VISSONIC
Professional Audio/Visual Manufacturer

X9 Series Ultra-High Bandwidth Modular Splicing Seamless Switching Video Wall Processor

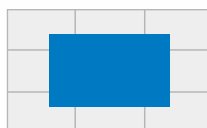X9 Series is a LED/LCD splicing matrix switcher with modular design and plug-in structure. It supports seamless switching up to 4k@60Hz, with a wide range of up to 144x input and 144x output. It is designed for mission-critical situations that work 24/7, with high reliability.
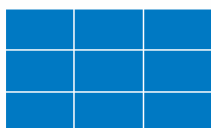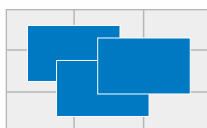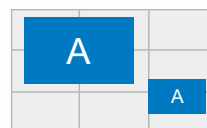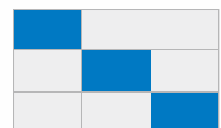
Full-screen   Overlay   Roaming   Zooming   Single-screen

Core Features

April2, 2022 SAT 10:03   **VISSONIC Product Market Research Seminar**   April2, 2022 SAT 10:03

Room 1

IPC 01   IPC 02   IPC 03   IPC 04   IPC 05   ......   IPC 100

Full 4K splicing

Can be up to 4K resolution, and the signal source can generate the window , PIP, roam, and zoom arbitrarily on the video wall. The vertical sync technology ensures the synchronization and smooth display of high-speed moving images on each splicing screen, and customized resolution of LED single screen.

Intelligent banner

Set a large-screen banner, customized the welcome slogan or upload pictures, modified the color, font, size, position, and other information of the banner, and display the real-time clock.

Background image

Upload a local HD image as background image without affecting the number of window layers. No loss when power off, and automatic recovery after power on.

Full digital seamless switching technology

Full digital splicing switching technology, to ensure the switch without black field, no flash screen, no fragmentation, and no static picture. It can meet arbitrary switch of 2K and 4K signals, and adopts 4:4:4 full frame rate graphics processing algorithm, and the delay is as low as 0ms.

IPC decoding

Mass IPC signal access. A single card can decode up to 100 IPC signals on the screen at the same time. IPC unified management. IPC can be dragged from the software interface directly onto the video wall.

Signal source management

The image of the input source is partially cropped as the new video source. Station logo display. Superimpose pictures on the signal source or customize text in any language or font, and output settings can test image output.

Core Features

Dual control cards, one master and one backup
Optional dual control cards, one main and one standby, ensure the stable operation of the system.

Pure hardware architecture
FPGA pure hardware architecture is adopted to avoid virus intrusion of equipment, reduce boot time and improve system stability.

Monitoring alerts
It monitors the status of each module, and can actively alert and prompt when the equipment fails.

Visual operation of multi-terminal
Signal visualization preview. In any system, on any PC/mobile phone/tablet, it can realize visualization, movement, touch management, and multiple operation terminals can be controlled and synchronized at the same time.

KVM management
A set of mouse and keyboard can control multiple computers, and can switch the matrix remotely through the keyboard.
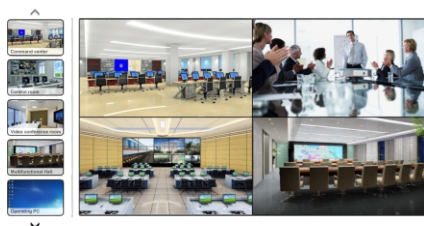
Input signal preview
60Hz visual preview of the input signal source, and real-time echo of the large-screen status on the monitor.

Multi-device intelligent control
It can send control commands to third-party devices, implementing operations such as large screen switches, curtains lift etc.

Basic Function

- The LED/LCD splicing processor supports up to 8x8, 16x16, 36x36, 72x72, 144x144 input/output.
- Pure hardware architecture based on FPGA.
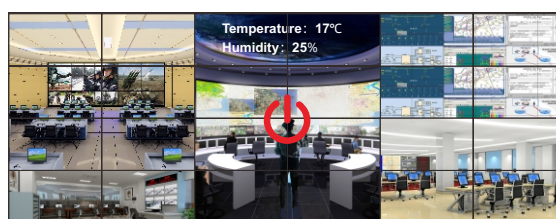- Front panel has LCD display and lights buttons to display and configure the device IP address.
- Modular design for flexible configuration.
- The matrix supports the cross conversion of the following signals: DVI HD, Dual-Link DVI 4K, HDMI HD, HDMI 4K, VGA, YPBPR, SD-HDI, HD-SDI, 3G-SDI, Fiber, HDBaseT HD and HDBaseT 4K, can achieve true real-time seamless switching.
- Single-channel maximum resolution up to 4Kx2K@60Hz, support 4K input, 4K seamless output and single port 4K splicing output, compatible with all standard resolution and resolution customization.
- Up to 144 x single 1080P input or 72 x single 4K UHD input.
- Up to 144 x single 1080P output or 72 x single 4K UHD seamless output, 144 x single channel 1080P or 72 x single channel 4K UHD splicing output.
- Each splicing output card can realize the video splicing function, and the image window can be arbitrarily zoomed, superimposed, crossed screen and roamed within the full-screen range.
- For each output port, set irregular resolution corresponding to each transmitting card, to realize flexible splicing of LED screen.
- Upload image as background image through PC software or web page without affecting the number of window opening layers. Data will be not lost during power-off and will be automatically recovered after power-on.
- The input video can be cropped at any position and size to achieve real-time processing functions
- Support large-screen banners settings, customize welcome slogans or upload pictures, modify banners, fonts, size, position, etc., and support the on-real time clock display.
- Full digital splicing switching technology ensures that the switch no black field, no flash screen, no fragmentation, and no static picture. It can meet arbitrary switch of 2K and 4K signals, and adopts 4:4:4 full frame rate , and the delay is as low as 0ms.
- A set of mouse and keyboard can control multiple computers, and can switch the matrix remotely through the keyboard.
- Station logo display. Superimpose pictures on the signal source or customize text in any language or font.
- The splicing output supports a single display with 1 layer, 2 layers or 4 layers optional.
- After the client operation pre-switching mode is enabled, the operations in all windows will not take effect immediately. After clicking Confirm, all operations will take effect at one time. Window lock is supported.
- More than 5 display wall groups can be managed at the same time. Each display wall can be a different display device, resolution or size, and all display wall groups can be managed in real time.
- Output mapping, more flexibility in on-site construction, and can be quickly adjusted in the software.
- 60Hz frame synchronization processing technology, perfectly solve the dislocation and tearing phenomenon when display high-speed moving pictures.
- Intelligent zoom technology. The image zoom adopts the intelligent multi-phase filtering algorithm. The image has vector-level zoom effect, ensuring more details, no jagged edges and good sharpness.
- Input signal automatic detection, real-time detection of whether each input port has signal access, input card indicator light and client software have status indication.
- Output signal automatic detection, real-time detection of whether each output port has a successful connection with the display, the output card indicator, the background color of the display and the client software have status indications.
- Optional dual control cards, one main and one standby, ensure the stable operation of the system.
- Optional redundant power supply, the redundant power supply will automatically take over without interrupting the operation
- Hot plug-and-play input cards and output cards without affecting the normal operation of other systems.
- Real-time status monitoring of any module card temperature, version, manufacturing information and fan speed.
- Automatic adjustment of the cooling fan speed according to temperature changes.
- Automatic and manual backup of configuration, export of configuration files, import of configuration files into the control card.
- Support firmware online upgrade.
- 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 contents from the large screen.
- Support DVI 1.0 protocol, comply with HDCP2.2 standard, compatible with HDMI2.0.
- With correction and compensation signal characteristics to reduce the video stream error, DVI, HDMI input up to 35 meters.
- 200 sets of matrix preset switching commands and 200 sets of splicing plan commands can be stored.
- The system contains a variety of test images which is convenient for quick debugging and system maintenance.
- HDBaseT input and output signals support embedded (or local) bidirectional RS-232 and bidirectional IR signals, and can choose to switch with the video signal, or separate switching mode, and support POC external power supply.
- Flexible control methods, including front panel button control, IR control, RS-232 control and RS-232 loop-out control, Ethernet port for software and web page control, RS-422 external panel control, visual preview control
- Using B/S architecture, the product itself supports mobile phone and tablet control, supports Android, IOS, Windows systems, and does not need to install any software and plug-ins.
- Support multiple client visualization, Multiple clients can be controlled and synchronized at the same time.
- It can send control commands to third-party devices, and meets the customer's control requirements for peripheral equipment.
- SDI input/output card with loop-out function.
- HDMI input card with digital audio and analog audio, digital audio de-embedding analog output.
- HDMI output card embedded digital audio and analog audio output at the same time.
- The IP card has access of the network monitoring dome camera, supports onvif, RTP, RTSP, RTCP, TCP, UDP and other network protocols, and can directly decode the network camera signal.
- A single net port supports up to 64 channels of D1, 32 channels of 720P, 16 channels of 1080P, and 4 channels of 4K decoding capability. The IP input card supports 100 channels of IPC decoding on the video wall, and supports the function of screen splitting. One picture channel supports single picture, 4-picture, 9-picture, 16-picture or 25-picture split display.

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-VM0808	2U	supports up to 8 inputs and 8 outputs	2	2	1	1-1	18W	445x400x88
VW-VM1616	3U	supports up to 16 inputs and 16 outputs	4	4	1	1-1	18W	445x400x132
VW-VM3636	7U	supports up to 36 inputs and 36 outputs	9	9	2	1-3	30W	445x400x310
VW-VM7272	12U	supports up to 72 inputs and 72 outputs	18	18	2	1-3	30W	445x400x532
VW-VM144144	24U	supports up to 144 inputs and 144 outputs	36	36	2	2-6	70W	445x400x1043

Card

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

Control mode

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	Support front panel LCD display and switch button control, can modify IP address and other parameters
Other control	IR infrared control, KVM switch control, RS485 remote 4-inch touch screen control (optional), web visualization control (optional), HDBASET remote serial port control (optional)

Image processing

Switch effect	4K fast and 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

Environmental parameters

Working temperature	-10~+55℃
Working humidity	<90% Non-condensing

VW-VM0808   VW-VM1616   VW-VM3636   VW-VM7272   VW-VM144144

Card Specifications

Input interface

Model	Port type	Card	Port No.	Signal type	Maximum resolution	Number of audio interface	Other interface
VW-HM4I	HDMI+3.5mm audio	4*HDMI	4	HDMI1.3	1920X1200@60Hz	8	-
VW-HM2I	HDMI+3.5mm audio	2*HDMI 4K	2	HDMI1.4	4096X2160@30Hz	4	-
VW-HM2I-4K	HDMI+3.5mm audio	2*HDMI 4K	2	HDMI2.0	4096X2160@60Hz	4	-
VW-HD4I	RJ45+phoenix terminal	4*HDBaseT	4	HDBaseT	1920X1200@60Hz	-	4*two-way RS232, 4*two-way IR
VW-HD2I	RJ45+phoenix terminal	2*HDBaseT 4K	2	HDBaseT	4096X2160@30Hz	-	2*two-way RS232, 2*two-way IR
VW-SDI4I	SDI	4*SDI	4	SDI	1920*1080@60Hz	-	4*SDI loop out
VW-DVI4I	DVI+3.5mm audio	4*DVI	4	DVI	1920X1200@60Hz	4	-
VW-DVI2I	DVI+3.5mm audio	2*DVI 4K	2	DVI	4096X2160@30Hz	2	-
VW-VA4I	VGA+3.5mm audio	4*VGA	4	VGA	1920*1080@60Hz	4	-
VW-IP2I	RJ45	2*IP	2	IP	4096X2160@30Hz	-	-
VW-SF4I-KVM	Optical fiber module slot	4*optical fiber	4	Fiber	1920X1200@60Hz	-	-
VW-SF2I-KVM	Optical fiber module slot	2*optical fiber 4K	2	Fiber	4096X2160@30Hz	-	-

Video wall output interface

Model	Port type	Card	Port No.	Signal type	Maximum resolution	Number of audio interface	Number of Windows for one port
VP-HM4O	HDMI+3.5mm audio	4*HDMI	4	HDMI1.3	1920X1200@60Hz	4	2
VP-HM2O	HDMI+3.5mm audio	2*HDMI	2	HDMI1.3	1920X1200@60Hz	2	4
VP-HM2O-4K	HDMI+3.5mm audio	2*HDMI 4K	2	HDMI1.4	4096X2160@30Hz	2	2
VP-HD4O	RJ45+phoenix terminal	4*HDBaseT	4	HDBaseT	1920X1200@60Hz	-	2
VP-HD2O	RJ45+phoenix terminal	2*HDBaseT	2	HDBaseT	1920X1200@60Hz	-	4
VP-HD2O-4K	RJ45+phoenix terminal	2*HDBaseT 4K	2	HDBaseT	4096X2160@30Hz	2	2
VP-DVI4O	DVI+3.5mm audio	4*DVI	4	DVI	1920X1200@60Hz	4	2
VP-DVI2O	DVI+3.5mm audio	2*DVI	2	DVI	1920X1200@60Hz	2	4
VP-SF4O	Optical fiber module slot	4*optical fiber	4	Fiber	1920X1200@60Hz	-	2
VP-SF2O	Optical fiber module slot	2*optical fiber	2	Fiber	1920X1200@60Hz	-	4
VP-SF2O-4K	Optical fiber module slot	2*optical fiber 4K	2	Fiber	4096X2160@30Hz	-	2

Seamless output interface

Model	Port type	Card	Port No.	Signal type	Maximum resolution	Number of audio interface	Other interface
VW-HM4O	HDMI+3.5mm audio	4*HDMI	4	HDMI1.3	1920X1200@60Hz	8	-
VW-HM2O	HDMI+3.5mm audio	2*HDMI	2	HDMI1.4	4096X2160@30Hz	4	-
VW-HD4O	RJ45+phoenix terminal	4*HDMI 4K	4	HDBaseT	1920X1200@60Hz	-	4*two-way RS232, 4*two-way IR
VW-HD2O	RJ45+phoenix terminal	2*HDMI 4K	2	HDBaseT	4096X2160@30Hz	-	2*two-way RS232, 2*two-way IR
VW-SDI4O	SDI	4*SDI	4	SDI	1920X1080@60Hz	-	4*SDI loop out
VW-DVI4O	DVI+3.5mm audio	4*DVI	4	DVI	1920X1200@60Hz	4	-
VW-DVI2O	DVI+3.5mm audio	2*DVI	2	DVI	4096X2160@30Hz	2	-
VW-VA4O	VGA+3.5mm audio	4*VGA	4	VGA	1920X1080@60Hz	4	-
VW-SF4O-KVM	Optical fiber module slot	4*optical fiber	4	Fiber	1920X1200@60Hz	-	-
VW-SF2O-KVM	Optical fiber module slot	2*optical fiber	2	Fiber	4096X2160@30Hz	-	-
VW-STM4	RJ45	1*IP streaming media	1	IP	1920*1080@30Hz	-	-

Full preview interface

Model	Port type	Card	Port No.	Signal type	Maximum resolution	Number of audio interface	Number of Windows for one port
VW-PVW	Rj45	1*IP full preview	1	IP	1920X1080@30Hz	-	-

Optional

Model	Description
VIS-CKB100	4 inch touch screen embedded remote control panel
VIS-RPWR	PSU backup power supply
VIS-X9SOFT	professional matrix splicing WINDOWS control software
VIS-CON ENT5	advanced web-page visualization control board

System Diagram

LED

VW-VM7272

Input

DVD — DVI

Desktop computer — VGA

PC — HDMI

HD camera — SDI

PC software — RS-232

KVM Transmitter — Fiber

array server

Output

DVI — DLP

VGA — LCD

HDMI — LED

HDMI — 4K HD TV

Fiber — KVM Receiver

KVM Switches

Mobile phone   IPAD   PC   WiFi   Power amplifier

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

VISSONIC ELECTRONICS LTD

Address： Guangzhou High-tech Industrial Development Zone, Guangzhou, Guangdong Province, China.

Web： www.vissonic.com

VISSONIC
Professional Audio/Visual Manufacturer