Modular Matrix Solution Series

Modular Matrix Switch (VM1600) + DVI Input/Output Board (VM7604/ VM8604)+ HDMI Input/Output Board (VM7804/VM8804)

The VM1600 Modular Matrix Switch offers advanced access and real-time control of multiple local and remote A/V input devices and displays from a single chassis. The VM1600 allows users to independently switch and route video and/or audio content directly to various monitors, displays, projectors and/or speakers simply by pressing 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, with an option to select an EDID Mode that yields the best resolution across different monitors.

VM1600 is easily expandable and accommodates a lineup of hot-swappable ATEN I/O boards. Equipped with automatic signal conversion, it allows any combination of digital video formats, such as DVI (VM7604 / VM8604) and HDMI (VM7804 / VM8804), thus making it ideal for large-scale A/V applications such as broadcasting stations, traffic and transportation-related control rooms, emergency service centers and any application that requires customizable high speed A/V signal routing.

VM1600 Front view

VM1600 Rear view

Features

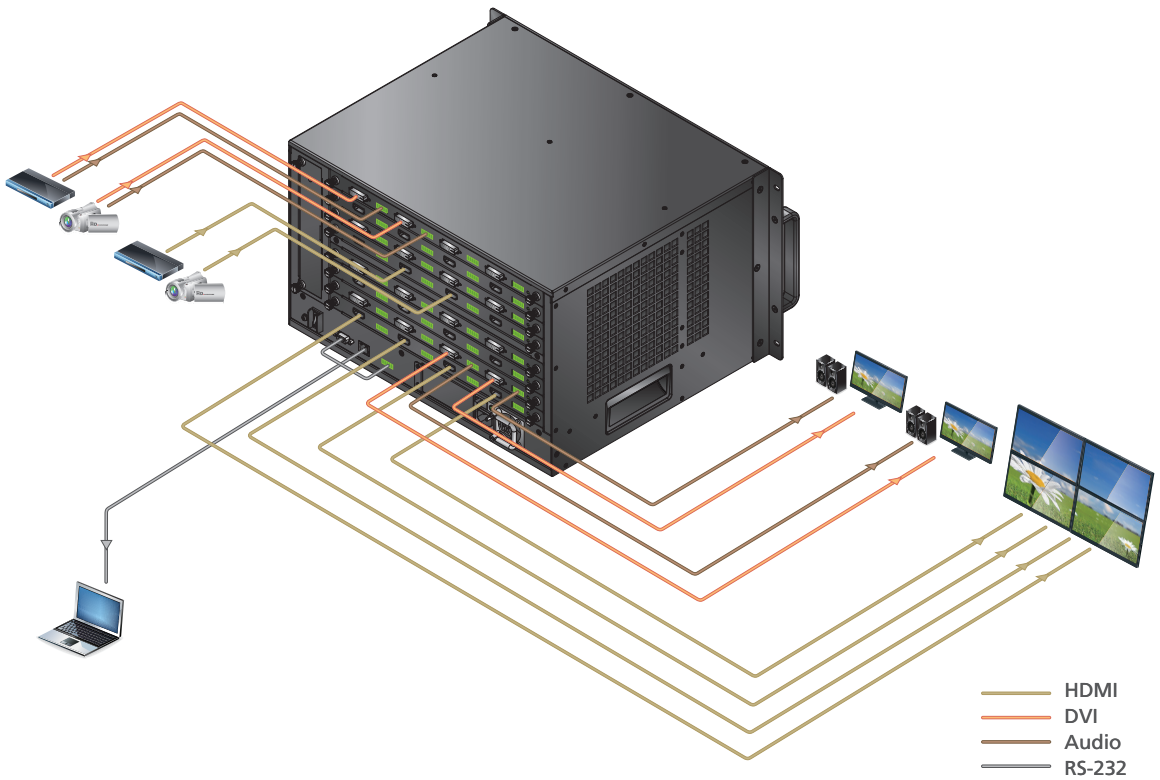
- Connects any of 16 video sources to any of 16 displays in combination with ATEN Modular Matrix Solutions
- Superior video quality – HDTV resolutions of 480p, 720p, 1080i and 1080p (1920 x 1080); VGA, SVGA, XGA, SXGA and WUXGA (1920 x 1200)
- HDMI (3D, Deep Color) (VM7804/VM8804)
- HDCP 1.4 Compatible
- Seamless Switch™ – provides continuous video streams, real-time switching and stable signal transmission*
- EDID Expert – selects optimum EDID settings for smooth power-up and highest quality display
- Built-in EDID wizard – provides an easy way to customized EDID settings
- Easily switch between multiple sources and multiple displays
- Hardware Configuration:
  - Front panel pushbuttons
  - RS-232 serial port
- System Operation
  - Browser-based Graphical User Interface (GUI)
  - Telnet
- Built-in bi-directional RS-232 serial remote port for high-end system control
- Hot-pluggable:
  - Modular Fan Design
  - Power Module
  - Easy Intergration of I/O boards
- Video wall - provides up to 32 connection profiles that you can customize into layouts using the web GUI
- Optional redundant power supply for continuous operation
- Firmware upgradeable via web
- Rack Mountable
- Built-in scaler on each output port to support the scaling function for different video resolutions
- Consumer Electronics Control (CEC) support (VM7804/VM8804)
- Audio-enabled, HDMI audio can be extracted, and stereo audio can be embedded (VM7804/VM8804)

Note: If Seamless Switch is enabled, the video output will not display 3D, Deep Color or interlace (i.e., 1080i) resolution features. To availl of these features, you must disable Seamless Switch.

Highlights

Flexible Integration	The VM1600 can be configured with up to 16 video sources x 16 displays, with flexible installation 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.
Smooth and Seamless Viewing Experience	The VM1600 has a built-in Scaler and CrossPoint design that unifies video formats and provides: continuous video streams, real-time switching, and stable signal transmissions. The VM1600 is capable of high-speed switching between all input/output ports – supporting TMDS high data transfer rates up to 1080p / 1920 x 1200 @ 60Hz to minimize latency.
Hot-pluggable Modular Fan and Redundant Power	Overheating slows down device performance significantly and can result in equipment breaking down mid-operation. The VM1600 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. The VM1600 has two power slots that can connect to two different power supplies. It the primary power shuts down, the secondary power supply can automatically take over. ATEN ensures that your investment is protected while delivering outstanding performance.

Video Wall	The VM1600 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 contents are delivered across all screens with no delays or signal loss. The Video Wall functionality provides up to 32 connection profiles that you can customize output layouts in desired preference using the web GUI configurations. Through profile setup, multiple screens can be configured to form a single large screen, with various layout formats to "see what you want, how you want". 
Audio Separation	Provides the capability to separate audio signals from their corresponding video signals; including both HDMI extracted audio and embedded stereo audio. This allows the audio and video signals from one source device to be switched and sent out to different destinations.



Optional Equipments

Available Input and Output Boards

Input Boards	Output Boards
 VM7604 (DVI Input Board)	 VM8604 (DVI Output Board)
 VM7804 (HDMI Input Board)	 VM8804 (HDMI Output Board)

Available Accessories

VM-PWR400	Video Matrix Power Module

Input voltage	100~240Vac
Power Consumption	Max.Load 378W
Operating temp.	0 ~ 40°C

VM-FAN60	Video Matrix Fan Module

Airflow	60 cfm
Operating voltage	10.8 ~ 13.8Vdc
Operating temp.	-10 ~ 70°C

Rack Mount Kits (Optional)

Easy Installation Rack Mount Kit	Rack Depth
2X-026G (Short)	42-70 cm
2X-027G (Long)	68-105 cm

1. Screw the mounting brackets to the rack, as shown in the diagram.

2. Slide the unit along the brackets, then screw and secure the front panel to the rack.

Specification

Function		VM1600
Connectors	Ethernet	1 x RJ-45 Female
	RS-232	1 x DB-9 Female (Black)
	RS-485 / RS-422	1 x captive screw connector, 5 pole
	Power	1 x 3-prong AC Socket
	LCD	1 x LCD Module
Switches	Input	16 x Pushbutton
	Output	16 x Pushbutton
	Video	1 x Pushbutton
	Audio	1 x Pushbutton
	Menu	1 x Pushbutton
	Profile	1 x Pushbutton
	Up (↑)	1 x Pushbutton
	Down (↓)	1 x Pushbutton
	Cancel (←)	1 x Pushbutton
	Power	1 x Rocker
LEDs	Alarm	1 (Red)
	Redundant	1 (Green)
	Power	1 (Green)
I/P Rating		100-240 VAC; 50-60Hz; 1.0A
Power Consumption		120V,180W; 230V, 172W
Environment	Operating Temp.	0–40°C
	Storage Temp.	-20–60°C
	Humidity	0–80% RH, Non-condensing
Physical Properties	Housing	Metal
	Weight	17 kg (chassis only)
	Dimensions (L x W x H)	48.20 x 40.30 x 25.60 cm

Model	VM8804	VM7804	VM8604	VM7604
Interface	HDMI	HDMI	DVI	DVI
Inputs	0	4	0	4
Outputs	4	0	4	0
Max. Video Resolution	1080p, 1920 x 1200	1080p, 1920 x 1200	1080p, 1920 x 1200	1080p, 1920 x 1200
Audio	• **	• **	•	•
Power Consumption	DC5V, 23.13W	DC5V, 7W	DC5V, 10.62W	DC5V, 20.10W
Housing	Metal			
Weight	0.58 kg	0.55 kg	0.58 kg	0.55 kg
Dimension (L x w x H)	35.20 x 23.74 x 2.25 cm	35.20 x 23.74 x 2.25 cm	35.20 x 23.74 x 2.25 cm	35.20 x 23.74 x 2.25 cm

Note: * The VM1600 video interface depends on which I/O board is inserted.
** HDMI audio signal can be extracted as stereo audio. Stereo audio can also be embedded into the HDMI audio output.

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