



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

## M5 Series Modular Seamless Matrix Switcher

The M5 Series is a seamless hybrid matrix switcher with modular design and plug-in structure. It supports seamless switching up to 4k@60Hz, with a wide product range up to 144x inputs and 144x outputs. It is designed for mission critical situations that work 24/7, with high reliability.



# Core Features

- 1 Overlay
- 2 Scrolling Text
- 3 Station logo display
- 4 Local clipping



## Seamless switching of 4K@60 UHD

Single channel up to 4Kx2K@60Hz, 4K input collection, 4K seamless output, backward compatible with all standard resolutions, and support resolution customization.

## Splicing function

Splicing output supports single layer arbitrary zooming, superimposing, cross-screening, and roaming. A single signal can be spliced and displayed on any MxN display unit, and M and N are all positive integers greater than or equal to 1.

## 4K2K arbitrary switch

Full digital seamless switching technology, two signal parallel processing, no black field, no flash screen, no fragmentation, and no static picture. 2K and 4K signals arbitrary switch, 4:4:4 color sampling.

## Source management

It supports partial cropping of the image of the input source, logo display, superimposing pictures on the signal source or customizing the text in any language or font, and outputting the test image output settings.

## Scrolling text

Superimpose pictures at any position of each input signal or customize text in any language or font size, which can be set as a rolling analog LED banner.



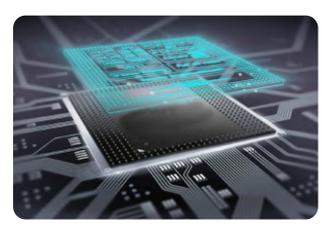
## Visualization control

Video preview and switching on the PC and tablet with preview card, and supports real-time monitoring of the large screen.



## Multi-terminal simultaneous visualization operation

The visual preview of the signal, support on any system, any PC/mobile phone/tablet, realize visualization, movement, touch management, multiple operation terminals can be simultaneously controlled and status synchronized.



## Audio intelligent management

Support analog audio embedded in video, digital audio de-embedded into analog audio, embedded and de-embedded audio switching supported through the front panel, software, control port, etc.

# Basic Function

- 2U/3U/7U/12U/24U chassis optional and supports up to 8x8, 16x16, 36x36, 72x72, and 144x144 input/output channels.
- FPGA-based pure hardware structure, work after power-on, boot up time ≤ 2 seconds.
- LCD display and buttons can display and configure the IP address and show the switching action and switching status in real time.
- Modular design for flexible configuration of input and output cards.
- The seamless hybrid matrix supports the cross conversion of the following signals: DVI HD, Dual-Link DVI 4K, HDMI HD, HDMI 4K, VGA, YPBPR, SD-HDI, HD-SDI, 3G-SDI, Fiber, HDBaseT HD and HDBaseT 4K.
- Up to 144 x single channel 1080P inputs or 72 x single channel 4K UHD inputs.
- Up to 144 x single channel 1080P outputs or 72 x single 4K UHD seamless outputs, 144 x single channel 1080P or 72 x single channel 4K UHD splicing outputs.
- Full digital seamless switching technology, two signal parallel processing, no black field, no flash screen, no fragmentation, and no static picture. 2K and 4K signals arbitrary switch, 4:4:4 color sampling.
- Single channel up to 4Kx2K@60Hz, 4K input collection, 4K seamless output, backward compatible with all standard resolutions, and support resolution customization.
- Optional splicing function, splicing output supports single layer arbitrary zooming, superimposing, cross-screening and roaming.
- Superimpose pictures at any position of each input signal or customize text in any language or font size, which can be set as a rolling analog LED banner.
- Optional redundant power supply, the redundant power supply will automatically take over without interrupting the operation of the controller.
- Hot plug-and-play input and output cards without affecting the operation of other systems.
- Automatic adjustment of the cooling fan speed according to temperature changes.
- Firmware online upgrade.
- A variety of test images such as red, green, blue, white, etc included, convenient for quick debugging and system maintenance.
- EDID reading and EDID management.
- The configuration of the preview card can realize the video preview and switching on the PC and tablet, and supports real-time monitoring of the large screen.
- Flexible control mode includes front panel LCD screen button, IR, RS-232 and RS-232 loop-out, PC, web, RS-422, preview card and HDBaseT serial port control.
- B/S architecture, supports Android, IOS, Windows systems, and does not need to install any software and plug-ins without requiring an external server or central control.
- Input signal automatic detection, real-time detection of signal access, input card indicator and client software have status indication.
- Output signal automatic detection, real-time detection of protocol connection, output card indicator, the background color of the display and the client software have status indications.
- Support DVI 1.0 protocol, comply with HDCP2.2, compatible with HDMI2.0.
- With correction and compensation signal characteristics to reduce the video stream error, DVI, HDMI input up to 35m.
- HDMI input card with digital and analog audio selection input, digital audio de-embedding analog output.
- HDMI output card embedded digital audio and analog audio output at the same time.
- SDI input/output card with loop-out function.
- IP card supports the access of PTZ, supports web login to set the network protocol, supports onvif, RTP, RTSP, RTCP, TCP, UDP protocols etc, and can directly decode the network camera signal.
- HDBaseT input and output signals support embedded (or local) two-way RS-232 and two-way IR signals, and can choose to switch with the video signal, or separate switching modes, and support POC for external power supply.

# Options

- Front panel, software, control port, etc can set to switching in the hybrid matrix system.
- Superimpose pictures at any position of each input signal or customize text in any language or font size, which can be set as a rolling analog LED banner.
- Splicing output supports single layer arbitrary zooming, superimposing, cross-screening, and roaming. A single signal can be spliced and displayed on any M×N display unit, and M and N are all positive integers greater than or equal to 1.
- 60Hz frame synchronization processing technology, perfectly solve the dislocation and tearing phenomenon between different display units of high-speed moving pictures.
- Intelligent scaling technology, image scaling adopts intelligent multi-phase filtering algorithm, automatically selects the optimal filter coefficient according to the characteristics of the image, the image is close to the vector level scale effect, ensuring more details, no jagged edges and good sharpness.
- Management of more than 5 display wall groups, each display wall can be a different display device, resolution or size, all display walls should support real-time management.
- Output mapping, more flexibility in site construction, can be quickly adjusted in the software instead of struggle in cable connection.
- Input source image can be cropped, realize real-time processing functions such as removing black borders, edge shielding, area enlargement, etc.
- 200 sets of matrix preset switching instructions, 40 pre-saved for each video wall can be stored up to 5 video walls, can be switched with one-key calling.
- Real-time status monitoring of any module card temperature, version, manufacturing information and fan speed.
- Client operation change mode, after opening this function, all window operations will not take effect immediately. After clicking confirm, then all operations will take effect immediately.
- Automatic and manual backup configuration, configuration file export, configuration file import control card.
- Each splicing output card can realize the video splicing function, and the image window in the full-screen range can be arbitrary zoomed, superimposed, cross-screened, roamed, background image setting, partial interception and enlargement.
- Support window lock, the size and position of the window will be fixed, it can't be moved once locked.
- KVM management, realizes a set of mouse and keyboard to control multiple computers, and can realize remote switching control of the matrix through the keyboard.

# Chassis Specifications

Model	Chassis	Specifications	Number of input cards	Number of output cards	Number of control cards	Power Supply Default power supply Backup power supply	Power	Dimensions (mm)
VW-VL0808	2U	supports up to 8 inputs and 8 outputs	2	2	1	1-1	18W	445x400x88
VW-VL1616	3U	supports up to 16 inputs and 16 outputs	4	4	1	1-1	18W	445x400x132
VW-VL3636	7U	supports up to 36 inputs and 36 outputs	9	9	1	1-3	30W	445x400x310
VW-VL7272	12U	supports up to 72 inputs and 72 outputs	18	18	1	1-3	30W	445x400x532
VW-VL144144	24U	supports up to 144 inputs and 144 outputs	36	36	1	2-6	70W	445x400x1043
<b>Card</b>								
Input card	DVI HD, Dual-Link DVI 4K, HDMI HD, HDMI 4K, VGA, YPBPR, SD-HDI, HD-SDI, 3G-SDI, Fiber, HDBaseT HD and HDBaseT 4K							
Output card	DVI HD, Dual-Link DVI 4K, HDMI HD, HDMI 4K, VGA, YPBPR, SD-HDI, HD-SDI, 3G-SDI, Fiber, HDBaseT HD and HDBaseT 4K							
<b>Control mode</b>								
Network control	1 RJ45 interface, 10M/100M adaptive, support the management and configuration of the machine							
Serial control	2 RS232, can be connected to the central control, and support loop-out control matrix, screen and other third-party equipment							
Front panel control	front panel LCD display and switch button control, can modify IP address and other parameters							
Other control	IR control, KVM switch control, RS485 remote 4-inch touch screen control (optional), web visualization control (optional), HDBASET remote serial port control (optional)							
<b>Image processing</b>								
Switch effect	4K seamless switching, no black field, no flicker, no fragmentation, no static picture, single and multi-channel audio and video synchronization switching							
Transmission bandwidth	10Gbps							
Output resolution	Support 4KX2K HD resolution, can customize configuration resolution							
<b>Environmental parameters</b>								
Working temperature	-10~+55°C							
Working humidity	<90% Non-condensing							



VW-VL0808

VW-VL1616

VW-VL3636

VW-VL7272

VW-VL144144

# Card Specifications

## Input interface

Model	Port type	Card	Port No.	Signal type	Maximum resolution	Number of audio interface	Other interface
MX-HM4I	HDMI+3.5mm audio	4*HDMI	4	HDMI1.3	1920X1200@60Hz	8	-
MX-HM2I	HDMI+3.5mm audio	2*HDMI 4K	2	HDMI1.4	3840X2160@30Hz	4	-
MX-HM1I	HDMI+3.5mm audio	1*HDMI 4K	1	HDMI2.0	3840X2160@60Hz	2	-
MX-HD4I	RJ45+phoenix terminal	4*HDBaseT	4	HDBaseT	1920X1200@60Hz	-	4*two-way RS232, 4*two-way IR
MX-HD2I	RJ45+phoenix terminal	2*HDBaseT 4K	2	HDBaseT	3840X2160@30Hz	-	2*two-way RS232, 2*two-way IR
MX-SDI4I	SDI	4*SDI	4	SDI	1920*1080@60Hz	-	4*SDI loop out
MX-DVI4I	DVI+3.5mm audio	4*DVI	4	DVI	1920X1200@60Hz	4	-
MX-DVI2I	DVI+3.5mm audio	2*DVI 4K	2	DVI	3840X2160@30Hz	2	-
MX-VA4I	VGA+3.5mm audio	4*VGA	4	VGA	1920*1080@60Hz	4	-
MX-SF4I	Optical fiber module slot	4*optical fiber	4	Fiber	1920X1200@60Hz	-	-
MX-SF2I	Optical fiber module slot	2*optical fiber 4K	2	Fiber	3840X2160@30Hz	-	-
MX-IP2I	RJ45	2*IP	2	IP	1920*1080@60Hz	-	-

## Output interface

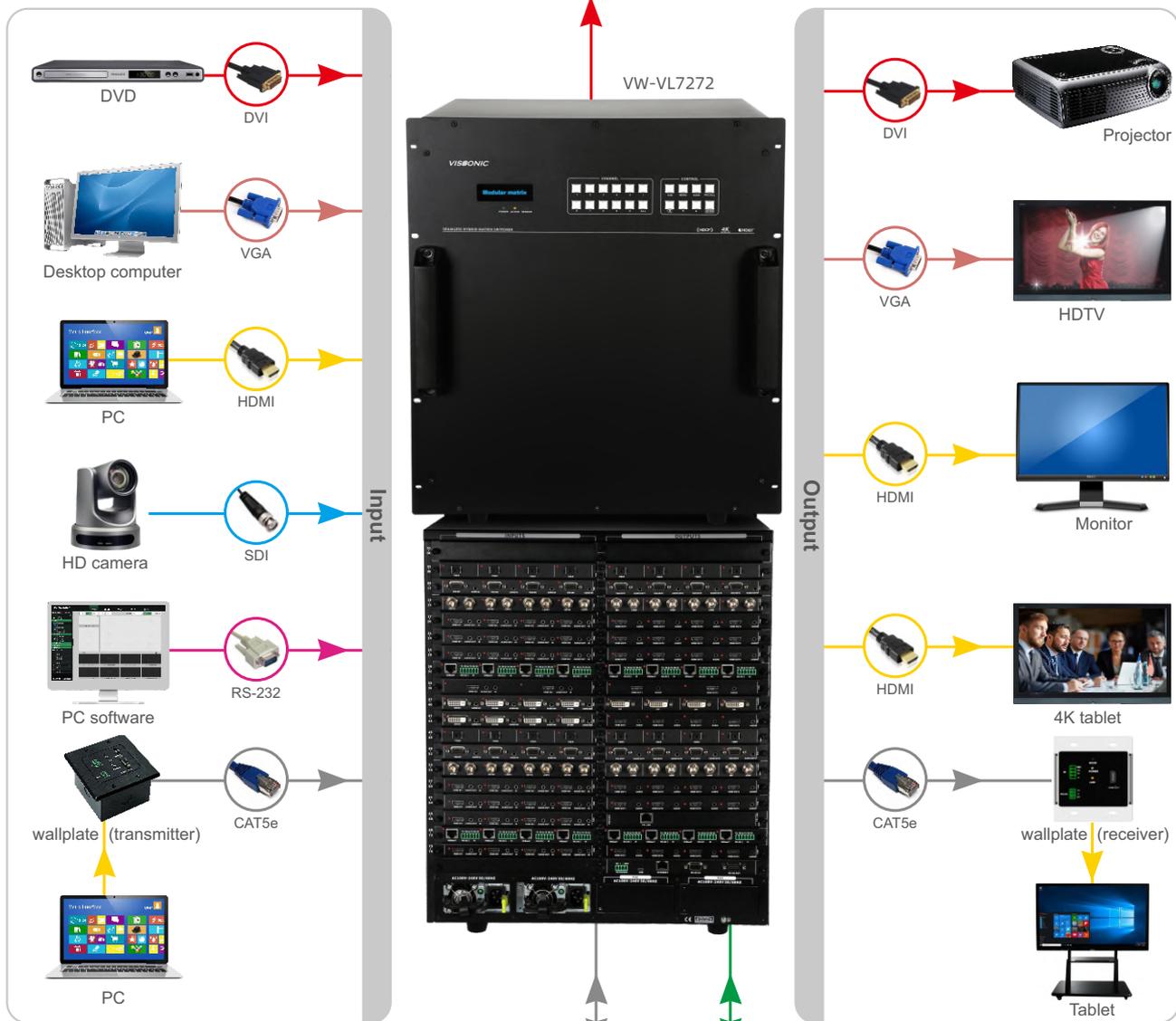
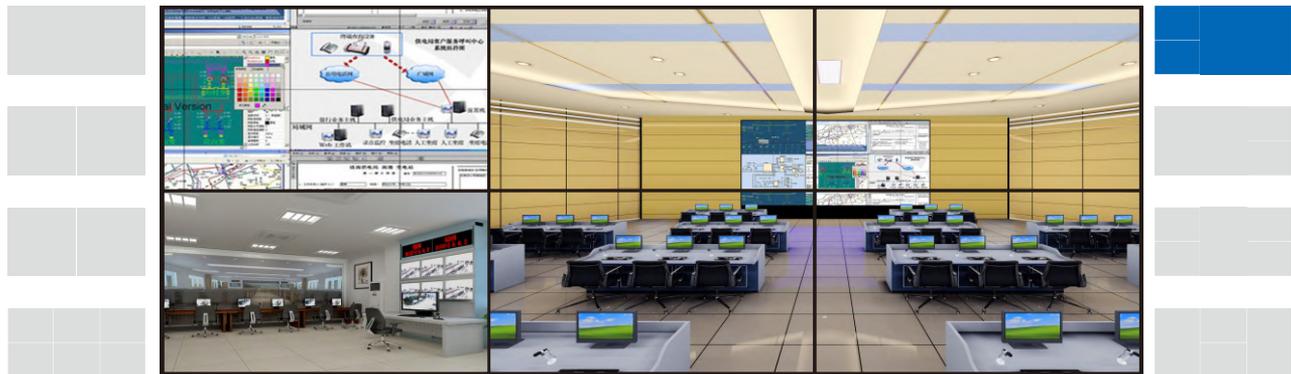
Model	Port type	Card	Port No.	Signal type	Maximum resolution	Number of audio interface	Other interface
MX-HM4O	HDMI+3.5mm audio	4*HDMI	4	HDMI1.3	1920X1200@60Hz	4	-
MX-HM2O	HDMI+3.5mm audio	2*HDMI 4K	2	HDMI1.4	3840X2160@30Hz	2	-
MX-HM1O	HDMI+3.5mm audio	1*HDMI 4K	1	HDMI2.0	3840X2160@60Hz	1	-
MX-HD4O	RJ45+phoenix terminal	4*HDBaseT	4	HDBaseT	1920X1200@60Hz	-	4*two-way RS232, 4*two-way IR
MX-HD2O	RJ45+phoenix terminal	2*HDBaseT 4K	2	HDBaseT	3840X2160@30Hz	-	2*two-way RS232, 2*two-way IR
MX-SDI4O	SDI	4*SDI	4	SDI	1920*1080@60Hz	-	-
MX-DVI4O	DVI+3.5mm audio	4*DVI	4	DVI	1920X1200@60Hz	4	-
MX-VA4O	VGA+3.5mm audio	4*VGA	4	VGA	1920*1080@60Hz	4	-
MX-SF4O	Optical fiber module slot	4*optical fiber	4	Fiber	1920*1080@60Hz	-	-
MX-SF2O	Optical fiber module slot	2*optical fiber 4K	2	Fiber	3840X2160@30Hz	-	-
MX-PVW	RJ45	1*Net preview	1	IP	1920X1080@60Hz	-	-

## Optional

Model	Description
VIS-CKB100	4 inch touch screen embedded remote control panel
VIS-RPWR	PSU backup power supply
VIS-M5SOFT	professional matrix splicing WINDOWS control software
VIS-CON ENT5	advanced web-page visualization control card

# System Diagram

LCD videowall



- 5G WiFi
- RS-232
- Audio
- CAT5e
- HDMI
- SDI
- VGA
- DVI
- USB



## **VISSONIC ELECTRONICS LTD**

Address: 4th Floor, Building 6, No. 50 Nanxiang 1st Road,  
Guangzhou High-tech Industrial Development Zone,  
Guangzhou, Guangdong Province, China.

Web: [www.vissonic.com](http://www.vissonic.com)