

ALTUSEN by ATEN

**KVM on
the NET™**

USER MANUAL

KN9000

2004-05-04



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.



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Package Contents

The complete KN9000 package contains the following components:

- ◆ 1 KN9000 KVM On the Net™ Control Unit
- ◆ 1 CS Custom KVM Cable Set
- ◆ 1 Rack Mounting Kit
- ◆ 1 Software Disk
- ◆ 1 Power Cord
- ◆ 1 User Manual
- ◆ 1 Quick Start Guide
- ◆ 1 Warranty Registration Card

Check to make sure that all 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 damage to the switch or any of the devices that connect to it.

[Redacted]

iv [Redacted]



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About This Manual

This User Manual provides information concerning the installation, configuration, and operation of the KN9000 16-Port LCD Console KVM Switch.

Overview

Chapter 1, Introduction, introduces you to the KN9000 System. Its purpose, features and benefits are described.

Chapter 2, Hardware Setup, presents the front and back panel components, and explains how to connect the KN9000 to your server or KVM switch and the Internet.

Chapter 3, The Administrator Utility, explains the Administrator Utility; how to connect to the KN9000 as an administrator; and how to configure the KN9000 for User operation.

Chapter 4, The Windows Client, explains how to run the Windows Client Software; how to connect to the KN9000 and how to remotely control the connected server (or servers via a KVM switch).

Chapter 5, The Java Client, explains how to run the Java Client Software; how to connect to the KN9000 and how to remotely control the connected server (or servers via a KVM switch).

Chapter 6, The Log Server, is used by the Administrator. It is a Windows-based utility that records all the events that take place on the selected KN9000 units and stores them in a searchable database.

Appendixes provide technical specifications and other helpful information.

Conventions

This manual uses the following conventions:

- `Courier` 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
- > Indicates selecting an option on a menu. For example, Start > Run means to open the *Start* menu, and then select *Run*.
- ▲ Indicates critical information.

Getting Help

For additional help, advice, and information, ALTUSEN provides several support options. If you need to contact ALTUSEN technical support with a problem, 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.

ALTUSEN Technical Support

| | |
|---------------------------------------|---|
| North America Technical Phone Support | Registered ALTUSEN product owners are entitled to telephone technical support. Call the ALTUSEN Technical Support Center: 949-453-8885. |
| International Technical Phone Support | 1. Contact your local dealer. 2. Call the ALTUSEN Technical Support Center: 1-949-453-8885. |
| Email Support | Email your questions and concerns to: support@altusen.com |
| Online Troubleshooting | The ALTUSEN support website: http://www.altusen.com/support provides online troubleshooting that describes the most commonly encountered problems and offers possible solutions to them. |
| Online Documentation | User Manuals are available electronically at the ALTUSEN support website: http://www.altusen.com/support |
| Software Updates | Download the latest drivers and firmware for your product from the ALTUSEN support website: http://www.altusen.com/support |

Product Information

For information about all of ALTUSEN's products and how they can help you connect without limits, visit ALTUSEN on the web at <http://www.altusen.com>

ALTUSEN Authorized Resellers

ALTUSEN provides the following ways to find an authorized reseller in your area:

- ◆ In the United States of America, call: 866-ALTUSEN
- ◆ In Canada and South America, call: 949-453-8885
- ◆ In all other locations, call: 886-2-8692-6789
- ◆ Visit ALTUSEN on the web at <http://www.altusen.com> for a list of locations and telephone numbers

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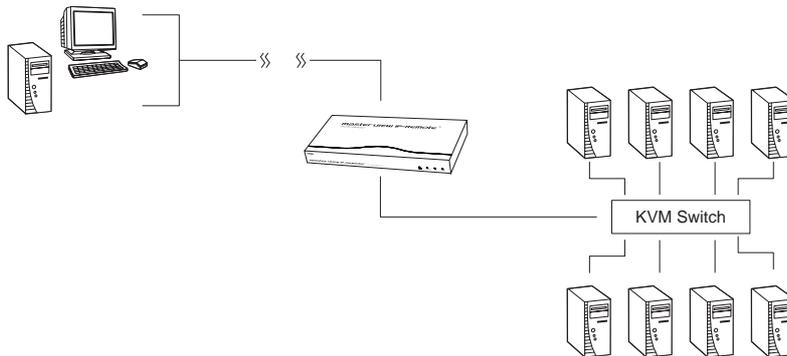
Chapter 1. Introduction

Overview

The KN9000 is a control unit that uses the IP protocol to allow administrators to monitor and access their computers from remote locations. The KN9000 connects to the Internet, an Intranet, LAN, or WAN using industry standard Category 5 cable; and to a local server or KVM switch using KVM cables.

Since the KN9000 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.

Operators at remote locations connect to the KN9000 via its IP address. Once a connection to a KN9000 has been established and authorization granted, the remote computers can exchange keyboard, video and mouse signals with the server or KVM switch - just as if they were physically present and working on the equipment directly.



Utilizing advanced security features, the KN9000 is the fastest, most reliable, most cost effective way to remotely access and manage widely distributed multiple computer installations.

[REDACTED]

The *Administrator* and *Client* utilities provided with the KN9000 package make the KN9000 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 used to configure the system; limit access from remote computers; manage users; and maintain the system with firmware and software module updates.

The *Log Server* records all the events that take place on selected KN9000 units for the administrator to analyze.

On the client side, both a *Windows GUI Client* and a *Java Client* are provided for IP connection and login to the KN9000 unit from anywhere on the net. The client software allows the user to view and control the servers connected to the KN9000. Inclusion of a Java-based client ensures that the KN9000 is platform independent, and is able to work with all operating systems.

Once an operator successfully connects and logs in, his screen displays what is running on the remote unit attached to the KN9000 (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.

Features

- ◆ Remote access of KVM switches or servers via LAN, WAN, or the Internet; control your installation from down the hall, down the street, or half-way around the world
- ◆ Supports 10Base-T, 100Base-T, TCP/IP
- ◆ Advanced security features include password protection and advanced encryption technologies
- ◆ High video resolution: up to 1280 x 1024 @ 60Hz
- ◆ Windows GUI and Java-based client software; Java client works with all operating systems
- ◆ Upgradeable firmware via RJ45 Ethernet connection (with default F/W)
- ◆ Supports unlimited user accounts

System Requirements

- ◆ For best results we recommend that the computers used to access the the KN9000 control unit have at least a P III 1 GHz processor, and that the screen resolution is set to 1024 x 768.
- ◆ For the Windows Client, you must have DirectX 7.0 or higher installed.
- ◆ For the Java Client, you must have Sun's Java 2 JRE 1.4 or higher.
- ◆ Only **non-interlaced** video signals at the following resolutions and refresh rates are supported:

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

[Redacted]

Notes:

4

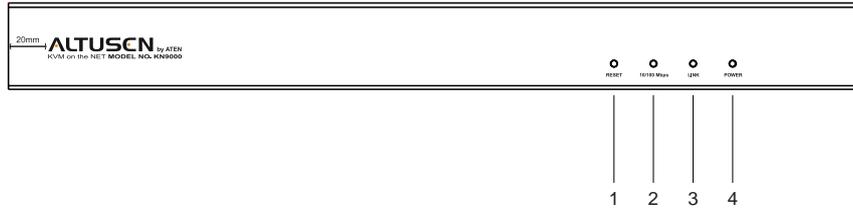
[Redacted]

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Chapter 2. Hardware Setup

Components

Front Panel



1. Reset Switch

Pressing this switch in performs a system reset.

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.

2. 10/100 Mbps Data LED

- ◆ Lights GREEN to indicate 100 Mbps data transmission speed.
- ◆ The LED is OFF when data speed is 10 Mbps.

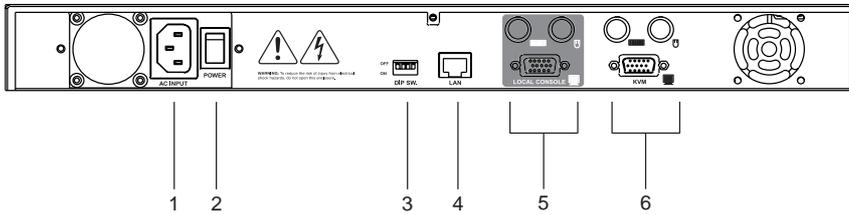
3. Link LED

Flashes GREEN to indicate that a Client program has accessed the device.

4. Power LED

Lights when the KN9000 is powered up and ready to operate.

Rear Panel



1. Power Socket

The power cord to the AC source plugs in here.

2. Power Switch

This switch turns the KN9000 On and Off.

3. DIP Switch

The default setting for this switch is 1 OFF; 2 ON, 3 OFF; 4 OFF.

Segment 2 must be ON in order to save the changes made in the Administration Utility (see Chapter 3). For security reasons, we strongly recommend keeping Segment 2 OFF except for the times you make Administration Utility changes.

4. RJ-45 Jack

The cable that connects the KN9000 to the Internet server plugs in here.

5. Local Console Port Section

The local administrator's keyboard, monitor, and mouse plug in here. Each port is indicated by an appropriate icon. The administrator can use this console to access the server (or KVM switch) connected to the KN9000.

6. KVM Port Section

The KVM cable that links the KN9000 to the server or KVM switch plugs in here. Each port is indicated by an appropriate icon.

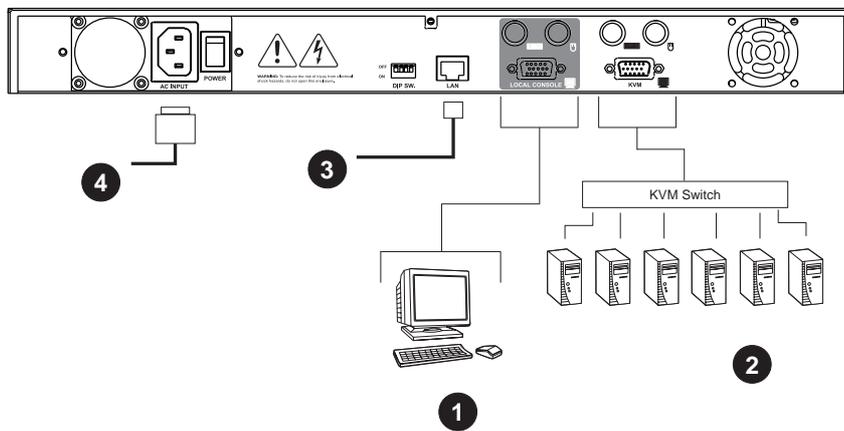
Installation



1. Make sure that power to all the devices you will be connecting up have been turned off. You must unplug the power cords of any computers that have the *Keyboard Power On* function.
2. To prevent damage to your installation, make sure that all devices on the installation are properly grounded.

To install the KN9000, refer to the diagram below (the numbers correspond to the numbered steps), and do the following:

1. Plug the local administrator's keyboard, mouse, and monitor into the unit's Console Ports.
2. Use the KVM cable provided with this package to connect the Keyboard, Video and Mouse ports from the KN9000's KVM Port Section, to the Keyboard, Video and Mouse ports of the server or KVM switch that you are installing.
3. Plug the LAN or WAN cable into the KN9000's RJ-45 socket.
4. Plug the power cord into the Power Socket and into an AC power source.
5. Power up your server or KVM installation.
6. Power up the KN9000.



[Redacted]

Notes:

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[Redacted]

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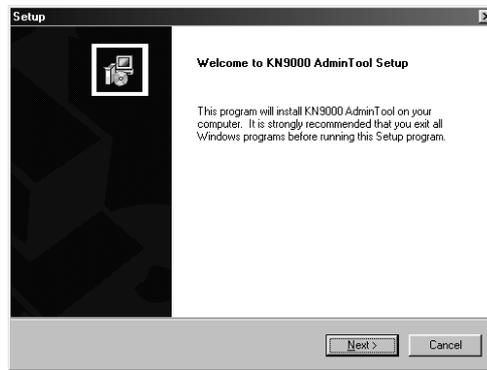
Chapter 3.

The Administrator Utility

Installation

1. Insert the Altusen software CD into your CD-ROM drive
2. Open the drive and folder where the Administrator Setup icon (**kn9kadmintool.exe**) is located and double click the icon.

The Administration Utility installation screen appears:



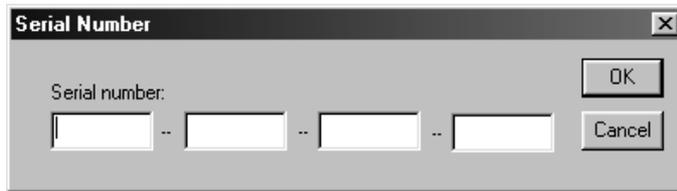
3. Click **Next**, and follow the on-screen instructions to complete the installation and have the program icon placed on the desktop.

Starting Up

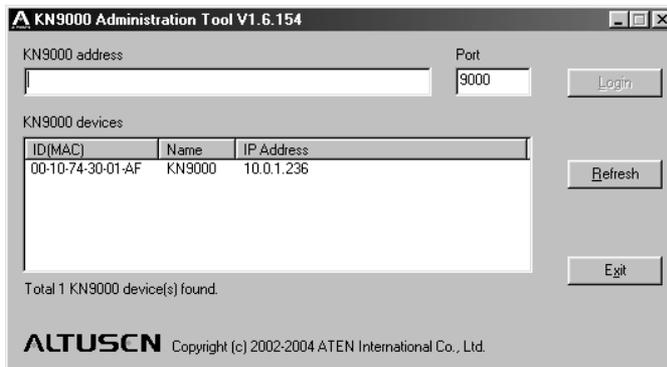
Run the program either by double clicking (**DClick**) its icon, or by keying in the full path to **kn9kadmintool.exe** on the command line.

Note: As a security feature, in order to save any changes that are made to the Administrator Utility, Segment 2 of the KN9000's DIP Switch must be set to ON. Otherwise, the changes are discarded when you exit the program. In order to prevent unauthorized changes, we strongly recommend that you set Segment 2 OFF after you have finished making your configuration changes and exited the utility.

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 bottom panel of the KN9000. Key in the serial number - 5 characters per box - then Click OK.



The Administrator Utility attempts to find all the KN9000 devices installed on the local LAN segment. When it has finished searching, it displays a device selection window similar to the one below:



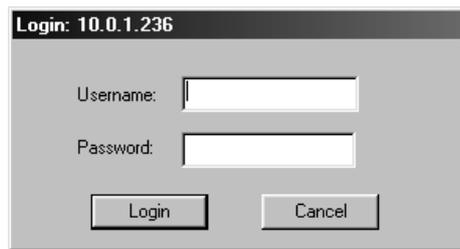
KN9000 devices on the local LAN segment found by the Administrator Utility are displayed in the large central listbox (*KN9000 devices*).

- ♦ If the unit you wish to configure appears in the listbox, **Delick** it.
- ♦ If the unit you want doesn't appear in the listbox, key in its IP address in the *KN9000 address* field, and its Port number in the *Port* box, then Click **Login**.

- Note:**
1. The Port number that corresponds to a unit's IP address is set by the Administrator on the Network configuration page (see p. 16 for details).
 2. Clicking the **Refresh** button causes the utility to rescan the local LAN segment for KN9000 devices.
 3. If the utility fails to connect to a unit that you specified, it assigns another free IP address (if one exists), to that device and attempts to connect again.
 4. When the Administrator Utility searches for KN9000 devices, if it finds them in different network segments (one at 10.0.0.xxx, and another at 216.0.0.xxx, for example), it will attempt to substitute a dynamic IP address (10.0.0.111, for example).

Logging In

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



The screenshot shows a login dialog box with a title bar that reads "Login: 10.0.1.236". Inside the dialog, there are two text input fields. The first is labeled "Username:" and the second is labeled "Password:". Below these fields are two buttons: "Login" and "Cancel".

Only those who have Configuration privileges (see *User Management; Permissions*, p. 22) are allowed to log in.

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

Note: The default Username is *administrator*; the default Password is *password*. You can change these to whatever you prefer (see *User Management*, p. 21) after you have logged in.

While the Utility processes the login request, the following message appears:



Note: If you supplied an invalid login, the authentication routine will return a message informing you that the “server is busy.” This is done as a security measure to confuse and discourage hackers from trying to discover a valid Username and Password. If you see this message, try logging in again being careful with the Username and Password

If you successfully log in to the KN9000 with the default username and password, the following message appears:

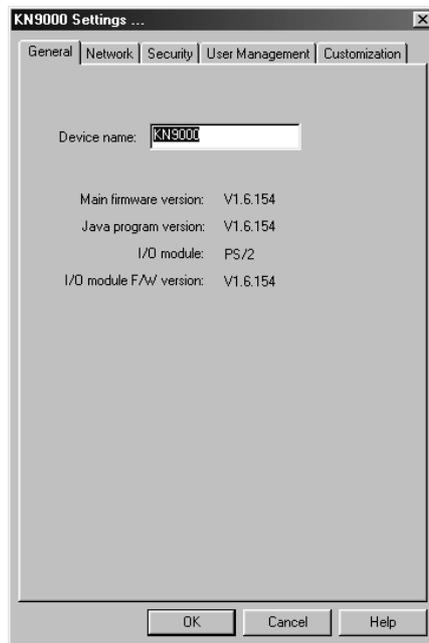


For security purposes, be sure to change the default Username and Password to something unique (see *User Management*, p. 21).

The Settings Notebook

Overview

After successfully logging in, the Settings notebook appears:



There are five tabs, each representing a different administrative activity. A description of each of the five activities and how to configure their settings is provided in the sections that follow.

Uploading Changes

When settings have been configured to your satisfaction and you are ready to upload the changes to the KN9000:

1. Click **OK** to start the updating procedure. When updating has finished, the following message displays:

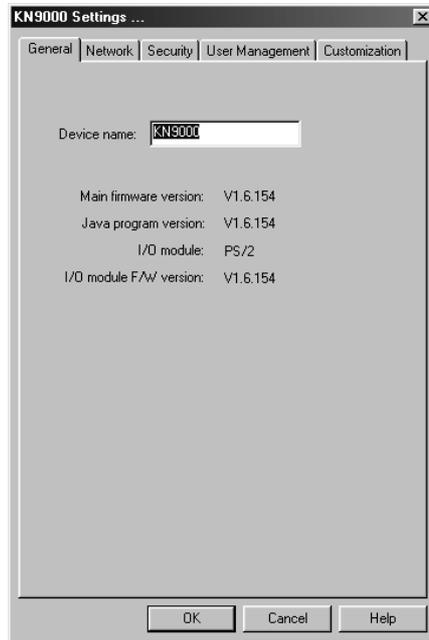


2. Click **OK** and you return to the Administration Utility device selection window (see p. 10).

Note: If you decide you want to abandon the changes you made and return the settings to the values they had before you ran the Utility, Click **Cancel**. instead of OK in step 1.

General

The General page provides information about the KN9000's status:



| | |
|-----------------------------|---|
| Device Name | To make it easier to manage installations with more than one KN9000, each one can be given a name. To assign a name for this KN9000, erase the current name and key in one of your choosing (15 characters max.). |
| Main Firmware Version | Indicates the mainboard's current firmware version level. |
| Java Program Version | Indicates the current version level of the KN9000's Java Client access software. |
| I/O Module | Indicates whether the KN9000 is configured with a PS/2 or USB interface for the Console and CPU Ports. |
| I/O Module Firmware Version | Indicates the current firmware version level for the I/O Module. |

New versions of the KN9000's firmware and authentication software can be downloaded from our web site as they become available, (see p. 24 for details).

Network

This page is used to specify the KN9000's network environment.

The screenshot shows the 'KN9000 Settings' dialog box with the 'Network' tab selected. The 'Access ports' section has 'Program' set to 9000 and 'Java' set to 9002. The 'IP address' section has 'Obtain an IP address automatically' selected, but 'Set IP address manually' is also visible with fields for IP address (10.0.20.5), Subnet mask (255.255.255.0), and Default gateway (10.0.20.20). The 'Log server' section has 'MAC address' set to 00 - E0 - 18 - AE - DD - 17 and 'Port' set to 9001. Buttons for 'OK', 'Cancel', and 'Help' are at the bottom.

Access Ports:

As a security measure, the Administrator can set the Port numbers that the user must specify when he attempts to connect to a KN9000's IP address. Unless the correct Port number is given, the KN9000 device will not be found. An explanation of the fields is given in the table below:

| | |
|----------|---|
| Program: | This is the port number that must be specified when connecting from the Administrator and Windows Client software programs. Valid entries are from 1024 - 60,000. |
| Java: | This is the port number used for Java Client connections. Valid entries are from 0 - 65535. |


IP Address:

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

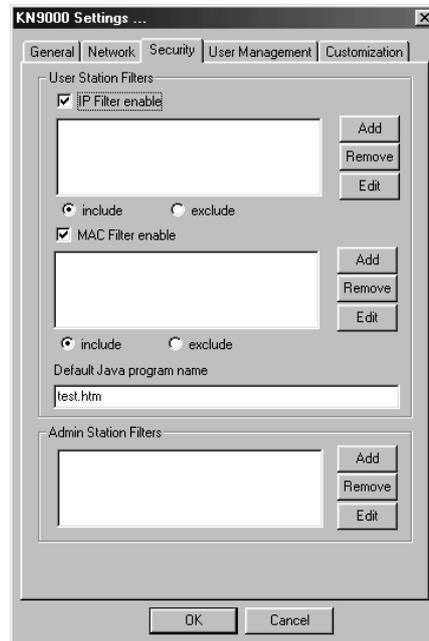
- ◆ For dynamic IP address assignment, select the *Obtain an IP address automatically*, radio button.
- ◆ To specify a fixed IP address, select the *Set IP address manually*, radio button and fill in the information required.

Log Server:

Important transactions that occur on the KN9000, such as logins, internal status messages, etc., are kept in an automatically generated log file. Specify the MAC address and a Port number for the server you want the log file to reside on in the *Log Server* section. The Log Server is discussed in detail in Chapter 6.

Security

The Security page is used to control access to the KN9000.



- ◆ *User station filters* permit or deny access to the KN9000 for specific IP and MAC addresses attempting to access the system with KN9000 Client software.
- ◆ The *Java Access Page* lets the Administrator specify the page that the user connects to when he uses the Java Client to access the KN9000. The user must include the name of this page in the IP address that they use, or else they will not be granted access. For security purposes, we recommend that you change the name of this page from time to time.

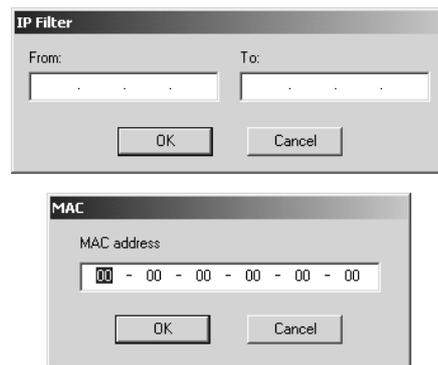
Only users who know the name of this page can access the KN9000 via the Java Client. If no page is specified here, no one will be able to access the KN9000 with the Java Client.

See p. 26 for information regarding the implementation of a Java Access Page; see chapter 5 for Java Client details.

- ◆ *Admin station filters* specify which MAC addresses are allowed to access the system with the KN9000 Administrator program. If nothing is specified here, there are no restrictions

Filtering:

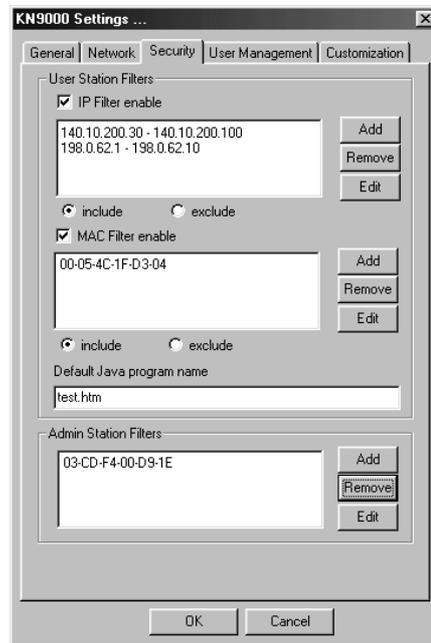
- ◆ There are a maximum of 100 filters allowed for each category (User IPs, User MACs, and Administrator MACs).
- ◆ To enable filtering for User Stations, **Click** to put a check mark in the IP and/or MAC *Filter enable* checkbox.
- ◆ To add a filter, Click **Add**. A dialog box similar to the ones below appears (the top example is for IP address filters; the bottom is for MAC address filters):



- ◆ Specify the filter address in the dialog box, then Click **OK**.
- ◆ Each filter can consist of a single IP or MAC address, or a range of IP addresses. For a single IP address filter, the address is the same for both the *From* and *To* fields.
- ◆ To delete a filter, select it and Click **Remove**; To modify a filter, select it and Click **Edit**. The *Edit* dialog box is similar to the *Add* dialog box. When it comes up, simply delete the old address and replace it with the new one.

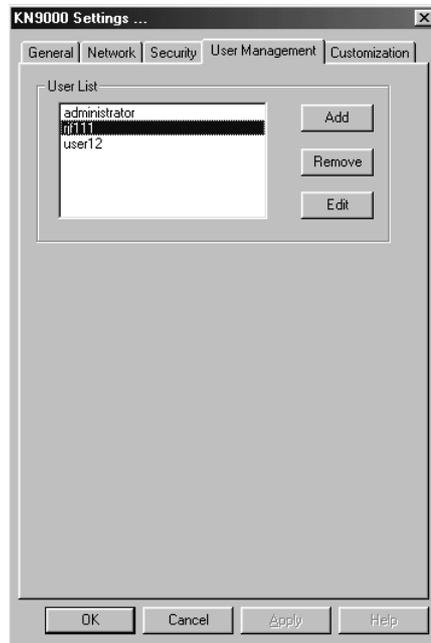
- ◆ User Station filtered items can be specified as included or excluded by highlighting the item and clicking the *include* or *exclude* radio button.
 - ◆ If the include button is checked, all the addresses within the filter range are allowed access to the KN9000; all other addresses are denied access.
 - ◆ If the exclude button is checked, all the addresses within the filter range are denied access to the KN9000; all other addresses are allowed access.
- ◆ The Administrator station filter dialog boxes are similar to the MAC filter dialog boxes for user stations.

An example of the Security page with filters configured is shown below:



User Management

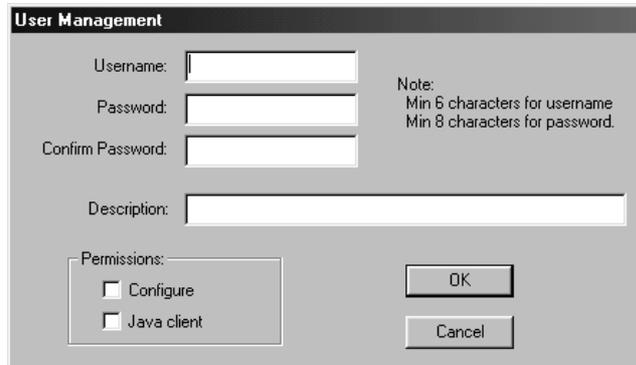
This page is used to manage user profiles. It establishes the access rights of the users that connect to the KN9000. A maximum of 64 user profiles can be



established.

- ♦ To add a user profile, Click **Add** and fill in the information asked for in the *User Management* dialog box that appears. (See p. 22.)
- ♦ To delete a user profile, select it and Click **Remove**.
- ♦ To modify a user profile, select it; Click **Edit**; and change the information shown in the *User Management* dialog box that appears.

When you click **Add** or **Edit**, a dialog box with fields to configure the user profile appears:



The image shows a 'User Management' dialog box with the following fields and controls:

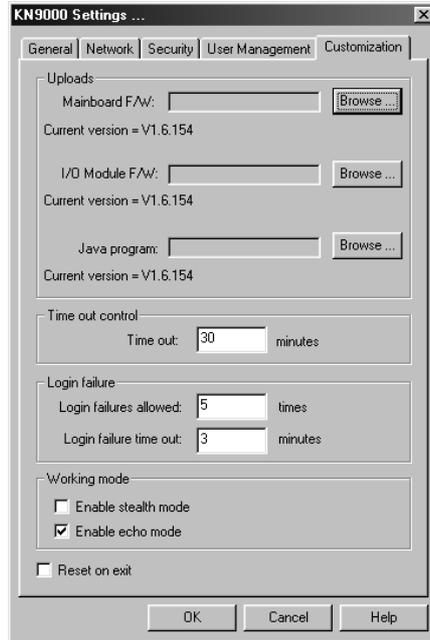
- Username:** A text input field.
- Password:** A text input field.
- Confirm Password:** A text input field.
- Description:** A text input field.
- Permissions:** A group box containing two checkboxes:
 - Configure
 - Java client
- Note:** A text area containing the text: "Note: Min 6 characters for username Min 8 characters for password."
- Buttons:** 'OK' and 'Cancel' buttons.

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

| | |
|------------------|--|
| Username | A minimum of 6 and a maximum of 15 characters is allowed. |
| Password | A minimum of 8 and a maximum of 15 characters is allowed. |
| 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. |
| Permissions | <ol style="list-style-type: none"> 1. Checking <i>Configure</i> defines an Administrator who is allowed to configure the system, but does not have permission to access the KN9000 via the Java Client software. 2. Checking <i>Java access</i> defines a User who is allowed to access the KN9000 via the Java Client software, but does not have permission to configure the system. 3. Checking both defines an Administrator who has permission to configure the system and access the KN9000 via the Java Client software. |

Customization

An explanation of the customization settings is given in the table, below:



| | |
|------------------|---|
| Uploads | After obtaining new versions of the firmware (see p. 13), specify the directories that you have put them in here to start the firmware upgrade procedure (see p. 24 for details). |
| Time out Control | If the KN9000 doesn't receive any input from the computer that currently has access to it for the amount of time specified here, it ends the connection so it can be available for other users. |
| Login failure | <i>Login failures allowed</i> , sets the number of consecutive failed login attempts that are permitted from a remote computer. <i>Login failure timeout</i> , sets the amount of time a remote computer must wait before attempting to login again after it has exceeded the number of allowed failures. |
| Working Modes | If <i>Stealth Mode</i> is enabled , the KN9000 cannot be pinged. If <i>Echo Mode</i> is disabled , the KN9000 will not show up in the list of local KN9000 units (see p. 10 and p. 28) |
| Reset on exit | Placing a check here causes the KN9000 to reset itself and implement all the new changes when you Click OK and close the Settings Notebook. |

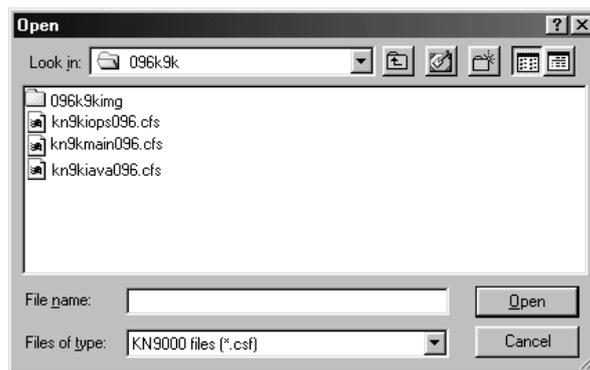
Upgrading the Firmware

New versions of the Mainboard, I/O Module, and Java Access Page firmware files can be downloaded from our website at

<http://altusen.com/downloads>

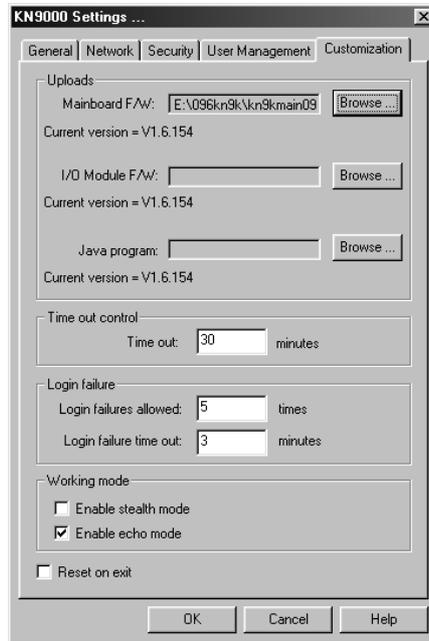
as they become available. To upgrade the firmware, do the following:

1. Go to the *Customization* page of the Administration configuration notebook (see p. 23) and Click the Browse button for the component you want to upgrade. A File Open dialog box appears.
2. Navigate to the directory that the downloaded firmware upgrade files are in, and select the upgrade file that matches the component you are upgrading.
 - ◆ Mainboard upgrade files have *main* in their filenames
 - ◆ I/O upgrade files have *iops* in their filenames
 - ◆ Java Authentication upgrade files have *java* in their filenames



3. Click **Open**.

You return to the Customization page with the path to file, and the Upload version number displayed.



Note: If you select the wrong file type for the component you are upgrading an *Invalid file type* message appears when you click **Open**. Go back and select the correct file type.



Java Authentication Page

As an important security feature, users who connect to the KN9000 via the Java Client must first log in before being allowed access. A *Java Authentication Page* that implements a Login (Username and Password) feature is provided on the distribution disk for this purpose.

Updated Java Authentication Page versions will be made available for download from our website as they become available. See *Upgrading the Firmware*, p. 24, for details on upgrading.

Be sure to specify the name and full path location of the page you will be using in the *Java Access Page* text box on the *Security* page of the *Settings Notebook* (see p. 18).

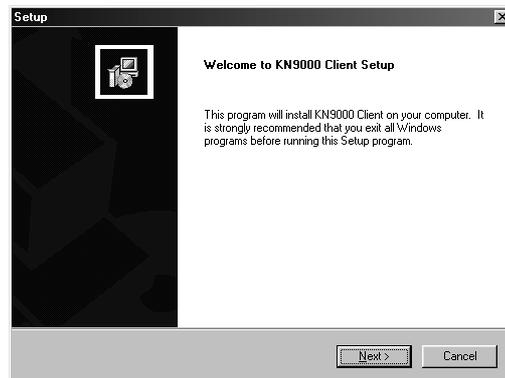
Chapter 4.

The Windows Client

Installation

1. Insert the Altusen software CD into your CD-ROM drive
2. Open the drive and folder where the Windows Client Setup icon (**KN9KClient.exe**) is located and double click the icon.

The Windows Client installation screen appears:

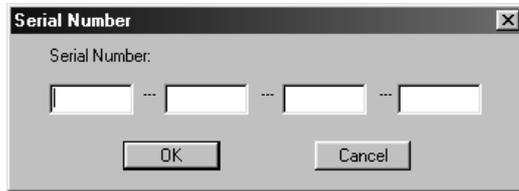


3. Click **Next**, and follow the on-screen instructions to complete the installation and have the program icon placed on the desktop.

Starting Up

To bring up the Windows Client Main Screen, run **KN9000 Client** either by double clicking (**DClick**) its icon, or by keying in the full path to **KN9KClient.exe** on the command line.

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

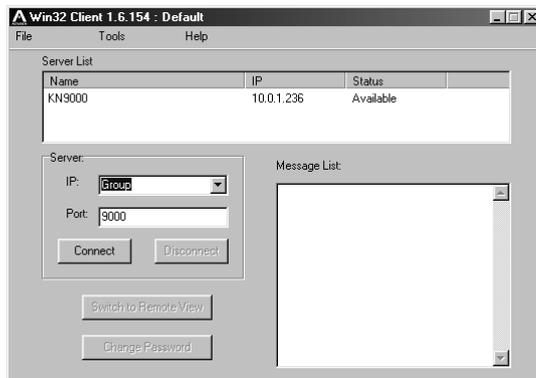


If you don't know what it is, contact the KN9000 administrator. Key in the serial number - 5 characters per box - then Click OK.

Note: You must have DirectX 7.0 or higher installed on your computer. If not, the Client program will not load.

The Connection Screen

When the Windows Client starts, a Connection Screen, similar to the one below, appears:



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

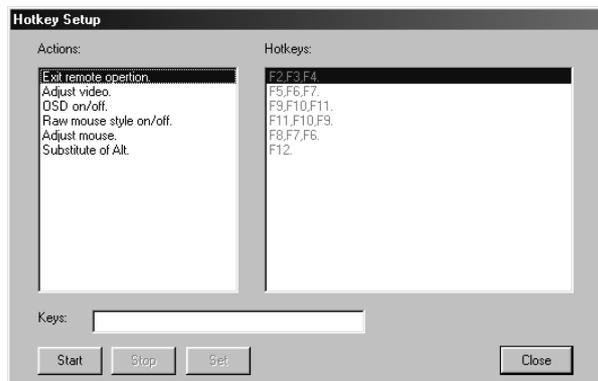
| | |
|-----------------------|---|
| Menu Bar | <p>The Menu Bar contains three items: File, Tools, and Help.</p> <ol style="list-style-type: none">1. The <i>File Menu</i> allows the operator to Create, Save, and Open user created Work files (see p. 40 for details).2. The <i>Tools Menu</i> contains two entries: <i>Keyboard</i> and <i>Config</i>, (see p. 32 for details). |
| KN9000 List: | <p>Each time KN9KClient.exe is run, it searches the User's local LAN segment for KN9000 units, and lists whichever ones it finds in this box. If you want to connect to one of these units, Dclick it.</p> |
| KN9000 IP: | <p>This area is used when you want to connect to a KN9000 at a remote location. You can drop down the list box and select an IP address or key in an IP address if the one you want isn't listed, then key in the Port number in the <i>Port</i> field. If you don't know the Port number contact the Administrator.</p> <p>When the IP address and Port number for the KN9000 unit you wish to connect to has been specified, Click Connect to start the connection. When you have finished with your session, Click Disconnect to break the connection.</p> |
| Message List: | <p>Lists status messages regarding the connection to the KN9000.</p> |
| Switch to Remote View | <p>Once contact with a KN9000 has been established, this button becomes active. Click it to switch and take over console control of the unit that is attached to the KN9000.</p> <p>The screen output of the unit appears on your monitor. Your keystrokes and mouse movements are captured and sent to the KN9000 to be executed on the attached unit.</p> <p>If the KN9000 is connected to a KVM switch, you can control the switch and the computers connected to it just as if you were connected locally.</p> |
| Change Password | <p>This button becomes active after a connection to a KN9000 unit has been established. It allows the User to change the password he logs onto the KN9000 with.</p> |

The Tools Menu

Tools menu operations are performed after you connect, but before you switch to remote view. There are two entries on the Tools Menu: Keyboard and Config. They are explained in the sections that follow.

Keyboard

Various configuration actions related to the keyboard, video, and mouse can be performed via hotkey combinations. The Hotkey Setup utility is accessed by opening the *Tools* menu and selecting *Keyboard*. The Hotkey Setup Screen appears:

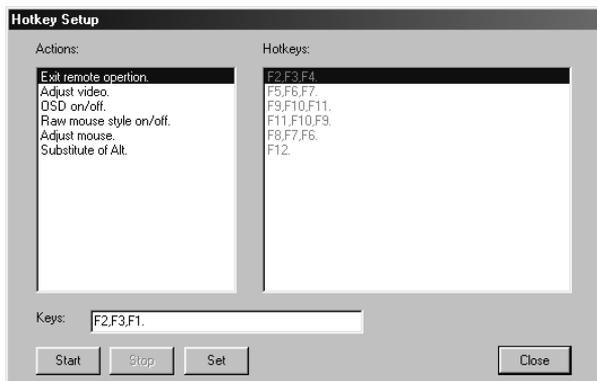


The actions performed by the Hotkeys are listed in the left column; the currently defined keys that invoke them are shown in the column to the right.

Configuring the Hotkeys:

If you find the default Hotkey combinations inconvenient, you can configure them to whatever suits your taste, as follows:

1. With the Hotkey Setup screen open, highlight the Action, then Click **Start**
2. Key in the Function keys (one at a time). The key names appear in the *Key* field as you press them.
3. When you have finished keying in your sequence, Click **Stop**
4. Click **Set**

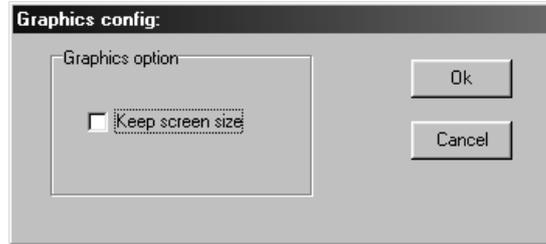


5. Repeat for any other actions you wish to set up

Note: You can use the same function keys for more than one action, *as long as the first key is not the same*. For example, you can use **F1 F2 F3** for one action; **F2 F1 F3** for another; **F3 F2 F1** for a third, etc.

Config

When you select Config, a screen similar to the one below appears:



If *Keep screen size* is not enabled (there is no checkmark in the box), the remote screen is resized to fit the resolution of your local monitor.

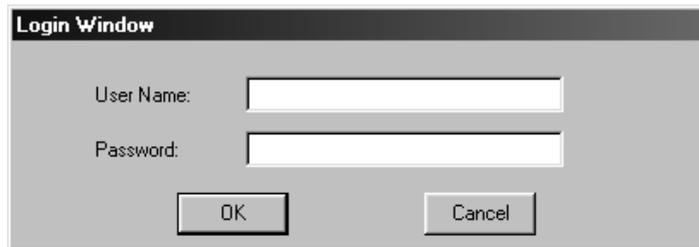
If *Keep screen size* is enabled (there is a checkmark in the box), the remote screen is not resized.

- ◆ If the remote resolution is smaller, its display appears like a window centered on your screen.
- ◆ If the remote resolution is larger, its display is centered on your screen. To access the areas that are off screen, move the mouse to the corner of the screen that is closest to the area you want to view.

Connecting

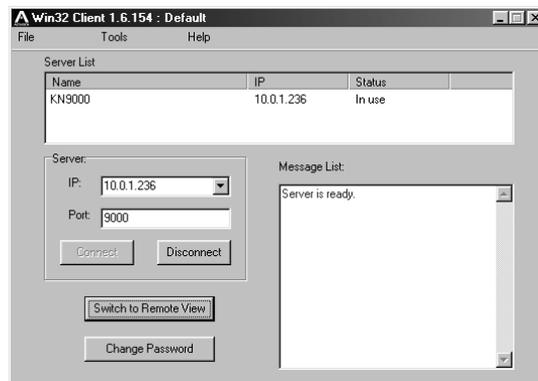
To connect to a KN9000 unit:

1. If it is in the *KN9000 List*, **D**Click it; if you are using the *KN9000 IP* input box, specify the IP address and Port number, then Click *Open*. A *Login* dialog box appears:



The Login Window dialog box has a title bar that says "Login Window". It contains two text input fields: "User Name:" and "Password:". Below the input fields are two buttons: "OK" and "Cancel".

2. After you key in a valid Username and Password, Click **OK**.
The program attempts to contact your selected KN9000 unit.
3. Check the Message List window for status messages regarding the operation's progress.
4. Once contact with the KN9000 has been established, the *Switch to Remove View* button becomes active. Click it to connect to the KN9000 and take over console control of the unit that is connected to it.



The Win32 Client 1.6.154 : Default window has a menu bar with "File", "Tools", and "Help". It contains a "Server List" table with the following data:

| Name | IP | Status |
|--------|------------|--------|
| KN9000 | 10.0.1.236 | In use |

Below the table are fields for "Server:" with "IP:" (10.0.1.236) and "Port:" (9000). There are "Connect" and "Disconnect" buttons. Below these are "Switch to Remote View" and "Change Password" buttons. On the right is a "Message List" area containing the text "Server is ready."

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

| Action | Explanation |
|--|--|
| Exit remote location | Break the connection to the KN9000 and return to local operation. |
| Adjust video | Brings up the video adjustment utility. |
| Toggle OSD (OSD On/Off) | Toggles the OSD display Off and On (see <i>Screen Information</i> , p. 35 for details). |
| Toggle mouse display (Raw Mouse Style) | Some users find the display of the two mouse pointers (local and remote) confusing and annoying. If this is the case, you can use this function to shrink the non-functioning pointer down to a barely-noticeable tiny circle - which can be ignored. This function is a toggle - use the hotkeys again to bring the mouse display back to its original configuration. |
| Adjust mouse | This utility synchronizes the local and remote mouse movements following a video resolution change. After invoking this utility, simply click the local mouse pointer on top of the remote mouse pointer. |
| Substitute Alt key | [Alt + Tab] and [Ctrl + Alt + Del] work on the local computer, even though all other keyboard input is captured and sent to the KN9000. In order to implement their effects on the remote system, a function key can be substituted for the Alt key. If you substitute the F12 key, for example, you would use [F12 + Tab] and [Ctrl + F12 + Del]. |

Note: To invoke an action, you must press and release the keys one key at a time - do not *chord* the keys.

Operation

Screen Information

Once the connection to the KN9000 has been accomplished, a window opens on the Client's monitor that exactly replicates the remote system's video output display captured by the KN9000. Local keystroke and mouse input is captured and sent to the remote system.

A small OSD control panel opens at the lower right hand corner of the screen:



The panel consists of an icon bar at the top, with two text bars below it. Initially, the text bars display the video resolution and IP address of the device at the remote location. As the mouse pointer moves over the icons, the information in the text bars changes to describe the icon's function.

| Icon | Function |
|-----------|---|
| Hand | Drag the OSD display to another position on the screen by clicking and holding on the hand while you move the mouse. |
| Keyboard | Click to bring up the Hotkey Setup dialog box (see p. 30 for details). |
| Hammer | Click to bring up the Video Adjustment dialog box (see p. 38 for details). Right click to perform a fast Auto Sync without first having to bring up the Video Adjustment dialog box. |
| Arrow | Click to exit the Windows Client control of the remote unit. |
| Space | Hover over the space to see the video resolution and IP address of the device at the remote location. |
| Lock LEDs | These LEDs show the Num Lock, Caps Lock, and Scroll Lock status of the remote computer. 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. |

Keystrokes

Keyboard input has no effect on the local (operator's) computer except for [Alt + Tab] and [Ctrl + Alt + Del]. These key functions are retained on the local system to switch among applications and to recover from disaster.

In order to provide the [Alt + Tab] and [Ctrl + Alt + Del] functions on the remote system, one of the Function Keys is used as a *Substitute* for the [Alt] key.

For example, the **F12** key could substitute for the **Alt** key, in which case [F12 + Tab] substitutes for [Alt + Tab]; and [Ctrl + F12 + Del] substitutes for [Ctrl + Alt + Del]. See *Configuring the Hotkeys* on p. 31 for details on setting up a substitute key.

Note: While any Function Key can be used for the Substitute key, you *must not* use one that is being used for another action.

Mouse Synchronization

Until you close the KN9000 connection, mouse movements have no effect on your local system, but are captured and sent to the remote system, instead.

From time to time, especially if you change video resolution, the local mouse movement may no longer be synchronized with the remote system's mouse pointer. You can bring the two pointers back into sync by performing an *Auto Sync* with the Video Adjustment function (see *Video Adjustment*, p. 38 for details).

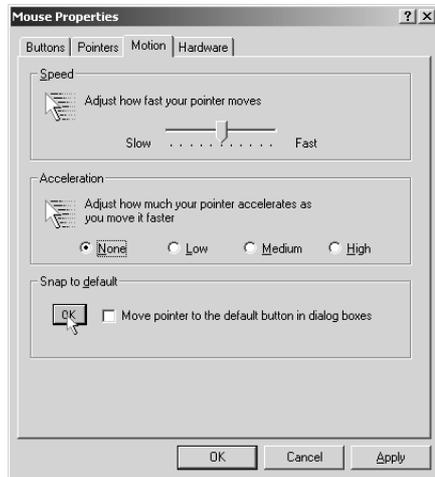
If performing an *Auto Sync* doesn't resolve the problem, do the following:

1. Invoke the *Adjust Mouse* action with the *Adjust Mouse* hotkeys (see p. 34 for details).
2. Move the local mouse pointer exactly on top of the remote mouse pointer and **Click**.

If these procedures still do not help, set the mouse speed and acceleration for the computer (or computers via KVM switch) connected to the KN9000 as follows:

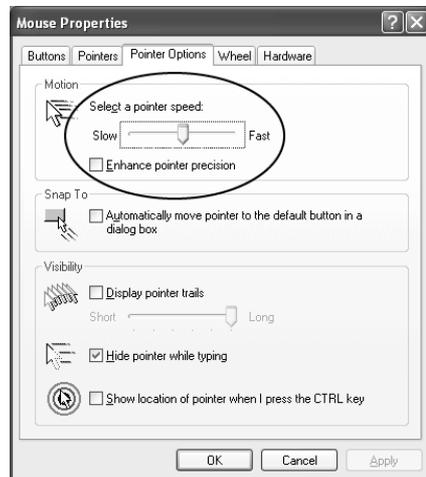
Windows 2000:

Set the mouse speed to the middle position; set the mouse acceleration to *None*
(Control Panel → Mouse → Mouse Properties → Motion):



Windows XP/Server 2003:

Set the mouse speed to the middle position; disable *Enhance Pointer Precision*
(Control Panel → Printers and Other Hardware → Mouse → Pointer Options):



WinMe:

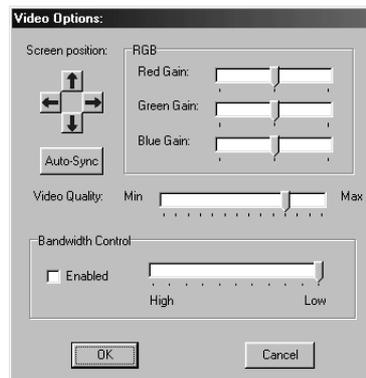
Set the mouse speed to the middle position; disable mouse acceleration (click Advanced to get the dialog box for this).

WinNT / Win98 / Win95:

Set the mouse speed to the slowest position.

Video Adjustment

You can adjust the placement and the picture quality of the remote screen (as displayed on your local monitor) with the Video Options function. To do so, either click on the Hammer icon on the OSD Control Panel, or use the *Adjust Video* hotkeys (see p. 34). The following screen appears:



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 | <p>Click Auto-Sync to have the function detect the vertical and horizontal offset values of the remote screen and automatically synchronize it with the local screen.</p> <p>If the local and remote mouse pointers are out of sync, in most cases, performing this function will bring them back into sync.</p> <p>Note: 1. You can perform a fast Auto-Sync, without first bringing up the Video Adjustment dialog box, by right clicking the hammer icon of the OSD (see p. 35).</p> <p>2. This function works best with a bright screen.</p> <p>3. If you are not satisfied with the results, use the Screen Position arrows to position the remote display manually.</p> |
| 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. |
| Video Quality | Drag the slider bar to adjust the overall Video Quality. Values can be from 20 to 100. 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 affect response time. |
| Bandwidth Control | This setting adjusts the ratio between picture quality and network speed. For slow data connections, drag the slider bar to a lower setting to decrease the amount of video data transferred. This ensures screen refresh at workable speeds. |

Work Files

A Work File consists of all the information specified in a Client session. This includes the KN9000 and KN9000 IP list items, the Mouse Calibration settings, and the Hotkey and Video settings.

Whenever a user runs the Client program, it opens with the values contained in the *current work file*. The current work file consists of the values that were in effect the last time the program was closed.

Users can use the Client program's *File* menu (see p. 28) to Create, Save, and Open Work files:

| | |
|------|---|
| New | Allows the user to create a named work file so its values will not be lost, and it will be available for future recall. |
| Open | Allows the user to open a previously saved work file and use the values contained in it. |
| Save | Allows the user to save the values presently in effect as the current work file. |

Chapter 5.

The Java Client

Introduction

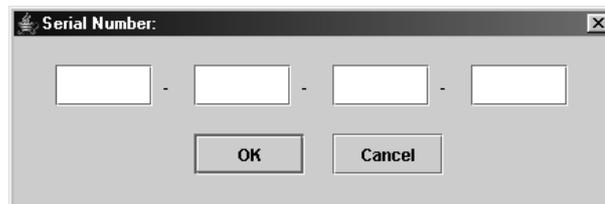
The Java Client is provided to make the KN9000 accessible to all platforms. Systems that have Java installed can connect. If you don't already have Java, it is available for free download from Sun's Java web site (<http://java.sun.com>).

Starting Up

1. Insert the Altusen software CD into your CD-ROM drive
2. Open the drive and folder where the Java Client *jar* file (**KN9Kmain.jar**) is located and copy the file to your hard disk.
3. To bring up the Java Client Main Screen, run the Java Client jar file (**KN9Kmain.jar**) either by double clicking (**DClick**) its icon, or by keying in the full path to it on the command line.

Note: The Java Client requires Java version 1.4 or higher. It will not work with earlier versions of Java.

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



4. Key in the serial number - 5 characters per box - then Click **OK**. (If you don't know what it is, contact the KN9000 administrator.)

An *Address Input* dialog box appears:



5. Key in the IP address for the unit you want to connect to - including a forward slash followed by the name of the KN9000's Java Client web page.
For example:

168.10.95.001/kn9k.html

Note: For security purposes, the name of the page that you connect to must be specified correctly as part of the IP address. The system administrator may change the name of this page from time to time to thwart unauthorized access attempts. Be sure you have the correct name for this page when you attempt to connect.

After you key in the IP address and Click **OK**, a Connection Progress window appears:



After you establish a connection, a Login dialog box appears:



6. Provide a valid Username and Password and Click **OK**.

After a second or two, an *Authentication* progress window appears:



Once the authentication procedure completes successfully, the remote system displays in a window on your monitor:



Operation

The remote system displays in a window on the upper portion of your monitor. You can work on the remote system via this screen just as if it were your local system.

The Java Client's toolbar is hidden in the blank area at the bottom center of the screen. When you move the mouse pointer over this area, the toolbar appears:



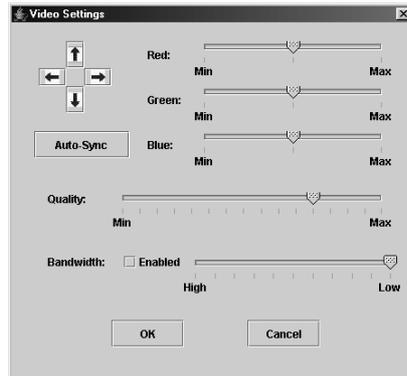
- Note:**
1. You can switch between your local and remote programs with [Alt + Tab].
 2. Due to *net lag*, there might be a slight delay before your keystrokes show up. You may also have to wait a bit for the remote mouse to catch up to your local mouse before you click.
 3. Due to *net lag*, or insufficient computing power on the local machine, some images, especially motion images, may display poorly.
 4. If the local and remote mouse pointers get out of sync, you can use the *Mouse Synchronization Button* to bring them back into synch (see p. 46 for details).

The Toolbar

The *Toolbar* at the bottom of the screen is a Java applet that gives you control over the KVM operations. Going from left to right on the toolbar, its functions are as follows:

Video:

Clicking the first button brings up the *Video Settings* dialog box:



This is similar to the *Adjust Video* feature of the Windows Client. See p. 38 for details about its use.

Note: We recommend that you perform an Autosync right after you connect for improved mouse synchronization.

Keypad:

Clicking the second button, brings up the *Keypad*. Since some locally input keyboard combinations can not be captured and sent to the KN9000, the Keypad provides a one-click implementation of their actions on the remote system.




Mouse:

At times the local mouse movement may lose sync with the remote mouse movement. If performing an Autosync doesn't resolve the problem The Mouse Synchronization function gets them back into sync. This is similar to the Mouse Synchronization feature of the Windows Client (see p. 36 for details).

1. Click the Mouse Synchronization button.

The remote mouse pointer moves to the upper left area of the screen.

2. Move your local mouse pointer directly over the remote mouse pointer and Click.

Lock LEDs:

These LEDs show the Num Lock, Caps Lock, and Scroll Lock status of the remote computer. 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.

The i Button:

Clicking this button provides information about the Java Client.

The ? Button:

Clicking this button brings up the Java Client on Help pages.

Exit:

Click this button to exit the Java Client program and return to local operation.

Chapter 6.

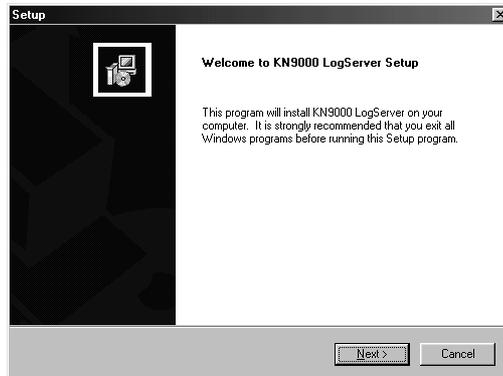
The Log Server

The Windows-based *KN9000 Log Server* is an administrative utility that records all the events that take place on selected KN9000 units.

Installation

1. Insert the Altusen software CD into your CD-ROM drive
2. Open the drive and folder where the Log Server Setup icon (**KN9KlogServer.exe**) is located and double click the icon.

The Log Server installation screen appears:



3. Click **Next**, and follow the on-screen instructions to complete the installation and have the program icon placed on the desktop.

Starting Up

To bring up the Log Server, run **KN9000 Log Server** either by double clicking (**DClick**) its icon, or by keying in the full path to KN9KLogServer.exe on the command line. A screen similar to the one below appears:



The screen is divided into three components:

- ◆ A *Menu Bar* at the top
- ◆ A panel containing a list of *KN9000* units in the middle (see p. 53 for details).
- ◆ A panel containing an *Events List* at the bottom

Note: The MAC address of the computer that will contain the Log Server Events database must be specified on the *Network* page of the *Administrator Utility* (see p. 16).

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

The Menu Bar

The Menu bar consists of four items: Configure, Events, Options, and Help. These are discussed in the sections that follow.

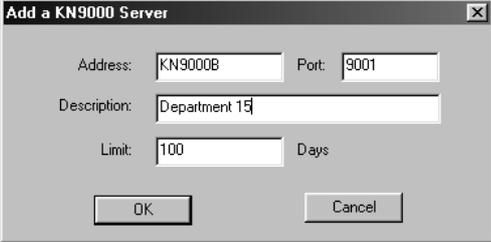
Note: If the Menu Bar appears to be disabled, click in the KN9000 List window to enable it.

Configure

The Configure menu contains three items: Add; Edit; and Delete. They are used to add new KN9000 units to the KN9000 List; edit the information for units already on the list; or delete KN9000s from the list.

To edit or delete a listed KN9000, first select the one you want in the KN9000 List window, then open this menu and click **Edit** or **Delete**.

To add a KN9000 to the KN9000 List, click **Add**. When you choose *Add* or *Edit*, a dialog box, similar to the one below, appears:



The screenshot shows a dialog box titled "Add a KN9000 Server". It contains the following fields and values:

| Field | Value |
|--------------|---------------|
| Address: | KN9000B |
| Port: | 9001 |
| Description: | Department 15 |
| Limit: | 100 Days |

Buttons: OK, Cancel

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

| Field | Explanation |
|-------------|--|
| Address | This can either be the IP address of the KN9000 or its DNS name (if the network administrator has assigned it a DNS name). |
| Port | The Port number assigned to the KN9000 (see p. 16). |
| 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 should be cleared. |

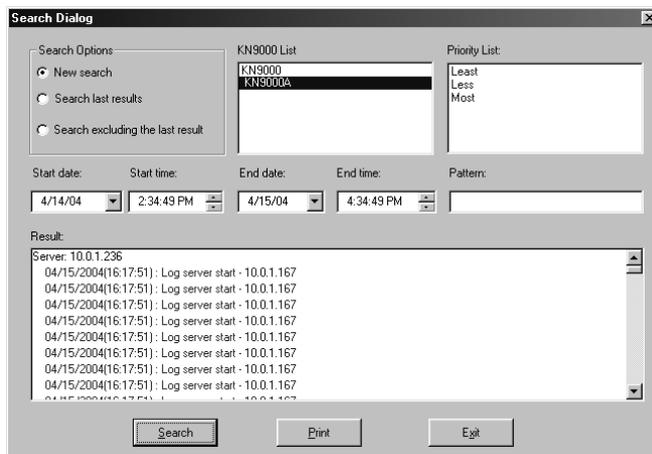
Fill in or modify the fields, then click **OK** to finish.

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:

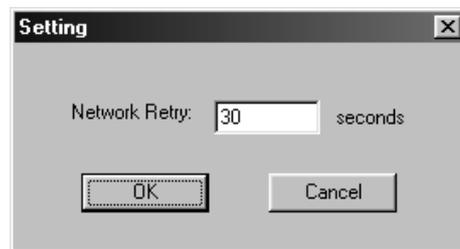
| Item | Expalation |
|-------------------------------|---|
| New search | This is one of three radio buttons that define the scope of the search. If it is selected, the search is performed on all the events in the database for the selected KN9000. |
| Search last results | This is a secondary search 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 KN9000 <i>excluding</i> the events that resulted from the last search. |
| KN9000 List: | KN9000 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 | Sets the level for how detailed the search results display should be. 1 is the most general; 3 is the most specific. |
| Start Date | Select the date that you want the search to start from. The format follows the MM/DD/YYYY convention, as follows: 05/11/2002 |
| Start Time | Select the time that you want the search to start from. The format follows the HH:MM:SS convention, as follows: 13:45:08 |
| 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 <i>hands</i> and <i>hoods</i> . |
| 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. |
| Exit | Click this button to exit the Log Server. |

Maintenance:

This function allows the administrator to perform manual maintenance of the database. He can use it to erase specified records before the expiration time that was set with the *Limit* setting of the Edit function (see p. 50).

Options

Network Retry allows you to set the number of seconds that the Log Server should wait before attempting to connect if its 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.

The KN9000 List Panel

Overview

The *KN9000 List* panel (refer back to the figure on p. 48), displays a list of all the KN9000 units that have been selected for the Log Server to track (see *Configure*, p. 49).

Tick information for the currently selected KN9000 displays in the *Events List* panel below. To select a KN9000 unit in the list, simply click on it.

The KN9000 List window contains five fields:

| Field | Expalanation |
|-------------|---|
| Recording | Determines whether the the Log Server records the ticks for this KN9000, or not. If the Recording checkbox is checked, the field displays <i>Recording</i> , and the ticks are recorded. If the Recording checkbox is not checked, the field displays <i>Paused</i> , and the ticks are not recorded. Note: Even though a KN9000 is not the currently selected one, if its Recording checkbox is checked, the Log Server will still record its ticks. |
| Address | This is the IP Address or DNS name that was given to the KN9000 when it was added to the Log Server (see <i>Configure</i> , p. 49). |
| Port | This is the Port number assigned to the KN9000 (see <i>Configure</i> , p. 49). |
| Connection | If the Log Server is connected to the KN9000, this field displays <i>Connected</i> . If it is not connected, this field displays <i>Waiting</i> . This means that the Log Server's MAC address has not been set properly. It needs to be set on the <i>Network</i> page of the <i>Administrator Utility</i> (see p. 16). |
| Days | This field displays the number of days that the KN9000's events are to be kept in the Log Server's database before expiration (see <i>Edit</i> , p. 49). |
| Description | This field displays the descriptive information given for the KN9000 when it was added to the Log Server (see <i>Configure</i> , p. 49). |



The Event List Window

This window displays tick information for the currently selected KN9000. Note that even though any other KN9000s aren't currently selected, if their *Recording* checkbox is checked, the Log Server records their tick information and keeps it in its database.

Appendix A.

Troubleshooting

General Operation

| Problem | Resolution |
|-------------------|---|
| Erratic Operation | If the KN9000 is connected to a KVM switch, make sure to power on the switch before powering on the KN9000. |

The Administrator Utility

| Problem | Resolution |
|--|--|
| Unable to enter the Administrator Utility the first time that it is run. | Make sure that the KN9000's DIP Switch segment 2 is set to the ON position (see the Note regarding the DIP Switch on p. 28 for details). |
| Cannot save changes that were made in the Administrator Utility. | Make sure that the KN9000's DIP Switch segment 2 is set to the ON position (see the Note regarding the DIP Switch on p. 28 for details). |
| Forgot/Corrupt Password | Turn off the power; short jumper labeled <i>Password Default</i> on the KN9000's mainboard; turn on the power and wait for all the LEDs to blink; turn off the power and open the <i>Password Default</i> jumper; start the KN9000 up. |

The Windows Client

| Problem | Resolution |
|--|--|
| Remote mouse pointer is out of step. | <ol style="list-style-type: none">1. Use the <i>AutoSync</i> feature (see <i>Video Adjustment</i>, p. 38), to synch the local and remote monitors.2. Use the <i>Adjust Mouse</i> feature (see <i>Mouse Movement</i>, p. 36) to bring them back in step. |
| Part of remote window is off my monitor. | Use the <i>AutoSync</i> feature (see <i>Video Adjustment</i> , p. 38), to synch the local and remote monitors. |

The Java Client

For mouse synchronization problems, refer to the discussion on page 46. For connection and operation problems, see the table below:

| Symptom | Action |
|--|--|
| Java Client won't connect to the KN9000 | <ol style="list-style-type: none">1. Make sure to include the correct name of the web page when you specify the KN9000's IP address.2. Close the Java Client, reopen it, and try again. |
| Pressing the Windows Menu key has no effect. | Java doesn't support the Windows Menu key. |
| Java Client performance deteriorates. | Exit the program and start again. |

The Log Server

| Problem | Resolution |
|--------------------------------------|--|
| The Log Server program does not run. | <p>The Log Server requires the Microsoft Jet OLEDB 4.0 driver in order to access the database.</p> <p>This driver is automatically installed with Windows ME, 2000 and XP.</p> <p>For Windows 98 or NT, you will have to go to the Microsoft download site:</p> <p>http://www.microsoft.com/data/download.htm</p> <p>to retrieve the driver file:</p> <p>MDAC 2.7 RTM Refresh (2.70.9001.0)</p> <p>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.</p> |

Sun Systems

| Problem | Resolution |
|---|--|
| Video display problems with HDB15 interface systems (e.g., Sun Blade 1000 servers). | <p>The display resolution should be set to 1024 x 768:</p> <p>Under Text Mode:</p> <ol style="list-style-type: none">1. Go to OK mode and issue the following commands: <pre>setenv output-device screen:r1024x768x60 reset-all</pre> <p>Under XWindow:</p> <ol style="list-style-type: none">1. Open a console and issue the following command: <pre>m64config -res 1024x768x60</pre> <ol style="list-style-type: none">2. Log out3. Log in |
| Video display problems with 13W3 interface systems (e.g., Sun Ultra servers). | <p>The display resolution should be set to 1024 x 768:</p> <p>Under Text Mode:</p> <ol style="list-style-type: none">1. Go to OK mode and issue the following commands: <pre>setenv output-device screen:r1024x768x60 reset-all</pre> <p>Under XWindow:</p> <ol style="list-style-type: none">1. Open a console and issue the following command: <pre>ffbconfig -res 1024x768x60</pre> <ol style="list-style-type: none">2. Log out3. Log in |



Notes:



Appendix B. Specifications

| Function | | Specification |
|------------------------|---------------|---|
| Connectors | Console Ports | 1 x 6 pin mini-DIN F - Keyboard 1 x 6 pin mini-DIN F - Mouse 1 x HDB-15 F - Video |
| | CPU Ports | 1 x 6 pin mini-DIN F - Keyboard 1 x 6 pin mini-DIN F - Mouse 1 x HDB-15 M - Video |
| | LAN | 1 x RJ-45 Receptacle |
| | Power | 1 x 3 Pronged Receptacle |
| LEDs | Power | 1 (Blue) |
| | Link | 1 (Green) |
| | 10/100 Mbps | 1 (Green) |
| Video | | Up to 1280 x 1024 @ 70 Hz |
| Protocols | | 10BaseT Ethernet; 100BaseT Fast Ethernet; TCP/IP; HTTP |
| Operating Temperature | | 0 - 50° C |
| Storage Temperature | | -20 - 60° C |
| Humidity | | 0 - 80% RH |
| Housing | | Metal |
| Weight | | ???? g |
| Dimensions (L x W x H) | | 432.4 x 254.2 x 44.2 mm |



Notes:

60



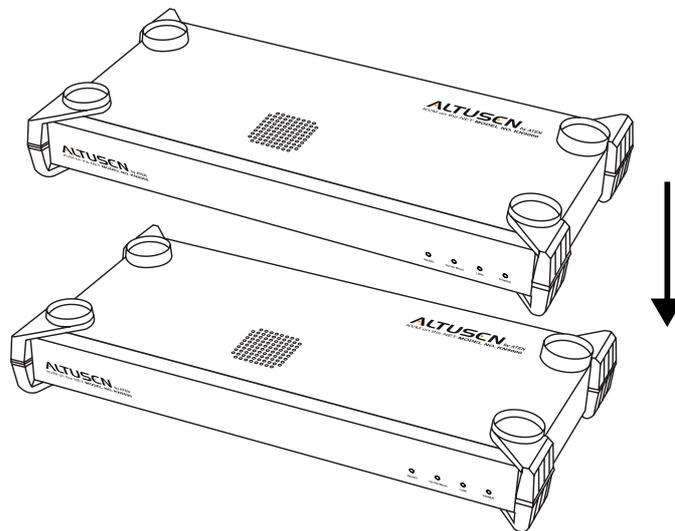
2004-05-04

Appendix C. Stacking and Mounting

Stacking

KN9000 devices can be stacked one on top of the other using the stacking brackets that come already attached to the unit.

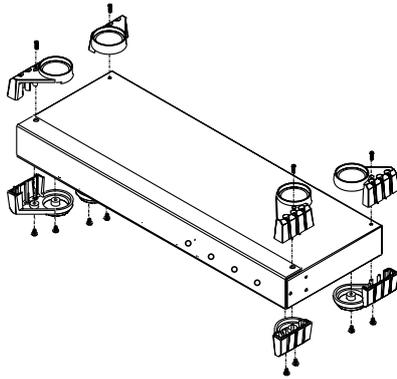
Note that there is a top and bottom half to each bracket. The top half has a convex surface; the bottom half has a concave surface. Line up the four bottom brackets of the top unit with the four top brackets of the bottom unit; then fit the top unit down onto the bottom unit.



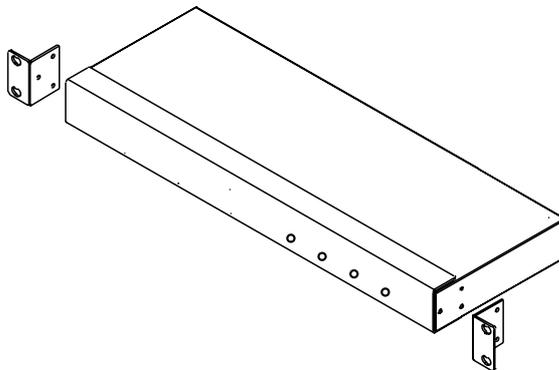
Rack Mounting

To rack mount the unit do the following:

1. First remove the stacking brackets by unscrewing them from the unit, as shown in the diagram below:



2. Next screw the mounting brackets into the sides of the unit, as shown in the diagram below:



3. Slide the unit into the rack and secure it to the rack.

Appendix D.

Technical Support

In the event that you have a problem and are unable to resolve it through this manual, you can obtain additional information and help through the services described in the following sections.

ALTUSEN Technical Support

You are entitled to free hardware technical telephone support for your product for as long you own the product. A technical support specialist will help you diagnose the problem.

This service is available 24 hours a day, 7 days a week. If you are experiencing difficulty getting this product to work correctly, please do not hesitate to call.

In North America, the ALTUSEN Technical Phone Support Center can be reached at **888-999-ALTUSEN** (888-999-2836). Outside of North America, call the nearest ALTUSEN Technical Support Phone Center.

Note: To ensure quality of service, telephone calls may be monitored or recorded.

Telephone numbers for world wide Technical Support Centers are listed on the ALTUSEN website. Access the ALTUSEN website: <http://www.Altusen.com>.

Please have the following information available prior to calling ALTUSEN:

- ◆ Date of purchase, product model number and serial number of the product
- ◆ Type of computer
- ◆ Operating system and revision level
- ◆ Messages displayed when error occurred
- ◆ When the problem occurs
- ◆ Add-on boards or software (if applicable)
- ◆ Third-party hardware or software (if applicable)
- ◆ Other detailed, specific questions



ALTUSEN Website

The ALTUSEN website has the latest information about this product. Firmware upgrades can be found at the site, as well. You can access the ALTUSEN website at <http://www.Altusen.com>.

Limited Warranty

IN NO EVENT SHALL THE DIRECT VENDOR'S LIABILITY EXCEED THE PRICE PAID FOR THE PRODUCT FROM THE DIRECT, INDIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OF THE PRODUCT, DISK OR ITS DOCUMENTATION.

The direct vendor makes no warranty or representation, expressed, implied, or statutory with respect to the contents or use of this documentation, and specially disclaims its quality, performance, merchantability, or fitness for any particular purpose.

The direct vendor also reserves the right to revise or update the device or documentation without obligation to notify any individual or entity of such revisions, or update. For further inquires please contact your direct vendor.

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