ALTUSCN™
Enterprise Solutions by ATEN

KVM Over the NET™
KN1000
User Manual

www.aten.com

FCC Information

This is an FCC Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

RoHS

This product is RoHS compliant.

SJ/T 11364-2006

The following contains information that relates to China.

部件名称	有毒有害物质或元素					
	铅	汞	镉	六价铬	多溴联苯	多溴二苯醚
电器部件	●	○	○	○	○	○
机构部件	○	○	○	○	○	○

○: 表示该有毒有害物质在该部件所有均质材料中的含量均在SJ/T 11363-2006规定的限量要求之下。

●: 表示符合欧盟的豁免条款，但该有毒有害物质至少在该部件的某一均质材料中的含量超出SJ/T 11363-2006的限量要求。

×: 表示该有毒有害物质至少在该部件的某一均质材料中的含量超出SJ/T 11363-2006的限量要求。

User Information

Online Registration

Be sure to register your product at our online support center:

International	http://support.aten.com
North America	http://www.aten-usa.com/product_registration

Telephone Support

For telephone support, call this number:

International	886-2-8692-6959
China	86-10-5255-0110
Japan	81-3-5615-5811
Korea	82-2-467-6789
North America	1-888-999-ATEN ext 4988
United Kingdom	44-8-4481-58923

User Notice

All information, documentation, and specifications contained in this manual are subject to change without prior notification by the manufacturer. The manufacturer makes no representations or warranties, either expressed or implied, with respect to the contents hereof and specifically disclaims any warranties as to merchantability or fitness for any particular purpose. Any of the manufacturer's software described in this manual is sold or licensed *as is*. Should the programs prove defective following their purchase, the buyer (and not the manufacturer, its distributor, or its dealer), assumes the entire cost of all necessary servicing, repair and any incidental or consequential damages resulting from any defect in the software.

The manufacturer of this system is not responsible for any radio and/or TV interference caused by unauthorized modifications to this device. It is the responsibility of the user to correct such interference.

The manufacturer is not responsible for any damage incurred in the operation of this system if the correct operational voltage setting was not selected prior to operation. PLEASE VERIFY THAT THE VOLTAGE SETTING IS CORRECT BEFORE USE.

Package Contents

The basic KN1000 package consists of:

- 1 KN1000
- 2 Custom KVM Cable Sets
- 1 Custom Console Cable Set
- 1 USB 2.0 Virtual Media Cable
- 1 Power Adapter
- 1 Outlet Power Cord
- 1 Rack Mount Kit
- 1 Software CD
- 1 User Instructions*

Check to make sure that all of the components are present and in good order. If anything is missing, or was damaged in shipping, contact your dealer.

Read this manual thoroughly and follow the installation and operation procedures carefully to prevent any damage to the switch or to any other devices on the KN1000 installation.

* Features may have been added to the KN1000 since this manual was printed. Please visit our website to download the most up-to-date version.

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About This Manual

This User Manual is provided to help you get the most from your KN1000 system. It covers all aspects of installation, configuration and operation. An overview of the information found in the manual is provided below.

Chapter 1, Introduction, introduces you to the KN1000 System. Its purpose, features and benefits are presented, and its front and back panel components are described.

Chapter 2, Hardware Setup, provides step-by-step instructions for setting up your installation, and explains some basic operation procedures.

Chapter 3, Browser Login, describes how to log into the KN1000 with a browser, and explains the functions of the icons and buttons that appear on the opening page.

Chapter 4, Administration, explains the administrative procedures that are employed to configure the KN1000's working environment, as well as how to operate the KN1000 from the local console.

Chapter 5, The WinClient Viewer, explains how to connect to the KN1000 with the Windows Client software, and describes how to use the OSD to access and control the computers connected to the unit.

Chapter 6, The JavaClient Viewer, describes how to connect to the KN1000 with the Java Applet software, and explains how to use the OSD to access and control the computers connected to the unit.

Chapter 7, The Log File, shows how to use the log file utility to view the events that take place on the KN1000.

Chapter 8, The Log Server, explains how to install and configure the Log Server.

Chapter 9, AP Operation, describes how to operate the KN1000 using Windows and Java programs, rather than with the browser method.

An Appendix, provides specifications and other technical information regarding the KN1000.

Conventions

This manual uses the following conventions:

Monospaced	Indicates text that you should key in.
[ ]	Indicates keys you should press. For example, [Enter] means to press the **Enter** key. If keys need to be chorded, they appear together in the same bracket with a plus sign between them: [Ctrl+Alt].
1.	Numbered lists represent procedures with sequential steps.
♦	Bullet lists provide information, but do not involve sequential steps.
→	Indicates selecting the option (on a menu or dialog box, for example), that comes next. For example, Start → Run means to open the *Start* menu, and then select *Run*.
⚠	Indicates critical information.

Product Information

For information about all ALTUSEN products and how they can help you connect without limits, visit ALTUSEN on the Web or contact an ALTUSEN Authorized Reseller. Visit ALTUSEN on the Web for a list of locations and telephone numbers:

International	http://www.aten.com
North America	http://www.aten-usa.com

Terminology

Throughout the manual we make reference to the terms *Local* and *Remote* in regard to the operators and equipment deployed in a KN1000 installation. Depending on the point of view, users and servers can be considered *Local* under some circumstances, and *Remote* under others:

- Switch's Point of View
  - Remote users – We refer to a user as a *Remote* user when we think of him as someone who logs into the switch over the net from a location that is *remote from the switch*.
  - Local Console – The keyboard mouse and monitor connected directly to the switch.
  - Servers – The servers attached to the switch via custom KVM cables.
- User's Point of View
  - Local client users – We refer to a user as a *Local client user* when we think of him as sitting at his computer performing operations on the servers connected to the switch that is *remote from him*.
  - Remote servers – We refer to the servers as *Remote servers* when we think of them from the Local Client User's point of view – since, although they are locally attached to the switch, they are *remote from him*.

When we describe the overall system architecture we are usually speaking from the switch's point of view – in which case the users are considered remote. When we speak about operations users perform via the browser, viewers, and AP programs over the net, we are usually speaking from the user's point of view – in which case the switch and the servers connected to it are considered remote.

Chapter 1
Introduction

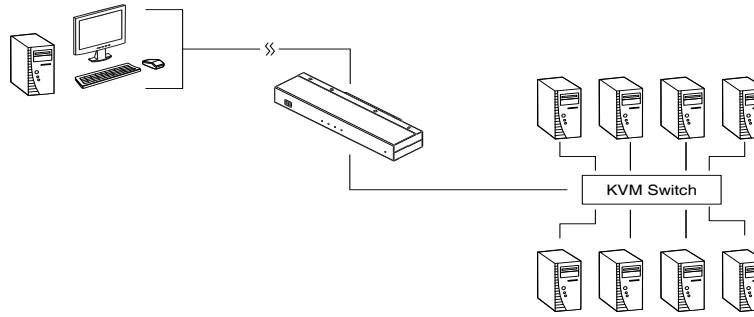
Overview

The KN1000 is a control unit that provides remote BIOS-level access to servers or “over-IP” capability to KVM switches that do not have built in over-IP functionality. It allows operators to monitor and access their computers from remote locations using a standard Internet browser or Windows and Java based application programs. In addition, the KN1000 offers out-of-band access, including external modem support, and supports BIOS-level troubleshooting without the need for constant on-site IT maintenance.

To help you manage and control your entire data center environment, a built-in single-port power switch allows remote power management of a server/installation connected locally to the KN1000. You can also add a PON* (Power Over the NET™) power management unit and remotely control the power status of devices in your installation, including monitoring their current status, as well as turning servers on, off, and rebooting them.

Note: Requires a separate purchase.

The KN1000 connects to the Internet, an Intranet, LAN, or WAN using industry standard Cat 5e cable, then uses a custom KVM cable to connect to a local KVM switch or server. Because the KN1000 uses TCP/IP for its communications protocol, the server or KVM switch it is connected to can be accessed from any computer on the Net – whether that computer is located down the hall, down the street, or half-way around the world.



(Continues on next page.)

Operators at remote locations connect to the KN1000 via its IP address. Once a connection has been established and authorization granted, the remote computer can exchange keyboard, video and mouse signals with the server (or servers on a KVM switch installation), just as if they were physically present and working on the equipment directly.

KN1000's Virtual Media function allows you to perform diagnostic testing, file transfer, and OS and application patches from a remote console. There is no need to physically load a CD directly to the server to perform data-related tasks – you can conveniently and efficiently troubleshoot and resolve problems at the BIOS level from anywhere.

The *Administrator* and *Client* software included with the KN1000 make it easy to install, maintain, and operate. System administrators can handle a multitude of tasks with ease – from installing and running GUI applications, to BIOS level troubleshooting, routine monitoring, concurrent maintenance, system administration, rebooting and even pre-booting functions.

The *Administrator Utility* is available in a browser-based version as well as Windows-based and Java application versions. The utility is used to configure the system; limit access from remote computers; manage users; and maintain the system with firmware and software module updates.

A *Windows Client Viewer* and a *Java Applet Viewer* are available for browser access, while *Windows Client AP* and *Java Client AP* programs are provided for non-browser GUI access. They allow IP connection and login from anywhere on the net. Inclusion of a Java-based client ensures that the KN1000 is platform independent, and is able to work with practically all operating systems. The KN1000 also provides serial console management over the Internet, which can remotely control serial console devices such as a network switch.

The client software allows access to, and control of, the connected servers. Once an operator successfully connects and logs in, his screen displays what is running on the remote unit attached to the KN1000 (a KVM OSD display, a server's desktop, or a running program, for example) and he can control it from his console just as if he were there.

The *Log Server* records all the events that take place on selected KN1000 units for the administrator to analyze.

Your KN1000 investment is protected through the ability of its firmware to be upgraded over the internet. You can stay current with the latest functionality improvements by downloading firmware update files from our website as they become available, and then using the utility to quickly and conveniently perform the upgrade.

Features and Benefits

The features and benefits provided by a KN1000 deployment are described in the following table:

Features	Benefits
Over-IP Capability for Legacy KVM Switches or KVM switches that do not have built in over-IP functionality	Protects your original KVM switch investment. No need to purchase new KVM switches to achieve the benefits of over-IP connectivity. Compatible KVM Switches include the following: CS9134, CS9138, CS88A, CS1308, CS1316, CS1754*, CS1758*, CS1708A, CS1716A, ACS1208A, ACS1216A, KH2508A, KH2516A, KH1508A, and KH1516A *Some of the KN1000's features may not be supported, depending on the functionality of the connected KVM switch. (For example, some switches do not support virtual media.) *Some features found on the connected KVM switches may not be supported on the KN1000. (For example, the CS1754's audio.)
Configuration and Operation Ease	An easy-to-navigate graphical user interface makes for convenient, intuitive configuration and operation. Web-based Windows and Java implementations allow the remote equipment to be controlled from industry-standard web browsers. Windows and Java AP client software – using the same, convenient, GUI – are also included to provide access where a browser environment is not desired.
Remote Power Control with Wake on LAN	1. A built-in single-port power switch allows remote power management of a server/installation connected locally to the KN1000. 2. In addition, you can also add a PON (Power Over the NET™) power management unit and remotely control the power status of devices on your installation, including monitoring their current status, as well as turning servers On, Off and Rebooting them.
Superior Video	With its enhanced fps throughput for crisp responsive video display, the KN1000 offers resolutions of up to 1600 x 1200 @ 60Hz; vibrant 24-bit color depth for rich remote session display. The remote desktop can appear full-screen, or in a window. In full-screen mode the remote desktop display scales to the user's monitor display size.
Virtual Media	USB 1.1 and 2.0 devices (Floppy drives, CDROMs, Flash drives, etc.), folders, and image files on a user's local system, appear and act as if they were installed on the remote server, for ease and convenience when performing software installation and system updates across the entire Installation.
Virtual Remote Desktop	◆ On-screen keyboard with multilanguage support ◆ Exit Macros support ◆ BIOS-level access

Features	Benefits
Smart Card / CAC Reader Support	To meet advanced security requirements, the KN1000's Virtual Media function allows a Smart Card / CAC reader on a user's local system to be mapped to a remote server.
Built in Single Port Power Switch	Allows remote power management of a server/installation connected locally to the KN1000, including turning servers On, Off and Rebooting
Low Bandwidth Optimization	Bandwidth optimization via grayscaling and video quality settings allow maximum data throughput in low bandwidth situations. PPP modem dialup support ensures reliable connectivity for out-of-band, and low bandwidth situations.
Multi-Platform / Multi-Protocol Support	Windows and Java client software ensures that the KN1000 and the equipment that connects to it can be accessed from most of the operating systems in use today (Windows, Linux, Unix, Sun, Mac). The KN1000 also supports a broad range of communication protocols, such as TCP/IP, HTTP, HTTPS, UDP, DHCP, SSL, ARP, DNS, ICMP, CHAP, PPP, 10Base-T, 100Base-T
Manage Browser Access Methods	Use either HTTP or HTTPS; as well as disable the browser.
Multi-Keyboard Language Support / On-Screen Keyboard	The KN1000 supports multiple keyboard language input – including English, French, German, Italian, Spanish, Japanese, Korean, and Traditional Chinese. There is no need to have a separate keyboard for each language – you can input key data in any of these languages with the KN1000's convenient on-screen keyboard.
Multi-Users / Multi-Logins	The KN1000 supports up to 64 user accounts, and allows up to 32 concurrent user logins for single-bus access.
Message Board	To alleviate the possibility of access conflicts that may result from multiple user logins, and facilitate communication among the logged-in users, a message board – similar to an Internet chat program – allows users to communicate with each other, and provides mechanisms for a user to take exclusive control of the KVM functions.
Advanced Security	◆ Advanced security features include password protection – whereby a valid username and password must be given before the client software will run – and advanced encryption technologies, such as secure 128-bit SSL. ◆ 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. ◆ IP/MAC Filter for enhanced security protection ◆ Supports password protection ◆ Private CA

Features	Benefits
External Authentication Support	In addition to its own security protection, the KN1000 allows you to set up log in authentication and authorization management from a external sources such as RADIUS, LDAP, LDAPS, and MS Active Directory.
Event Logging	The KN1000 can record all the events that take place on it and write them to a searchable database. Administrators and selected users can search for events containing specific words or strings and retrieve them according to date and order of significance.
Console Management	◆ Serial console management – serial terminal access. Access the KN1000 via a built-in serial viewer, or via third party software (such as PuTTY) for Telnet and SSH sessions. ◆ Out of Band Support – via dial up modem support. Access the KN1000 through its RS-232 port using a dial-up connection.
Upgradeable Firmware over the Internet	No need to add yet another cable to your installation – stay current with the latest functionality improvements and updates, all over the Internet.
Mouse DynaSync	No need to re-sync your mouse – Mouse DynaSync provides automatic locked-in synching of the remote and local mouse pointers – eliminating the need to constantly resync the two movements. Your local console mouse movement becomes the remote unit's mouse movement.
Auto-Ping	Pings a device to determine its status, if the ping test fails after a set amount of time- it automatically takes an action assigned
Supports multiple interface	Supports PS/2, USB, Sun Legacy (13W3)* and serial (RS-232) connectivity *Requires CV130A converter purchase
Full-Screen or Sizable Remote Desktop Window	Get a full screen even if your monitor's resolution is lower than the remote computer's resolution. In full-screen mode the remote desktop display scales to the user's monitor display size. Supports up to 1600 x 1200 @ 60Hz; 24-bit color depth for remote sessions.
DDNS	Allows the mapping of a dynamic IP address assigned by a DHCP server to a host name.
On/Off scheduling for power outlet	Power management tasks can be scheduled on a daily, weekly, monthly or user-specified time basis
Safe shutdown support	IT administrators can control servers remotely and completely shut down servers before powering them off.
End session	Administrators can terminate running sessions
Magic Panel	Special hideaway control panel with configurable function icons.

System Requirements

Remote User Computers

Remote user computers (also referred to as client computers) are the ones the users log into the switch with from remote locations over the internet (see *Terminology*, page xii). The following equipment must be installed on these computers:

- For best results we recommend that the computers used to access the switch have at least a P III 1 GHz processor, with their screen resolution set to 1024 x 768.
- Browsers must support 128 bit SSL encryption.
- For best results, a network transfer speed of at least 128 kbps is recommended.
- For the *Log Server*, you must have the Microsoft Jet OLEDB 4.0 or higher driver installed.
- For Safe Shutdown:
  - The computer must be running Windows (Windows 2000 or higher), or Linux.
  - The *Safe Shutdown* program (available by download from our website), must be installed and running on the computer.

Servers

Servers are the computers connected to the switch via KVM Cables (see *Terminology*, page xii). The following equipment must be installed on these servers:

- A VGA, SVGA or multisync port
- For USB KVM Cable Connections: a Type A USB port and USB host controller
- For PS/2 KVM Cable Connections: 6-pin Mini-DIN keyboard and mouse ports

Cables

- Two custom KVM cable sets (1 USB; 1 PS/2) to link the KN1000 to a server or KVM switch are provided with this package.
- Custom KVM cable sets are available in various lengths, as shown in the table below:

Cable Type	Length	CS Part Number
PS/2	1.2 m	2L-5201P
	1.8 m	2L-5202P
	1.8 m	2L-5702P
	3.0 m	2L-5203P
	6.0 m	2L-5206P
USB	1.2 m	2L-5201U
	1.8 m	2L-5202U
	3.0 m	2L-5203U
	5.0 m	2L-5205U

To purchase additional cable sets, contact your dealer.

- One custom Console cable set to link the KN1000 to a local console is provided with this package.

Note: This cable set has been designed to operate with either PS/2 or USB consoles.

- A USB 2.0 cable for use with the *Virtual Media* function (see *Virtual Media Port*, page 11) is provided with this package.
- Cat 5e or higher Ethernet cable (not provided with this package), should be used to connect the KN1000 to the LAN, WAN, or Internet.
- One power cable to connect the KN1000 to the server for power management functionality is provided with this package.

Video

Only the following **non-interlaced** video signals are supported:

Resolution	Refresh Rates
640 x 480	60, 72, 75, 85, 90, 100, 120
720 x 400	70
800 x 600	56, 60, 72, 75, 85, 90, 100, 120
1024 x 768	60, 70, 75, 85, 90, 100
1152 x 864	60, 70, 75, 85
1280 x 720	60
1280 x 1024	60, 70, 75, 85
1600 x 1200	60

Operating Systems

- Supported operating systems for remote user computers that log into the KN1000 include Windows 2000 and higher, and other systems capable of running Sun's Java Runtime Environment (JRE) 6, Update 3, or higher (Linux, Mac, Sun, etc.).
- Supported operating systems for servers that connect to the KN1000 are shown in the table, below:

OS		Version
Windows		2000 and higher
Linux	RedHat	7.1 and higher
	Fedora	Core 5 and higher
	SuSE	9.0 and higher
	Mandriva (Mandrake)	9.0 and higher
UNIX	AIX	4.3 and higher
	FreeBSD	3.51 and higher
	Sun	Solaris 8 and higher
Novell	Netware	5.0 and higher
Mac		OS 9 and higher
DOS		6.2 and higher

Browsers

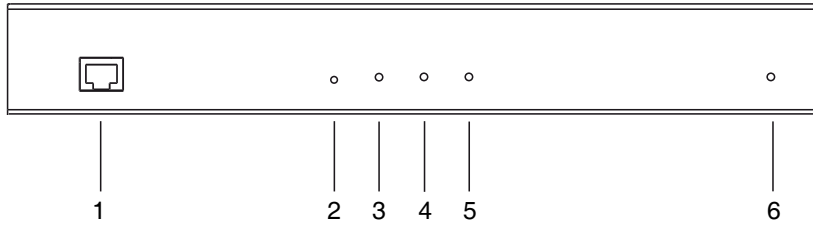
Supported browsers for users that log into the KN1000 include the following:

Browser		Version
Internet Explorer		6 and higher
Chrome		8.0 and higher
Firefox	Windows	3.5 and higher
	Linux	3.0 and higher
Safari	Windows	4.0 and higher
	Mac	3.1 and higher
Opera		10,0 and higher
Mozilla	Windows	1.7 and higher
	Sun	1.7 and higher
Netscape		9.0 and higher

* See *Mac Systems*, page 170, for further information regarding Safari.

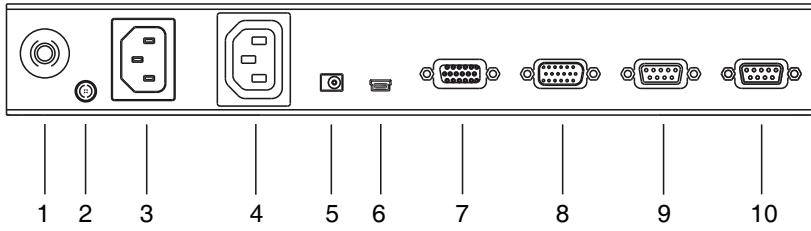
Components

Front View



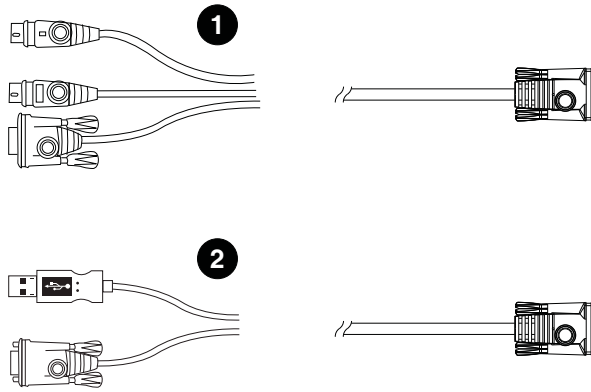
No.	Component	Description
1	LAN Port	The Cat 5e cable that connects the KN1000 to the LAN, WAN, or Internet plugs in here.
2	Firmware Upgrade/Reset Switch	1. Pressing and releasing this switch performs a KN1000 system reset. (See *Erratic operation*, page 166.) 2. Pressing and holding this switch for more than three seconds returns the KN1000 to its factory default configuration settings. 3. Pressing and holding this switch while powering on the switch returns the KN1000 to its factory default firmware level. This operation should only be performed in the event of a firmware upgrade failure that results in the device becoming inoperable. **Note:** This switch is recessed and must be pushed with a thin object - such as the end of a paper clip, or a ballpoint pen.
3	10/100 Mbps LED	The LED lights ORANGE to indicate 10 Mbps data transmission speed. It lights GREEN to indicate 100 Mbps data transmission speed.
4	Link LED	Flashes GREEN to indicate that a Client program is accessing the device.
5	Power LED	Lights ORANGE when the KN1000 is powered up and ready to operate.
6	Power Outlet LED	Lights ORANGE when the server attached to the KN1000's power outlet is powered on

Rear View



No.	Component	Description
1	Circuit Breaker	As a safety measure, if there is an overcurrent situation, the circuit breaker will trip. Press this button to recover normal operation.
2	Grounding Terminal	The wire used to ground the unit connects here.
3	Power Inlet	The power cord that connects the KN1000 to an AC power source for power management functionality plugs in here.
4	Power Outlet	The power cord provided with the KN1000 package that connects to the server for power management plugs in here. See *Managing Power*, page 25.
5	Power Jack	The power adapter cable plugs in here.
6	Virtual Media Port	The cable that connects the KN1000 to a USB port on your server or KVM switch plugs in here. See *Virtual Media*, page 94, for virtual media details.
7	PC/KVM Port	The KVM cable provided with this package that links the KN1000 to your server / KVM switch plugs in here.
8	Console Port	The cable for the local console (keyboard, monitor, and mouse) plugs in here. The console can use either a PS/2 or USB keyboard and mouse. Each connector is color coded and marked with an appropriate icon.
9	PON Port	This port is made available for use with a Power over the NET™ remote power management module. Refer to the User Manual that came with the PON device for operation details.
10	RS-232 Port	This serial port is provided for: 1. Serial console management (see *Console Management*, page 59 for details); or 2. Out-of-band modem operation (see *OOBC*, page 62 for details).

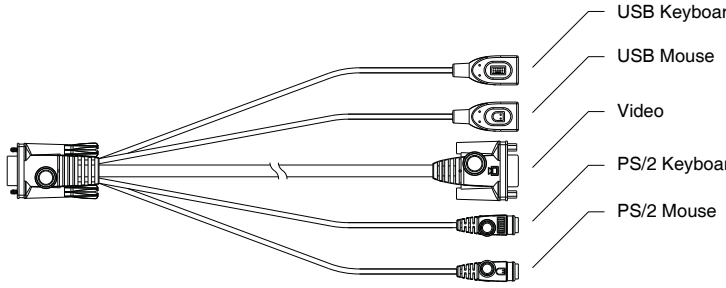
Custom KVM Cables



No.	Description
1	For use with PS/2 configuration servers or KVM switches.
2	For use with USB configuration servers or KVM switches.

Note: The advantage of using a USB cable is that it allows automatic *locked-in* mouse synchronization. See *Mouse DynaSync Mode*, page 102, for details.

Custom Console Cable



Note: You can use any combination of keyboard and mouse connections. For example, you can use a PS/2 keyboard with a USB mouse.

Chapter 2
Hardware Setup

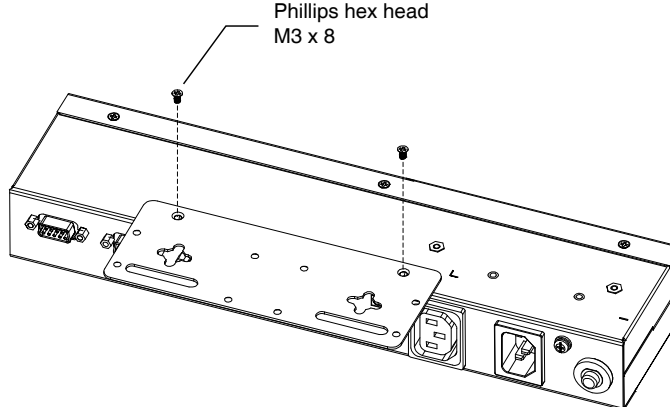
1. Important safety information regarding the placement of this device is provided on page 149. Please review it before proceeding.
2. Make sure that the power to any device that you connect to the installation has been turned off. You must unplug the power cords of any computers that have the Keyboard Power On function.
3. Any installation that does not follow the instructions in this guide may be hazardous.

Mounting

Rack Mounting

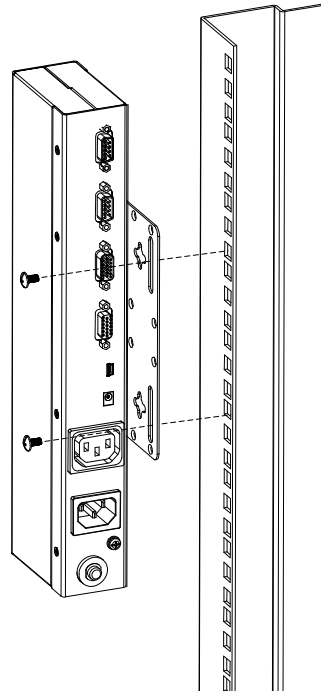
For convenience and flexibility, the KN1000 can be mounted on a system rack. To rack mount the unit do the following:

1. Remove the two original screws from the top/bottom of the unit (near the rear of the unit).
2. Using the screws provided with the rack mount kit, screw the mounting bracket into the KN1000 – as shown in the diagram below:



Note: The illustrations show the mounting bracket attached to the bottom of the unit; it can also be attached to the top.

3. Screw the bracket into any convenient location on the rack.

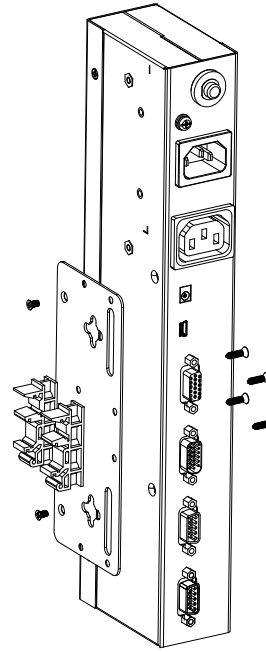


Note: Rack screws are not provided. Use screws that are appropriate for your rack.

DIN Rail Mounting

To mount the KN1000 on a DIN rail:

1. Screw the mounting bracket to the back of the KN1000 as described in steps 1 and 2 of the wall mounting procedure.
2. Use the larger screws supplied with the Rack Mount Kit to screw the DIN rail brackets to the mounting bracket – as shown in the diagram, below:



3. Hang the unit on the DIN rail.

Installation

To install the KN1000, refer to the installation diagrams on the following pages (the numbers correspond to the numbers of the steps), and do the following:

1. Ground the unit using a grounding wire.
2. Use the Console cable provided with this package to connect the KN1000's *Console* port, to the local console keyboard, monitor and mouse.

   Note: 1. The Console cable comes with connectors for both PS/2 and USB mice and keyboards – use the ones appropriate for your installation.

   2. You can use any combination of keyboard and mouse connections. For example, you can use a PS/2 keyboard with a USB mouse.

3. Use the KVM cable provided with this package to connect the KN1000's *PC/KVM* port, to the keyboard, video and mouse ports of the server or KVM switch that you are installing.

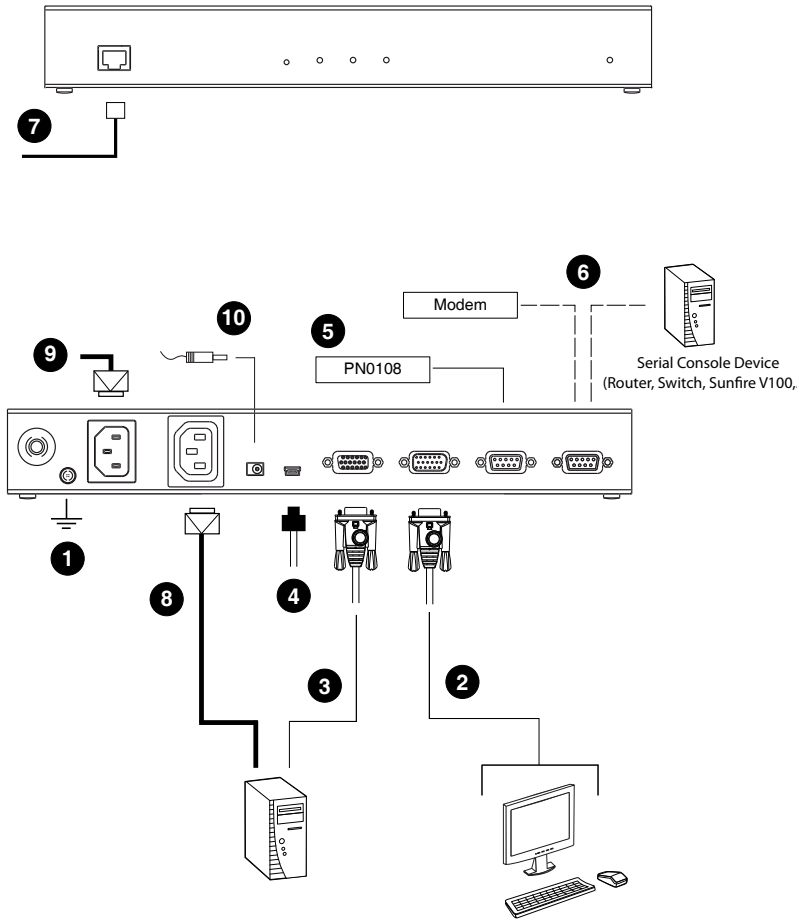
   Note: The KN1000's virtual media features may not be supported, depending on the functionality of the cascaded KVM switch (see *Supported KVM Switches*, page 173).

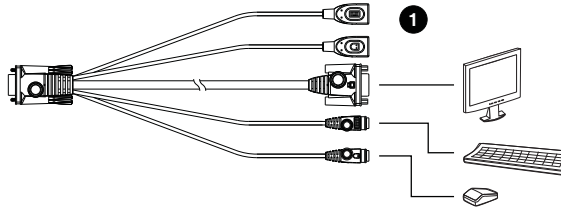
4. (Optional) If you want to use the virtual media function (see *Virtual Media*, page 94), use the USB 2.0 *Virtual Media Cable* provided with this package to connect a USB port on the server to the KN1000's Virtual Media port.
5. (Optional) If you want to connect a PON device for remote power management, plug its cable into the PON port.
6. (Optional) If you want to connect a serial console device or modem, plug its cable into the RS-232 port.
7. Plug the LAN or WAN cable into the KN1000's LAN port.
8. Use the outlet power cord provided with the KN1000 package to connect the KN1000's Power Outlet to the attached server for power management.
9. Use the power cord from the server to connect the KN1000's Power Inlet to an AC power source.

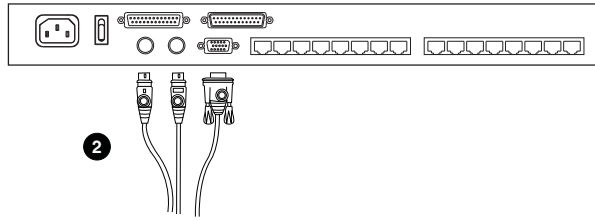
10. Plug the power adapter cable into the KN1000's power jack, then plug the power adapter into an AC power source.

This completes the hardware installation, and you are ready to start up.

Note: When starting up, be sure to first power on the KN1000, then power on the server or KVM switch.




1


2

Chapter 3
Browser Login

The KN1000 can be accessed either from an internet type browser, via Windows and Java application (AP) program, or by PPP modem dial-in. The next several chapters describe browser-based operations; AP access is discussed in Chapter 9; PPP modem login is discussed on page 159.

Note: Windows Vista/7 users who want to use the KN1000's Virtual Media feature must run the internet browser as an Administrator. See *Virtual Media*, page 94, for further details.

Logging In

To operate the KN1000 from an Internet browser, begin by logging in:

1. Open your browser and specify the IP address of the KN1000 you want to access in the browser's URL location bar.

Note: 1. For security purposes, a login string may have been set by the administrator. If so, you must include a forward slash and the login string along with the IP address when you log in. For example:

```
192.168.0.100/KN1000
```

If you don't know the IP address and login string, ask your Administrator.

2. If you are the administrator, and are logging in for the first time, the various ways to determine the KN1000's IP address are described in the Appendix on page 153.

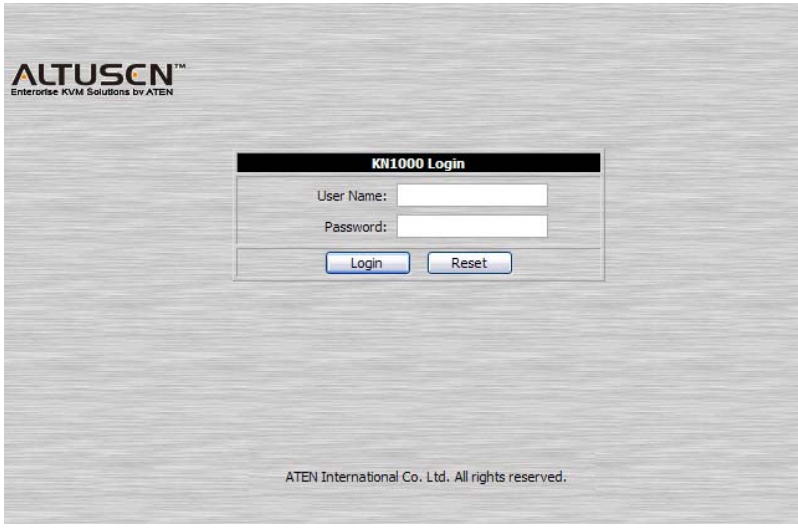
(Continues on next page.)

(Continued from previous page.)

2. A *Security Alert* dialog box appears.

Accept the certificate – it can be trusted. (See *Trusted Certificates*, page 161, for details.) If a second certificate appears, accept it as well.

The KN1000 login page appears:

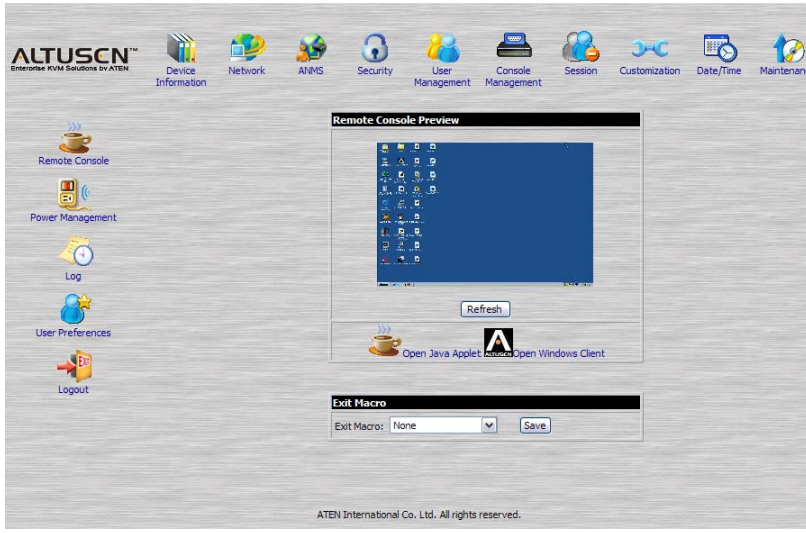


3. Provide a valid Username and Password (set by the KN1000 administrator), then click **Login** to continue.

Note: 1. If you are the administrator, and are logging in for the first time, use the default Username: *administrator*; and the default Password: *password*. For security purposes, we strongly recommend you remove these and give yourself a unique Username and Password (see *User Management*, page 57).

2. If you supplied an invalid login, the authentication routine will return this message: *Invalid Username or Password. Please try again.* If you see this message, log in again being careful with the Username and Password.

After you have successfully logged in, the KN1000 Main Screen appears:



Main Webpage Elements

The Main page consists of user access icons arranged vertically down the left side; administrative function icons arranged across the top; a *Remote Console Preview* window with an icon to launch the Java or WinClient Viewer displayed in the center; and an *Exit Macro* list box just below the Remote Console Preview

Note: If a user doesn't have permission to perform a particular activity, the icon for that activity doesn't appear. See *User Management*, page 57, for permission details.

Utility Icons

The icons arranged down the left side perform the following functions:

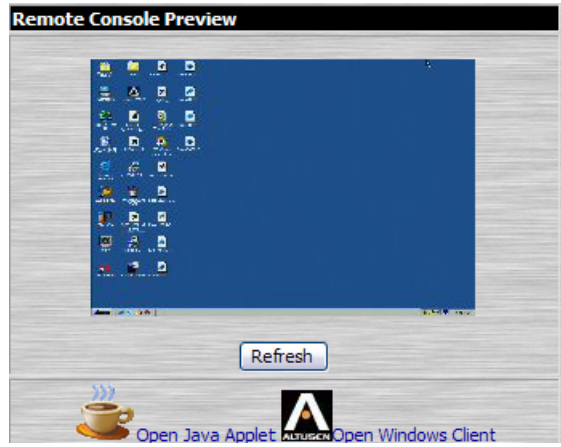
Icon	Purpose
	Remote Console: Clicking this icon closes whatever is displayed on the Main Screen, and brings back the *Remote Console Preview.* (See *Remote Console Preview*, page 23.)
	Power Management: If you have the proper permission (see *User Management*, page 57), clicking this icon will bring up the KN1000's power control interface, allowing you to reset power over the network and use the Wake on LAN feature. See *Managing Power*, page 25.
	Log: All the events that take place on the KN1000 are recorded in a log file. If you have the proper permission (see *User Management*, page 57), clicking this icon displays the contents of the log file. The Log File is discussed in Chapter 7.
	User Preferences: Click this icon to set up your own, individual, browsing environment. The switch stores a separate configuration record for each user profile, and sets up the browser configuration according to the Username that you key into the Login dialog box. (See , page 30.)
	Logout: Click this icon to log out and end your KN1000 session. It is important to log out when you end your session. Otherwise, you must wait until the timeout setting has expired before the KN1000 can be accessed again. (See *Timeout*, page 66.)

Administrative Function Icons

The icons arranged horizontally across the top of the page are linked to the administration utilities, which are used to configure the KN1000. The administrative functions are discussed in Chapter 4.

Remote Console Preview

The main portion of the panel shows a snapshot of the server's display.



Clicking **Refresh** updates the snapshot of the remote display.

The links that appear below the *Refresh* button depend on the browser you are using, and your User Preferences *Viewer* choice (see page 33):

- If you are logging in with a browser other than Windows Internet Explorer, a *Java Applet Viewer* icon (a steaming cup of coffee), and the link words "Open Viewer" display.
- If you are logging in with IE as your browser, and you chose *Auto Detect* as your Viewer choice (the default), The WinClient icon and the link words "Open Viewer" display.
- If you are logging in with IE as your browser, and you chose *Java* as your Viewer choice a *Java Applet Viewer* icon (a steaming cup of coffee), and the link words "Open Viewer" display.
- If you are logging in with IE as your browser, and you chose *User Select* as your Viewer choice, both the Java Applet Viewer and WinClient Viewer icons appear.

Click the appropriate link to have the viewer open the remote server's display on your desktop. Java Applet Viewer operation is discussed in Chapter 6; WinClient Viewer operation is discussed in Chapter 5.

Note: If you selected Auto Detect or Java, you can also open the remote server's display by clicking on the snapshot window directly.

Exit Macro

The *Exit Macro* panel contains a dropdown list box of user created System macros:

You can select a macro from the list that will execute when exiting the remote server. See *System Macros*, page 86, for details on creating exit macros.

Telnet/SSH Viewer

If Serial Console Management has been enabled (see *Serial Console*, page 59), a *Telnet/SSH Viewer* panel displays directly below the Exit Macro panel:

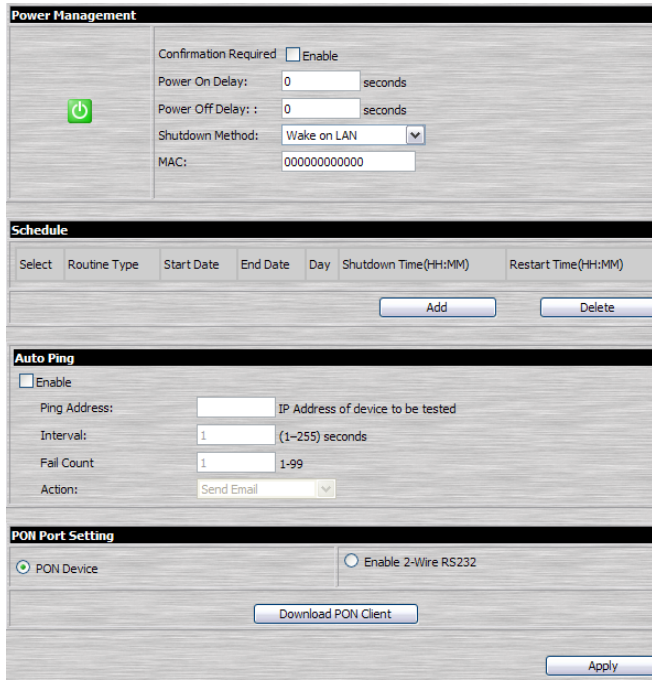
These viewers allow users to open a Telnet or SSH session to the KN1000 from the browser. Depending on the user's permissions (see *Permissions*, page 58), the Telnet Viewer link or SSH Viewer link, or both links are shown.

Click the appropriate link to have the viewer open the session.

Managing Power

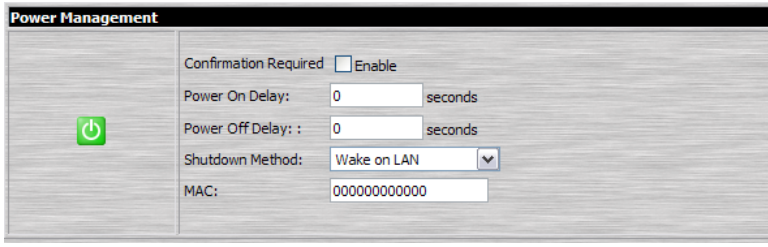
To help you manage and control your entire data center environment, a built-in single-port power switch allows remote power management of a server/ installation connected locally to the KN1000. You can also add a PON (Power Over the NET™) power management unit and remotely control the power status of devices in your installation, as well as turning servers on and off.

If you have the proper permission (see User Management, page 53), clicking this icon will bring up the KN1000's power control interface, allowing you to reset power over the network, use the Wake on LAN feature, schedule routines, use the Auto Ping function. These are all detailed in the sections that follow:



Power Management

This section lets you set up the power management for the KN1000's power switch.



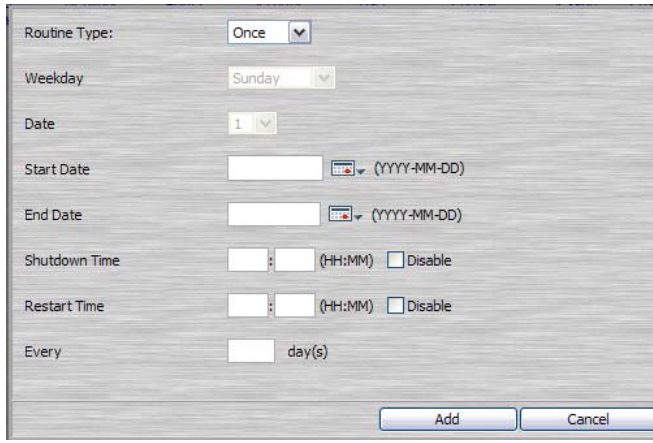
The meanings of the field headings are given in the following table:

	Click the Outlet icon to power operations on and off. A green outlet icon indicates that the power is currently On.
Confirmation Required	If this option is enabled (there is a check in the checkbox), a dialog box comes up asking you to confirm a power operation before it is performed. If it is disabled (there is no check in the checkbox), the operation is performed without confirmation.
Power On Delay	Sets the amount of time the KN1000 waits after the Power Button is clicked before it turns on the power to the outlet. **Note:** The default delay time is 0 seconds; the maximum is 999 seconds.
Power Off Delay	Sets the amount of time the KN1000 waits after the Power Button is clicked before it turns off the power to the outlet. For the *System after AC Back* option (see below), after the delay time expires, the KN1000 waits another fifteen seconds, then shuts the computer down. The default delay time is 15 seconds. The maximum delay time is 999 seconds.

Shutdown Method	There are three choices for the Shutdown method. Drop down the list to select a choice. The meaning of each choice is described, below: **Wake on LAN:** This is a Safe Shutdown and Restart option. If this is selected, when an Outlet is turned Off, the KN1000 first sends a message to the computer telling it to prepare for a shutdown; it then waits for the amount time set in the *Power Off Delay* field to give the OS time to close down before the computer is powered down to standby mode. Likewise, when the Outlet is turned On, the KN1000 waits for the amount time set in the *Power On Delay* field, then sends an Ethernet message to the computer connected to the Outlet telling the computer to turn itself On. **Note:** For Safe Shutdown and Restart, the computer must be running Windows (98 or higher), or Linux, and the *Safe Shutdown* program (available by download from our website), must be installed and running on the computer. See *System Requirements*, page 6, for details. **System after AC Back:** This is a Safe Shutdown and Restart option. If this is selected, when an Outlet is turned Off, the KN1000 first sends a message to the computer telling it to prepare for a shutdown; it then waits for the amount time set in the *Power Off Delay* field to give the OS time to close down before the computer is powered down. When the Outlet is turned On, the KN1000 waits for the amount time set in the *Power On Delay* field, then sends power to the server. When the server receives the power, it turns itself on. **Note:** For Safe Shutdown and Reboot, the computer must be running Windows (98 or higher), or Linux, and the *Safe Shutdown* program (available by download from our website), must be installed and running on the computer. See *System Requirements*, page 6, for details. **Kill the Power:** If this option is selected, the KN1000 waits for the amount time set in the *Power Off Delay* field, and then turns the Outlet's power Off. Turning the power off performs a cold (non-safe) shutdown.
MAC	In order to use either of the Safe Shutdown methods the MAC address of the computer connected to the outlet must be filled in here.

Schedule

Clicking the *Add* button in the Schedule section brings up a page that lets you set up a scheduled power On/Off configuration for the selected outlet:



Note: Since the KN1000 has no RTC (real time clock) circuit, the unit will get time from the NTP server or from the client PC (sync time from client PC after a system reset or losing power).

The meanings of the field headings are given in the table, below:

Heading	Meaning
Routine Type	Drop down the list to select whether the scheduled power configuration should take place just Once, or on a Daily, Weekly, or Monthly basis.
Week Day	This field only becomes active if you choose *Weekly* as the routine type. If you choose Weekly, drop down the list to choose which day of the week you want the power management routine to take place on.
Date	This field only becomes active if you choose *Monthly* as the routine type. If you choose Monthly, drop down the list to choose which day of the month you want the power management routine to take place on.
Start Date	If you want to limit the power management routine to a particular time period, either click the calendar icon to select the date that the routine will start at, or key in a start date using the YYYY-MM-DD format
End Date	If you want to limit the power management routine to a particular time period, either click the calendar icon to select the date that the routine will end at, or key in an end date using the YYYY-MM-DD format

Heading	Meaning
Shutdown Time	Key in the time of day you want the shutdown to take place using the HH:MM format. If you want to temporarily suspend this function without deleting the entry, click to put a check in the *Disable* checkbox at the right of this field. You can reinstate the function by unchecking the checkbox.
Restart Time	Key in the time of day you want the restart to take place using the HH:MM format. If you want to temporarily suspend this function without deleting the entry, click to put a check in the *Disable* checkbox at the right of this field. You can reinstate the function by unchecking the checkbox.
Every	For added flexibility, you can use this field to refine the Daily, Weekly, and Monthly routines. For example, if you chose *Daily* as your routine type, you could have the routine take place every 3 days (instead of every day), by keying a 3 in this field.

After you have made your schedule settings, click **Add**. The schedule is summarized in the list at the bottom of the panel. To remove the outlet's schedule, select it in the list and click **Delete**.

Auto Ping

The section allows you to use an ICMP ping command to check if the attached device is functioning properly. This function is detailed in the following table:

Enable	Put a check in the checkbox to enable this function.
Ping Address	Enter the IP address of the device to be be pinged in this field.
Interval	This field sets how often the specified device is pinged, in second intervals. Enter a value between 1 and 255.
Fail Count	This field sets how many times the device is allowed to fail to respond to the ping before an action is taken (see below). Enter a value between 1 and 99.
Action	This field sets what action is taken if the device fails to respond to a specified number of pings. Select one of the following actions from the drop-down menu: **Send email:** This sends an email using the SMTP server setting. For this function to work, you must also enable reports from the SMTP server. See *SMTP Settings*, page 41 for details. **Outlet Power Off/On:** This resets the power at the KN1000's power outlet. **Note:** This action must be confirmed before saving. **No action:** Select this option to do nothing if the specified device fails to respond.

Note: If Auto Ping fails, after power on, the KN1000 waits five minutes before performing the next ping operation.

PON Port Setting

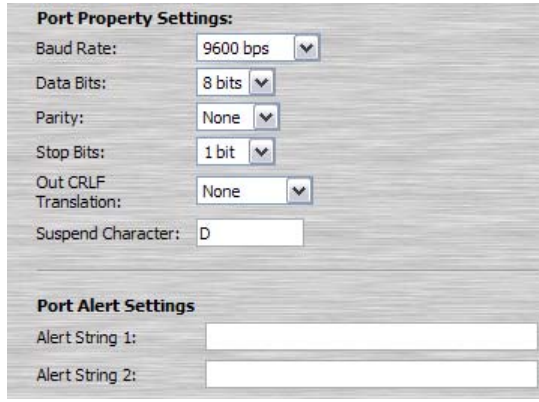
This section allows you to configure the KN1000's PON port for connecting a PN0108 (8-port Power Over the NET™) or a 2-wire RS-232 interface.

PON Device

Enable this radio button if you want to connect a PN0108 (8-port Power Over the NET™) to the KN1000's PON port. If a Power over the Net™ module is connected to your installation, click *Download PON Client* to download the KN1000's power management software for the attached PON device.

Enable 2-Wire RS232

Enable this radio button to use the PON port for a serial console. When this option is selected, a menu window appears for the serial communication parameters, as below:

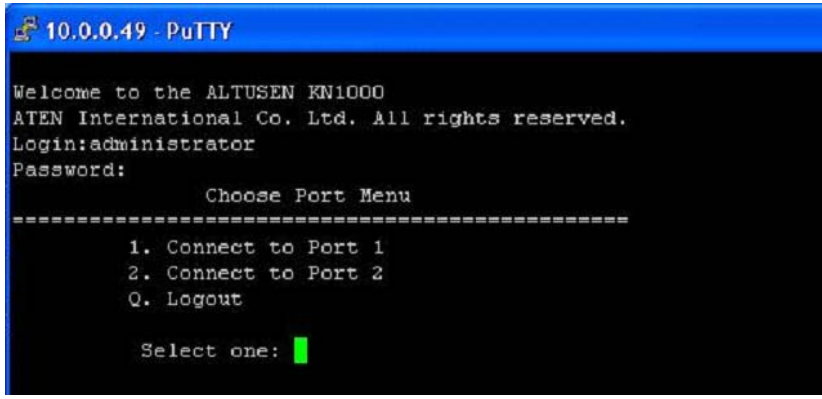


Note: These settings will be the same as those in the KN1000's serial console section. See the Serial Console section under *Console Management*, page 59, for further details.

(Continues on next page.)

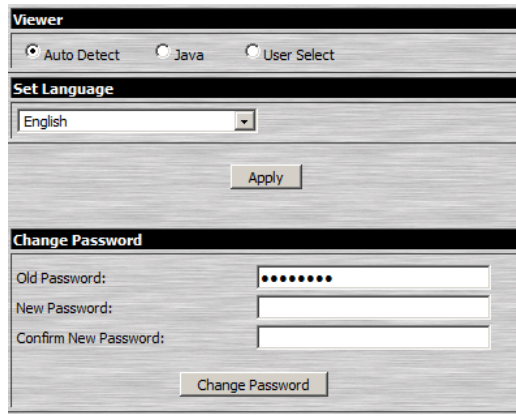
(Continued from previous page.)

If both RS-232 functions are enabled (PON for 2-wire RS-232 and RS-232 for a serial console), when the Telnet/SSH connection is opened, a menu appears for you to select which serial console is the primary, where Port 1 is the serial console and Port 2 is the 2-wire RS-232, as shown below:



User Preferences

The *User Preferences* page allows the user to set three parameters: Viewer, Language, and Password:



The page settings are explained in the following table:

Setting	Function
Viewer	You can choose which viewer is used when accessing a server: ◆ **Auto Detect** will select the appropriate viewer based on the web browser used; WinClient for Windows Internet Explorer; Java Client for other web browsers (Firefox, etc.). ◆ **Java** will open the Java based viewer regardless of the web browser being used. ◆ **User Select** lets IE users bypass the Auto Detect choice and choose for themselves whether to use the WinClient or Java Applet Viewer. After making your choice, click **Apply**.
Language	Selects the language that the interface displays in. Drop down the list to make your selection. Selecting **Auto** causes the KN1000 to display the pages in the same language that the browser is set to. **Note:** If your browser is set to a non-supported language, the KN1000 looks to what your server's operating system is set to. If the operating system is set to a supported language it will use that language to display its pages. If the operating system is set to a non-supported language, the KN1000 defaults to English. After making your choice, click **Apply**.
Change Password	To change your password, key the new password into the *New Password* input box; key the exact same characters into the Confirm New Password input box; then click **Change Password** to set the new password.

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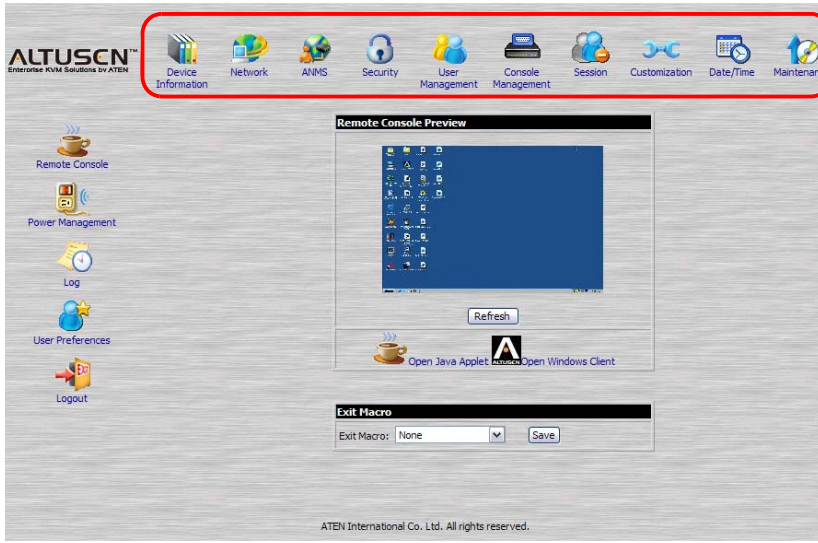
Chapter 4
Administration

Introduction

The administration utilities, represented by the icons located across the top of the KN1000 web page, are used to configure the KN1000's operating environment.



This chapter discusses each of them in turn.

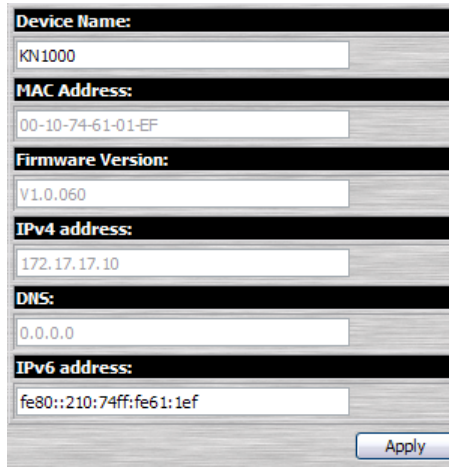
Note: 1. As you make your configuration changes in each dialog box, click **Apply** to save them.

2. Some configuration changes only take effect after a KN1000 reset. For those changes, a check is automatically put in the *Reset on Exit* box (see *Customization*, page 66). To have the changes take effect, log out and then log back in again.

3. If you don't have Configuration privileges (see *User Management*, page 57), the Administration configuration dialogs are not available.

Device Information

The *Device Information* page is the first of the Administration pages, and provides information about the KN1000's status.

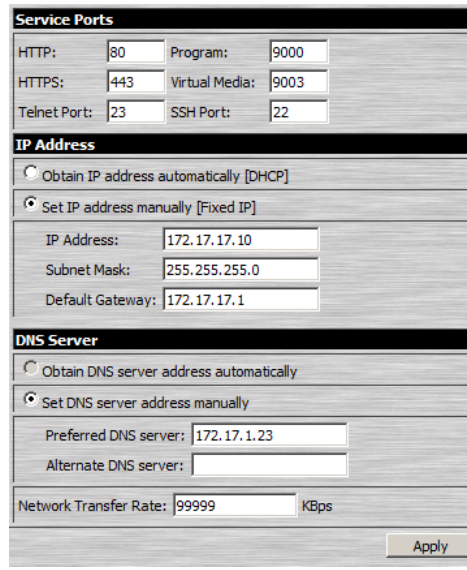


An explanation of each of the fields is given in the table below:

Field	Explanation
Device Name:	To make it easier to manage installations that have more than one KN1000, each one can be given a name. To assign a name for the KN1000, key in one of your choosing here (16 characters max.), then click **Apply**.
MAC Address:	The KN1000's MAC Address displays here.
Firmware Version:	Indicates the KN1000's current firmware version level. New versions of the KN1000's firmware can be downloaded from our website as they become available (see *Firmware Upgrade*, page 70). You can reference this number to see if there are newer versions available on the website.
IPV4 Address	Displays the KN1000's Internet Protocol Version 4 (32 bit) address (in the legacy format).
DNS	The IP address of the Domain Name Server.
IPV6 Address	Displays the KN1000's Internet Protocol Version 6 (128 bit) address (in the new format). See *IPv6*, page 155 for details.

Network

The Network dialog is used to specify the KN1000's network environment.



Service Ports

If a firewall is being used, the Administrator can specify the port numbers that the firewall will allow (and set the firewall accordingly). If a port other than the default is set, users must specify the port number as part of the IP address when they log in. If not, an invalid port number (or no port number) is specified, the KN1000 will not be found.

(Continues on next page.)

(Continued from previous page.)

An explanation of the fields is given in the table below:

Field	Explanation
HTTP	The port number for a browser login. The default is 80.
HTTPS	The port number for a secure browser login. The default is 443.
Telnet Port	The port for Telnet access. The default is 23.
Program	This is the port number for connecting to the KN1000 from the Windows Client and Java Applet Viewers, and from the Windows and Java AP programs. The default is 9000.
Virtual Media	This is the port number used for data transfer using the KN1000's virtual media feature. Valid entries are from 1–65535. The default is 9003.
SSH Port	The port for SSH access. The default is 22.

Note: 1. Valid entries for all of the Service Ports are from 1–65535.

2. The service ports cannot have the same value. You must set a different value for each one.
3. If there is no firewall (on an Intranet, for example), it doesn't matter what these numbers are set to, since they have no effect.

IP Address

The KN1000 can either have its IP address assigned dynamically at bootup (DHCP), or it can be given a fixed IP address.

- For dynamic IP address assignment, select the *Obtain an IP address automatically*, radio button. (This is the default setting.)
- To specify a fixed IP address, select the *Set IP address manually*, radio button and fill in the IP address.

Note: 1. If you choose *Obtain IP address automatically*, when the switch starts up it waits to get its IP address from the DHCP server. If it hasn't obtained the address after one minute, it automatically reverts to its factory default IP address (192.168.0.60.)

2. If the KN1000 is on a network that uses DHCP to assign network addresses, and you need to ascertain its IP address, see *IP Address Determination*, page 153, for information.

DNS Server

The KN1000 can either have its DNS server address assigned automatically, or a fixed address can be specified.

- For automatic DNS Server address assignment, select the *Obtain DNS server address automatically*, radio button.
- To specify a fixed address, select the *Use the following DNS server address*, radio button and fill in the required information.

Note: Specifying at the alternate DNS Server address is optional.

Network Transfer Rate

This setting allows you to tailor the size of the data transfer stream to match network traffic conditions by setting the rate at which the KN1000 transfers data to remote computers. The range is from 4–99999 Kilobytes per second (KBps).

Finishing Up

After making any network changes, be sure *Reset on exit* on the *Customization* page (see *Customization*, page 66) has been enabled (there is a check in the checkbox), before logging out. This allows network changes to take effect without having to power the KN1000 off and on.

ANMS

The Advanced Network Management Settings page allows you to set up login authentication and authorization management from external sources. It is divided into several sections, each of which is described in the sections that follow.

IP Installer

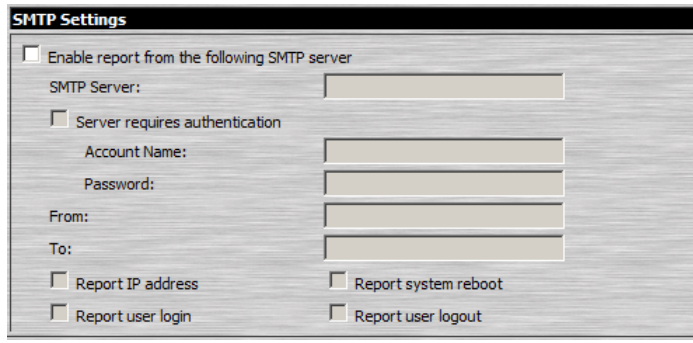
The IP Installer is an external Windows-based utility for assigning IP addresses to the KN1000.

Click one of the radio buttons to select *Enable*, *View Only*, or *Disable* for the IP Installer utility. See page 153for IP Installer details.

Note: 1. If you select *View Only*, you will be able to see the KN1000 in the IP Installer's Device List, but you will not be able to change the IP address.

2. For security, we strongly recommend that you set this to *View Only* or *Disable* after using it.

SMTP Settings



To have the KN1000 email reports from the SMTP server to you, do the following:

1. Enable the *Enable report from the following SMTP server*, and key in the IP address of your SMTP server.
2. If your server requires authentication, put a check in the *Server requires authentication* checkbox, and key in the appropriate account information in the *Account Name* and *Password* fields.
3. Key in the email address of where the report is being sent from in the *From* field.

   Note: 1. Only one email address is allowed in the *From* field, and it cannot exceed 64 Bytes.

   2. 1 Byte = 1 English alphanumeric character.

4. Key in the email address (addresses) of where you want the SMTP reports sent to in the *To* field.

   Note: 1. If you are sending the report to more than one email address, separate the addresses with a semicolon. The total cannot exceed 256 Bytes.

   2. 1 Byte = 1 English alphanumeric character.

5. Select the report options you would like sent. Choices include: *Report IP address*, *Report system reboot*, *Report user login* and *Report user logout*.

Log Server

Important transactions that occur on the KN1000, such as logins and internal status messages, are kept in an automatically generated log file

- Specify the MAC address of the computer that the Log Server runs on in the *MAC address* field.
- Specify the port used by the computer that the Log Server runs on to listen for log details in the *Port* field. The valid port range is 1–65535. The default port number is 9001.

Note: The port number must different than the one used for the *Program* port (see *Program*, page 38).

See Chapter 8, *The Log Server*, for details on setting up the log server. The Log File is discussed on page 121.

SNMP Server

To be notified of SNMP trap events, do the following:

1. Check *Enable SNMP Agent*.
2. Key in the IP address and the port number of the computer to be notified of SNMP trap events. The valid port range is 1-65535.

Note: The following SNMP trap events are sent: System Power On, Login Failure, and System Reset.

Syslog Server

To record all the events that take place on the KN1000 and write them to a Syslog server, do the following:

1. Check **Enable**.
2. Key in the IP address and the port number of the Syslog server. The valid port range is 1-65535.

DDNS

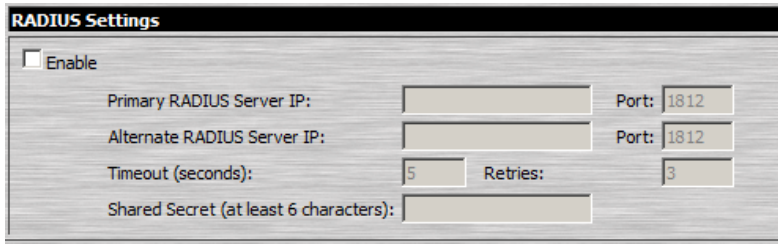
DDNS allows the mapping of a dynamic IP address assigned by a DHCP server to a hostname. To provide DDNS capability for the KN1000, do the following:

1. Check **Enable**.
2. Enter the hostname that you registered with your DDNS service provider.
3. Drop down the list to select the DDNS service you are registered with.
4. Key in the Username and Password that authenticates you with your DDNS service.
5. If the KN1000's IP address changes, it must update the DDNS server so that the new address is properly associated with its hostname. If it fails to update the DDNS server, it must try again at a later time. Key in the amount of time (in hours) to wait before trying to update the DHCP server again.

Disable Local Authentication

Selecting this option will disable login authentication locally on the KN1000. The switch can only be accessed using LDAP, LDAPS, MS Active Directory, RADIUS or CC Management authentication.

RADIUS Settings



To allow authentication and authorization for the KN1000 through a RADIUS server, do the following:

1. Check **Enable**.
2. Fill in the IP addresses and port numbers for the Preferred and Alternate RADIUS servers.
3. In the *Timeout* field, set the time in seconds that the KN1000 waits for a RADIUS server reply before it times out.
4. In the *Retries* field, set the number of allowed RADIUS retries.
5. In the *Shared Secret* field, key in the character string that you want to use for authentication between the KN1000 and the RADIUS Server.

6. On the RADIUS server, set the access rights for each user according to the information in the table, below:

Character	Meaning
c	Grants the user administrator privileges, allowing the user to configure the system.
w	Allows the user to access the system via the Windows Client program.
j	Allows the user to access the system via the Java applet.
p	Allows the user to Power On/Off, Reset devices via an attached PN0108.
l	Allows the user to access log information via the user's browser.
v	Limits the user's access to only viewing the video display.
s	Allows the user to use the Virtual Media function in Read Only mode.
m	Allows the user to use the Virtual Media function in Read/Write mode.
t	Allows the user to access the system via a Telnet session.
h	Allows the user to access the system via an SSH session.
a	Allows the user to access the system via a Telnet or SSH session
su/user	Where user represents the Username of a KN1000 user whose permissions reflect the permissions you want the RADIUS authorized user to have.

Note: 1. The characters are not case sensitive. Capitals or lower case work equally well.

2. Characters are comma delimited.

RADIUS Examples

RADIUS Server access rights examples are given in the table, below:

String	Meaning
c,w,p	User has administrator privileges; user can access the system via the Windows Client; user can access the attached PN0108
w,j,l	User can access the system via the Windows Client; user can access the system via the Java Applet; user can access log information via the user's browser.

CC Management Settings

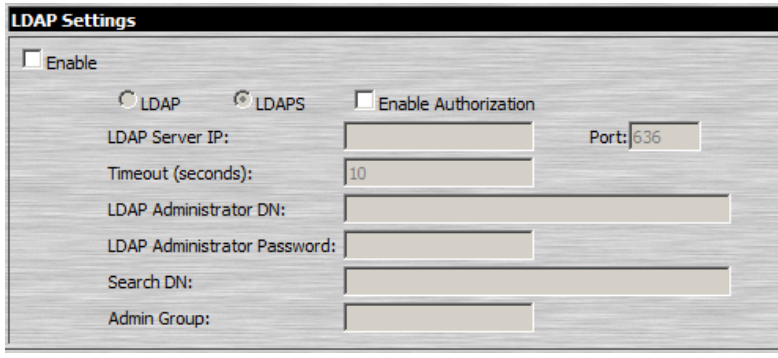
To allow authorization for the KN1000 through a CC (Control Center) server, check *Enable* and fill in the CC Server's IP address and the port that it listens on in the appropriate fields.

LDAP Settings

The KN1000 allows log in authentication and authorization through external programs. To allow authentication and authorization via LDAP or LDAPS, the Active Directory's LDAP *Schema* must be extended so that an extended attribute name for the KN1000 – ***KN1000-accessRight*** **–** is added as an optional attribute to the *person* class.

Note: *Authentication* refers to determining the authenticity of the person logging in; *authorization* refers to assigning permission to use the device's various functions.

In order to configure the LDAP server, you will have to complete the following procedures: 1) Install the Windows Server Support Tools; 2) Install the Active Directory Schema Snap-in; and 3) Extend and Update the Active Directory Schema.



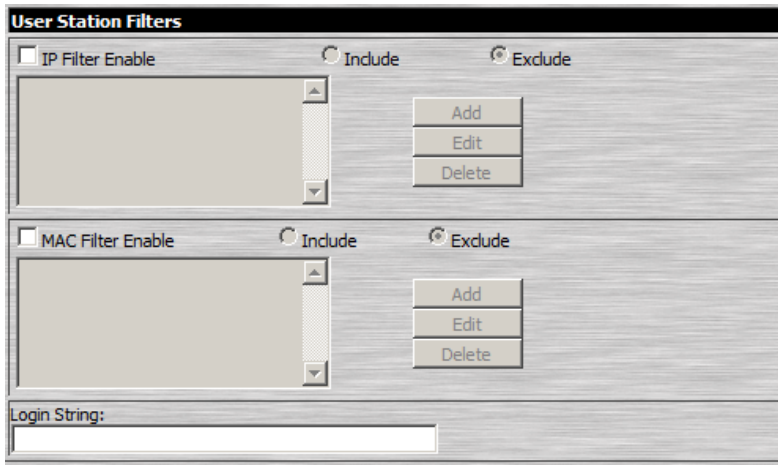
To allow authentication and authorization for the KN1000 via LDAP / LDAPS, refer to the information in the following table. For further information, please see the ATEN website at www.aten.com

.

Item	Action
Enable	Put a check in the *Enable* checkbox to allow LDAP / LDAPS authentication and authorization.
LDAP / LDAPS	Click a radio button to specify whether to use LDAP or LDAPS.
Enable Authorization	Select whether to enable *Enable Authorization*, or not. 1. If enabled (the box is checked), the LDAP / LDAPS server directly returns a 'permission' attribute and authorization for the user that is logging in. With this selection the LDAP schema must be extended. 2. If not enabled (no check in the box), the result the server returns indicates whether the user that is logging in belongs to the 'KN1000 Admin Group'. If the result is 'yes' the user has full access rights; if the result is 'no', the user only has limited access rights. **Note:** Consult the LDAP / LDAPS administrator to ascertain whether to enable the *Enable Authorization* function, or not.
LDAP Server IP and Port	Fill in the IP address and port number for the LDAP or LDAPS server. For LDAP, the default port number is 389; for LDAPS, the default port number is 636.
Timeout	Set the time in seconds that the KN1000 waits for an LDAP or LDAPS server reply before it times out.
LDAP Administrator DN	Consult the LDAP / LDAPS administrator to ascertain the appropriate entry for this field. For example, the entry might look like this: kn=LDAPAdmin,ou=kn1000,dc=aten,dc=com
LDAP Administrator Password	Key in the LDAP administrator's password.
Search DN	Set the distinguished name of the search base. This is the domain name where the search starts for user names. **Note:** If *Enable Authorization* is not checked, this field must include the entry where the KN1000 *Admin Group* is created. Consult the LDAP / LDAPS administrator to ascertain the appropriate value.
KN1000 Admin Group	Key in the Group Name for KN1000 administrator users. **Note:** If *Enable Authorization* is not checked, this field is used to authorize users that are logging in. If a user is in this group, the user receives full access rights. If a user is not in this group, the user only receives limited access rights. Consult the LDAP / LDAPS administrator to ascertain the appropriate value.

Security

The Security page controls access to the KN1000.



User Station Filters

If any filters have been configured, they appear in the IP Filter and/or MAC Filter list boxes.

IP and MAC Filters control access to the KN1000 based on the IP and/or MAC addresses of the computers attempting to connect. A maximum of 100 IP filters and 100 MAC filters are allowed.

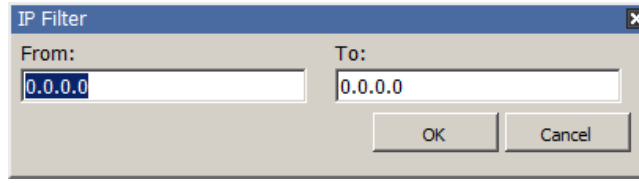
To enable IP and/or MAC filtering, **Click** to put a check mark in the *IP Filter Enable* and/or *MAC Filter Enable* checkbox.

- If the include button is checked, all the addresses within the filter range are allowed access; all other addresses are denied access.
- If the exclude button is checked, all the addresses within the filter range are denied access; all other addresses are allowed access.

Adding Filters

To add an IP filter, do the following:

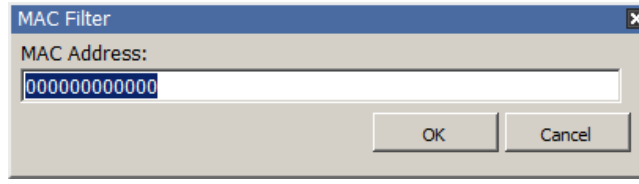
1. Click **Add**. A dialog box similar to the one below appears:



2. Key the address you want to filter in the *From:* field.
   - To filter a single IP address, key the same address in the *To:* field.
   - To filter a continuous range of addresses, key in the end number of the range in the *To:* field.
3. After filling in the address, click **OK**.
4. Repeat these steps for any additional IP addresses you want to filter.

To add a MAC filter, do the following:

1. Click **Add**. A dialog box similar to the one below appears:



2. Specify the MAC address in the dialog box, then click **OK**.
3. Repeat these steps for any additional MAC addresses you want to filter.

IP Filter / MAC Filter Conflict

If there is a conflict between an IP filter and a MAC filter – for example, where a computer's IP address is allowed by the IP filter but it's MAC address is excluded by the MAC filter – then that computer's access is blocked.

In other word's, if either filter blocks a computer, then the computer is blocked, no matter what the other filter is set to.

Modifying Filters

To modify a filter, select it in the IP Filter or MAC Filter list box and click **Modify**. The Modify dialog box is similar to the Add dialog box. When it comes up, simply delete the old address(es) and replace it with the new one(s).

Deleting Filters

To delete a filter, select it in the IP Filter or MAC Filter list box and click **Delete**.

Login String

The *Login String* lets the Administrator specify a login string that users must include (in addition to the IP address) when they access the KN1000 with a browser. For example:

```
192.168.0.126/KN1000
```

- The following characters are allowed:
  0–9 a–z A–Z ~ ! @ $ ^ & * ( ) _ + ‘ - = [ ] { } ; ’ < > , . |
- The following characters are not allowed:
  - % ” : / ? # \ [Space]
  - Compound characters (É Ç ñ ... etc.)

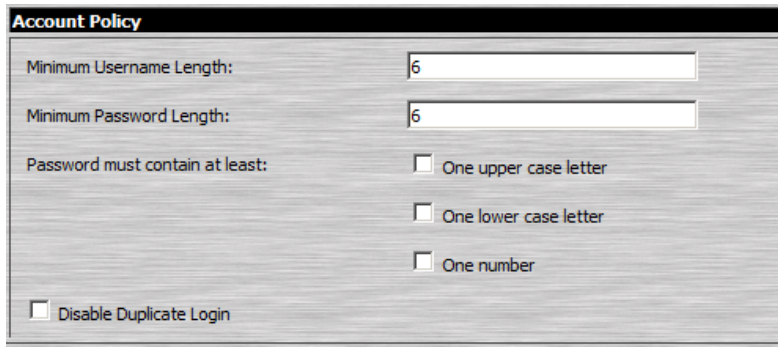
Note: 1. There must be a forward slash between the IP address and the string.

2. If no login string is specified here, anyone will be able to access the KN1000 login page using the IP address alone. This makes your installation less secure.

For security purposes, we recommend that you change this string occasionally.

Account Policy

In the Account Policy section, system administrators can set policies governing usernames and passwords.



The meanings of the Account Policy entries are explained in the table below:

Entry	Explanation
Minimum Username Length	Sets the minimum number of characters required for a username. Acceptable values are from 1–16. The default is 6.
Minimum Password Length	Sets the minimum number of characters required for a password. Acceptable values are from 0–16. A setting of 0 means that no password is required. Users can login with only a Username. The default is 6.
Password Must Contain At Least	Checking any of these items requires users to include at least one uppercase letter, one lowercase letter or one number in their password. **Note:** This policy does not affect existing user accounts. Only new user accounts created after this policy has been enabled, and users required to change their passwords are affected.
Disable Duplicate Login	Check this to prevent users from logging in with the same account at the same time.

Login Failures

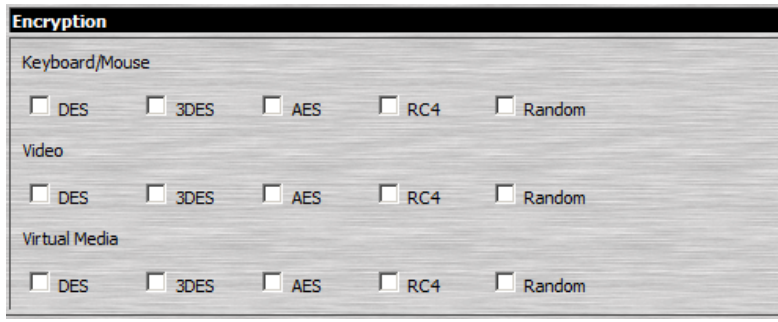
For increased security, the Login Failures section allows administrators to set policies governing what happens when a user fails to log in successfully.

To set the Login Failures policies, check the *Enable* checkbox (the default is for Login Failures to be enabled). The meanings of the entries are explained in the table below:

Entry	Explanation
Allowed	Sets the number of consecutive failed login attempts that are permitted from a remote computer. The default is 5 times.
Timeout	Sets the amount of time a remote computer must wait before attempting to login again after it has exceeded the number of allowed failures. The default is 3 minutes.
Lock Client PC	If this is enabled, after the allowed number of failures have been exceeded, the computer attempting to log in is automatically locked out. No logins from that computer will be accepted. The default is enabled. **Note:** This function relates to the client computer's IP. If the IP is changed, the computer will no longer be locked out.
Lock Account	If this is enabled, after the allowed number of failures have been exceeded, the user attempting to log in is automatically locked out. No logins from the username and password that have failed will be accepted. The default is enabled.

Note: If you don't enable Login Failures, users can attempt to log in an unlimited number of times with no restrictions. For security purposes, we recommend that you enable this function and enable the lockout policies.

Encryption



These flexible encryption alternatives for keyboard/mouse, video, and virtual media data let you choose any combination of DES; 3DES; AES; RC4; or a Random cycle of any or all of them.

Enabling encryption will affect system performance – no encryption offers the best performance; the greater the encryption the greater the adverse effect. If you enable encryption, the performance considerations (going from best to worst) are as follows:

- RC4 offers the least performance impact; DES is next; then 3DES or AES
- The RC4 + DES combination offers the least impact of any combination

Virtual Media

The KN1000's *Virtual Media* feature allows a drive, folder, image file, removable disk, or smart card reader on a user's system to appear and act as if it were installed on the remote server.

- *Read Only* refers to the redirected device being able to send data to the remote server, but not to have data from the remote server written to it. If Read Only is selected, even users with Read/Write permissions will only be able to read – they will not be able to write.
- *Read/Write* refers to the redirected device being able to send data to the remote server, as well as being able to have data from the remote server written to it.

The default is for Read Only. If you want the redirected device to be writable as well as readable, click to put a check in the *Enable Write* checkbox.

Note: 1. This policy operates on the device level. If Read Only is selected, the device will only be able to be read – regardless of a user's Read/Write user account permissions.

2. If Read/Write is selected, the ability of a user to write depends on the user's Read/Write user account permissions.

Private Certificate

When logging in over a secure (SSL) connection, a signed certificate is used to verify that the user is logging in to the intended site. For enhanced security, the *Private Certificate* section allows you to use your own private encryption key and signed certificate, rather than the default ATEN certificate.

There are two methods for establishing your private certificate: generating a self-signed certificate; and importing a third-party certificate authority (CA) signed certificate.

Generating a Self-Signed Certificate

If you wish to create your own self-signed certificate, a free utility – openssl.exe – is available for download over the web. See *Self-Signed Private Certificates*, page 165 for details about using OpenSSL to generate your own private key and SSL certificate.

Obtaining a CA Signed SSL Server Certificate

For the greatest security, we recommend using a third party certificate authority (CA) signed certificate. To obtain a third party signed certificate, go to a CA (Certificate Authority) website to apply for an SSL certificate. After the CA sends you the certificate, save it to a convenient location on your computer.

Importing the Private Certificate

To import the private certificate, do the following:

1. Click **Browse** to the right of *Private Key*; browse to where your private encryption key file is located; and select it.
2. Click **Browse** to the right of *Certificate*; browse to where your certificate file is located; and select it.
3. Click **Upload** to complete the procedure.

Note: Both the private encryption key and the signed certificate must be imported at the same time.

Others

- *Browser Service* allows the administrator to limit the scope of browser access to the KN1000. Put a check in the checkbox to enable this function, then select the browser limitation in the drop down list box. Choices are explained in the following table:

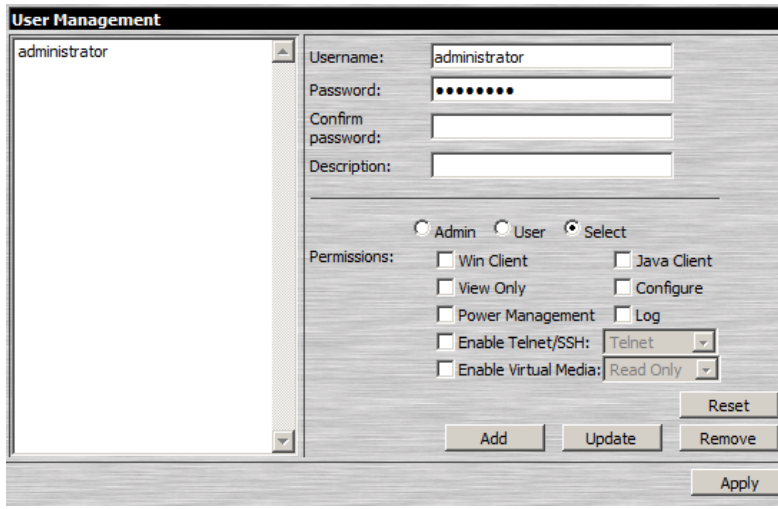
Item	Explanation
Disable Browser	If this is selected, the KN1000 cannot be accessed via a browser. It can only be accessed from the AP programs (see *AP Operation*, page 131).
Disable HTTP	If this is selected, the KN1000 can be accessed via a browser, but not from an ordinary (HTTP) login connection – it can only be accessed over a secure HTTPS (SSL) connection.
Disable HTTPS (SSL)	If this is selected, the KN1000 can be accessed via a browser over an ordinary (HTTP) login connection, but not via a secure HTTPS (SSL) connection.

- If *Disable Authentication* is checked, no authentication procedures are used to check users attempting to log in. Users gain **Administrator** access to the KN1000 simply by entering the correct IP address in their browser.

Note: Enabling this setting creates an extremely dangerous result as far as security goes, and should only be used under very special circumstances.

User Management

The User Management page is used to create and manage user profiles. Up to 64 user profiles can be established.



- To add a user profile, fill in the information asked for in the right panel, then click **Add**. The new user's name appears in the left panel.
- To delete a user profile, select it from the names displayed in the left panel, and click **Remove**. The user's name is removed from the panel.
- To modify a user profile, first select it from the list in the left panel; change the information that appears in the right panel; then click **Update**.

Note: The user's password is not displayed – the *Password* and *Confirm password* fields are filled with round bullets. If you do not want to change the user's password, simply leave the two fields as is. If you do want to change the user's password, key the new password in the *Password* and *Confirm password* fields.

- The *Admin* and *User* radio buttons select automatically configured permissions. If you wish to modify these permissions, choose the *Select* radio button, then specify the permissions individually.

An explanation of the profile items is given in the table below:

Item	Explanation
Username	From 1 to16 characters are allowed depending on the Account Policy settings. See *Account Policy*, page 51.
Password	From 0 to16 characters are allowed depending on the Account Policy settings. See *Account Policy*, page 51.
Confirm Password	To be sure there is no mistake in the password you are asked to enter it again. The two entries must match.
Description	Additional information about the user that you may wish to include.
Admin	Gives the user Administrator level access to the KN1000. All permissions (except View Only) are granted (see below).
User	Gives the user User level access to the KN1000. Windows Client, Power Manager, and Java Client permissions are granted (see below).
Select	Select is the default account type. It allows the administrator to select which permissions the user will be allowed.
Permissions	Click to place/remove a check mark next to an item to grant/withhold access to that aspect of the KN1000's operation. **Win Client:** Checking *Win Client* allows a user to access the KN1000 via the Windows Client software. **Java Client:** Checking *Java Client* allows a user to access the KN1000 via the Java Client software. **View Only:** Checking *View Only* allows a user to view the video of the display of the computers attached to the ports of the KVM switch connected to the KN1000, but they are not allowed to perform any operations on the computers. **Configure:** Checking *Configure* gives a user Administrator privileges, and allows the user to set up and modify the KN1000's operating environment. **Power Management:** Checking *Power Management* allows a user to use the KN1000's built-in single port power switch for remote power management of a server/installation connected locally to the KN1000, as well as Power On / Power Off / Reset devices via an attached Power Over the NET™ unit. **Log:** Checking *Log* allows a user to view the contents of the log file. **Enable Telnet/SSH:** If Serial Console management is enabled (see *Console Management*, page 59), checking *Enable Telnet/SSH* allows a user to open a Telnet and/or SSH session. Drop down the list to select the type of login allowed. **Enable Virtual Media:** Checking *Enable Virtual Media* allows a user to utilize the KN1000's Virtual Media capabilities (see *Virtual Media*, page 94 for details). Drop down the list to select whether the user has Read/Write, or Read Only permission.

- The **Reset** button clears all the information shown in the right panel.
- When you have made all your changes, click **Apply**.

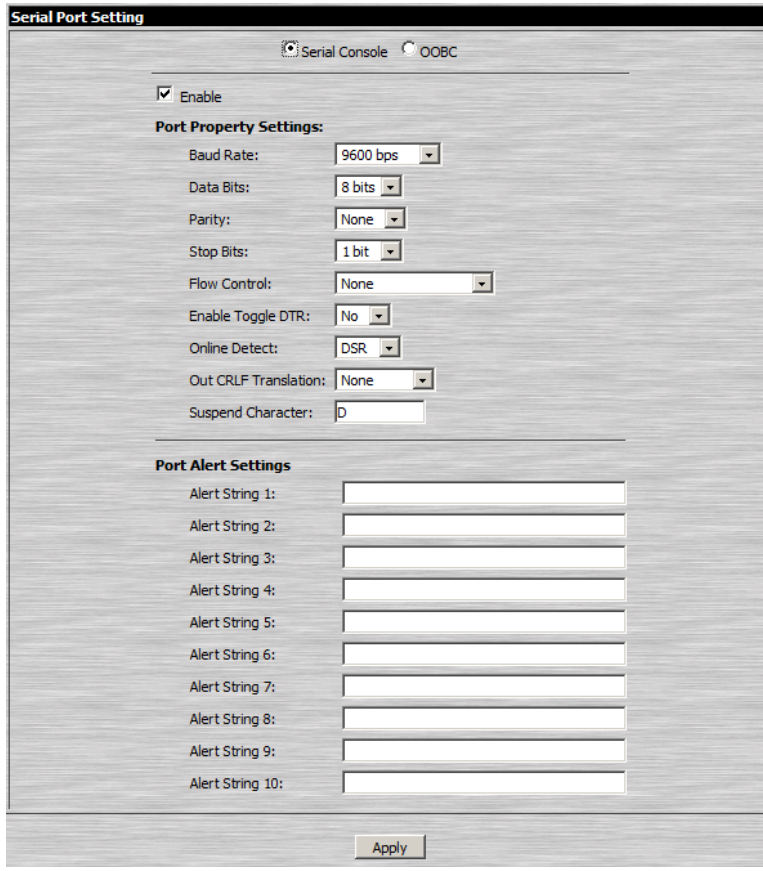
Console Management

The Console Management page consists of two sub-pages – *Serial Console* and *OOBC* – that are used to set up the operating parameters for the KN1000's RS-232 (serial) port. An explanation of the parameters and how to set them are given in the sections that follow.

Note: Only one of these functions can be active at a time. Selecting one automatically disables the other.

Serial Console

When the Console Management radio button (at the top of the page), is selected, the screen looks similar to the one in the screenshot below:



To set up the serial communications parameters, put a check in the *Enable* checkbox, and make your parameter selections according to the information provided in the table below.

Port Property Settings

The meanings of the property settings are given in the following table:

Setting	Meaning
Baud Rate	This sets the port's data transfer speed. Choices are from 300—115200 (drop down the list to see them all). Set this to match the baud rate setting of the connected device. Default is 9600 (which is a basic setting for many serial devices).
Data Bits	This sets the number of bits used to transmit one character of data. Choices are: 5, 6, 7 and 8. Set this to match the data bit setting of the connected device. Default is 8 (which is the default for the majority of serial devices).
Parity	This bit checks the integrity of the transmitted data. Choices are: None; Odd; Even; Mark; Space. Set this to match the parity setting of the connected device. Default is None (which is the default for the majority of serial devices).
Stop Bits	This indicates that a character has been transmitted. Set this to match the stop bit setting of the connected device. Choices are: 1 and 2. Default is 1 (which is the default for the majority of serial devices).
Flow Control	This allows you to choose how the data flow will be controlled. Choices are: None, Hardware (RTS/CTS), and XON/XOFF. Set this to match the flow control setting of the connected device. Default is None.
Enable Toggle DTR	Enabling this parameter allows the DTR signal to toggle between disabled and enabled when the port is occupied. Choices are: No and Yes. Default is No. **Note:** For some devices, in order for Enabled to work correctly, you must first disable DTR (select *No*, then click **Update**), then Enable it (select *Yes*, then click **Update**).
Online Detect	This allows you to set the DSR signal to detect online status or not. Choices are: None and DSR. Default is DSR.
Out CRLF Translation	This allows you to select whether to send a Carriage Return and Line Feed signal (CRLF), or only a Carriage Return signal (CR). Choices are: None (which sends CRLF) and CRLF → CR (which only sends CR), Default is None. **Note:** If your device outputs double spaced lines, it means that a line feed is automatically added to a carriage return signal. In that case, choose CRLF → CR.
Suspend Character	The *Suspend character* is used to bring up the Suspend Menu in Telnet sessions (see *Permissions*, page 58). **Note:** Valid characters are from A–Z, except H, I, J, and M. Those four characters may not be used.

Port Alert Settings

The Port Alert Settings dialog box provides a way for you to be informed about events that occur on the devices connected to the KN1000's ports.

You can specify up to 10 types of events (e.g., Power On) in the *Alert String* fields. When a specified alert occurs during the serial console session, the KN1000 writes the event information to the log file.

OOBC

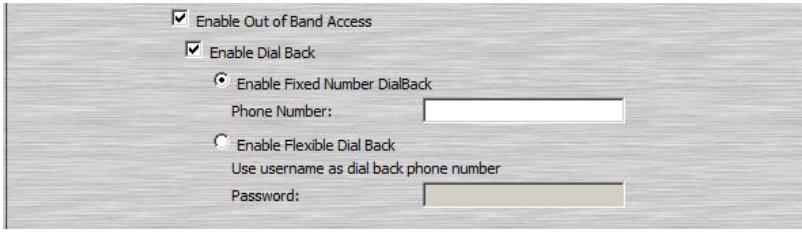
In case the KN1000 cannot be accessed with the usual LAN-based methods, it can be accessed with an external modem via the switch's RS-232 port. To enable support for PPP (modem) operation, click to put a checkmark in the *Enable Out of Band Access* checkbox.

Note: 1. Enabling out of band access automatically enables Dial In operation. See *PPP Modem Operation*, page 159, for set up and operation details.

2. For the modem session, the KN1000 has an IP address of 192.168.192.1; the user side has an IP address of 192.168.192.101.

When you enable out of band access, the *Enable Dial Back*, and *Enable Dial Out* functions become available, as described in the sections that follow.

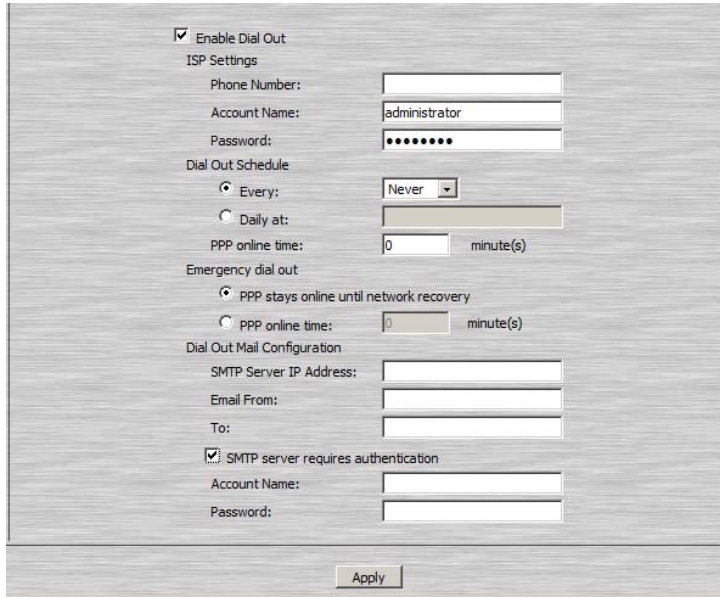
Enable Dial Back



As an added security feature, if this function is enabled, the switch disconnects the connections that dial in to it, and dials back to one of the entries described in the table below:

Item	Action
Enable Fixed Number Dial Back	If *Fixed Number Dial Back* is enabled, when there is an incoming call, the KN1000 hangs up the modem and dials back to the modem whose phone number is specified in the *Phone Number* field. Key the phone number of the modem that you want the KN1000 to dial back to in the *Phone Number* field.
Enable Flexible Dial Back	If *Flexible Dial Back* is enabled, the modem that the KN1000 dials back to doesn't have to be fixed. It can dial back to any modem that is convenient for the user, as follows: 1. Key the password that the users must specify in the *Password* field. 2. When connecting to the KN1000's modem, users specify the phone number of the modem that they want the KN1000 to dial back to as their Username, and specify the password set in the *Password* field for their password.

Enable Dial Out



For the dial out function, you must establish an account with an Internet Service Provider, and then use a modem to dial up to your ISP account. An explanation of the items in the Enable Dial Back section is given in the table below:

Item	Action
ISP Settings	Specify the telephone number, account name (username), and password that you use to connect to your ISP.
Dial Out Schedule	This entry sets up the times you want the KN1000 to dial out over the ISP connection. ◆ *Every* provides a listing of fixed times from every hour to every four hours. ◆◆ If you select *Every two hours* (for example), the KN1000 will start dialing out every two hours beginning at the next complete hour (if it is now 13:10, it will start dialling at 14:00). ◆◆ If you don't want the KN1000 to dial out on a fixed schedule, select **Never** from the list. ◆ *Daily at* will dial out once a day at a specified time. Use the hh:mm format to specify the time. ◆ *PPP online time* specifies how long you want the ISP connection to last before terminating the session and hanging up the modem. A setting of zero means it is always on line.

Item	Action
Emergency Dial Out	If the KN1000 gets disconnected from the network, or the network goes down, this function puts the KN1000 on line via the ISP dial up connection. ◆ If you choose *PPP stays online until network recovery*, the PPP connection to the ISP will last until the network comes back up or the KN1000 reconnects to it. ◆ If you choose *PPP online time* the connection to the ISP will terminate after the amount of time that you specify is up. A setting of zero means it is always on line.
Dial Out Mail Configuration	This section provides email notification of problems that occur on the devices connected to the KN1000's ports (see *SMTP Settings*, page 41). **Note:** This email notification differs from the one configured under *SMTP Settings*, page 41, in that it uses the ISP mail server rather than the internal company's mail server. ◆ Key in the IP address or domain name of your SMTP server in the SMTP Server IP Address field. ◆ Key in the email address of the person responsible for the SMTP server (or some other equally responsible administrator), in the Email From field. ◆ Key in the email address (addresses) of where you want the report sent to in the To field. If you are sending the report to more than one email address, separate the addresses with a comma or a semicolon. ◆ If your server requires authentication, put a check in the My server requires authentication checkbox, then key in the appropriate account name and password in the fields, below.

When you have finished making your settings on this page, click **Apply**.

Sessions

The *Session* page lets the administrator see at a glance all the users currently logged into the KN1000, and provides information about each of their sessions.

Active Sessions

Select	Login Name	Client IP	Login Time	Service	Category	Idle Time
☐	trevor	172.17.17.1	21:30:20	Browser	Select	444
☐	jonman	172.17.17.1	21:32:07	Browser	Select	360
☐	rjf111	172.17.17.1	21:32:36	Browser	Admin	250
☐	administrator	172.17.17.1	21:36:18	Browser	Select	0
☐	kelly-l	172.17.17.1	21:37:49	Browser	Select	17

End Session

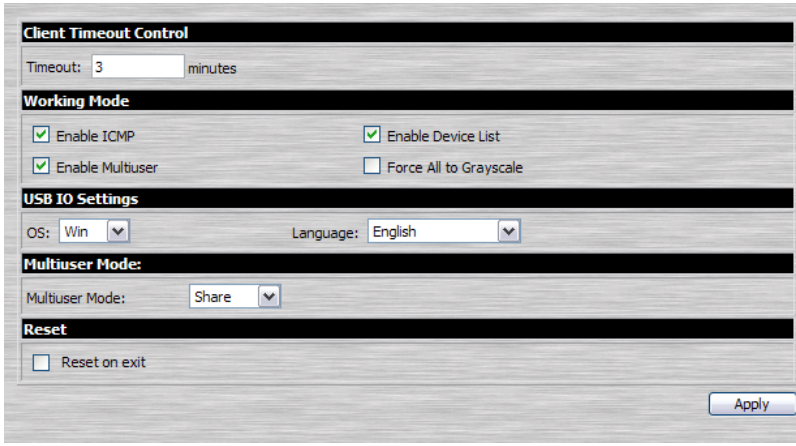
The meanings of the headings at the top of the page are fairly straightforward.

- The *Client IP* heading refers to the IP address that the user has logged in from.
- The *Service* heading refers to the means the user employed to connect to the KN1000 (Browser, WinClient AP, JavaClient AP, etc.).
- The *Category* heading lists the type of user who has logged in: Admin (Administrator), User, or Select. (See *User Management*, page 57 for details about user types.)

This page also gives the administrator the option of forcing a user logout by selecting the user and clicking **End Session**.

Customization

The *Customization* page allows the Administrator to set *Timeout*, *Login failure*, and *Working mode* parameters.



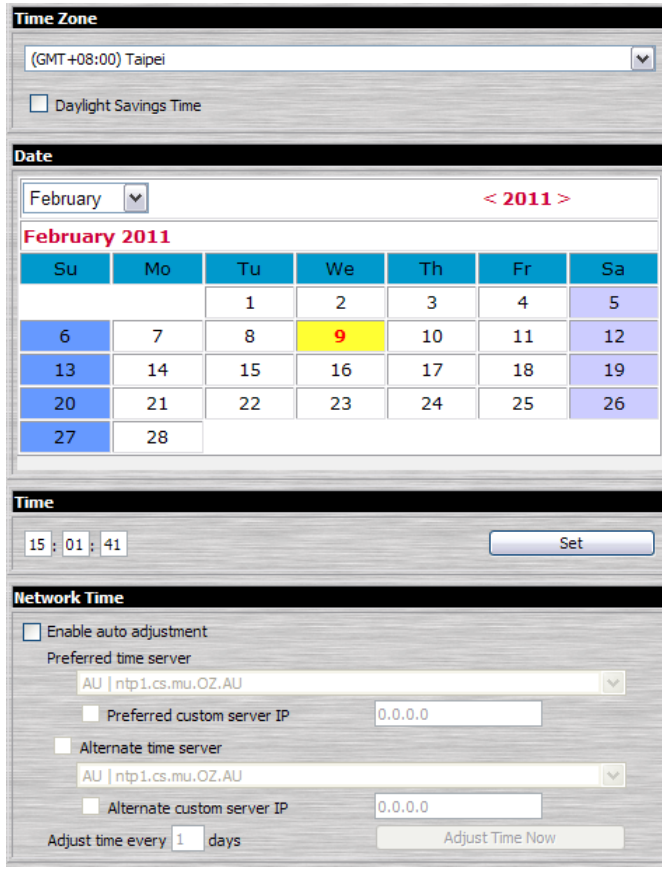
An explanation of the Customization parameters is given in the table below:

Parameter		Explanation
Timeout		If there is no user input for the amount of time specified here, the user is automatically logged out, and must log in again before the KN1000 can be accessed. The default is 3 minutes.
Working Mode	Enable ICMP	If *ICMP* is **enabled**, the KN1000 can be pinged. If it is not enabled, the device cannot be pinged. The default is Enabled.
	Enable device list	If this item is **enabled**, the device will show up in the list of local KN1000 units on the AP Client Connection screen (see *The Windows Client Connection Screen*, page 133). If it is not enabled, it will not show up. The default is Enabled,
	Enable multiuser	Enabling *Multiuser* operation permits more than one user to log into the KN1000 at the same time. The default is Enabled,
	Force All to Grayscale	If *Force All to Grayscale* is enabled, the remote display for all users is changed to grayscale. This can speed up I/O transfer in low bandwidth situations. The default is Disabled,

Parameter		Explanation
USB IO Settings	OS	Specifies the operating system that the server on the connected port is using. Choices are Win, Mac, Sun, and Other. The default is Win.
	Language	Specifies the OS language being used by the server on the connected port. Drop down the list to see the available choices. The default is English US.
Multiuser Mode		Defines how a port is to be accessed when multiple users have logged on, as follows: **Exclusive:** The first user to switch to the port has exclusive control over the port. No other users can view the port. **Occupy:** The first user to switch to the port has control over the port. However, additional users may view the port's video display. **Share:** Users simultaneously share control over the port. Input from the users is placed in a queue and executed chronologically. Under these circumstances, users can take advantage of the *Message Board*, which allows a user to take control of the keyboard and mouse or keyboard, mouse, and video of a Share port (see *The Message Board*, page 92).
Reset		Some configuration changes only take effect after a KN1000 reset. These include changes on the Network page; a Log Server port change; enabling/disabling browser access; and upgrading the firmware. For those changes, a check is automatically put in the *Reset on Exit* box. To have the changes take effect, log out and then log back in again. A wait of approximately 30 to 60 seconds is necessary before logging in following the reset. **Note:** If the KN1000's performance degrades, reset it by putting a check in the *Reset on Exit* box, and then log out / log in.

Date/Time

The Date/Time dialog page sets the KN1000 time parameters:



Set the parameters according to the information below.

Time Zone

- To establish the time zone that the KN1000 is located in, drop down the *Time Zone* list and choose the city that most closely corresponds to where it is at.
- If your country or region employs Daylight Saving Time (Summer Time), check the corresponding checkbox.

Date

- Select the month from the dropdown listbox.
- Click < or > to move backward or forward by one year increments.
- In the calendar, click on the day.
- To set the time, key in the numbers using the 24 hour HH:MM:SS format.
- Click **Set** to save your settings.

Network Time

To have the time automatically synchronized to a network time server, do the following:

1. Check the *Enable auto adjustment* checkbox.
2. Drop down the time server list to select your preferred time server

   – or –

   Check the *Preferred custom server IP* checkbox, and key in the IP address of the time server of your choice.
3. If you want to configure an alternate time server, check the *Alternate time server* checkbox, and repeat step 2 for the alternate time server entries.
4. Key in your choice for the number of days between synchronization procedures.
5. If you want to synchronize immediately, click **Adjust Time Now**.

Note: After checking the *Enable auto adjustment* checkbox, you must click **Adjust Time Now** or **Set** to save the change. Otherwise, the setting will be lost.

Maintenance

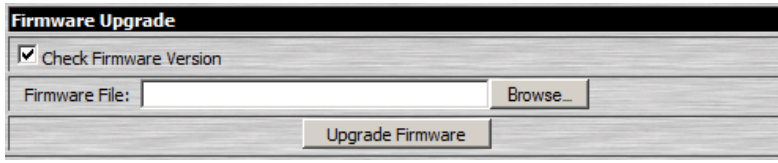
The *Maintenance* page allows the Administrator to upgrade the KN1000's firmware, and to backup and restore the KN1000's configuration settings and user profile information.

Firmware Upgrade

As new versions of the KN1000 firmware become available, they can be downloaded from our website. Check the website regularly to find the latest information and packages.

To upgrade the firmware, do the following:

1. Download the new firmware file to your computer.
2. Open your browser; log in to the KN1000; and click the *Firmware* icon to bring up the *Firmware File* dialog box:



3. Click **Browse**; navigate to the directory that the new firmware file is in and select the file.
4. Click **Upgrade Firmware**.

   If *Check Firmware Version* is enabled (the default), when you perform an upgrade the current firmware level is compared with that of the upgrade file. If the current version is higher than the upgrade version, a message appears informing you of the fact and the procedure stops.

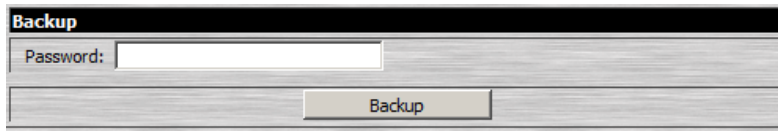
   Note: If you want to install an older firmware version, you must uncheck the *Check Firmware Version* checkbox before clicking **Upgrade Firmware**.

5. After the upload completes, a message appears on the screen to inform you that the operations succeeded. Click **Logout** at the bottom left of the Main web page.
6. In the screen that comes up click **Yes** to confirm that you want to exit and reset the KN1000.

   Note: You will need to wait a bit before logging back in.

Backup

The *Backup* section of the page gives you the ability to back up the KN1000's configuration and user profile information.



To perform a backup, do the following:

1. (Optional) In the *Password* field, key in a password for the file.

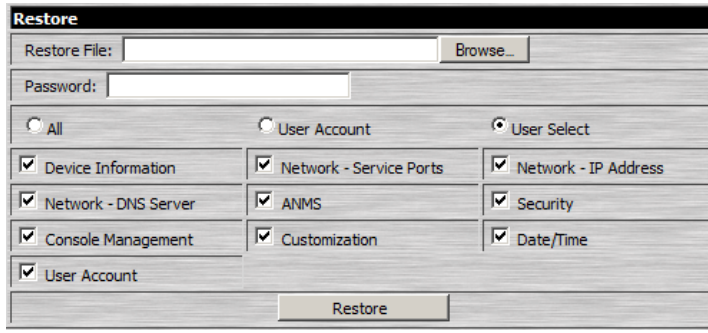
   Note: If you set a password, make a note of it, since you will need it to be able to perform restore operations with the file.

2. Click **Backup**.
3. When the browser asks what you want to do with the file, select *Save to disk*; then save it in a convenient location.

   Note: The KN1000 saves all its backup files as *KN1000BKUP.conf*. If you want to save more than one backup file, simply rename the file to something convenient when you save it.

Restore

Backed up User Account and Configuration information can be restored with the *Restore* section of the page. Information currently configured on the KN1000 will be replaced with the information that you restore.



To restore a previous backup, do the following:

1. If a password was set when the backup was made, key the same password that you used to save the backup file in the *Password* field. If a password wasn't set, you can leave this field blank.'
2. Click **Browse**; navigate to the file and select it.

Note: If you renamed the file, you can leave the new name. There is no need to return it to its original name.

3. Select which parts of the backup you wish to restore:
   - Select the *All* radio button to restore both User Account and all Configuration information
   - Select the *User Account* radio button to only restore User Account information
   - Select the *User Select* radio button to choose which parts of the backed up information you wish to restore, then click the checkboxes to select/deselect the restore elements.
4. When you have made your selections, click **Restore**.

   After the file is restored, a message appears to inform you that the procedure succeeded.

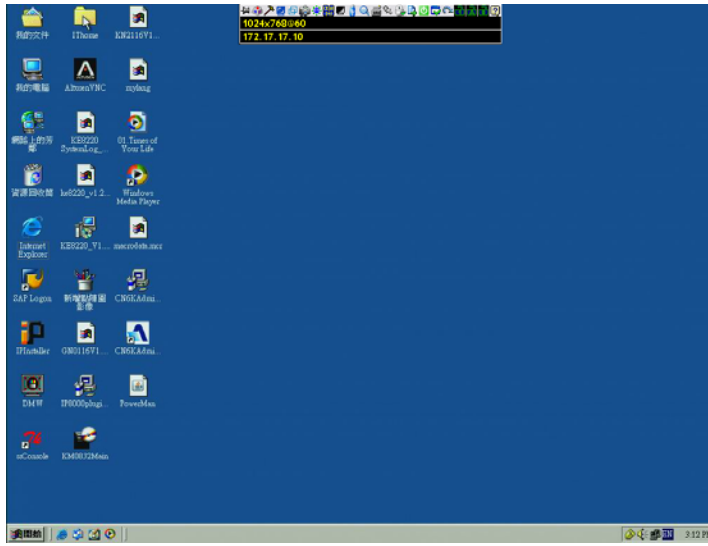
Chapter 5
The WinClient Viewer

Starting Up

The WinClient Viewer is only available when you log in using the Microsoft Internet Explorer (IE) browser. After you log in (see *Logging In*, page 19), click the *Open Windows Client* link on the *Remote Console Preview* panel.

Note: The links that appear below the *Refresh* button depend on the browser you are using, and your User Preferences *Viewer* choice. See *Remote Console Preview*, page 23, for details

A second or two after you click the *Open Windows Client* link, the remote server's display appears as a window on your desktop:



Navigation

You can work on the remote system via the screen display on your monitor just as if it were your local system.

- You can maximize the window, drag the borders to resize the window; or use the scrollbars to move around the screen.
- You can switch between your local and remote programs with [Alt + Tab].

Note: 1. Due to *net lag*, there might be a slight delay before your keystrokes show up. You may also have to wait a bit for the remote mouse to catch up to your local mouse before you click.

2. Due to *net lag*, or insufficient computing power on the local machine, some images, especially motion images, may display poorly.

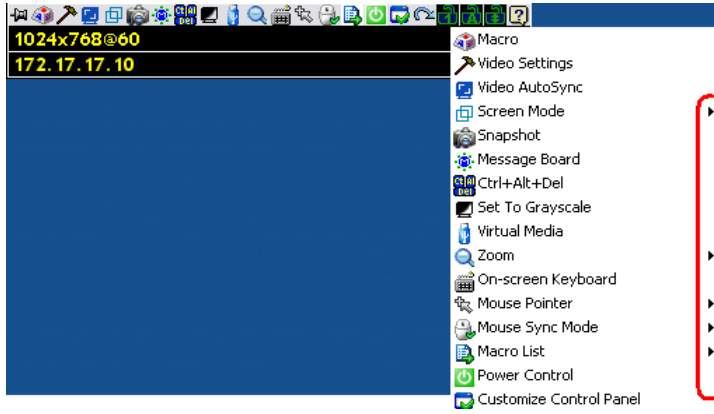
The WinClient Control Panel

The WinClient control panel is hidden at the upper or lower center of the screen (the default is up). It becomes visible when you move the mouse pointer over it:

Note: 1. The above image shows the complete Control Panel. The icons that appear can be customized. See *Control Panel Configuration*, page 104, for details.

2. To move the Control Panel to a different location on the screen, place the mouse pointer over the text bar area, then click and drag.

- By default, the left of the top text row shows the video resolution of the remote display. As the mouse pointer moves over the icons in the icon bar, however, the information in the top text row changes to describe the icon's function. In addition, if a message from another user is entered in the message board, and you have not opened the message board in your session, the message will appear in the top row.
- If the *User Info* function has been enabled under *Control Panel Configuration* (see *User Info*, page 105), the total number of users currently logged into the KN1000 displays in the center of the upper text row.
- Right clicking in the text row area brings up a menu that allows you to select options for the *Screen Mode*, *Zoom*, *Mouse Pointer* type, *Mouse Sync Mode* and *Macro List*. These functions are discussed in the sections that follow.


1024x768@60
172.17.17.10
Macro
Video Settings
Video AutoSync
Screen Mode
Snapshot
Message Board
Ctrl+Alt+Del
Set To Grayscale
Virtual Media
Zoom
On-screen Keyboard
Mouse Pointer
Mouse Sync Mode
Macro List
Power Control
Customize Control Panel

Control Panel Functions

The Control Panel functions are described in the table below.

Note: Clicking the **T** button at the top right of the dialog boxes that appear for the control panel functions brings up a slider to adjust the transparency of the dialog box. After making your adjustment, click anywhere in the dialog box to dismiss the slider.

Icon	Function
	This is a toggle. Click to make the Control Panel persistent – i.e., it always displays on top of other screen elements. Click again to have it display normally.
	Click to bring up the Macros dialog box (see page 80 for details).
Video Settings	Click to bring up the Video Options dialog box. Right-click to perform a quick Auto Sync (see *Video Settings*, page 89, for details).
Video Autosync	Click to perform a video and mouse autosync operation. It is the same as clicking the Auto-sync button in the *Video Options* dialog box (see *Video Settings*, page 89).
	Toggles the display between *Full Screen Mode* and *Windowed Mode*.
	Click to take a snapshot (screen capture) of the remote display. See *Snapshot*, page 105, for details on configuring the Snapshot parameters.
	Click to bring up the Message Board (see *The Message Board*, page 92).
	Click to send a *Ctrl+Alt+Del* signal to the remote system.
	Click to toggle the remote display between color and grayscale.

Icon	Function
	Click to bring up the *Virtual Media* dialog box. The icon changes when a virtual media device is started on the port. See *Virtual Media*, page 94, for specific details. **Note:** This icon displays in gray when the function is disabled or not available to the user.
	Click to zoom the remote display window. **Note:** This feature is only available in windowed mode (Full Screen Mode is off). See *Zoom*, page 99, for details.
	Click to bring up the on-screen keyboard (see *The On-Screen Keyboard*, page 100).
Mouse Pointer	Click to select the mouse pointer type. **Note:** This icon changes depending on which mouse pointer type is selected (see *Mouse Pointer Type*, page 102).
	Click to toggle Automatic or Manual mouse sync. ◆ When the selection is *Automatic*, a green √ appears on the icon. ◆ When the selection is *Manual*, a red X appears on the icon. See *Mouse DynaSync Mode*, page 102 for a complete explanation of this feature.
Macro List	Click to display a dropdown Macro List of *User* macros. Access and run macros more conveniently rather than using the Macros dialog box (see the *Macros* icon in the table above, and the *Macros* section on page 80).
	Click to power on/off the server connected to the KN1000's built-in power switch inlet/outlet ports. See *Managing Power*, page 25 for further details.
	Click to bring up the Control Panel Configuration dialog box. See *Control Panel Configuration*, page 104, for details on configuring the Control Panel.
Exit	Click to exit the remote view and go back to the web browser Main Page.

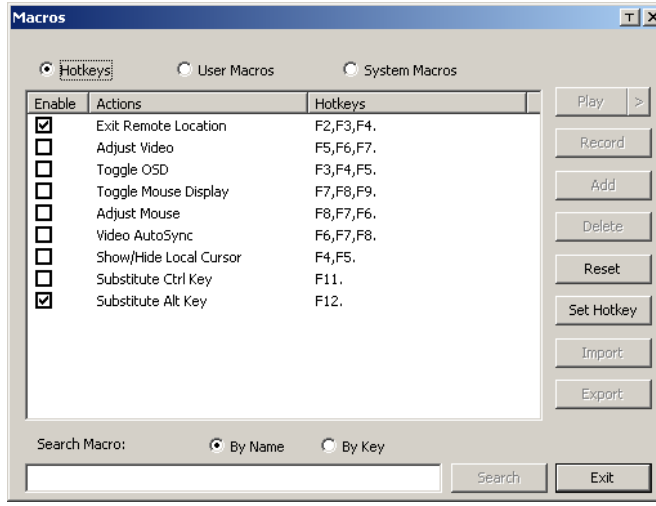
Icon	Function
	These icons show the Num Lock, Caps Lock, and Scroll Lock status of the remote computer. ◆ When the lock state is *On*, the LED is bright green and the lock hasp is closed. ◆ When the lock state is *Off*, the LED is dull green and the lock hasp is open. Click on the icon to toggle the status. **Note:** These icons and your local keyboard icons are in sync. Clicking an icon causes the corresponding LED on your keyboard to change accordingly. Likewise, pressing a Lock key on your keyboard causes the icon's color to change accordingly.
	Click to display information about the Windows Client version.

Macros

The Macros icon provides access to three functions found in the Macros dialog box: Hotkeys, User Macros, and System Macros. Each of these functions is described in the following sections.

Hotkeys

Various actions, corresponding to clicking the Control Panel icons, can be accomplished directly from the keyboard with hotkeys. Selecting the Hotkeys radio button lets you configure which hotkeys perform the actions. The actions are listed to the left; their hotkeys are shown to the right. Use the checkbox to the left of an action's name to enable or disable its hotkey.



If you find the default Hotkey combinations inconvenient, you can reconfigure them as follows:

1. Highlight an *Action*, then click **Set Hotkey**.
2. Press your selected Function keys (one at a time). The key names appear in the *Hotkeys* field as you press them.
   - You can use the same function keys for more than one action, as long as the key sequence is not the same.
   - To cancel setting a hotkey value, click **Cancel**; to clear an action's Hotkeys field, click **Clear**.
3. When you have finished keying in your sequence, click **Save**.

To reset all the hotkeys to their default values, click **Reset**.

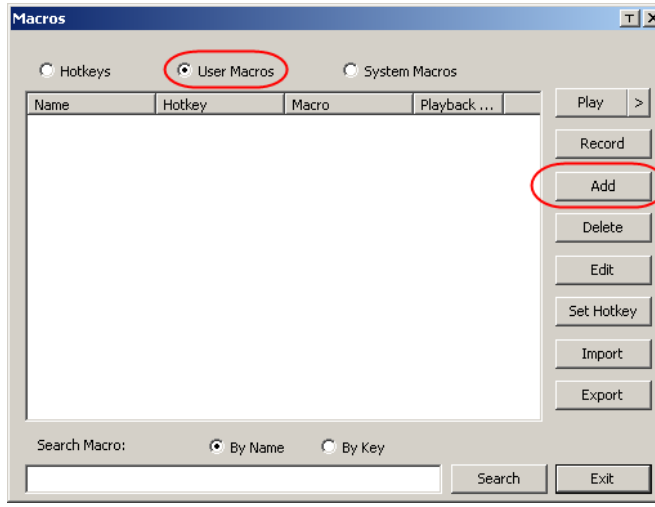
An explanation of the Hotkey actions is given in the table below:

Action	Explanation
Exit remote location	Exits the remote view and goes back to the web browser Main Page. This is equivalent to clicking the *Exit* icon on the Control Panel. The default keys are F2, F3, F4.
Adjust Video	Brings up the *Video Settings* dialog box. This is equivalent to clicking the *Video Settings* icon on the Control Panel. The default keys are F5, F6, F7.
Toggle OSD	Toggles the Control Panel Off and On. The default keys are F3, F4, F5.
Toggle mouse display	If you find the display of the two mouse pointers (local and remote) to be confusing or annoying, you can use this function to shrink the non-functioning pointer down to a barely noticeable tiny circle, which can be ignored. Since this function is a toggle, use the hotkeys again to bring the mouse display back to its original configuration. This is equivalent to selecting the *Dot* pointer type from the *Mouse Pointer* icon on the Control Panel. The default keys are F7, F8, F9. **Note:** The Java Control Panel does not have this feature.
Adjust mouse	This synchronizes the local and remote mouse movements. The default keys are F7, F8, F9.
Video Auto-sync	This combination performs an auto-sync operation. It is equivalent to clicking the *Video Autosync* icon on the Control Panel. The default keys are F6, F7, F8.
Show/Hide Local Cursor	Toggles the display of your local mouse pointer off and on. This is equivalent to selecting the *Null* pointer type from the *Mouse Pointer* icon on the Control Panel. The default keys are F4,F5.
Substitute Ctrl key	If your local computer captures Ctrl key combinations, preventing them from being sent to the remote system, you can implement their effects on the remote system by specifying a function key to substitute for the Ctrl key. If you substitute the F11 key, for example, pressing [F11 + 5] would appear to the remote system as [Ctrl + 5]. The default key is F11.
Substitute Alt key	Although all other keyboard input is captured and sent to the remote system, [Alt + Tab] and [Ctrl + Alt + Del] work on your local computer. In order to implement their effects on the remote system, another key may be substituted for the Alt key. If you substitute the F12 key, for example, you would use [F12 + Tab] and [Ctrl + F12 + Del]. The default key is F11.

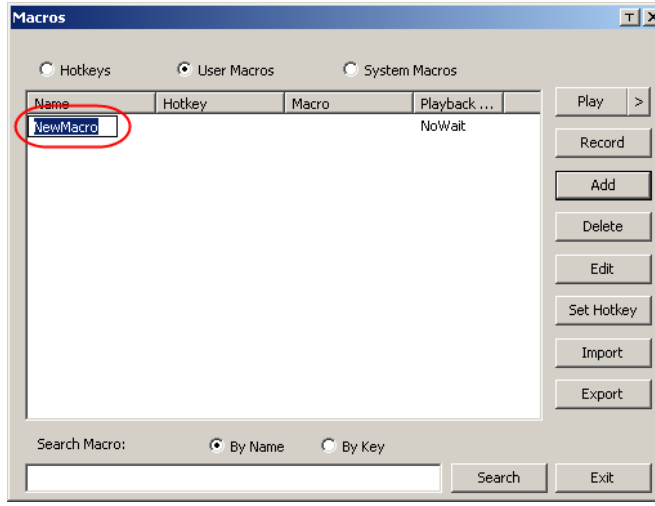
User Macros

User Macros are used to perform specific actions on the remote server. To create the macro, do the following:

1. Select the *User Macros* radio button, then click **Add**.



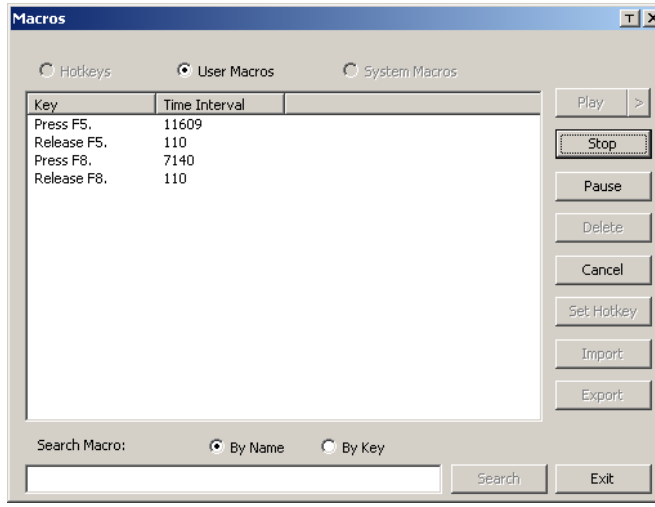
2. In the dialog box that comes up, replace the “New Macro” text with a name of your choice for the macro:



3. Click **Record**.

   The dialog box disappears, and a small panel appears at the top left of the screen:

4. Press the keys for the macro.
   - To pause macro recording, click **Pause**. To resume, click **Pause** again.
   - Clicking **Show** brings up a dialog box that lists each keystroke that you make, together with the amount of time each one takes:



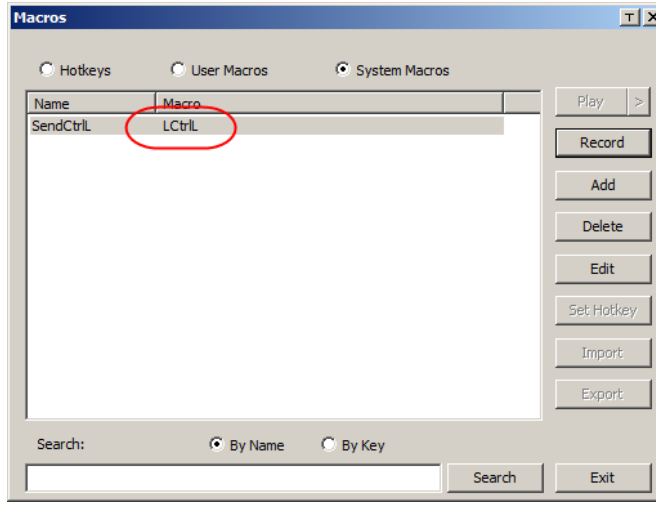
   - Clicking **Cancel** cancels all keystrokes.
   - When you have finished, click **Stop**. This is the equivalent of clicking *Done* in Step 5.

Note: 1. Case is not considered – typing **A** or **a** has the same effect.

2. When recording the macro the focus must be on the remote screen. It cannot be in the macro dialog box.

3. Only the default keyboard characters may be used. Alternate characters cannot be used. For example, if the keyboard is Traditional Chinese and default character is **A** the alternate Chinese character obtained via keyboard switching is not recorded.

5. If you haven't brought up the Show dialog, click **Done** when you have finished recording your macro. You return to the Macros dialog box with your system macro key presses displayed in the Macro column:



6. If you want to change any of the keystrokes, select the macro and click **Edit**. This brings up a dialog box similar to the one for Show. You can change the content of your keystrokes, change their order, etc.

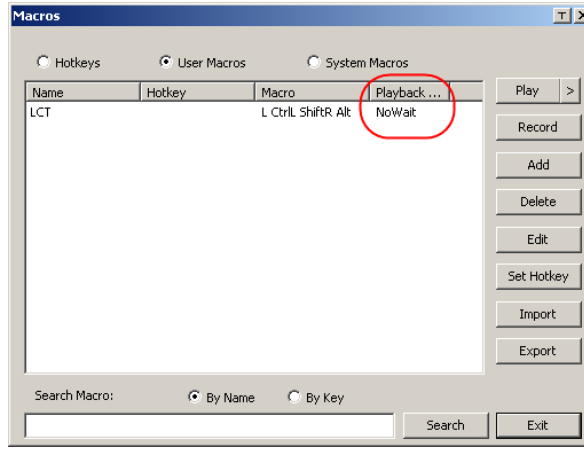
7. Repeat the procedure for any other macros you wish to create.

After creating your macros, you can run them in any of three ways:

1. By using the hotkey (if one was assigned).
2. By opening the Macro List on the Control Panel and clicking the one you want (see *Macro List*, page 78).
3. By opening this dialog box and clicking **Play**.

If you run the macro from this dialog box, you have the option of specifying how the macro runs.

- If you choose *Play Without Wait*, the macro runs the keypresses one after another with no time delay between them.
- If you choose *Play With Time Control*, the macro waits for the amount of time between key presses that you took when you created it. Click on the arrow next to *Play* to make your choice.
- If you click *Play* without opening the list, the macro runs with the default choice. The default choice (*NoWait* or *TimeCtrl*), is shown in the *Playback* column.



You can change the default choice by clicking on the current choice (*NoWait* in the screenshot above), and selecting the alternative choice.

Note: 1. Information about the Search function is given on page 86.

2. User Macros are stored on the Local Client computer of each user. Therefore there is no limitation on the of number of macros, the size of the macro names, or makeup of the hotkey combinations that invoke them

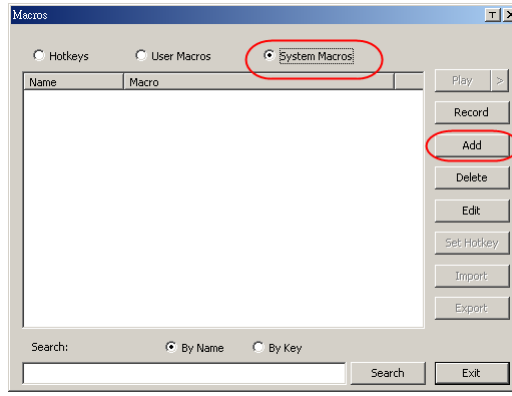
Search

Search, at the bottom of the dialog box, lets you filter the list of macros that appear in the large upper panel for you to play or edit. Click a radio button to choose whether you want to search by name or by key; key in a string for the search; then click **Search**. All instances that match your search string appear in the upper panel.

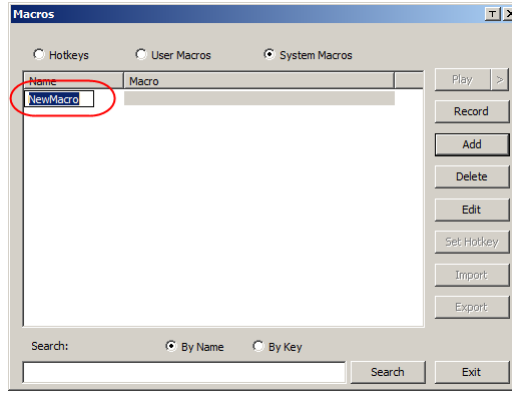
System Macros

System Macros are used to create exit macros for when you close a session. For example, as an added measure of security, you could create a macro that sends the Winkey-L combination which would cause the remote device's log in page to come up the next time the device was accessed. To create the macro, do the following:

1. Select *System Macros*, then click **Add**.



2. In the dialog box that comes up, replace the "New Macro" text with a name of your choice for the macro:



3. Click **Record**.

   The dialog box disappears, and a small panel appears at the top left of the screen:

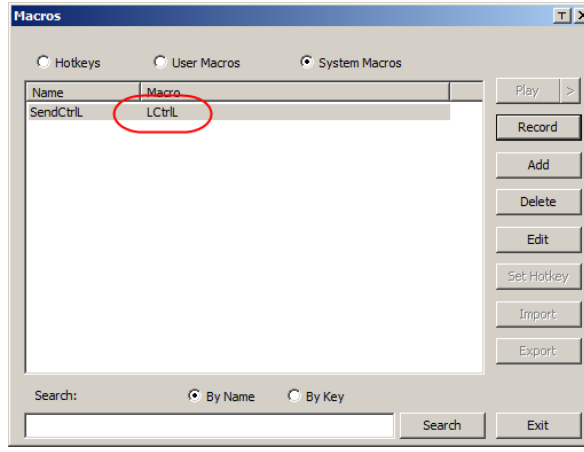
4. Press the keys for the macro.
   - To pause macro recording, click **Pause**. To resume, click **Pause** again.
   - Clicking **Show** brings up a dialog box that lists each keystroke that you make, together with the amount of time each one takes (see page 87).

Note: 1. Case is not considered – typing **A** or **a** has the same effect.

2. When recording the macro the focus must be on the remote screen. It cannot be in the macro dialog box.

3. Only the default keyboard characters may be used. Alternate characters cannot be used. For example, if the keyboard is Traditional Chinese and default character is **A** the alternate Chinese character obtained via keyboard switching is not recorded.

5. If you haven't brought up the Show dialog, click **Done** when you have finished recording your macro. You return to the Macros dialog box with your system macro key presses displayed in the Macro column:



6. If you want to change any of the keystrokes, select the macro and click **Edit**. This brings up a dialog box similar to the one for Show. You can change the content of your keystrokes, change their order, etc.

7. Repeat the procedure for any other macros you wish to create.

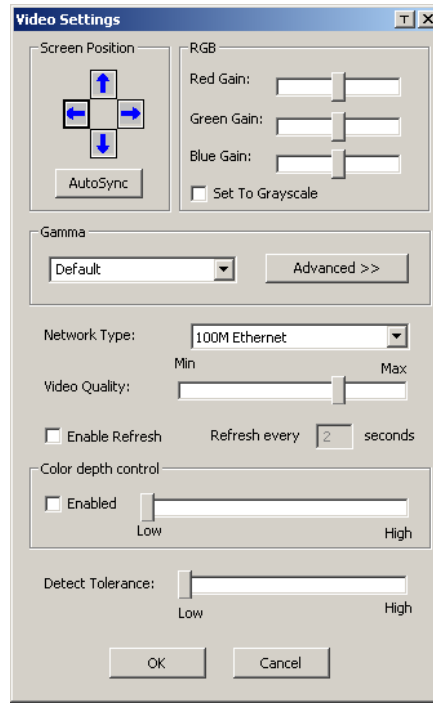
Once the system macros have been created, you can choose to run any one them upon logging out of the KN1000 (see *Exit Macro*, page 24, for details).

Note: 1. Information about the Search function is given on page 86.

2. Systems macros are stored on the KN1000, therefore macro names may not exceed 64 Bytes (1 Byte = 1 English alphanumeric character), and hotkey combinations may not exceed 256 Bytes (each key usually takes 3–5 Bytes).

Video Settings

The *Video Settings* dialog box allows you to adjust the placement and picture quality of the remote screen display on your monitor.



The meanings of the adjustment options are given in the table below:

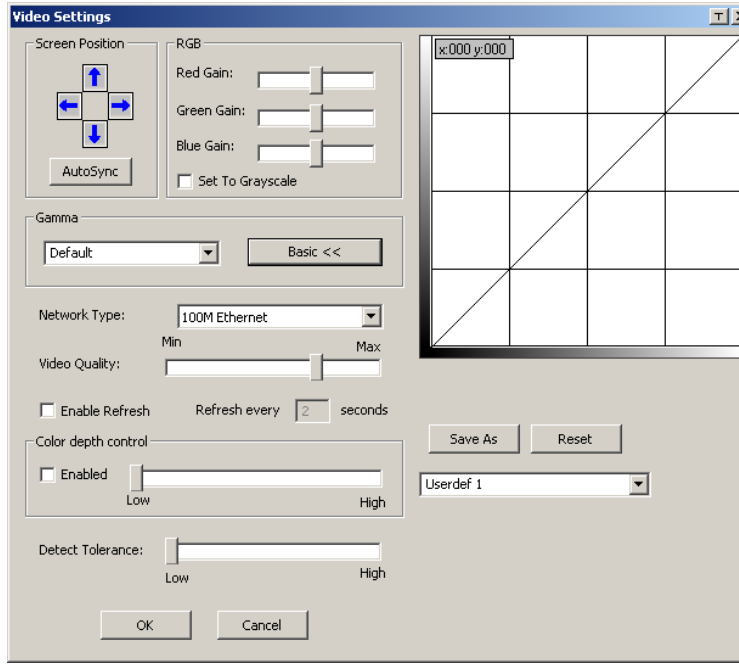
Option	Usage
Screen Position	Adjust the horizontal and vertical position of the remote computer window by Clicking the Arrow buttons.
Auto-Sync	Click Auto-Sync to have the vertical and horizontal offset values of the remote screen detected and automatically synchronized with the local screen. **Note:** 1. If the local and remote mouse pointers are out of sync, in most cases, performing this function will bring them back into sync. 2. This function works best with a bright screen. 3. If you are not satisfied with the results, use the Screen Position arrows to position the remote display manually.

Option	Usage
RGB	Drag the slider bars to adjust the RGB (Red, Green, Blue) values. When an RGB value is increased, the RGB component of the image is correspondingly increased. If you enable *Set to Grayscale*, the remote video display is changed to grayscale.
Gamma	This section allows you to adjust the video display's gamma level. This function is discussed in detail in the next section, *Gamma Adjustment*.
Network Type	Select the type of internet connection that exists between the Local Client computer and the KN1000. The KN1000 will use that selection to automatically adjust the *Video Quality* and *Detect Tolerance* settings to optimize the quality of the video display. Since network conditions vary, if none of the pre-set choices seem to work well, you can select *Customize* and use the Video Quality and Detect Tolerance slider bars to adjust the settings to suit your conditions.
Video Quality	Drag the slider bar to adjust the overall Video Quality. The larger the value, the clearer the picture and the more video data goes through the network. Depending on the network bandwidth, a high value may adversely effect response time.
Enable Refresh	The KN1000 can redraw the screen every 1 to 99 seconds, eliminating unwanted artifacts from the screen. Select **Enable Refresh** and enter a number from 1 through 99. The KN1000 will redraw the screen at the interval you specify. This feature is disabled by default. Click to put a check mark in the box next to *Enable Refresh* to enable this feature. **Note:** 1. The switch starts counting the time interval when mouse movement stops. 2. Enabling this feature increases the volume of video data transmitted over the network. The lower the number specified, the more often the video data is transmitted. Setting too low a value may adversely affect overall operating responsiveness.
Color Depth Control	This setting determines the richness of the video display by adjusting the amount of color information.
Detect Tolerance	This setting also relates to video quality. It governs detecting or ignoring pixel changes. A high setting can result in a lower quality display due to less data transfer. A lower setting will result in better video quality, but setting the threshold too low may allow too much data to be transferred, negatively impacting network performance.

Gamma Adjustment

If it is necessary to correct the gamma level for the remote video display, use the *Gamma* function of the Video Adjustment dialog box.

- Under *Basic* configuration, there are ten preset and four user-defined levels to choose from. Drop down the list box and choose the most suitable one.
- For greater control, clicking the *Advanced* button brings up the following dialog box:

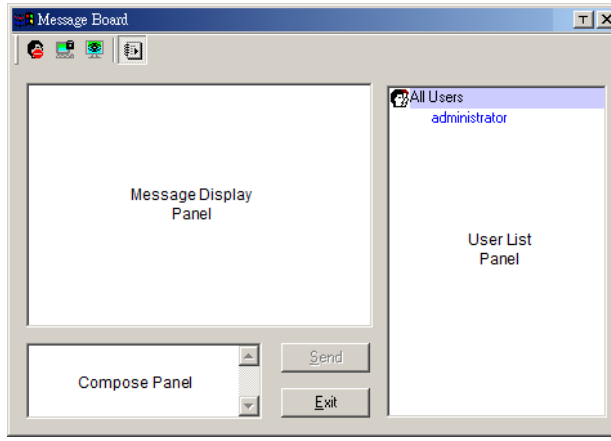


- Click and drag the diagonal line at as many points as you wish to achieve the display output you desire.
- Click **Save As** to save up to four user-defined configurations derived from this method. Saved configurations can be recalled from the list box at a future time.
- Click **Reset** to abandon any changes and return the gamma line to its original diagonal position.
- Click **OK** to save your changes and close the dialog box.
- Click **Cancel** to abandon your changes and close the dialog box.

Note: For best results, change the gamma while viewing a remote computer.

The Message Board

To alleviate the possibility of access conflicts resulting from multiple user logins, the KN1000 provides a message board that allows users to communicate with each other:



The Button Bar

The buttons on the Button Bar are toggles. Their actions are described in the table below:

Button	Action
	Enable/Disable Chat. When disabled, messages posted to the board are not displayed. The button is shadowed when Chat is disabled. The icon displays next to the user's name in the User List panel when the user has disabled Chat.
	Occupy/Release Keyboard/Video/Mouse. When a port is set to *Occupy* mode (see *Multiuser Mode*, page 67), you can use this button to occupy the KVM. When you Occupy the KVM, other users cannot see the video, and cannot input keyboard or mouse data. The button is shadowed when the KVM is occupied. The icon displays next to the user's name in the User List panel when the user has occupied the KVM.
	Occupy/Release Keyboard/Mouse. When a port is set to *Occupy* mode (see *Multiuser Mode*, page 67), you can use this button to occupy the KM. When you Occupy the KM, other users can see the video, but cannot input keyboard or mouse data. The button is shadowed when the KM is occupied. The icon displays next to the user's name in the User List panel when the user has occupied the KM.
	Show/Hide User List. When you Hide the User List, the User List panel closes. The button is shadowed when the User List is open.

Message Display Panel

Messages that users post to the board - as well as system messages - display in this panel. If you disable Chat, however, messages that get posted to the board won't appear.

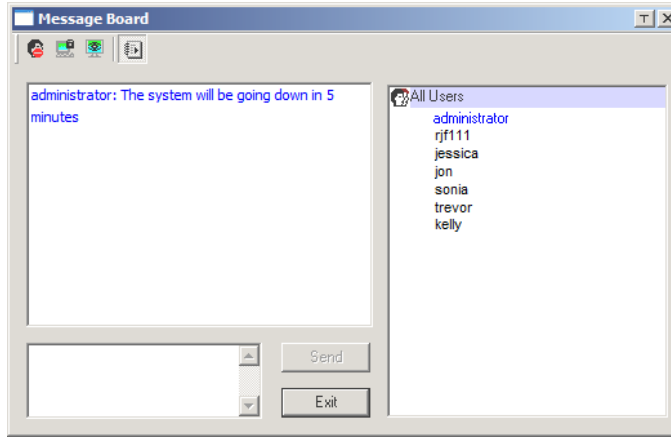
Compose Panel

Key in the messages that you want to post to the board in this panel. Click **Send**, or press [**Enter**] to post the message to the board.

User List Panel

The names of all the logged in users are listed in this panel.

- Your name appears in blue; other users' names appear in black.
- By default, messages are posted to all users. To post a message to one individual user, select the user's name before sending your message.
- If a user's name is selected, and you want to post a message to all users, select All Users before sending your message.
- If a user has disabled Chat, its icon displays before the user's name to indicate so.
- If a user has occupied the KVM or the KM, its icon displays before the user's name to indicate so.

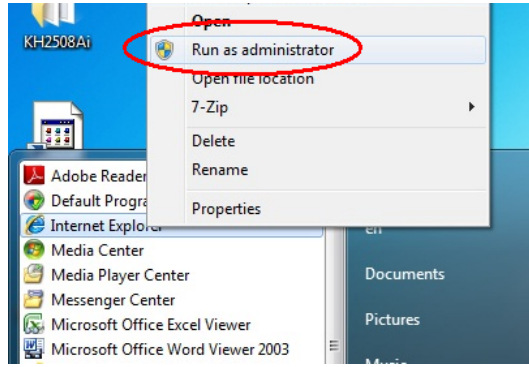


Virtual Media

The *Virtual Media* feature allows a drive, folder, image file, or removable disk on a local client computer to appear and act as if it were installed on the remote server. Virtual Media also supports a smart card reader function that allows a reader plugged into a local client computer to appear as if it were plugged into the remote server.

Windows Vista / 7

Windows Vista/7 users who want to use the KN1000's Virtual Media feature should be logged into their browser as an administrator. To do so, right click on your browser name and select "Run as administrator', as shown below:



Virtual Media Icons

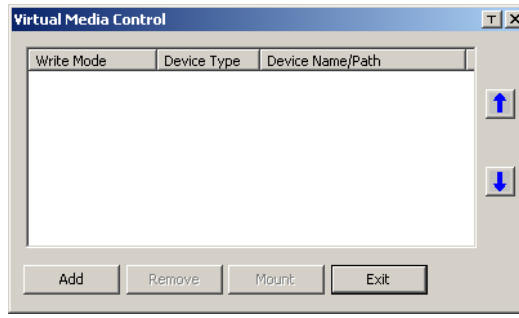
The Virtual Media icon on the WinClient Control Panel changes, to indicate whether the virtual media function is available, or if a virtual media device has already been mounted on the remote server, as shown in the table below:

Icon	Function
	The icon displays in blue to indicate that the virtual media function is available. Click the icon to bring up the virtual media dialog box.
	The icon displays in blue with a red **X** to indicate that a virtual media device has been mounted on the remote server. Click the icon to unmount all redirected devices.

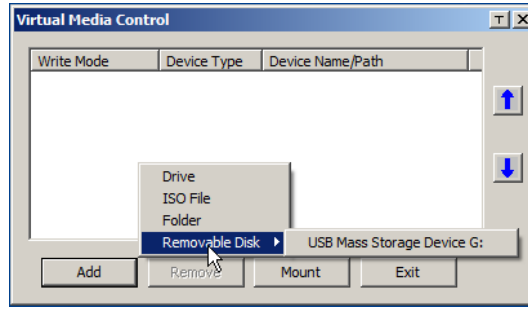
Virtual Media Redirection

To implement the virtual media redirection feature, do the following:

1. Click the Virtual Media icon to bring up the *Virtual Media* dialog box:



2. Click **Add**; then select the media source.

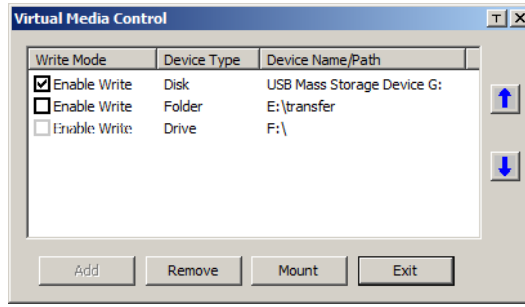


   Depending on your selection, additional dialog boxes appear enabling you to select the drive, file, folder, or removable disk you desire. See *Virtual Media Support*, page 173 for details about mounting these media types.

3. To add additional media sources, click **Add**, and select the source as many times as you require.

   Up to three virtual media choices can be mounted. The top three in the list are the ones that are selected. To rearrange the selection order, highlight the device you want to move, then click the Up or Down Arrow button to promote or demote it in the list.

4. *Read* refers to the redirected device being able to send data to the remote server; *Write* refers to the redirected device being able to have data from the remote server written to it. The default is for Write to not be enabled (Read only). If you want the redirected device to be writable as well as readable, click to put a check in the *Enable Write* checkbox:

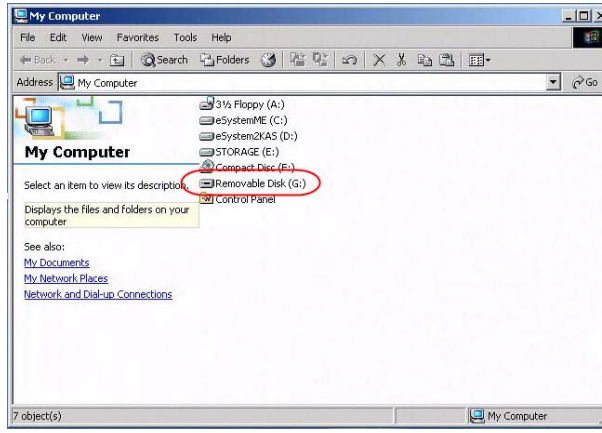


Note: 1. If a redirected device cannot be written to, or if a user does not have write permissions, it appears in gray and cannot be selected.

2. See *Virtual Media Support*, page 173, for a list of supported virtual media types.

3. To remove an entry from the list, select it and click **Remove**.

4. After you have made your media source selections, click **Mount**. The dialog box closes. The virtual media devices that you have selected are redirected to the remote system, where they show up as drives, files and folders on the remote system's file system.



Once mounted, you can treat the virtual media as if they were really on the remote server – drag and drop files to/from them; open files on the remote system for editing and save them to the redirected media, etc.

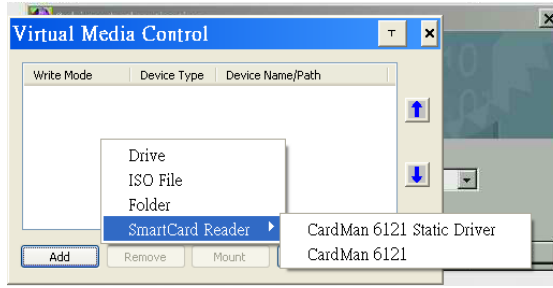
Files that you save to the redirected media, will actually be saved on your local system. Files that you drag from the redirected media will actually come from your local system.

5. To end the redirection, bring up the *Control Panel* and click on the Virtual Media icon. All mounted devices are automatically unmounted.

Smart Card Reader

The smart card reader function allows a reader plugged into a local client computer's USB port to be redirected, and appear as if it were plugged into the remote server. One purpose of smart cards (Common Access Cards, for example), is to allow authentication to the remote server from the local client.

When a smart card reader is connected to the local client computer, an entry for it appears when you bring up the Virtual Media dialog box and click **Add**:



Make your selection; then click **Mount** to complete the redirection.

Note: If you mount a smart card reader, you cannot mount any other virtual media device. If any virtual media devices are already mounted, you must unmount them before you can mount the smart card reader.

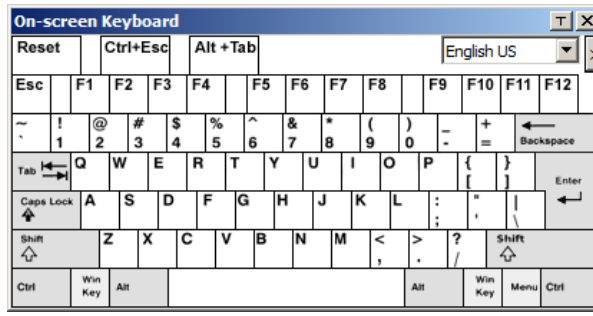
Zoom

The Zoom icon controls the zoom factor for the remote view window. Settings are as follows:

Setting	Description
100%	Sizes and displays the remote view window at 100%.
75%	Sizes and displays the remote view window at 75%.
50%	Sizes and displays the remote view window at 50%.
25%	Sizes and displays the remote view window at 25%.
1:1	Sizes and displays the remote view window at 100%. The difference between this setting and the 100% setting is that when the remote view window is resized its contents don't resize – they remain at the size they were. To see any objects that are outside of the viewing area move the mouse to the window edge, to have the screen scroll.

The On-Screen Keyboard

The KN1000 supports an on-screen keyboard, available in multiple languages, with all the standard keys for each supported language. Click this icon to pop up the on-screen keyboard:

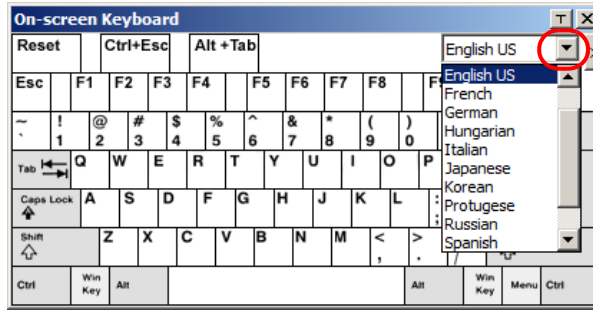


One of the major advantages of the on-screen keyboard is that if the keyboard languages of the remote and local systems aren't the same, you don't have to change the configuration settings for either system. The user just has to bring up the on-screen keyboard; select the language used by the computer on the port he is accessing; and use the on-screen keyboard to communicate with it.

Note: You must use your mouse to click on the keys. You cannot use your actual keyboard.

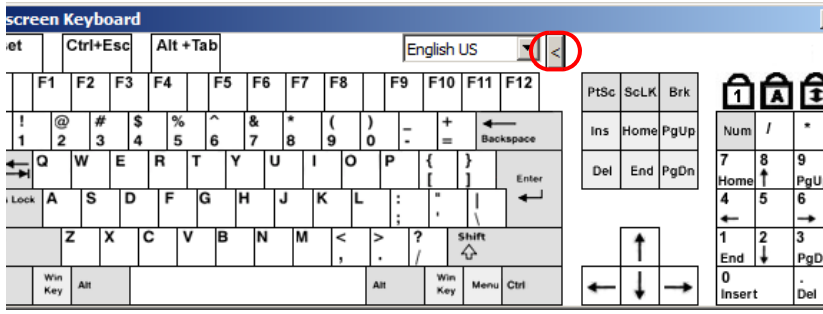
To change languages, do the following:

1. Click the down arrow next to the currently selected language to drop down the language list.



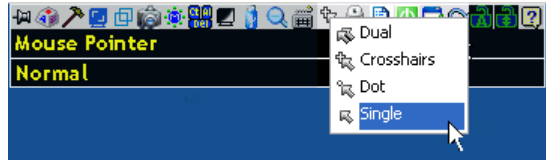
2. Select the new language from the list.

To display/hide the expanded keyboard keys, click the arrow to the right of the language list arrow.



Mouse Pointer Type

The KN1000 offers a number of mouse pointer options when working in the remote display. Click this icon to select the type that you would like to work with:



Note: The icon on the Control Panel changes to match your choice.

Mouse DynaSync Mode

Clicking this icon selects whether synchronization of the local and remote mouse pointers is accomplished either automatically or manually.

Automatic Mouse Synchronization (DynaSync)

Mouse DynaSync provides automatic locked-in synching of the remote and local mouse pointers – eliminating the need to constantly resync the two movements.

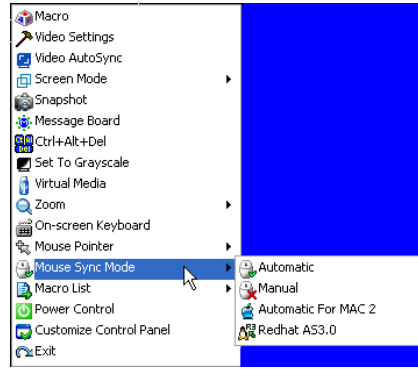
The icon on the toolbar indicates the synchronization mode status as follows:

Icon	Function
	The green check mark on this icon indicates that Mouse DynaSync is available and is **enabled**. This is the default setting when Mouse DynaSync is available. (See the Note, above.)
	The red X on this icon indicates that Mouse DynaSync is available but is **not enabled**.

When *Mouse DynaSync* is available, clicking the icon toggles its status between enabled and /disabled. If you choose to disable Mouse DynaSync mode, you must use the manual synching procedures described in the next section.

Mac and Linux Considerations

- For Mac systems, there is a second DynaSync setting to choose from. If the default synchronization result is not satisfactory, you can try the **Mac 2** setting. To select Mac 2, right click in the text area of the Control Panel and select *Mouse Sync Mode* → *Automatic for Mac 2*:



- There is also an additional setting for Linux on the Mouse Sync Mode menu. If the default synchronization result is not satisfactory, you can try the **Redhat AS3.0** setting.

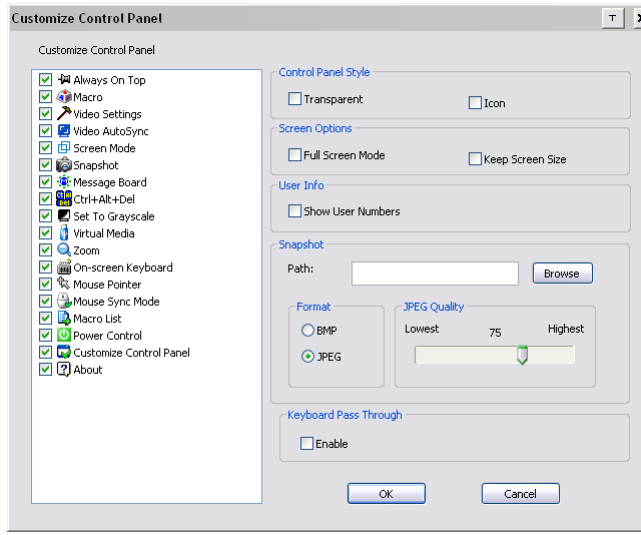
Manual Mouse Synchronization

If you are using Manual mouse synchronization instead of automatic DynaSync and the local mouse pointer goes out of sync with the remote system's mouse pointer, there are a number of methods to bring them back into sync:

1. Perform a video and mouse auto sync by clicking the *Video Settings* icon on the Control Panel (see page 89).
2. Perform an *Auto Sync* with the Video Adjustment function (see *Video Settings*, page 89, for details).
3. Invoke the *Adjust Mouse* function with the *Adjust Mouse* hotkeys (see *Adjust mouse*, page 81, for details).
4. Move the pointer into all 4 corners of the screen (in any order).
5. Drag the Control Panel to a different position on the screen.
6. Set the mouse speed and acceleration for each problematic computer attached to the switch. See *Additional Mouse Synchronization Procedures*, page 171, for instructions.

Control Panel Configuration

Clicking the *Control Panel* icon brings up a dialog box that allows you to configure the items that appear on the Control Panel, as well as its graphical settings:



The dialog box is organized into six main sections as described in the table, below:

Item	Description
Customize Control Panel	Allows you to select which icons display in the Control Panel
Control Panel Style	◆ Enabling *Transparent* makes the Control Panel semi-transparent, so that you can see through it to the display underneath. ◆ Enabling *Icon* causes the Control Panel to display as an icon until you mouse over it. When you mouse over the icon, the full panel comes up.

Item	Description

Screen Options	◆ If *Full Screen Mode* is enabled, the remote display fills the entire screen.
	◆ If *Full Screen Mode* is not enabled, the remote display appears as a window on the local desktop. If the remote screen is larger than what is able to fit in the window, scrollbars will appear.
	◆ If *Keep Screen Size* is enabled, the remote screen is not resized.
	  ◆ If the remote resolution is smaller than that of the local monitor, its display appears like a window centered on the screen.
	  ◆ If the remote resolution is larger than that of the local monitor, its display is scaled to the local size.
	◆ If *Keep Screen Size* is not enabled, the remote screen is resized to fit the local monitor's resolution.

User Info	If *User Info* is enabled, the total number of users logged into the KN1000 displays in the center of the upper text row of the Control Panel (See the Control Panel diagram on page 75 for an example.)
Snapshot	These settings let the user configure the KN1000's screen capture parameters (see the *Snapshot* description under *The WinClient Control Panel*, page 75): ◆ Path lets you select a directory that the captured screens automatically get saved to. Click **Browse**; navigate to the directory of your choice; then click **OK**. If you don't specify a directory here, the snapshot is saved to your desktop. ◆ Click a radio button to choose whether you want the captured screen to be saved as a BMP or a JPEG (JPG) file. ◆ If you choose JPEG, you can select the quality of the captured file with the slider bar. The higher the quality, the better looking the image, but the larger the file size.

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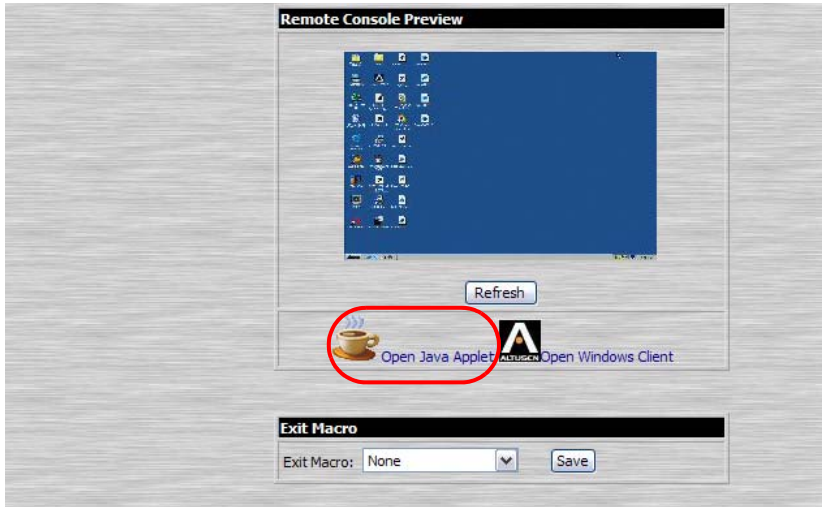
Chapter 6
The JavaClient Viewer

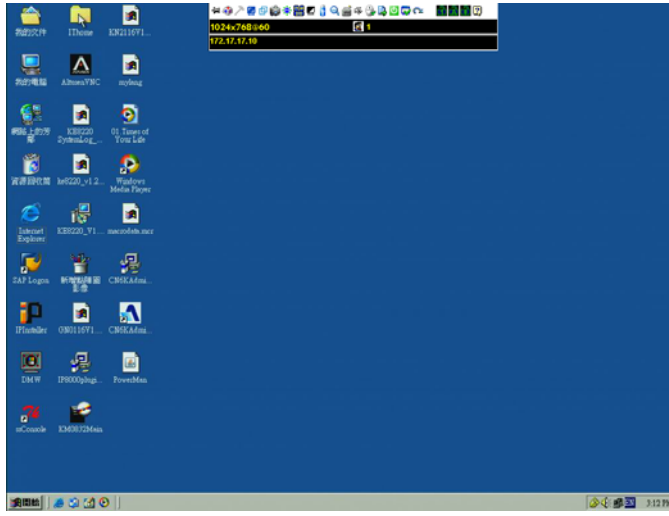
Introduction

The JavaClient Viewer makes the KN1000 accessible to all platforms that have the Java Runtime Environment (JRE) installed. (See *System Requirements*, page 6, for the required JRE version.) The JRE is available for free download from the Java web site (http://java.com).
To run the JavaClient Viewer, after you log in (see *Logging In*, page 19), Click the *Open Java Applet* link on the *Remote Console Preview* panel.



Note: The links that appear below the *Refresh* button depend on the browser you are using, and your User Preferences *Viewer* choice. See *Remote Console Preview*, page 23, for details

A second or two after you click the *Open Java Applet* (or *Open Viewer*) link, the remote server's display appears as a window on your desktop:



Navigation

You can work on the remote system via the screen display on your monitor just as if it were your local system.

- You can maximize the window, drag the borders to resize the window; or use the scrollbars to move around the screen.
- You can switch between your local and remote programs with [Alt + Tab].

Note: 1. Due to *net lag*, there might be a slight delay before your keystrokes show up. You may also have to wait a bit for the remote mouse to catch up to your local mouse before you click.

2. Due to *net lag*, or insufficient computing power on the local machine, some images, especially motion images, may display poorly.

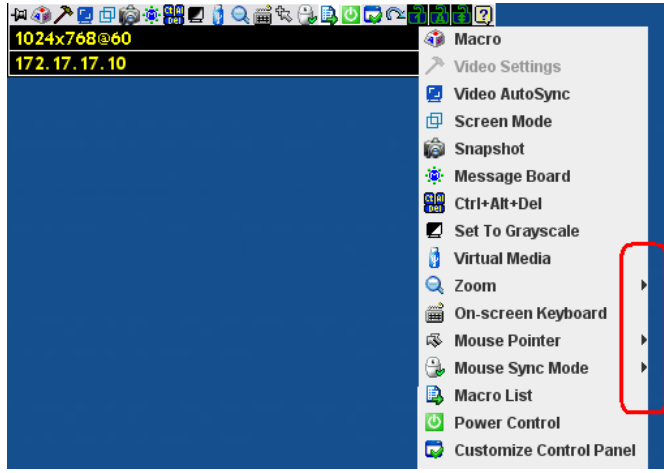
The JavaClient Control Panel

The JavaClient control panel is hidden at the top center of the screen. It becomes visible when you move the mouse pointer into that area:

Note: 1. The above image shows the complete Control Panel. The icons that appear can be customized. See *Control Panel Configuration*, page 120, for details.

2. To place the control panel anywhere on the screen, move the mouse pointer over the text bar area and drag the panel to the new position.

- By default, the left of the top text row shows the video resolution of the remote display. As the mouse pointer moves over the icons in the icon bar, however, the information in the top text row changes to describe the icon's function.
- If the *User Info* function has been enabled under *Control Panel Configuration* (see *User Info*, page 105), the total number of users currently logged into the KN1000 displays in the center of the upper text row.
- Right clicking in the text row area brings up a menu that allows you to select options for the *Zoom*, *Mouse Pointer* type, and *Mouse Sync Mode*. These functions are discussed in the sections that follow.


1024x768@60
172.17.17.10
Macro
Video Settings
Video AutoSync
Screen Mode
Snapshot
Message Board
Ctrl+Alt+Del
Set To Grayscale
Virtual Media
Zoom
On-screen Keyboard
Mouse Pointer
Mouse Sync Mode
Macro List
Power Control
Customize Control Panel

Control Panel Functions

The Control Panel functions are described in the table below:

Icon	Function
	This is a toggle. Click to make the Control Panel persistent – i.e., it always displays on top of other screen elements. Click again to have it display normally.
	Click to bring up the Macros dialog box (see *Macros*, page 113 for details).
	Click to bring up the *Video settings* dialog box. Right-click to perform a quick Auto Sync (see *Video Settings*, page 115, for details).
	Click to perform a video and mouse autosync operation. It is the same as clicking the Auto-sync button in the *Video Options* dialog box (see *Video Settings*, page 115).
	Toggles the display between *Full Screen Mode* and *Windowed Mode*.
	Click to take a snapshot (screen capture) of the remote display. See *Snapshot*, page 105, for details on configuring the Snapshot parameters.
	Click to bring up the *Message board* (see page 116).
	Click to send a *Ctrl+Alt+Del* signal to the remote system.
	Click to toggle the remote display between grayscale and color.
	Click to bring up the *Virtual Media* dialog box. The red *X* indicates that the function has not been started. The icon changes when a virtual media device is started to indicate the type of device being used. See *Virtual Media*, page 118, for specific details.
	Click to zoom the remote display window. **Note:** This feature is only available in windowed mode (Full Screen Mode is off). See *Zoom*, page 118, for details.
	Click to bring up the on-screen keyboard (see *The On-Screen Keyboard*, page 119).

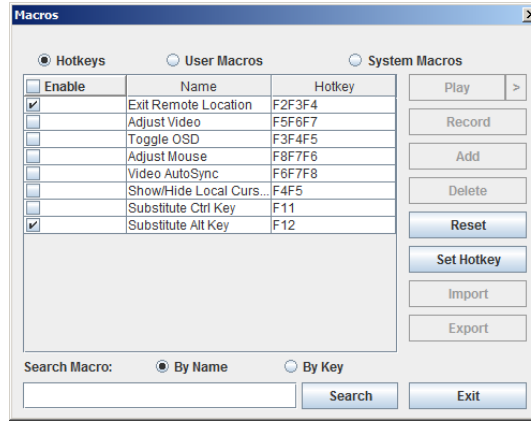
Icon	Function
	Click to select the mouse pointer type. **Note:** This icon changes depending on which mouse pointer type is selected (see *Mouse Pointer Type*, page 119).
	Click to toggle Automatic or Manual mouse sync. ◆ When the selection is *Automatic*, a green √ appears on the icon. ◆ When the selection is *Manual*, a red X appears on the icon. See *Mouse DynaSync Mode*, page 102 for a complete explanation of this feature.
	Click to display a dropdown list of *User* macros. Access and run macros more conveniently rather than using the Macros dialog box (see the *Macros* icon in the table above, and the *Macros* section on page 113).
	Click to power on/off the server connected to the KN1000's built-in power switch inlet/outlet ports. See *Managing Power*, page 25 for further details.
	Click to bring up the Control Panel Configuration dialog box. See *Control Panel Configuration*, page 120, for details on configuring the Control Panel.
	Click to exit the remote view.
	These icons show the Num Lock, Caps Lock, and Scroll Lock status of the remote computer. ◆ When the lock state is *On*, the LED is bright green and the lock hasp is closed. ◆ When the lock state is *Off*, the LED is dull green and the lock hasp is open. Click on the icon to toggle the status. **Note:** When you first connect, the LED display may not be accurate. To be sure, click on the LEDs to set them.
	Click to display information about the JavaClient Viewer version.

Macros

The Macros icon provides access to three functions found in the Macros dialog box: Hotkeys, User Macros, and System Macros. Each of these functions is described in the following sections.

Hotkeys

Various actions related to manipulating the remote server can be accomplished with hotkeys. Selecting the *Hotkeys* radio button lets you configure which hotkeys perform the actions.



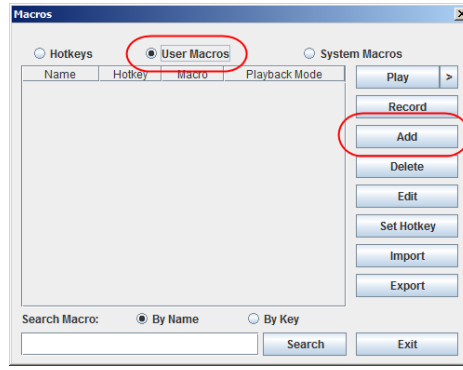
Hotkey operation is the same under the JavaClient as it is under the WinClient. See *Hotkeys*, page 80, for details.

Note: *Toggle Mouse Display* is not available in the JavaViewer version.

User Macros

User Macros are used to perform specific actions on the remote server. To create the macro, do the following:

1. Select the *User Macros* radio button, then click **Add**.

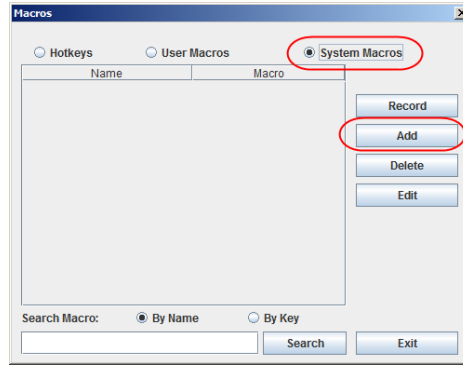


User Macro operation is the same under the JavaClient as it is under the WinClient. See *User Macros*, page 82, for details.

System Macros

System Macros are used to create exit macros for when you close a session. For example, as an added measure of security, you could create a macro that sends the Winkey-L combination which would cause the remote device's log in page to come up the next time the device was accessed. To create the macro, do the following:

1. Select *System Macros*, then click **Add**.



System Macro operation is the same under the JavaClient as it is under the WinClient. See *System Macros*, page 86, for details.

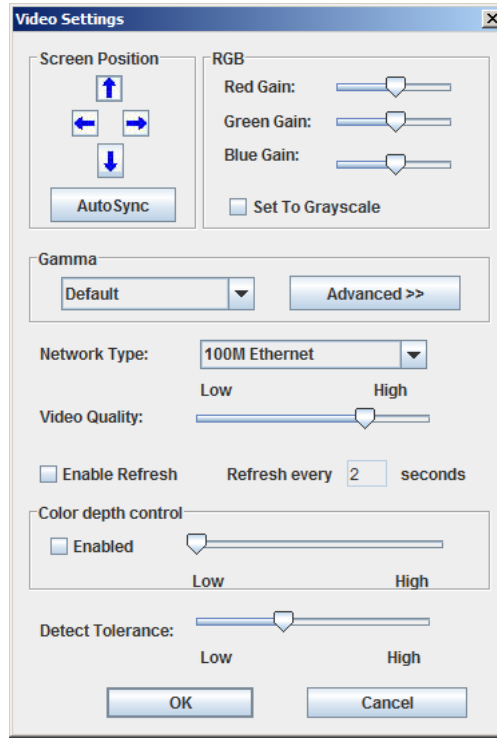
Search

Search allows you to find previously created macros and have them listed in the large upper panel for you to play or edit.

The Search operation is the same under the JavaClient as it is under the WinClient. See *Search*, page 86, for details.

Video Settings

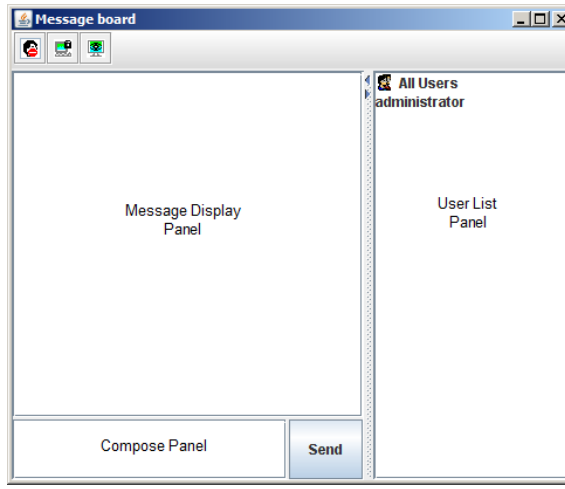
The *Video settings* dialog box allows you to adjust the placement and picture quality of the remote screen display on your monitor.



Video Settings operation is the same under the JavaClient as it is under the WinClient. See *Video Settings*, page 89, for details.

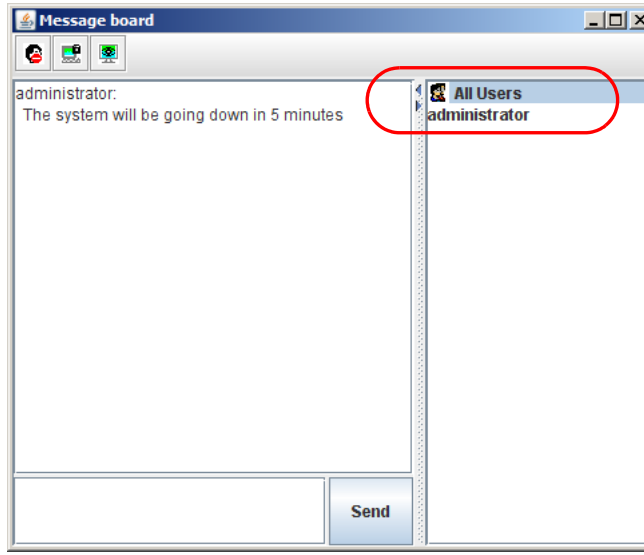
Message Board

The KN1000 supports multiple user logins, which can possibly give rise to access conflicts. To alleviate this problem, a message board feature, similar to an internet chat program, allows users to communicate with each other:



The buttons on the Button Bar are toggles. Their actions are described in the table below:

	Enable/Disable Chat. When disabled, messages posted to the board are not displayed. The button is shadowed when Chat is disabled. The icon displays next to the user's name in the User List panel when he has disabled Chat.
	Occupy/Release Keyboard/Video/Mouse. When you Occupy the KVM, other users cannot see the video, and cannot input keyboard or mouse data. The button is shadowed when the KVM is occupied. The icon displays next to the user's name in the User List panel when he has occupied the KVM.
	Occupy/Release Keyboard/Mouse. When you Occupy the KVM, other users can see the video, but cannot input keyboard or mouse data. The button is shadowed when the KVM is occupied. The icon displays next to the user's name in the User List panel when he has occupied the KVM.



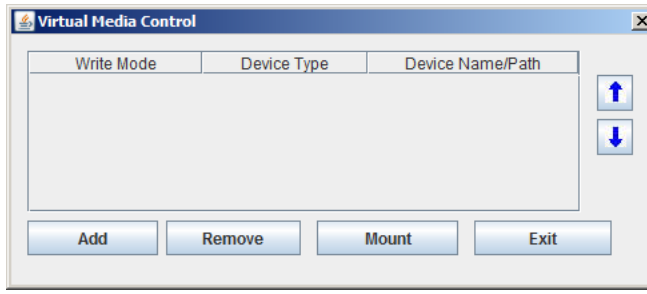
- The names of all the logged in users appear in the *User List* panel.
  - Select the users that you want to post to before sending your message. Users that aren't selected won't see the message.
  - To Hide/Unhide the User List panel, click on the arrows in the panel separator.
  - If a user has disabled Chat, the *Disabled Chat* icon displays before the user's name to indicate so.
  - If a user has occupied the KVM or the KM, the corresponding icon displays before the user's name to indicate so.
- Key in the messages that you want to post to the board in the *Compose* panel. Click **Send**, to post the message to the board.
  - Messages that users post to the board – as well as system messages – display in the *Message Display* panel. If you disable Chat, however, messages that get posted to the board do not appear.
  - If another user sends a message to the message board and your message board is not open, a window showing the message pops up on your screen.

Virtual Media

The *Virtual Media* feature allows a folder or image file on a local client computer to appear and act as if it were installed on the remote server. Virtual Media also supports a smart card reader function that allows a reader plugged into a local client computer to appear as if it were plugged into the remote server.

To implement this redirection feature, do the following:

1. Click the Virtual Media icon to bring up the *Virtual Media* dialog box:



Virtual Media operation is the same under the JavaClient as it is under the WinClient. See *Virtual Media*, page 94, for details.

Note: Only the *ISO File* and *Folder* virtual media functions are supported with the Java Viewer.

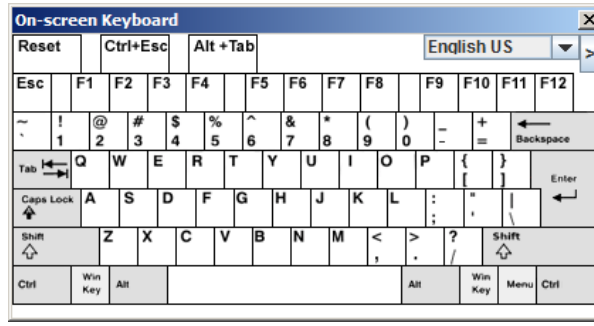
Zoom

The Zoom icon controls the zoom factor for the remote view window. Settings are as follows:

Setting	Description
100%	Sizes and displays the remote view window at 100%.
75%	Sizes and displays the remote view window at 75%.
50%	Sizes and displays the remote view window at 50%.
25%	Sizes and displays the remote view window at 25%.
1:1	Sizes and displays the remote view window at 100%. The difference between this setting and the 100% setting is that when the remote view window is resized its contents don't resize – they remain at the size they were. To see any objects that are outside of the viewing area move the mouse to the window edge, to have the screen scroll.

The On-Screen Keyboard

The KN1000 supports an on-screen keyboard, available in multiple languages, with all the standard keys for each supported language. Click this icon to pop up the on-screen keyboard:



On-Screen Keyboard operation is the same under the JavaClient as it is under the WinClient. See *The On-Screen Keyboard*, page 100, for details.

Mouse Pointer Type

The KN1000 offers a number of mouse pointer options when working in the remote display. Click this icon to select the type that you would like to work with:

Note: The icon on the Control Panel changes to match your choice.

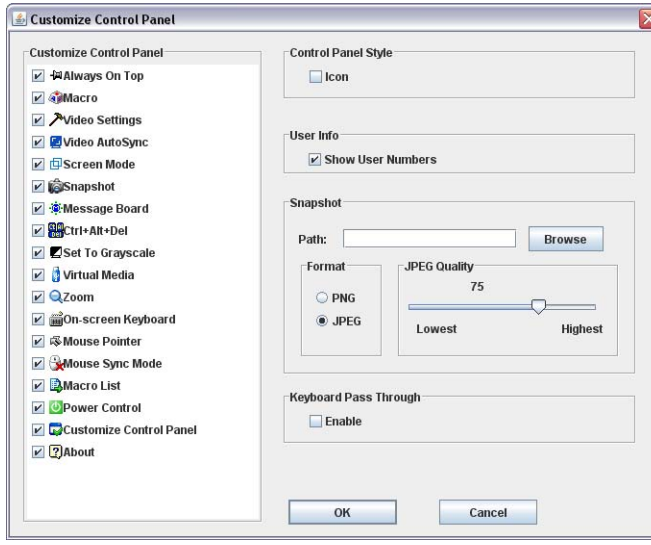
Mouse DynaSync Mode

Clicking this icon selects whether synchronization of the local and remote mouse pointers is accomplished either automatically or manually.

DynaSync operation is the same under the JavaClient as it is under the WinClient. See *Mouse DynaSync Mode*, page 102, for details.

Control Panel Configuration

Clicking the *Control Panel* icon brings up a dialog box that allows you to configure the items that appear on the Control Panel, as well as its graphical settings:



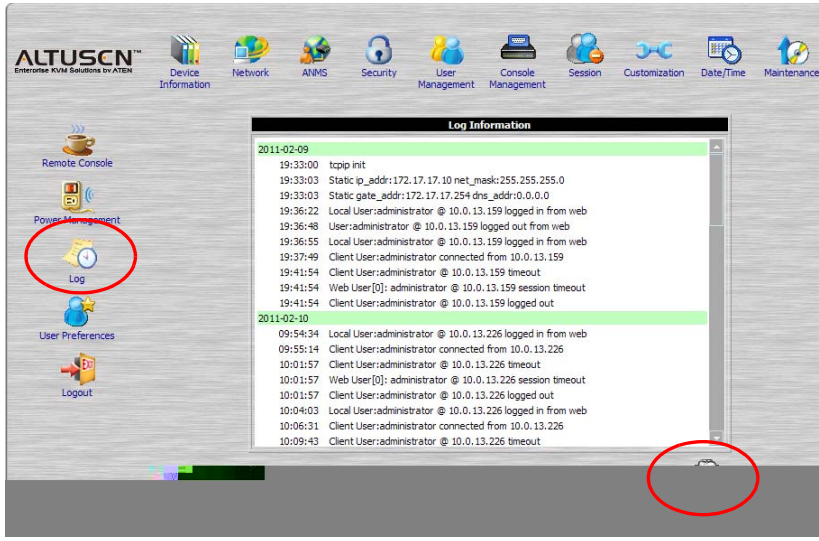
Control Panel Configuration is almost the same under the JavaClient as it is under the WinClient. See *Control Panel Configuration*, page 104, for details.

Note: The following functions found with the WinClient are not available with the JavaClient: the *Transparent* control panel style; and *Screen Options*. In addition, the BMP graphics format (in the Snapshot section), has been replaced by PNG.

Chapter 7
The Log File

The Log File Screen

The KN1000 logs all the events that take place on it. Following a reset, it writes them to a log file, which is a searchable database. To view the contents of the log file, click the *Log* icon at the center left of the page. A screen similar to the one below appears:



A maximum of 512 events are kept in the log file. As new events are recorded, they are placed at the bottom of the list. When a new event is recorded after there are 512 events in the log file, the earliest event in the list is discarded.

Note: To maintain and view a record of all the events that take place (not just the most recent 512), set up the Log Server AP program. see *The Log Server*, page 123.

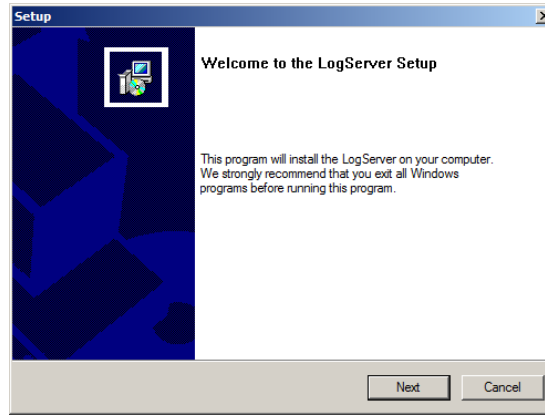
To clear the log file, click on the *Clear Log* icon at the lower right of the page.

Chapter 8
The Log Server

The Log Server is a Windows-based administrative utility that records all the events that take place on selected KN1000 units and writes them to a searchable database. This chapter describes how to install and configure the Log Server.

Installation

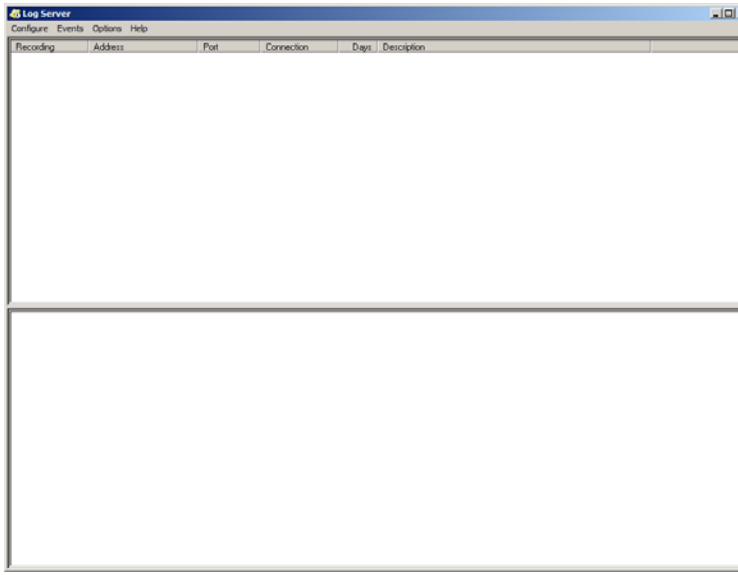
1. With Windows running, put the KN1000 software CD that came with this product into the CD (DVD) drive.
2. Navigate to the *Log Server AP Installer* folder on the CD.
3. Click the *Log Server* icon to execute LogServerSetup.exe and start the installation.



4. Click **Next**. Then follow the on-screen instructions to complete the installation and have the Log Server program icon placed on your desktop.

Starting Up

To bring up the Log Server, either double click the program icon, or key in the full path to the program on the command line. The first time you run it, a screen similar to the one below appears:



Note: 1. The MAC address of the Log Server computer must be specified in the*ANMS* settings – see *Log Server*, page 42 for details.

2. The Log Server requires the Microsoft Jet OLEDB 4.0 driver. See *The Log Server program does not run.*, page 170 if the program doesn't start.

The screen is divided into three components:

- A *Menu Bar* at the top
- A panel that will contain a list of KN1000 units in the middle (see *The Log Server Main Screen*, page 129, for details).
- A panel that will contain an *Events List* at the bottom

Each of the components is explained in the sections that follow.

The Menu Bar

The Menu bar consists of four items:

- Configure
- Events
- Options
- Help

These are discussed in the sections that follow.

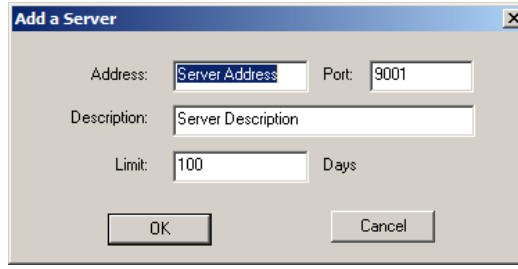
Note: If the Menu Bar appears to be disabled, click in the KN1000 List window to enable it.

Configure

The Configure menu contains three items: Add, Edit, and Delete. They are used to add new KN1000 units to the KN1000 List, edit the information for units already on the list, or delete KN1000 units from the list.

- To add a KN1000 to the KN1000 List, click **Add**.
- To edit or delete a listed KN1000, first select the one you want in the KN1000 List window, then open this menu and click **Edit** or **Delete**.

When you choose *Add* or *Edit*, a dialog box, similar to the one below appears:



A description of the fields is given in the table, below:

Field	Explanation
Address	This can either be the IP address of the KN1000 or its DNS name (if the network administrator has assigned it a DNS name). Key in the value specified for the KN1000 in the *ANMS* settings (see *ANMS*, page 40).
Port	Key in the port number that was specified for the Log Server's *Service Port* in the *ANMS* settings (see *Log Server*, page 42).
Description	This field is provided so that you can put in a descriptive reference for the unit to help identify it.
Limit	This specifies the number of days that an event should be kept in the Log Server's database before it expires and it is cleared out.

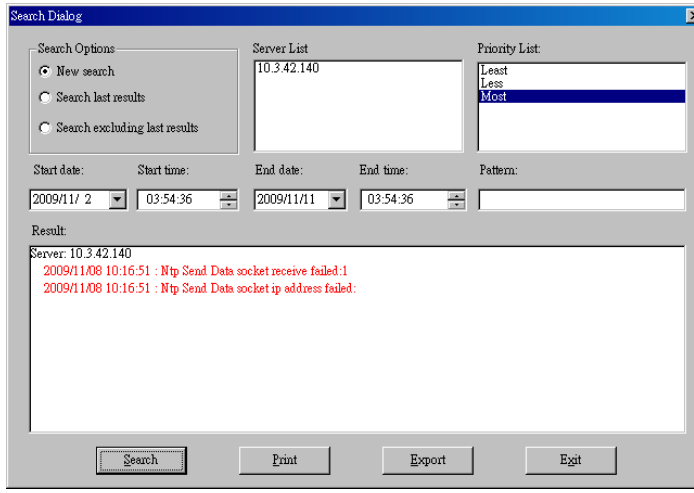
Fill in or modify the fields, then click **OK** to finish.

Events

The Events Menu has two items: *Search* and *Maintenance*.

Search

Search allows you to search for events containing specific words or strings. When you access this function, a screen similar to the one below appears:



A description of the items is given in the table below:

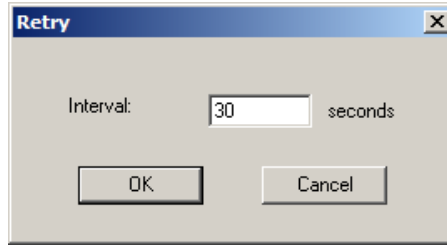
Item	Explanation
New search	This is one of three radio buttons that define the scope of the search. If it is selected, the search is performed on all the events in the database for the selected KN1000.
Search last results	This is a secondary search performed on the events that resulted from the last search.
Search excluding last results	This is a secondary search performed on all the events in the database for the selected KN1000 *excluding* the events that resulted from the last search.
Server List	KN1000 units are listed according to their IP address. Select the unit that you want to perform the search on from this list. You can select more than one unit for the search. If no units are selected, the search is performed on all of them.
Priority List	Sets the level for how detailed the search results display should be. *Least* is the most general; *Most* is the most specific. Least results appear in black; Less results appear in blue; Most results appear in red.
Start Date	Select the date that you want the search to start from. The format follows the YYYY/MM/DD convention, as follows: 2009/11/04
Start Time	Select the time that you want the search to start from.
End Date	Select the date that you want the search to end at.
End Time	Select the time that you want the search to end at.
Pattern	Key in the pattern that you are searching for here. The multiple character wildcard (*) is supported. E.g., h*ds would match *hands* and *hoods*.
Results	Lists the events that contained matches for the search.
Search	Click this button to start the search.
Print	Click this button to print the search results.
Export	Click this button to write the search results to a .txt file.
Exit	Click this button to exit the Search dialog box.

Maintenance

This function allows the administrator to perform manual maintenance of the database, such as erasing specified records before the expiration time that was set with the *Limit* setting of the Edit function (see page 126).

Options

Network Retry allows you to set the number of seconds that the Log Server should wait before attempting to connect if the previous attempt to connect failed. When you click this item, a dialog box, similar to the one below appears:



Key in the number of seconds, then click **OK** to finish.

Help

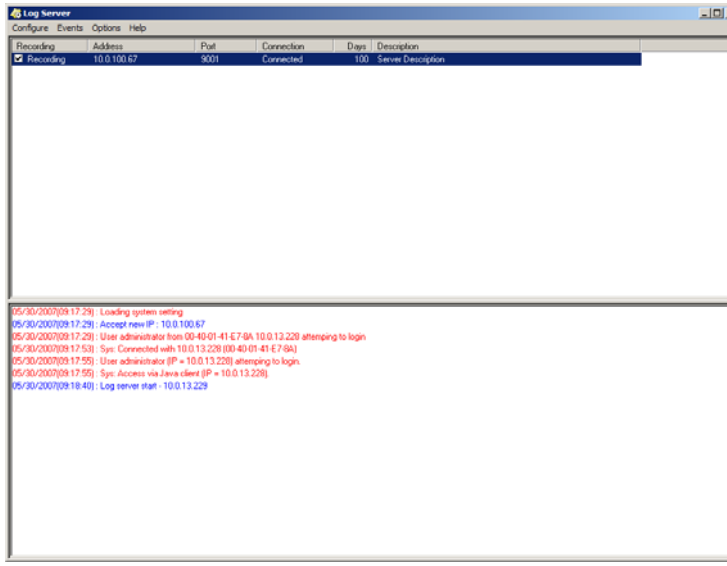
From the Help Menu, click Contents to access the online Windows Help file. The help file contains instructions about how to setup, operation and troubleshoot the Log Server.

The Log Server Main Screen

Overview

The Log Server Main Screen is divided into two main panels.

- The upper (List) panel lists the KN1000 units that have been selected for the Log Server to track (see *Configure*, page 125).
- The lower (Event) panel displays the log events for the currently selected KN1000 (the highlighted one - if there are more than one). To select a KN1000 unit in the list, simply click on it.



The List Panel

The List panel contains six fields:

Field	Explanation
Recording	Determines whether the Log Server records log events for this KN1000 or not. If the Recording check box is checked, the field displays *Recording*, and log events are recorded. If the Recording check box is not checked, the field displays *Paused*, and log events are not recorded. **Note:** Even though a KN1000 is not the currently selected one, if its Recording check box is checked, the Log Server will still record its log events.
Address	This is the IP Address or DNS name that was given to the KN1000 when it was added to the Log Server (see *Configure*, page 125).
Port	This is the port number that was assigned to the KN1000 when it was added to the Log Server (see *Configure*, page 125).
Connection	If the Log Server is connected to the KN1000, this field displays *Connected*. If it is not connected, this field displays *Waiting*. This means that the Log Server's MAC address and/or port number has not been set properly. It needs to be set in the*ANMS* settings (see page 40) and specified in the *Configure* dialog box (see *Configure*, page 125).
Days	This field displays the number of days that the KN1000's log events are to be kept in the Log Server's database before expiration (see *Configure*, page 125).
Description	This field displays the descriptive information given for the KN1000 when it was added to the Log Server (see *Configure*, page 125).

The Tick Panel

The lower panel displays tick information for the currently selected KN1000. Note that if the installation contains more than one switch, even though a switch isn’t currently selected, if its *Recording* checkbox is checked, the Log Server records its tick information and keeps it in its database.

Chapter 9
AP Operation

Introduction

In addition to the browser based client viewers, the KN1000 also provides stand-alone Windows and Java applications that can be used without a browser. The applications can be found on the KN1000 software CD. The Windows Client AP is called *kn1000winclient.exe*; the Java Client AP is called *iClientJ.jar*.

The Windows Client AP

Installation

To install the stand-alone Windows Client program, do the following:

1. Copy *kn1000winclient.exe* from the software CD to a convenient location on your hard disk.
2. Run the program and follow along with the installation dialog boxes.

When the installation completes, an icon – KN1000 *WinClient* – is placed on your desktop and a program entry is made in the Windows *Start* menu: (Start → All Programs → KN1000 → WinClient).

(Continues on next page.)

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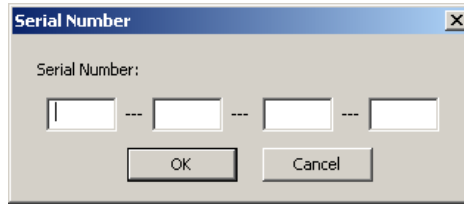
Starting Up

To connect to the KN1000, either click its icon on the desktop or click its entry on the Start menu.

If this is the first time that you are running the utility, a dialog box appears requesting you to input your serial number.

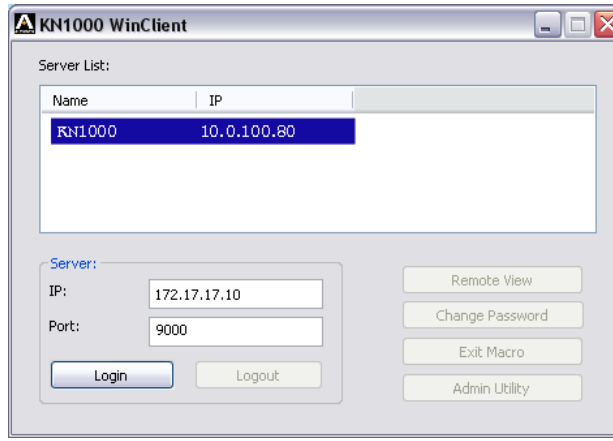


The serial number can be found on the KN1000's CD case. Key in the serial number – 5 characters per box – then click **OK** to bring up the KN1000 Connection Screen.

Note: 1. Letters in the serial number must be entered in capitals.

2. This dialog box only appears the first time you run the program. In the future, you go directly to the Windows Client Connection screen.

The Windows Client Connection Screen

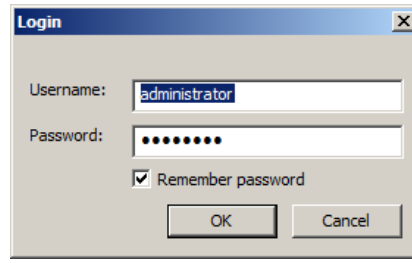


A description of the Connection Screen is given in the following table:

Item	Description
Server List	Each time the KN1000 iClient program is run, it searches the user's local LAN segment for KN1000 units, and lists whichever ones it finds in this box. If you want to connect to one of these units, select it, then click **Login**. When you have finished with your session, Click **Logout** to end the connection.
Server	This area is used when you want to connect to a KN1000 at a remote location. If the IP address that appears isn't the one you want, or if there is no entry at all, key in the IP address you want. Next, key in the Port number in the *Port* field. If you don't know the Port number, contact the Administrator. When the IP address and Port number for the unit you wish to connect to have been specified, click **Login** to start the connection. When you have finished with your session, Click **Logout** to end the connection.
Login	Starts the connection to the KN1000.
Logout	These buttons become active once you log into the KN1000. See page 135 for details.
Remote View	
Change Password	
Exit Macro	
Admin Utility	

Logging In

Once the KN1000 connects to the unit you specified, a login window appears:



Provide a valid Username and Password, then Click **OK** to continue.

Note: The default Username is *administrator*; the default Password is *password*. For security, we strongly recommend that you change these to something unique (see *User Management*, page 140, for details).

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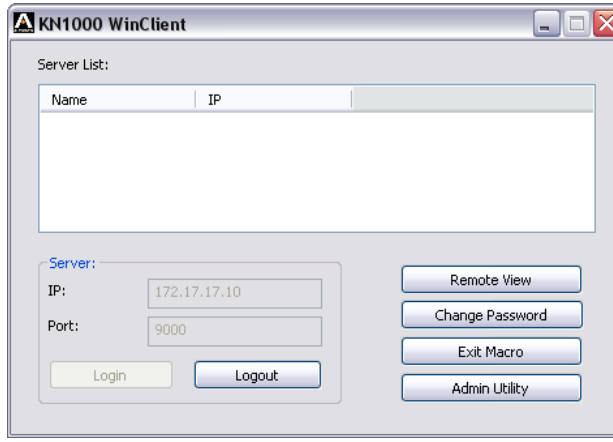
After you have successfully logged in, the Connection screen reappears:



At this time there are five active buttons, as described in the table, below:

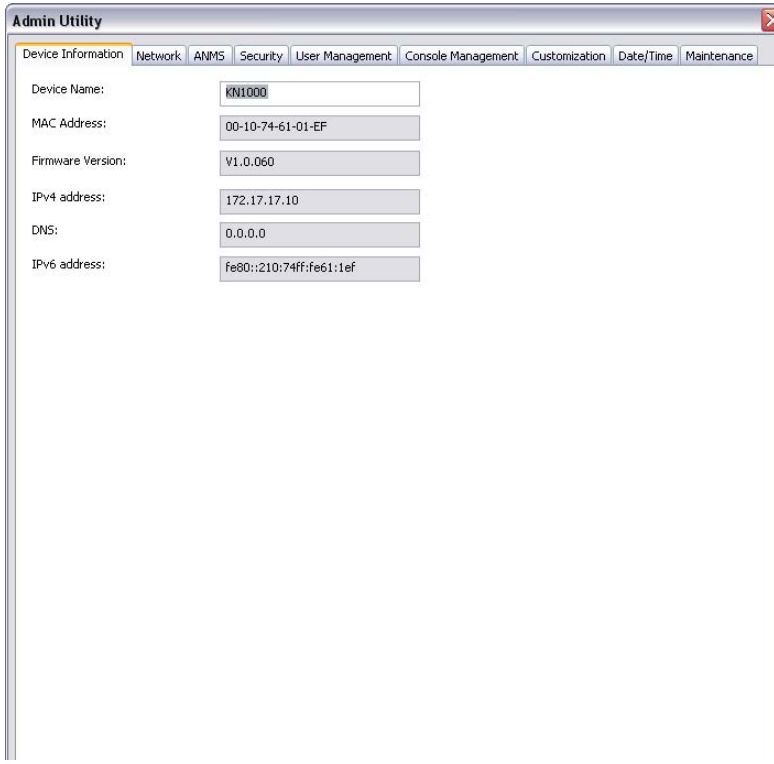
Button	Action
Logout	Breaks the connection to the KN1000.
Remote View	In some cases, administrator's do not wish to have users connect to the KN1000 with a browser. *Remote View* solves this problem. It opens a window on the user's desktop containing the remote server's display that is the same as the one that appears with the browser-based Windows client. Refer to Chapter 5, *The WinClient Viewer*, for operation details.
Change Password	Allows users to change their passwords without administrator intervention. Refer to Chapter 5, *The WinClient Viewer*, for operation details.
Exit Macro	Exit Macro provides administrators with a non-browser based method for creating exit macros. Refer to *Exit Macro*, page 24, for details.
Admin Utility	The Administrator Utility provides administrators with a non-browser based method for configuring and controlling KN1000 operations. The Administrator Utility is discussed in the sections that follow.

The Administrator Utility

The Administrator Utility appears as a tabbed notebook. Each tab represents a different administrative function. A description of the functions and how to configure their settings is provided in the sections that follow.

Device Information

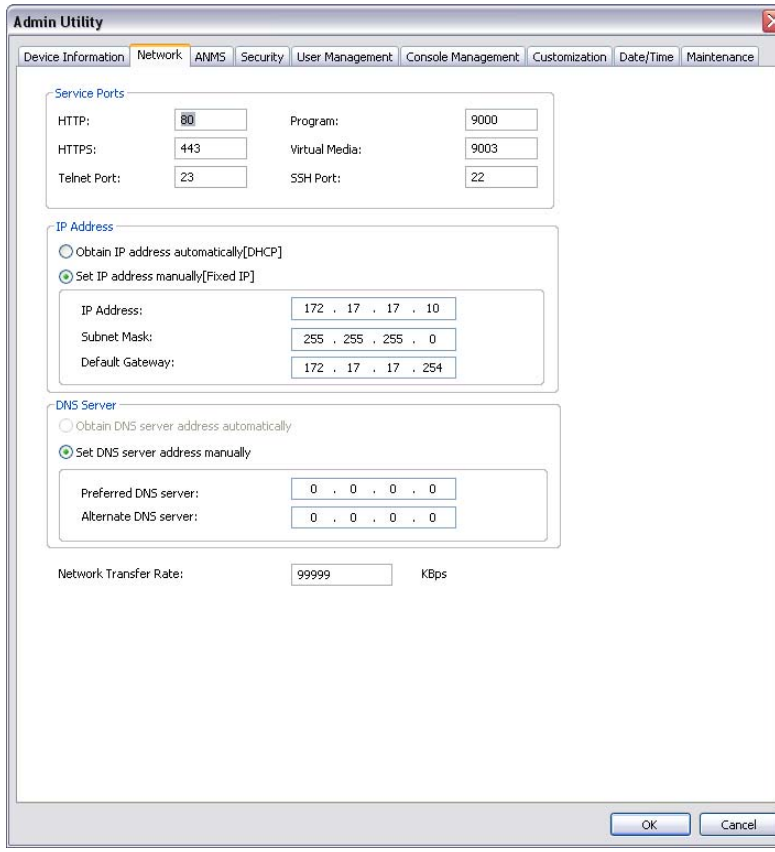
The Settings notebook opens with the *Device Info* page displayed:



This page is essentially the same as the browser-based version. See *Device Information*, page 36, for details.

Network

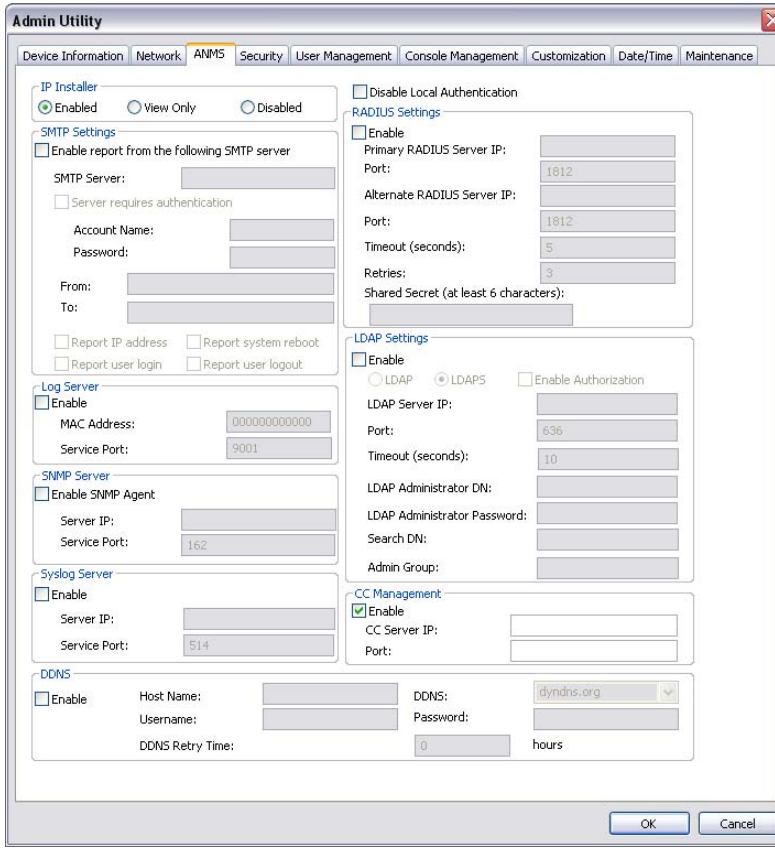
This page is used to specify the KN1000's network environment.



This page is essentially the same as the browser-based version. See *Network*, page 37, for details.

ANMS

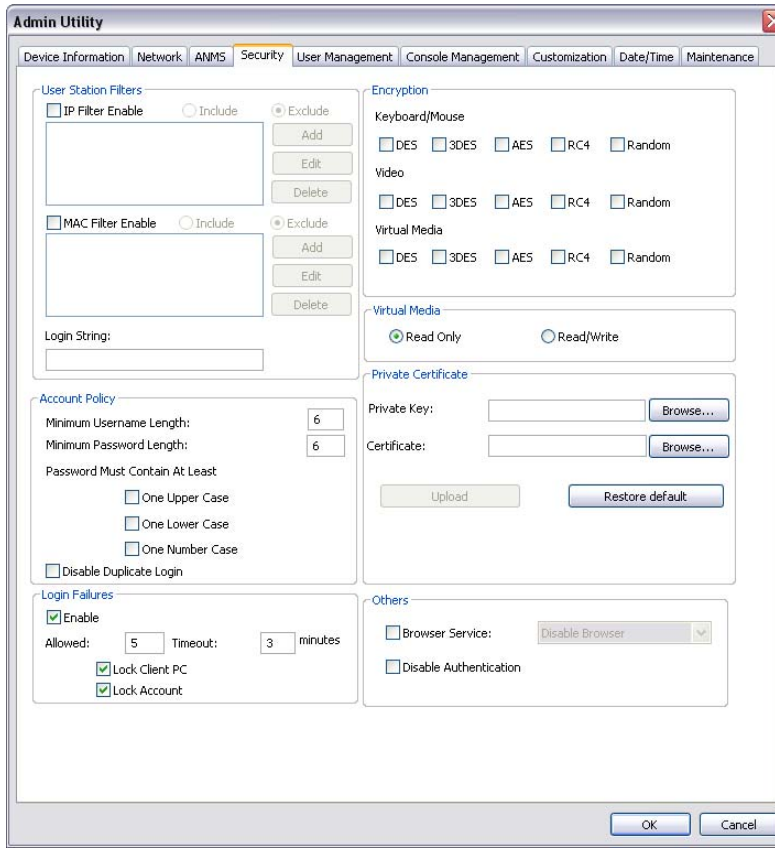
The Advanced Network Management Settings dialog box allows you to set up login authorization management from a external sources.



The settings on this page are essentially the same as that of the browser-based version. See *ANMS*, page 40, for details.

Security

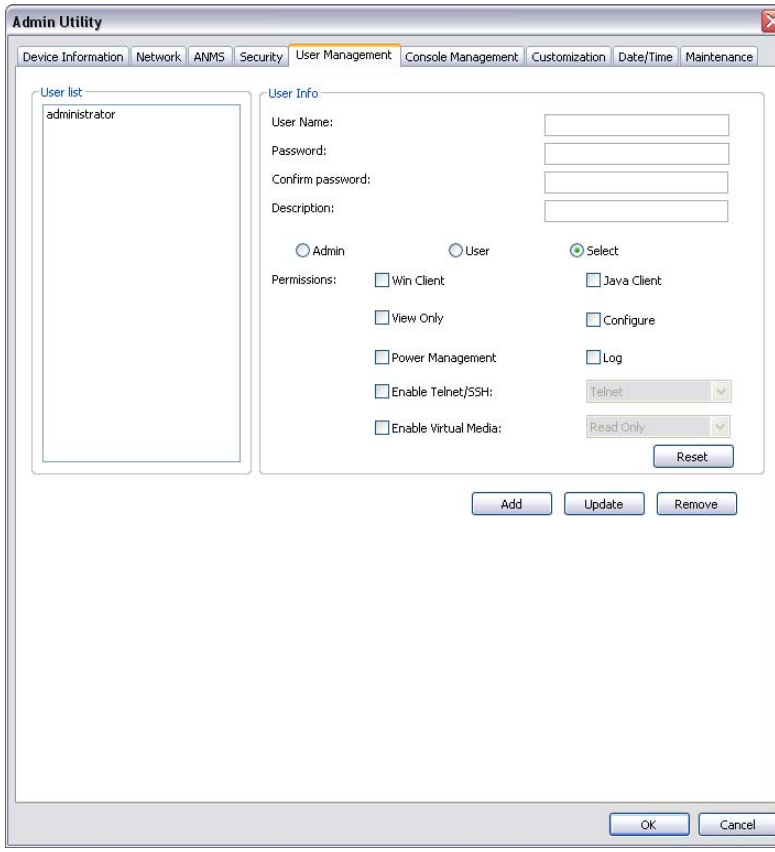
The Security page is used to control access to the KN1000.



The settings on this page are essentially the same as that of the browser-based version. See *Security*, page 48, for details.

User Management

This page is used to set up and manage user profiles. It defines the access rights of each user. Up to 64 user profiles can be established

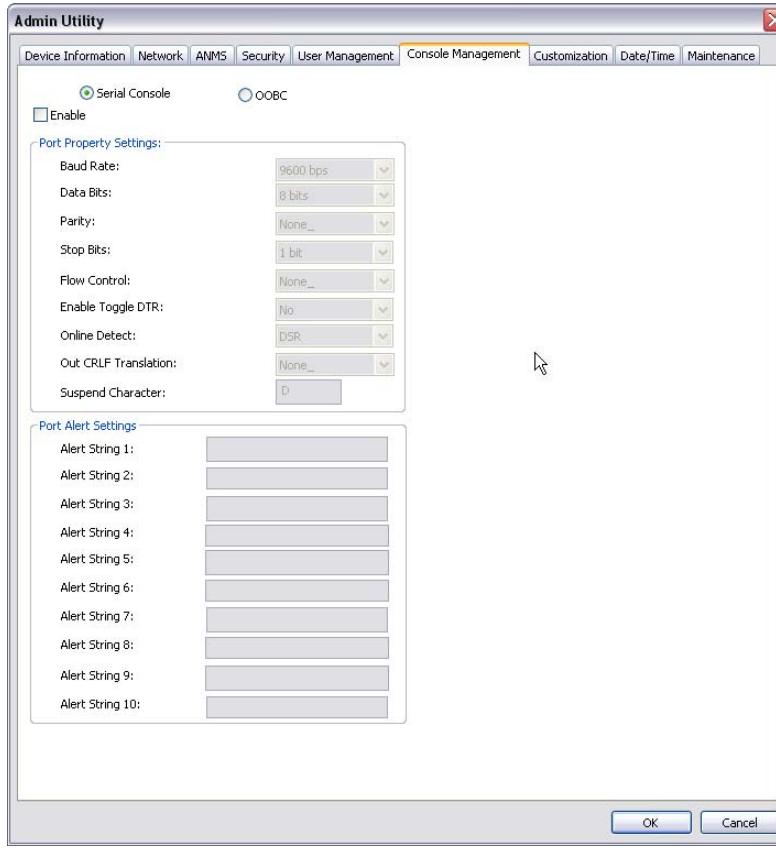


The settings on this page are essentially the same as that of the browser-based version. See *User Management*, page 57, for details.

Console Management

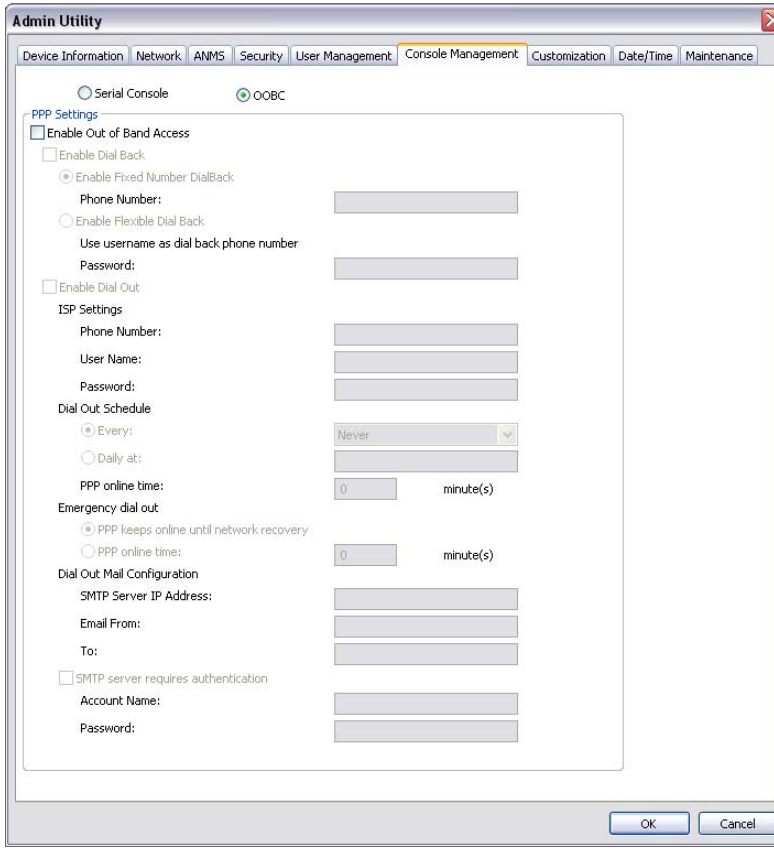
This page is used to set up the operating parameters for the KN1000's RS-232 (serial) port.

Serial Console



The settings on this page are essentially the same as that of the browser-based version. See *Serial Console*, page 59, for details.

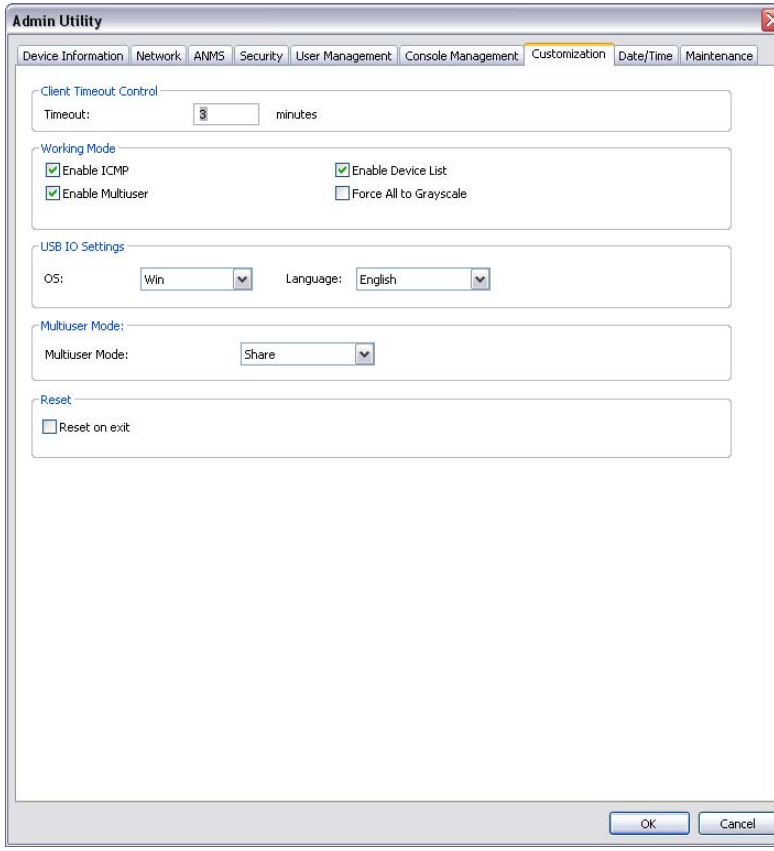
OOBC



The settings on this page are essentially the same as that of the browser-based version. See *OOBC*, page 62, for details.

Customization

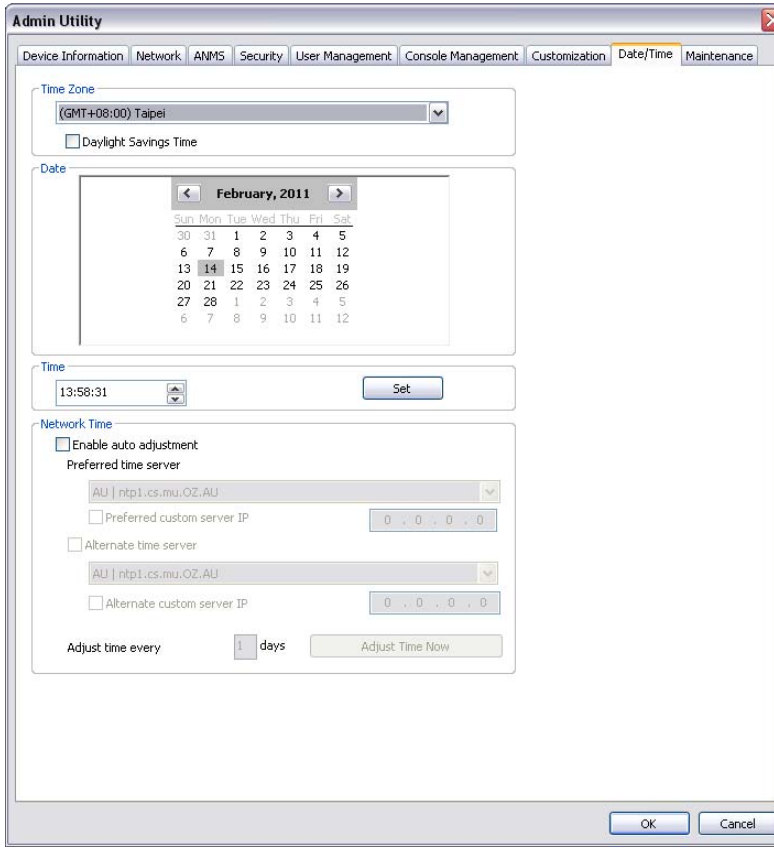
This page allows the Administrator to upgrade the firmware and to set to set *Timeout*, *Login failure*, and *Working mode* parameters.



The settings on this page are essentially the same as that of the browser-based version. See *Customization*, page 66, for details.

Date/Time

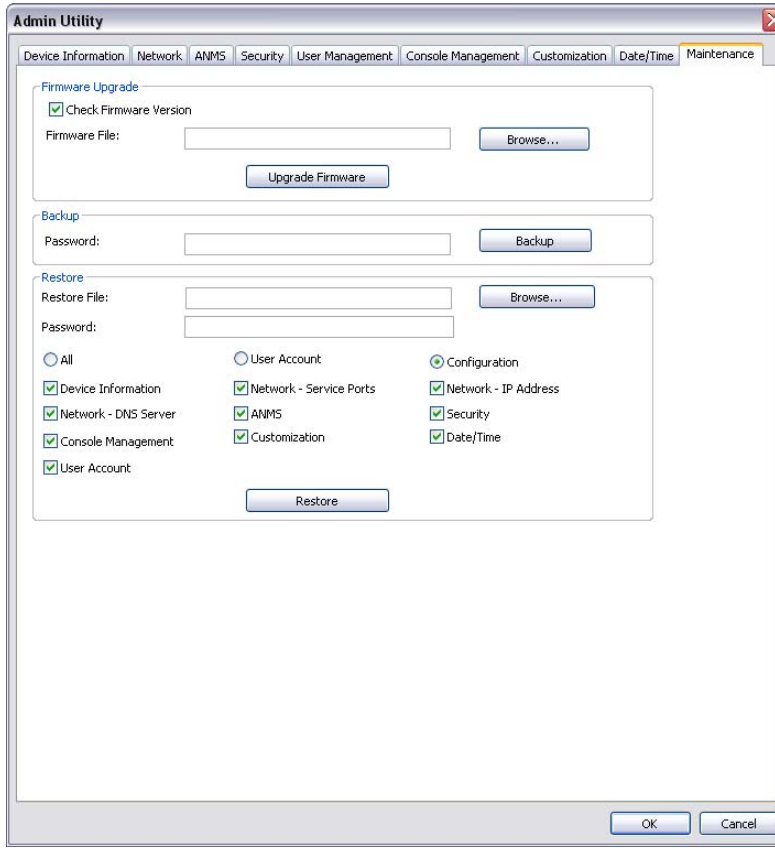
This page sets the KN1000 time parameters:



The settings on this page are essentially the same as that of the browser-based version. See *Date/Time*, page 68, for details.

Maintenance

This page allows the Administrator to upgrade the KN1000's firmware, and to backup and restore the KN1000's configuration settings and user profile information.



The settings on this page are essentially the same as that of the browser-based version. See *Maintenance*, page 70, for details.

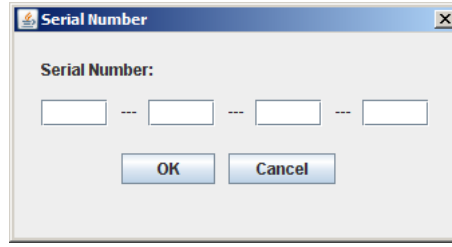
The Java Client AP

The Java Client AP is provided to make the KN1000 accessible to all platforms. Systems that have JRE 6 Update 3 or higher installed can connect. If you don't already have Java, it is available for free download from Sun's Java web site (http://java.sun.com).

Starting Up

To connect to the KN1000 with the stand-alone Java Client program, copy *iClientJ.jar* to a convenient location on your hard disk; then double-click its icon – or key in the full path to the program on the command line – to bring up the Java Client Connection screen.

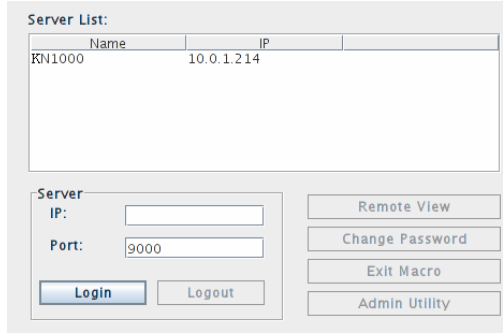
Note: If this is the first time that you are running the program a dialog box appears requesting you to input your serial number.



The serial number can be found on the KN1000's CD case. Key in the serial number - 5 characters per box - then click **OK** to bring up the KN1000 Connection Screen.

After performing this operation the first time you run the program, this dialog box doesn’t appear again – you go directly to the Java Client Connection screen.

The Java Client Connection Screen

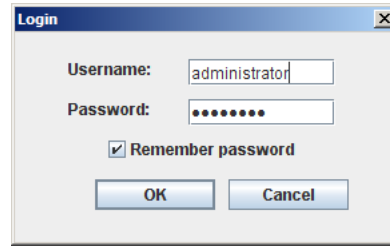


To connect to the KN1000

1. Key in its IP address in the Server field.
2. If the port number shown isn't correct, key in the correct number.
3. Click **Connect**.

Logging In

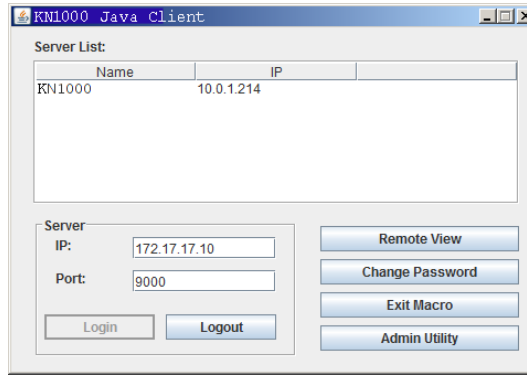
Once the KN1000 connects to the unit you specified, a login window appears:



Provide a valid Username and Password, then Click **OK**.

Note: The default Username is *administrator*; the default Password is *password*. For security, we strongly recommend that you change these to something unique (see *User Management*, page 140, for details).

After you have successfully logged in, the Connection screen reappears – this time with 5 active buttons:



These function the same way as the ones described in the Windows Client AP section. See page 135 for details.

Java Client AP operation is essentially the same as Windows Client AP operation. Refer to the relevant Windows Client AP sections for operation details.

Appendix

Safety Instructions

General

- Read all of these instructions. Save them for future reference.
- Follow all warnings and instructions marked on the device.
- Do not place the device on any unstable surface (cart, stand, table, etc.). If the device falls, serious damage will result.
- Do not use the device near water.
- Do not place the device near, or over, radiators or heat registers.
- The device cabinet is provided with slots and openings to allow for adequate ventilation. To ensure reliable operation, and to protect against overheating, these openings must never be blocked or covered.
- The device should never be placed on a soft surface (bed, sofa, rug, etc.) as this will block its ventilation openings. Likewise, the device should not be placed in a built in enclosure unless adequate ventilation has been provided.
- Never spill liquid of any kind on the device.
- Unplug the device from the wall outlet before cleaning. Do not use liquid or aerosol cleaners. Use a damp cloth for cleaning.
- The device should be operated from the type of power source indicated on the marking label. If you are not sure of the type of power available, consult your dealer or local power company.
- To prevent damage to your installation it is important that all devices are properly grounded.
- The device is equipped with a 3-wire grounding type plug. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not attempt to defeat the purpose of the grounding-type plug. Always follow your local/national wiring codes.
- Do not allow anything to rest on the power cord or cables. Route the power cord and cables so that they cannot be stepped on or tripped over.
- If an extension cord is used with this device make sure that the total of the ampere ratings of all products used on this cord does not exceed the

extension cord ampere rating. Make sure that the total of all products plugged into the wall outlet does not exceed 15 amperes.

- To help protect your system from sudden, transient increases and decreases in electrical power, use a surge suppressor, line conditioner, or un-interruptible power supply (UPS).
- Position system cables and power cables carefully; Be sure that nothing rests on any cables.
- When connecting or disconnecting power to hot-pluggable power supplies, observe the following guidelines:
  - Install the power supply before connecting the power cable to the power supply.
  - Unplug the power cable before removing the power supply.
  - If the system has multiple sources of power, disconnect power from the system by unplugging all power cables from the power supplies.
- Never push objects of any kind into or through cabinet slots. They may touch dangerous voltage points or short out parts resulting in a risk of fire or electrical shock.
- Do not attempt to service the device yourself. Refer all servicing to qualified service personnel.
- If the following conditions occur, unplug the device from the wall outlet and bring it to qualified service personnel for repair.
  - The power cord or plug has become damaged or frayed.
  - Liquid has been spilled into the device.
  - The device has been exposed to rain or water.
  - The device has been dropped, or the cabinet has been damaged.
  - The device exhibits a distinct change in performance, indicating a need for service.
  - The device does not operate normally when the operating instructions are followed.
- Only adjust those controls that are covered in the operating instructions. Improper adjustment of other controls may result in damage that will require extensive work by a qualified technician to repair.
- The socket-outlet shall be installed near the equipment and shall be easily accessible.
- Inlet power cord selection: Detachable, maximum 2.0 m long, 18 AWG, flexible cord (125V, 10A, 3C, NEMA 5-15P). Or, 0.75mm^2, 3G, flexible cord (E.g.: H05VV-F, 250V 10A).

Rack Mounting

- Before working on the rack, make sure that the stabilizers are secured to the rack, extended to the floor, and that the full weight of the rack rests on the floor. Install front and side stabilizers on a single rack or front stabilizers for joined multiple racks before working on the rack.
- Always load the rack from the bottom up, and load the heaviest item in the rack first.
- Make sure that the rack is level and stable before extending a device from the rack.
- Use caution when pressing the device rail release latches and sliding a device into or out of a rack; the slide rails can pinch your fingers.
- After a device is inserted into the rack, carefully extend the rail into a locking position, and then slide the device into the rack.
- Do not overload the AC supply branch circuit that provides power to the rack. The total rack load should not exceed 80 percent of the branch circuit rating.
- Make sure that all equipment used on the rack – including power strips and other electrical connectors – is properly grounded.
- Ensure that proper airflow is provided to devices in the rack.
- Ensure that the operating ambient temperature of the rack environment does not exceed the maximum ambient temperature specified for the equipment by the manufacturer
- Do not step on or stand on any device when servicing other devices in a rack.
- **Caution:** Slide/rail mounted equipment is not to be used as a shelf or a work space.

Technical Support

International

- For online technical support – including troubleshooting, documentation, and software updates: **http://support.aten.com**
- For telephone support, see *Telephone Support*, page iii.

North America

Email Support		support@aten-usa.com
Online Technical Support	Troubleshooting Documentation Software Updates	http://www.aten-usa.com/support
Telephone Support		1-888-999-ATEN ext 4988

When you contact us, please have the following information ready beforehand:

- Product model number, serial number, and date of purchase.
- Your computer configuration, including operating system, revision level, expansion cards, and software.
- Any error messages displayed at the time the error occurred.
- The sequence of operations that led up to the error.
- Any other information you feel may be of help.

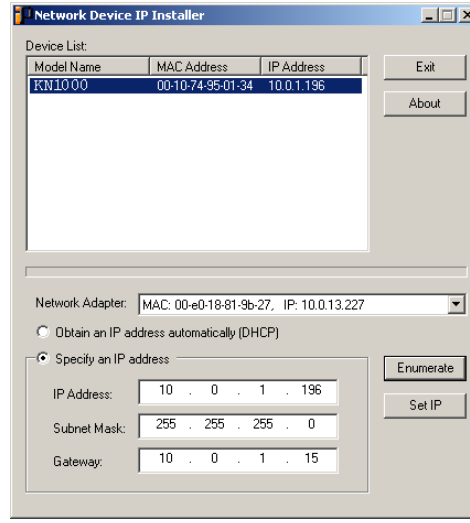
IP Address Determination

If you are an administrator logging in for the first time, you need to access the KN1000 in order to give it an IP address that users can connect to. There are three methods to choose from. In each case, your computer must be on the same network segment as the KN1000. After you have connected and logged in you can give the KN1000 its fixed network address. (See *Network*, page 37.)

IP Installer

For computers running Windows, an IP address can be assigned with the IP Installer utility:

1. On the Software CD that came with your KN1000 package, go to the directory that the IPInstaller program resides in, and run *IPInstaller.exe*. A dialog box similar to the one below appears:



2. Select the KN1000 in the *Device List*.

Note: 1. If the list is empty, or your device doesn't appear, click **Enumerate** to refresh the Device List.

2. If there is more than one device in the list, use the MAC address to pick the one you want. The KN1000's MAC address is located on its bottom panel.

3. Select either *Obtain an IP address automatically (DHCP)*, or *Specify an IP address*. If you chose the latter, fill the IP Address, Subnet Mask, and Gateway fields with the information appropriate to your network.
4. Click **Set IP**.
5. After the IP address shows up in the Device List, click **Exit**.

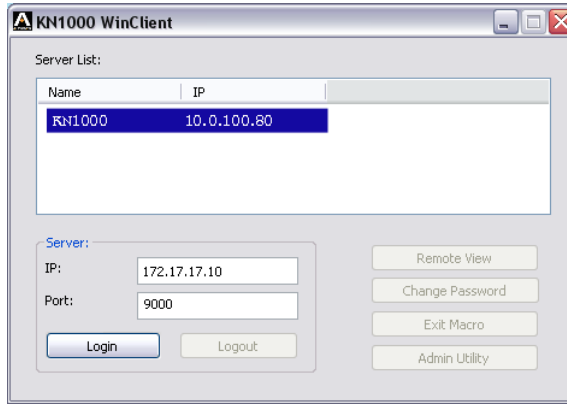
Browser

1. Set your computer's IP address to 192.168.0.*XXX*

   Where *XXX* represents any number or numbers except 60. (192.168.0.60 is the default address of the KN1000.)
2. Specify the switch's default IP address (192.168.0.60) in your browser, and you will be able to connect.
3. Assign a fixed IP address for the KN1000 that is suitable for the network segment that it resides on.
4. After you log out, reset your computer's IP address to its original value.

AP Windows Client

For computers running Windows, the KN1000's IP address can be determined with the Windows AP program (see *The Windows Client AP*, page 131). When you run the program it searches the network segment for KN1000 devices, and displays the results in a dialog box similar to the one below:



You can now use this network address, or you can change it by clicking **Login**, logging in, clicking **Admin Utility**, and clicking the *Network* tab. See *Network*, page 137, for details.

IPv6

At present, the KN1000 supports two IPv6 address protocols: *Link Local IPv6 Address*, and *IPv6 Stateless Autoconfiguration*

Link Local IPv6 Address

At power on, the KN1000 is automatically configured with a Link Local IPv6 Address (for example, fe80::210:74ff:fe61:1ef). To find out what the Link Local IPv6 Address is, log in with the KN1000's IPv4 address and click the *Device Information* icon. The address is displayed at the bottom of the *Device Information* page (see page 36).

Once you have determined what the IPv6 address is, you can use it when logging in from a browser or the Win and Java Client AP programs.

For example:

If you are logging in from a browser, you would key in

```
http://[fe80::2001:74ff:fe6e:59%5]
```

for the URL bar.

If you are logging in with the AP program, you would key:

```
fe80::2001:74ff:fe6e:59%5
```

for the *IP* field of the *Server* panel (see *The Windows Client Connection Screen*, page 133).

Note: 1. To log in with the Link Local IPv6 Address, the client computer must be on the same local network segment as the KN1000

2. The %5 is the %interface used by the client computer. To see your client computer's IPv6 address: from the command line issue the following command: `ipconfig /all`. The % value appears at the end of the IPv6 address.

IPv6 Stateless Autoconfiguration

If the KN1000's network environment contains a device (such as a router) that supports the IPv6 Stateless Autoconfiguration function, the KN1000 can obtain its prefix information from that device in order to generate its IPv6 address. For example, 2001::74ff:fe6e:59.

As above, the address is displayed at the bottom of the *Device Information* page.

Once you have determined what the IPv6 address is, you can use it when logging in from a browser or the Win and Java Client AP programs.

For example:

If you are logging in from a browser, you would key in

```
http://[2001::74ff:fe6e:59]
```

for the URL bar.

If you are logging in with the AP program, you would key:

```
2001::74ff:fe6e:59
```

for the *IP* field of the *Server* panel (see *The Windows Client Connection Screen*, page 133).

Port Forwarding

For devices located behind a router, port forwarding allows the router to pass data coming in over a specific port to a specific device. By setting the port forwarding parameters, you tell the router which device to send the data coming in over a particular port to.

For example, if the KN1000 connected to a particular router has an IP address of 192.168.1.180, you would log into your router's setup program and access the Port Forwarding (sometimes referred to as *Virtual Server*) configuration page. You would then specify 192.168.1.180 for the IP address and the port number you want opened for it (9000 for internet access, for example).

Since configuration setup can vary somewhat for each brand of router, refer to the router's User Manual for specific information on configuring port forwarding for it.

Keyboard Emulation

The PC compatible (101/104 key) keyboard can emulate the functions of the Sun and Mac keyboards. The emulation mappings are listed in the table below.

PC Keyboard	Sun Keyboard	PC Keyboard	Mac Keyboard
[Ctrl] [T]	Stop	[Shift]	Shift
[Ctrl] [F2]	Again	[Ctrl]	Ctrl
[Ctrl] [F3]	Props		⌘
[Ctrl] [F4]	Undo	[Ctrl] [1]	
[Ctrl] [F5]	Front	[Ctrl] [2]	
[Ctrl] [F6]	Copy	[Ctrl] [3]	
[Ctrl] [F7]	Open	[Ctrl] [4]	
[Ctrl] [F8]	Paste	[Alt]	Alt
[Ctrl] [F9]	Find	[Print Screen]	F13
[Ctrl] [F10]	Cut	[Scroll Lock]	F14
[Ctrl] [1]			=
[Ctrl] [2]	-	[Enter]	Return
[Ctrl] [3]	+	[Backspace]	Delete
[Ctrl] [4]		[Insert]	Help
[Ctrl] [H]	Help	[Ctrl]	F15
	Compose		
	◆		

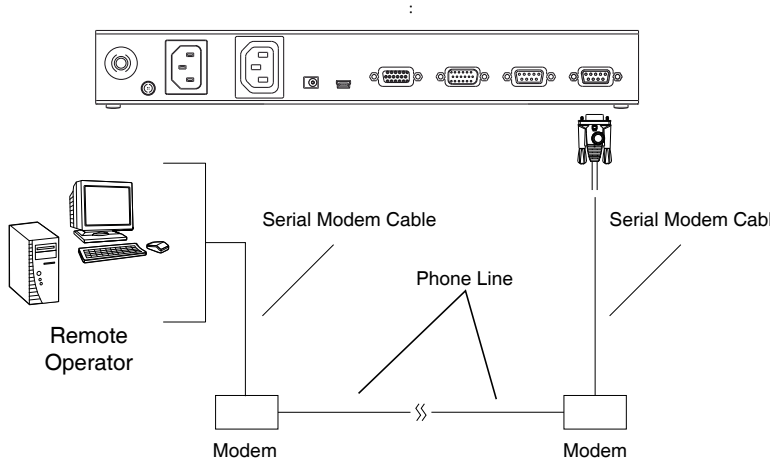
Note: When using key combinations, press and release the first key (Ctrl), then press and release the activation key.

PPP Modem Operation

Basic Setup

In addition to the browser and AP methods, the KN1000 can also be accessed through its RS-232 port using a PPP dial-in connection, as follows:

1. Set up your hardware configuration to match the diagram, below:



2. From your computer, use your modem terminal program to dial into the KN1000's modem.

Note: 1. If you don't know the KN1000 modem's serial parameters, get them from the KN1000 administrator.

2. An example of setting up a modem terminal program under Windows XP is provided on the next page.

3. Once the connection is established, open your browser, and specify **192.168.192.1** in the URL box.

From here, operation is the same as if you had logged in from a browser or with the AP programs.

Connection Setup Example (Windows XP)

To set up a dial-in connection to the KN1000 under Windows XP, do the following:

1. From the *Start* menu, select Control Panel → Network Connections → Create a New Connection.
2. When the *Welcome to the New Connection Wizard* dialog box appears, click **Next** to move on.
3. In the *Network Connection Type* dialog box, select *Connect to the network at my workplace*, then click **Next**.
4. In the *Network Connection* dialog box, select *Dial-up connection*, then click **Next**.
5. In the *Connection Name* dialog box, key in a name for the connection (for example, TPE-KN1000-01), then click **Next**.
6. In the *Connection Availability* dialog box, you can select either *Anyone's use* or *My use only*, depending on your preferences, then click **Next**.

   Note: If you are the only user on this computer, this dialog box won't appear.

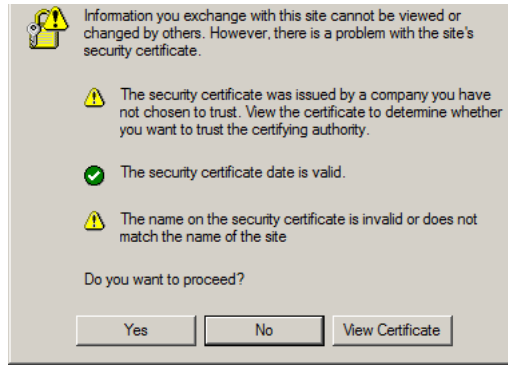
7. In the *Phone Number to dial* dialog box, key in the phone number of the modem connected to the KN1000 (be sure to include country and area codes, if necessary), then click **Next**.
8. In the *Completing the New Connection Wizard* dialog box, check **Add a shortcut to this connection on my desktop**, then click **Finish**.

This completes the connection setup. Double click the desktop shortcut icon to make a PPP connection to the KN1000.

Trusted Certificates

Overview

When you try to log in to the device from your browser, a Security Alert message appears to inform you that the device's certificate is not trusted, and asks if you want to proceed.



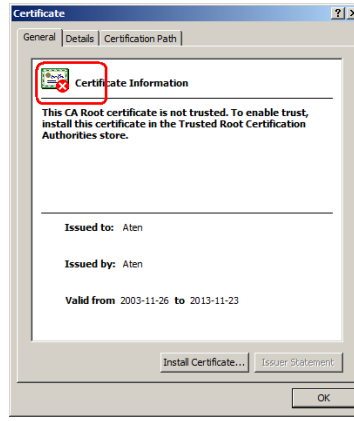
The certificate can be trusted, but the alert is triggered because the certificate's name is not found on Microsoft's list of Trusted Authorities. You have two options: 1) you can ignore the warning and click **Yes** to go on; or 2) you can install the certificate and have it be recognized as trusted.

- If you are working on a computer at another location, accept the certificate for just this session by clicking **Yes.**
- If you are working at your own computer, install the certificate on your computer (see below for details). After the certificate is installed, it will be recognized as trusted.

Installing the Certificate

To install the certificate, do the following:

9. In the *Security Alert* dialog box, click **View Certificate.** The *Certificate Information* dialog box appears:



Note: There is a red and white **X** logo over the certificate to indicate that it is not trusted.

10. Click **Install Certificate.**

11. Follow the Installation Wizard to complete the installation. Unless you have a specific reason to choose otherwise, accept the default options.

12. When the Wizard presents a caution screen:

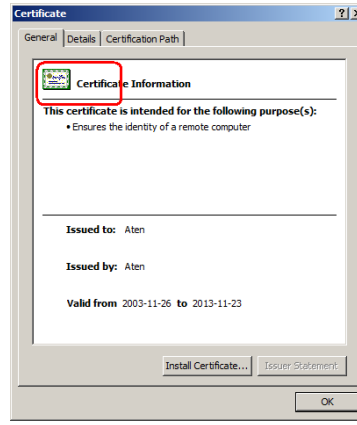
Click **Yes**.

13. Next, click **Finish** to complete the installation; then click **OK** to close the dialog box.

Certificate Trusted

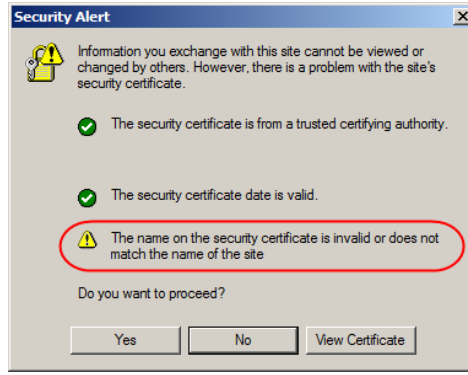
The certificate is now trusted:

When you click *View Certificate*, you can see that the red and white **X** logo is no longer present – further indication that the certificate is trusted:



Mismatch Considerations

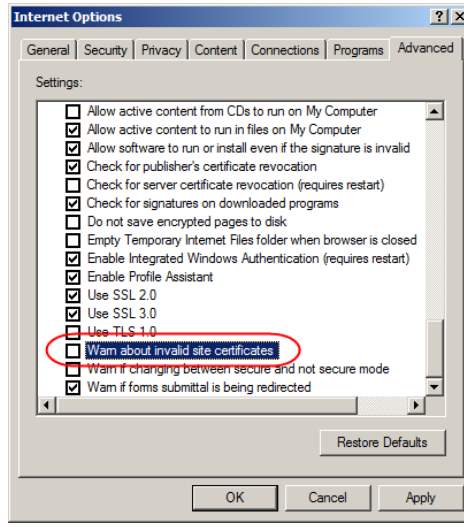
If the site name or IP address used for generating the certificate no longer matches the current address of the KN1000 a mismatch warning occurs:



You can click **Yes** to go on, or you can disable mismatch checking.

To disable mismatch checking, do the following:

1. After the page you are logging in to comes up open the browser's Tools menu; Select *Internet Options* → *Advanced*.
2. Scroll to the bottom of the list and uncheck *Warn about trusted certificates*:



3. Click **OK**. The next time you run the browser the change will be in effect.

Self-Signed Private Certificates

If you wish to create your own self-signed encryption key and certificate, a free utility – openssl.exe – is available for download over the web at **www.openssl.org**. To create your private key and certificate do the following:

1. Go to the directory where you downloaded and extracted *openssl.exe* to.
2. Run openssl.exe with the following parameters:

```
openssl req -new -newkey rsa:1024 -days 3653 -nodes -x509
-keyout CA.key  -out CA.cer -config openssl.cnf
```

Note: 1. The command should be entered all on one line (i.e., do not press [Enter] until all the parameters have been keyed in).

2. If there are spaces in the input, surround the entry in quotes (e.g., "ATEN International").

To avoid having to input information during key generation the following additional parameters can be used:

/C /ST /L /O /OU /CN /emailAddress.

Examples

```
openssl req -new -newkey rsa:1024 -days 3653 -nodes -x509
-keyout CA.key  -out CA.cer -config openssl.cnf -subj
/C=yourcountry/ST=yourstateorprovince/L=yourlocationor
city/O=yourorganiztion/OU=yourorganizationalunit/
CN=yourcommonname/emailAddress=name@yourcompany.com
```

```
openssl req -new -newkey rsa:1024 -days 3653 -nodes -x509
-keyout CA.key  -out CA.cer -config openssl.cnf -subj
/C=CA/ST=BC/L=Richmond/O="ATEN International"/OU=ATEN
/CN=ATEN/emailAddress=eservice@aten.com.tw
```

Importing the Files

After the openssl.exe program completes, two files – CA.key (the private key) and CA.cer (the self-signed SSL certificate) – are created in the directory that you ran the program from. These are the files that you upload in the *Private Certificate* panel of the Security page (see page 55).

Troubleshooting

General Operation

Problem	Resolution
Erratic operation	The KN1000 needs to be started before the KVM switch 1. If the KN1000 is connected to a KVM switch, make sure to power it on before powering on the switch. 2. If the KVM switch was started before the KN1000, reset or restart the KVM switch.
	The KN1000 needs to be reset (see *Firmware Upgrade/ Reset Switch*, page 10, point 1).
I can't access the KN1000, even though I have specified the IP address and port number correctly.	If the KN1000 is behind a router, the router's *Port Forwarding* (also referred to as *Virtual Server*) feature must be configured. See *Port Forwarding*, page 157, for details.
Mouse pointer confusion	If you find the display of two mouse pointers (local and remote) to be confusing or annoying, you can use the *Toggle Mouse Display* function to shrink the non-functioning pointer. See page 81 for details.
Mouse movement extremely slow	There is too much data being transferred for your connection to keep up with. Lower the video quality (see *Video Settings*, page 89) so that less video data is transmitted.
Changing Mouse Sync Mode to Manual makes the KN1000 crash.	The KN1000 hasn't crashed. You can wait approximately 5 minutes for normal operations to resume, or you can reset the KN1000 to get it going right away (see *Firmware Upgrade/Reset Switch*, page 10, point 1).
I can't access my PN9108 when I click the *Power Management* icon.	Since the PN9108 already has over IP functionality, there is no need for the KN1000 to provide it. Therefore, only PON devices that don't have their own over IP functionality (such as the PN0108) are supported.
When I am in a web browser session, and making configuration changes, and I am timed out, the settings changes I have made are lost.	If you don't click **Apply**, the KN1000 isn't aware that you are working, and times you out. Without clicking **Apply**, none of your changes are recognized. You must click **Apply** as you go along in order to have the settings saved on the KN1000 and reset the timeout counter.
The Windows Client link doesn't appear in the *Remote Console Display* when I log in with Firefox.	The Windows Client link requires ActiveX. Since Firefox doesn't support ActiveX only the Java Applet is available.
When the remote server is running Fedora the mouse pointer on the remote server does not move, whether I am accessing it from the local console or a local client computer.	If the remote server is connected with a PS/2 cable, log into the KN1000 with a browser; open a viewer; on the control panel set *Mouse DynaSync* to **Manual**. See page 102 for details.

Windows

Problem	Resolution
When I log in, the browser generates a *CA Root certificate is not trusted*, or a *Certificate Error* response.	1. The certificate's name is not found on Microsoft's list of Trusted Authorities. The certificate can be trusted. See *Trusted Certificates*, page 161, for details. 2. You can eliminate this message by importing a certificate issued by a recognized third party certificate authority (see *Obtaining a CA Signed SSL Server Certificate*, page 55).
After I import the site's certificate, I still get a message warning me about the site when I log in.	Certificate security checking noticed a certificate address mismatch – however the certificate can be trusted. You can click *Continue to the website (not recommended)* to go on, or you can disable mismatch checking. See *Mismatch Considerations*, page 164 for a complete explanation of this topic.
Remote mouse pointer is out of step.	1. Check the status of the *Mouse DynaSync Mode* setting (see *Mouse DynaSync Mode*, page 102). If it is set to *Automatic*, change the setting to *Manual* and refer to the information provided. 2. If you are in Manual mode, use the *AutoSync* feature (see *Video Settings*, page 89), to sync the local and remote monitors. 3. If that doesn't resolve the problem, use the *Adjust Mouse* feature (see *Adjust mouse*, page 81) to bring the pointers back in step. 4. If the above fails to resolve the problem, refer to *Additional Mouse Synchronization Procedures*, page 171, for further steps to take.
Part of remote window is off my monitor.	Use the *AutoSync* feature (see *Video Settings*, page 89), to sync the local and remote monitors.
Virtual Media doesn't work.	This problem sometimes arises on older computers. Get the latest firmware version for your mainboard from the manufacturer and upgrade your mainboard firmware.
Under Virtual Media, I can mount an ISO file, but I cannot access it.	Virtual Media under the WindowsClient only supports ISO files less than 4G.Bytes. If the ISO file is 4GBytes or greater it cannot be accessed.
My antivirus program reports that there is a trojan after I access the KN1000 with my browser and then open the Windows Client Viewer.	The Windows Client Viewer uses an ActiveX plugin (windows.ocx) that some antivirus programs mistakenly see as a virus or trojan. We have tested our firmware extensively and found no evidence of a virus or trojan. You can add the plugin to your antivirus program's White List and use the Viewer safely. If you are reluctant to use the Windows Client Viewer, however, you can simply use the Java Client Viewer, instead.

Java

For mouse synchronization problems, see *Macros*, page 113, *Mouse DynaSync Mode*, page 120, and *Sun / Linux*, page 172. For other problems, see the table below:

Problem	Resolution
Java Applet won't connect to the KN1000	1. Java 6 Update 3 or higher must be installed on your computer. 2. Make sure to include the correct login string when you specify the KN1000's IP address. 3. Close the Java Applet, reopen it, and try again.
I have installed the latest Java JRE, but I am having performance and stability problems.	There may be issues with the latest version because it is so new. Try using a Java version that is one or two updates earlier than the latest one.
Java Applet performance deteriorates.	Exit the program and start again.
National language characters don't appear.	Use the KN1000's *On-Screen Keyboard* and be sure that the local and remote computers are set to the same language. (See *The On-Screen Keyboard*, page 119.)
When I log in, the browser generates a *CA Root certificate is not trusted*, or a *Certificate Error* response.	The certificate's name is not found on Microsoft's list of Trusted Authorities. The certificate can be trusted. See *Trusted Certificates*, page 161, for details.
There is no Virtual Media icon on my Control Panel.	The virtual media function only supports the Windows Client programs.

Sun Systems

Problem	Resolution
Video display problems with HDB15 interface systems (e.g., Sun Blade 1000 servers).[1]	The display resolution should be set to 1024 x 768: Under Text Mode: 1. Go to **OK mode** and issue the following commands: setenv output-device screen:r1024x768x60 reset-all Under XWindow: 1. Open a console and issue the following command: m64config -res 1024x768x60 2. Log out 3. Log in
Video display problems with 13W3 interface systems (e.g., Sun Ultra servers).*	The display resolution should be set to 1024 x 768: Under Text Mode: 1. Go to **OK mode** and issue the following commands: setenv output-device screen:r1024x768x60 reset-all Under XWindow: 1. Open a console and issue the following command: m64config -res 1024x768x60 2. Log out 3. Log in
The local and remote mouse pointers do not sync	The default configuration is for the local and remote mouse pointers to automatically sync when you connect. Automatic mouse sync only supports USB mice on Windows and Mac (G4 or higher) systems, however. You must select *Manual* as the *Mouse DynaSync Mode* choice, and sync the pointers manually. See *Mouse DynaSync Mode*, page 102 for further details.

* These solutions work for most common Sun VGA cards. If using them fails to resolve the problem, consult the Sun VGA card's manual.

Mac Systems

Problem	Resolution
The local and remote mouse pointers do not sync.	There are two USB I/O settings for the Mac: Mac 1, and Mac 2 (see *Customization*, page 66). In general, Mac 1 works with older operating system versions, whereas Mac 2 works with the newer ones. In some cases, however, the reverse is true. If you experience pointer sync problems, try selecting the other mode.
When I log in to the switch with my Safari browser, it hangs when I use the Snapshot feature.	Force close Safari, then reopen it. Don't use the Snapshot feature in the future.
	To use the Snapshot feature with Safari, upgrade to Mac OS 10.4.11 and Safari 3.0.4.

The Log Server

Problem	Resolution
The Log Server program does not run.	The Log Server requires the Microsoft Jet OLEDB 4.0 driver in order to access the database. This driver is automatically installed with Windows ME, 2000 and XP. For Windows 98 or NT, you will have to go to the Microsoft download site: http://www.microsoft.com/data/download.htm to retrieve the driver file: MDAC 2.7 RTM Refresh (2.70.9001.0) Since this driver is used in Windows Office Suite, an alternate method of obtaining it is to install Windows Office Suite. Once the driver file or Suite has been installed, the Log Server will run.

Additional Mouse Synchronization Procedures

If the mouse synchronization procedures mentioned in the manual fail to resolve mouse pointer problems for particular computers, try the following:

Windows:

Note: In order for the local and remote mice to synchronize, you must use the generic mouse driver supplied with the MS operating system. If you have a third party driver installed - such as one supplied by the mouse manufacturer - you must remove it.

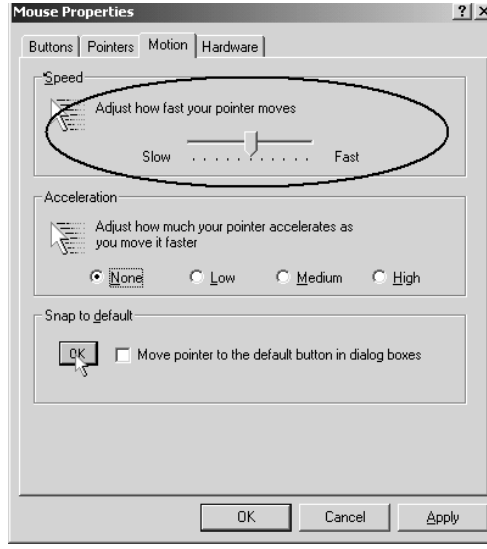
1. Windows 2000:

   a) Open the Mouse Properties dialog box (Control Panel → Mouse → Mouse Properties)

   b) Click the *Motion* tab

   c) Set the mouse speed to the middle position (6 units in from the left)

   d) Set the mouse acceleration to *None*



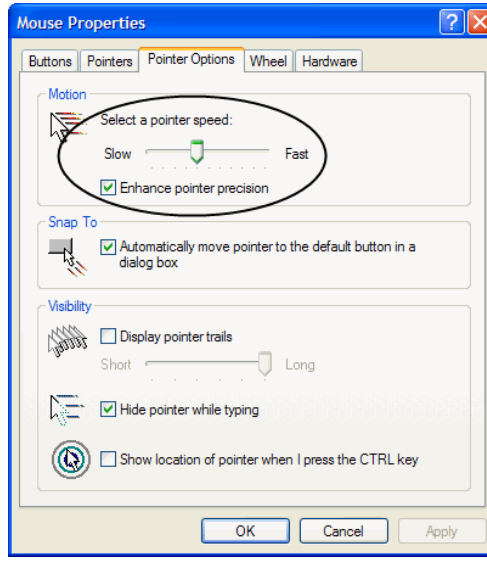
2. Windows XP / Windows Server 2003:

   a) Open the Mouse Properties dialog box (Control Panel → Mouse)

b) Click the *Pointer Options* tab

c) Set the mouse speed to the middle position (6 units in from the left)

d) Disable *Enhance Pointer Precision*



3. Windows ME:

   Set the mouse speed to the middle position; disable mouse acceleration (click **Advanced** to get the dialog box for this).

4. Windows NT / Windows 98 / Windows 95:

   Set the mouse speed to the slowest position.

Sun / Linux

Open a terminal session and issue the following command:

Sun: `xset m 1`

Linux: `xset m 0`
`or`
`xset m 1`

(If one doesn't help, try the other.)

Supported KVM Switches

The KVM switches that can be used in a cascaded installation are as follows:

ACS1208A	CS1316	CS1754	CS428	CS9138	KH1516
ACS1216A	CS1708A	CS1758	CS88A	KH0116	KH2508
CS1308	CS1716A	CS228	CS9134	KH1508	KH2516

Note: 1. Some of the KN1000's features may not be supported, depending on the functionality of the cascaded KVM switch. (For example, some switches do not support virtual media.)

2. Some features found on the cascaded KVM switches may not be supported on the KN1000. (For example, the CS1754's audio, and the CS1708A/CS1716A must use PS/2 connectors when cascading.)

Virtual Media Support

WinClient ActiveX Viewer / WinClient AP

- IDE CDROM/DVD-ROM Drives – Read Only
- IDE Hard Drives – Read Only
- USB CDROM/DVD-ROM Drives – Read Only
- USB Hard Drives – Read/Write*
- USB Flash Drives – Read/Write*
- USB Floppy Drives – Read/Write

* These drives can be mounted either as Drives or Removable Disks (see *Virtual Media*, page 94). Mounting them as removable disks allow booting the remote server if the disk contains a bootable OS. In addition, if the disk contains more than one partition, the remote server can access all the partitions.

- ISO Files – Read Only
- Folders – Read/Write
- Smart Card Readers

Java Applet Viewer / Java Client AP

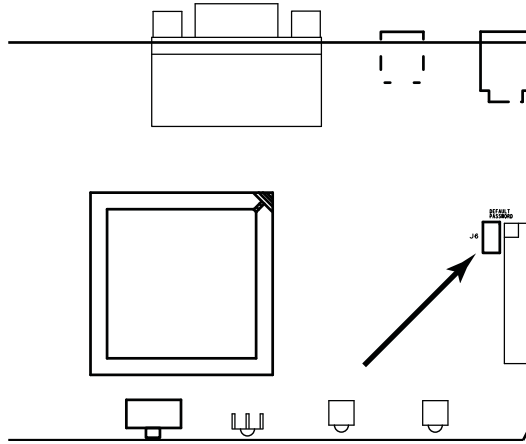
- ISO Files – Read Only
- Folders – Read/Write

Administrator Login Failure

If you are unable to perform an Administrator login (because the Username and Password information has become corrupted, or you have forgotten it, for example), there is a procedure you can use to clear the login information.

To clear the login information do the following:

1. Power off the KN1000, disconnect the power cord from its inlet, and remove its housing.
2. Use a jumper cap to short the jumper on the mainboard labeled J6.



3. Power on the switch.
4. When the front panel LEDs flash, power off the switch.
5. Remove the jumper cap from J6.
6. Close the housing and power on the KN1000.

   After you start back up, you can use the default Username and Password (see page 21, and page 134) to log in.

Specifications

Function		Specification
Connectors	Console	1 x SPHD-18 Male (Yellow)
	KVM (Computer)	1 x SPHD-18 Female (Yellow)
	PON[1]	1 x DB-9 Male (Black)
	Modem	1 x DB-9 Male (Black)
	LAN	1 x RJ-45 Female
	Power Inlet	1 x IEC320 C14
	Power Outlet	1 x IEC320 C13
	Power	1 x DC Jack
	Virtual Media	1 x USB Mini-B Female (Black)
Switches	Reset	1 x Semi-recessed pushbutton
LEDs	Power	1 (Orange)
	Power Outlet	1 (Orange)
	Link	1 (Green)
	10/100 Mbps	1 (Orange/Green)
Emulation	Keyboard/Mouse	USB; PS/2
Video		1600 x 1200 @ 60 Hz; DDC2B
Input		100–240 V~; 50/60 Hz, 10A
Output		100–240 V~; 50/60 Hz; 9A
Power Consumption		DC5.3V; 6.3W
Environment	Operating Temp.	0–40° C
	Storage Temp.	-20–60° C
	Humidity	0–80% RH Non-condensing
Physical Properties	Housing	Metal
	Weight	0.86 kg
	Dimensions (L x W x H)	30.85 x 8.15 x 4.20 cm

[1] Power Over the NET

About SPHD Connectors

This product uses SPHD connectors for its KVM and/or Console ports. We have specifically modified the shape of these connectors so that only KVM cables that we have designed to work with this product can be connected.

Limited Warranty

ALTUSEN warrants this product against defects in material or workmanship for a period of one (1) year from the date of purchase. If this product proves to be defective, contact ALTUSEN's support department for repair or replacement of your unit. ALTUSEN will not issue a refund. Return requests can not be processed without the original proof of purchase.

When returning the product, you must ship the product in its original packaging or packaging that gives an equal degree of protection. Include your proof of purchase in the packaging and the RMA number clearly marked on the outside of the package.

This warranty becomes invalid if the factory-supplied serial number has been removed or altered on the product.

This warranty does not cover cosmetic damage or damage due to acts of God, accident, misuse, abuse, negligence or modification of any part of the product. This warranty does not cover damage due to improper operation or maintenance, connection to improper equipment, or attempted repair by anyone other than ALTUSEN. This warranty does not cover products sold AS IS or WITH FAULTS.

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