HD-MD-400-C-E

HD Scaling Auto-Switcher & Extender 400

> 3x1+1 high-definition digital AV switcher, scaler, and extender

> Fully-automatic operation — no control system, control panel, or programming required!

> Easy Web browser setup

> Integrates with Crestron Fusion® via the CEN-AVF-HUB [9]

> Supports integration with a Crestron® control system for fully programmable functionality

> Includes a compact transmitter and receiver

> Transmitter includes two HDMI® inputs, one VGA input, and one analog audio input [2,3,4]

> Receiver includes one HDMI input, one HDMI output, and one analog audio output [2,5,6]

> A single CATx cable links the transmitter to the receiver [1]

> Supports cable lengths up to 230 feet (70 meters) between the transmitter and receiver [1]

> Automatically scales input signals to match the native resolution of the room display

> Supports a range of display resolutions up to Full HD 1080p and WUXGA

> Supports any input resolution up to Full HD 1080p and WUXGA [10]

> Performs deinterlacing of NTSC, PAL, and 1080i sources

> Handles Dolby Digital® 5.1, DTS® 5.1, and uncompressed 7.1 linear PCM audio

> Allows stereo HDMI-to-analog audio de-embedding [6]

> Provides up to 150 ms lip-sync audio delay

> QuickSwitch HD™ technology manages HDCP keys for fast, reliable switching

> Includes comprehensive built-in EDID configuration tools

> Provides a 10/100 Ethernet LAN connection

> Enables device control via CEC and RS-232 [8]

> Compact, low-profile surface mount design

> Universal 100-240V external power pack included [12]

The Crestron® HD-MD-400-C-E delivers an incredibly simple and cost-effective multimedia presentation solution for classrooms and meeting spaces. It allows a laptop or mobile device (HDMI® or VGA) to be connected to one of three inputs at a table or podium, and routes the signal to a display or projector up to 230 feet (70 meters) away. An additional HDMI source can be connected at the display device location (or through an optional wall plate near the display). Fully automatic operation detects when a source is connected or disconnected at any input and turns the display on and off, alleviating the need for any control panels or remotes. Built-in scaling ensures an optimal video image for SD and HD video signals, as well as for high-res computer signals.

Composed of a compact transmitter and receiver pair, the HD-MD-400-C-E installs in minutes and requires no special programming. The transmitter mounts beneath the table or inside the podium, while the receiver mounts behind the display or above the projector. The only connection required between the transmitter and receiver is a single CAT type twisted pair cable.[1] A LAN port on the receiver allows for connection to an Ethernet network to enable easy setup and configuration via a Web browser. Advanced functionality is enabled through integration with a Crestron control system.

Multimedia Computer/AV Auto-Switcher
The HD-MD-400-C-E handles high-definition video and computer sources with resolutions up to Full HD 1080p60, 1080i30, or WUXGA 1920x1200. Two HDMI inputs, one VGA input, and one analog audio input are provided on the transmitter to support the connection of computers, mobile devices, and other media sources. An additional HDMI input is provided on the receiver, which may be wired to an optional wall plate or used to connect a Crestron AirMedia® wireless presentation gateway or other multimedia source installed permanently at the display device.

The inputs on both components can be configured to switch automatically or be controlled through a Crestron control system. Auto-detection on each input enables plug-and-play simplicity, supporting HDMI, DVI, or Dual-Mode DisplayPort signals via any HDMI input, and VGA, RGB, or component video via the VGA input.[2,3] The analog audio input is switched in tandem with the VGA input.[4]

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A single HDMI output is provided on the receiver to feed the display device. This output can support either HDMI or DVI signal types.[5] A stereo analog audio output is also included to feed an optional sound bar or amplifier.[6]

HD Signal Extender

A single CAT type cable (sold separately) links the HD-MD-400-C-E transmitter and receiver together. This cable can be up to 230 feet (70 meters) in length, offering an ideal signal extender solution for virtually any room with a single table or podium and one display device.[1]

HD Scaler

One might assume that any modern display device should support whatever sources you connect to it. In fact, many displays just can't handle all the different formats and resolutions you're likely to encounter day-to-day in a dynamic presentation environment. With its built-in professional scaler, the HD-MD-400-C-E enables support for a complete range of digital and analog signals, ensuring that every source displays reliably and beautifully. Automatic calibration is achieved using the display's EDID [7] — just connect the receiver to the display and it intelligently converts and enhances the signal for optimal appearance on the display screen.

EDID Format Management

To ensure that every source gets displayed at its optimal resolution and format, the HD-MD-400-C-E provides comprehensive management of the EDID information that passes between the display, scaler, and source devices. Most applications require no changes to the default settings. For applications requiring custom configuration, the HD-MD-400-C-E 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."

Audio De-Embedding

Its analog audio output allows the HD-MD-400-C-E to extract the stereo audio signal from digital sources to feed a sound bar, amplified speakers, or a separate sound system.[6]

Embedded Device Control

To deliver fully automatic operation of the complete system, the HD-MD-400-C-E can turn the display device on and off via its HDMI connection using CEC (Consumer Electronics Control) commands, or via the built-in RS-232 port.[8] For advanced applications using a Crestron control system, all of the HD-MD-400-C-E's HDMI and RS-232 ports can be utilized to attain fully-programmable control of the display, sources, and other devices in the room.
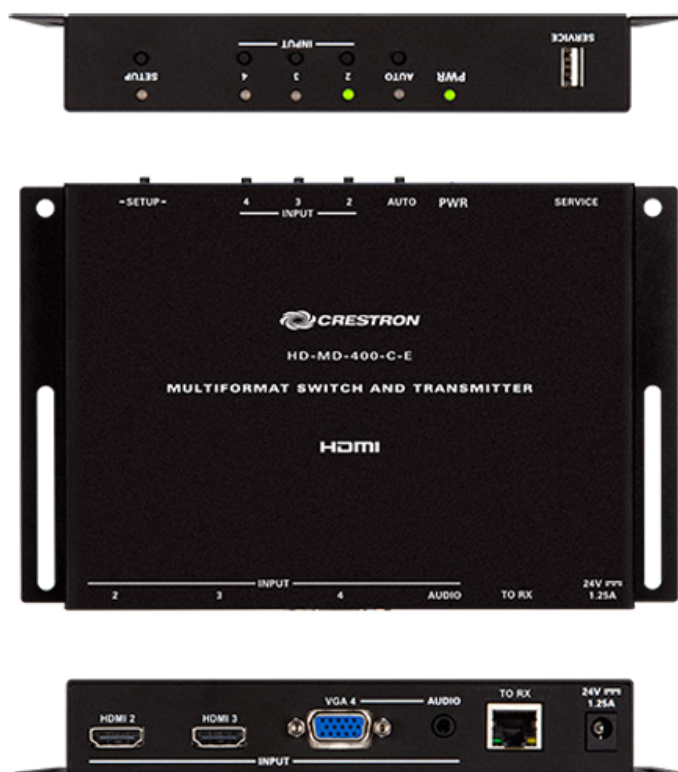
HD-MD-400-C-E Transmitter – Top, Front, and Bottom Views

HD-MD-400-C-E Receiver – Top, Front, and Bottom Views

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Enterprise Management Option

The optional .AV Framework™ Hub (CEN-AVF-HUB [9]) can be added to enable centralized monitoring using the Crestron Fusion® Enterprise Management Service. A single "AVF Hub" can support up to 15 HD-MD-400-C-Es connected over an Ethernet LAN. Refer to the CEN-AVF-HUB spec sheet for additional information.

Control System Integration

Fully programmable functionality can be enabled through integration with a Crestron control system.

Low-Profile Installation

The transmitter and receiver components are each designed to be mounted to a flat surface or placed on a shelf. Each component is compact enough to fit discreetly inside a presentation lectern, beneath a table, on a wall behind a flat-panel display, or on the ceiling above a projector. They can even be attached to a single rack rail in the back of an equipment cabinet. Both components are powered together using a single wall mount power pack (included), which may be connected either at the receiver or at the transmitter location. Power is carried between the transmitter and receiver over the signal extension link connection.

Easy Setup

Simplified setup, configuration, and basic operation is provided through a Web browser user interface. Essential controls and status indicators are also provided on each unit for easy testing and troubleshooting without a computer during installation.

SPECIFICATIONS

Video

Switcher: 3x1+1 (3 inputs at transmitter + 1 input at receiver) auto-switching, auto-detecting multi-format digital/analog inputs; Crestron QuickSwitch HD technology

Scaler: HD video scaler and deinterlacer, noise reduction, 3:2/2:2 pull-down detection and recovery, aspect ratio selection, VGA phase/clock & H/V position adjustments, picture and RGB color adjustments

Input Signal Types: HDMI w/Deep Color (DVI & Dual-Mode DisplayPort compatible [2]); VGA/RGB (RGBHV, RGBS, RGsB); component (YPbPr) [3]

Output Signal Types: HDMI w/Deep Color (DVI compatible [5])

Input Resolutions, HDMI, Progressive: 640x480@60/72/75/85Hz, 720x480@60Hz (480p), 720x576@50Hz (576p), 800x600@56/60/72/75/85Hz, 848x480@60Hz, 852x480@60Hz, 854x480@60Hz, 1024x768@60/70/75/85Hz, 1024x852@60Hz, 1024x1024@60Hz, 1280x720@50/60Hz (720p50/60), 1280x768@60Hz, 1280x800@60Hz, 1280x960@60Hz, 1280x1024@60/75/85Hz, 1360x768@60Hz, 1365x1024@60Hz, 1366x768@60Hz, 1400x1050@60Hz, 1440x900@60Hz, 1600x900@60Hz [11], 1600x1200@60Hz, 1680x1050@60Hz, 1920x1080@24/25/50/60Hz (1080p24/25/50/60), 1920x1200@60Hz [11], plus any other resolution up to 165MHz pixel clock

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

Input Resolutions, RGB/VGA, Progressive: 640x480@60/72/75/85Hz, 720x480@60Hz (480p), 720x576@50Hz (576p), 800x600@56/60/72/75/85Hz, 848x480@60Hz, 1024x768@60/70/75/85Hz, 1280x720@50/60Hz (720p50/60), 1280x768@60Hz, 1280x800@60Hz, 1280x960@60Hz, 1280x1024@60/75/85Hz, 1360x768@60Hz, 1366x768@60Hz, 1400x1050@60Hz, 1440x900@60Hz, 1600x1200@60Hz, 1680x1050@50/60Hz, 1920x1080@50/60Hz (1080p50/60), 1920x1200@60Hz [11], plus any other resolution up to 165MHz pixel clock

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

Input Resolutions, Component, Interlaced: 480i, 576i, 1080i25 (1125 lines), 1080i30

Scaler Output Resolutions, HDMI, Progressive: 640x480@60Hz, 720x480@60Hz (480p), 720x576@50Hz (576p), 800x600@60Hz, 840x480@60Hz, 1024x768@60Hz, 1280x720@50/60Hz (720p50/60), 1280x768@60Hz [12], 1280x800@60Hz [12], 1280x960@60Hz, 1280x1024@60Hz, 1360x768@60Hz, 1366x768@60Hz [12], 1400x1050@60Hz [12], 1440x900@60Hz [12], 1600x900@60Hz [11], 1600x1200@60Hz, 1680x1050@60Hz [12], 1920x1080@50/60Hz (1080p50/60), 1920x1200@60Hz [11]

Scaler Output Resolutions, HDMI, Interlaced: 480i, 576i, 1080i25, 1080i30

Audio

Switcher: 3x1+1 (3 inputs at transmitter + 1 input at receiver)

Input Signal Types: HDMI (Dual-Mode DisplayPort compatible), analog stereo

Output Signal Types: HDMI, analog stereo [6]

Digital Formats: Dolby Digital, Dolby Digital EX, DTS, DTS-ES, DTS 96/24, LPCM up to 8 channels

Analog Formats: Stereo 2-channel [6]

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

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

Lip-Sync Delay: 0 to 150 ms (maximum delay time is reduced for input signals with sampling rates over 48 kHz)

Analog Output Volume: -80 to +20 dB Level adjustment range, plus Mute

Analog Performance: Frequency Response: 20 Hz to 20 kHz ±0.5 dB; S/N Ratio: >93 dB, 20 Hz to 20 kHz A-weighted; THD+N: <0.005% @ 1 kHz; Stereo Separation: >80 dB

Communications

Ethernet: 10/100 Mbps, auto-switching, auto-negotiating, auto-discovery, full/half duplex, DHCP, Web browser setup and control, Crestron control system integration

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

IR: (Reserved for future use)

HDMI: HDCP 1.4, EDID, CEC

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

CRESTRON

Connectors – Receiver

HDMI, INPUT 1: (1) HDMI Type A connector, female;
HDMI digital video/audio input;
(DVI & Dual-Mode DisplayPort compatible [2])

FROM TX, INPUT 2: (1) 8-pin RJ45 connector, female, shielded;
Signal extension link input port;
Connects to the TO RX port of the companion receiver via CAT5e or Crestron DM-CBL-8G cable [1]

HDMI OUTPUT: (1) HDMI Type A connector, female;
HDMI digital video/audio output (DVI compatible [5])

AUDIO L/R: (1) 5-pin 3.5mm detachable terminal block;
Balanced/unbalanced stereo line-level audio output [6];
Maximum Output Level: 4 Vrms balanced, 2 Vrms unbalanced
Output Impedance: 200 Ohms balanced, 100 Ohms unbalanced

IR: (1) 2-pin 3.5 mm detachable terminal block;
(Reserved for future use)

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 connector, female;
10Base-T/100Base-TX Ethernet port

24VDC 1.25A: (1) 2.1 x 5.5 mm DC power connector;
24 Volt DC power input;
PW-2412WU power pack included [13]

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

Connectors – Transmitter

HDMI, INPUT 2 – 3: (2) HDMI Type A connectors, female;
HDMI digital video/audio inputs;
(DVI & Dual-Mode DisplayPort compatible [2])

VGA, INPUT 4: (1) HD15 connector, female;
RGB (VGA) or component video input [3];
Formats: RGBHV, RGBS, RGsB, YPbPr

AUDIO, INPUT: (1) 3.5 mm TRS mini phone jack;
Unbalanced stereo line-level audio input [4];
Maximum Input Level: 2 Vrms;
Input Impedance: 44k Ohms

TO RX: (1) 8-pin RJ45 connector, female, shielded;
Signal extension link output port;
Connects to the FROM TX, INPUT 2 port of the companion receiver via CAT5e or Crestron DM-CBL-8G cable [1]

24VDC 1.25A: (1) 2.1 x 5.5 mm DC power connector;
24 Volt DC power input;
PW-2412WU power pack included [13]

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

Controls & Indicators – Receiver

FROM TX, INPUT 2: (2) LEDs, green LED indicates signal extension link status, amber LED indicates video and HDCP signal presence
LAN: (2) LEDs, green LED indicates Ethernet link status, amber LED indicates Ethernet activity
PWR: (1) Bi-color green/amber LED, indicates operating power is supplied from the power pack via the 24VDC input or the link to the companion transmitter, turns amber while booting and green when operating
AUTO: (1) Pushbutton to enable/disable auto-switching mode, and (1) green LED to indicate auto-switching mode it enabled
INPUT 1 – 2: (2) Pushbuttons for manual input selection, and (2) bi-color green/amber LEDs to indicate the current active input and signal presence at each corresponding input
SETUP: (1) Red LED and (1) recessed pushbutton for Ethernet setup

Controls & Indicators – Transmitter

TO RX: (2) LEDs, green LED indicates signal extension link status, amber LED indicates video and HDCP signal presence
PWR: (1) Bi-color green/amber LED, indicates operating power is supplied from the power pack via the 24VDC input or the link to the companion receiver, turns amber while booting and green when operating
AUTO: (1) Pushbutton to enable/disable auto-switching mode, and (1) green LED to indicate auto-switching mode it enabled
INPUT 2 – 4: (3) Pushbuttons for manual input selection, and (3) bi-color green/amber LEDs to indicate the current active input and signal presence at each corresponding input
SETUP: (1) Red LED and (1) recessed pushbutton for Ethernet setup

Power

Power Pack (included):
  Input: 0.8 Amps (maximum) @ 100-240 Volts AC, 50/60 Hz;
  Output: 1.25 Amps @ 24 Volts DC;
  Model: PW-2412WU
NOTE: The power pack connects to either the transmitter or receiver, not both.

Power Consumption: 13 Watts typical

Environmental

Temperature: 32° to 104°F (0° to 40°C)
Humidity: 20% to 90% RH (non-condensing)
Heat Dissipation: 44.3 BTU/hr

Enclosure (x2)

Chassis: Metal, black finish, with (2) integral mounting flanges, vented sides
Mounting: Freestanding, surface mount, or attach to a single rack rail

Dimensions

Receiver: **Height:** 4.94 in (126 mm)
Width: 7.70 in (196 mm)
Depth: 1.11 in (28 mm)

Transmitter: Height: 5.12 in (130 mm)
Width: 7.70 in (196 mm)
Depth: 1.11 in (28 mm)

Weight

Receiver: 1.30 lb (590 g)
Transmitter: 1.25 lb (567 g)

MODELS & ACCESSORIES

Available Models

HD-MD-400-C-E: HD Scaling Auto-Switcher & Extender 400

Included Accessories

PW-2412WU: Wall Mount Power Pack, 24VDC, 1.25A, 2.1mm, Universal (Qty. 1 included)

Available Accessories

CEN-AVF-HUB: .AV Framework™ Hub
DM-CBL-8G-NP: DigitalMedia 8G™ Cable, non-plenum
DM-CBL-8G-P: DigitalMedia 8G™ Cable, plenum
DM-8G-CONN-WG: Connector with Wire Guide for DM-CBL-8G
DM-8G-CRIMP-WG: Crimping Tool for DM-8G-CONN-WG
DM-8G-CONN: Connector for DM-CBL-8G
DM-8G-CRIMP: Crimping Tool for DM-8G-CONN
CBL Series: Crestron® Certified Interface Cables
MP-WP Series: Media Presentation Wall Plates
MPI-WP Series: Media Presentation Wall Plates - International Version
CNSP-XX: Custom Serial Interface Cable
AM-101: AirMedia® Presentation Gateway
SAROS SB-200-P: Saros® Sound Bar 200, Powered
MP-AMP30: Media Presentation Audio Amplifier
AMP Series: Modular Power Amplifiers

Notes:

1. The maximum cable length for the signal extension link between the transmitter and receiver is 230 feet (70 meters) using Crestron DM-CBL-8G DigitalMedia 8G cable or third-party CAT5e (or better). Shielded cable and connectors are recommended to safeguard against unpredictable environmental electrical noise. All wire and cables are sold separately. The signal extension link is a proprietary interface and is not compatible with HDBaseT®, DigitalMedia™ (DM®), Ethernet, or any other CATx based interface.
2. Each HDMI input 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. The VGA input can accept RGB and component video signals through an appropriate adapter (not included).
4. The analog audio input is only active when the VGA input is selected. It cannot be paired with an HDMI video input.
5. The HDMI output requires an appropriate adapter or interface cable to accommodate a DVI signal. CBL-HD-DVI interface cables are available separately.
6. The analog stereo audio output is only active when the input is receiving a 2-channel stereo signal via either the analog input or HDMI.
7. EDID (Extended Display Identification Data) is data embedded in an HDMI, DVI, or VGA signal that enables the display device to tell the scaler what resolutions and formats it can support, allowing the scaler to configure itself automatically to feed an optimal output signal to the display.
8. IR control capability will be enabled through a future firmware update.
9. Item(s) sold separately.
10. Supports any input resolution and scan rate that has a pixel clock of 165 MHz or lower.
11. With reduced blanking only.
12. With or without reduced blanking.
13. The transmitter and receiver are powered together by a single wall mount power pack (included), which may be connected to either the transmitter or receiver, not both.
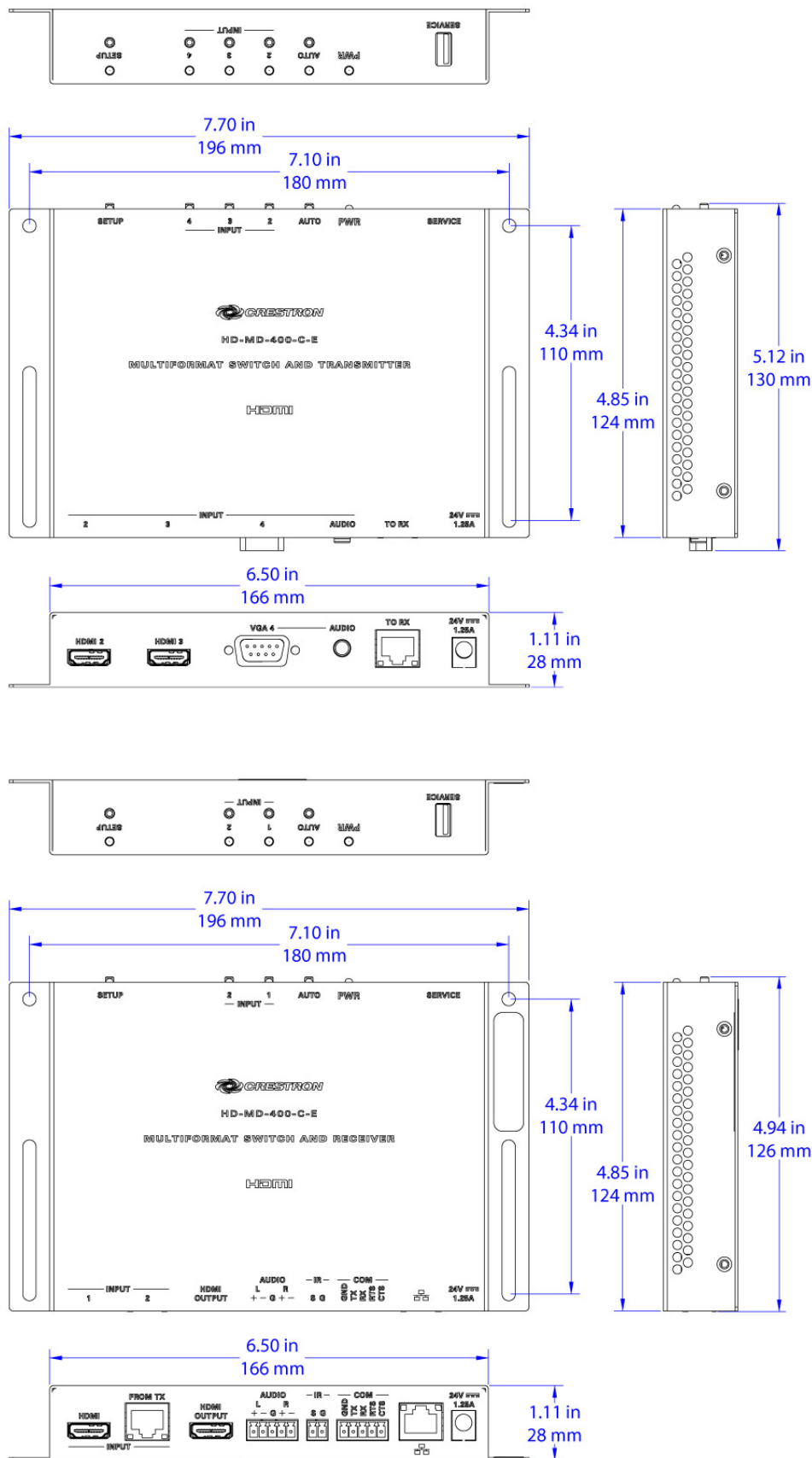
This product may be purchased from an authorized Crestron dealer. To find a dealer, please contact the Crestron sales representative for your area. A list of sales representatives is available online at www.crestron.com/salesreps or by calling 800-237-2041.

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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7.70 in
196 mm

7.10 in
180 mm

SETUP   4 3   2   AUTO   PWR   SERVICE
INPUT

CRESTRON

HD-MD-400-C-E

MULTIFORMAT SWITCH AND TRANSMITTER

HDMI

2   3   INPUT   4   AUDIO   TO RX   24V ⎓
1.25A

4.34 in
110 mm

4.85 in
124 mm

5.12 in
130 mm

6.50 in
166 mm

HDMI 2   HDMI 3   VGA 4   AUDIO   TO RX   24V ⎓
1.25A

1.11 in
28 mm

7.70 in
196 mm

7.10 in
180 mm

SETUP   2   1   AUTO   PWR   SERVICE
INPUT

CRESTRON

HD-MD-400-C-E

MULTIFORMAT SWITCH AND RECEIVER

HDMI

INPUT   1   2   HDMI   AUDIO   — IR —   COM   24V ⎓
OUTPUT   L   R   GND   1.25A
+ − G + −   S G   TX RX RTS CTS

4.34 in
110 mm

4.85 in
124 mm

4.94 in
126 mm

6.50 in
166 mm

HDMI   FROM TX   HDMI   AUDIO   — IR —   COM   24V ⎓
OUTPUT   L   R   GND   1.25A
INPUT   + − G + −   S G   TX RX RTS CTS

1.11 in
28 mm

AM-101

AirMedia® Presentation Gateway

> Enables wireless presentation of HD content using laptops, tablets, and smartphones

> Low cost, easy to use, and easy to deploy across any number of rooms

> Compatible with Windows®, OS X®, Apple® iOS®, and Android™

> Displays up to four presentation sources at once in Quad View

> Integrates with DigitalMedia™, CaptureLiveHD®, Crestron RL®, and other systems

> Customizable welcome screen provides clear instructions for presenters

> Integrates seamlessly with Crestron Connected® displays [2]

> Compatible with virtually any display device [2]

> Supports display resolutions up to Full HD 1080p and UXGA/WUXGA

> Provides HDMI®, VGA, and analog audio outputs

> Choice of connection methods accommodates all types of users and organizations

> Supports up to 32 simultaneous presenter connections

> Remote View allows viewing and saving of presentation images through a Web browser

> Compact form factor fits easily behind flat panels and above projectors

> Leverages existing wired and wireless network infrastructure and security policies [1]

> Desktop applications for PC and Mac® can be silently deployed enterprise-wide by the IT department

> No software installation required for guest PC and Mac users

> Free downloadable app for iOS and Android mobile devices

> Integrates with Crestron® control systems via Ethernet

> Fully managed over the network using Crestron Fusion® or SNMP

With AirMedia® anyone can walk into a room and wirelessly present PowerPoint®, Excel®, Word and PDF documents, as well as photos, on the room display from their personal iOS® or Android™ mobile device. MacBook® and PC laptops can be connected seamlessly as well, making presentations from most any device fast and easy. There are no wires to hook up, no complicated settings to configure, and no AV or control system is required. Simply connect via the local Wi-Fi® network and start sharing content from your portable device.[1]

Present Anything — Without Wires

Bring your own device to a meeting or collaboration session and share your content through the big screen without hooking up any wires. AirMedia supports Windows® and OS X® computers, as well as Apple® iOS and Android mobile devices. Presenters using a Mac® or PC can connect to AirMedia without any special software installed, while iPad® and other mobile device users need only download the free AirMedia app from the App Store® or Google Play™.

Leverage the Power of Your PC or Mac®

When using a PC or Mac with AirMedia your entire desktop is shared. Anything you see on your desktop will be sent to the display. Give a presentation or collaborate on a project … AirMedia will share anything.

You can even share dynamic content such as videos, supporting frame rates of 15 fps and beyond.[1]

Present Using Your Mobile Device

AirMedia can present Microsoft® Office documents (PowerPoint, Word, Excel), as well as PDFs and photos, from a smartphone or tablet device. Open the document in AirMedia and it is shared on the room display. Deliver dynamic and interactive presentations by simply paging through as you would any other application. There's no more being tied to a laptop or podium. You can even share your apps using the "Shot&Show" feature. Simply take a screen shot and AirMedia will show it.

Multi-User Support

Imagine 32 devices all connected and ready to share, but instead of a clutter of cables entangled across the tabletop or floor, there are just people and their Wi-Fi enabled devices. AirMedia lets up to 32 participants connect at once, switching from one to the next for seamless collaboration on the fly.

AM-101   AirMedia® Presentation Gateway

SERVICE   LAN   VGA   HDMI   AUDIO   5VDC
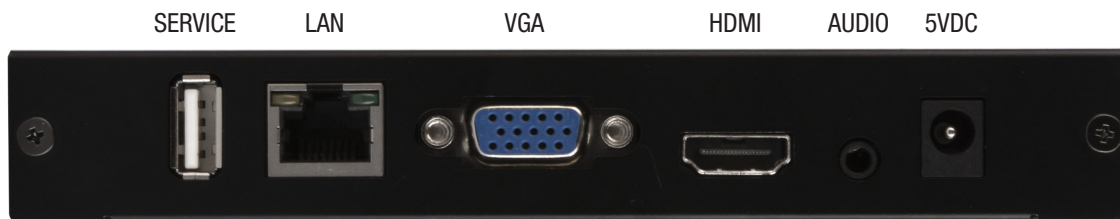
AM-101 – Rear View

Quad View

Using Quad View mode, up to four sources can be displayed simultaneously, enabling participants to compare and contrast different content on screen at once without having to toggle back and forth.

Moderator Mode

For classrooms and other environments with many presenters, moderator mode (Layout Control) allows the instructor or meeting leader to easily control the presentation using the AirMedia Web page or a Crestron touch screen. With up to 32 participants connected, the moderator can continually control whose content is being displayed, and adjust where that content is positioned in the Quad View.

Play, Pause, Stop

Presenting with AirMedia is simple using intuitive Play, Pause, and Stop buttons that appear right on your device's screen. Clicking the Play button selects your device as the presentation source, sending whatever is on your screen to the room display. When done presenting, just click the Stop button to stop displaying your device.

While presenting, it is often necessary to navigate away from your presentation to find some other related content. AirMedia lets you pause the presentation, freezing the current image on screen so others can continue to view it while you look through your personal files and emails. Once you've located the new content and brought it up on your device, simply click Play to resume the presentation.

Remote Viewing

The onscreen presentation is only part of the AirMedia experience. Using Remote View mode, participants and spectators can view the presentation through their own Web browsers. Remote View displays the presentation as static images, which can be refreshed on demand or set to refresh automatically every few seconds. Remote viewers can even save images of the presentation to their personal device for later review.

Connection Methods

To accommodate a full range of presentation environments, users, and IT preferences, AirMedia offers several ways for a presenter to connect:

• **Installed Application —** This option installs a small software application directly onto each presentation computer. The installed application affords the highest performance and allows presenters to scan the local network for AirMedia gateways, connecting automatically if only one gateway is found, or displaying a list of gateways to choose

from when multiple gateways are found. Alternately, a preset list of gateways can be deployed, eliminating the need to scan the network. Each gateway is clearly identified by its room name or some other friendly term. The Installed App method allows organizations to manage user rights, and includes the option to assign PIN codes to each individual gateway. Installation of the application can be deployed silently to personal computers across the enterprise, ensuring everyone in the organization is ready and able to connect to any approved AirMedia device with a single mouse click.

• **Web Browser —** Great for guest presenters, this option requires nothing to be pre-installed. Presenters simply follow the instructions displayed on the room display to point their Web browsers to the Web address of the local AirMedia gateway. A small utility runs on the presenter's computer, allowing the presentation to begin without hassle. As an option, the presenter may choose to download the utility software, allowing them to connect directly to that same gateway in the future without using the Web browser.

• **USB Thumb Drive —** As an alternative to using the Web browser method, the utility software may be loaded on a USB thumb drive providing a hardware dongle that simply plugs into the presenter's computer.

Crestron Connected® Display Control

Pairing AirMedia with a Crestron Connected projector or flat-panel display offers a seamless presentation solution. The AirMedia gateway communicates directly over the network with the display device, turning it on when a participant connects, and shutting it down after the last participant disconnects. Controls are also provided for turning the display on and off manually.[2]

For more information about Crestron Connected products, please visit www.crestron.com/products/crestron_connected/.

Easy Installation

At just over an inch thick, the compact AirMedia gateway device fits easily above a projector or behind a flat panel display. A surface mounting bracket is included for attachment to a wall or ceiling, with HDMI® and VGA/analog audio outputs provided for connection to the display device. AirMedia connects to existing Ethernet infrastructure and takes advantage of your organization's Wi-Fi network, affording an optimal wireless interface for laptops and mobile devices.

System Integration

AirMedia isn't limited to small, single-display applications. It can be used with DigitalMedia™, CaptureLiveHD®, Crestron RL®, and other AV systems to provide a wireless option alongside DM®, HDMI, and other interfaces. AirMedia can be integrated and controlled as part of a complete Crestron control system using a touch screen, wireless remote, or mobile device.

Network Management

Managing multiple AirMedia gateways is enabled over the network using Crestron Fusion® Enterprise Management Software or SNMP (Simple Network Management Protocol). Crestron Fusion provides a comprehensive integrated platform for creating truly smart buildings that save energy and enhance worker productivity. SNMP support allows integration with third-party IT management software, allowing network administrators to directly manage AirMedia gateways on the network in an IT-friendly format.

Customizable Welcome Screen

To facilitate a user-friendly experience, AirMedia provides a customizable home screen that appears on the room display to welcome meeting participants as they enter the room. The welcome screen can display the company logo and room name along with easy to follow instructions, enabling presenters to connect their devices and start presenting quickly for maximum productivity.

SPECIFICATIONS

Features

Users: Supports up to 32 users (presentation device connections)
Quad View: Allows simultaneous display of up to four presentation sources in a quad window
Moderator Mode (Layout Control): Enables a single moderator to control the presentation via a Web browser or control system touch screen
Remote View: Allows up to 40 remote users to connect via a Web browser to view and save images of the presentation
Display Control: Controls the display device over IP as part of the presentation [2]
Control System Integration: Allows communication over IP with a Crestron Control System® for remote control and integration with other equipment
Network Management: Supports enterprise management and monitoring using SNMP or Crestron Fusion® software

Windows® and OS X® Client Software

OS Support: Windows XP, Windows Vista™, Windows 7, Windows 8, Window 10, Mac® OS X (versions 10.5 thru 10.11)
Video Frame Rate: 15 fps (typical), audio supported

Mobile Apps

OS Support: Apple® iOS®; Android™
Supported Files: MS PowerPoint® (.ppt, .pptx), MS Word (.doc, .docx), MS Excel® (.xls, .xlsx), PDF (.pdf), JPEG (.jpg, .jpeg)
Shot&Show: Shares a static image of any app by using the screen shot function

Video

Output Signal Types: HDMI® (DVI compatible [3]), VGA/RGBHV
Output Resolutions, Progressive: 800x600@60Hz, 1024x768@60Hz, 1280x720@60Hz (720p60), 1280x768@60Hz, 1280x800@60Hz, 1280x1024@60Hz, 1360x768@60Hz, 1400x1050@60Hz, 1440x900@60Hz, 1600x1200@60Hz, 1920x1080@60Hz (1080p60), 1920x1200@60Hz
Output Resolutions, Interlaced: 1920x1080@30Hz (1080i30)
Underscan: Up to 7.5%

Audio

Output Signal Types: HDMI, analog stereo
Formats, HDMI: PCM 2-channel
Formats, Analog: Stereo 2-channel

Communications

Ethernet: 10/100 Mbps, auto-switching, auto-negotiating, full/half duplex, TCP/IP, UDP/IP, CIP, DHCP, SSL, TLS, SSH, SNMP, IPv4, Web server

Connectors

5VDC 2.6A: (1) 2.0 x 3.0 mm DC power connector, 5 Volt DC power input, Universal power pack included

AUDIO: (1) 3.5 mm TRS mini phone jack, unbalanced stereo line-level audio output

HDMI: (1) 19-pin Type A HDMI female, HDMI digital video/audio output (DVI compatible [3])

VGA: (1) HD15 female, RGBHV (VGA) video output

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

SERVICE: (1) USB Type A female, for factory use only

Controls & Indicators

PWR: (1) Bi-color LED, red indicates booting, flashing red indicates updating firmware, green indicates operating normally
LAN (rear): (2) LEDs, green LED indicates Ethernet link status, amber LED indicates Ethernet activity
Reset (bottom): (1) Pushbutton, resets the AM-101 to its factory settings

Power Requirements

Power Pack: 2.6 Amps @ 5 Volts DC; 0.3 Amps (maximum) @ 100-240 Volts AC, 50/60 Hz power pack included

Environmental

Temperature: 32° to 104° F (0° to 40° C)
Humidity: 10% to 90% RH (non-condensing)
Heat Dissipation: 16 BTU/hr

Enclosure

Chassis: Metal, black

Mounting: Freestanding or surface mount (surface mount bracket included)

Dimensions

Height: 1.10 in (28 mm);
        1.21 in (31 mm) with bracket
Width: 6.15 in (156 mm)
Depth: 2.39 in (61 mm)

Weight

8.4 oz (238 g)

MODELS & ACCESSORIES

Available Models

AM-101: AirMedia® Presentation Gateway

Available Accessories

**CBL-Series:** Crestron® Certified Interface Cables

Notes:

1. Wired Ethernet connection is also supported. Performance quality for presentation of full-motion video content is dependent upon the performance of the network and presentation device.
2. Use of a "Crestron Connected" display device enables direct control over IP. Other display devices may be controlled by adding a Crestron control system with custom programming. Visit www.crestron.com/products/crestron_connected/ for more information about Crestron Connected products.
3. HDMI requires an appropriate adapter or interface cable to accommodate a DVI signal. CBL-HD-DVI interface cables are available separately.

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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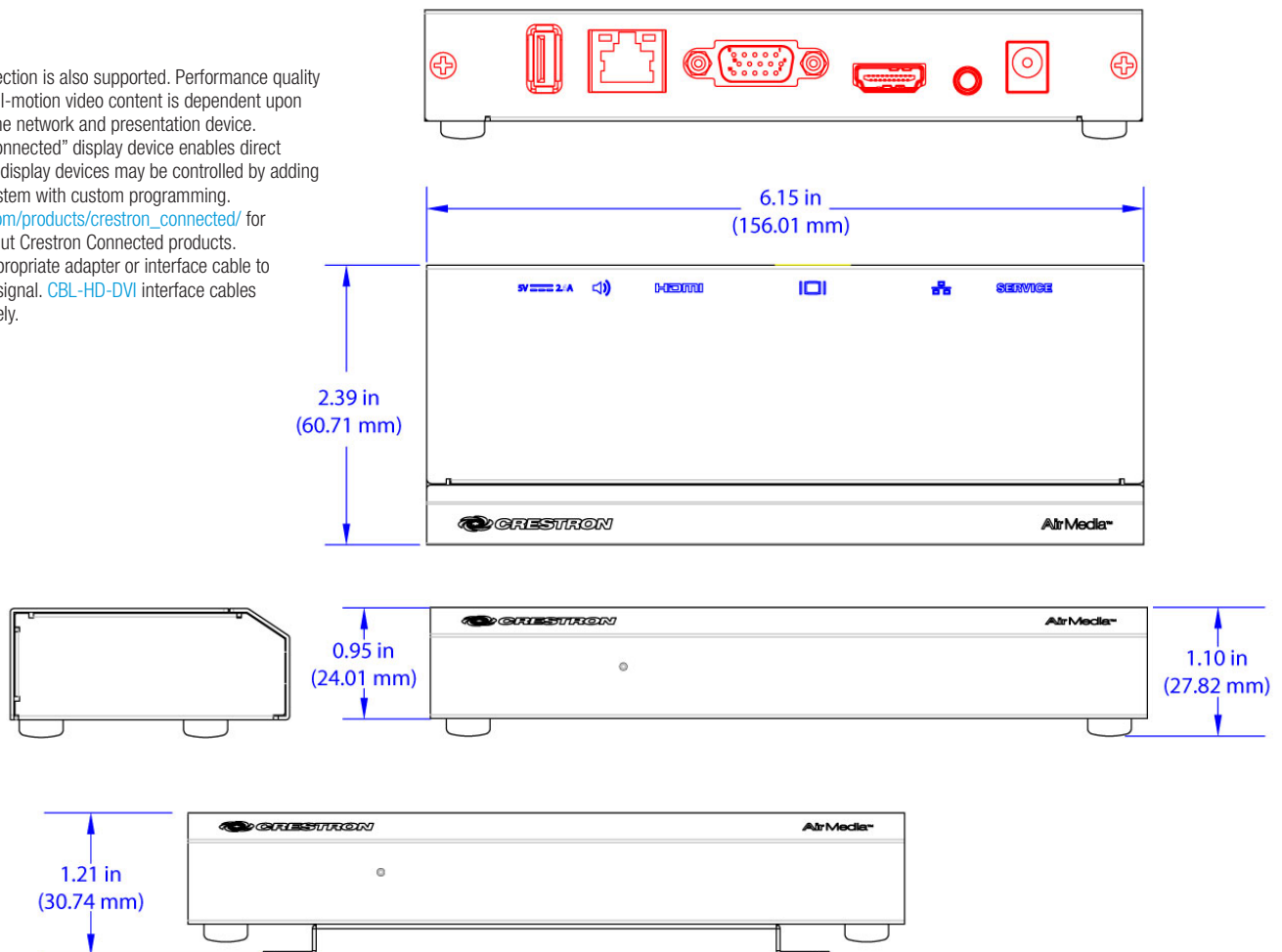
Shown with surface mount bracket attached