

## Signal Management PRODUCT DATASHEET



**VISONIC ELECTRONICS LTD.**

Think Solutions

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



### 1. Product Introduction

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. It has high reliability and is widely used in conference rooms, command centers, security monitoring, exhibition displays, military command, education and research, government announcements, commercial displays and other industries.



## 2. Core Features

### Full 4K splicing

The input/output channels are all 4K resolution, and the signal source can be windowed, superimposed, roamed, and zoomed arbitrarily on the video wall. The vertical synchronization technology ensures the synchronization and smooth display of high-speed moving images on each splicing screen, and meets the requirement of customized resolution of LED single screen.



### Intelligent banner

It can be set a large-screen banner, customized the welcome slogan or uploaded pictures, modified the color, font, size, position, moving speed and other information of the banner, and display the real-time clock.



### IPC decoding

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



## Visual operation of multi-terminal synchronization

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.



## **Preview of input signal, echo of the large screen**

60Hz visual preview of the input signal source, and real-time echo of the large-screen status on the monitor.

## **HD base image**

Upload a local HD image as a splicing base image without affecting the number of window opening layers. Data will be not lost during power-off and will be automatically recovered after power-on.

## **Signal source management**

The image of the input source is partially cropped as the new video source. 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.

## **Full digital seamless switching technology**

Full digital splicing switching technology, two signal parallel processing, to ensure that the switch no black field, no flash screen, no fragmentation, and no static picture. It can meet 2K and 4K signals arbitrary switch, and adopts 4:4:4 full frame rate graphics processing algorithm, true to restore the graphics color, the delay is as low as 0ms.

## **Pure hardware architecture**

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

## **Multi-device intelligent joint control**

It can send control commands to third-party devices to realize operations such as turning on or off of large screens, lifting curtains, etc., to meet customers' control requirements for peripheral devices.

## **Monitoring and alarm**

It monitors the status of each module of the equipment, and can actively alarm and prompt when the equipment fails, so that the operator can know and deal with it in time.

## 3. Basic Function

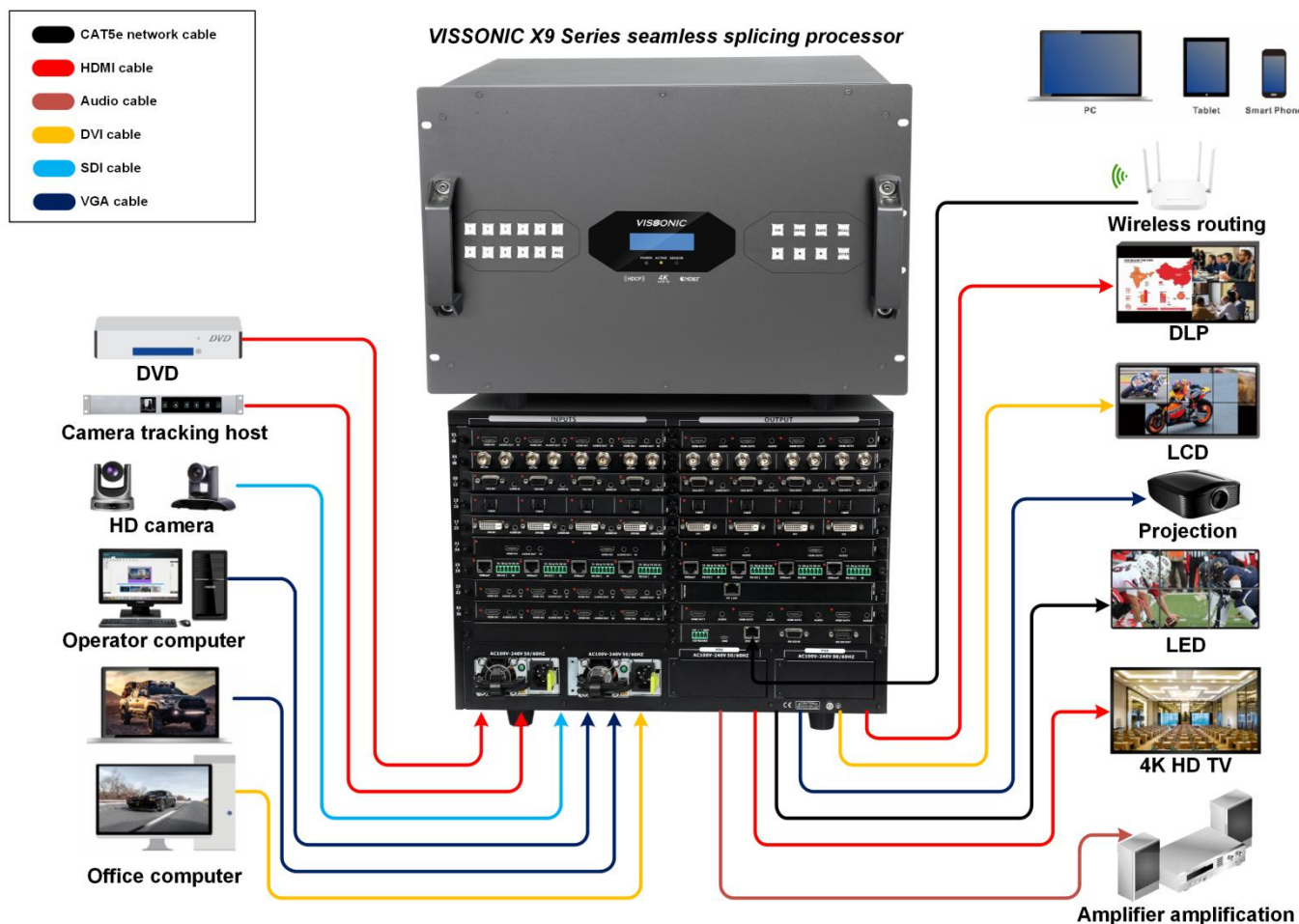
- 1 . LED/LCD splicing matrix switcher have a mounting structure of 2U/3U/7U/12U/24U chassis size, and supports a maximum of 8x8, 16x16, 36x36, 72x72, and 144x144 input/output channels, respectively.
- 2 . FPGA-based pure hardware architecture avoids the virus intrusion of the device, improves system stability, can work after power-on.
- 3 . The front panel has an LCD display and buttons, which can display and configure the IP address of the device, and display the switching action and switching status in real time.
- 4 . Modular design for flexible configuration of input and output cards.
- 5 . ▲ The splicing matrix supports the cross conversion of the following signals: DVI HD, Dual-Link DVI 4K, HDMI HD, HDMI 4K, VGA, Component, Composite, YC, SD-HDI, HD-SDI, 3G-SDI, HDBaseT HD and HDBaseT 4K, fully digital switching, each seamless output card can achieve true real-time seamless switching.
- 6 . ▲ Single channel maximum resolution up to 4Kx2K@60Hz, 4K input acquisition, 4K seamless output and single port 4K splicing output, downward compatible with all standard resolution, and customize resolution.
- 7 . A single matrix supports up to 144 channels x single 1080P input or 72 channels x single 4K UHD input.
- 8 . ▲ A single processor supports up to 144 channels x single channel 1080P or 72 channels x single 4K UHD seamless output, 144 channels x single channel 1080P or 72 channels x single channel 4K UHD splicing output.
- 9 . Each splicing output card can realize the video splicing function, and the image window can be arbitrarily zoomed, superimposed, cross-screen and roaming within the full-screen range.
- 10 . For each output port, set irregular resolution, corresponding to each LED large screen transmitting card, to realize flexible splicing of LED large screen.
- 11 . It can be set the HD background image. Upload a local HD image as a splicing base 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.
- 12 . The input video can be cropped at any position and size to achieve real-time processing functions such as black edge removal, edge shielding, area enlargement and so on.
- 13 . It can be set a large-screen banner, customized the welcome slogan or uploaded pictures, modified the color, font, size, position, moving speed and other information of the banner, and display the real-time clock at the same time.
- 14 . Full digital splicing switching technology with two signal parallel processing ensures that the switch no black field, no flash screen, no fragmentation, and no static picture. It can meet 2K and 4K signals arbitrary switch, and adopts 4:4:4 full frame rate graphics processing algorithm, true to restore the graphics color, the delay is as low as 0ms.
- 15 . A set of mouse and keyboard can control multiple computers, and can switch the matrix remotely through the keyboard.
- 16 . Station logo display superimpose pictures on the signal source or customize text in any language or font. Input video character overlay, character color, size, and position are optional.
- 17 . The splicing output supports a single display with 1 layer, 2 layers or 4 layers of windows optional.
- 18 . After the client-side 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, the size and position of the window will be fixed and cannot be moved once locked.
- 19 . 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.
- 20 . Output mapping, more flexibility in project site construction, the connection line between the equipment and the display unit does not need to be one-to-one correspondence, and can be quickly adjusted by the software.
- 21 . 60Hz frame synchronization processing technology, perfectly solve the dislocation and tearing phenomenon between

different display units of high-speed moving pictures.

- 22 . Intelligent scaling technology means that 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.
- 23 . Input signal automatic detection, real-time detection of whether each input port has signal access, input board indicator light and client software have status indication.
- 24 . Output signal automatic detection, real-time detection of whether each output port has a successful handshake with the display end protocol, the output board indicator, the background color of the display and the client software have status indications.
- 25 . It can be secondary development and provide third-party user control protocols and interfaces.
- 26 . Optional redundant power supply, the redundant power supply will automatically take over without interrupting the operation of the controller.
- 27 . Hot plug-and-play input boards and output boards without affecting the normal operation of other systems.
- 28 . Real-time status monitoring of any module card temperature (input card, output card, control card), version, manufacturing information and fan speed.
- 29 . Automatic adjustment of the cooling fan speed according to temperature changes.
- 30 . Automatic and manual backup configuration, export of configuration files, import of configuration files into the control card.
- 31 . ▲Firmware network online upgrade and Micro USB upgrade.
- 32 . EDID reading and EDID management
- 33 . ▲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.
- 34 . Support DVI 1.0 protocol, comply with HDCP2.2 standard, compatible with HDMI2.0.
- 35 . With correction and compensation signal characteristics to reduce the video stream error, DVI, HDMI input up to 35 meters.
- 36 . ▲The device can store 200 sets of matrix preset switching instructions and 200 sets of splicing preplan instructions, which can be switched with one key when called.
- 37 . The system contains a variety of test images such as red, green, blue, white, etc., which is convenient for quick debugging and system maintenance.
- 38 . 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.
- 39 . ▲Flexible control methods, including front panel LCD screen for button control, infrared control, RS-232 control and RS-232 loop-out control, Ethernet port for upper computer software and web page control, RS-422 external panel control port for embedded Touch button panel control, preview card visual preview control, and remote HDBaseT serial port control are convenient for users to use with various remote control devices.
- 40 . ▲Using B/S architecture, the product itself supports mobile phone and tablet control, supports Harmony OS, Android, IOS, Windows systems, and does not need to install any software and plug-ins without requiring an external server or central control.
- 41 . Multiple clients can be visualized, moved, and can be managed by touch. Multiple clients can be controlled and synchronized at the same time.
- 42 . Multi-device intelligent joint control mode can send control commands to third-party devices to realize operations such as turning on or off of large screens, lifting curtains, etc., to meet customers' control requirements for peripheral devices.
- 43 . ▲SDI input/output card with loop-out function..

- 44 . HDMI input card with digital audio and analog audio selection input, digital audio de-embedding analog output.
- 45 . HDMI output card embedded digital audio and analog audio output at the same time.
- 46 . ▲The IP card supports the access of the network monitoring dome camera, supports web login to set the network protocol, supports onvif, RTP, RTSP, RTCP, TCP, UDP and other network protocols, and can directly decode the network camera signal.
- 47 . A single network 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.

## 4. System diagram





## 5. Chassis specifications

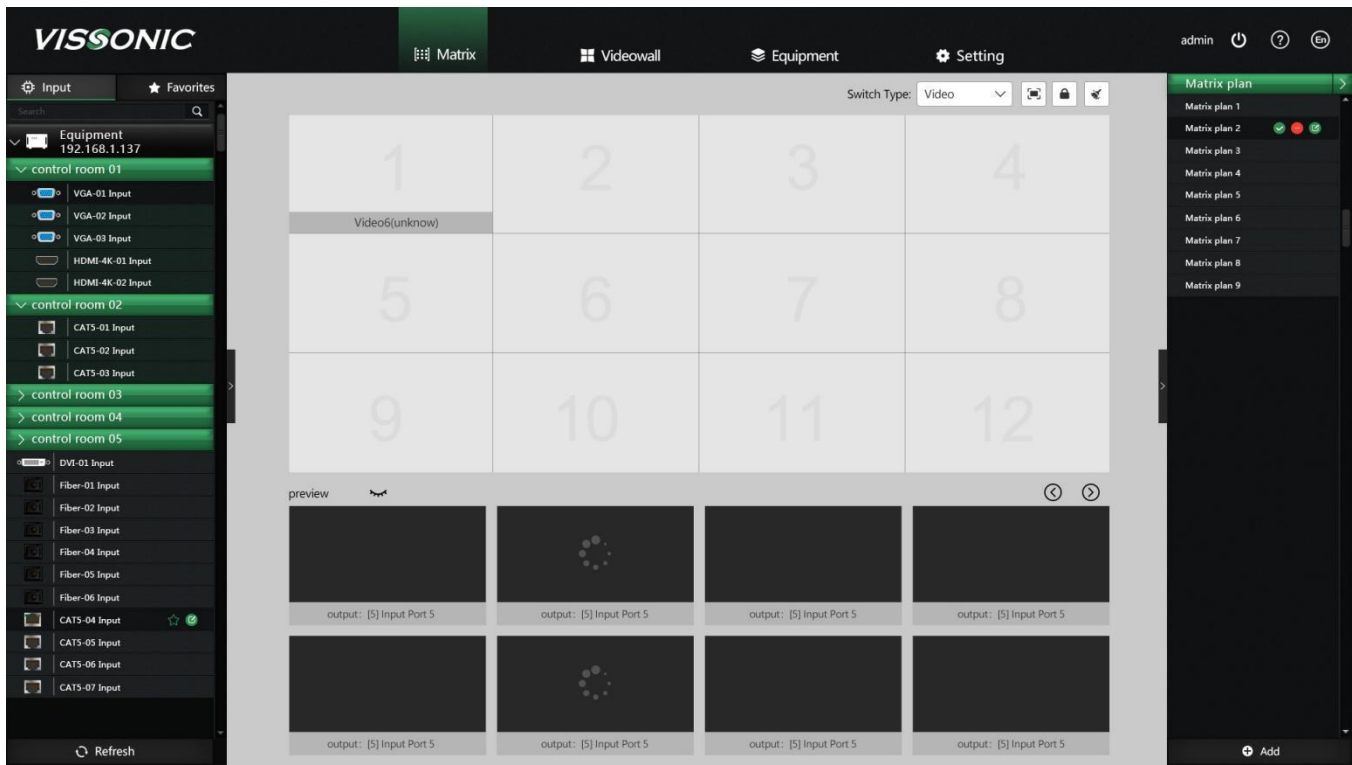
Technical parameters								
Model	Chassis	Specifications	Number of input cards	Number of output cards	Number of control cards	Power Supply Default power supply - backup power supply	Power	Dimensions (mm)
VW-VM0808	2U	2U chassis, supports up to 8 inputs and 8 outputs	2	2	1	1-1	18W	445x400x88
VW-VM1616	3U	3U chassis, supports up to 16 inputs and 16 outputs	4	4	1	1-1	18W	445x400x132
VW-VM3636	7U	7U chassis, supports up to 36 inputs and 36 outputs	9	9	1	1-3	30W	445x400x310
VW-VM7272	12U	12U chassis, supports up to 72 inputs and 72 outputs	18	18	1	1-3	30W	445x400x532
VW-VM144144	24U	24U chassis, supports up to 144 inputs and 144 outputs	36	36	1	2-6	70W	445x400x1043
Card								
<b>Input card</b>	DVI HD, Dual-Link DVI 4K, HDMI HD, HDMI 4K, VGA, Component, Composite, YC, SD-HDI, HD-SDI, 3G-SDI, Fiber, HDBaseT HD and HDBaseT 4K							
<b>Output card</b>	DVI HD, Dual-Link DVI 4K, HDMI HD, HDMI 4K, VGA, Component, Composite, YC, SD-HDI, HD-SDI, 3G-SDI, Fiber, HDBaseT HD and HDBaseT 4K							
Control mode								
<b>Network control</b>	1 RJ45 interface, 10M/100M adaptive, support the management and configuration of the machine.							
<b>Serial control</b>	2 RS232, can be connected to the central control, and support loop-out control matrix, screen and other third-party equipment.							
<b>Front panel control</b>	Support front panel LCD display and switch button control, can modify IP address and other parameters.							
<b>Other control</b>	IR infrared control, KMX switch control, RS485 remote 4-inch touch screen control (optional), web visualization control (optional), HDBASET remote serial port control (optional)							
Image Processing								
<b>Switch effect</b>	4K fast and seamless switching, no black field, no flicker, no fragmentation, no static picture, single and multi-channel audio and video synchronization switching.							
<b>Transmission bandwidth</b>	10Gbps							
<b>Output resolution</b>	Support 4KX2K HD resolution, customizable configuration resolution.							
Environmental parameters								
<b>Working temperature</b>	-10~+55℃							
<b>Working humidity</b>	<90% Non-condensing							

## 6. Card specifications

VIDEO WALL SEAMLESS CARD							
Model	Port type	Name parameter	Number of single card video interface	Signal type	Maximum resolution	Number of audio interface	Other interface
<b>Input interface</b>							
<b>VW-HM4I</b>	HDMI+3.5mm audio	4*HDMI input card	4	HDMI1.3	1920X1200@60Hz	8	-
<b>VW-HM2I</b>	HDMI+3.5mm audio	2*HDMI 4K input card	2	HDMI1.4	3840X2160@30Hz	4	-
<b>VW-HM1I</b>	HDMI+3.5mm audio	1*HDMI 4K input card	1	HDMI2.0	3840X2160@60Hz	2	-
<b>VW-HD4I</b>	RJ45+phoenix terminal	4*HDBaseT input card	4	HDBaseT	1920X1200@60Hz	-	4*two-way RS232, 4*IR two-way interface
<b>VW-HD2I</b>	RJ45+phoenix terminal	2*HDBaseT 4K input card	2	HDBaseT	3840X2160@30Hz	-	2*two-way RS232, 2*two-way IR interface
<b>VW-SDI4I</b>	SDI	4*SDII input card	4	SDI	1920*1080@60Hz	-	4*SDI loop out
<b>VW-DVI4I</b>	DVI+3.5mm audio	4*DVI input card	4	DVI	1920X1200@60Hz	4	-
<b>VW-SF4I</b>	Optical fiber module slot	4*optical fiber input card	4	Fiber	1920X1080@60Hz	-	-
<b>VW-IP2I</b>	RJ45	2*IP input card	2	4K IP	3840X2160@30Hz	-	-
<b>Output interface</b>							
<b>VW-HM4O</b>	HDMI+3.5mm audio	4*HDMI output card	4	HDMI1.3	1920X1200@60Hz	8	-
<b>VW-HM2O</b>	HDMI+3.5mm audio	2*HDMI output card	2	HDMI1.4	3840X2160@30Hz	4	-
<b>VW-HM1O</b>	HDMI+3.5mm audio	1*HDMI output card	1	HDMI2.0	3840X2160@60Hz	2	-
<b>VW-HD4O</b>	RJ45+phoenix terminal	4*HDBaseT output card	4	HDBaseT	1920X1200@60Hz	-	4*two-way RS232, 4*IR two-way interface
<b>VW-HD2O</b>	RJ45+phoenix terminal	2*HDBaseT 4K output card	2	HDBaseT	3840X2160@30Hz	-	2*two-way RS232, 2*two-way IR interface
<b>VW-SDI4O</b>	SDI	4*SDII output card	4	SDI	1920*1080@60Hz	-	4*SDI loop out
<b>VW-DVI4O</b>	DVI+3.5mm audio	4*DVI output card	4	DVI	1920X1200@60Hz	4	-
<b>VW-SF4O</b>	Optical fiber module slot	4*optical fiber output card	4	Fiber	1920X1080@60Hz	-	-
<b>VW-PVW</b>	RJ45	1*Network preview card	1	IP	1920X1080P@30 Hz	-	-

VIDEO WALL SPLICING CARD							
Model	Port type	Name parameter	Number of single card video interface	Signal type	Maximum resolution	Number of audio interface	Number of Windows for one port
<b>VP-HM40</b>	HDMI+3.5mm audio	4*HDMI output card	4	HDMI1.3	1920X1200@60Hz	4	2
<b>VP-HM20</b>	HDMI+3.5mm audio	2*HDMI output card	2	HDMI1.3	1920X1200@60Hz	2	4
<b>VP-HM20-4K</b>	HDMI+3.5mm audio	2*HDMI 4K output card	2	HDMI1.4	3840X2160@30Hz	2	2
<b>VP-HM10</b>	HDMI+3.5mm audio	1*HDMI 4K output card	1	HDMI2.0	3840X2160@60Hz	1	2
<b>VP-HD40</b>	RJ45+phoenix terminal	4*HDBaseT output card	4	HDBaseT	1920X1200@60Hz	-	2
<b>VP-HD20</b>	RJ45+phoenix terminal	2*HDBaseT 4K output card	2	HDBaseT	3840X2160@30Hz	-	4
Optional							
<b>VIS-CKB100</b>	4 inch touch screen embedded remote control panel						
<b>VIS-RPWR</b>	PSU backup power supply						
<b>VIS-X9SOFT</b>	professional matrix splicing WINDOWS control software						
<b>VIS-CON ENT5</b>	advanced web-page visualization control card						

## VIS-X9SOFT Management Software



### Features

- Matrix switching control with preview to switch function
- Video wall configuration function
- Real-time status monitoring of the temperature (input card, output card, control card), version, manufacturing information and fan speed etc.
- Maximum controlling 5 video walls simultaneously
- Support input video preview function (requires preview card)
- 200 splicing plans can be saved on the processor, 200 matrix switching plans can be recalled with one key on the software
- OSD text overlay function for subtitles and messaging
- User right management
- Drag and drop from input to output
- Open the window and draw the window size on the video wall

## VW-PVW Video preview card



### Features:

- 1 channel RJ45 interface preview output, can view 4 channels of video image information at the same time
- Each channel video resolution:
  - 1280x720@30fps;
  - 800x600@30fps;
  - 640x480@30fps;
  - 352x288@30fps;
- H.264 & JPEG multi-stream encoding is applied, and the frame rate supports 1/16 ~ 60fps
- Support hot plugging
- Video switching through preview control

## VW-HM4I HDMI INPUT CARD



### Features

- 4 HDMI-A interfaces, 8x3.5mm audio sockets
- The longest distance up to 35 meters
- Hot swap, support audio and video signal switching together
- 3.5 analog audio and HDMI embedded audio selection input
- Digital audio de-embedding can output to 3.5 audio socket
- EDID reading function
- Compatible with HDMI1.3a standard, HDCP1.3 protocol, DVI1.0 protocol
- Maximum supported resolution:

HDPC: 1920x1200P@60

HDTV: 1920x1080P@60

## Technical parameter

Model	VW-HM4I
Protocol	HDMI1.3a standard, HDCP1.3 protocol, DVI1.0 protocol;
Video	
Gain	0dB
Pixel bandwidth	165MHz, full digital
Interface bandwidth	2.25Gbps, full digital (total 6.75Gbps, each color is 2.25Gbps)
Resolution	800x600@60, 1024x768@60, 1280x720@60, 1280x768@60, 1280x800@60, 1280x960@60, 1280x1024@60, 1360x768@60, 1366x768@60, 1440x900@60, 1600x900@60, 1600x1200@60, 1920x1080@25, 1920x1080P@30, 1920x1200P@60, 1920x1080P@60, 1920x1080i@50, 1920X1080i@60
Clock Jitter	<0.15Tbit
Risetime	<0.3Tbit (20%--80%)
Falltime	<0.3Tbit (20%--80%)
Maximum transmission delay	5nS(±1nS)
Interface	4 HDMI-A ports, 4 3.5mm audio jacks
Signal strength	T.M.D.S. +/- 0.4Vpp
Min/max level	T.M.D.S. 2.9V/3.3V
Impedance	50 Ω
EDID	Default EDID and read function (Optional)
Maximum DC offset error	15mV
Recommended maximum input / output distance	When input distance is less than 35 meters, at 1600x1200@60, it is recommended to use certified HDMI special cable, such as Molex TM cable
Product weight	0.5KG
Maximum power consumption	15W

## VW-HM2I HDMI 4K INPUT CARD



### Features:

- 2 HDMI-A interfaces, 4x3.5mm audio sockets
- The longest distance up to 35 meters
- Hot swap, support audio and video signal switching together
- 3.5 analog audio and HDMI embedded audio selection input
- Digital audio de-embedding output to 3.5 audio socket
- EDID reading function
- Compatible with HDMI1.3a standard, HDCP1.3 protocol, DVI1.0 protocol
- Maximum supported resolution: 4Kx2K@30;

### Technical parameter

Model	<b>VW-HM2I</b>
Protocol	HDMI1.4 standard, HDCP1.3 protocol, DVI1.0 protocol;
Video	
Gain	0dB
Pixel bandwidth	297MHz, full digital
Interface bandwidth	4.5Gbps full digital (13.5Gbps in total, 4.5Gbps for each color)
Resolution	800x600@60, 1024x768@60, 1280x720@60, 1280x768@60, 1280x800@60, 1280x960@60, 1280x1024@60, 1360x768@60, 1366x768@60, 1600x900@60, 1600x1200@60, 1920x1080P@60, 1920X1200P@60, 3840X2160P@30;
Clock Jitter	<0.15Tbit
Risetime	<0.3Tbit (20%--80%)
Falltime	<0.3Tbit (20%--80%)
Max. transmission delay	5nS(±1nS)
Interface	2 HDMI ports, 2 3.5mm audio jacks
Signal strength	T.M.D.S. +/- 0.4Vpp
Min / Max level	T.M.D.S. 2.9V/3.3V
Impedance	50 Ω
EDID	N/A
Maximum DC offset error	15mV
Recommended maximum input / output distance	When input distance is less than 35 meters at 1600x1200@60, it is recommended to use certified HDMI special cable, such as Molex TM cable
Product weight	0.5KG
Max power consumption	20W

## VW-HD4I HDBaseT INPUT CARD



### Features

- 4 channel high-speed RJ45 interface seamless output, 4 channel 6PIN Phoenix socket interface
- Using CAT5e / 6 cable output the longest distance up to 1080P@60HZ 100M
- Hot swap of card, audio and video signal switching together
- Infrared serial port output, optional IO switch card, can realize infrared serial port switch
- Compatible with HDBaseT protocol
- Maximum supported resolution:

HDPC: 1920x1200P@60;

HDTV: 1920x1080P@60

### Technical parameter

Model	VW-HD4I
Link port input / output	
Interface	4 channel high-speed RJ45 and 4 channel 6PIN Phoenix
Supported protocols	HDBaseT protocol
Pixel bandwidth	165MHz, full digital
Interface bandwidth	2.25Gbps, full digital (total 6.75Gbps, each color is 2.25Gbps)
Resolution	800x600@60, 1024x768@60, 1280x720@60, 1280x768@60, 1280x800@60, 1280x960@60, 1280x1024@60, 1360x768@60, 1366x768@60, 1440x900@60, 1600x900@60, 1600x1200@60, 1920x1200P@60, 1920x1080P@60, 1920x1080i@50, 1920x1080i@60;
Signal type	High-speed differential signals defined in HDBaseT protocol
Network cable power supply	With POC power supply (+ 48V), for POC Powered by our company's CAT5 series transmitter, this card input port can provide power to it through the network cable
Impedance	50 Ω
EDID	Default EDID (Optional)
Maximum DC offset error	15mV
Recommended maximum input / output distance	When maximum input distance is 100 meters at 1600x1200@60, it is recommended to use NEXANS CAT5e/6 special cable
Product weight	0.5KG
Maximum power consumption	27W



## VW-SDI4I SDI INPUT CARD



### Features

- 4 channel BNC female interface, 4 way BNC female interface ring out;
- Support hot plugging;
- HD / 3G SDI signal input
- Maximum supported resolution: HDPC: 1920x1200P@60; HDTV: 1920x1080P@60

### Technical parameter

Model	<b>VW-SDI4I</b>
Interface	4 channels BNC input, 4 channels BNC loop out
Supported protocols	SMPTE 425M, SMPTE 424M, SMPTE 292M, SMPTE 259M-C, DVB-ASI
Pixel bandwidth	2.970Gb/s, 1.485Gb/s, 270Mb/s
Resolution	1920x1080@25, 1920x1080P@30, 1280x720@60, 1280x720@50, 1920X1080P@60, 1920x1080i@50, 1920X1080i@60;
Support format	HD-SDI 3G-SDI
Product weight	0.5KG
Maximum power consumption	20W

## VW-DV4I DVI INPUT CARD



### Features

- 4 channel DVI-D interface, 3.5mm audio socket
- The longest distance up to 35 meters;
- Hot swap, support audio and video signal switching together
- Analog audio and DVI video signal input
- EDID reading function
- Using DVI1.0 protocol
- Maximum supported resolution: HDCP: 1920x1200P@60; HDTV: 1920x1080P@60

### Technical parameter

Model	VW-DV4I
Protocol	DVI1.0 protocol
Video	
Gain	0dB
Pixel bandwidth	165MHz, full digital
Interface bandwidth	2.25Gbps, full digital (total 6.75Gbps, each color is 2.25Gbps)
Resolution	800x600@60, 1024x768@60, 1280x720@60, 1280x768@60, 1280x800@60, 1280x960@60, 1280x1024@60, 1360x768@60, 1366x768@60, 1440x900@60, 1600x900@60, 1600x1200@60, 1920x1080P@60, 1920x1200P@60, 1920x1080i@50, 1920x1080i@60
Clock Jitter	<0.15Tbit
Risetime	<0.3Tbit (20%--80%)
Falltime	<0.3Tbit (20%--80%)
Max. transmission delay	5nS(±1nS)
Interface	4 x DVI-D female interface, 4 x 3.5mm Audio Jacks
Signal strength	T.M.D.S. +/- 0.4Vpp
Min / Max level	T.M.D.S. 2.9V/3.3V
Impedance	50 Ω
EDID	Default EDID and read function (Optional)
Maximum DC offset error	15mV
Recommended maximum input / output distance	When input transmitter distance is less than 35 meters at 1600x1200@60, it is recommended to use certified DVI dedicated cable, such as Molex TM cable.
Product weight	0.5KG
Max power consumption	15W

## VW-SF4I OPTICAL FIBER INPUT CARD



### Features

- 4x single core optical fiber inputs;
- Support hot plugging;
- Matching with optical fiber transmitter can realize input signal transmission of 300 meters (multimode) or maximum 20 kilometers (single mode)
- Optional IO switch card can realize infrared serial port switch;
- Input maximum supported resolution:: HDPC: 1920x1200P@60; HDTV: 1920x1080P@60

### Technical parameter

Model	VW-SF4I
Interface	4 high-speed single-core SC fiber interface
Video	
Fiber optic interface	SC connector
Fiber type	Multimode/Single Mode (optional)
Wavelength	Multimode 850nm/Single Mode: 1310-1620nm(optional)
Interface bandwidth	Forward: 6.25Gbps, Reverse: 3.125Gbps
Clock Jitter	<0.15 Tbit
Risetime	<0.3Tbit (20%--80%)
Falltime	<0.3Tbit (20%--80%)
Recommended maximum input distance	OM3 multimode fiber: less than 300 meters, single mode fiber: 2 ~ 20 kilometers, at 1920x1080p@60
Resolution	800x600@60, 1024x768@60, 1280x720@60, 1280x768@60, 1280x800@60, 1280x960@60, 1280x1024@60, 1360x768@60, 1366x768@60, 1440x900@60, 1600x900@60, 1600x1200@60, 1920x1080P@60, 1920X1200P@60, 1920x1080i@50, 1920X1080i@60;
Product weight	0.5KG
Maximum power consumption	20W

## VW-IP2I IP Streaming INPUT CARD



### Features

- 2 high-speed RJ45 ports;
- Use CAT5e / 6 cable to output the longest distance up to 100M;
- Support web login to set network protocol, local network parameters or remote network parameters and other parameters;
- Can receiving fixed IP address video, or automatically search for encoding devices on the network;
- Support onvif, RTP, RTSP, RTCP, TCP, UDP and other network protocols;
- Support G711a, G711u, G726 and ADPCM audio encoding;
- Support Mainstream cameras such as HIKVISION, Dahua and Huawei;
- Maximum supported resolution: 4K@30Hz.

### Technical parameter

Model	VW-IP2I
Network protocol	
Onvif, RTP, RTCP, RTSP, TCP, UDP	
Video	
Network port bandwidth	100M
Video compression	H.264 MainProfile/ H.264 Baseline Profile / H.264 HighProfile
Audio compression	G711a, G711u, G726, ADPCM
Control protocol	Support standard protocol ONVIF
Maximum transmission delay	100ms (depending on coding delay and network transmission delay)
IP parameters	Port1 default IP: 192.168.1.100, Port2 default IP: 192.168.2.100, Port3 default IP: 192.168.1.200, Port4 default IP: 192.168.2.200
Resolution and frame rate	3840X2160P@30, 1920X1200P@60, 1920×1080@60Hz, 1920×1080@30Hz, 1920x1080@25Hz, 1280×720@60Hz, 1280x1024@60Hz, 1280x960@60Hz, 704x576@60Hz, 704x576@30Hz, 704x576@25Hz, 704x480@60Hz, 704x480@30Hz, 704x480@25Hz, 352x288@60Hz, 352x288@30Hz, 352x288@25Hz;
Recommended maximum input distance	100M
Product weight	0.5KG
Max. power consumption	25W

## VW-HM40 HDMI SEAMLESS OUTPUT CARD



### Features

- With 4 channels HDMI-A interface seamless output, 3.5mm audio socket
- Maximum output distance up to 7 meters
- Hot swap of card, audio and video signal switching together
- Analog audio and HDMI embedded audio can output at the same time
- EDID read function
- Compatible with HDMI1.3a standard, HDCP1.3 protocol, DVI1.0 protocol
- Maximum supported resolution: HDPC: 1920x1200P@60; HDTV: 1920x1080P@60

### Technical parameter

Model	<b>VW-HM40</b>
Protocol	HDMI1.3a standard, HDCP1.3 protocol, DVI1.0 protocol;
Video	
Gain	0dB
Pixel bandwidth	165MHz, full digital
Interface bandwidth	2.25Gbps, full digital (total 6.75Gbps, each color is 2.25Gbps)
Resolution	800x600@60, 1024x768@60, 1280x720@60, 1280x768@60, 1280x800@60, 1280x960@60, 1280x1024@60, 1360x768@60, 1366x768@60, 1440x900@60, 1600x900@60, 1600x1200@60, 1920x1080@25, 1920x1080P@30, 1920x1080P@60, 1920x1200P@60, 1920x1080i@50, 1920X1080i@60;
Clock Jitter	<0.15Tbit
Risetime	<0.3Tbit (20%--80%)
Falltime	<0.3Tbit (20%--80%)
Max. transmission delay	5nS(±1nS)
Interface	4 HDMI-A ports, 4 3.5mm audio jacks
Signal strength	T.M.D.S. +/- 0.4Vpp
Min/max level	T.M.D.S. 2.9V/3.3V
Impedance	50 Ω
EDID	N/A
Maximum DC offset error	15mV
Recommended maximum input / output distance	When the output distance is less than 7 meters, at 1600x1200@60, it is recommended to use certified HDMI dedicated cable, such as Molex TM cable
Product weight	0.5KG
Max. power consumption	15W

## VW-HM20 HDMI 4K SEAMLESS OUTPUT CARD



### Features

- 2 channels HDMI-A interface seamless output, 3.5mm audio socket
- The longest output distance is up to 7 meters
- Hot swap, support audio and video signal switching together
- Analog audio and HDMI embedded audio can output at the same time
- EDID read function
- Maximum supported resolution: 4Kx2K@30Hz

### Technical parameter

Model	<b>VW-HM20</b>
Protocol	HDMI1.4 standard, HDCP1.3 protocol, DVI1.0 protocol;
Video	
Gain	0dB
Pixel bandwidth	297MHz, full digital
Interface bandwidth	4.5Gbps full digital (13.5Gbps in total, 4.5Gbps for each color)
Resolution	800x600@60, 1024x768@60, 1280x720@60, 1280x768@60, 1280x800@60, 1280x960@60, 1280x1024@60, 1360x768@60, 1366x768@60, 1600x900@60, 1600x1200@60, 1920x1080P@60, 1920X1200P@60, 3840X2160P@30
Clock Jitter	<0.15Tbit
Risetime	<0.3Tbit (20%--80%)
Falltime	<0.3Tbit (20%--80%)
Maximum transmission delay	5nS(±1nS)
Interface	2 HDMI ports, 2 3.5mm audio jacks
Signal strength	T.M.D.S. +/- 0.4Vpp
Min / Max level	T.M.D.S. 2.9V/3.3V
Impedance	50 Ω
EDID	N/A
Maximum DC offset error	15mV
Product weight	0.5KG
Max power consumption	20W

## VW-HD40 HDBaseT SEAMLESS OUTPUT CARD



### Features

- 4 channel high-speed RJ45 interface seamless output, 4 channel 6PIN Phoenix connector;
- Use CAT5e / 6 cable to output the longest distance up to 100M;
- Hot swap of card, audio and video signal switching together;
- Infrared serial port output, optional IO switch card, can realize infrared serial port switch;
- Compatible with HDBaseT protocol;
- Maximum supported resolution:

HDPC: 1920x1200P@60; HDTV: 1920x1080P@60

### Technical parameter

Model	VW-HD40
Link port input / output	
Interface	4 channel high-speed RJ45 and 4 channel 6PIN Phoenix
Supported protocols	HDBaseT protocol
Pixel bandwidth	165MHz, full digital
Interface bandwidth	2.25Gbps, full digital (total 6.75Gbps, each color is 2.25Gbps)
Resolution	800x600@60, 1024x768@60, 1280x720@60, 1280x768@60, 1280x800@60, 1280x960@60, 1280x1024@60, 1360x768@60, 1366x768@60, 1440x900@60, 1600x900@60, 1600x1200@60, 1920x1080P@60, 1920x1200P@60, 1920x1080i@50, 1920X1080i@60;
signal type	High-speed differential signals defined in HDBaseT protocol
Network cable power supply	With POC power supply (+ 48V), for POC For the CAT5 series transmitter of our company, this card input port can provide power to it through the network cable.
Impedance	50 Ω
EDID	N/A
Recommended maximum input / output distance	When maximum distance is 100 meters, at 1600x1200@60, it is recommended to use NEXANS CAT5e/6 special cable
Product weight	0.5KG
Max power consumption	22W

## VW-SDI40 SDI SEAMLESS OUTPUT CARD



### Features

- 4 channel BNC female interface, 4 way BNC female interface ring out;
- Support hot plugging;
- HD / 3G SDI signal output
- Maximum supported resolution: HDPC: 1920x1200P @ 60; HDTV: 1920x1080P @ 60

### Technical parameter

Model	<b>VW-SDI40</b>
Interface	4 channels BNC output, 4 channels BNC loop out
Supported protocols	SMPTE 425M, SMPTE 424M, SMPTE 292M, SMPTE 259M-C, DVB-ASI
Pixel bandwidth	2.970Gb/s, 1.485Gb/s, 270Mb/s
Resolution	1920x1080@25, 1920x1080P@30, 1280x720@60, 1280x720@50, 1920X1080P@60, 1920x1080i@50, 1920X1080i@60;
Support format	HD-SDI, 3G-SDI
Product weight	0.5KG
Maximum power consumption	20W



## VW-DV40 DVI OUTPUT CARD



### Features

- 4 channel DVI-D interface, 3.5mm audio socket
- The longest distance up to 35 meters;
- Hot swap, support audio and video signal switching together
- Analog audio and DVI video signal input
- EDID reading function
- Using DVI1.0 protocol
- Maximum supported resolution: HDCP: 1920x1200P@60; HDTV: 1920x1080P@60

### Technical parameter

Model	<b>VW-DV40</b>
Protocol	DVI1.0 protocol
Video	
Gain	0dB
Pixel bandwidth	165MHz, full digital
Interface bandwidth	2.25Gbps, full digital (total 6.75Gbps, each color is 2.25Gbps)
Resolution	800x600@60, 1024x768@60, 1280x720@60, 1280x768@60, 1280x800@60, 1280x960@60, 1280x1024@60, 1360x768@60, 1366x768@60, 1440x900@60, 1600x900@60, 1600x1200@60, 1920x1080P@60, 1920x1200P@60, 1920x1080i@50, 1920x1080i@60;
Clock Jitter	<0.15Tbit
Risetime	<0.3Tbit (20%--80%)
Falltime	<0.3Tbit (20%--80%)
Max. transmission delay	5nS ( $\pm$ 1nS)
Interface	4 x DVI-D female interface, 4 x 3.5mm Audio Jacks
Signal strength	T.M.D.S. +/- 0.4Vpp
Min / Max level	T.M.D.S. 2.9V/3.3V
Impedance	50 $\Omega$
EDID	N/A
Maximum DC offset error	15mV
Recommended maximum input / output distance	When output distance is less than 7 meters, at 1600x1200@60, it is recommended to use certified DVI dedicated cable, such as Molex TM cable
Product weight	0.5KG
Max. power consumption	15W

## VW-SF40 OPTICAL FIBER OUTPUT CARD



### Features

- 4x single core optical fiber inputs;
- Support hot plugging;
- Matching with optical fiber transmitter can realize input signal transmission of 300 meters (multimode) or maximum 20 kilometers (single mode)
- Optional IO switch card can realize infrared serial port switch;
- Input maximum supported resolution: HDCP: 1920x1200P@60; HDTV: 1920x1080P@60

### Technical parameter

Model	<b>VW-SF40</b>
Interface	4 high-speed single-core SC fiber interface
Video	
Fiber optic interface	SC connector
Fiber type	Multimode/Single Mode (optional)
wavelength	Multimode 850nm/Single Mode: 1310 - 1620nm(optional)
Interface bandwidth	Forward: 6.25Gbps, Reverse: 3.125Gbps
Clock Jitter	<0.15 Tbit
Risetime	<0.3Tbit (20%--80%)
Falltime)	<0.3Tbit (20%--80%)
Recommended maximum input / output distance	OM3 multimode fiber: less than 300 meters, single mode fiber: 2 ~ 20 kilometers, at 1920x1080p@60
Resolution	800x600@60, 1024x768@60, 1280x720@60, 1280x768@60, 1280x800@60, 1280x960@60, 1280x1024@60, 1360x768@60, 1366x768@60, 1440x900@60, 1600x900@60, 1600x1200@60, 1920x1080P@60, 1920X1200P@60, 1920x1080i@50, 920X1080i@60;
Product weight	0.5KG
Maximum power consumption	20W

## VP-HM40 SEAMLESS SPLICING HDMI OUTPUT CARD



### Features

- 4 channel HDMI splicing output card
- Maximum resolution 1920 \* 1200
- Each channel supports windows with 2 pictures, overlay, roaming, arbitrary zoom
- Audio de-embedding output

### Technical parameter

Model	VP-HM40
Protocol	HDMI1.3a standard, HDCP1.3 protocol, DVI1.0 protocol;
Video	
Gain	0dB
Pixel bandwidth	165MHz, full digital
Interface bandwidth	2.25Gbps full digital (total 6.75Gbps, each color is 2.25Gbps)
Resolution	800x600@60, 1024x768@60, 1280x720@60, 1280x768@60, 1280x800@60, 1280x960@60, 1280x1024@60, 1360x768@60, 1366x768@60, 1600x900@60, 1600x1200@60, 1920x1080P@60, 1920x1200P@60;
Control scale	A single unit can control a maximum of 288 screens and multiple sets of screens, which can save and quickly recall 200 plans
Clock Jitter	<0.15Tbit
Risetime	<0.3Tbit (20%--80%)
Falltime	<0.3Tbit (20%--80%)
Max. transmission delay	5nS(±1nS)
Interface	4 HDMI-A ports, 4 3.5mm audio jacks
Signal strength	T.M.D.S. +/- 0.4Vpp
Min/max level	T.M.D.S. 2.9V/3.3V
Impedance	50 Ω
EDID	N/A
Maximum DC offset error	15mV
Recommended maximum input / output distance	When the output distance is less than 7 meters, at 1600x1200@60, it is recommended to use certified HDMI dedicated cable, such as Molex TM cable
Product weight	0.5KG
Max. power consumption	15W

## VP-HM20 SEAMLESS SPLICING HDMI OUTPUT CARD



### Features

- 2xHDMI splicing output card
- Maximum resolution 1920 \* 1200
- Each channel supports windows with 4 pictures, overlay, roaming, arbitrary zoom
- Audio de-embedding output

### Technical parameter

Model	<b>VP-HM20</b>
Protocol	HDMI1.3a standard, HDCP1.3 protocol, DVI1.0 protocol;
Video	
Gain	0dB
Pixel bandwidth	165MHz, full digital
Interface bandwidth	2.25Gbps full digital (total 6.75Gbps, each color is 2.25Gbps)
Resolution	800x600@60, 1024x768@60, 1280x720@60, 1280x768@60, 1280x800@60, 1280x960@60, 1280x1024@60, 1360x768@60, 1366x768@60, 1600x900@60, 1600x1200@60, 1920x1080P@60, 1920X1200P@60;
Control scale	A single unit can control a maximum of 288 screens and multiple sets of screens, and can save 200 plans
Clock Jitter	<0.15Tbit
Risetime	<0.3Tbit (20%--80%)
Falltime	<0.3Tbit (20%--80%)
Max. transmission delay	5nS(±1nS)
Interface	2 HDMI ports, 2 3.5mm audio jacks
Signal strength	T.M.D.S. +/- 0.4Vpp
Min/max level	T.M.D.S. 2.9V/3.3V
Impedance	50 Ω
EDID	N/A
Maximum DC offset error	15mV
Product weight	0.5KG
Max. power consumption	20W

## VP-HD40 SEAMLESS SPLICING HDBaseT OUTPUT CARD



### Features

- 4 channels high-speed RJ45 interface output, 4 channels 6PIN Phoenix socket interface
- With splicing function
- Use CAT5e / 6 cable to output the longest distance up to 100M
- Infrared serial port output, optional IO switch card, can realize infrared serial port switch
- Compatible with HDBaseT protocol
- Has external POC power supply, POC power supply needs to be selected, models above 3636 has this function
- 4 channel twisted pair splicing output, onboard RS232, IR interface
- 2 windows can be opened on a single screen, and signals can be overlap, roaming, and zoomed arbitrarily

### Technical parameter

Model	VP-HD40
Link port input / output	
Interface	4 high-speed RJ45 seats and 4 6PIN Phoenix seats
Video	
Supported protocols	HDBaseT protocol.
Pixel bandwidth	165MHz, full digital
Interface bandwidth	2.25Gbps, full digital (total 6.75Gbps, each color is 2.25Gbps)
Resolution	800x600@60, 1024x768@60, 1280x720@60, 1280x768@60, 1280x800@60, 1280x960@60, 1280x1024@60, 1360x768@60, 1366x768@60, 1600x900@60, 1600x1200@60, 1920x1080P@60, 1920X1200P@60;
Control scale	A single unit can control up to 288 screens and multiple groups of screens, and can save and quickly recall 128 plans
Signal type	High-speed differential signals defined in HDBaseT protocol
Network cable power Supply	With POC power supply (+ 48V), POC power supply needs to be used with the company's CAT5 series transmitter. This card output port can provide power to it through the network cable.
Impedance	50Ω
EDID	N/A
Maximum DC offset error	15mV
Recommended maximum input / output distance	When maximum distance is 100 meters at 1600x1200 @ 60, it is recommended to use NEXANS CAT5e/6 special cable
Product weight	0.5KG
Max power consumption	22W

## VP-HD20 SEAMLESS SPLICING HDBaseT OUTPUT CARD



### Features

- 2 high-speed RJ45 interface output, 2 6PIN Phoenix connectors
- With splicing function
- Use CAT5e / 6 cable to output the longest distance up to 100M
- Support hot plugging
- Infrared serial port output, optional IO switch card, can realize infrared serial port switch
- Compatible with HDBaseT protocol
- Available for external POC power supply, POC power supply needs to be selected, models above 3636 has this function
- 2 channel twisted pair splicing output, onboard RS232, IR interface
- 4 windows can be opened on a single screen, and signals can be overlap, roaming, and zoomed arbitrarily

### Technical parameter

Model	VP-HD20
Link port input / output	
Interface	2 high-speed RJ45 seats and 2 6PIN Phoenix seats
Video	
Supported protocols	HDBaseT protocol.
Pixel bandwidth	165MHz, full digital
Interface bandwidth	2.25Gbps, full digital (total 6.75Gbps, each color is 2.25Gbps)
Resolution	800x600@60, 1024x768@60, 1280x720@60, 1280x768@60, 1280x800@60, 1280x960@60, 1280x1024@60, 1360x768@60, 1366x768@60, 1600x900@60, 1600x1200@60, 1920x1080P@60, 1920x1200P@60;
Control scale	A single unit can control up to 144 screens and multiple groups of screens, and can save and save 128 plans.
Signal type	High-speed differential signals defined in HDBaseT protocol
Network cable power supply	With POC power supply (+ 48V), POC power supply needs to be used with the company's CAT5 series transmitter. This card output port can provide power to it through the network cable.
Impedance	50Ω
EDID	N/A
Maximum DC offset error	15mV
Recommended maximum input / output distance	When maximum is 100 meters at 1600x1200@60, it is recommended to use NEXANS CAT5e/6 special cable
Product weight	0.5KG
Max. power consumption	22W

## About VISSONIC Electronics Limited

Our mission is to develop and manufacture the most comprehensive and innovative audio visual products for our clients. We provide the best performance/price ratio products because it could give you satisfaction just from the time you use them, we believe the good design with cutting edge technology on products will provide value to all our partners and end users. Listen to your demands, we fulfill it.



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