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VISUAL WORLD CO., LTD.

VW2

LED VIDEO CONTROLLER

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Product Overview

The VW2 led video controller is a professional video processing and control device featuring a pure hardware FPGA design architecture. All boards are modular in design and offer a comprehensive range of input and output interfaces, allowing for flexible configuration of input and output boards to meet diverse project requirements. It is widely used in television stations, dispatch rooms, command centers, exhibition halls, conference rooms, stage performances, data centers, and multi-purpose halls.

The VW2 led video controller supports 8K ultra -high-definition video access, multi-screen and multi-layer management, input and output EDID management , input preview, 3D output, and Genlock , meeting diverse and complex project requirements.

Features

- **2U chassis with flexible expansion and super load capacity**
  - A single card supports 8-channel 2K@60Hz input.
  - The single board supports 2-channel 4K@60H z input and supports input of up to 8K × 2K@60Hz .
  - The single-board card supports 8 network port outputs and a maximum load of 5.2 million pixels.
  - The whole machine supports 24- channel 2K@60Hz input and 32channel network output at the same time, with a maximum load of 23 million pixels.
- **8K input, massive layers**
  - Single channel supports DP1.4 input , with a maximum resolution of 8K 4K @30Hz .
  - A single card supports a maximum of 16 2K @60Hz layers, 8 4K @30Hz layers, or 4 4K @60Hz layers.
  - A single machine supports up to 16 2K layers.
  - Equipped with a front-mounted touch LCD control panel, allowing quick selection of input signal sources such as HDMI and DisplayPort.
- **Innovative architecture, layer sharing**
  - Unique hardware architecture design builds a layer resource pool for the entire machine , enabling layer resource sharing across the entire machine .
- **Web control, convenient and fast**
  - No software installation is required, it uses web -based control and is not restricted by operating systems or platforms.
  - The operation is simple and fast, with real-time response and easy configuration of complex scenarios.
  - Real-time preview function can be realized without the need for an external monitoring board
- **Multiple management methods , easy management**
  - Scene Management: Different preset parameters can be saved as scenes, supporting one-click call of single-screen and multi-screen scenes for easy switching.
  - Group screen management: Supports management of up to 8 groups of screens, and each group of screens can customize the output resolution, making it easy to complete complex scene display control.
  - Supports automatic brightness adjustment based on ambient light conditions, or manual adjustment according to presentation content requirements.
- **Diverse display , rich visual experience**
  - Rolling subtitles:
    - Subtitles can be displayed statically or scrolled dynamically. Users can set the font, subtitle background, scrolling mode, etc.
    - A single screen supports up to 4 subtitles.
  - Seamless switching: When switching signals or calling scenes, there is no black screen, no flickering, and no lag during the entire process.
  - Supports automatic scaling (zoom in/out) of displayed content to ensure compatibility with input signal resolution.
  - Supports high dynamic range (HDR) image content, compatible with HDR10 standard

- **Intelligent monitoring and backup , stable and reliable**
  - Real-time hardware monitoring: Supports hardware monitoring, including real-time monitoring of each hardware module's temperature and voltage , firmware version, operating status , fan speed , etc.
  - Support remote upgrade: Program upgrades can be performed remotely, making system maintenance simple.
  - Support input module and output module backup: Automatic switching in case of failure, double protection of system operation , and the switching process does not affect equipment operation.

Appearance

Front panel appearance

Rear panel appearance

Ilustrate

The machine back panels posted in this article are all samples and are for reference only. Please refer to the actual product purchased.

Rear panel silk screen description:

1 The marked slot is an input slot and can only be used to install input cards.

6 The marked slots are output slots and can only be used to install output cards.

CTRL The marked slot is the control board slot and can only be used to install a control board.

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User-Friendly Wide View Angle Super Slim High Definition High contrast Fast Installation Easy Repair Good Heat Control Super Light

INPUT BOARD INTRODUCTION	
1 ×HDMI 2.0 input board	
Performance parameters	**HDMI 2.0 input interface** • Number of input interfaces: 1 -way HDMI 2.0 • Maximum input resolution: 4096×2160@60Hz or 7680×1200@60Hz • Custom resolution: ○ Maximum width 8192 (8192 × 1080@60Hz) ○ Maximum height 8192 (1000 × 8192 @ 60 Hz) • Video input formats: RGB444, YCbCr444 , 4x22 , 4x20 • Support channel-associated audio **Input card specifications** • Input signal level: TMDS /CML • Impedance: Differential 100ohm • Power consumption: 5W **Indicator status description** • Steady on: Input signal is connected normally • Off: Input is not connected or input is abnormal
1 × DP1.2 input board	
Performance parameters	**DP 1.2 input interface** • Number of input interfaces: 1 DP 1.2 • Maximum input resolution: 4096×2160@60Hz or 7680×1200@60Hz • Custom resolution: ○ Maximum width 7680 (7680 × 1200@60Hz) ○ Maximum height 7680 (1080 × 7680 @ 60 Hz) • Video input formats: RGB444, YCbCr444 , 4x22 , 4x20 • Support channel-associated audio **Input card specifications** • Input signal level: TMDS /CML • Impedance: Differential 100ohm • Power consumption: 5W **Indicator status description** • Steady on: Input signal is connected normally • Off: Input is not connected or input is abnormal
OUTPUT BOARD INTRODUCTION	
1 x 8 NET output board	
Performance parameters	**Network output interface** • 8-way R J45 Gigabit network port • The maximum supported resolution of a single card is 5.2 million pixels, and the maximum supported resolution of a single network port is 4,096 pixels . • Single network port load ○ outputting 60Hz frame rate, 8bit supports 650,000 pixels ○ outputting 120Hz frame rate, 8bit supports 320,000 pixels • Support network port backup • Supports arbitrary layout of network port positions within the device load range **Output card specifications** • Power consumption: 5W **Network port indicator status description** • The yellow light is off, and the green light is off: The network cable is not connected or the network port hardware is faulty. • Yellow light is always on, green light is always on: connection is normal, no communication • Yellow light flashes, green light is always on: connection is normal, communication is normal **Single network port, the left side is yellow and the right side is green*

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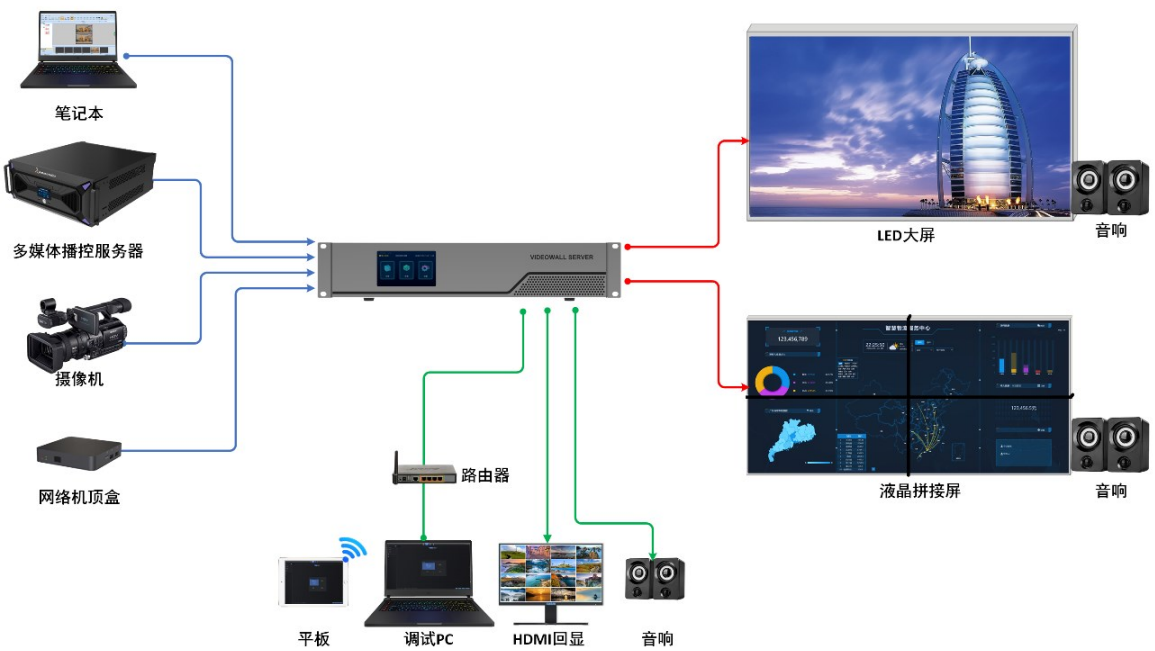
CONTROL BOARD INTRODUCTION	
1 x Control board	
Performance parameters	**Interface parameters** • COM-1: RS232 control port, can be connected to the central control system • COM-2: RS232 control port, can be connected to the central control system; can be used as the COM-1 loop-out port • USB: USB 3.0 port, used for system upgrades only and cannot be used to power other devices. • ETHERNET: Gigabit Ethernet port, communication interface, connected to control computer, router or switch for Web control and pre-monitoring. **Indicator status description** • RUN light status ○ Flashing: The device is starting up ○ Fixed frequency flashing: 1/2S, the system is operating normally ○ No flash or no light: System failure (after the device is turned on) • PWR indicator status ○ Steady on: The device is powered normally. ○ Off: The device power supply is abnormal.

Scene topology diagram



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SPECIFICATIONS

Model	VW2
CHASSIS SPECIFICATIONS	
Chassis	2U
Maximum number of supported input cards	3
Maximum number of supported input channels	Route 24
Maximum number of supported output cards	4 sheets
Maximum number of supported output network ports	Route 32
Maximum number of layers	16
Input power	100-240V~, 50/60Hz, 3-1.5A
Power consumption of the whole machine	120W
Work Environment	0 ~45 ℃, 0% RH ~ 80% RH, non-condensing
Storage environment	-20 ℃ ~65 ℃, 0%RH ~ 95%RH, non-condensing
Dimensions	4 82.6mm × 343mm × 95mm (L×W×H)
Packing size	565mm × 465mm × 285mm (L×W×H)
Net weight	9Kg
Gross weight	10Kg
CARD BOARD SPECIFICATIONS	
HDMI 2.0 input board	• 1 x HDMI 2.0 input board • Number of input interfaces: 1 x HDMI 2.0 (4096×2160@60Hz or 7680×1200@60Hz)
DP1.2 input board	• 1 x DP1.2 input board • Number of input interfaces: 1 x DP 1.2 (4096×2160@60Hz or 7680×1200@60Hz)
8 port NET output board	• 4 x 8 port NET output board • Number of ouput interfaces: 8-way RJ45 Gigabit network port • The maximum supported resolution of a single card is 5.2 million pixels, and the maximum supported resolution of a single network port is 4,096 pixels .
Control Board	• 1 x Control Board • Number of ouput interfaces: ○ 1x COM-1: RS232 control port, can be connected to the central control system ○ 1x COM-2: RS232 control port, can be connected to the central control system; can be used as the COM-1 loop-out port ○ 1x USB: USB 3.0 port, used for system upgrades only and cannot be used to power other devices. ○ 1x ETHERNET: Gigabit Ethernet port, communication interface, connected to control computer, router or switch for Web control and pre-monitoring

Note: All product specifications are for reference only and subject to change without prior notice.

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