power

Main Power: 1.4 Amps @ 100-240 Volts AC, 50/60 Hz
Power Consumption: 33 Watts typical, 26 Watts idle
Available Cresnet Power: 24 Watts

Environmental

Temperature: 41° to 104° F (5° to 40° C)
Humidity: 10% to 90% RH (non-condensing)
Heat Dissipation: 112 BTU/hr typical, 88 BTU/hr idle

Enclosure

Chassis: Metal, black finish, fan-cooled, vented sides
Front Panel: Metal, black finish with polycarbonate label overlay
Mounting: Freestanding, 1 RU 19-inch rackmount, or under-table mount (adhesive feet, rack ears, and under-table mounting brackets included)

Dimensions

Height: 1.74 in (45 mm) without feet
Width: 17.28 in (439 mm);
18.94 in (482 mm) with rack ears
Depth: 10.47 in (266 mm)

Weight

6.4 lb (2.9 kg)

MODELS & ACCESSORIES

Available Models

DMPS3-4K-50: 3-Series® 4K DigitalMedia™ Presentation System 50

Available Accessories

TT-100 Series: Crestron Connect It™ Cable Caddy
TSW-760: 7" Touch Screen
TSW-1060: 10.1" Touch Screen
MP-B10: Media Presentation Button Panel B10
AM-101: AirMedia® Presentation Gateway
MP-AMP30: Media Presentation Audio Amplifier
MP-AMP40 Series: Media Presentation Audio Amplifiers, 70 or 100 Volt
AMP Series: Commercial Power Amplifiers
USB-EXT-DM: USB over Ethernet Extender with Routing
GLS-ODT-C-CN: Dual-Technology Occupancy Sensor with Cresnet®
GLS-OIR-C-CN: Passive Infrared Occupancy Sensor with Cresnet®
Crestron Fusion®: Enterprise Management Platform
Crestron® App: Control App for Apple® iOS® & Android™
XPanel: Crestron Control® for Computers
3-Series® BACnet™/IP Support: 3-Series Native BACnet/IP Interface License
CSP-LIR-USB: IR Learner
STIRP: IR Emitter Probe w/3.5mm Mini Phone Plug
CNSP-XX: Custom Serial Interface Cable
CRESNET: Cresnet® Control Cable
CBL Series: Crestron® Certified Interface Cables
MP-WP Series: Media Presentation Wall Plates
MPI-WP Series: Media Presentation Wall Plates - International Version

Notes:

1. Item(s) sold separately.
2. The AirMedia Presentation Gateway, model AM-101 (sold separately), requires one HDMI input on the DMPS3-4K-50.
3. Some features and functions described in this spec sheet may not be supported using .AV Framework. For a complete list of capabilities and options supported by .AV Framework, please visit: www.crestron.com/avframework.
4. HDMI connections require an appropriate adapter or interface cable to accommodate a DVI or Dual-Mode DisplayPort signal. CBL-HD-DVI interface cables are available separately.
5. The VGA inputs can accept component, composite, and S-Video signals using an appropriate adapter (not included). However, input sync detection is not provided for composite or S-Video signal types.
6. When using an analog audio input in combination with an HDMI video input, the source's video resolution must be 1920x1200 or lower. The analog audio input will not pass audio if the source's video resolution is higher than 1920x1200.
7. Automatically passes 3D video if the display device supports it (reverts to pass-through mode without scaling). Provides automatic 3D-to-2D conversion (with scaling) if the display device does not support 3D.
8. Routing of a multichannel audio signal via a digital input and output requires the input to be set for "mixer bypass" mode. When that input is selected, all audio controls on the digital output are disabled. Mixer bypass mode also disables the Input Compensation control on that input.
9. License required. The DMPS3-4K-50 supports a maximum of 500 BACnet objects when dedicated for BACnet use only. Actual capabilities are contingent upon the overall program size and complexity.

This product may be purchased from an authorized Crestron dealer. To find a dealer, please contact the Crestron sales representative for your area. A list of sales representatives is available online at www.crestron.com/salesreps or by calling 800-237-2041.

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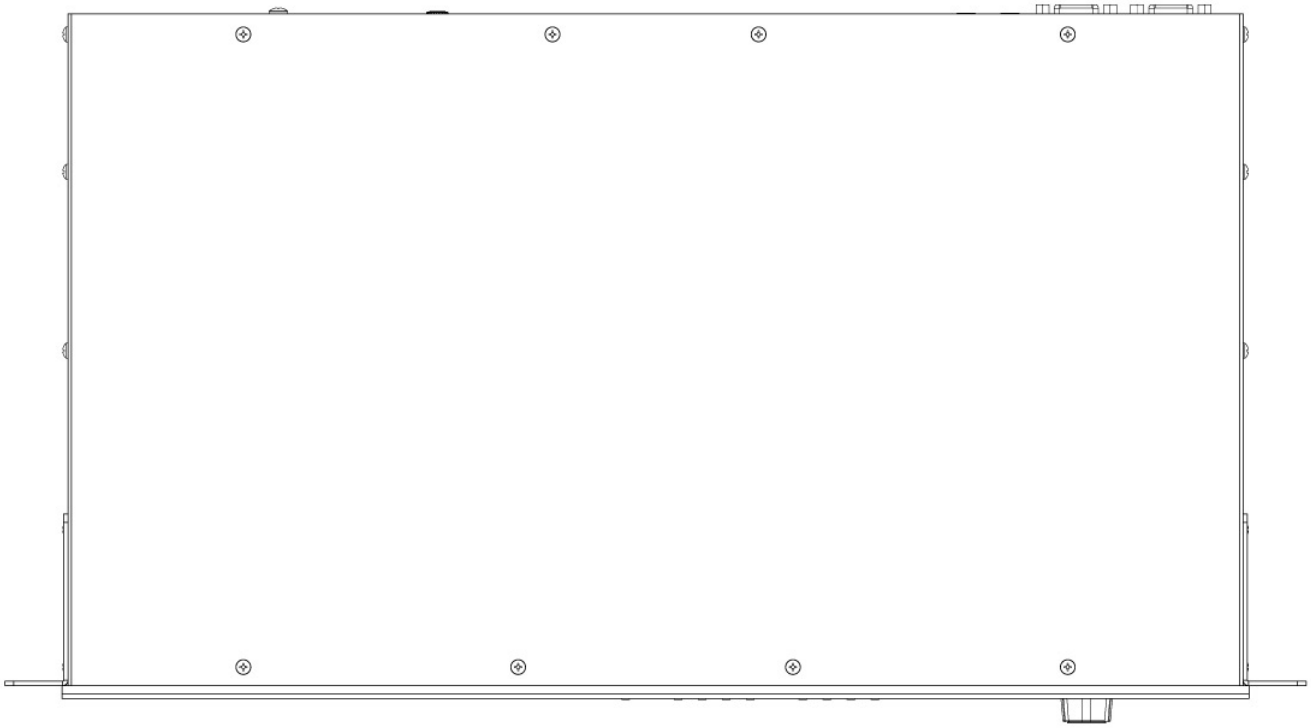
The specific patents that cover Crestron products are listed online at: patents.crestron.com.

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



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