



This unit is a Modular UHD Video Matrix with four high-bandwidth input card slots and four high-bandwidth output card slots. A variety of I/O cards are available, and each standard card, input or output, is equipped with multiple audio/video ports and is capable of handling up to four independent 18Gbps video signals simultaneously. An additional, full bandwidth, HDMI input and output are provided on the included control card which are ideal for connection to a test signal generator and local confidence monitor.

The backplane cross-point can handle a maximum I/O configuration of 17×17 (including the CPU Control Card's ports). 4K UHD video sources, up to and including 4K@60Hz (4:4:4, 8-bit) as well as 10/12-bit sources with HDR are fully supported. All ports support up to 7.1 channel LPCM digital audio as well as Bitstream and HD Bitstream audio formats. I/O cards using the HDMI interface (HDMI 2.0, HDCP 2.2) are available now and I/O cards supporting HDBaseT (both with and without AVLC) as well as cards supporting other signal formats and features are under development.

The chassis is powered by a pair of high-quality, hot-swappable, load sharing power supplies with an integrated failure alarm system ensuring that mission critical installations can stay online 24/7. Control is via front panel buttons with an LCD menu, WebGUI, Telnet or RS-232.

## FEATURES

- Input and output card slots support 18Gbps (600MHz) 4K UHD with HDR signals
- HDCP 1.x and 2.2 compliant
- 8 high-bandwidth card slots (4 dedicated input slots, 4 dedicated output slots) with a maximum matrix configuration of 17×17
- 1 system control card slot (with support for 1 high-bandwidth input port and 1 high-bandwidth output port)
- System Control Card's HDMI ports support UHD resolutions up to 3840×2160@60Hz (4:4:4, 8-bit)
- System Control Card's HDMI ports support 4K HDR at 24Hz (4:4:4) and 60Hz (YUV 4:2:0) with up to 12-bit color
- System Control Card's HDMI ports support 12-bit Deep Color up to 1080p@60Hz
- System Control Card's HDMI ports support pass-through of audio formats including LPCM 2.0/5.1/7.1, Bitstream, and HD Bitstream
- Advanced EDID Management for rapid integration of sources and displays
- Field updatable firmware
- 3U rack mounted design
- 2 hot-swappable, load sharing, redundant power supplies
- Integrated component failure alarm system
- Control via front panel buttons with LCD menu, Ethernet (Telnet & WebGUI), and RS-232
- 4-port HDMI input and 4-port HDMI output cards are available now
- 4-port HDBaseT (with and without AVLC) input and output cards are under development

# CPLUS-V1616

16x16 Modular Matrix

## PANELS

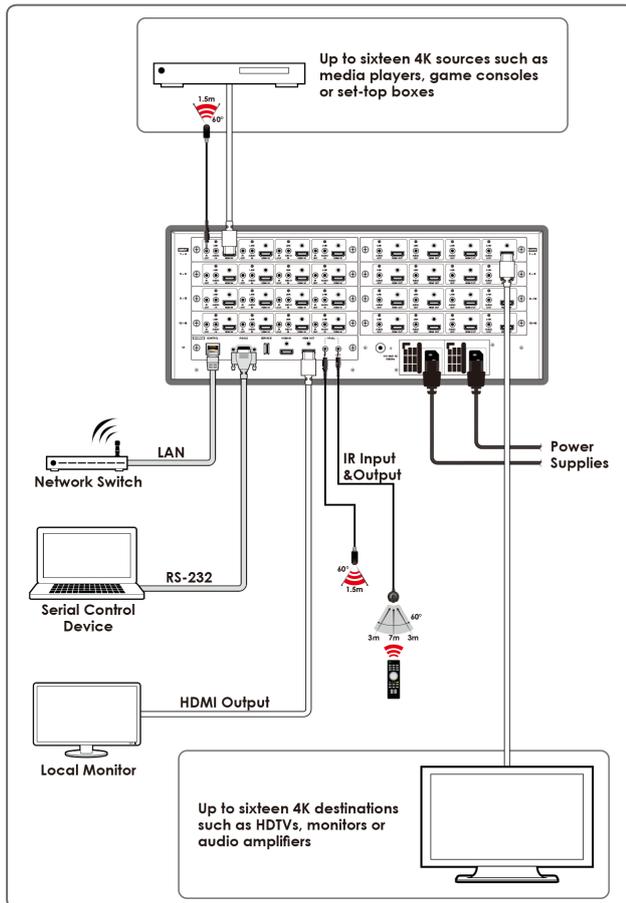


Front View



Rear View (Fully Populated)

## DIAGRAM



## ORDERING INFORMATION

### Recommended Products

<b>CIN-V4HP</b>	4-Port HDMI Input Card
<b>COUT-V4HP</b>	4-Port HDMI Output Card

## SPECIFICATIONS

### Interfaces

<b>Input Ports</b>	4 Input Card Slots 1 HDMI
<b>Output Ports</b>	4 Output Card Slots 1 HDMI
<b>Pass-through Ports</b>	1 IR Blaster (3.5mm) 1 IR Extender (3.5mm)
<b>Control Ports</b>	1 RS-232 (DE-9) 1 Ethernet (RJ-45)
<b>Service Port</b>	1 USB (Type-A)

### Video (System Control Card)

<b>Input Signal Type</b>	HDMI 2.0 w/ Deep Color, 4K60, HDR10
<b>Output Signal Type</b>	HDMI 2.0 w/ Deep Color, 4K60, HDR10
<b>HDCP Compliance</b>	2.2

		Resolutions	Bandwidth
<b>Maximum Input</b>	HDMI	4096x2160p@60 2560x1600p@60RB	18Gbps
<b>Maximum Output</b>	HDMI	4096x2160p@60 2560x1600p@60RB	18Gbps

*Note: Bandwidth values represent the maximum supported by the interface. Processable signal maximums may be lower.*

### Audio (System Control Card)

<b>HDMI</b>	LPCM (8 Channels), Bitstream, HD Bitstream
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### Power

<b>Power Supply</b>	12V/41A, 5V/3A (Redundant, Hot-swappable)
<b>Power Consumption</b>	150W (Full load), 25W (Standby)

### Enclosure

<b>Chassis Material</b>	Metal (Steel)
<b>Chassis Color</b>	Black
<b>Dimensions (WxHxD)</b>	440mmx177mmx429mm [Case Only] 484mmx182mmx482mm [All Inclusive]
<b>Weight</b>	19kg
<b>Rackmount Size</b>	3U

### Field Firmware Update

USB Flash Drive, WebGUI

## CIN-V4HP

This 4-port HDMI Input Card provides 4 independent high-bandwidth HDMI inputs, paired with IR output and analog stereo inputs. Each grouping can be freely routed to any available output on the connected modular matrix. Each HDMI port supports up to 18Gbps allowing for resolutions up to 4K@60Hz with HDR and high-bitrate digital audio. Optionally, an external analog stereo audio source may be embedded into the HDMI signal as LPCM 2.0 audio.

### PANEL



Front View

### FEATURES

- 4 HDMI input ports paired with IR output and analog stereo input ports
- Single-link DVI compatible with the use of an HDMI-DVI adapter
- HDCP 2.2 and HDCP 1.x compliant
- Supports up to 4K UHD (18Gbps, 4K@50/60Hz 4:4:4, 8-bit) video
- Supports 4K HDR at 24Hz (4:4:4) and 60Hz (YUV 4:2:0) with up to 12-bit color
- Supports 12-bit Deep Color up to 1080p@60Hz
- Supports pass-through of audio formats including LPCM 2.0/5.1/7.1, Bitstream, and HD Bitstream
- Supports stereo audio embedding
- Per-input active signal detection LEDs
- This card's features are controlled by the modular matrix

## 4-Port HDMI Input Card

### SPECIFICATIONS

Interfaces	
<b>Input Ports</b>	4 HDMI 4 Analog Stereo (3.5mm)
<b>Pass-through Ports</b>	4 IR Blasters (3.5mm)

Video	
<b>Input Signal Type</b>	HDMI 2.0 w/ Deep Color, 4K60, HDR10
<b>HDCP Compliance</b>	2.2

		Resolutions	Bandwidth
<b>Maximum Input</b>	HDMI	4096×2160p@60 2560×1600p@60RB	18Gbps

*Note: Bandwidth values represent the maximum supported by the interface. Processable signal maximums may be lower.*

Audio	
<b>HDMI</b>	LPCM (8 Channels), Bitstream, HD Bitstream
<b>Line Level</b>	Frequency Response: < ±1dB (20Hz to 20kHz) THD: < 0.01% (20Hz to 20kHz) S/N Ratio: > 70dB (1kHz with 0dBFS) Crosstalk: < -60dB (10kHz, Vin=0dBFS)

Enclosure	
<b>Chassis Material</b>	Metal (Steel)
<b>Chassis Color</b>	Black
<b>Dimensions (W×H×D)</b>	187.4mm×29.1mm×344.9mm [Case Only] 197.5mm×29.1mm×364.6mm [All Inclusive]
<b>Weight</b>	458g

## COU-V4HP

This 4-port HDMI Output Card provides 4 independent high-bandwidth HDMI outputs, paired with analog stereo outputs. Each output can be freely routed to from any available input on the connected modular matrix. Each HDMI port supports up to 18Gbps allowing for resolutions up to 4K@60Hz with HDR and high-bitrate digital audio. Optionally, analog stereo audio may be extracted from the HDMI signal (LPCM 2.0 sources only).

### PANEL



Front View

### FEATURES

- 4 HDMI output ports paired with analog stereo output ports
- Single-link DVI compatible with the use of an HDMI-DVI adapter
- HDCP 2.2 and HDCP 1.x compliant
- Supports up to 4K UHD (18Gbps, 4K@50/60Hz 4:4:4, 8-bit) video
- Supports 4K HDR at 24Hz (4:4:4) and 60Hz (YUV 4:2:0) with up to 12-bit color
- Supports 12-bit Deep Color up to 1080p@60Hz
- Supports pass-through of audio formats including LPCM 2.0/5.1/7.1, Bitstream, and HD Bitstream
- Supports stereo audio extraction (LPCM 2.0 sources only)
- Per-output active signal detection LEDs
- This card's features are controlled by the modular matrix

## 4-Port HDMI Output Card

### SPECIFICATIONS

Interfaces	
<b>Output Ports</b>	4 HDMI 4 Analog Stereo (3.5mm)

Video	
<b>Output Signal Type</b>	2.0HDMI w/ Deep Color, 4K60, HDR10
<b>HDCP Compliance</b>	2.2

		Resolutions	Bandwidth
<b>Maximum Output</b>	HDMI	4096×2160p@60 2560×1600p@60RB	18Gbps

*Note: Bandwidth values represent the maximum supported by the interface. Processable signal maximums may be lower.*

Audio	
<b>HDMI</b>	LPCM (8 Channels), Bitstream, HD Bitstream
<b>Line Level</b>	Frequency Response: < ±1dB (20Hz to 20kHz) THD: < 0.01% (20Hz to 20kHz) S/N Ratio: > 70dB (1kHz with 0dBFS) Crosstalk: < -60dB (10kHz, Vin=0dBFS)

Enclosure	
<b>Chassis Material</b>	Metal (Steel)
<b>Chassis Color</b>	Black
<b>Dimensions (W×H×D)</b>	187.4mm×29.1mm×344.9mm [Case Only] 197.5mm×29.1mm×364.6mm [All Inclusive]
<b>Weight</b>	458g