

## KVM over IP Switches

The KN2116VA / KN4116VA / KN1132V / KN2132VA / KN4132VA / KN8132V / KN4164V / KN8164V are ATEN's 4th generation of KVM over IP switches, which feature superior video quality (Full HD resolution of 1920 x 1200), FIPS 140-2 with level 1 security standards and virtual media transmissions at twice the speed. The KN series provides local console and remote over IP access for users to monitor and access their entire data center over a network. In addition, it offers out-of-band access with external modem support for BIOS-level troubleshooting when the network is down.

New KN Series Exclusive:

- High grade security – supports FIPS 140-2 level 1 security standards
- Extreme virtual media speed – 2 x faster virtual media transmission speed
- Advanced FPGA graphics processor – with an Full HD resolutions of 1920 x 1200

With dual on-board NICs and dual power supplies, the KN Series is built for reliability that ensures 24/7 availability of remote access to all servers.

The KN Series can be integrated into ATEN's CC2000 Management Software. CC2000 puts administrators in complete control of remote data centers and branch offices no matter where they are in the world – allowing them to remotely monitor and control all devices on a network (refer to ATEN's website to get more information on CC2000).

In addition, the KN series is compatible with ATEN's KVM over IP Console Station, the KA82 series. The KA82 series is a hardware-based, standalone console solution that can centrally manage multiple KN devices. It is especially suitable for environments where a PC is not allowed (refer to ATEN's website to get more information on the KVM over IP Console Station).

To help you manage and control an entire data center, ATEN KVM over IP switches support blade servers and chassis. With powerful features such as Power Association – KVM ports can be associated with ATEN PDU power outlets for power management of servers from the KVM over IP switches' user interface.

The KN series now also supports web-friendly KVM-over-IP access with its Web Client Viewer functionality<sup>1</sup>. Being fully compatible with major web browsers<sup>2</sup>, the Web Client Viewer runs directly off the browser without Java or browser plug-in installation. Like the Java or Windows plug-in counterparts, the Web Client Viewer allows users to remotely access all the servers and PCs connected to the KN series, but benefiting from a more simultaneous, direct access option for management and operation.

Additional exclusive features of ATEN KVM over IP switches include: a Message Board, Panel Array Mode™, Mouse DynaSync™ and the Adapter ID.

For added convenience to management, an iPad application – PadClient, is also available. It has an intuitive interface that makes real-time access and control of the servers/computers simple and mobile. Refer to ATEN's website to get more information on PadClient.

ATEN KVM over IP switches save you time and money by allowing administrators to manage their data centers from practically anywhere – minimizing travel and MTTR (Mean Time to Repair) costs, ensuring the highest availability for data center services possible.

### Note:

1. The Web Client Viewer supports basic KVM over IP access and functions. We recommend using Win client app or Java client app for a more robust management and control.
2. Performance and usage may vary depending on the user's hardware configuration. A minimum of 8GB RAM, dual core CPU and a graphics card that supports OpenGL is required. Please also make sure that the browser is the latest version.

### KN2116VA/ KN4116VA

- 16-ports
- 1 local and 2/4 remote user access
- Audio, virtual media, dual power and fan speed control

### KN1132V/ KN2132VA/ KN4132VA/ KN8132V

- 32-ports
- 1 local and 1/2/4/8 remote user access
- Audio, virtual media, dual power and fan speed control

### KN4164V/ KN8164V

- 64-ports
- 1 local and 4/8 remote user access
- Audio, virtual media, dual power and fan speed control

KN8164V Front View



KN8164V Rear View



## Features

### New KN Series Exclusive

- High grade security – supports FIPS 140-2 level 1 security standards
- Extreme virtual media speed – 2 x faster virtual media transmission speed
- Advanced FPGA graphics processor – with an Full HD resolution of 1920 x 1200
- Simultaneously share one local console and one/two/four/eight independent connection(s) to the attached servers

### Hardware

- High port density – RJ-45 connectors and Cat 5e/6 cable for up to 32 ports (KN1132V / KN2132VA / KN4132VA / KN8132V) in a 1U housing or 64 ports (KN4164V / KN8164V) in a 2U housing
  - Laptop USB Console (LUC) – A dedicated USB port directly connects to a laptop for easy console operation
  - One/two/four/eight separate buses for remote KVM over IP access
  - Two 10/100/1000 Mbps NICs for redundant LAN or two IP operation
  - Blade server support
  - Supports PS/2, USB, Sun Legacy (13W3) and serial (RS-232) connectivity
  - Local console provides USB keyboard and mouse support
  - Supports multiplatform server environments: Windows, Mac, Sun, Linux and VT100 based serial devices
  - Audio enabled
  - Dual Power Supply
  - High video resolution – up to 1920 x 1200 @ 60Hz with 24-bit color depth at the switch's local console and on remote session displays
  - Monitor and control up to 16 / 32 / 64 computers\* on a single level, or control up to 512 computers in a cascade\*\*
- \* The number of computers that can be monitored and controlled varies between different KVM models.  
\*\* Cascade-compatible KVM Switches include the following: CS9134, CS9138, CS1308, CS1316, KH1508A, KH1516A, and KH1532A.

### Management

- Supports 64 user accounts and up to 32 users can be logged in at the same time for control and management
- Green IT Fan – auto-fan-speed adjustment responding to temperature
- Event logging and Windows-based Log Server support
- Critical system event notification via SMTP email; SNMP trap and Syslog support
- Customizable events notification
- Firmware upgradeable
- Out-of-Band Access-Modem dial-in/dial-out/dial-back support
- Adapter ID Function: Stores port information allowing administrators to relocate the servers to different ports, without having to re-configure the adapters and switches
- Port Share Mode allows multiple users to gain access to a server simultaneously
- Integration with ATEN CC2000 Centralized Management Software and CCVSR Video Session Recording Software
- Supports ATEN KVM over IP Console Station (KA8270 / KA8280 / KA8278 / KA8288)
- Power Association enables the switch's KVM ports to be associated with ATEN PDUs power outlets for remote power management
- IPv6 capable

### Easy-to-Use Interface

- Supports PadClient application on an iPad for mobile management/control
- ATEN Exclusive Panel Array™ Mode – monitors all ports in a grid display (both local and remote screens)
- Local Console, browser-based, and AP GUIs offer a unified Multilanguage interface to minimize the user training time and increase productivity
- Multiplatform client support (Windows, Mac OS X, Linux, Sun)
- Multi-browser support: Internet Explorer, Chrome, Firefox, Safari, Opera, Netscape
- Browser-based GUI in pure Web technology – allows administrators to perform administrative tasks without pre-installed software (e.g. Java)
- Supports web-friendly KVM-over-IP access with Web Client Viewer – users can remotely access all the connected servers and PCs directly off web-browsers without Java or browser plug-in installation
- Users can launch multiple virtual remote desktop sessions to control multiple servers during the same login
- Full-screen or sizable and scalable Virtual Remote Desktop
- Keyboard/Mouse Broadcast – keyboard and mouse signals can be duplicated across all servers simultaneously
- Video syncing with the local console – local console monitor's EDID information stored on the KVM Adapter Cables for display resolution optimization

### Advanced Security

- Remote authentication support: RADIUS, LDAP, LDAPS, and MS Active Directory
- Supports TLS 1.2 data encryption and RSA 2048-bit certificates to secure users log in from browser
- Flexible encryption design allows users to choose any combination of 56-bit DES, 168-bit 3DES, 256-bit AES, 128-bit RC4, or Random for independent KB/Mouse, video, and virtual media data encryption
- Support for IP/MAC Filter
- Configurable user and group permissions for server access and control
- Automated CSR creation utility and third party CA certificate authentication

### Virtual Media

- Virtual media enables file applications, OS patching, software installation and diagnostic testing
- Works with USB enabled servers in operating system and BIOS level
- Support DVD/CD drives, USB mass storage devices, PC hard drives and ISO images

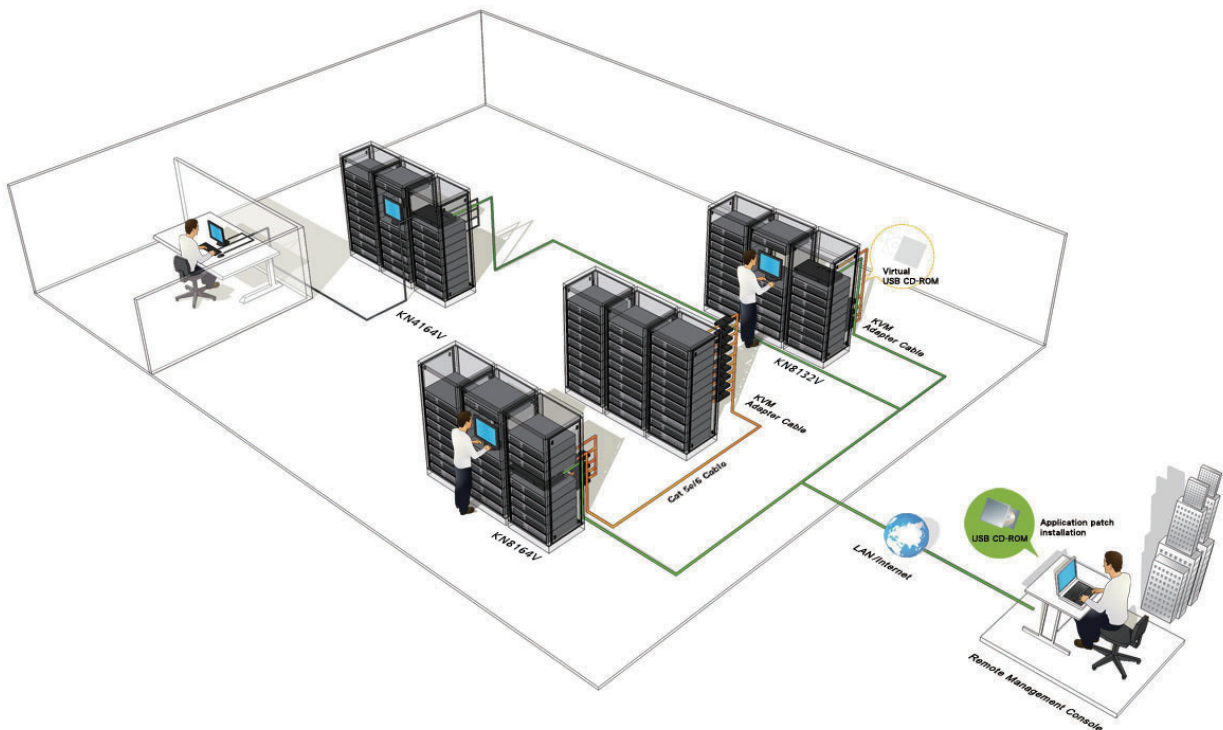
### Virtual Remote Desktop

- Video quality such as monochrome color depth, threshold and noise settings, bandwidth increment/reduction can be adjusted for optimizing data transfer speed
- Full screen video display or scalable video display
- [Message Board for communication among remote users](#)
- [Mouse DynaSync-automatically synchronizes the local and remote mouse movements](#)
- [Exit Macros support](#)
- [On-screen keyboard with multilanguage support](#)
- BIOS-level access for trouble shooting

## Highlights

<b>High Grade Security</b>	FIPS 140-2 certified cryptography – provides a FIPS mode to use an embedded FIPS 140-2 certified OpenSSL cryptographic module.
<b>Extreme Virtual Media Speed</b>	Virtual media supports twice the transmission speed of comparable models and supports mounting of DVD/CD drives, USB mass storage devices, hard drives and ISO images. Virtual media allows you to conduct file transfers, application and OS patches and run diagnostics remotely.
<b>Advanced FPGA Graphics Processor</b>	Our enhanced fps throughput provides a responsive and vivid video display, offering resolutions up to 1920 x 1200 @ 60Hz with 24-bit color at the switch's local console – up to 50 meters from the computers and from remote sessions.
<b>Panel Array Mode™</b>	ATEN Exclusive Panel Array Mode™ simultaneously monitoring for both local console operators and remote access users
<b>Power Association</b>	Used in conjunction with ATEN PDUs power management allows you to associate a KVM over IP Switch's port with a PDU's power outlet. With this you can manage the power of a server from the switch's interface – a single point of control. It also enables you to associate a second outlet if a server has a dual power supply and lets you synchronize the operation of both power supplies. In this way, Power Association reduces maintenance time and increases management efficiency.
<b>Blade Server Support</b>	Support for blade server associations with KVM switch ports allows the blade server chassis and individual blades to be integrated into the sidebar tree view and accessed easily.
<b>Dual IP/Dual Power</b>	Dual IP / Dual Power operation provides network/power backup for complete redundancy and reliability. Should one of the Ethernet ports or power supplies become unavailable, the other will take over for normal system functions.

<b>Configurable Network Bandwidth settings</b>	<p>A network setting provided that allows you to streamline data throughput by adjusting the size of the data stream (bandwidth) to match network traffic conditions. Video performance can be adjusted so that data throughput is optimized for the available network bandwidth. With high-speed LAN access, the settings can be adjusted so that a greater amount of video data is sent, resulting in a higher quality video display. In a limited bandwidth situation, the settings can be adjusted so that net lag is minimized.</p>
<b>Mouse DynaSync™</b>	<p>Automatically synchronizes the local and remote mouse movements for perfect alignment of mouse pointers, regardless of server mouse acceleration settings.</p>
<b>Message Board</b>	<p>To alleviate the problem of access conflicts arising from multiple logins, the Message Board functions are similar to an Internet chat program, allowing users to instantly communicate with each other.</p>
<b>Intelligent Bus Assignment – Flexible Port Switching</b>	<p>With Intelligent Bus Assignment users are automatically assigned to one of eight buses as they log in. With flexible port switching, up to 32 users can be distributed over 8 separate bus sessions and multiple users are allowed to share access to one server for maxim efficiency.</p>
<b>Adapter ID</b>	<p>The Adapter ID Function stores port information such as the Adapter ID, OS, keyboard language, adapter name, operation modes, and etc. This enables administrators to relocate the servers to different ports, without having to re-configure the adapters and the switches</p>



## Specifications

		KN2116VA	KN4116VA	KN1132V	KN2132VA	KN4132VA
Computer Connections	Direct	16	16	32	32	32
	Max	512 (via Cascade KVM Switches)				
Computer Port Selection		Pushbuttons, Hotkeys, GUI				
Connectors	Console	Keyboard / Mouse	2 x USB Female			
		Video	1 x DVI-D Female / 1 x VGA HDB-15			
		Reserved for Remote Console Port	1 x RJ-45 Female			
	KVM Port	16 x RJ-45 Female	16 x RJ-45 Female	32 x RJ-45 Female	32 x RJ-45 Female	32 x RJ-45 Female
	USB / Virtual Media	3 x USB Female				
	Audio	2 x Audio Jack Female				
	LUC	1 x Mini-USB Female				
	PON	1 x RJ-45 Female				
	Serial/RS-232	1 x RJ-45 Female				
	LAN	2 x RJ-45 Female				
Power	2 x IEC 60320/C14					
Switches	Power Switch	2 x Rocker Switches				
	Port Selection	2 x Pushbuttons				
	Reset	1 x Semi-recessed Pushbutton				
LEDs	Online / Selected	16 (Green/Orange)	16 (Green/Orange)	32 (Green/Orange)	32 (Green/Orange)	32 (Green/Orange)
	Power	2 (Blue)				
	10/100/1000Mbps	2 (10: Red / 100: Orange / 1000: Green)				
Keyboard / Mouse Emulation		PS/2; USB				
Resolution		1920 x 1200 @ 60 Hz				
I/P Rating		100 - 240 V~ ; 50 - 60 Hz; 1 A				
Power Consumption		AC110V, 32.97W, 191BTU AC220V, 33.18W, 192BTU	AC110V, 50.3W, 272BTU AC220V, 48.9W, 266BTU	AC110V, 26.88W, 162BTU AC220V, 27.83W, 167BTU	AC110V, 39.5W, 221BTU AC220V, 39.7W, 222BTU	AC110V, 48.4W, 263BTU AC220V, 47W, 257BTU
Scan Interval		1 - 255 Sec				
Environment	Operating Temp.	0° - 40° C				
	Storage Temp.	-20° - 60° C				
	Humidity	0 - 80% RH, Non-condensing				
Physical Properties	Housing	Metal				
	Weight	5.56 kg	5.69 kg	5.54 kg	5.60 kg	5.73 kg
	Dimensions (L x W x H)	43.36 x 41.21 x 4.40 cm	43.36 x 41.21 x 4.40 cm	43.36 x 41.21 x 4.40 cm	43.36 x 41.21 x 4.40 cm	43.36 x 41.21 x 4.40 cm

		KN8132V	KN4164V	KN8164V
Computer Connections	Direct	32	64	64
	Max	512 (via Cascade KVM Switches)		
Computer Port Selection		Pushbuttons, Hotkeys, GUI		
Connectors	Console	Keyboard / Mouse	2 x USB Female (White)	
		Video	1 x DVI-D Female (White) / 1 x VGA HDB-15 (Blue)	
		Reserved for Remote Console Port	1 x RJ-45 Female (Black)	
	KVM Port	32 x RJ-45 Female (Black)	64 x RJ-45 Female (Black)	64 x RJ-45 Female (Black)
	USB / Virtual Media	3 x USB Female (White)		
	Audio	2 x Audio Jack Female (Pink; Green)		
	LUC	1 x Mini-USB Female (Black)		
	PON	1 x RJ-45 Female (Black)		
	Serial/RS-232	1 x RJ-45 Female (Black)		
	LAN	2 x RJ-45 Female (Black)		
	Power	2 x IEC 60320/C 14		
Switches	Power Switch	2 x Rocker Switches		
	Port Selection	2 x Pushbuttons		
	Reset	1 x Semi-recessed Pushbutton		
LEDs	Online / Selected	32 (Green/Orange)	64 (Green/Orange)	64 (Green/Orange)
	Power	2 (Blue)		
	10/100/1000Mbps	2 (10: Red / 100: Orange / 1000: Green)		
Keyboard / Mouse Emulation		PS/2; USB		
Resolution		1920 x 1200		
I/P Rating		100 - 240 V~ ; 50 - 60 Hz; 1 A		
Power Consumption		AC110V, 69.83W, 364BTU AC220V, 68.04W, 355BTU	AC110V, 49.4W, 268BTU AC220V, 47.3W, 258BTU	AC110V, 75.18W, 389BTU AC220V, 73.5W, 381BTU
Scan Interval		1 - 255 Sec		
Environment	Operating Temp.	0° - 40° C		
	Storage Temp.	-20° - 60°C		
	Humidity	0 - 80% RH, Non-condensing		
Physical Properties	Housing	Metal		
	Weight	5.80 kg	7.00 kg	7.07 kg
	Dimensions (L x W x H)	43.36 x 41.21 x 4.40 cm (19"/1U)	43.36 x 41.26 x 8.80 cm (19"/2U)	43.36 x 41.26 x 8.80 cm (19"/2U)

## KVM Adapter Cables

The following KVM Adapter cables are required for use with the KVM over IP Switches:

Type:	PS/2	For all USB systems	Sun Legacy	Serial	Connect to systems with USB 2.0 ports	Connect to systems with USB 2.0 ports + Audio	Connect to systems with USB 2.0 ports + Smart Card Reader support	Connect to systems with USB 2.0 ports + Audio	Connect to systems with USB 2.0 ports + Smart Card Reader support	Connect to systems with USB 2.0 ports + Smart Card Reader support	Connect to systems with USB 2.0 ports + Smart Card Reader support
Interface:	6-pin Mini-DIN Male 6-pin Mini-DIN Male HDB-15 Male	USB Type A Male HDB-15 Male	13W3 Male DIN 8 pin Male	RS-232 DB-9 Female	USB Type A Male HDB-15 Male	USB Type A Male HDB-15 Male 2 Audio plugs	USB Type A Male USB Type A Male HDB-15 Male	USB Type A Male HDB-15 Male 2 Audio plugs	USB Type A Male USB Type A Male DVI-D Male (Single Link)	USB Type A Male USB Type A Male HDMI Male	USB Type A Male USB Type A Male DisplayPort Male