

# HD-MD4X1-4K-E

## 4x1 4K HDMI® Switcher

- > 4x1 ultra high-definition 4K/60 digital AV switcher
- > For standalone use, or as part of a fully integrated Crestron® system
- > Fully operable using onboard controls, a Web browser, or a Crestron control system
- > Simplified setup through the front panel OLED display or Web browser
- > Four HDMI® inputs and one HDMI output
- > DVI and DisplayPort Multimode compatible<sup>[2]</sup>
- > Auto-switching mode for hands-off operation
- > QuickSwitch HD® technology manages HDCP keys for fast, reliable switching
- > Comprehensive built-in EDID configuration tools
- > Enables display device control via CEC<sup>[1]</sup>
- > Handles Dolby® TrueHD, DTS-HD®, and uncompressed 7.1 linear PCM audio
- > High-speed Ethernet LAN connection
- > Compact, low-profile surface mount design
- > Universal 100-240V external power pack included



The Crestron® HD-MD4X1-4K-E is a simple to use, ultra high-definition signal switcher with four HDMI® inputs and one HDMI output. It handles Full HD 1080p, Ultra HD, 2K, and 4K video signals with support for HDCP, 3D, Deep Color, and high-bitrate 7.1 audio. Auto-switching mode allows for completely automatic operation, while manual operation is enabled using the onboard controls, a Web browser, or a Crestron control system. Simplified setup is facilitated through the front panel OLED display or a Web browser.

### 4K Ultra HD

Support for 4K video is essential to ensuring support for the latest generation of UHD and 4K DCI displays and sources, as well as computers and monitors with native resolutions beyond 1080p and WUXGA.

### 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.”

### EDID Format Management

To ensure that every source gets displayed at its optimal resolution and format, the HD-MD4X1-4K-E provides comprehensive management of the EDID (Extended Display Identification Data) information that passes between the display and source devices. Most applications require no changes to the default settings. For applications requiring custom configuration, the HD-MD4X1-4K-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.

### CEC Embedded Device Control

For controlling the connected display device, the HD-MD4X1-4K-E offers an alternative to conventional IR and RS-232 control by harnessing the CEC (Consumer Electronics Control) signal embedded in HDMI. Using CEC, many display devices can be controlled right through their HDMI connection, eliminating the need for any dedicated serial cables or IR emitters.<sup>[1]</sup>

### Low-Profile Installation

The HD-MD4X1-4K-E mounts conveniently to a wall or other flat surface. At just over one inch deep, it can fit easily behind a flat panel display or under a table. It can also be placed on a rack shelf, or attached to a single rack rail.

## SPECIFICATIONS

### Features

4x1 digital AV switcher, auto-switching, QuickSwitch HD® technology, local or Web browser setup and control, Crestron® controllable

### Video

**Input Signal Types:** HDMI® w/Deep Color, 3D, & 4K (DVI & DisplayPort Multimode compatible<sup>[2]</sup>)

**Output Signal Types:** HDMI w/Deep Color, 3D, & 4K (DVI compatible<sup>[2]</sup>)

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## Maximum Resolutions:

Scan Type	Resolution	Frame Rate	Color Sampling	Color Depth
Progressive	4096x2160 4K DCI & 3840x2160 Ultra HD	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

NOTE: Common resolutions are shown; other custom resolutions are supported at pixel clock rates up to 300 MHz

## Audio

**Input Signal Types:** HDMI (DisplayPort Multimode compatible<sup>[2]</sup>)

**Output Signal Types:** HDMI

**Formats:** Dolby Digital®, Dolby Digital EX, Dolby Digital Plus, Dolby® TrueHD, DTS®, DTS-ES, DTS 96/24, DTS-HD High Res, DTS-HD Master Audio™, LPCM up to 8 channels<sup>[6]</sup>

## Communications

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

**USB:** For factory use only

**HDMI (Inputs):** HDCP, EDID

**HDMI (Output):** HDCP, EDID, CEC

NOTE: Supports management of EDID; supports management of CEC between the device connected to the HDMI output and a control system

## Connectors

**INPUT 1 – 4:** (4) 19-pin Type A HDMI female; HDMI digital video/audio inputs; Also supports DVI and DisplayPort Multimode<sup>[2]</sup>

**OUTPUT:** (1) 19-pin Type A HDMI female; HDMI digital video/audio output; Also supports DVI<sup>[2]</sup>

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

**24VDC 0.75A:** (1) 2.1 x 5.5 mm DC power connector; 24 Volt DC power input; PW-2407WU power pack included

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

## Display

**Display Type:** 2x20 character alphanumeric OLED

**Functions:** Displays setup and configuration menus, signal information, customizable input names



HD-MD4X1-4K-E – Top, Front, and Bottom Views

## Controls & Indicators

**MENU:** (1) pushbutton, opens the setup menu

**▲, ▼, ◀, ▶:** (4) pushbuttons, for menu navigation and parameter adjustment

**Enter:** (1) pushbutton, applies a change

**BACK:** (1) pushbutton, steps menu back one level

**EXIT:** (1) pushbutton, exits the menu

**PWR:** (1) bicolor green/amber LED, indicates operating power supplied from power pack, turns amber while booting and green when operating

**AUTO:** (1) pushbutton and green LED, selects auto-switching mode

**INPUT 1 – 4:** (4) pushbuttons for manual input selection, and (4) bicolor green/amber LEDs to indicate the current active input and signal presence at each corresponding input

**LAN:** (2) LEDs, amber LED indicates Ethernet activity, green LED indicates Ethernet link status

## Power Requirements

**Power Pack:** 0.75 Amps @ 24 Volts DC;

100-240 Volts AC, 50/60 Hz power pack, model PW-2407WU included

## Environmental

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

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

## Enclosure

**Chassis:** Metal, black finish, with (2) integral mounting flanges

**Mounting:** Freestanding, surface mount, or attach to a single rack rail

# HD-MD4X1-4K-E 4x1 4K HDMI® Switcher

## Dimensions

**Height:** 4.08 in (104 mm)  
**Width:** 8.68 in (221 mm)  
**Depth:** 1.08 in (28 mm)

## Weight

1.35 lb (0.62 kg)

## MODELS & ACCESSORIES

### Available Models

**HD-MD4X1-4K-E:** 4x1 4K HDMI® Switcher

### Included Accessories

**PW-2407WU:** Wall Mount Power Pack, 24VDC, 0.75A, 2.1mm, Universal (Qty. 1 included)

### Available Accessories

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

**MP-WP Series:** Media Presentation Wall Plates

**MPI-WP Series:** Media Presentation Wall Plates - International Version

## Notes:

1. Requires a Crestron control system and custom programming.
2. HDMI requires an appropriate adapter or interface cable to accommodate a DVI or DisplayPort Multimode 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](http://www.crestron.com/salesreps) or by calling 800-237-2041.

The specific patents that cover Crestron products are listed online at: [patents.crestron.com](http://patents.crestron.com).

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