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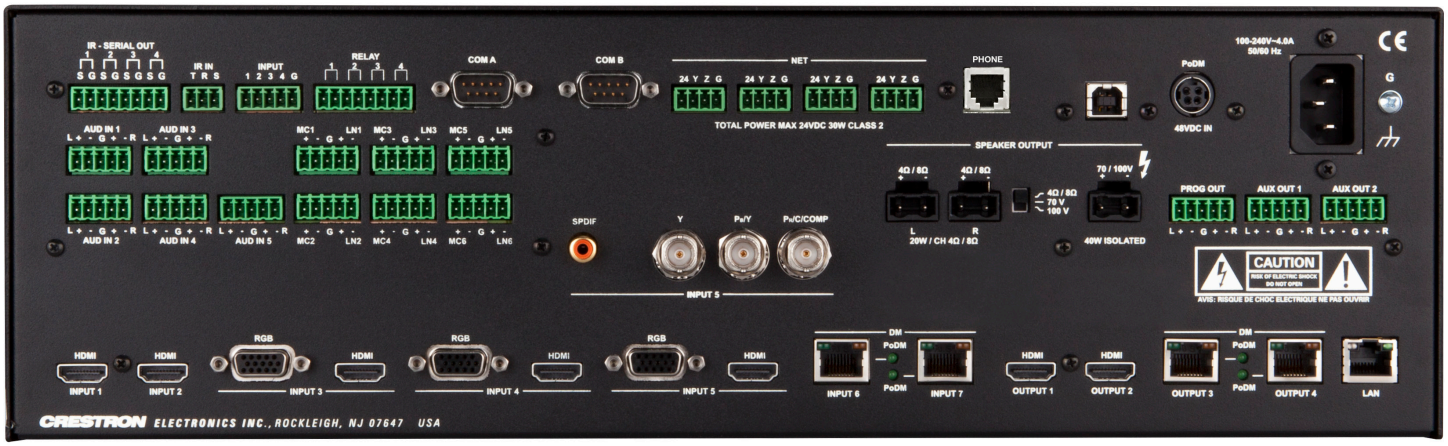
DMPS3-300-C-AEC

3-Series® DigitalMedia™ Presentation System 300 w/Audio Conferencing Interface

The DMPS3-300-C-AEC from Crestron® delivers a complete, high-definition presentation control and conferencing solution for boardrooms, classrooms, and videoconference rooms. It integrates the control system, multi-format matrix switcher, mic mixer, audio conferencing interface, audio DSP, and amplifier all into one 3-space rack mount package. The DMPS3-300-C-AEC offers extensive signal routing flexibility and high-performance signal processing without the need for separate components. Auto-configuring inputs enable plug-and-play compatibility with a wide range of digital and analog sources. Built-in DigitalMedia 8G+® and HDBaseT® connectivity affords a streamlined, long-distance wiring solution for remote sources and display devices, and for facility-wide integration as part of a larger media distribution system.

- *High-definition, multi-format 7x4 system switcher, mic mixer, audio conferencing interface, audio DSP, amplifier, and control system*
- *Built-in .AV Framework™ delivers a fully-functional system without any programming [1]*
- *Integrated 3-Series Control System® allows fully-programmable room control*
- *DigitalMedia 8G+® connectivity enables long-distance wiring over CAT type twisted pair cable [5]*
- *HDBaseT® Certified — Enables direct connection to other HDBaseT certified equipment*
- *Provides matrix signal routing for up to 7 video sources and 4 displays*
- *Handles HDMI®, DVI, Dual-Mode DisplayPort, HDBaseT, and SPDIF digital sources [2]*
- *Handles RGB, composite, S-Video, component, and stereo audio analog sources [9]*
- *Features auto-detecting, auto-switching inputs for all types of video and audio sources*
- *QuickSwitch HD™ technology manages HDCP keys for fast, reliable switching*
- *Auto-Locking® technology achieves rapid switching between disparate sources*
- *Performs automatic AV signal format management via EDID*
- *Provides adjustable input level compensation on each audio input*
- *External scaler options provide discrete image optimization for each display device [7]*
- *Includes built-in 6-channel gated microphone mixing w/DSP*
- *Includes full-bandwidth, fully-adaptive acoustic echo cancellation on each mic input*
- *Enables full-duplex voice conferencing over a POTS or SIP phone line*
- *Allows seamless integration with one or two video conferencing codecs*
- *Affords versatile audio signal mixing and routing to 8 separate outputs*
- *Allows audio-follow-video or breakaway switching for all inputs*
- *Enables analog-to-HDMI audio embedding and de-embedding*
- *Handles Dolby® TrueHD, Dolby Atmos®, DTS-HD®, and uncompressed 7.1 linear PCM audio [3,4]*
- *Provides 3 stereo analog outputs with independent DSP per output*
- *Features built-in amplifier, selectable for 20W/Ch. @ 8Ω stereo or 40W @ 70/100 Volts mono*
- *Enables USB signal routing via DM® transmitters and receivers or USB-EXT-DM extenders [8]*
- *Includes onboard IR, RS-232, relay, digital input, 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 external RC-5 compatible IR receiver [7]*
- *Communicates natively with Crestron Fusion® Cloud*
- *Enables IT-friendly network integration via SNMP*
- *Integrated Ethernet switch provides a single-point LAN connection*
- *Private Network Mode — requires just one IP address for the complete system*
- *Provides easy setup and diagnostics via the front panel, a web browser, or Crestron Toolbox™ software*
- *Includes front panel controls for basic configuration, diagnostics, and signal routing*
- *Includes customizable front panel label strips and LCD display*
- *Features an internal universal power supply for worldwide compatibility*
- *Furnishes Power over DM or HDBaseT for PoDM/PoH-powered devices [6]*
- *3-space 19-inch rack-mountable*

DMPS3-300-C-AEC 3-Series® DigitalMedia™ Presentation System 300 w/Audio Conferencing Interface



DMPS3-300-C-AEC – Rear View

The DMPS3-300-C-AEC is an enhanced version of the DMPS3-300-C featuring an integrated audio conferencing interface and full-bandwidth acoustic echo cancellation on each of its six mic inputs. It allows for high-quality, full-duplex voice conferencing via direct connection to a SIP phone system or POTS phone line, and integrates seamlessly with up to two external audio or video codecs for a total teleconferencing system solution.

No Programming Required!

Installing the DMPS3-300-C-AEC 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.[1]

HD System Switcher

The DMPS3-300-C-AEC provides high-performance routing of numerous digital and analog sources to up to four separate projectors, flat panel displays, codecs, and other devices. Connectivity is provided for up to five HDMI® sources[2], or other combinations of HDMI, RGB, SPDIF, analog audio, and analog video sources. Additional remote sources can be connected via two DM 8G+® inputs. Input auto-detection and auto-switching eliminates the need to configure the inputs – simply connect your source and the DMPS3-300-C-AEC selects the right audio and video combination. Built-in matrix switching allows routing of eight simultaneous sources to four different digital AV devices, three analog audio components, and a telephone system.

Flexible Audio Routing

The HDMI, SPDIF, and analog audio inputs may be configured to follow their associated video inputs, or switched independently. In fact, the audio from any HDMI source can be extracted from the digital stream and converted to analog to feed an outboard processor, mixer, or codec, with the return signal feeding back through any analog input, which can be embedded with any video source to form a new HDMI output. Dolby® TrueHD, Dolby Atmos®, DTS-HD®, and 7.1 linear PCM audio signals can be routed through the HDMI and DM 8G+ inputs and outputs. The HDMI, SPDIF, and analog audio inputs include adjustable input compensation to accommodate a wide range of signals and maintain consistent volume levels when switching between sources.[3,4]

DigitalMedia 8G+®

Its DM 8G+ inputs and outputs endow the DMPS3-300-C-AEC with incredible potential for connecting remote sources and display devices, and integrating with larger systems. DM 8G+ provides a true one-wire interface for transporting high-definition video, audio, control, power, and networking signals over CAT type cable at distances up to 330 feet (100 meters). Connecting a DM 8G+ receiver to either DM 8G+ output provides a streamlined AV and control interface for a projector or flat panel display located anywhere in the room. Connecting up to two DM 8G+ transmitters provides expanded input connectivity to incorporate remote AV sources and mobile devices at a conference table, lectern, credenza, wall plate, or some other location. DM 8G+ can also provide the interface to a centralized DigitalMedia™ matrix switcher to enable the distribution of signals between multiple rooms and buildings.[5,6]

HDBaseT® Certified

Crestron DM 8G+ technology is designed using HDBaseT Alliance specifications, ensuring interoperability with other HDBaseT certified products. Via DM 8G+, the DMPS3-300-C-AEC can be connected directly to an HDBaseT compliant source or display device without requiring a DM® transmitter or receiver.

6-Channel Microphone Mixer

The DMPS3-300-C-AEC includes built-in mixing and processing for six microphones. Each mic input provides 60 dB of gain adjustment, switchable 48V phantom power, fully-adjustable gating, compression, delay, and 4-band semi-parametric EQ. Sophisticated matrix mixing allows for a completely different stereo mix of all six microphones at each of the DMPS3-300-C-AEC's eight outputs.

Acoustic Echo Cancellation

High-performance adaptive AEC on each mic input enables high-quality audio conferencing capability for multiple participants in a room using up to six microphones. Low-latency, full-bandwidth performance affords highly-effective echo cancellation with natural sound quality. AEC is employed independently per microphone, with a fast convergence rate of 80 dB per second and tail lengths up to 200 ms, allowing the DMPS3-300-C-AEC to handle any typical small to medium sized room with ease.

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Rava® SIP & POTS Phone Interface

The DMPS3-300-C-AEC includes a built-in audio conferencing interface and phone dialer, enabling full-duplex voice conferencing capability over a SIP or POTS phone line without the need for a separate phone interface or codec. Crestron Rava technology allows the DMPS3-300-C-AEC to interface over Ethernet with a SIP-compatible phone system or other SIP compatible device. An RJ11 POTS interface is also built in to allow for direct connection to a conventional analog phone line or extension port. Using either SIP or POTS, participants can leverage the room's touch screen [7] to place outgoing calls, receive incoming calls, view caller ID, and control the entire session.

Codec Mixing

For video conferencing applications, the DMPS3-300-C-AEC allows one or two codecs to be connected to any of the seven source inputs, and either (or both) of the "Aux" outputs. Dual codec support allows both codecs to be used simultaneously, even allowing the signal from one codec to be fed to the other for a fully inclusive teleconferencing experience. Plus, any local presentation source, or the incoming phone signal, can be mixed with the microphones and routed to the codecs, allowing far end participants to experience the full presentation without any distracting echo.

Professional Audio DSP

Each analog audio output on the DMPS3-300-C-AEC includes its own digital signal processor, allowing each output to be optimized to feed a power amplifier, codec, recorder, or assistive listening system. In addition to real-time adjustable volume, bass, treble, and mute controls, each DSP provides 10-band graphic equalization, 4-band parametric equalization, fully-adjustable limiting, and up to 85 ms of speaker delay adjustment.

An additional dedicated DSP is included to process the AEC reference signal inside the DMPS3-300-C-AEC, allowing its EQ and volume level to be set to track that of the main program output feeding the room speakers. In some situations, this can reduce the demand on the AEC's adaptive filter for even more transparent performance.

Built-in Power Amplifier

Its built-in power amplifier allows the DMPS3-300-C-AEC to directly drive a pair of stereo speakers (20 Watts per channel @ 8Ω), or a group of distributed ceiling speakers (40 Watts mono @ 70 or 100 Volts). Fed by the main "Program" output, the internal amplifier benefits fully from the onboard DSP. For larger applications, Crestron AMP-Series power amplifiers may be added, providing a complete solution for driving separate program and speech speakers, or any multi-zone speaker system.

EDID Format Management

The DMPS3-300-C-AEC allows for management of the EDID (Extended Display Identification Data) information that passes between the display devices and input sources in the system. Using Crestron Toolbox™ software, the format and resolution capabilities of each device can be assessed, allowing the installer to configure EDID signals appropriately for the most desirable and predictable behavior.

A Scaler for Every Display

Through a distributed scaler approach, the DMPS3-300-C-AEC affords a very flexible and user-friendly solution for handling multiple disparate display devices and video codecs. Employing discrete outboard scalers like the HD-SCALER-HD-E, DM-RMC-SCALER-C, and DM-RMC-4K-SCALER-C, the DMPS3-300-C-AEC allows an independent high-performance scaler to be installed at each display device and in front of each codec, ensuring an optimal image on every screen no matter what sources are selected.[7]

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" for every source and display device connected to the system.

Auto-Locking® Technology

Crestron Auto-Locking Technology enables super fast signal switching by instantaneously configuring every device in the signal path, including DM transmitters, DM receivers, and scalers, as soon as the signal hits the first device. Whether switching between sources or TV channels, Auto-Locking significantly reduces the time it takes each device to sense the new signal and configure itself to handle the changes, virtually eliminating any noticeable gap while switching.

USB Signal Routing

Along with video and audio, the DMPS3-300-C-AEC can also provide for the routing of USB HID (Human Interface Device) signals, allowing a USB HID compliant keyboard and/or mouse at one location to control a computer or media server at another location. USB HID connectivity is provided through select DM receivers and transmitters. Crestron also offers USB over Ethernet Extenders (USB-EXT-DM [7]), which may be used to enable the routing of multiple USB devices of virtually any type, all seamlessly managed through the DMPS-300-C-AEC.[8]

Integrated 3-Series Control System®

Its built-in 3-Series control system enables the DMPS3-300-C-AEC 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 four IR ports, two RS-232 COM ports, four relay ports, and four digital input ports, as well as Cresnet® and Ethernet. The DMPS3-300-C-AEC 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® Cloud 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 DMPS3-300-C-AEC 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.

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Built-in Ethernet Switch

In addition to transporting digital video and audio, the DM 8G+ ports on the DMPS3-300-C-AEC can also extend Ethernet out to the display and source devices, providing high-speed connectivity for each room device that requires a LAN connection. Ethernet is also utilized internally by the Crestron control bus to manage each transmitter and receiver and provide device control.

Private Network Mode

To streamline its implementation on a corporate or university LAN, the DMPS3-300-C-AEC employs Private Network Mode to provide a single-point connection for the complete system. Using Private Network Mode, the DMPS3-300-C-AEC requires just one IP address for the complete DM network including all connected DM receivers and transmitters.

Easy Setup

Every step of the DMPS3-300-C-AEC setup process is designed to be quick and easy, configuring inputs and outputs automatically while letting the installer make intelligent design decisions along the way. Out of the box, the front panel supports basic signal routing for easy testing and troubleshooting during installation. Simplified system configuration is enabled using .AV Framework, which is easily configurable via a computer web browser.[1] Advanced configuration and adjustment is enabled through the front panel, a web browser, or Crestron Toolbox software. The front panel label strips can be customized using Crestron Engraver software or standard 3/8" tape labels, allowing for the clear designation of each input and output. Inputs and outputs may also be designated by name to appear on the LCD display when selected.

Crestron Connect It™

Crestron Connect It is a cost-effective, simple-to-use presentation solution that works seamlessly with the DMPS3-300-C-AEC. Simply add one or more Crestron Connect It Cable Caddies (TT-100 series [7]) to provide BYOD connectivity and one-touch control for multiple participants around a conference table. Power and communications for each cable caddy are provided via Cresnet, or via the USB port on a Crestron Connect It compatible DM transmitter.

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

Memory

SDRAM: 512 MB
Flash: 4 GB

Communications

Ethernet: 10/100/1000 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 [10], IPv4 or IPv6, Active Directory authentication, IIS v.6.0 web server, SMTP e-mail client, RSTP, Private Network Mode

Phone: POTS (RJ11 wired interface) supporting DTMF & Caller ID; SIP (via Ethernet) supporting peer-to-peer or SIP server mode

Cresnet®: Cresnet master mode

USB: USB signal routing via select DM transmitters and receivers, or via USB-EXT-DM extenders [8]; 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; supports CNXRMIRD IR Receiver [7]

DigitalMedia™: DM 8G+®, HDCP, EDID, CEC, PoDM, Ethernet

HDBaseT®: HDCP, EDID, PoH, Ethernet

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: 7x4 matrix, auto-switching, auto-detecting multi-format digital/analog source inputs, QuickSwitch HD™ technology

Input Signal Types: HDMI w/Deep Color & 3D [4] (DVI & Dual-Mode DisplayPort compatible [2]), DM 8G+ & HDBaseT w/Deep Color & 3D [4], RGB/VGA (RGBHV, RGBS, RGsB) [9], component (YPbPr), S-Video (Y/C), composite (NTSC, PAL)

Output Signal Types: HDMI w/Deep Color & 3D (DVI compatible [2]), DM 8G+ & HDBaseT w/Deep Color & 3D [4]

Input Resolutions, HDMI & HDBaseT, Progressive: 640x480@60Hz, 720x480@60Hz (480p), 720x576@50Hz (576p), 800x600@60Hz, 848x480@60Hz, 852x480@60Hz, 854x480@60Hz, 1024x768@60Hz, 1024x852@60Hz, 1024x1024@60Hz, 1280x720@50Hz (720p50), 1280x720@60Hz (720p60), 1280x768@60Hz, 1280x800@60Hz, 1280x960@60Hz, 1280x1024@60Hz, 1360x768@60Hz, 1365x1024@60Hz, 1366x768@60Hz, 1400x1050@60Hz, 1440x900@60Hz, 1600x900@60Hz, 1600x1200@60Hz, 1680x1050@60Hz, 1920x1080@24Hz (1080p24), 1920x1080@25Hz (1080p25), 1920x1080@50Hz (1080p50), 1920x1080@60Hz (1080p60), 1920x1200@60Hz, 2048x1080@24Hz, 2048x1152@60Hz, plus any other resolution allowed by HDMI up to 165MHz pixel clock

Input Resolutions, HDMI & HDBaseT, Interlaced: 720x480@30Hz (480i), 720x576@25Hz (576i), 1920x1080@25Hz (1080i25), 1920x1080@30Hz (1080i30), plus any other resolution allowed by HDMI up to 165MHz pixel clock

Input Resolutions, RGB: 640x480@60Hz, 720x480@60Hz (480p), 720x576@50Hz (576p), 800x600@60Hz, 848x480@60Hz, 1024x768@60Hz, 1280x720@50Hz (720p50), 1280x720@60Hz (720p60), 1280x768@60Hz, 1280x800@60Hz, 1280x960@60Hz, 1280x1024@60Hz, 1360x768@60Hz, 1366x768@60Hz, 1400x1050@60Hz, 1440x900@60Hz, 1600x1200@60Hz, 1680x1050@60Hz, 1920x1080@50Hz (1080p50), 1920x1080@60Hz (1080p60), 1920x1200@60Hz, 2048x1152@60Hz

Input Resolutions, Component: 480i, 576i, 480p, 576p, 720p50, 720p60, 1080p24, 1080i25 (1125 lines), 1080i30, 1080p30, 1080p50 (1125 lines), 1080p60

Input Resolutions, Composite & S-Video: 480i, 576i
Output Resolutions: Matched to inputs
Analog-To-Digital Conversion: 10-bit 165 MHz per each of 3 channels
RGB Source Image Adjustments:
Brightness: 0% to 50%;
Contrast: -50% to +50%;
Fine Phase: -16 to +15;
X Position: -100 to +100;
Y Position: -10 to +10;
RGB Gains: -50 to +50, separately adjustable for Red, Green, and Blue
YPbPr, Y/C, or Composite Source Image Adjustments:
Brightness: 0% to 50%;
Contrast: -50% to +50%;
Saturation: -50% to +50%;
Hue: -50% to +50%

Audio – General

Switcher/Mixer: 8x9 stereo source switcher, auto-detecting multi-format digital/analog source inputs, audio-follow-video or breakaway, 6-channel gated mic mixer w/DSP and AEC, independent 6-ch mic + source mixer per output, dual codec mixer, SIP/POTS audio conferencing interface, independent stereo DSP per analog output, dedicated AEC reference mixer and DSP, integrated power amplifier, 7x4 multichannel source switcher, digital audio mixer bypass mode for multichannel pass-through to digital outputs
Analog-To-Digital Conversion: 24-bit 48 kHz
Digital-To-Analog Conversion: 24-bit 48 kHz
Frequency Response, Digital & Analog Line Outputs:
20 Hz to 20 kHz ±0.5 dB (digital source);
20 Hz to 20 kHz ±0.5 dB (analog line source);
20 Hz to 20 kHz ±0.7 dB (microphone source)
Frequency Response, Speaker Output:
20 Hz to 20 kHz ±1 dB @ 20 Watts into 8 Ohms;
100 Hz to 20 kHz ±2.5 dB @ 70 or 100 Volts
S/N Ratio, Digital & Analog Line Outputs:
>108 dB, 1 kHz, A-weighted (digital source);
>103 dB, 1 kHz, A-weighted (analog line source)
S/N Ratio, Speaker Output:
98 dB @ 20 Watts into 8 Ohms, 1 kHz, A-weighted;
96 dB @ 20 Watts in 4 Ohms, 1 kHz, A-weighted
THD+N, Digital & Analog Line Outputs:
<0.002%, 20 Hz to 20 kHz (digital source);
<0.005%, 20 Hz to 20 kHz (analog line source);
<0.05%, 20 Hz to 20 kHz (microphone source)
THD+N, Speaker Output:
<0.1%, 1 kHz @ 20 Watts into 4 or 8 Ohms
<0.7%, 20 Hz to 20 kHz @ 20 Watts into 4 or 8 Ohms
Stereo Separation, Digital & Analog Line Outputs:
>108 dB (digital source);
>103 dB (analog source)
Stereo Separation, Speaker Output: >65 dB @ 20 Watts, 1 kHz
Channel Separation, Digital Outputs:
>108 dB (digital source);
>103 dB (analog source)
Channel Separation, Analog Line Outputs: >103 dB
Speaker Output Modes: 4Ω/8Ω stereo, 70V mono, or 100V mono
Speaker Amplifier Output Power:
20 Watts RMS per channel at 8 Ohms, 4 Ohms tolerant
40 Watts RMS @ 70 or 100 Volts

Audio – Microphone Inputs

Typical of 6 microphone input channels (Mic/Line 1 – 6)
Input Signal Types: Mono analog mic or line level
Phantom Power: Enable/Disable per channel
Gain: 0 to +60 dB Gain adjustment, plus Mute
Delay: 0.0 to 85.0 ms
EQ Center Frequencies: 50 to 200 Hz (Band 1), 200 to 800 Hz (Band 2), 800 to 3.2k Hz (Band 3), 3.2k to 12.8k Hz (Band 4)
EQ Gain: ±12.0 dB per band
High-Pass Filter: On or Off
Gating Threshold: -80 to 0 dB
Gating Depth (Attenuation): -80 to 0 dB
Gating Attack: 1 to 250 ms
Gating Release: 1 to 1000 ms
Compression Threshold: -80 to 0 dB
Compression Ratio: 1:1 to 10:1
Compression Attack: 1 to 250 ms
Compression Release: 1 to 1000 ms
Compression Curve: Hard or soft knee
AEC: Enable/Disable
AEC High-Pass Filter: Enable/Disable at 80 Hz
AEC Double-Talk Suppression: 0.0 to -50.0 dB
AEC Noise Cancellation: 0.0 to -50.0 dB
AEC Automatic Gain Control: 0.0 to -50.0 dB, plus disable
AEC Bandwidth: 20 Hz to 24 kHz
AEC Convergence Rate: 80 dB/sec
AEC Tail Length: 200 ms

Audio – Source Inputs

Typical of 7 source input channels (Input 1 – 7 & Audio In 1 – 5)
Input Signal Types: HDMI (Dual-Mode DisplayPort compatible [2]) on Inputs 1-5, analog 2-channel on Inputs 1-5, S/PDIF on Input 5 only, DM 8G+ & HDBaseT on Inputs 6 & 7
Analog Formats: Stereo 2-channel
Digital Formats, HDMI & DM: Dolby Digital®, Dolby Digital EX, Dolby Digital Plus [4], Dolby® TrueHD [4], Dolby Atmos® [4], DTS®, DTS-ES, DTS 96/24, DTS-HD High Res [4], DTS-HD Master Audio™ [4], LPCM up to 8 channels
Digital Formats, SPDIF: LPCM 2-channel
Input Compensation: ±10.0 dB [3]

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Audio – Analog Line & Speaker Outputs

Typical of 1 analog line/speaker output (Program Out & Speaker Outputs) and 2 analog line outputs (Aux Out 1 – 2)
Output Signal Type/Format: Stereo 2-channel
Mic 1 – 6: -80 to +10 dB Level adjustment range, plus Mute and Pan
Mics Master: -80 to +10 dB Level adjustment range, plus Mute
Source: -80 to +10 dB Level adjustment range, plus Mute and Balance
Source Select: Inputs 1 – 7 or Dialer
Codec 1 – 2: -80 to +10 dB Level adjustment range, plus Mute and Balance (Codec 1 available at Program Out and Aux 2 Out only, Codec 2 available at Program Out and Aux 1 Out only) [11]
Codec 1 – 2 Source Select: Inputs 1 – 7 [11]
Master Volume: -80 to +10 dB Level adjustment range, plus Mute and Mono
Speaker Amp: On/Off (Program Out only)
Mixer Presets: 1 through 5
Bass: ±12.0 dB
Treble: ±12.0 dB
Equalization: 10-band graphic + 4-band parametric
GEQ Center Frequencies: 31.5, 63, 125, 250, 500, 1k, 2k, 4k, 8k, 16k Hz
GEQ Gain: ±12.0 dB per band
PEQ Center Frequencies: 10 to 22000 Hz per band
PEQ Gain: -36.0 to +24.0 dB per band
PEQ Bandwidth: 0.02 to 3.50 octaves per band
PEQ Types: Peaking EQ, High Pass, Low Pass, High Shelf, Low Shelf, Notch
Delay: 0.0 to 85.0 ms
Limiter Threshold: -80 to 0 dB
Limiter Ratio: 1:1 to 10:1
Limiter Attack: 1 to 250 ms
Limiter Hold: 1 to 200 ms
Limiter Release: 1 to 1000 ms
Limiter Curve: Hard or soft knee
EQ Presets: 1 through 10 (includes Delay and Limiter settings)

Audio – AEC Reference Output (Internal)

Note: Normally set to track the Program Out settings
Source: -80 to +10 dB Level adjustment range, plus Mute and Balance
Source Select: Inputs 1 – 7 or Dialer
Codec 1 – 2: -80 to +10 dB Level adjustment range, plus Mute and Balance [11]
Codec 1 – 2 Source Select: Inputs 1 – 7 [11]
Master Volume: -80 to +10 dB Level adjustment range, plus Mute
Bass: ±12.0 dB
Treble: ±12.0 dB
Equalization: 10-band graphic + 4-band parametric
GEQ Center Frequencies: 31.5, 63, 125, 250, 500, 1k, 2k, 4k, 8k, 16k Hz
GEQ Gain: ±12.0 dB per band
PEQ Center Frequencies: 10 to 22000 Hz per band
PEQ Gain: -36.0 to +24.0 dB per band
PEQ Bandwidth: 0.02 to 3.50 octaves per band
PEQ Types: Peaking EQ, High Pass, Low Pass, High Shelf, Low Shelf, Notch
Limiter Threshold: -80 to 0 dB
Limiter Ratio: 1:1 to 10:1
Limiter Attack: 1 to 250 ms
Limiter Hold: 1 to 200 ms
Limiter Release: 1 to 1000 ms
Limiter Curve: Hard or soft knee
EQ Presets: 1 through 10 (includes Limiter settings)

Audio – Digital Outputs

Typical of 4 digital outputs (HDMI Output 1 – 2 & DM Output 3 – 4)
Output Signal Types: HDMI (DVI compatible [2]) on Outputs 1 & 2, DM 8G+ & HDBaseT on Outputs 3 & 4
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
Mic 1 – 6: -80 to +10 dB Level adjustment range, plus Mute and Pan [3]
Mics Master: -80 to +10 dB Level adjustment range, plus Mute [3]
Source: -80 to +10 dB Level adjustment range, plus Mute and Balance [3]
Source Select: Inputs 1 – 7 or Dialer
Master Volume: -80 to +10 dB Level adjustment range, plus Mute [3]
Mixer Presets: 1 through 5

Audio – POTS/SIP Dialer Output

Output Signal Types: POTS (RJ11 wired interface); SIP (via Ethernet)
Mic 1 – 6: -80 to +10 dB Level adjustment range, plus Mute and Pan
Mics Master: -80 to +10 dB Level adjustment range, plus Mute
Source: -80 to +10 dB Level adjustment range, plus Mute and Balance
Source Select: Inputs 1 – 7
Codec 1: -80 to +10 dB Level adjustment range, plus Mute and Balance [11]
Codec 1 Source Select: Inputs 1 – 7 [11]
Master Volume: -80 to +10 dB Level adjustment range, plus Mute and Mono

Connectors – Audio/Video Inputs

HDMI INPUT 1 – 5: (5) 19-pin Type A HDMI female;
Digital video/audio inputs;
Signal Types: HDMI, DVI, or Dual-Mode DisplayPort [2,4]

RGB INPUT 3 – 5: (3) HD15 female;
Analog RGB/VGA/video inputs;
Signal Types: VGA, RGB, component, S-Video, or composite [9];
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;
Note: RGB Inputs 3-5 and HDMI Inputs 3-5 are mutually exclusive; HDMI overrides RGB when using the auto-switching feature

Y, PB/Y, PR/C/COMP INPUT 5: (3) BNC female;
Comprises (1) auto-sensing multi-format analog video input;
Signal Types: Component, S-Video, or composite;
Formats: YPbPr, Y/C, NTSC or PAL;
Input Level: 1 Vp-p nominal;
Input Impedance: 75 Ohms nominal;
Note: Video Input 5, RGB Input 5, and HDMI Input 5 are mutually exclusive; HDMI and RGB override Video when using the auto-switching feature

SPDIF INPUT 5: (1) RCA female;
S/PDIF coaxial digital audio input;
Input Impedance: 75 Ohms;
Note: SPDIF Input 5 and HDMI Input 5 are mutually exclusive; HDMI overrides SPDIF when using the auto-switching feature

AUD IN 1 – 5: (5) 5-pin 3.5 mm detachable terminal blocks;
Balanced/unbalanced stereo line-level analog audio inputs;
Input Impedance: 24k Ohms balanced/unbalanced;
Maximum Input Level: 4 Vrms balanced, 2 Vrms unbalanced;
Note: Analog Audio Inputs 1-5, SPDIF Input 5, and HDMI Inputs 1-5 are mutually exclusive; HDMI and SPDIF override Analog Audio when using the auto-switching feature

DM INPUT 6 – 7: (2) 8-pin RJ45 female, shielded;
DM 8G+ inputs, HDBaseT compliant;
PoDM and PoH PSE (Power Sourcing Equipment) ports [6];
Each connects to the DM 8G+ output of a DM transmitter or other DM device, or to an HDBaseT device, via CAT5e or Crestron DM-CBL-8G cable [5]

MC1/LN1 – MC6/LN6: (6) 5-pin 3.5 mm detachable terminal blocks;
Comprises (6) balanced microphone/line audio inputs;
Balanced Mic Input Level: -60 to 0 dBV, 1 Vrms maximum;
Balanced Line Input Level: -31 to +11 dBV, 3.7 Vrms maximum;
Unbalanced Line Input Level: -37 to +5 dBV, 1.85 Vrms maximum;
Mic Input Impedance: 3.9k Ohms balanced;
Line Input Impedance: 19k Ohms balanced, 9.5k Ohms unbalanced;
Phantom Power: 48 Volts DC, software enabled/disabled per channel

Connectors – Audio/Video Outputs

SPEAKER OUTPUT 4Ω/8Ω L – R: (2) 2-pin 7.62 mm 15A detachable terminal blocks;
4-8 Ohm stereo speaker-level audio output;
Wire Size: Terminals accept up to 14 AWG;
Output Power: 20W RMS per channel stereo at 8 Ohms, 4 Ohms tolerant

SPEAKER OUTPUT 70/100V: (1) 2-pin 7.62 mm 15A detachable terminal block;
Transformer-isolated 70 or 100 Volt mono speaker-level audio output;
Wire Size: Terminals accept up to 14 AWG;
Output Power: 40W RMS mono at 70 or 100 Volts;
Note: 4Ω/8Ω and 70/100V outputs are mutually exclusive

PROG 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

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

HDMI OUTPUT 1 – 2: (2) 19-pin Type A HDMI female;
Digital video/audio outputs;
Signal Types: HDMI, DVI [2]

DM OUTPUT 3 – 4: (2) 8-pin RJ45 female, shielded;
DM 8G+ outputs, HDBaseT compliant;
PoDM and PoH PSE (Power Sourcing Equipment) ports [6];
Each connects to the DM 8G+ input of a DM receiver or other DM device, or to an HDBaseT device, via CAT5e or Crestron DM-CBL-8G cable [5]

Connectors – Control & Power

IR/SERIAL OUT 1 – 4: (4) 2-pin 3.5 mm detachable terminal blocks;
IR/Serial output ports;
IR output up to 1.2 MHz;
1-way serial TTL/RS-232 (0-5 Volts) up to 115.2k baud

IR IN: (1) 3-pin 3.5 mm detachable terminal block;
For connection of the CNXRMIRD IR Receiver [7];
Allows control from IR wireless remotes using RC-5 command set

INPUT 1 – 4: (1) 5-pin 3.5 mm detachable terminal block;
Comprises (4) programmable digital inputs;
Input Voltage Range: 0 to 24 Volts DC, referenced to GND;
Logic Threshold: 2.5 Volts DC nominal with 1 Volt hysteresis band;
Input Impedance: 10k Ohms at >5 Volts, 1M Ohms at <5 Volts;
Pull-up Resistor: 2.2k Ohms per input

RELAY 1 – 4: (1) 8-pin 3.5 mm detachable terminal block;
Comprises (4) normally open, isolated relays;
Rated 1 Amp, 30 Volts AC/DC;
MOV arc suppression across contacts

COM A – B: (2) DB9 male;
Bidirectional RS-232 ports;
Up to 115.2k baud, hardware and software handshaking support

NET: (4) 4-pin 3.5 mm detachable terminal blocks;
Cresnet Master ports, paralleled;
Available Cresnet Power: 30 Watts

PHONE: (1) RJ11 female;
POTS analog telephone port

SERVICE: (1) USB Type B female;
For factory use only

PoDM 48VDC IN: (1) 4-pin snap & lock DC power connector, female;
48 Volt DC power input for PoDM power pack [6];
Enables PoDM and PoH power sourcing

100-240V~4.0A 50/60Hz: (1) IEC 60320 C14 main power inlet;
Mates with removable power cord, included

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

LAN: (1) 8-pin RJ45 female; 10Base-T/100Base-TX/1000Base-T Ethernet port

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

Controls & Indicators

NET: (1) Yellow LED, indicates Cresnet bus activity
LAN: (1) Yellow LED, indicates Ethernet activity
HW-R: (1) Recessed pushbutton for hardware reset, reboots the control system
SW-R: (1) Recessed pushbutton for software reset, restarts the SIMPL program
POWER: (1) Pushbutton and green LED, programmable for system power control
LCD Display: (1) Green LCD alphanumeric; adjustable backlight; 2 lines x 20 characters per line; displays input/outputs by name, volume levels, setup menus, signal routing, device info, and other system information
SOFTKEYS: (4) Pushbuttons for activation of LCD driven functions and passcode entry
MENU: (1) Pushbutton, steps menu back one level
▲, ▼: (2) Pushbuttons, scroll up or down through menu and adjust menu parameters
ENTER: (1) Pushbutton, executes highlighted menu or value
VOLUME: (1) Continuous turn rotary encoder, adjusts menu parameters, defaults to Program audio volume
MUTE: (1) Pushbutton and red LED, mutes the Program audio output
ROUTE: (1) Pushbutton and red LED, selects ROUTE mode to allow routing changes
VIEW: (1) Pushbutton and red LED, selects VIEW mode to view current routing
INFO: (1) Pushbutton and red LED, selects INFO mode to view AV and device info
INPUT 1 – 7: (7) Pushbuttons and red LEDs, select input to be routed
OUTPUT 1 – 4, PROG, AUX 1 – 2: (7) Pushbuttons and red LEDs, select output destination(s)
SPEAKER OUTPUT (rear): (1) 3-position slide switch, selects the amplifier output configuration
DM INPUT 6 – 7 (rear): (4) LEDs, green LEDs indicate DM link status, amber LEDs indicate video and HDCP signal presence, for each respective port
DM INPUT 6 – 7 PoDM (rear): (2) Green LEDs, indicate upstream device is drawing power over DM for each respective port
DM OUTPUT 3 – 4 (rear): (4) LEDs, green LEDs indicate DM link status, amber LEDs indicate video and HDCP signal presence, for each respective port
DM OUTPUT 3 – 4 PoDM (rear): (2) Green LEDs, indicate downstream device is drawing power over DM for each respective port
LAN (rear): (2) LEDs, bi-color LED (left) indicates Ethernet speed and activity, green LED (right) indicates Ethernet link status

Power Requirements

Main Power: 4 Amps @ 100-240 Volts AC, 50/60 Hz
Power Consumption: 81 Watts typical
Available Cresnet Power: 30 Watts
Power over DM (PoDM): PoDM PSE (Power Sourcing Equipment), each DM INPUT/OUTPUT port supplies up to 15.4 Watts (Class 0-3) to one PoDM Powered Device [6]
Power over HDBaseT (PoH): PoH PSE (Power Sourcing Equipment), each DM INPUT/OUTPUT port supplies up to 15.4 Watts (Class 0-3) to one PoH Powered Device [6]
PoDM Power Pack: 1.875 Amp @ 48 Volts (100-240 Volts AC, 50/60 Hz power pack, model PW-4818DU sold separately)

Environmental

Temperature: 41° to 104° F (5° to 40° C)
Humidity: 10% to 90% RH (non-condensing)
Heat Dissipation: 277 BTU/hr

Enclosure

Chassis: Metal, black finish, fan-cooled, vented sides
Front Panel: Metal, black finish with polycarbonate label overlay
Mounting: Freestanding or 3 RU 19-inch rack-mountable (adhesive feet and rack ears included)

Dimensions

Height: 5.20 in (133 mm) without feet
Width: 17.28 in (439 mm);
19.00 in (483 mm) with rack ears
Depth: 16.31 in (415 mm)

Weight

17.0 lb (7.8 kg)

MODELS & ACCESSORIES

Available Models

DMPS3-300-C-AEC: 3-Series® DigitalMedia™ Presentation System 300 w/Audio Conferencing Interface

Available Accessories

TSW-752-B-DMPS3_PAK: 7" Touch Screen Package for DMPS3 Series, Black; Includes: TSW-752-B-S, TSW-750-TTK-B-S, & Preloaded Software
MP-B10: Media Presentation Button Panel B10
AM-100: AirMedia® Presentation Gateway
TT-100 Series: Crestron Connect It™ Cable Caddy
PW-4818DU: 90W PoDM Power Pack for DMPS
HD-SCALER-HD-E: High-Definition Video Scaler, HDMI® In, HDMI Out
HD-SCALER-VGA-E: High-Definition Video Scaler, VGA In, HDMI® Out

DMPS3-300-C-AEC 3-Series® DigitalMedia™ Presentation System 300 w/Audio Conferencing Interface

DM-RMC-4K-100-C-1G: Wall Plate 4K DigitalMedia 8G+® Receiver & Room Controller 100
DM-RMC-4K-100-C: 4K DigitalMedia 8G+® Receiver & Room Controller 100
DM-RMC-200-C: DigitalMedia 8G+® Receiver & Room Controller 200
DM-RMC-SCALER-C: DigitalMedia 8G+® Receiver & Room Controller w/Scaler
DM-RMC-4K-SCALER-C: 4K DigitalMedia 8G+® Receiver & Room Controller w/Scaler
DM-RMC-4K-SCALER-C-DSP: 4K DigitalMedia 8G+® Receiver & Room Controller w/Scaler & Downmixing
DM-TX-4K-100-C-1G: Wall Plate 4K DigitalMedia 8G+® Transmitter 100
DM-TX-200-C-2G: Wall Plate DigitalMedia 8G+® Transmitter 200
DM-TX-201-C: DigitalMedia 8G+® Transmitter 201
DM-TX-4K-202-C: 4K DigitalMedia 8G+® Transmitter 202
DM-TX-4K-302-C: 4K DigitalMedia 8G+® Transmitter 302
DM-TX-401-C: DigitalMedia 8G+® Transmitter 401
USB-EXT-DM: USB over Ethernet Extender with Routing
AMP Series: Commercial Power Amplifiers
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
CNSP-XX: Custom Serial Interface Cable
IRP2: IR Emitter Probe
CNXRMIRD: IR Receiver
DM-CBL-8G: DigitalMedia 8G™ Cable
DM-8G-CONN: Connector for DM-CBL-8G
DM-8G-CRIMP: Crimping Tool for DM-8G-CONN
DM-8G-CONN-WG: Connector with Wire Guide for DM-CBL-8G
DM-8G-CRIMP-WG: Crimping Tool for DM-8G-CONN-WG
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. 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.
2. HDMI requires an appropriate adapter or interface cable to accommodate a DVI or Dual-Mode DisplayPort signal. CBL-HD-DVI interface cables are available separately.
3. Routing of a multichannel audio signal via any HDMI or DM input and output requires the input to be set for "mixer bypass" mode. When that input is routed to a given digital output, all audio controls on that output are disabled, and the ability to simultaneously route microphone signals to that output is defeated. Mixer bypass mode also disables the Input Compensation control on that input.
4. High-bitrate 7.1 encoded audio, 3D video, and Deep Color video signals are only supported via HDMI inputs 1 and 2, and DM inputs 6 and 7.
5. For DM 8G+ or HDBaseT wiring, use Crestron DM-CBL-8G DigitalMedia 8G Cable or third-party CAT5e (or better) UTP or STP. (Crestron legacy DM-CBL DigitalMedia Cable or DM-CBL-D DigitalMedia D Cable may also be used.) The maximum wire length for DM 8G+ is 330 ft (100 m) between devices. Shielded cable and connectors are recommended to safeguard against unpredictable environmental electrical noise which may impact performance at resolutions above 1080p. Refer to the Crestron DigitalMedia Design Guide, Doc. #4546 for complete system design guidelines. DM 8G+ is compatible with HDBaseT Alliance specifications for connecting to HDBaseT compliant equipment. All wire and cables are sold separately.
6. Supplying Power over DM (PoDM) or Power over HDBaseT (PoH) requires an external power pack, model PW-4818DU, sold separately.
7. Item(s) sold separately.
8. Manages the routing of USB HID signals between peripheral DM devices that are equipped with USB HID ports. The USB ports onboard the DMPS3-300-C-AEC are not usable for USB signal routing. Also programmable to manage the routing of USB signals between Crestron USB over Ethernet Extender modules (USB-EXT-DM, sold separately). Refer to the USB-EXT-DM spec sheet for more information.
9. The RGB/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 through the RGB connection.
10. License required. The DMPS3-300-C-AEC supports a maximum of 500 BACnet objects when dedicated for BACnet use only. Actual capabilities are contingent upon the overall program size and complexity.
11. The settings for CODEC 1 & 2 are global for all outputs that receive these signals.

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.

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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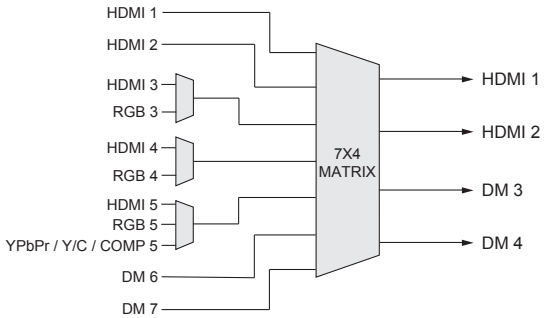
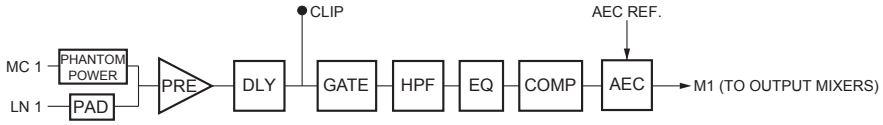
AV SIGNAL FLOW DIAGRAMS

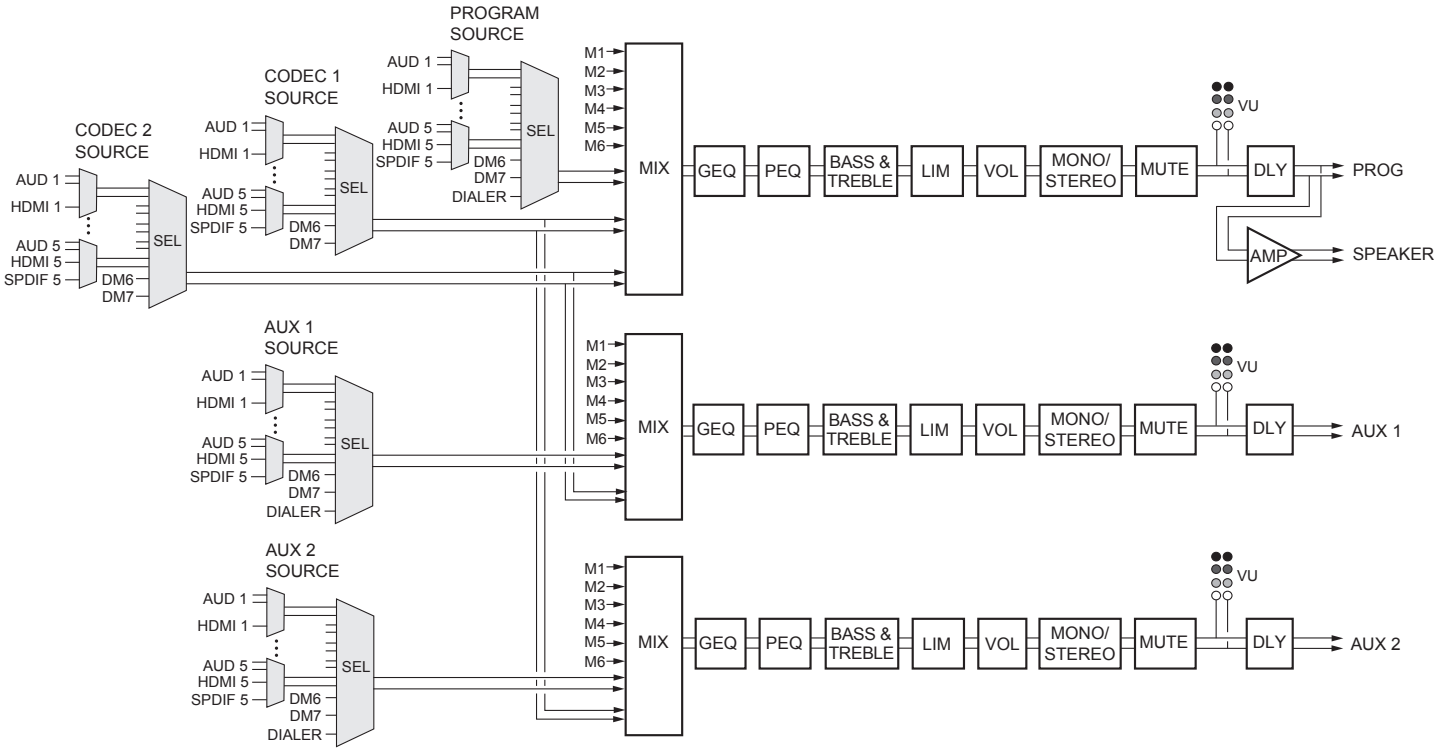


Video

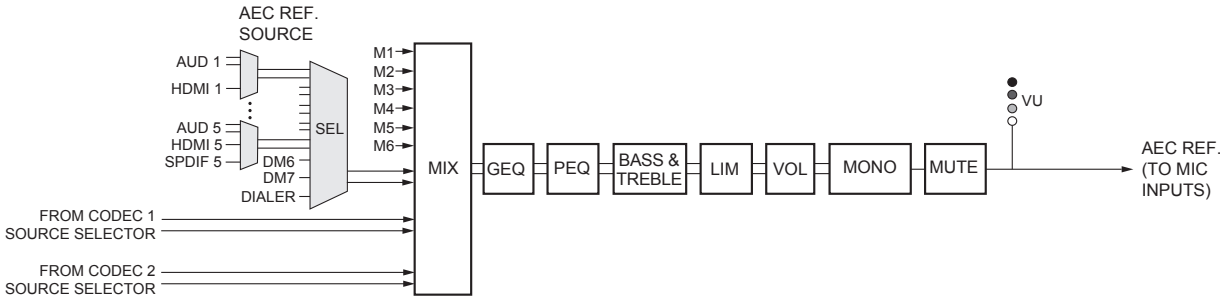


Microphone Inputs (Typical of 6)

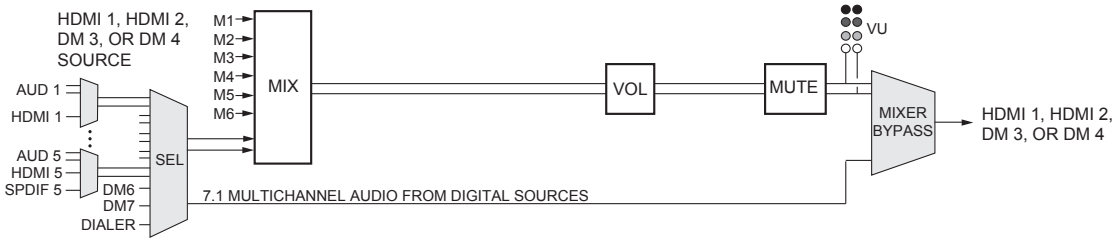
SIP/POTS Dialer Output



Analog Outputs



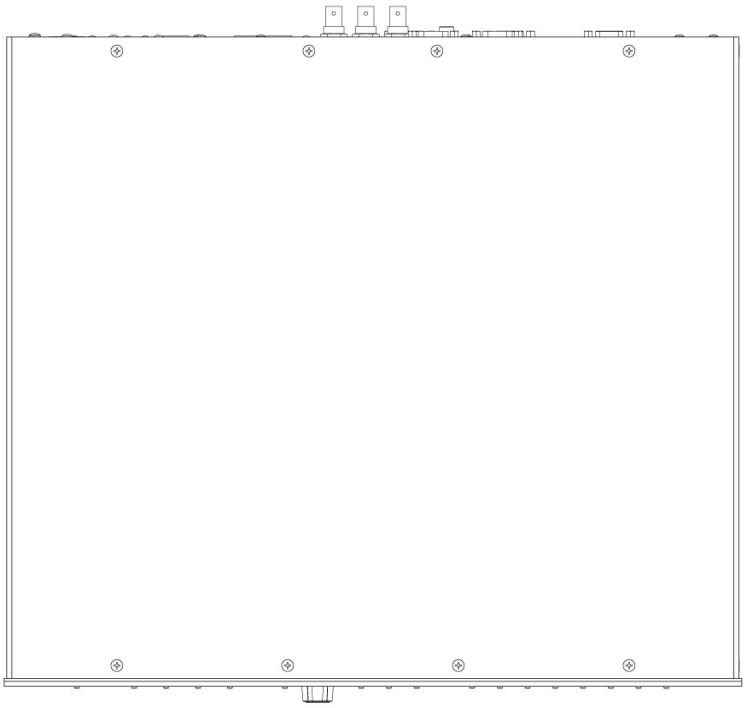
AEC Reference

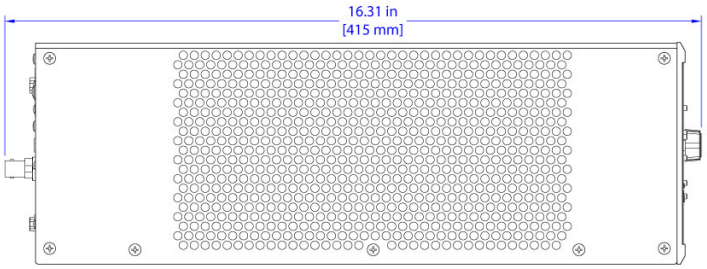


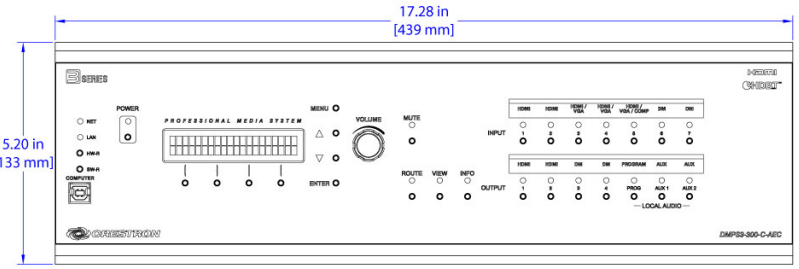
Digital Outputs (Typical of 4)

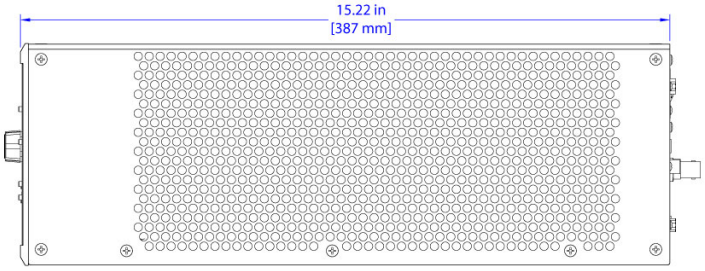
DMPS3-300-C-AEC 3-Series® DigitalMedia™ Presentation System 300 w/Audio Conferencing Interface

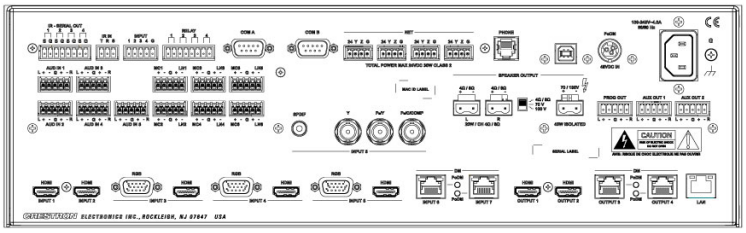
DIMENSIONAL DIAGRAMS











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