

32 x 32 Modular Matrix Switch Gen. 2

VM3250



reddot award 2015
winner interface design

- The VM3250 Modular Matrix Switch Gen. 2 offers advanced access and real-time control of multiple local and remote AV input devices and displays from a single chassis. The VM3250 allows users to independently switch and route video and/or audio content directly to various monitors, displays, projectors, and/or speakers from the front panel pushbuttons. A built-in Scaler encodes the video format in order to provide seamless, real-time switching. The front panel LCD shows a quick view of active port connections. The switch also includes an option to select an EDID Mode that yields the best resolution across different monitors.

Boasting a sophisticated and reliable design that delivers the best audio/visual distribution and control, the solution also incorporates an Award-winning GUI that can be accessed from anywhere over a network or the internet. Through the intuitive web interface, video sources can be previewed in real-time via live streaming and video walls can be easily set up. A calendar-based scheduling function allows you to queue and play connection profiles via a calendar view for a set period of time, reducing related operation costs.

The VM3250 is easily expandable and accommodates a lineup of hot-swappable ATEN I/O boards. Equipped with automatic signal conversion, it allows various combinations of digital and analog video interfaces, including Fiber Optic, HDBaseT, DisplayPort, HDMI, DVI, 3G-SDI, and VGA. The flexibility and expandability make it ideal for large-scale AV applications such as broadcasting stations, traffic and transportation-related control rooms, emergency service centers, and any application that requires customizable, high-speed AV signal routing.

RS-232/485/422
Control

EDID

FPGA
Design

Streaming

22.5 Gbps

VM3250 Front view



VM3250 Rear view



Features

- 32 x 32 I/O connections via 8 x 8 I/O slots for modular matrix boards
- Multiple Control Methods – system management via front-panel pushbuttons, serial control over RS-232/RS-485/RS-422, and web GUI/Telnet over Ethernet connections
- **True 4K Resolutions** – supports uncompressed video resolutions up to 4096 x 2160 / 3840 x 2160@60Hz (4:4:4) *
- **Scaler** – features a video scaling function to convert input resolutions to the optimum display resolutions*
- **Seamless Switch™** – features close-to-zero second switching for continuous video streams, real-time switching, and stable signal transmissions*
- **Video Wall** – allows you to create custom video wall layouts via intuitive web GUI*
- **Live Streaming** – supports single source live streaming via web GUI for convenient evaluation of display output
- **Content and Layout Preview** – displays thumbnails of source media in web GUI, simplifying profile configuration
- **Calendar-based Scheduling** – allows profile playing based on the pre-set schedule synchronized with RTC
- **EDID Expert™** – selects optimum EDID settings for smooth power-up, high-quality display, and use of the best resolution across different screens
- **Audio-enabled** – HDMI audio can be extracted and stereo audio can be embedded*
- **Optional Redundant Power Supply** – ensures higher reliability for mission-critical applications
- **Support long-distance transmission** via optical or HDBaseT I/O boards and extenders
- **Hot-swappable I/O boards, fan module, and power supplies** for easy maintenance
- **ESD protection** for HDMI
- **Rack-mountable (9U design)**

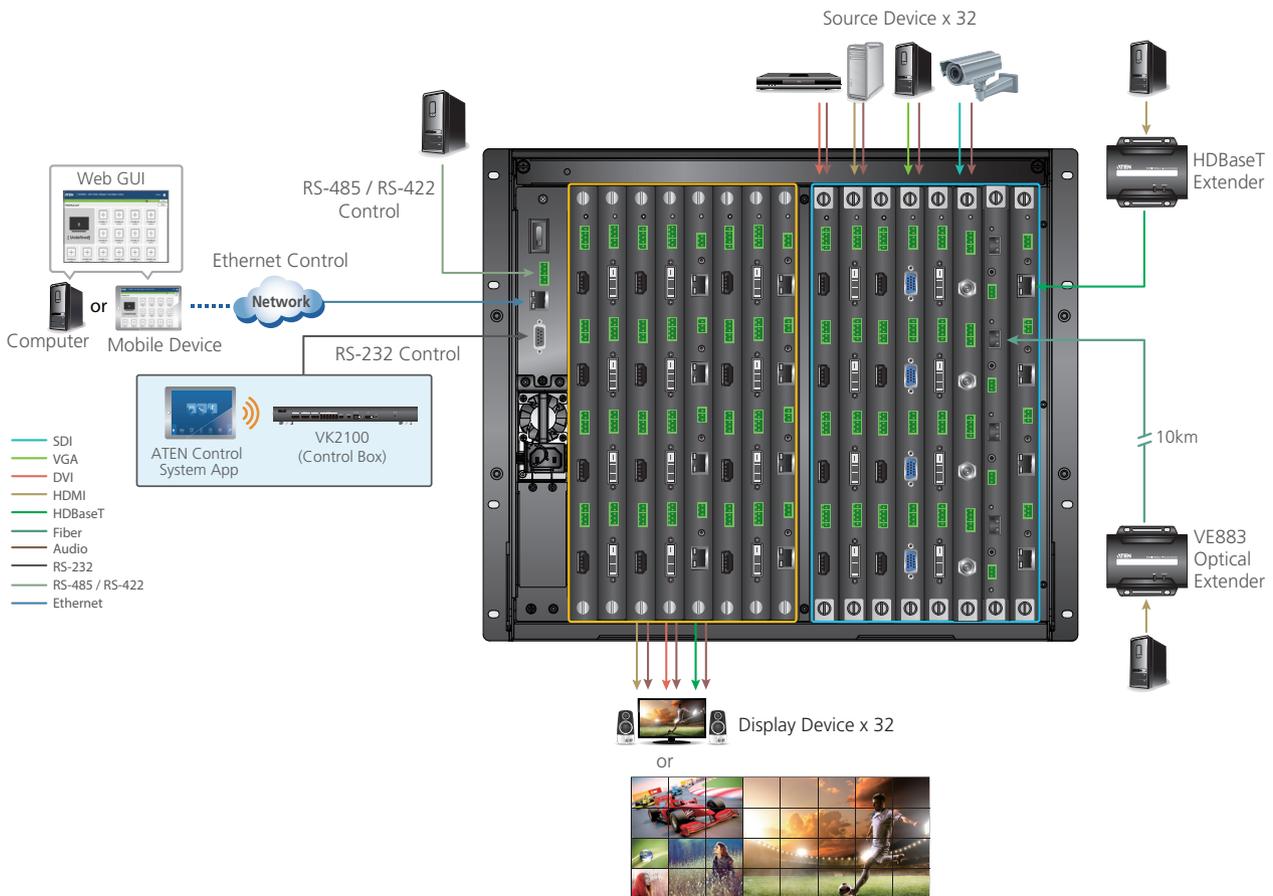
***Note:**

1. The availability of these features depends on which I/O board is inserted.
2. When Seamless Switch™ is enabled, 3D, Deep Color, or interlace (i.e., 1080i) formats will not be supported. To use these formats, make sure to disable Seamless Switch™.

Highlights

Flexible Integration	<p>The VM3250 can be configured with up to 32 video sources and 32 displays, with a flexible installation process that allows integration of different video interfaces and encoding of various video formats to customize system configurations for each application. The I/O slots are hot-swappable, making it easy and convenient to switch between multiple video sources and displays.</p>
True 4K Resolutions	<p>True 4K Pro AV solutions with High Dynamic Range (HDR) technology is the trend of high-definition video that delivers the ultimate visual experience with exceptional sharp and vibrant video quality. The VM3250 Modular Matrix Switch Gen. 2 supports a True 4K Scaler that is compatible with the latest True 4K video resolutions of 4096 x 2160 / 3840 x 2160@60Hz (4:4:4) and HDR, guaranteeing crystal-clear images across multiple displays.</p>
Smooth and Seamless Viewing Experience	<p>The VM3250 has a built-in Scaler and Cross Point design that unifies video formats and provides continuous video streams, real-time switching, and stable signal transmissions. The VM3250 is also capable of high-speed switching between all input/output ports—supporting high data transfer rates of up to 22.5 Gbps/ch to minimize latency and increase the processing power for time-critical video applications.</p>

<p>Video Wall</p>	<p>The VM3250 is equipped with Video Wall functionality integrated with a Scaler and Cross Point design that ensures all input sources are processed at the same time so that the video content is delivered across all screens with no delays or signal loss. The video wall functionality provides up to 64 profiles that you can customize into layouts by setting the display outputs in accordance to your preference via an easy-to-use web GUI. Through profile setup, you can form a single large screen or a variation of multiple screens in different layouts.</p>
<p>Hot-pluggable Modular Fan and Redundant Power</p>	<p>Overheating slows down device performance significantly and can result in equipment downtime. The VM3250 is equipped with fan modules to ensure that a cooling system is always in place and working. The fans are hot-pluggable and can easily be replaced without shutting down the system. Moreover, the VM3250 has two power slots that can connect to two different power supplies. If the primary power fails, the secondary power supply can automatically take over. ATEN ensures that your investment is protected while delivering outstanding performance.</p>
<p>Audio Separation</p>	<p>The VM3250 provides the capability to separate audio signals from their corresponding video signals, including both audio extraction and embedding. This allows the audio and video signals from one source device to be switched and sent out to different destinations.</p>



Optional Equipments

Available Input and Output Boards

Input Boards	Output Boards
 <p>VM7584 (10G Optical Input Board)</p>	 <p>VM8584 (10G Optical Output Board)</p>
 <p>VM7514 (HDBaseT Input Board)</p>	 <p>VM8514 (HDBaseT Output Board)</p>
 <p>VM7904 (DisplayPort Input Board)</p>	<p>—</p>
 <p>VM7824 (True 4K HDMI Input Board)</p>	 <p>VM8824 (True 4K HDMI Output Board)</p>
 <p>VM7814 (4K HDMI Input Board)</p>	 <p>VM8814 (4K HDMI Output Board)</p>
 <p>VM7804 (HDMI Input Board)</p>	 <p>VM8804 (HDMI Output Board)</p>
 <p>VM7604 (DVI Input Board)</p>	 <p>VM8604 (DVI Output Board)</p>
 <p>VM7404 (3G-SDI Input Board)</p>	<p>—</p>
 <p>VM7104 (VGA Input Board)</p>	<p>—</p>

Specifications at a Glance

Combination	Modular Matrix Switch		VM3250							
	Input Board	VM7584K1/ VM7584K2	VM7514	VM7904	VM7824	VM7814	VM7804	VM7604	VM7104	VM7404
	Output Board	VM8584K1/ VM8584K2	VM8514		VM8824	VM8814	VM8804	VM8604		
Interface		Optical	HDBaseT (RJ-45)	DisplayPort	HDMI	HDMI	HDMI	DVI	VGA	3G-SDI (BNC)
Max. Video Resolution		4K@60Hz (4:2:0) ^b	4K@60Hz (4:2:0) ^b	4K@60Hz (4:2:0) ^b	4K@60Hz (4:4:4) ^a	4K@60Hz (4:2:0) ^b	1920 x 1080	1920 x 1200	1920 x 1200	1920 x 1080
Max. Distance	Input	VM7584K1: 300m VM7584K2: 10km	100m	5m	3m	5m	5m	5m	1.8m	SD: 300 m HD: 150 m 3G: 100 m
	Output	VM8584K1: 300m VM8584K2: 10km	100m	N/A	3m	15m	15m	5m	N/A	N/A
Audio		•	N/A	•	• ^c	• ^c	• ^c	• ^c	• ^c	• ^c
Scaler		VM8584 + VE883R ^d	VM8514 + VE805R / VE816R ^d	N/A	VM8824	VM8814	VM8804	VM8604	N/A	N/A
Video Wall		VM8584 + VE883R ^d	VM8514 + VE805R / VE816R ^d	N/A	VM8824	VM8814	VM8804	VM8604	N/A	N/A
Seamless Switching		VM8584 + VE883R ^d	VM8514 + VE805R / VE816R ^d	N/A	VM8824	VM8814	VM8804	VM8604	N/A	N/A
FrameSync		VM8584 + VE883R ^d	VM8514 + VE816R ^d	N/A	VM8824	VM8814	N/A	N/A	N/A	N/A
Cable Quality Tester		N/A	VM8514 + VE816R ^d	N/A	•	•	N/A	N/A	N/A	N/A
RS-232 Channel		•	•	N/A	N/A	N/A	N/A	N/A	N/A	N/A
IR Channel		•	•	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Note : a. True 4K resolutions are only supported when the VM7824 and VM8824 are used with the VM3250.

b. 4K resolutions are only available when the Scaler is disabled. When the Scaler function is implemented, the highest resolution available is 1080p. The Scaler function is enabled by default.

c. HDMI audio signal can be extracted to stereo audio output; stereo audio can be embedded into the HDMI audio output.

d. Certain functions depend on video extender model used.

Available Accessories

VM-PWR800	Video Matrix Power Module
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Input voltage	100 - 240Vac
Power Consumption	Max. Load 800 W
Operating temp.	0° to 40° C

VM-FAN556	Video Matrix Fan Module
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Airflow	55.2 cfm
Operating voltage	10.2 - 12Vdc
Operating temp.	-10° to 60° C

Rack Mount Kits (Optional)

Easy Installation Rack Mount Kit	Rack Depth
2X-034G (Short)	41 to 72 cm
2X-035G (Long)	68 to 108 cm

Specifications

Function	VM3250
Board Input	8 x Slot
Board Output	8 x Slot
Video Input	
Interfaces	Depends on which I/O board is inserted
Max. Data Rate	22.5 Gbps
Audio	
Input	Depends on which Input board is inserted
Output	Depends on which Output board is inserted
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
RS-485/RS-422	Connector: 1 x Captive Screw Connector, 5 Pole
Ethernet	Connector: 1 x RJ-45 Female
EDID Settings	EDID Mode: Default / Port1 / Remix / Customized (EDID Wizard support)
Power	
Connectors	1 x 3-Prong AC Socket
Max. Input Power Rating	100-240 VAC; 50-60Hz; 1.0A
Power Consumption	AC110V:800W; AC220V:800W
Environmental	
Operating Temperature	0 – 40°C
Storage Temperature	-20 – 60°C
Humidity	0 – 80% RH, Non-Condensing
Physical Properties	
Housing	Metal
Weight	18.20 kg
Dimensions (L x W x H)	48.20 x 47.19 x 39.90 cm
Rack Height (U Spaces)	9U

Product information is subject to change without prior notice.

ATEN International Co., Ltd.

3F., No.125, Sec. 2, Datong Rd., Sijhih District., New Taipei City 221, Taiwan
 Phone: 886-2-8692-6789 Fax: 886-2-8692-6767
 www.aten.com E-mail: marketing@aten.com

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