4x4/9x9 HDMI HDBaseT-Lite Matrix Switch
VM3404H / VM3909H

reddot award 2015
winner interface design

● With the rapid development of HDBaseT technology, ATEN has released the new VM3404H/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 VM3404H/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 8/18 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 VM3404H/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.

4K | **HDMI** HIGH DEFINITION MULTIMEDIA INTERFACE™ | **HDBT** BASE™ | **PRO**

A/V In HDMI | A/V Out HDMI | A/V Out HDBaseT | RS-232 Control | IR Channel | IR Remote Control | EDID | HDCP | POH

● VM3404H Front view

● VM3404H Rear view

● VM3909H Front view

● VM3909H Rear view

Features

- Supports 4 / 9 HDMI inputs and mirrored 4 / 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
- 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 (VM3404H / VM3909H: 1U / 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 VM3404H/VM3909H can provide up to 15.4 W @ 48 VDC of power per port and 35W/75W of total power; please ensure that the power consumption of the devices connected to the VM3404H/VM3909H does not exceed this limit.

Highlights

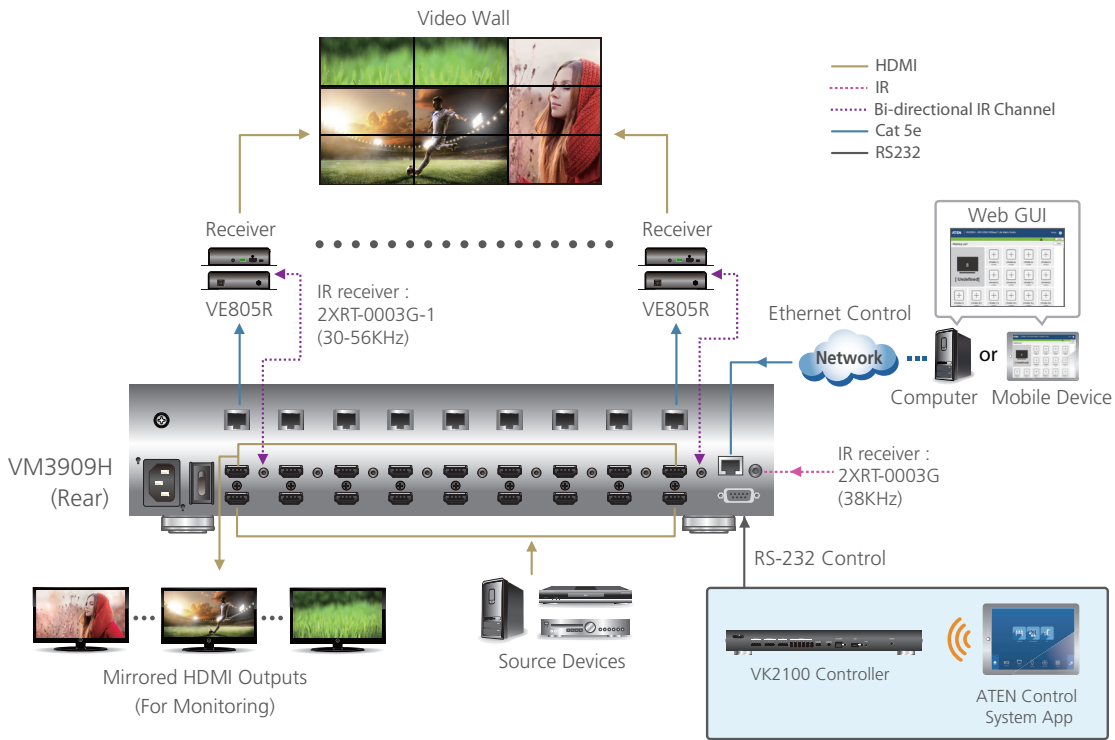|	
Power over HDBaseT to Improve Simplicity	The built-in HDBaseT technology allows the VM3404H/VM3909H Matrix Switch to extend not only ultra-HD video, audio and IR signals, but also power over a single Cat 5e cable, eliminating the need of an extra power source for receivers, thus greatly reducing the installation complexity and costs.
Bi-directional IR Channel for Flexible Control	The VM3404H/VM3909H provides bi-directional IR channel ports for control of A/V sources locally at the Matrix Switch or remotely from the display side via a HDBaseT connection. This video solution is installed and controlled according to your preferences, offering an easy and flexible way to manage different source and display devices.
Customized Video Wall Layouts	When the VM3404H/VM3909H is combined with VE805R/VE816R receivers, Video Wall functionality is supported. Through an easy-to-use web GUI, you can quickly create Video Wall layouts and save up to 8/18 video wall profiles. The Video Wall function allows you to set up multiple displays that are configured in various layouts to show video as a single large screen – to "see what you want, how you want".
Smooth and Seamless Viewing Experience	When the VM3404H/VM3909H is installed with VE805R/VE816R receivers, the built-in FPGA design unifies various video formats to provide continuous video streams, real-time switching and stable signal transmissions from different sources – all at once.

Compatible Receiver

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

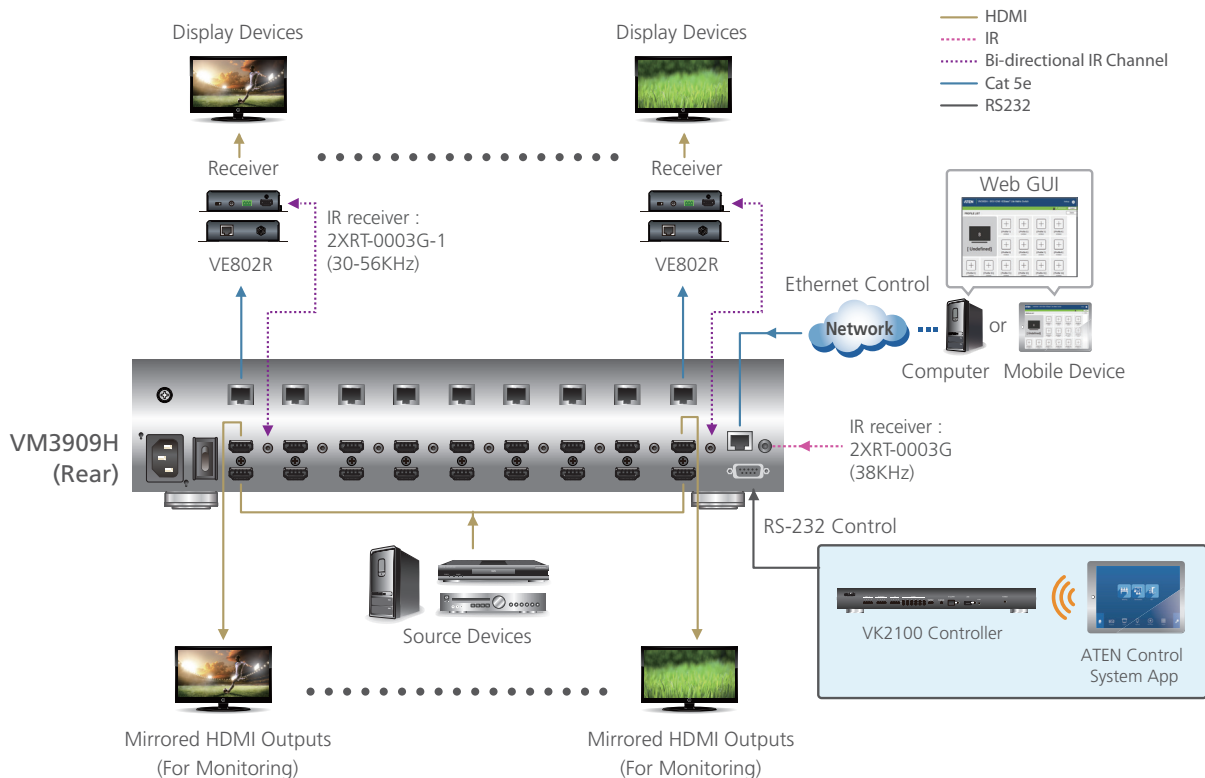*A Cat 6a cable is required to extend the distance up to 70 meters.

Optional Accessories

Model	Description
2L-7D02H (1.8m), 2L-7D03H (3m), 2L-7D05H (5m), 2L-7D10H (10m), 2L-7D15H (15m), 2L-7D20H (20m)	HDMI Cable
2L-2801 / 2L-2901	Low Skew Cat 5e Cable / Shielded Digital Video Extension Cable (Cat 5e)
2X-EA12	LockPro™ (HDMI Cable Lock)
2XRT-0003G-1	Full range IR Receiver (30 KHz to 56 KHz)
2XRT-0004G	Full range IR Emitter(30 KHz to 56 KHz)
2XRT-0106G	IR Remote Control (for VM3404H only)
2XRT-0003G	IR Receiver (38KHz)

Video Wall Setup

Video Wall

HDMI
IR
Bi-directional IR Channel
Cat 5e
RS232

Receiver

Receiver

VE805R

IR receiver :
2XRT-0003G-1
(30-56KHz)

VE805R

Web GUI

Ethernet Control

Network   or

Computer   Mobile Device

VM3909H
(Rear)

IR receiver :
2XRT-0003G
(38KHz)

RS-232 Control

Mirrored HDMI Outputs
(For Monitoring)

Source Devices

VK2100 Controller

ATEN Control
System App

Matrix Video Switching Setup

Display Devices

Display Devices

HDMI
IR
Bi-directional IR Channel
Cat 5e
RS232

Receiver

IR receiver :
2XRT-0003G-1
(30-56KHz)

Receiver

VE802R

VE802R

Web GUI

Ethernet Control

Network   or

Computer   Mobile Device

VM3909H
(Rear)

IR receiver :
2XRT-0003G
(38KHz)

RS-232 Control

Source Devices

VK2100 Controller

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System App

Mirrored HDMI Outputs
(For Monitoring)

Mirrored HDMI Outputs
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Specifications

Function	VM3404H	VM3909H
Video Input		
Interfaces	4 x HDMI Type A Female (Black)	9 x HDMI Type A Female (Black)
Impedance	100 Ω	
Max. Distance	1.8 m	
Video Output		
Interfaces	4 x HDMI Type A Female (Black); 4 x RJ-45 Female	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	4 x Mini Stereo Jack Female (Black); 30~60 KHz full range transmission	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	
Power		
Connectors	1 x 3-Prong AC Socket	
Maximum Input Power Rating	100-240 VAC; 50-60 Hz; 1.0A	
Consumption	AC110V:62W AC220V:60.6W	AC110V:122W AC220V:120W
Environmental		
Operating Temperature	0 - 50°C	
Storage Temperature	-20 - 60°C	
Humidity	0 - 80% RH, Non-Condensing	
Physical Properties		
Housing	Metal	
Weight	5.62 kg	7.33 kg
Dimensions (L x W x H)	43.24 x 38.23 x 4.40 cm	43.24 x 38.23 x 8.80 cm

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

Product information is subject to change without prior notice.