

16 x 8 Modular Video Wall Processor

VW1608

A 4U modular video wall processor with support for up to 16 input sources and 8 displays while featuring True 4K performance, flexible windowing technology, and enterprise-grade reliability, empowering LED video walls in space-constrained control rooms, corporate war rooms, energy centers, or any small-to-medium sized mission-critical environment.

Modular Design with Customizable I/O configurations

Purpose-built for 24/7 mission-critical operations, the modularly designed VW1608 contains 4 input board slots, 2 output board slots, and 1 CPU board slot to support up to 16 input sources and 8 displays. The ample amount of I/O board slots enable the customization of I/O combination to tailor it to any specific application. Its expansion capability also allows for decoding of multiple H.265 / H.264 streams at True 4K simultaneously via VW754 4-Channel 4K H.265 IP Stream Decoder Input Card for surveillance scenarios, improving situational awareness and decision-making.

Precision-Driven Visual Performance

Thanks to VW1608's FPGA architecture, it supports resolutions up to True 4K, near-zero-second seamless source switching, and outputs without delay. The built-in scaler allows for mix-and-match of displays of different resolutions and upscaling of video signals for crystal clear, accurate imagery regardless of the display size or type from LED, LCD, DLP, to other large screens. Besides, FrameSync technology ensures that all output signals remain synchronized to prevent image tearing and frame mismatch, providing seamless playback across multiple displays.

Optimum Component Redundancy, Optimized Serviceability

To keep operations running when every second counts, the VW1608 boasts optimum component redundancy via a hot-standby CPU control board, dual redundant power boards, hot-swappable I/O boards as well as a fan module, reducing downtime for 24/7 operation in critical spaces.

Daisy-Chainable for Backup and Expansion Purposes

An extra level of reliability is added with it being cascadable for backup / expansion purposes. The Backup Mode enables real-time replication of the system settings and configurations across two VW1608s. Whenever the primary unit malfunctions, the backup unit automatically takes control of video wall outputs to ensure uninterrupted display. As for the Expansion Mode, up to three VW1608s can be daisy-chained together to run as a unified system to drive a larger video wall of up to 24 displays while allowing for centralized control by the primary unit, synchronized video output clocking across all units, and consistent, frame-accurate playback without tearing or drift.

Advanced Windowing Technology

Window management from cropping, overlapping, cross-screen, picture-by-picture, picture-in-picture, to bezel compensation, and more is made easy with the powerful video wall engine. Plus, the VW1608 is able to output in real-time in any size based on the correct aspect ratio. Customizable logos / color schemes / calendar / clock / scrolling texts can be added for a tailored view for every piece of crucial information, meeting the specific needs in every mission-critical settings effectively.

Configure and Control via Multiple Methods Locally or from Afar

The VW1608 supports multiple control and monitor methods, including local HDMI output, RS-232, Ethernet, front panel buttons, web GUI, Telnet, and SSH, to overcome geographical limitations.

Front View



Rear View



Features

4U modular chassis with ample slot amount for system control and expansion

- Accepts up to 16 HDMI input ports and 8 HDMI output ports
- Compact, yet competent for LED video walls in small-to-medium sized mission-critical environments
- Modular board compatibility – Contains 7 board slots (4 input card slots, 2 output card slots, and 1 CPU board slot) to support multiple I/O boards for flexible configuration and future expandability

Superior Visual Quality for Mission-Critical Communications

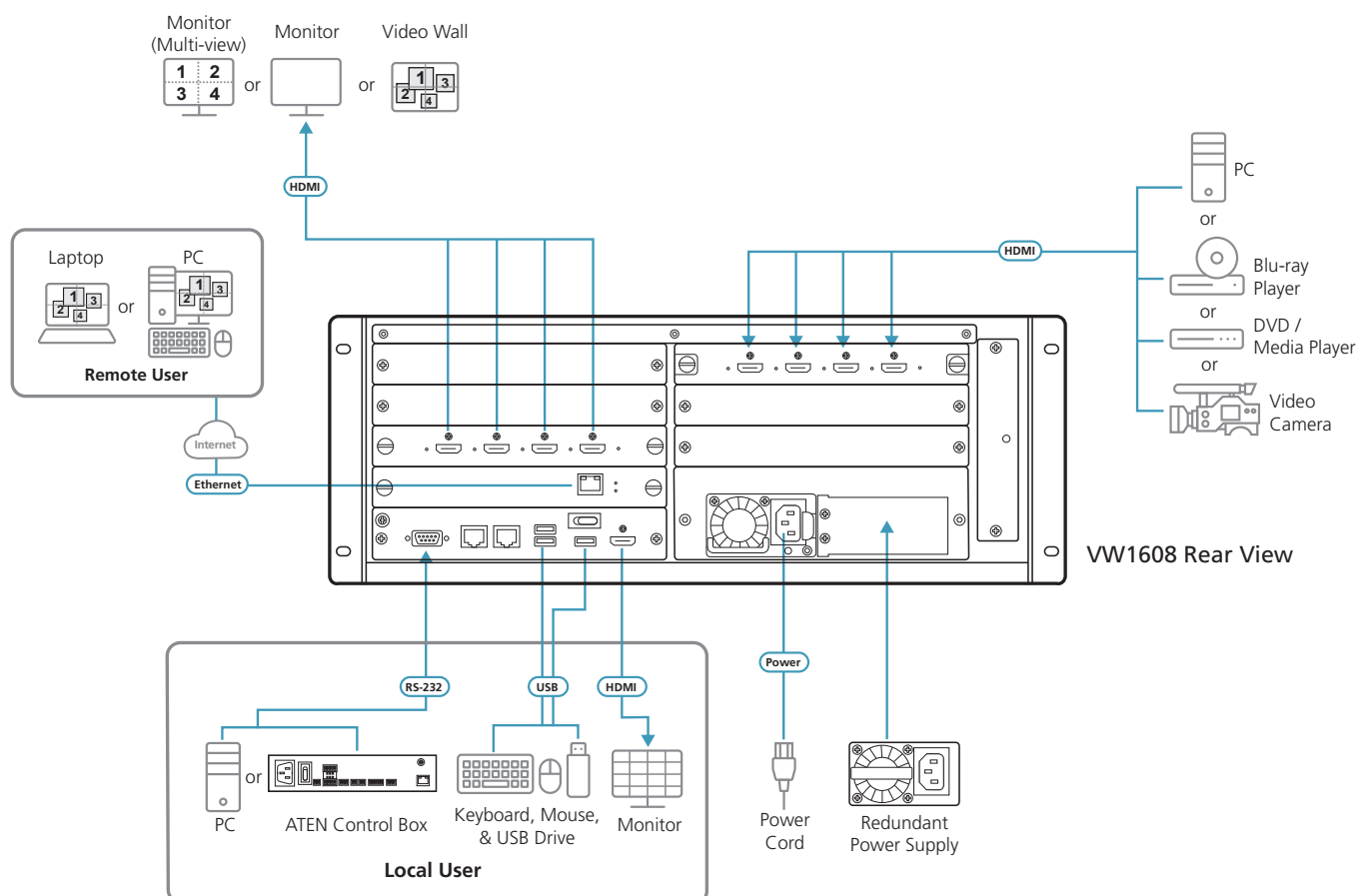
- FPGA architecture – supports True 4K inputs, near-zero-second seamless source switching, and outputs without delay
- True 4K@60Hz (4:4:4) scalability – supports custom resolutions and enables upscaling of video signals for crystal clear, accurate imagery regardless of the display size or type from LED, LCD, DLP, to other large screens
- Decodes high density H.265 / H.264 IP channels (via VW754) – ideal for surveillance control rooms and real-time monitoring scenarios
- Advanced video wall engine – allows easy window management via cropping, overlapping, picture-by-picture, picture-in-picture, bezel compensation, and more
- Multi-resolution support – allows mix-and-match of displays of different resolutions
- FrameSync – ensures that all output signals remain synchronized to prevent image tearing and frame mismatch, providing seamless playback across multiple displays
- EDID Expert™ – selects optimum EDID settings for smooth power-up, high quality display and use of the best video resolution across different screens
- Customizable logos / color schemes / calendar / clock / scrolling texts

Reliable 24/7 Operation

- Backup Mode 2x VW1608s daisy chain – the secondary unit continuously mirrors all system settings and configurations from a primary one in real time and takes control automatically when primary unit malfunction occurs for uninterrupted display performance
- Expansion Mode with 3x VW1608s daisy chain – up to 24 display outputs supported for larger video wall installation with centralized control being conducted by the primary unit while ensuring synchronized video output clocks across all units and consistent, frame-accurate playback without tearing
- Optimum component redundancy via a hot-standby CPU control board, dual redundant power boards (2 slots), and hot-swappable I/O boards as well as fan module

Direct and Remote Configurations and Control Methods

- Direct control via RS-232 / Ethernet and the front panel buttons
- Local HDMI output – monitor input signals and video wall layouts via Single / Array mode at up to 1080p in real-time from one display
- Remote control via web GUI, Telnet, and SSH to preview input signals in real-time and control outputs including content placement and management of up to 4 canvases
- Multiview – source monitoring in 2x2 or 4x4 layouts from a single display
- Integration with ATEN Control System and the 3rd party devices via RS 232 / Ethernet / RESTful API
- Built-in USB Type-A ports –video wall background image change and firmware upgrade



Specifications

	VW1608
Board Input	4 x Slot, up to 16 4K inputs (Note: Top 2 slots can be used as Function Board)
Board Output	2 x Slot, up to 8 4K outputs
Video Input	
Interfaces	Depends on which I/O board is inserted
Video Output	
Interfaces	Local Output: 1x HDMI Type A Female (Black)
Control	
RS-232	Connector: 1 x DB-9 Female (Black) Serial Control Pin Configurations: Pin2 = Tx, Pin 3=Rx, Pin 5= Gnd Baud Rate and Protocol: Baud Rate:19200, Data Bits:8, Stop Bits:1, Parity: No, Flow Control: No
Ethernet	Connector: 1 x RJ-45 Female
USB	3 x Keyboard / Mouse / FW upgrade & Storage* Note: Currently the USB ports support storage and firmware upgrade.
EDID Settings	EDID Mode: Default / Port1 / Remix / Customized (EDID Wizard support)
Communication	
Daisy Chain Ports	RJ-45 x 2
Connectors	
Power	1 x 3-Prong AC Socket
Power (Optional)	Redundancy, Optional Hot Swap PSU
Power	
Maximum Input Power Rating	100-240 VAC; 50-60Hz; 10A
Power Consumption	AC 110V:550W AC 220V:550W
Environmental	
Operating Temperature	0 – 40 °C
Storage Temperature	-20 – 60 °C
Humidity	0 – 80% RH, Non-Condensing
Physical Properties	
Housing	Metal
Dimensions (L x W x H)	48.20 x 46.61 x 17.67 cm
Weight	11.65 kg
Rack Height (U Spaces)	4U

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