

# 36 x 20 Modular Video Wall Processor

## VW3620

Purpose-built to meet the increasingly stringent system performance requirements in mission-critical applications, the VW3620 is a 7U, modular True 4K video wall processor with 7 input slots, 5 output slots, and 2 function board slots, which also work as input board slots, to support up to 36 input sources and 20 display terminals while being able to handle True 4K sources\* without delay. Advanced 4K@60 4:4:4 scaling technology plus the signal processing capability allow the VW3620 to deliver astonishing, accurate True 4K imagery.

The VW3620 is cascadable for backup / expansion purpose. The Backup Mode enables the replication of all the system settings and configurations across two VW3620s in real-time, so when the primary unit encounters a failure or becomes unresponsive, the backup unit automatically takes control of the video wall output with no manual intervention, ensuring uninterrupted display performance and minimizing downtime in mission-critical environments. As for the Expansion Mode, up to three VW3620s can be daisy-chained together to run as a unified system to drive a larger video wall of up to 60 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. In addition, the hot-standby CPU control board and dual hot-swappable power modules add an extra level of reliability. With input / output cards and cooling fan module also coming hot-swappable, the VW3620 guarantees 24/7 operation and easy maintenance in scenarios where system malfunction or shutdown is unacceptable.

Thanks to ATEN's cutting-edge windowing technology, the VW3620 supports multiple video walls with varying resolutions. Nearly restriction-free window placement functionality allows source cropping, overlap, and more, displaying a tailored view of every piece of crucial information. Organization logos, color schemes, calendar, clock, and scrolling text can be added to the video walls to widely broaden applications. Moreover, the VW3620 can be configured and controlled via various methods to overcome geographical limitations, from RS-232, Ethernet, the front panel buttons, web GUI to RESTful API. Integration with ATEN Control System and the 3rd party devices is allowed through its RS-232 and Ethernet interfaces as well as the support for RESTful APIs.

The VW3620's unrivalled video wall processing power, configurability and reliability have made it suitable for a range of mission-critical video wall applications, including command centers, control rooms, public security organizations, governments, or other large-scale digital signage scenarios such as exhibitions, broadcasting, and education organizations.

**Note:** By enabling the 4K@60 mode, you are able to play the video at 4K resolution (3840 × 2160) and 60 fps (frames per second) from port A and port C of the selected input card (VW784), which supports up to four 4K@30Hz inputs or two 4K@60Hz inputs.



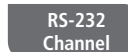
A/V In  
HDMI



A/V Out  
HDMI



FPGA  
Design



Front View



Rear View



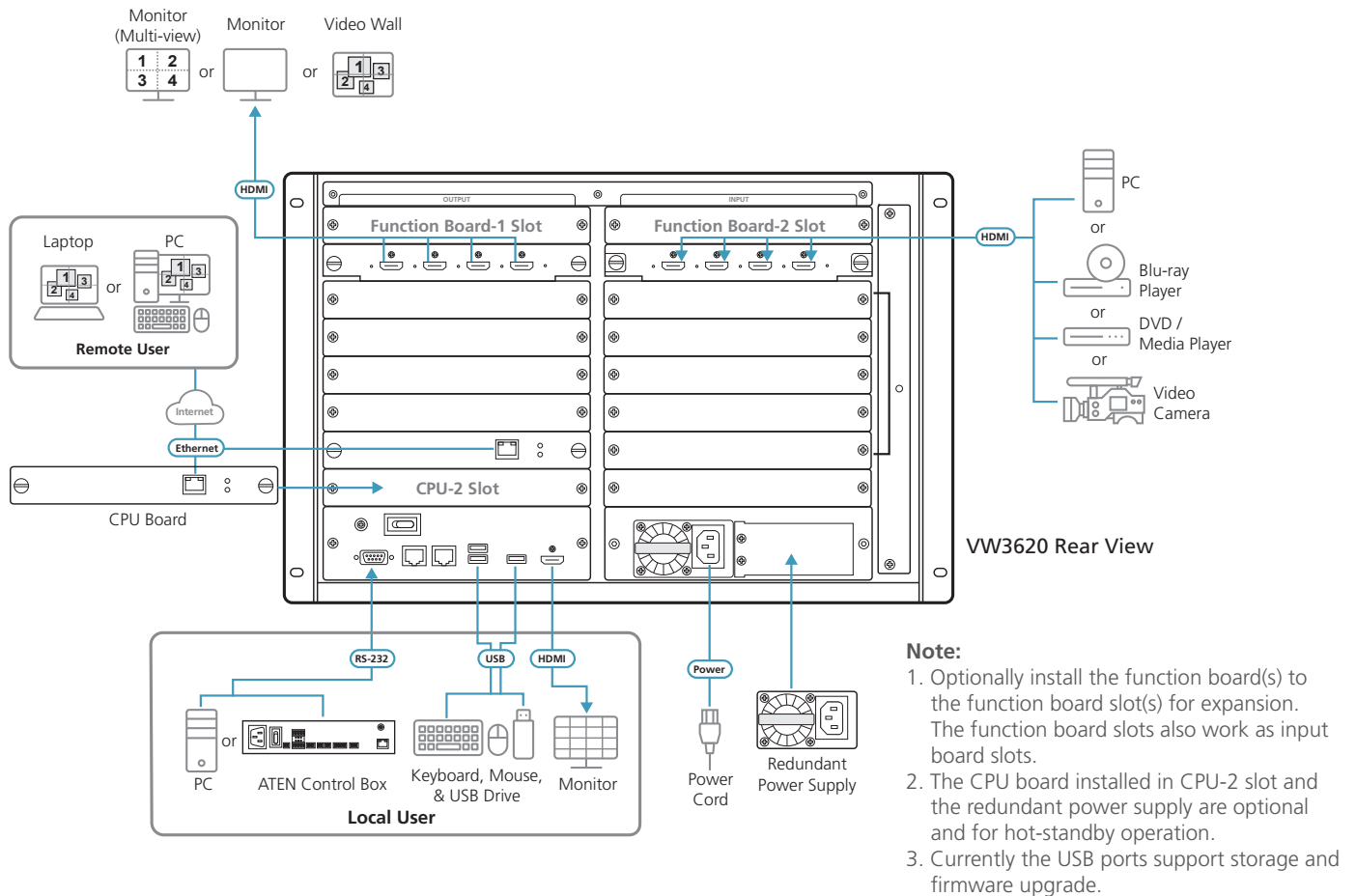
## Features

- Processes up to 36 input sources and manages up to 20 displays in any sizes at varying resolutions from a single 7U chassis
- Modular construction with 7 input slots, 5 output slots, and 2 function board slots, which also work as input board slots, to meet various expansion needs
- FPGA hardware architecture — handles True 4K input sources, supports near-zero-second seamless source switching, and transmits high quality video streams without delay
- True 4K@60 scalability with 4:4:4 signal processing — 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
- Backup Mode enabled with two VW3620s daisy-chained together — the secondary unit continuously mirrors all system settings and configurations from the primary one in real time and takes control automatically when any primary unit malfunctions occurs for uninterrupted display performance
- Expansion Mode enabled with up to three VW3620s daisy-chained together — supports up to 60 display outputs 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
- Reliable 24/7 operation with hot-swappable, redundant CPU control board and dual power modules, and hot-swappable input / output cards and cooling fan module
- HDMI (Deep Color, True 4K); HDCP 2.2 compliant
- Powerful windowing technology for nearly restriction-free content placement — outputs signals in real-time in customizable layouts, such as PiP, PbP, source cropping, overlapping, and spreading across multiple screens, and in any sizes based on the correct aspect ratio
- Supports Multiview — content source monitoring in 2x2 or 4x4 layouts from a single display
- Customizable elements to enhance organization identity and video wall presentation including logos, color schemes, calendar, clock, and scrolling text
- Direct control via RS 232 / Ethernet connection and the front panel buttons
- Remote control via intuitive Web GUI to preview input signals in real-time and control outputs including content placement and management of up to 4 canvases
- Local HDMI output — monitoring of video input signals and video wall layouts via Single / Array mode at up to 1080p in real-time from one 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
- Supports FrameSync — avoids image tearing by synchronizing the scaler output frame rate to the input signal frame rate
- EDID Expert™ — selects optimum EDID settings for smooth power-up, high-quality display and use of the best video resolution across different screens
- Supports SSH to strengthen data and information protection
- Perfect for mission-critical video wall applications, including command centers, control rooms, public security organizations, governments, or other large-scale digital signage scenarios

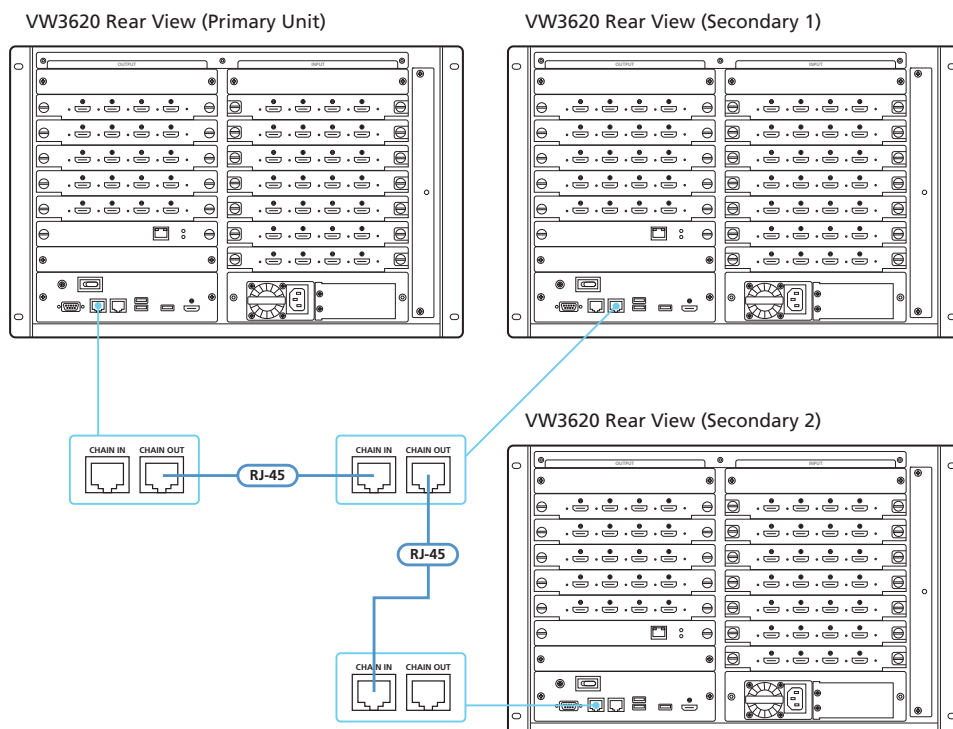
## Highlights

|                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Modular Construction, Flexible Configuration</b>                                 | Containing 7 input slots, 5 output slots, and 2 function board slots, which also work as input board slots, the VW3620's modular architecture supports up to 36 input signals and 20 display terminals. Each processor can be equipped with the necessary number of modules depending on user demands. Such design provides a convenient solution when it comes to daily maintenance and future upgrades / expansion, without the need to disassemble the chassis for component replacement.                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>FPGA Hardware Architecture</b>                                                   | With the implementation of FPGA technology, the VW series can handle True 4K input sources, support near-zero-second seamless source switching, and transmit high quality video streams without delay.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>True 4K@60 Scaling Technology</b>                                                | The advanced scaling and signal processing technologies support custom resolutions and upscaling of video signals up to 4K@60 4:4:4 for crystal clear, accurate imagery regardless of the display size or type from LED, LCD, DLP, to other large screens.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Highly-Customizable, Nearly Restriction-Free Window Placement and Management</b> | To make the video wall adaptive to the changing requirements in mission-critical applications and display a tailored view of significant information, video signals can be output to the video wall in highly customizing layouts, such as PiP, PbP, source cropping, overlapping, and spreading across multiple screens, and in any sizes based on the correct aspect ratio, easily through a VW3620. Besides, operators can add / edit elements including organization logos, color schemes, calendar, clock, as well as create a scrolling text to show slogans or emergency alerts and information.                                                                                                                                                                                                                                                                                   |
| <b>Hot-Swappable, Redundant Components for 24/7 Operation</b>                       | Purpose-built for mission critical applications, the VW series includes a hot-swappable, redundant CPU control board and dual power modules, along with hot-swappable input / output cards and cooling fan module, ensuring reliable 24/7 operation while avoiding system failure led by overheating.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Multiple Configuration and Control Methods, Directly and Remotely</b>            | To maximize usage flexibility, the VW3620 can be configured and controlled by multiple methods, including RS-232 / Ethernet / front panel buttons / web GUI / RESTful API. Integration with ATEN Control System and the 3rd party devices is made easy thanks to the VW3620's RS-232 and Ethernet interfaces plus its support for RESTful APIs, extending the video wall ecosystem.<br>Remote users can preview video walls of any size in real-time at up to 1080p60 and manage the content from any compatible browser and mobile device. Features include content placement on video walls, input / output content preview, and simultaneous / independent management of up to 4 video walls. These video walls can be separately managed by up to 4 individuals, making the VW3620 suitable for control room applications that require independent control for each of its own areas. |
| <b>Preview and Control through Local HDMI Output</b>                                | A local HDMI output port is built in for real-time content preview and control purposes, enabling operators to monitor a single or multiple video input signals and video wall layouts via Single/Array mode at up to 1080p.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

## Connection Overview



## Daisy-chaining



## Specifications

|                            | VW3620                                                                                                                                                                                                            |
|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Board Input</b>         | 7 x Slots, up to 32 4K inputs                                                                                                                                                                                     |
| <b>Board Output</b>        | 5 x Slots, up to 20 4K outputs                                                                                                                                                                                    |
| <b>Function</b>            | 2 x Slots for Function Board, which can also used as Input Slots                                                                                                                                                  |
| <b>Video Input</b>         |                                                                                                                                                                                                                   |
| Interfaces                 | Depends on which I/O board is inserted                                                                                                                                                                            |
| <b>Video Output</b>        |                                                                                                                                                                                                                   |
| Interfaces                 | Local Output: 1x HDMI Type A Female (Black)                                                                                                                                                                       |
| <b>Control</b>             |                                                                                                                                                                                                                   |
| <b>RS-232</b>              | Connector: 1 x DB-9 Female (Black)<br>Serial Control Pin Configurations:<br>Pin2 = Tx, Pin 3=Rx, Pin 5= Gnd<br>Baud Rate and Protocol:<br>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 (TBD) / Mouse (TBD) /FW upgrade & Storage                                                                                                                                                            |
| <b>EDID Settings</b>       | EDID Mode: Default / Port1 / Remix / Customized (EDID Wizard support)                                                                                                                                             |
| <b>Communication</b>       |                                                                                                                                                                                                                   |
| Daisy Chain Ports          | RJ-45 x2                                                                                                                                                                                                          |
| <b>Connectors</b>          |                                                                                                                                                                                                                   |
| Power                      | 1 x 3-Prong AC Socket                                                                                                                                                                                             |
| <b>Power (Optional)</b>    | Redundancy, Optional Hot Swap PSU                                                                                                                                                                                 |
| <b>Power</b>               |                                                                                                                                                                                                                   |
| Maximum Input Power Rating | 100-240 VAC; 50-60Hz; 10A                                                                                                                                                                                         |
| <b>Power Consumption</b>   | AC110V:573.4W<br>AC220V:555.4V                                                                                                                                                                                    |
| <b>Environmental</b>       |                                                                                                                                                                                                                   |
| Operating Temperature      | 0 – 40 °C                                                                                                                                                                                                         |
| Storage Temperature        | -20 – 60 °C                                                                                                                                                                                                       |
| Humidity                   | 0 – 80 % RH, Non-Condensing                                                                                                                                                                                       |
| <b>Physical Properties</b> |                                                                                                                                                                                                                   |
| Housing                    | Metal                                                                                                                                                                                                             |
| Dimensions (L x W x H)     | 48.20 x 45.80 x 30.98 cm                                                                                                                                                                                          |
| Weight                     | 16.21 kg                                                                                                                                                                                                          |
| Rack Height (U Spaces)     | 7U                                                                                                                                                                                                                |

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