

## KVM over IP Switches

- ATEN's 4th generation of KVM over IP switches exceed expectations. The KN2116VA / KN4116VA / KN2132VA / KN4132VA / KN8132V / KN4164V / KN8164V features superior video quality (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 HD resolutions of 1920 x 1200

With dual on-board NICs and dual power supplies, the KN series are built for reliability, to ensure 24/7 availability of remote access to all servers.

KN series devices can be integrated into the CC2000 Management Software. The CC2000 puts administrators in complete control of remote data centers and branch offices no matter where they are in the world – allowing IT administrators to remotely monitor and control all devices on a network, including blade servers and virtual machines.

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.

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

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.

### KN2116VA / KN4116VA

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

### KN2132VA / KN4132VA / KN8132V

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

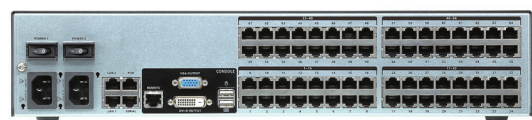
### KN4164V / KN8164V

- 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 HD resolution of 1920 x 1200
- Simultaneously share one local console and four/eight independent connections to the attached servers

### Hardware

- High port density – RJ-45 connectors and Cat 5e/6 cable for up to 32 ports (KN2132VA / KN4132VA / KN8132V) in a 1U housing or 64 ports (KN8164V / KN4164V) in a 2U housing
  - Laptop USB Console (LUC) – A dedicated USB port directly connects to a laptop for easy Console operation
  - Four or 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 – 24 bit color depth for the local console up to 50m, and 24 bit for the remote sessions
  - Monitor and control up to 64 computers on a single level, or control up to 512 computers in a cascade\*
- \* Cascade-compatible KVM Switches include the following: CS9134, CS9138, CS88A, KH1508, KH1516, KH1508A, and KH1516A

### Management

- Up to 64 user accounts – up to 32 users simultaneously share the control
- Green IT-Fan speed varies according 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 Altusen CC2000 Management Software
- Power Association enables the switch's KVM ports to be associated with ATEN PDUs power outlets for remote power management
- IPv6 capable

### Ease-to-Use Interface

- ATEN Exclusive Panel Array Mode™ simultaneously monitoring for both local console operators and remote access users
- 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, Mozilla, Netscape
- Browser-based UI in pure Web technology allows administrators to perform administrative tasks without pre-installed Java software package required
- 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 inputs can be duplicated on all the attached servers
- 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 SSL 128-bit 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

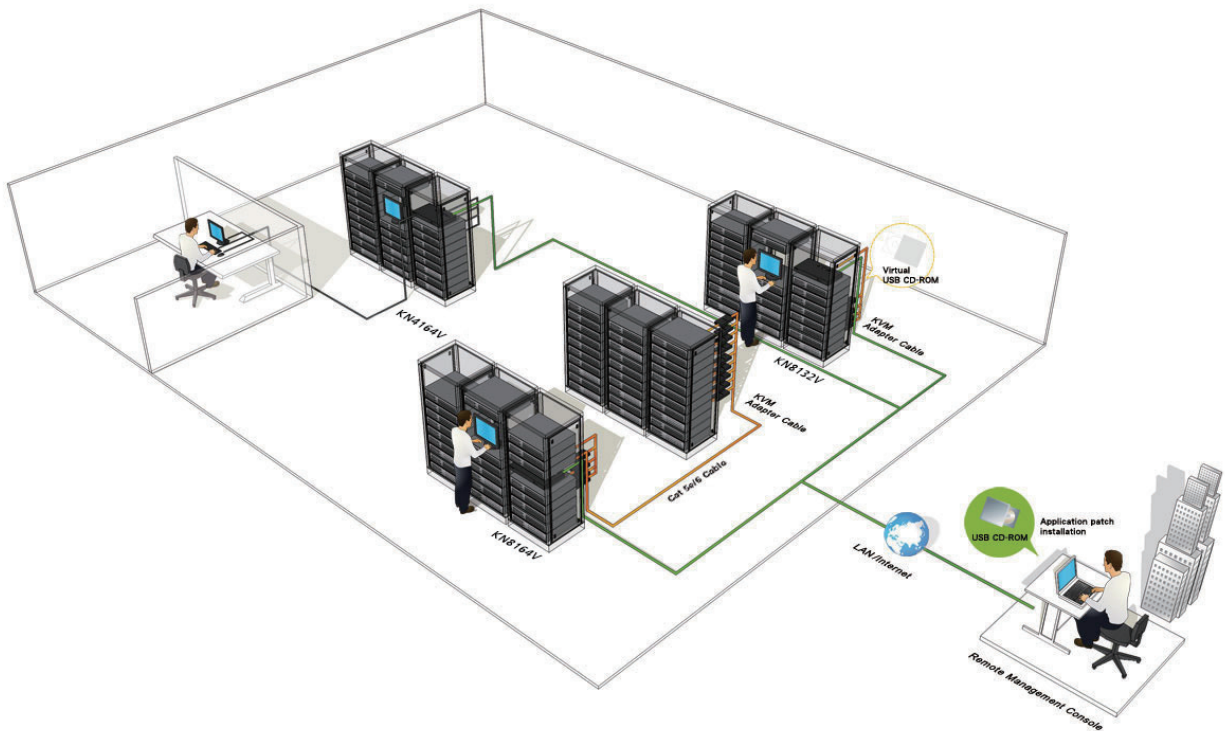
### Virtual Remote Desktop

- Video quality can be adjusted to optimize data transfer speed; monochrome color depth setting, threshold and noise settings for compression of the data bandwidth in low bandwidth situations
- 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

## Benefits

|   |   |
|---|---|
| <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 connecting to DVD/CD drives, USB mass storage devices, PC 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> | With enhanced fps throughput for vivid responsive video displays, the switches offers resolutions up to 1920 x 1200 @ 60Hz with 24-bit color depth at the local console up to 50m; and 24-bit for the 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 supply operation provides the backup redundancy, and reliability. Should one of the IP or one of the power supplies become unavailable, the other will take over in order to keep the system functioning normally.  |

|   |   |
|---|---|
| <b>Configurable Network Bandwidth settings</b>              | 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. |
| <b>Mouse DynaSync™</b>                                      | Automatically synchronizes the local and remote mouse movements for perfect alignment of mouse pointers, regardless of server mouse acceleration settings.  |
| <b>Message Board</b>  | 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.  |
| <b>Intelligent Bus Assignment – Flexible Port Switching</b> | 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.  |
| <b>Adapter ID</b>   | 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.  |



## Specifications

| Function                   |                        | KN2116VA                            | KN4116VA   | KN2132VA                   | KN4132VA                   |  |
|----------------------------|------------------------|-------------------------------------|--|----------------------------|----------------------------|--|
| Computer Connections       | Direct                 | 16                                  | 16   | 32                         | 32                         |  |
|                            | Max                    | 512 (via Cascade KVM Switches)      |  |                            |                            |  |
| Computer Port Selection    |                        | Pushbuttons, Hotkeys, GUI           |  |                            |                            |  |
| Connectors                 | Console                | Keyboard / Mouse                    | 2 x USB Female (Black)                           |                            |                            |  |
|                            |                        | 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               | 16 x RJ-45 Female (Black)           | 16 x RJ-45 Female (Black)                        | 32 x RJ-45 Female (Black)  | 32 x RJ-45 Female (Black)  |  |
|                            | USB / Virtual Media    | 3 x USB Female (Black)              |  |                            |                            |  |
|                            | 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/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)          |  |
|                            | Power                  | 2 (Blue)                            |  |                            |                            |  |
|                            | 10/100/1000Mbps        | 2 (Red/Orange/Green)                |  |                            |                            |  |
| Keyboard / Mouse Emulation |                        | PS/2; USB                           |  |                            |                            |  |
| Resolution                 |                        | 1920 x 1200                         |  |                            |                            |  |
| I/P Rating                 |                        | 100–240V~ ; 50-60Hz; 1A             |  |                            |                            |  |
| Power Consumption          | Single Power           | 110V/34.5W;<br>220V/34.8W           | 110V/49.1W;<br>220V/50.5W                        | 110V/43.2W;<br>220V/42.0W  | 110V/57.8W;<br>220V/56.7W  |  |
|                            | Dual Power             | 110V/17.7W;<br>220V/17.9W           | 110V/24.9W;<br>220V/25.8W                        | 110V/22.0W;<br>220V/21.5W  | 110V/29.3W;<br>220V/28.9W  |  |
| 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  | 5.60 kg                    | 5.73 kg                    |  |
|                            | Dimensions (L x W x H) | 43.36 x 41.21 x 4.40<br>cm          | 43.36 x 41.21 x 4.40<br>cm                       | 43.36 x 41.21 x 4.40<br>cm | 43.36 x 41.21 x 4.40<br>cm |  |

| Function                   |                        | 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 (Black)                           |                                     |
|                            |                        | 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 (Black)              |  |                                     |
|                            | 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)            |  |                                     |
| Switches                   | Power                  | 2 x IEC 60320/C14                   |  |                                     |
|                            | Power Switch           | 2 x Rocker Switches                 |  |                                     |
|                            | Port Selection         | 2 x Pushbuttons                     |  |                                     |
| LEDs                       | Reset                  | 1 x Semi-recessed Pushbutton        |  |                                     |
|                            | Online / Selected      | 32 (Green/Orange)                   | 64 (Green/Orange)                                | 64 (Green/Orange)                   |
|                            | Power                  | 2 (Blue)                            |  |                                     |
| 10/100/1000Mbps            |                        | 2 (Red/Orange/Green)                |  |                                     |
| Keyboard / Mouse Emulation |                        | PS/2; USB                           |  |                                     |
| Resolution                 |                        | 1920 x 1200                         |  |                                     |
| I/P Rating                 |                        | 100-240V~ ; 50-60Hz; 1A             |  |                                     |
| Power Consumption          | Single Power           | 110V/72.3W;<br>220V/70.4W           | 110V/64.2W;<br>220V/61.3W                        | 110V/78.8W;<br>220V/77.0W           |
|                            | Dual Power             | 110V/36.5W;<br>220V/35.8W           | 110V/32.5W;<br>220V/31.2W                        | 110V/39.5W;<br>220V/39.1W           |
| 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<br>(19"/1U) | 43.36 x 41.26 x 8.80 cm<br>(19"/2U)              | 43.36 x 41.26 x 8.80 cm<br>(19"/2U) |

## KVM Adapter Cables

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

| Type:      | PS/2 KVM Adapter Cable                                    | USB KVM Adapter Cable          | Sun Legacy KVM Adapter Cable | Serial KVM Adapter Module                | Serial KVM Adapter Cable       | USB Virtual Media KVM Adapter Cable             | USB Virtual Media KVM Adapter Cable with Audio  | USB Virtual Media KVM Adapter Cable with Smart Card Reader | USB Virtual Media KVM Adapter Cable with Cable with Audio | DVI USB Virtual Media KVM Adapter Cable with Smart Card Reader | HDMI USB Virtual Media KVM Adapter Cable with Smart Card Reader | DisplayPort USB Virtual Media KVM Adapter Cable with Smart Card Reader |
|------------|---|--------------------------------|------------------------------|--|--------------------------------|---|---|--|---|--|---|--|
| Interface: | 6-pin Mini-DIN Male<br>6-pin Mini-DIN Male<br>HDB-15 Male | USB Type A Male<br>HDB-15 Male | 13W3 Male<br>DIN 8 pin Male  | RS-232 DB-9 Female<br>RS-232 DB-9 Female | USB Type A Male<br>HDB-15 Male | USB Type A Male<br>HDB-15 Male<br>2 Audio plugs | USB Type A Male<br>HDB-15 Male<br>2 Audio plugs | USB Type A Male<br>HDB-15 Male<br>2 Audio plugs            | USB Type A Male<br>HDB-15 Male<br>2 Audio plugs           | USB Type A Male<br>DVI-D Male (Single Link)                    | USB Type A Male<br>HDMI Male                                    | USB Type A Male<br>DisplayPort Male                                    |

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