

## VM3909H

9 x 9 4K HDMI HDBaseT-Lite Matrix Switch



reddot award 2015  
winner interface design



With the rapid development of HDBaseT technology, ATEN has released the new VM3909H HDMI HDBaseT-Lite Matrix Switch. The switch extends uncompressed 4K / Full HD digital video, audio, IR and power via HDBaseT technology through a single Cat 6a cable up to 40/70 meters.

When the VM3909H is combined with [VE805R/VE816R](#) receivers, it supports both ATEN Seamless Switch™ technology and Video Wall functionality. ATEN's exclusive Seamless Switch™ technology employs an FPGA graphics processor to ensure continuous video streaming, real-time control and stable signal transmission across all sources. The Video Wall functionality allows you to create 18 video wall profiles for custom screen layouts through an easy-to-use web interface. The Power over HDBaseT (POH) feature provides an ingenious way to power the [VE802R](#) receivers through the Cat 5e cable without the need of using an additional power supply.

The VM3909H offers flexibility with reliable signal distribution controlled via front-panel pushbuttons, IR, RS-232 and Ethernet (Telnet / Web GUI) connections. It's designed as a functional and integrated control system built for residential, commercial and conference center settings

Model	Max. Distance	IR	4K	Seamless Switch™	Video Wall	POH	Dual View	FrameSync
VE801R	70m*	N/A	•	N/A	N/A	N/A	N/A	N/A
VE802R	70m*	•	•	N/A	N/A	•	N/A	N/A
VE805R (with Scaler)	70m*	•	N/A	•	•	N/A	N/A	N/A
VE816R (with Scaler)	70m*	•	•	•	•	N/A	N/A	•
VE814AR	70m*	•	•	N/A	N/A	N/A	•	N/A
VE601R (DVI)	70m*	N/A	N/A	N/A	N/A	N/A	N/A	N/A
VE901R	70m*	N/A	•	N/A	N/A	N/A	N/A	N/A

\*A Cat 6a cable is required to extend the distance up to 70 meters.



**Features**

- Supports 9 HDMI inputs and mirrored 9 HDMI and HDBaseT outputs
- The mirrored HDMI outputs can be used to verify the corresponding HDBaseT output or as an additional video display\*
- HDBaseT Connectivity - connects HDMI displays over a long distance via one Cat 5e/6/6a cable
- HDBaseT Anti-jamming - resists signal interference during high-quality video transmission
- Power over HDBaseT (POH) - supplies power over a long distance from the switch to a receiver over a single Cat 5e/6/6a cable \*\* / \*\*\*
- [Seamless Switch™ Technology - ATEN FPGA engine unifies video formats to provide continuous video streams, real-time switching and stable signal transmissions\\*\\*](#)
- [Video Wall - allows you to create custom video wall layouts via intuitive web GUI\\*\\*](#)
- [EDID Expert™ - selects optimum EDID settings for smooth power-up, high-quality display and use of the best video resolution across different screens](#)
- Multiple Control Methods - system management via front-panel pushbuttons, IR, RS-232 and Ethernet (Telnet / Web GUI) connections
- View and control via ATEN Video Matrix Control App in a swift and agile way
- Bi-directional IR channel ports support full frequency IR signals from 30 KHz to 60 KHz
- Supports ATEN's LockPro™ HDMI cable lock for securing HDMI cables to the device
- Firmware Upgradeable
- Rack Mountable (VM3909H: 2U Design)

Note:

\* The HDMI outputs can't support the Video Wall and Seamless Switch™ functions.

\*\* The Seamless Switch™, Video Wall and POH features are only available when used a compatible receiver.

\*\*\* The VM3909H can provide up to 15.4 W @ 48 VDC of power per port and 75W of total power ; please ensure that the power consumption of the devices connected to the VM3909H does not exceed this limit.

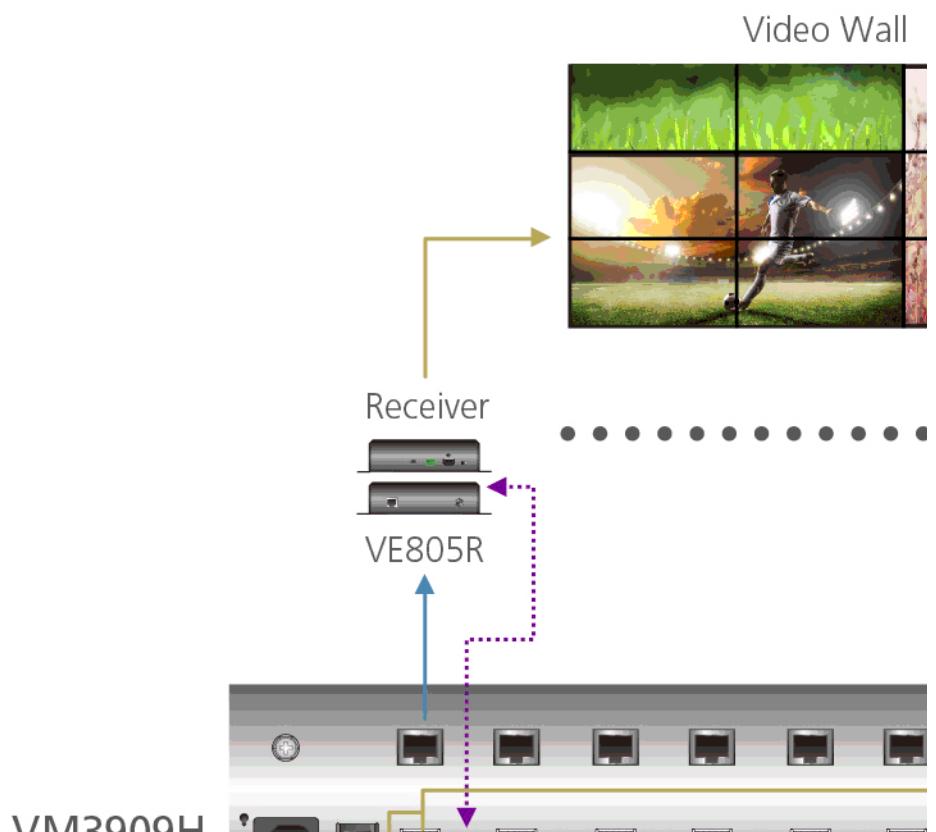
**Specification**

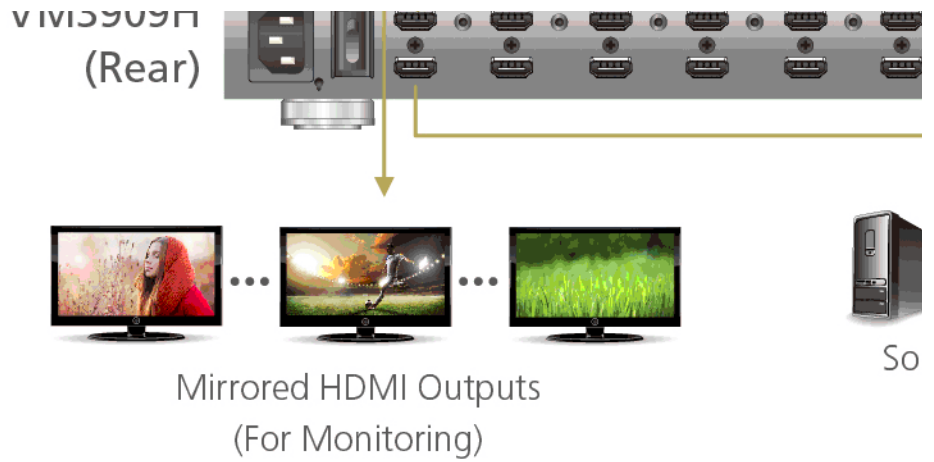
Video Input	
Impedance	100 Ω
Interfaces	9 x HDMI Type A Female (Black)
Max. Distance	1.8 m
Video Output	
Interfaces	9 x HDMI Type A Female (Black) ; 9 x RJ-45 Female
Impedance	100 Ω
Max. Distance	HDMI: up to 15 m HDBaseT (Class B): 4K up to 35 m (Cat 5e/6) / 40 m (Cat 6a); 1080p up to 60 m (Cat 5e/6) / 70 m (Cat 6a)
Video	
Max. Data Rate	10.2 Gbps (3.4 Gbps Per Lane)
Max. Pixel Clock	340 MHz
Compliance	HDMI (3D, Deep Color, 4K); HDCP 1.4 Compatible Consumer Electronic Control (CEC) HDBaseT Compatible
Max. Resolution	Up to 4096 x 2160 / 3840 x 2160 @ 60Hz (4:2:0); 4096 x 2160 / 3840 x 2160 @ 30Hz (4:4:4)
Max. Distance	Up to 70 m
Control	
RS-232	Connector: 1 x DB-9 Female (Black) Baud rate and protocol: Baud Rate: 19200, Data Bits: 8, Stop Bits:1, Parity: No, Flow Control: No
IR Channel	9 x Mini Stereo Jack Female (Black); 30~60 KHz full range transmission
Ethernet	1 x RJ-45 Female
EDID Settings	EDID Mode: Default / Port1 / Remix / Customized
Connectors	
Power	1 x 3-Prong AC Socket
Power	

Maximum Input Power Rating	100-240 VAC; 50-60 Hz; 1.0A
Power Consumption	AC110V:122W:572BTU AC220V:120W:563BTU
Environmental	
Operating Temperature	0-50°C
Storage Temperature	-20 - 60°C
Humidity	0 - 80% RH, Non-Condensing
Physical Properties	
Housing	Metal
Weight	7.33 kg ( 16.15 lb )
Dimensions (L x W x H)	43.24 x 38.23 x 8.80 cm (17.02 x 15.05 x 3.46 in.)
Rack Height (U Spaces)	2U
Carton Lot	1 pc
Note	For some of rack mount products, please note that the standard physical dimensions of WxDxH are expressed using a LxWxH format.

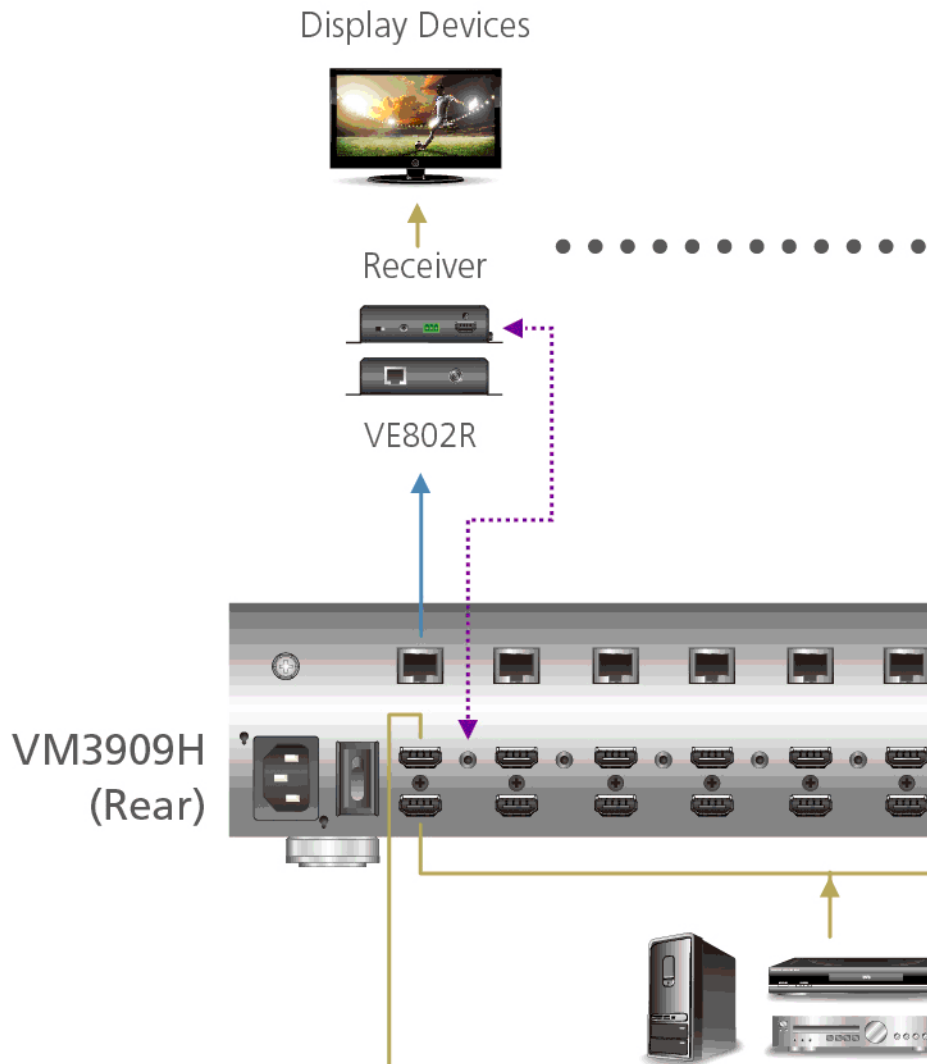
Diagram

# Video Wall Setup





## Matrix Video Switching Setup





Source Devices



Mirrored HDMI Outputs  
(For Monitoring)

VM3909H  
(Front)



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