



conference rooms, command centers, security monitoring, exhibition displays, education and research, government announcements...

## VIS-PHD series 4K HDMI matrix switchers

VISSONIC VIS-PHD series are high-performance HDMI matrix switchers for both 4K@30 (YCbCr444) / 4K@60 (YCbCr420) computers and video signals. Support HDMI2.0 parameter standard, including up to 10.2Gbps data rate, support 8/12/14/16 bit color depth input and output, support 3D, support compressed and uncompressed audio formats.

The matrix switchers series in accordance with HDCP1.4 standard, use EDID Manager and Key Manager technology, as well as HDMI input equalization and output pre-emphasis function, which can adapt to different cables and long-distance transmission, Ensure that the system can continue to work stably and normally. To simplify integration, digital audio from either output can be de-embedded and output via a digital or analog stereo port. Available in fixed configuration sizes from 4x4 to 16x16, the VISSONIC VIS-PHD series is ideal for applications requiring reliable, high-performance matrix switching for 4K/60 HDMI video and audio signals.



# Core Features

## HDMI Audio De-Embedding

The VIS-PHD series can extract embedded HDMI two-channel LPCM audio to analog audio output. HDMI audio supports compressed and uncompressed formats, the output frequency is 32KHz-192KHz, and the analog audio supports 48KHz.

## Key Manager Continuously Validates HDCP Standards

Key manager authenticates and maintains continuous HDCP content encryption between input and output devices, ensuring secure and reliable transmission of content and allowing simultaneous distribution of a single source signal to two or more displays.

## Rich Presets

For medium to large systems, 4x4 to 16x16 models allow up to 9 frequently used I/O configurations to be saved and recalled via front panel, Ethernet or serial control. This time-saving feature allows input/output configurations to be set and saved in memory for future use.

## Auto Input Cable Equalization

Actively adjusts the incoming HDMI signal to compensate for signal loss caused by using long cables, poor quality cables or source devices with weak HDMI signal outputs.

## Comply with HDCP1.4 standard

Ensures proper display of content protected media and interoperability with other HDCP compliant devices.

## HDMI to DVI Interface Format Correction

Automatically corrects the HDMI source signal format to match the DVI display device.

## Ethernet Monitoring and Control

Active monitoring, management or control over a local area network, wide area network or the Internet using standard TCP/IP protocols.

## EDID Management

Support reading the EDID of the output display to the input HDMI port.

## HDR High Dynamic Range Video

Provide the video bandwidth, color depth and metadata exchange required for HDR video signals, supporting a wider contrast range and wider color gamut.

## Audio Separation

The ability to separate the analog audio signal from its corresponding video signal.

## Automatic Output Clock Recovery

Reshapes and restores the timing of each HDMI output signal, enabling long-distance HDMI cable transmission.

## Front Panel Controller

Provide individual buttons for each input and output, making operation easier and more intuitive.

## Input/Output Mode

User can easily view the current switching status of inputs and outputs through the front panel

## RS-232 Control Port

Use serial commands to integrate the matrix switcher into a control system.

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- Provide fixed input/output sizes from 4x4 to 16x16
  - Support resolution up to 4Kx2K(YcbCr420)@60Hz and 4Kx2K@30HZ
  - Support HDMI 2.0 parametric standards including data rates up to 10.2Gbps, HDR, Deep Color up to 12-bit, 3D, HD lossless audio formats
  - Ultra-fast switching speeds for HDCP encrypted content
  - Support DDC transmission
  - HDMI output provides +5 VDC, 50mA power for power peripheral devices

# Specifications

<b>Model</b>	<b>VIS-PHD44/VIS-PHD88/VIS-PHD1616</b>
Frame Rate	24, 25, 30, 50, 60, 120, 144, 240 fps
Chroma Sampling	4:4:4, 4:2:2, or 4:2:0
Color Bit Depth	8, 10, 12, 16 bits per color
Signal Type	HDMI 2.0, HDCP 1.4
Maximum Video Data Rate	10.2 Gbps (3.4 Gbps per color)
<b>Video</b>	
Routing	4x4 to 16x16 matrix
Maximum Video Data Rate	10.2Gbps (3.4 Gbps per color)
Max Pixel Clock	300MHz
Resolution Range	4K@60 and below resolution
Format	RGB and YCbCr Digital Video
Standard	DVI 1.0, HDMI 2.0, HDCP 1.4
<b>Vedio Processing</b>	
Digital Sampling	8, 10, 12, 16 bits per color
Color	1 billion (10-bit processing)
<b>Video Input</b>	
Quantity/ SignalType	4, 8 or 16 HDMI digital video (HDCP compliant)
Connector	4, 8 or 16 female HDMI Type A
Horizontal Frequency	15 KHz to 135 KHz, resolution up to 10.2 Gbps
Vertical Frequency	24 Hz to 240 Hz with resolutions up to 10.2 Gbps
<b>Video Output</b>	
Quantity/Signal Type	4, 8 or 16 HDMI digital video (HDCP compliant)
Connector	4, 8 or 16 female HDMI Type A
Peripheral Power Supply	50 mA per HDMI output
Standard	DVI 1.0, HDMI 2.0, HDCP 1.4 and 2.3
<b>Audio</b>	
Analog De-embedding	LPCM up to 2.0/24bit/48KHz
HDMI Connector	Formats Supported - Passthrough, LPCM up to 7.1/24-bit/192 kHz, Dolby Atmos, Dolby TrueHD and Dolby Legacy; DTS:X, DTS-HD Master Audio, DTS 96/24 and DTS Legacy formats

Audio Output			
Quantity/ Signal	4, 8 or 16 HDMI, embedded	4, 8 or 16 stereo, unbalanced	
Interface			
HDMI	4, 8, 16 female interface		
Stereo	4, 8 or 16 3.5 mm earphones		
Stereo Resistor	50 $\Omega$ unbalanced		
Gain Error	$\pm 0.1$ dB between channels		
Digital to Analog Conversion	24-bit, 192 kHz		
Communication			
Serial Control Port	1 bidirectional RS-232, 1 bidirectional RS232 loop out		
Serial Control Connector	1 9-pin DB9 female, 1 DB9 male		
Baud Rate and Protocol	9600 baud rate; 8 data bits; 1 stop bit		
Serial Port Pin Definition	1 = Tx, 2 = Rx, 3 = Gnd		
Network Control Port	1 RJ-45 connector		
Network Rate	10/100Base-T, half duplex/full duplex, with automatic detection		
Ethernet Protocol	TCP/IP		
Ethernet Default Settings	Link speed and duplex level: auto-detected; IP address: 192.168.1.189 Subnet mask: 255.255.0.0; Gateway: 0.0.0.0; DHCP: off		
Web Server	4 simultaneous sessions		
Program Control	VISSONIC product configuration software		
Universal			
Power Supply	100-240 VAC, 50-60 Hz		
Power Consumption (Full Load)	VIS-PHD44: 15W	VIS-PHD88: 25W	VIS-PHD1616: 45W
Temperature/Humidity	Storage: -40 to +158 °F (-40 to +70 °C) / 10% to 90%, non-condensing Operating: +32 to +122 °F (0 to +50 °C) / 10% to 90%, non-condensing		
Heat Dissipation	By fan, air flows from right to left (viewed from front panel)		
Installation	Standard rack installation		
Shell Type	Metal		
Dimensions (WxDxH)	44.5H x 430W x 260D	44.5H x 430W x 260D	89H x 430W x 260D)
Product Weight	3.5kg	3.5kg	5.5kg
Compliance	CE,ROHS		
Product Quality Assurance	3 Years Warranty And Maintenance		



VIS-PHD44

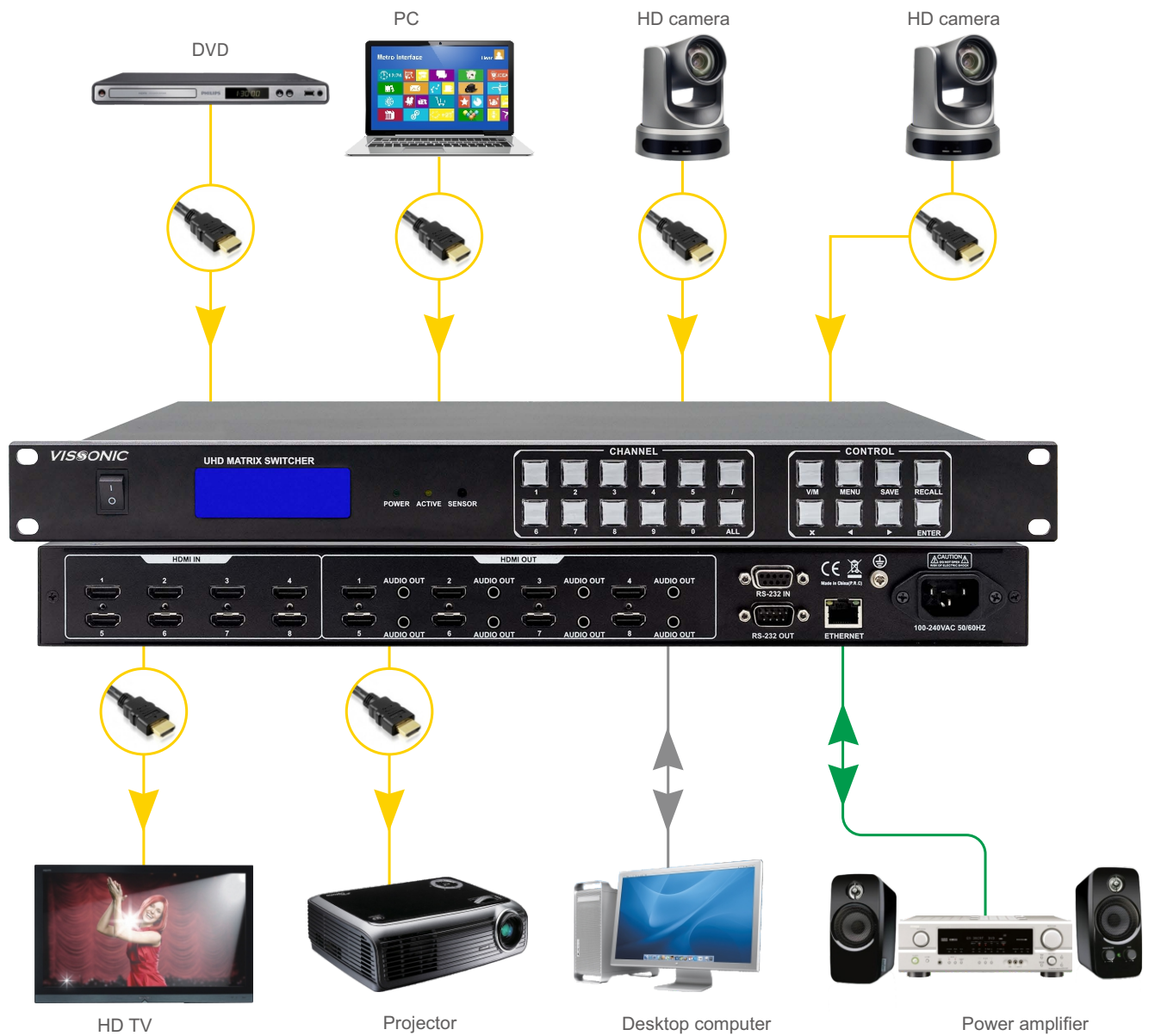


VIS-PHD88



VIS-PHD1616

# System Diagram



■ Audio    
 ■ CAT5e    
 ■ HDMI



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**VISONIC**  
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