KVM ON THE NET™

User Manual

CN-6000

Warning!

This is a 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.

FC CE

Packing List

The complete CN-6000 package consists of:

- 1 CN-6000 KVM on the Net™ Control Unit
- 1 CS Custom KVM Cable Set
- 1 Power Adapter
- 1 Rack Mount Kit
- 1 Software CD[1]
- 1 User Manual[2]
- 1 Quick Start Guide

Check to make sure that all the components are present and that nothing was damaged in shipping. If you encounter a problem, contact your dealer.

1 An AP version of the CN-6000 software is located on the software CD.

2 User Manuals in PDF format for both this version and the AP version of the CN-6000 are located on the software CD.

Read this manual thoroughly and follow the installation and operation procedures carefully to prevent any damage to the unit, and/or any of the devices connected to it.

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About This Manual

This User Manual is provided to help you get the most from your CN-6000 system. It covers all aspects of installation, configuration and operation. An overview of the information found in the manual is provided below.

Overview

Chapter 1, Introduction, introduces you to the CN-6000 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 CN-6000 to your server or KVM switch and the Internet.

Chapter 3, Getting Started, describes how to log into the CN-6000, and the screen elements that appear on the opening page.

Chapter 4, The Administrator Utility, explains how to connect to the CN-6000 as an administrator; and how to configure the CN-6000 for operation.

Chapter 5, The Windows Client, explains how to run the Windows Client Software; how to connect to the CN-6000 and how to remotely control the connected server (or servers via a KVM switch).

Chapter 6, The Java Client, explains how to run the Java Client Software; how to connect to the CN-6000 and how to remotely control the connected server (or servers via a KVM switch).

Chapter 7, The Log File, describes how to use the log file utility to view all the events that take place on the CN-6000.

An Appendix provides specifications and other technical information regarding the CN-6000.

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, but do not involve sequential steps.
>	Indicates selecting an option on a menu. For example, Start > Run means to open the *Start* menu, and then select *Run*.
⚠	Indicates critical information.

Notes:

Chapter 1.

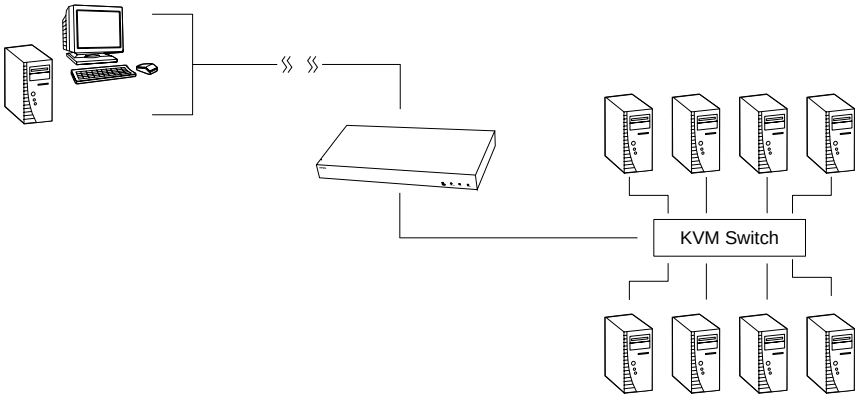
Introduction

Overview

The CN-6000 is a control unit that allows operators to monitor and access their computers from remote locations using a standard Internet browser. The CN-6000 connects to the Internet, an Intranet, LAN, or WAN using industry standard Category 5 cable, then uses KVM cable to connect to a local KVM switch or server.

Because the CN-6000 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 CN-6000 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.



With its advanced security features, the CN-6000 is the fastest, most reliable, most cost effective way to remotely access and manage widely distributed multiple computer installations.

The *Administrator* and *Client* software included with the CN-6000 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 used to configure the system; limit access from remote computers; manage users; and maintain the system with firmware and software module updates.

Both a *Windows GUI Client* and a *Java Client* are provided for IP connection and login from anywhere on the net. Inclusion of a Java-based client ensures that the CN-6000 is platform independent, and is able to work with all operating systems.

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 CN-6000 (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 CN-6000 units for the administrator to analyze.

Your CN-6000 investment is protected by a *Firmware Upgrade Utility*. 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

- 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, HTTP
- Advanced security features include password protection and advanced encryption technologies
- High video resolution: up to 1280 x 1024 @ 75Hz; 1600 x 1200 @ 60Hz
- Windows GUI and Java-based client software; Java client works with all operating systems
- Upgradeable firmware via RJ45 Ethernet connection
- Supports creation of up to 64 user accounts

System Requirements

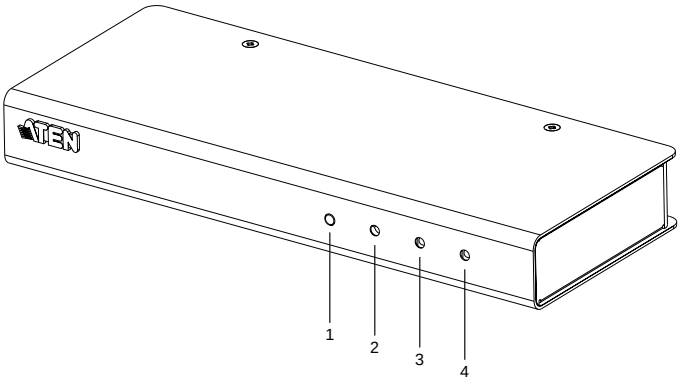
- For best results we recommend that the computers used to access the CN-6000 control unit have at least a P III 1 GHz processor, and that the screen resolution is set to 1024 x 768.
- Browsers must support 128 bit data encryption.
- For best results we recommend that the internet connection speed be at least 128 kbps.
- For the Windows Client, you must have DirectX 7.0 or higher installed.
- For the Java Client, you must have Sun's Java 2 (1.4 or higher).
- For the Log Server, you must have the Microsoft Jet OLEDB 4.0 or higher driver installed.
- 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, 120
1024 x 768	60, 70, 75, 85, 90, 100
1152 x 864	60, 70, 75, 85
1280 x 1024	60, 70, 75
1600 x 1200	60

Chapter 2.

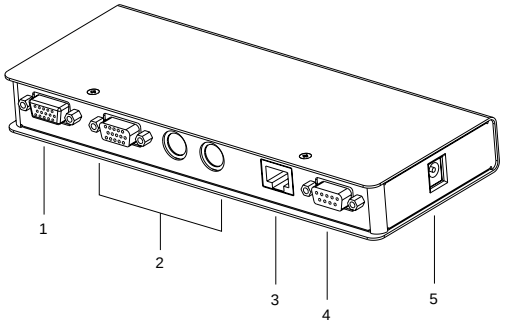
Hardware Setup

Front View



1.	Reset / Firmware Upgrade Switch	Pressing and holding this switch in while powering ON the CN-6000 returns it to the factory default firmware level. After the CN-6000 has been powered ON, pressing and holding this switch in for more that two seconds 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.	Data Speed LED	The LED lights GREEN to indicate 10 Mbps data transmission speed. The LED lights ORANGE to indicate 100 Mbps data transmission speed.
3.	Link LED	Flashes GREEN to indicate that a Client program is accessing the device.
4.	Power LED	Lights ORANGE when the CN-6000 is powered up and ready to operate.

Rear View



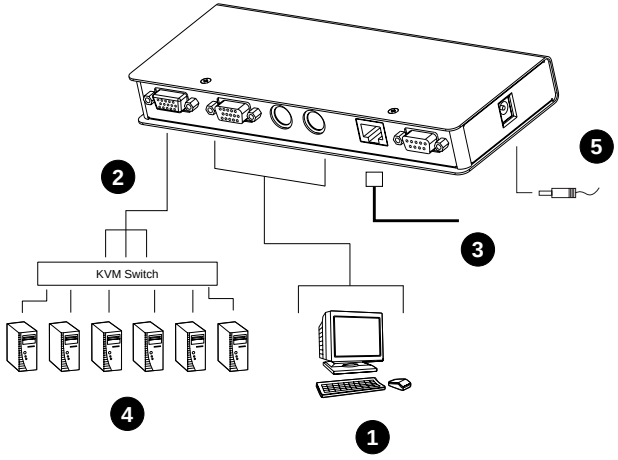
1.	KVM Port	The KVM cable (supplied with this package) that links the CN-6000 to your KVM switch or server plugs in here.
2.	Local Console Section	The CN-6000 can be accessed via a local console as well as over the Net. The cables for the local console (keyboard, monitor, and mouse) plug in here. Each port is color coded and marked with an appropriate icon to indicate itself.
3.	RJ-45 Port	The cable that connects the CN-6000 to the Internet server plugs in here.
4.	RS-232 Port	The RS-232 port is made available for use with a Power over the NET™ remote power management module. Contact your dealer for details.
5.	Power Jack	The power adapter cable plugs in here.

Installation

1. Make sure that power to any 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. Make sure that all devices on the installation are properly grounded.

To install the CN-6000, refer to the diagram below (the diagram 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 CN-6000's KVM Port, 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 CN-6000's RJ-45 socket.
4. Power up your server or KVM installation.
5. Plug the power adapter cable into the CN-6000's power jack, then plug the power adapter into an AC power source.



Notes:

Chapter 3.
Getting Started

Logging In

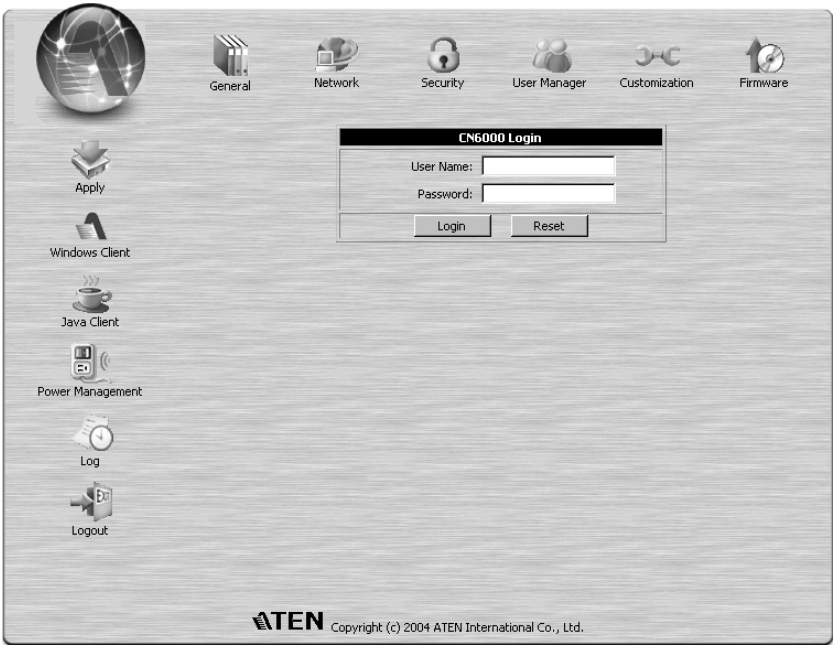
CN-6000 is Internet browser based. To begin:

1. Open your browser and specify the IP address of the CN-6000 you want to access in the browser's URL location bar.

   Note: 1. Get the IP address from the CN-6000 administrator.

   2. If you are the administrator, and are logging in for the first time, the various ways to determine the CN-6000's IP address are described in the Appendix on p. 43.

2. A *Security Alert* dialog box appears. Accept the certificate. The CN-6000 login page appears:



3. Provide a valid Username and Password (set by the CN-6000 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 Manager*, p. 20).

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.

Screen Elements

The icons arranged horizontally across the top of the page are linked to the administration utilities, which are used to configure the CN-6000. Your ability to make configuration changes depends on the permissions associated with your login information (see *User Managment*, p. 20). Use of the administrative functions is discussed in Chapter 4.

The icons arranged vertically down the left side of the page are used to operate the CN-6000. Their purpose is discussed in the table below:

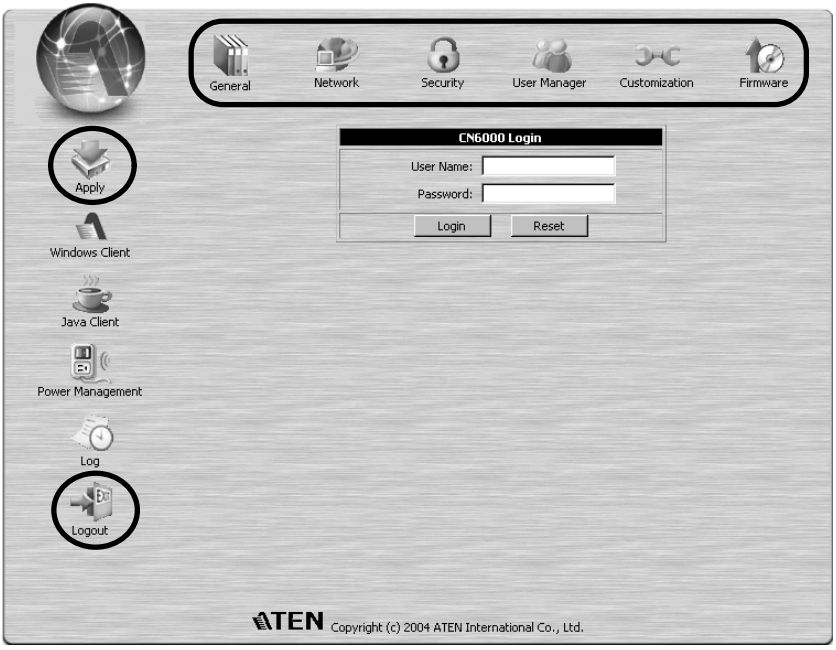
Icon	Purpose
	Saves the changes you make in the administration dialog boxes (see the *Administration* chapter), but does not implement the changes. The changes only go into effect when you enable *Reset on exit* (see p. 22 for details) and log out.
	Allows users to connect to the CN-6000 using Windows software, and to remotely control the connected server (or servers via a KVM switch).
	For platform independence, the Java client allows users that have Java installed to connect to the CN-6000 and to remotely control the connected server (or servers via a KVM switch).
	If a Power over the NET™ module is connected to your installation, clicking this icon will bring up its interface.
	All the events that take place on the CN-6000 are recorded in a log file (see *Network* p. 15 for details). Clicking this icon displays the contents of the log file.
	Click this icon to log out and end your CN-6000 session. **Note:** It is important to log out when you end your session. Otherwise, you must wait until the timout setting has expired before the CN-6000 can be accessed again. (See *Time out control* under the Customization dialog box, p. 22.)

Notes:

Chapter 4.
Administration

Introduction

The administration utilities, represented by the icons located across the top of the CN-6000 web page, are used to configure the CN-6000 for operation.

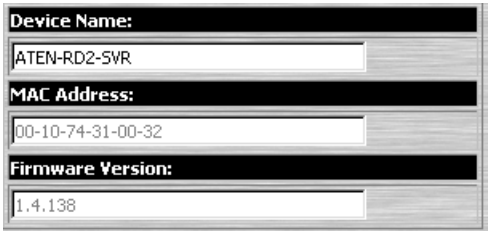


This chapter discusses each of them in turn. As you make your configuration changes, Click the **Apply** icon at the upper left of the web page to save the changes in the CN-6000's configuration file. To have the changes actually take effect, you have to put a check in the *Reset on Exit* box (see *Customization*, p. 22), and log out.

Note: If you don't have Configuration privileges (see *User Management*, p. 20) the Administration configuration dialogs are available for viewing, but the input fields are disabled, and cannot be changed.

General

Once you login, the *General* panel displays on the web page:



It is the first of the Administration pages, and provides information about the CN-6000's status.

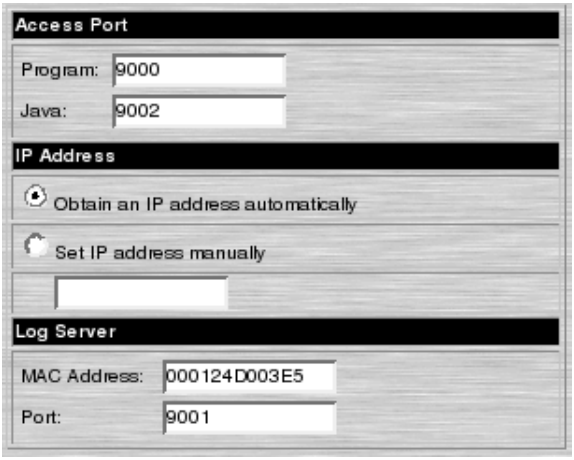
An explanation of each of the fields is given in the table below:

Device Name:	To make it easier to manage installations that have more than one CN-6000, each one can be given a name. To assign a name for the CN-6000, key in one of your choosing here (15 characters max.).
MAC Address:	The CN-6000's MAC Address displays here.
Firmware Version:	Indicates the CN-6000's current firmware version level.

Note: New versions of the CN-6000's firmware can be downloaded from our website as they become available, (see p. 23 for details).

Network

The Network dialog is used to specify the CN-6000's network environment.



Access Port

As a security measure, if a firewall is being used, the Administrator can specfy the port numbers that the firewall will allow (and set the firewall accordingly). Users must specify the port number as part of the IP address when they log in to the CN-6000. If an invalid port number (or no port number) is specified, the CN-6000 will not be found.

Note: 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.

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 CN-6000 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.

  Note: If the CN-6000 is on a network that uses DHCP to assign network addresses, and you need to ascertain its IP address, see *IP Address Determination*, p. 43, for information.

- To specify a fixed IP address, select the *Set IP address manually*, radio button and fill in the IP address.

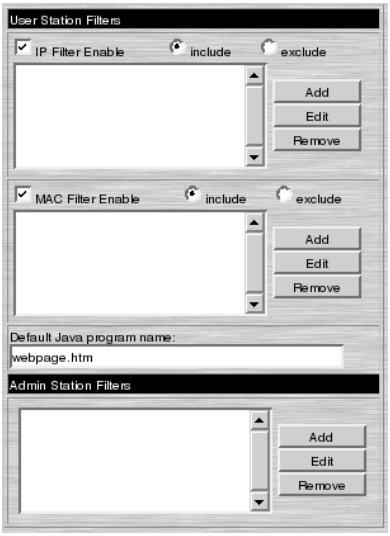
Log Server:

Important transactions that occur on the CN-6000, such as logins and internal status messages, are kept in an automatically generated log file.

Specify the MAC address and a Port number for the server you want the log server software to reside on.

Security

The Security page is used to control access to the CN-6000.



- *IP* and *MAC Filters* permit or deny access to the CN-6000 for specific IP and MAC addresses attempting to access the system.
- The *Default Java program name* lets the Administrator specify the page that the user connects to when he accesses the CN-6000 with his browser. The user must include the name of this page in the IP address, or he will not be granted access. For security purposes, we recommend that you change the name of this page from time to time.

  Note: If no page is specified here, anyone will be able to access the CN-6000 with the IP address alone. This is a very insecure situation.

- *Admin station filters* specify which MAC addresses are allowed to access the CN-6000 configuration dialogs. If nothing is specified here, there are no restrictions.

  Note: Adminstration filtering is only supported in the AP version of the Administrator Utility. The AP version is located on the CD that came with this package.

Filtering

There are a maximum of 100 filters allowed for each category: User IPs; User MACs; and Administrator MACs. User Station filtered items (IPs and MACs) can be specified as included or excluded by highlighting the item and clicking the *include* or *exclude* radio button.

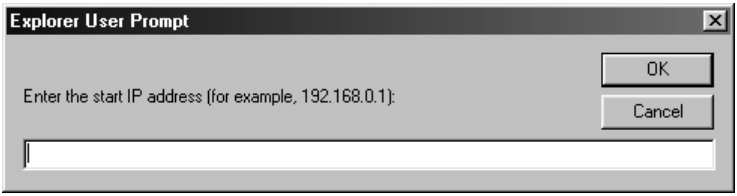
- If the *include* button is checked, all the addresses within the filter range are allowed access to the CN-6000; all other addresses are denied access.
- If the *exclude* button is checked, all the addresses within the filter range are denied access to the CN-6000; all other addresses are allowed access.

User Station Filtering - IPs:

To enable IP filtering for User Stations, **Click** to put a check mark in the *IP Filter enable* checkbox.

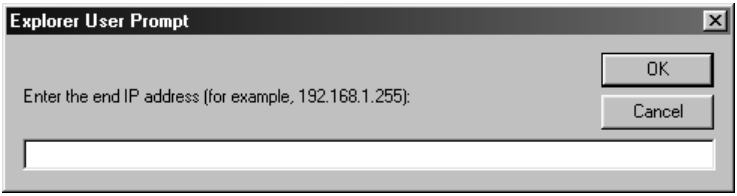
To add a filter:

1. Select whether to include or exclude the filter.
2. Click **Add**. A dialog box similar to the one below appears:



3. Specify the filter address in the dialog box, then Click **OK**.

   Each IP filter can consist of a single address, or a range of addresses. Therefore, a second dialog box similar to the one below appears:



4. To filter a single IP address, key in the same address as the start IP. To filter a continuous range of addresses, key in the end number of the range.
5. Repeat these steps for any additional IP addresses you want to filter.

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 Filtering - MACs:

To enable MAC filtering for User Stations, **Click** to put a check mark in the *MAC Filter enable* checkbox.

To add a filter:

1. Select whether to include or exclude the filter.
2. Click **Add**. A dialog box similar to the one below appears:

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

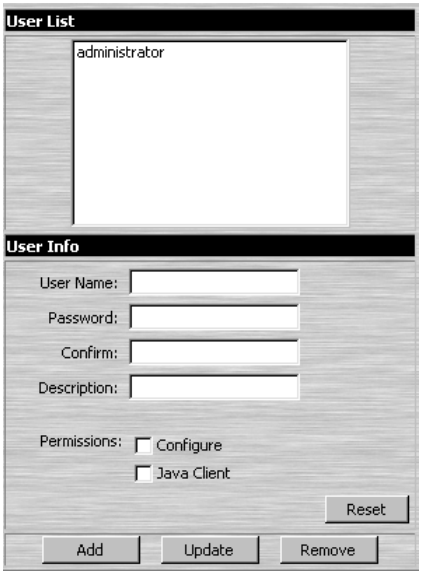
To delete a filter, select it and Click **Remove**. To modify a filter, select it and Click **Edit**. The *Edit* dialog box is similar to the *Add* dialog box. When it comes up, simply delete the old address and replace it with the new one.

Administrator Station Filters:

The Administrator station filter dialog boxes are similar to the MAC filter dialog boxes for User Stations.

User Manager

This configuration dialog is used to manage user profiles.



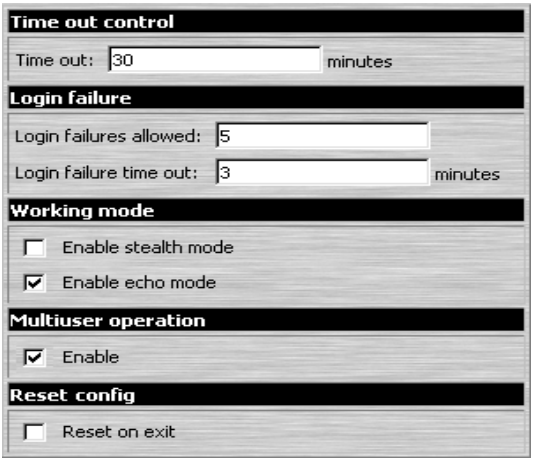
- A maximum of 64 user profiles can be created.
- To add a user, fill in the information asked for in the *User Info* dialog box and Click **Add**.
- To delete a user profile, select it from the list in the upper panel, and Click **Remove**.
- To modify a user profile, select it from the list in the upper panel; change the information shown in the *User Info* dialog box; and Click **Update**.
- The **Reset** button clears all the information shown in the *User Info* dialog box fields.

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	By default, all users may access the CN-6000 via the Windows Client software. 1. Checking *Configure* gives a User administrator priveleges, allowing him to set up and modify the CN-6000's operating environment. 2. Checking *Java client* allows a User to access the CN-6000 via the Java Client software.

Customization

This configuration dialog allows the Administrator to set *Timeout*, *Login failure*, and *Working mode* parameters.



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

Time out Control	If the CN-6000 doesn't receive any input from a computer that is accessing it with the Windows or Java client for the amount of time specified here, it ends the connection.
Login failure	*Login failures allowed*, sets the number of consecutive failed login attempts that are permitted from a remote computer. *Login failure 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.
Working Mode	If *Stealth Mode* is **enabled**, the CN-6000 cannot be pinged. If *Echo Mode* is **disabled**, the CN-6000 will not show up in the list of local CN-6000 units. See the CN-6000 AP version manual (provided on the CD that came with this package) for details.
Multiuser Operation	Enabling Multiuser operation permits more than one user to log into the CN-6000 at the same time.
Reset on exit	Placing a check here causes the CN-6000 to reset itself and implement all the new changes when you log out. A wait of approximately 30 to 60 seconds is necessary before logging in following the reset.

Firmware

New versions of the CN-6000 firmware can be downloaded from our website:

```
www.aten.com.tw
```

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

1. After downloading the new firmware file to your computer, click the *Firmware* icon to open the Firmware configuration dialog:

2. Click the Browse button; navigate to the directory that the new firmware file was downloaded to, and select it.
3. Click **Upload**.
4. After the upload completes, click the *Apply* icon at the left of the web page.
5. Enable the *Reset on exit* checkbox (see *Customization*, p. 22).
6. Click the *Apply* icon at the left of the web page, again.
7. Click the **Logout** icon at the upper right of the web page (see p. 9) to exit and reset the CN-6000.

Notes:

Chapter 5.
The Windows Client

Starting Up

To access the CN-6000 with the Windows Client software:

1. After you log in, Click the *Windows Client* icon at the left of the web page (see p. 9).

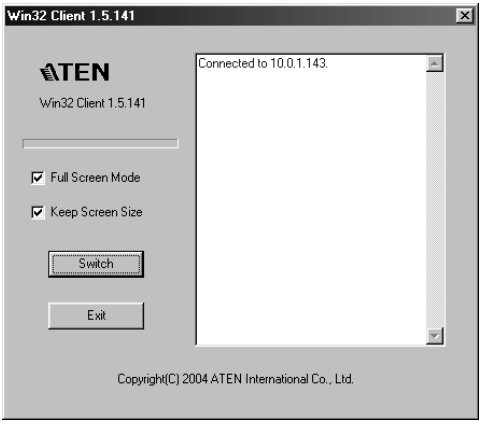
   Note: You must have DirectX 7.0 or higher installed on your computer. If not, the Client program will not load.

2. In the dialog box that comes up, click **Open**.

   Note: 1. If the browser cannot run the program, save it to disk, instead. Then, with your browser still open to the CN-6000 web page, run the file from your disk.

   2. If you use the *save to disk* method, for security purposes, you cannot simply run a previously downloaded version of the program. Each time you want to access the CN-6000, you must log in to the web page with a valid username and password to download a fresh copy of the program.

3. When a connection to the CN-6000 has been established, a screen similar to the one below appears:



Note: 1. If *Full Screen Mode* is enabled (there is a checkmark in the box), the remote display fills the entire screen of your local monitor.

2. If *Full Screen Mode* is not enabled (there is no checkmark in the box), the remote display appears as a window on your desktop. If the remote screen is larger than what is able to fit in the window, move the mouse pointer to the screen border that is closest to the area you want to view and the screen will scroll.

   Clicking the push pin icon in the title bar will cause the window to remain on top of all other open windows on your desktop.

3. 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.

4. 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 and the screen will scroll.

4. Click **Switch** to take over console control of the unit that the CN-6000 is connected to.

Operation

Once the Switch to the CN-6000 has been accomplished, the remote system's video output is captured and displayed on your monitor. At the same time, your local keystroke and mouse input is captured and sent to the remote system.

OSD Control Panel

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. The functions that the icons perform is described in the table below.

Icon	Function
	Drag the OSD display to another position on the screen by clicking and holding on the hand while you move the mouse.
	Click to bring up the Hotkey Setup dialog box (see p. 30 for details).
	Click to bring up the Video Adjustment dialog box. Right click to do a fast Auto Sync (see p. 32 for details).
	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.
	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

Except for **[Alt + Tab]** and **[Ctrl + Alt + Del]**, the effect of all keyboard input takes place on the remote computer . The above two combinations 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, a Function key (F1 - F12) can be selected as a substitute for the [Alt] key.

For example, if you choose [F12] as the substitute, then **[F12 + Tab]** would switch among apps on the remote system, and **[Ctrl + F12 + Del]**, would be the disaster recovery combination. See *Configuring the Hotkeys* on p. 32 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 CN-6000 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. There are three quick methods that can be used to bring the two pointers back into sync: 1) Moving the mouse pointer over the Arrow in the OSD panel and right clicking; 2) Moving the mouse pointer into the OSD panel and then moving it back out again; and 3) Performing an *Auto Sync* with the Video Adjustment function (see *Video Adjustment*, p. 32 for details).

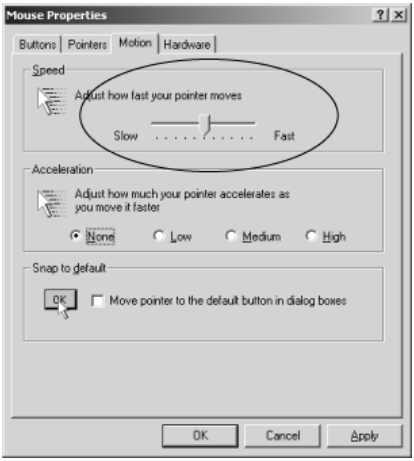
If performing these actions doesn't resolve the problem, do the following:

1. Invoke the *Adjust Mouse* action with the *Adjust Mouse* hotkeys (see p. 31 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 CN-6000 as follows:

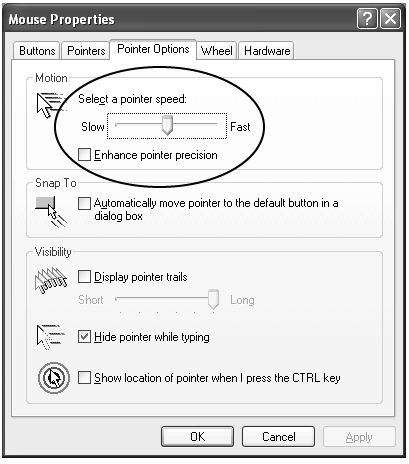
Windows 2000:

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 5th position; disable mouse acceleration (click Advanced to get the dialog box for this).

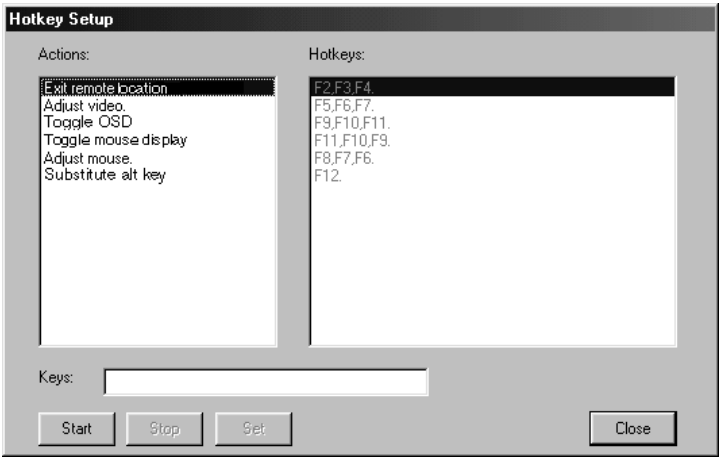
WinNT / Win98 / Win95:

Set the mouse speed to the slowest position.

Hotkeys

The Hotkey Setup Screen:

Various configuration actions related to the keyboard, video, and mouse can be performed via hotkey combinations. The Hotkey setup utility is accessed by clicking the *Keyboard* icon on the OSD Control Panel. The actions performed by the Hotkeys are listed in the left column; the currently defined keys that invoke the actions are shown in the column to the right.



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

Action	Explanation
Exit remote location	Break the connection to the CN-6000 and return to local operation.
Adjust Video	Bring up the video adjustment utility.
Toggle OSD	Toggles the OSD display Off and On.
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.
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	Although all other keyboard input is captured and sent to the CN-6000, [Alt + Tab] and [Ctrl + Alt + Del] work on your local computer. In order to implement their effects on the remote system, a function key is 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.

Configuring the Hotkeys

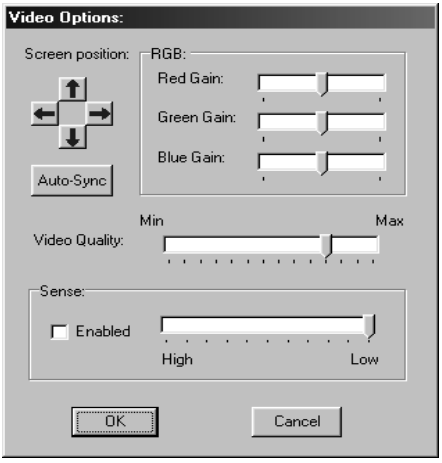
If you find the default Hotkey combinations inconvenient, you can configure them to whatever suits your taste, as follows:

1. 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.

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. 31). 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	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. If the local and remote mouse pointers are out of sync, in most cases, performing this function will bring them back into sync. **Note:** This function works best with a bright screen. If you are not satisfied with the results, use the Screen Position arrows to position the remote display manually.
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 throught the network. Depending on the network bandwidth, a high value may adversely effect response time.
Sense	If you need to adjust the gamma level of the remote video display, put a check mark in the *Enable* box, then drag the slider bar until the desired result is obtained.

Notes:

Chapter 6.

The Java Client

Introduction

The Java Client makes the CN-6000 accessible to all platforms. that have Java 2 installed. Java 2 is available for free download from Sun's Java web site (http://java.sun.com). To access the CN-6000 with the Java Client software:

1. After you log in (see p. 9), Click the *Java Client* icon.
2. In the dialog box that appears, select *Open*.

   Note: If the browser won't open the Java Client program, save the program to disk and, with your browser still open, *Launch* it after the save.

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

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

Operation

You can work on the remote system via the screen display on your monitor 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.

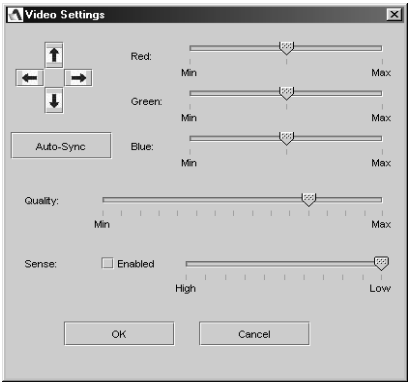
4. If the local and remote mouse pointers get out of sync, you can use the *Mouse Synchronization Button* to bring them back into synch (see p. 38 for details).

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. 32 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 CN-6000, 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. You can try getting them back in sync with a *fast mouse synchronization* by moving the mouse pointer down into the Java Client toolbar. If that doesn't help, do an Autosync (as discussed on the previous page).

If an Autosync doesn't resolve the problem the Mouse Synchronization function can get them back into sync. This is similar to the Mouse Synchronization feature of the Windows Client (see p. 28 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 Help pages.

Exit:

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

Chapter 7.

The Log File

The Log File Screen

The CN-6000 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 lower left of the page. A screen similar to the one below appears:

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

Notes:

Appendix

Specifications

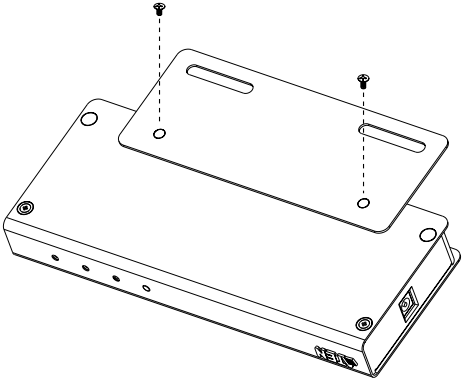
Function		Specification
Connectors	Console Ports	1 x 6 pin mini-DIN F - Keyboard 1 x 6 pin mini-DIN F - Mouse 1 x HDB-15 F - Video
	KVM Link	1 x SPHD-15 F
	LAN	1 x RJ-45 Receptacle
	PON[1]	1 x RS-232
	Power	1 x DC Jack (5V; 2.6A)
LEDs	Power	1 (Orange)
	Link	1 (Green)
	10/100 Mbps	1 (Green/Orange)
Video		Up to 1600 x 1200 @ 60 Hz
Power Consumption		DC5V; 7W
Protocols		10BaseT Ethernet; 100BaseT Fast Ethernet; TCP/IP; HTTP
Environment		Operating Temperature: 0 - 50^{o} C Storage Temperature: -20 - 60^{o} C Humidity: 0 - 80% RH
Housing		Metal
Weight		0.51kg
Dimensions (L x W x H)		20 x 8 x 2.5 cm

1 Power Over the Net

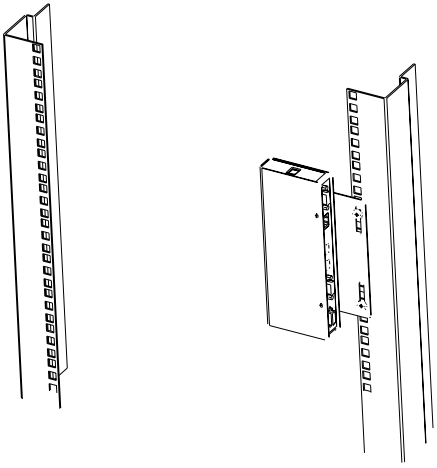
Rack Mounting

For convenience and flexibility, the CN-6000 can be mounted on a system rack. To rack mount the unit do the following:

1. Screw the mounting bracket into the top or bottom of the unit as shown in the example diagram below.



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



IP Address Determination

If you are an administrator logging in for the first time, you need to access the CN-6000 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 CN-6000. If the CN-6000's address was set by DHCP, Method 3 will show you what the DHCP assigned address is.

After you have connected and logged in you can give the CN-6000 its fixed network address in the *Network Settings* dialog box (see p. 15). If you want to have the CN-6000's address set by DHCP and the address changes, use Method 3 to determine the new address.

Method 1: (For a fixed IP address)

When the CN-6000 starts, if it doesn't find a DHCP environment after 30 seconds, it automatically sets its IP address to 192.168.0.60.

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

   Where *XXX* represents any number or numbers except 60.

2. Specify the switch's default IP address (192.168.0.60) in the URL entry box of your browser.

3. After you connect and log in, assign a fixed IP address for the CN-6000 that is suitable for the network segment that it resides on.

4. After you log out, be sure to reset your computer's IP address to its original value.

Method 2: (For a fixed IP address)

A fixed IP address can also be assigned with the ARP command as follows:

1. If the Cn-6000 is powered on, Power it off by unplugging its power adapter cable.
2. Run the ARP command with the following arguments:

   ```
   arp -s <desired ip address> <CN-6000's MAC address>
   ```

   Where the IP address that you assign is one suitable for the network segment that the CN-6000 resides on.

   Note: The CN-6000's MAC address can be found on its bottom panel.

3. Power on the CN-6000
4. From your browser, log into the CN-6000 using the IP address you just assigned.

   Note: You must do this within 30 seconds of powering the CN-6000 on.

Method 3: (For a DHCP address)

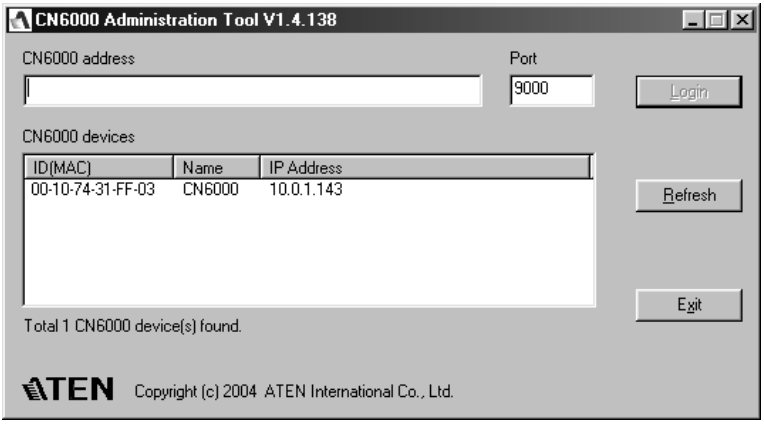
For computers running Windows, the CN-6000's DHCP generated IP address can be determined with the *AdminTool* utility (found on the distribution CD):

1. Double click the AdminTool utility icon on the CD to install the utility on your computer.

   When the installation completes, there is a *CN6000 AdminTool* icon on your desktop.

2. Double click the CN6000 AdminTool icon.

   The utility searches the network segment for CN-6000 devices, and displays what it finds in a dialog box similar to the one below:



   The DHCP assigned IP address appears in the right hand column of the *CN6000 Devices* panel:

   Note: 1. If there is more than one device in the list, use the MAC address to pick the one you want. The CN-6000's MAC address is located on its bottom panel.

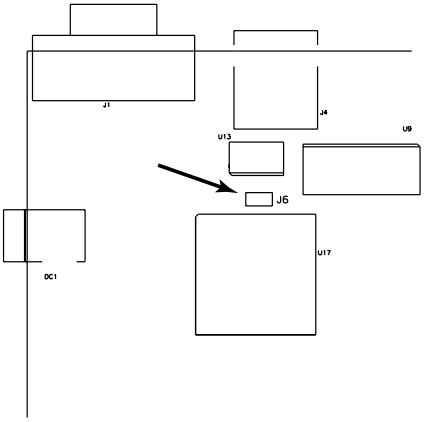
   2. If the list is empty, or your device doesn't appear, click **Refresh** to refresh the Device List.

3. Click **Exit** to close the utility.

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), you can clear the login information with the following procedure:

1. Power off the CN-6000 and remove its housing.
2. 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 start the CN-6000 back up.

   After you start back up, you can use the default Username and Password (see p. r10) to log in.

Troubleshooting

General Operation

Problem	Resolution
Erratic Operation	If the CN-6000 is connected to a KVM switch, make sure to power on the switch before powering on the CN-6000.
	Press and hold the Reset button (see p. 5), for longer than three seconds.
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 p. 31 for details.

The Windows Client

Problem	Resolution
Windows Client won't connect to the KN9116.	DirectX 7.0 or higher must be installed on your computer.
Remote mouse pointer is out of step.	1. Use the *AutoSync* feature (see *Video Adjustment*, p. 32), to synch the local and remote monitors. 2. If that doesn't resolve the problem, use the *Adjust Mouse* feature (see *Mouse Movement*, p. 28) to bring them back in step. 3. If the two methods shown above fail to resolve the problem, use the *Toggle Mouse Display* function (see p. 31).
Part of remote window is off my monitor.	If *Keep Screen Size* (see p. 26) is not enabled, use the *AutoSync* feature (see *Video Adjustment*, p. 32), to sync the local and remote monitors. If it is enabled, see the discussion under *Config* on p. 26.
The remote screen display is rotated 90^{o}	Enable *Keep Screen Size*. See the discussion under *Config* on p. 26 for details.
I can't run Net Meeting when the Windows Client is running.	Enable *Keep Screen Size*. See the discussion under *Config* on p. 26 for details.

Sun Systems

Problem	Resolution

Video display problems with HDB15 interface systems (e.g., Sun Blade 1000 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

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:
	
	`ffbconfig -res 1024x768x60`
	
	2. Log out
	3. Log in

The Java Client

For mouse synchronization problems, refer to the discussion on page 38. For connection and operation problems, see the table below:

Symptom	Action
Java Client won't connect to the CN-6000	1. Java 2 JRE 1.4 or higher must be installed on your computer. 2. Make sure to include the correct name of the web page when you specify the CN-6000's IP address. 3. Close the Java Client, reopen it, and try again.
Java Client performance deteriorates.	Exit the program and start again.

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.

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.

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KVM ON THE NET™

User Manual

CN-6000

Warning!

This is a 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.

FC CE

Packing List

The complete CN-6000 package consists of:

- 1 CN-6000 KVM On the Net™ Control Unit
- 1 CS Custom KVM Cable Set
- 1 Power Adapter
- 1 Rack Mount Kit
- 1 Software CD
- 1 User Manual
- 1 Quick Start Guide

Check to make sure that all the components are present and that nothing was damaged in shipping. If you encounter a problem, contact your dealer.

Read this manual thoroughly and follow the installation and operation procedures carefully to prevent any damage to the unit, and/or any of the devices connected to it.

Manual Part No. PAPE-0227-1AT
Printed in Taiwan 10/2003

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About This Manual

This User Manual is provided to help you get the most from your CN-6000 system. It covers all aspects of installation, configuration and operation. An overview of the information found in the manual is provided below.

Overview

Chapter 1, Introduction, introduces you to the CN-6000 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 CN-6000 to your server or KVM switch and the Internet.

Chapter 3, The Administrator Utility, explains how to connect to the CN-6000 as an administrator; and how to configure the CN-6000 for operation.

Chapter 4, The Windows Client, explains how to run the Windows Client Software; how to connect to the CN-6000 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 CN-6000 and how to remotely control the connected server (or servers via a KVM switch).

Chapter 6, The Log Server, is a Windows-based administrative utility that records all the events that take place on selected CN-6000 units and stores them in a searchable database.

An Appendix at the end of the manual provides specifications and other technical information regarding the CN-6000.

An Index follows the Appendix for convenient reference to the manual's 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.

Notes:

Chapter 1.

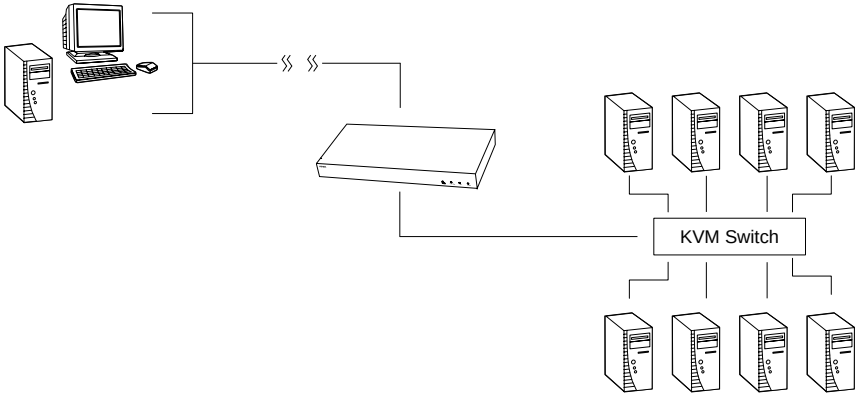
Introduction

Overview

The CN-6000 is a control unit that allows operators to monitor and access their computers from remote locations. The CN-6000 connects to the Internet, an Intranet, LAN, or WAN using industry standard Category 5 cable, then uses KVM cable to connect to a local KVM switch or server.

Since the CN-6000 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 CN-6000 via its IP address. Once a connection has been established and authorization granted, operators of 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 present locally and working on the equipment directly.



With its advanced security features, the CN-6000 is the fastest, most reliable, most cost effective way to remotely access and manage widely distributed multiple computer installations.

The *Administrator* and *Client* software utilites provided with the CN-6000 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 used to: configure the system; limit access from remote computers; manage users; and maintain the system with firmware and software module updates.

Both a *Windows GUI Client* and a *Java Client* are provided for IP connection and login from anywhere on the net. Inclusion of a Java-based client ensures that the CN-6000 is platform independent, and is able to work with all operating systems.

The CN-6000's 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 CN-6000 (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 CN-6000 units for the administrator to analyze.

Your CN-6000 investment is protected by a *Firmware Upgrade Utility*. 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

- 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, HTTP
- Advanced security features include password protection and advanced encryption technologies
- High video resolution: up to 1280 x 1024 @ 75Hz; 1600 x 1200 @ 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

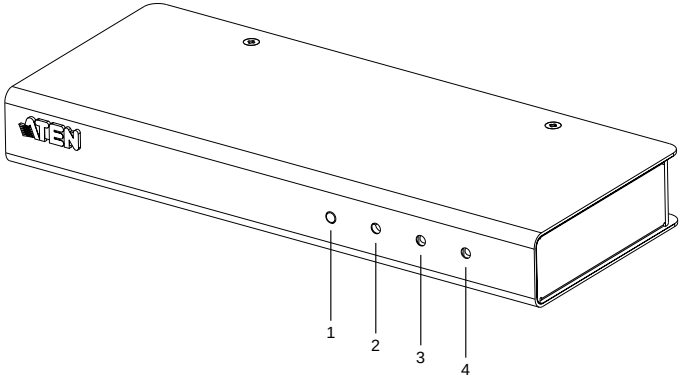
System Requirements

- For best results we recommend that the computers used to access the CN-6000 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 (IBM Java 1.3 or higher).
- For the Log Server, you must have the Microsoft Jet OLEDB 4.0 or higher driver installed.

Notes:

Chapter 2.
Hardware Setup

Front View



1. Reset / Firmware Upgrade Switch

- Pressing and holding this switch in while powering *On* the CN-6000 puts the switch into Firmware Upgrade mode.
- Pressing and holding this switch in for more that two seconds 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

- The LED lights GREEN to indicate 10 Mbps data transmission speed.
- The LED lights ORANGE to indicate 100 Mbps data transmission speed.

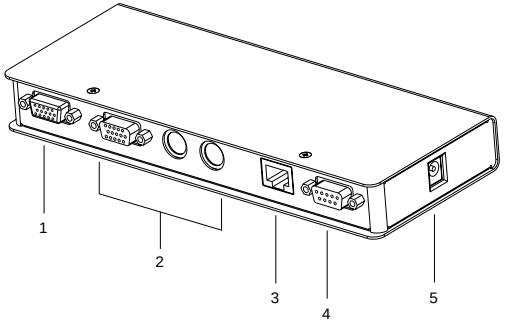
3. Link LED

Flashes GREEN to indicate that a Client program is accessing the device.

4. Power LED

Lights when the CN-6000 is powered up and ready to operate.

Rear View



1. KVM Port

The KVM cable (supplied with this package) that links the CN-6000 to your KVM switch or server plugs in here.

2. Local Console Section

The CN-6000 can be accessed via a local console as well as over the Net. The cables for the local console (keyboard, monitor, and mouse) plug in here. Each port is color coded and marked with an appropriate icon to indicate itself.

3. RJ-45 Jack

The cable that connects the CN-6000 to the Internet server plugs in here.

4. RS-232 Port

The RS-232 port is reserved at this time.

5. Power Jack

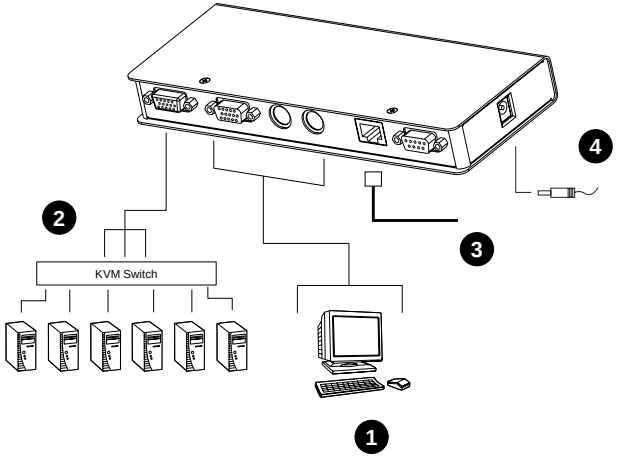
The power adapter cable plugs in here.

Installation

1. Before you begin, 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 CN-6000, refer to the diagram below (the diagram 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 CN-6000's KVM Port, 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 CN-6000's RJ-45 socket.
4. Plug the power adapter cable into the CN-6000's power jack, then plug the power adapter into an AC power source.
5. Power up your server or KVM installation.



Notes:

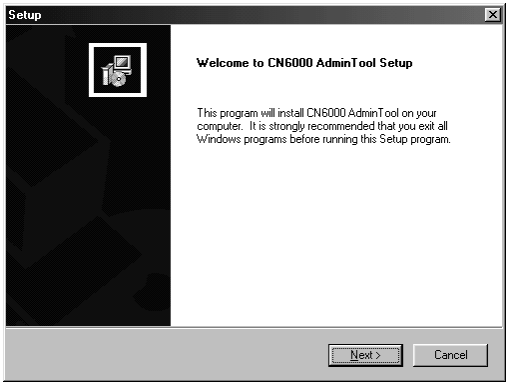
Chapter 3.
The Administrator Utility

Introduction

Installation

The Windows-based Administrator Utility software is provided on the distribution CD included with this package. To install the Administrator Utility, insert the CD into your CD-ROM drive and double click the *CN6KAdmin...* package icon.

The Administration Utility installation screen appears:

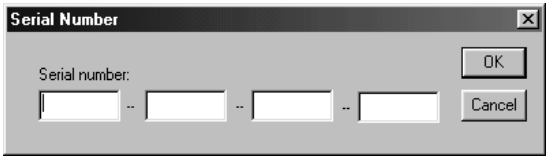


Follow the on-screen instructions. When the installation completes, a *CN6000AdminTool* icon appears on your desktop.

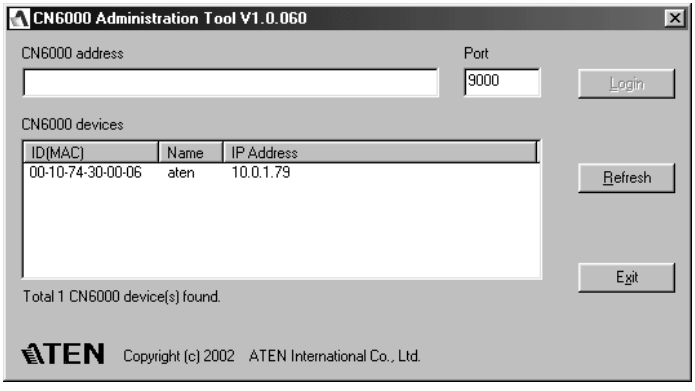
Starting Up

To bring up the Administrator Utility Main Screen, **Double Click** the CN6KAdmin-Tool icon, or key in the full path to the program on the command line.

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 CN-6000. Key in the serial number - 5 characters per box - then Click OK.



After you correctly specify the serial number, the Administrator Utility main screen comes up:



Since this is the first time you are running the Utility, you must closeand restart the program at this point, in order to ensure an accurate reading.

Note: You only need to do this the very first time you run the Utility.

When the Utility comes back up, it searches for all the the CN-6000 devices installed on the local LAN segment and displays the results in the large central panel (*CN-6000 devices*).

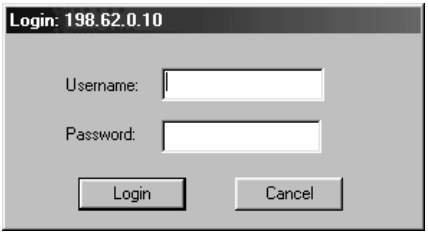
- If the unit you wish to configure appears in the listbox, **Double Click** it.
- If the unit you want doesn't appear in the listbox, key in its IP address in the *CN-6000 address* field, and its Port number in the *Port* box, then Click **Login**.

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 CN-6000 devices.
3. If the utlity 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 CN-6000 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 connnects to the unit you specified, a login window appears:



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 apperars:

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 CN-6000 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 (see p. 15).

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

Uploading Changes

When the Settings have been configured to your satisfaction and you are ready to upload the changes to the CN-6000:

1. Click **OK** (at the bottom of the Settings notebook), to start the updating procedure.When updating has finished, the following message appears:

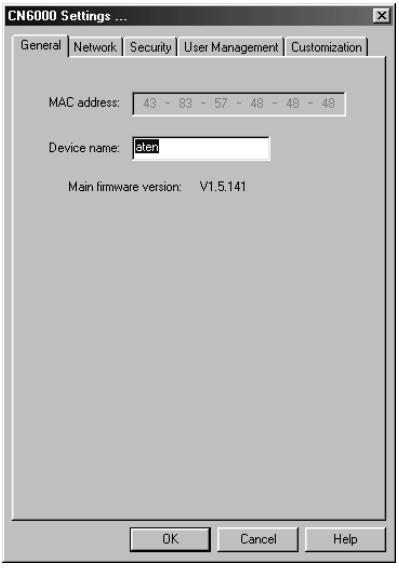
2. Click **OK** and you return to the Administration Utility device selection window (see p.10).

   Note: Any changes you made to the IP or MAC address settings will show up after you Click **Refresh**.

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**.(at the bottom of the Settings notebook).

General

The General page provides information about the CN-6000's status.



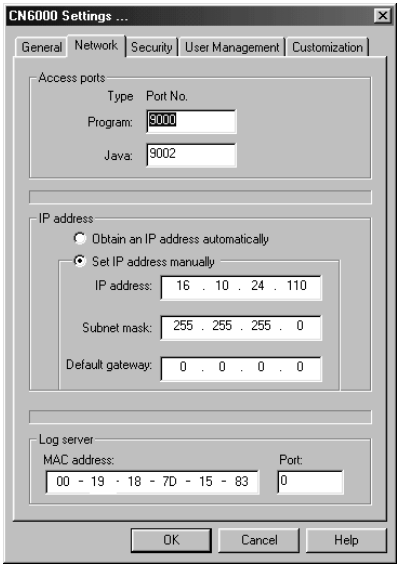
An explanation of each of the items is given in the table below:

MAC Address	The CN-6000's MAC Address displays here.
Device Name:	To make it easier to manage installations that have more than one CN-6000, each one can be given a name. To assign a name for the CN-6000, 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.

Note: New versions of the CN-6000's firmware and authentication software can be dowloaded from our web site as they become available, (see p. 24 for details).

Network

This page is used to specify the CN-6000's network environment.



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 CN-6000's IP address. Unless the correct Port number is given, the CN-6000 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 CN-6000 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:
  1. Select the *Set IP address manually*, radio button and fill in the required information.
  2. Click the *Customization* tab (at the top of the Settings notebook).
  3. On the *Customization* page (see p. 23), click **Reset on exit**, then click **OK**.

     The *Parameters have been set* Message appears (see p. 14). Click **OK** and you return to the Administration Utility device selection window (see p. 10)
  4. Click Refresh to update the CS-6000's IP Address in the device selection window.

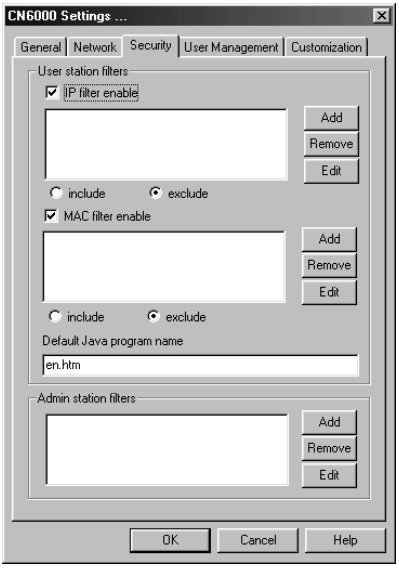
Log Server:

Important transactions that occur on the CN-6000, such as logins and internal status messages, 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 CN-6000.



- *User station filters* permit or deny access to the CN-6000 for specific IP and MAC addresses attempting to access the system with CN-6000 Client software.
- The *Default Java program name* lets the Administrator specify the page that the user connects to when he accesses the CN-6000 with the Java Client. The user must include the name of this page in the IP address that he specifies or he will not be granted access. For security purposes, we recommend that you change the name of this page from time to time.

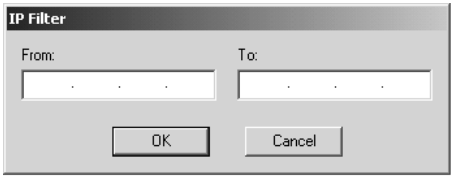
  Note: 1. If no page is specified here, no one will be able to access the CN-6000 with the Java Client.

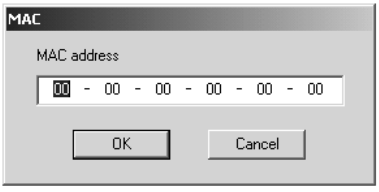
  2. See p. 26 for information regarding the implementation of a Java Access Page; see chapter 5 for Java Client details.

- *Admin station filters* specify which MAC addresses are allowed to access the system with the CN-6000 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):

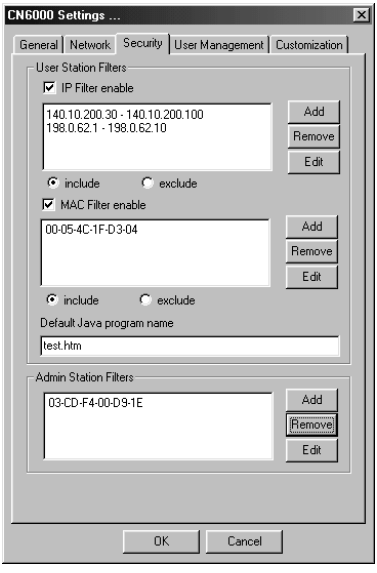




  - Specify the filter address in the dialog box, then Click **OK**.
  - Each filter can consist of a single IP or MAC address, or a range of IP addresses. For a single IP address filter, the address is the same for both the *From* and *To* fields.
- To delete a filter, select it and Click **Remove**; 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 CN-6000; all other addresses are denied access.
  - If the exclude button is checked, all the addresses within the filter range are denied access to the CN-6000; 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:

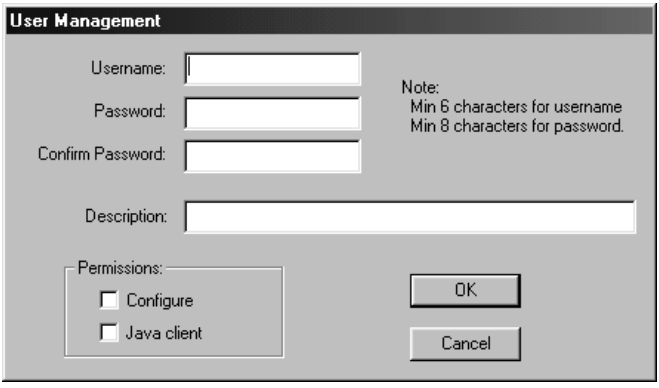


User Management

This page is used to manage user profiles.

- A maximum of 64 users can have access to a CN-6000.
- To add a user, 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:

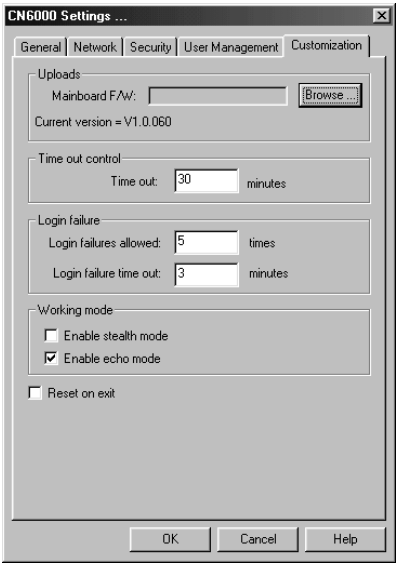


An explanation of the profile items is given in the table below:

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	By default, all users may access the CN-6000 via the Windows Client software. 1. Checking *Configure* defines an Administrator who is allowed to configure the system, but does not have permission to access the CN-6000 via the Java Client software. 2. Checking *Java access* defines a User who is allowed to access the CN-6000 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 CN-6000 via the Java Client software.

Customization

This page allows the Administrator to upgrade the *Mainboard* and *I/O* firmware, the *Java Authentication Program* version and to set *Timeout* and *Login failure* parameters.



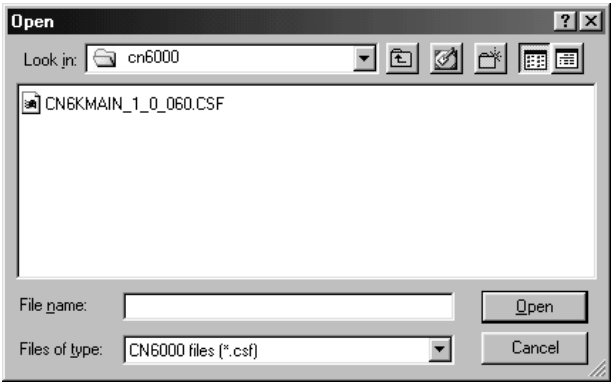
An explanation of the Customization items is given in the table below:

Uploads	After obtaining a new version of the firmware (see p. 15), specify the directory that you have put it in here to start the firmware upgrade procedure (see p. 24 for details).
Time out Control	If the CN-6000 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	*Login failures allowed*, sets the number of consecutive failed login attempts that are permitted from a remote computer. *Login failure 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.
Working Modes	If *Stealth Mode* is **enabled**, the CN-6000 cannot be pinged. If *Echo Mode* is **disabled**, the CN-6000 will not show up in the list of local CN-6000 units (see p. 10 and p. 30)
Reset on exit	Placing a check here causes the CN-6000 to reset itself and implement all the new changes when you Click **OK**.

Upgrading the Firmware and Java Program

New versions of the Mainboard and Java Access Page firmware files can be downloaded from our website at *http://xxxxx.com/downloads* as they become available. To upgrade the firmware, do the following:

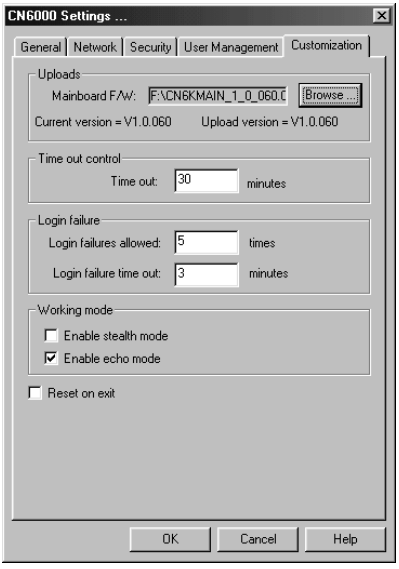
1. Go to the *Customization* page of the Administration configuration notebook (see p. 23) and Click the Browse button for the component you want to upgrade. A File Open dialog box appears.



2. Navigate to the directory that the downloaded firmware upgrade file is in, and select the upgrade file that matches the component you are upgrading.

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.

4. Enable the *Reset on exit* checkbox.

5. Click **OK** to save your settings and reset the CN-6000. Wait approximately 30 to 60 seconds before logging in to the Administrator Utility following the reset.

Java Authentication Page

As an important security feature, users who connect to the CN-6000 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 *Default Java program name* text box on the *Security* page of the *Settings Notebook* (see p. 18).

Troubleshooting

Symptom	Action
Users cannot find the CN-6000 on the network.	The power on sequence may not have been performed correctly. You must power up the CN-6000 before powering up the equipment it connects to.
After I move the CN-6000 to a different computer, it no longer shows up on the network.	This can happen if the new network supports DHCP but the CN-6000 is configured to set the IP address manually, or if the new network doesn't use DHCP to assign IP addresses, but the CN-6000 is set to obtain its IP address automatically via DHCP (see p. 16, for details). To resolve the problem: 1. Put the CN-6000 back on its original domain, and log into it there. 2. Change the setting to DHCP (if that is appropriate), or manually assign the CN-6000 a new IP address corresponding to the domain that that the new computer resides on.

Notes:

Chapter 4.
The Windows Client

Introduction

Installation

The Windows-based Client software is provided on the distribution CD included with this package. To install the Windows Client, insert the CD into your CD-ROM drive and double click the *CN6KClient...* package icon.

Follow the on-screen instructions. When the installation completes, a *CN6000 Client* icon appears on your desktop.

Starting Up

To bring up the Windows Client Main Screen, **Double Click** the *CN6K Client* icon, or key in the full path to the program on the command line.

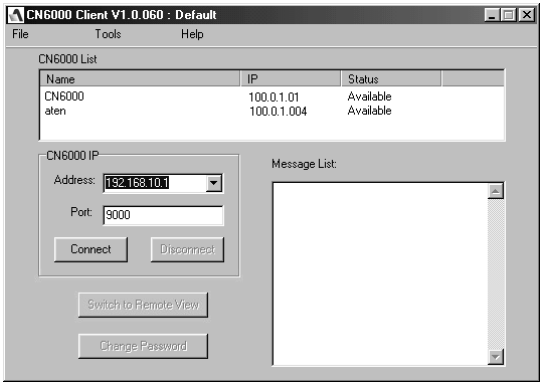
If this is the first time that you are running the program, a dialog box appears requesting you to input your serial number:

If you don't know what it is, contact the CN-6000 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:

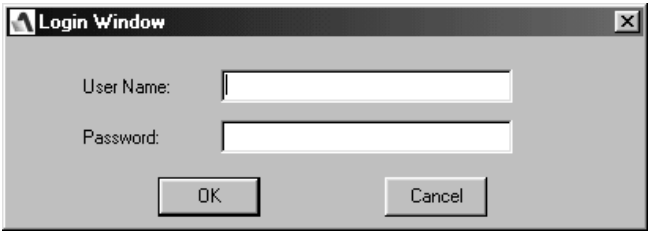
Menu Bar	The Menu Bar contains three items: File, Tools, and Help. 1. The *File Menu* allows the operator to Create, Save, and Open user created Work files (see p. 40 for details). 2. The *Tools Menu* is used to define hotkey actions. Look inside before you Open a connection to see what the preconfigured Hotkeys are. You can change the values if you wish (see p. 33 for details).
CN6000 List:	Each time the Windows *Client* is run, it searches the User's local LAN segment for CN-6000 units, and lists whichever ones it finds in this box. If you want to connect to one of these units, **Double Click** it.
CN6000 IP:	This area is used when you want to connect to a CN-6000 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 *Port* field. If you don't know the Port number contact the Administrator. When the IP address and Port number for the CN-6000 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.
Message List:	Lists status messages regarding the connection to the CN-6000.

Switchto Remote View	Once contact with a CN-6000 has been established, this button becomes active. Click it to connect and take over console control of the unit that is attached to the CN-6000. The screen ouput of the unit appears on your monitor. Your keystrokes and mouse movements are captured and sent to the CN-6000 to be executed on the attached unit. If the CN-6000 is connected to a KVM switch, you can control the switch and the computers connnected to it just as if you were connected locally.
Change Password	This button becomes active after a connection to a CN-6000 unit has been established. It allows the User to change the password he logs onto the CN-6000 with.

Connecting

To connect to a CN-6000 unit:

1. If it is in the *CN6000 List*, **Double Click** it; if you are using the *CN6000 IP* input box, specify the IP address and Port number, then Click **Open**. A *Login* dialog box appears:

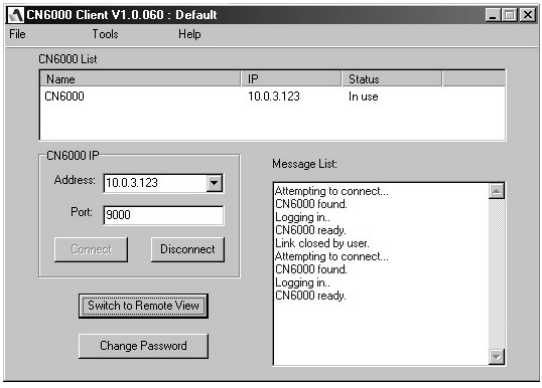


2. After you key in a valid Username and Password, Click **OK**.

   The program attempts to contact your selected CN-6000 unit.

3. Check the Message List window for status messages regarding the operation's progress.

4. Once contact with the CN-6000 has been established, the *Switch to Remote View* button becomes active.



Click it to connect to the CN-6000 and take over console control of the unit that is connected to it.

Note: Before connecting to the CN-6000, you may want to set up your Hotkeys. See the next section for details.

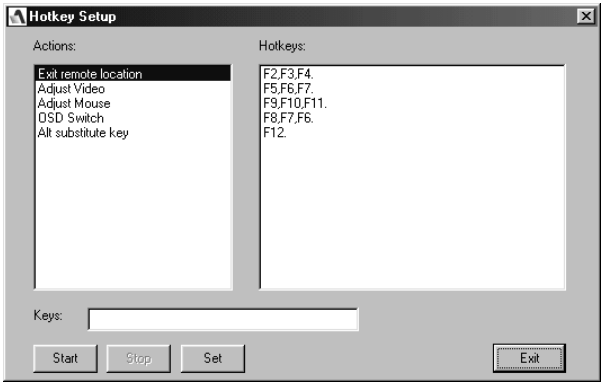
Hotkeys

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 (at the top of the *Connection* Screen, see p. 30) and selecting *Hotkeys* before connecting to the CN-6000.

Note: If you forget what the hotkey combinations are after you have started your session, Click on the OSD *Help* button (see *Screen Information*, p. 35).

The Hotkey Setup Screen

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



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

Action	Explanation
Exit remote location	Break the connection to the CN-6000 and return to local operation.
Adjust Video	Brings up the video adjustment utility.
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.
OSD Switch	Toggles the OSD display Off and On (see *Screen Information*, p. 35 for details).
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 CN-6000. 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.

Configuring the Hotkeys

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

1. 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.

Operation

Screen Information

Once the connection to the CN-6000 has been accomplished, the remote system's video output is captured and displayed on your monitor. At the same time, your local keystroke and mouse input is captured and sent to the remote system.

A small OSD (ON Screen Display) window displays the video resolution, and refresh rate of the remote system's video output, as well as a *Help* button (in the form of a question mark) to their right.

Note: 1. For computers running NT or Win 2000, the keyboard LED status also displays. (For computers running Win 98 or Win ME, the LEDs on your local keyboard reflect the status of the remote system.)

2. If the OSD is inconveniently positioned, you can move it by dragging it to a different location with the left mouse button down.

Keystrokes

Until you close the CN-6000 connection, normal keyboard input is suspeneded on the local computer. It is captured and operates on the remote system, instead. Only [Alt + Tab] and [Ctrl + Alt + Del] are available to the local system–allowing the user to switch among applications and to recover from system disaster on the local computer.

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. 34 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 CN-6000 connection, normal mouse functions are suspended on your local system. They are captured and sent to the remote system, instead.

From time to time, especially if you change video resolution, the local mouse movement may lose synchronization with the remote system's mouse pointer.

If this occurs, you can bring them back into sync by performing an *Auto Sync* (see *Video Adjustment*, p. 38 for details).

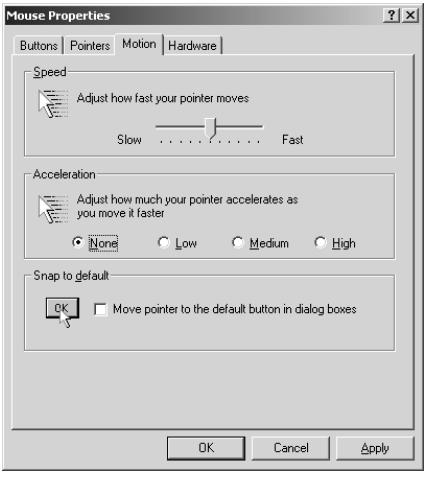
If performing an *Auto Sync* doesn't resolve the problem, do the following:

1. Invoke the *Adjust Mouse* action with the *Adjust Mouse* hotkeys (see p. 34 for details). The following dialog box, appears:

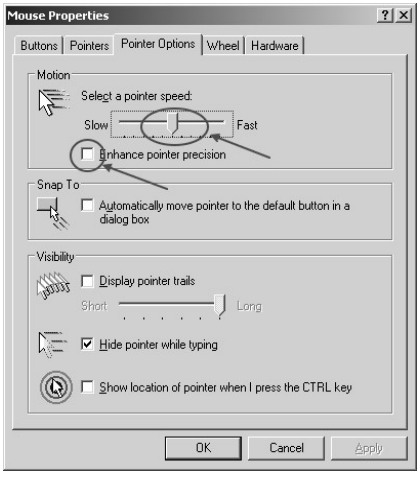
2. Click **Continue**.
3. Move the local mouse pointer exactly on top of the remote mouse pointer and **Click**.

If these procedures still do not help, set the mouse speed and acceleration for the computer (or computers via KVM switch) connected to the CN-6000 as follows:

- **Windows 2000**: Set the mouse speed to the middle position; set the mouse acceleration to *None* (Control Panel → Mouse → Mouse Properties → Motion):



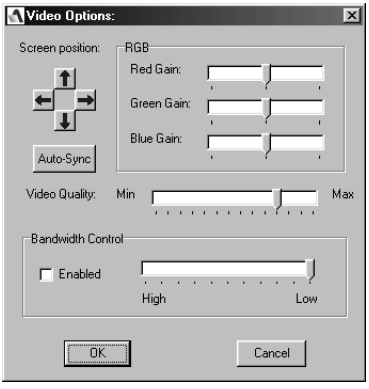
- **Windows XP**: Set the mouse speed to the middle position; disable *Enhance Pointer Precision* (Control Panel → Printers and Other Hardware → Mouse → Pointer Options):



- **WinMe / Win95**: Set the mouse speed to the middle position; disable mouse acceleration (click *Advanced* to get the dialog box for this).
- **WinNT / Win98**: 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, invoke the *Video Options* dialog box. with the *Adjust Video* hotkeys (see p. 34). The following screen appears:



An explanation of the settings is given in the following table:

Screen Position	Adjust the horizontal and vertical position of the remote display by Clicking the Arrow buttons.
Auto-Sync	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. AutoSync also adjusts the dimensions of the remote screen. Note that this function works best with a bright screen. If you are not satisfied with the results, use the *Screen Position* arrows to position the remote display manually.
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 throught the network. Depending on the network bandwidth, a high value may adversely effect 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 CN-6000 and CN-6000 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. 30) 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.

Troubleshooting

Problem	Resolution
I cannot find the CN-6000 on the network.	Check with your system administrator.
The Windows Client will not run.	The Windows Client requires DirectX. Either you don't have DirectX installed, or another program is using it. Either install DirectX, or close the program that is already using it.
The CN-6000 doesn't complete the login.	The CN-6000's default setting is to use port 9000 and port 9001. This situation can occur if there is a firewall blocking these ports. Have the administrator change the port settings.
The mouse doesn't work properly in the login dialog box.	In the login window the mouse is set to the local computer setting. After logging in the mouse will work properly.
Remote mouse pointer is out of step.	1. Use the *AutoSync* feature (see *Video Adjustment*, p. 38), to synch the local and remote monitors. 2. Use the *Adjust Mouse* feature (see *Mouse Movement*, p. 36) to bring them back in step.
Part of remote window is off my monitor.	Use the *AutoSync* feature (see *Video Adjustment*, p. 38), to synch the local and remote monitors.
Ctl+Alt+Del brings up the *Close Program* dialog box on my local machine instead of on the remote machine.	Pressing Ctl+Alt+Del closes the Windows Client and brings up the Close Program dialog box on the local machine. In order to bring up the Close Program dialog on the remote machine, you must press Ctl+F12+Del. See the Substitute Alt Key discussion on p. 34 for more details.

Notes:

Chapter 5.
The Java Client

Introduction

The Java Client is provided to make the CN-6000 accessible to all platforms and allows the User to connect from anywhere on the Internet. Any system that has Java 2 installed, can connect to the CN-6000.

Note: If you don't already have Java 2, it is available for free download from Sun's Java web site (http://java.sun.com).

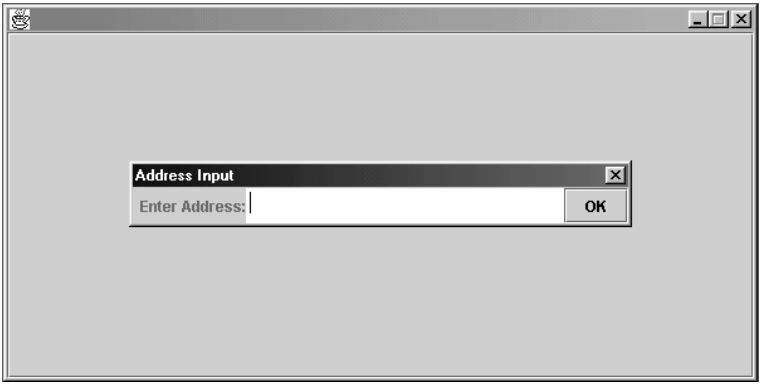
The Java Client is provided on a distribution CD included with this package. To install the Java Client, simply copy the *CN6KKMain.jar* file to your hard disk .

Starting Up

To connect to a CN-6000 unit from your workplace, **Double Click** the *Java Client* icon. If this is the first time that you are running the program, the serial number dialog box appears.

Key in the serial number - 5 characters per box - then Click **OK**. If you don't know what the number is, contact the CN-6000 administrator.

When the Java Client starts, a Welcome Screen, along with an *Address Input* dialog box appears:



Key in the IP address for the unit you want to connect to - including a forward slash followed by the name of the CN-6000's Java Client web page. For example:

```
168.10.95.001/cn6k.html
```

Important! 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.

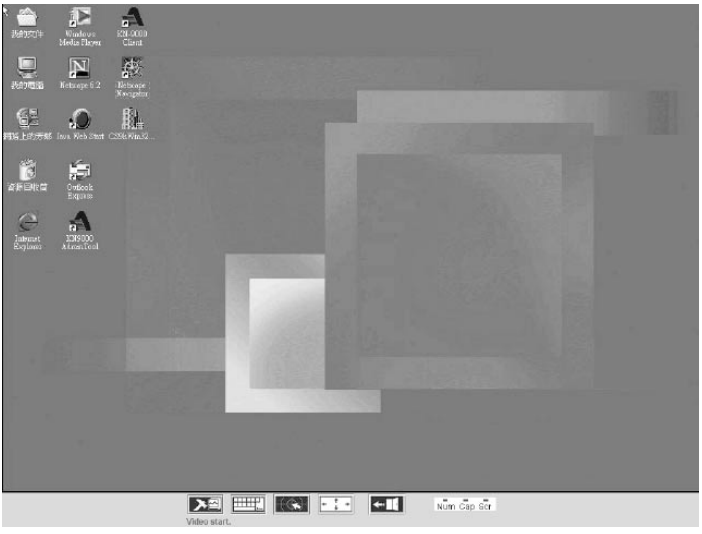
After you key in the IP address and Click **OK**, a connection progress window appears:

After you establish a connection, a Login dialog box appears. Provide a valid Username and Password and Click OK.

The Welcome Screen disappears and, after a second or two, a Login Progress window appears:

The Main Screen

After a successful login, the remote system's screen displays on your monitor as shown in the example below:



You can perform mouse and keyboard operations on this screen just as if it were your local system's display.

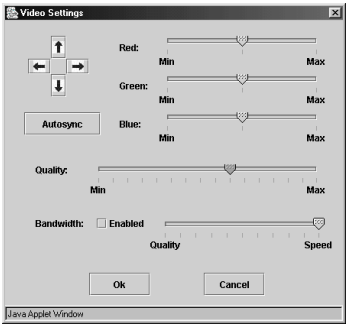
Note:
1. You can switch between your local and remote programs with [Alt + Tab].
2. Due to *net lag*, there might be a slight delay before your keystrokes show up. You may also have to wait a bit for the remote mouse to catch up to your local mouse before you click.
3. Due to *net lag*, or insufficient 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 Calibration Button* to bring them back into sync (see p. 48 for details).

The User Panel

The *User Panel* at the bottom of the screen is a Java applet that gives you control over the KVM operations.

Video

Clicking this button allows you to adjust the placement and picture quality of the remote display. This is similar to the *Adjust Video* feature of the Windows Client (see p. 38 for details). We recommend that you perform an Autosync right after you connect for improved mouse synchronization.



Keypad

Some keyboard combinations can not be captured and sent to the CN-6000. In order to implement their effects on the remote system, this function provides a one-click implementation of some common window control combinations.

Mouse Synchronization

At times the local mouse movement may lose sync with the remote mouse movement. The Mouse Synchronization function gets them back into sync. This is similar to the Mouse Adjustment feature of the Windows Client (see p. 36 for details).

1. Click the Mouse Synchronization button:
2. Wait for the remote mouse pointer to move to the upper left corner of the screen.
3. Move your local mouse pointer directly over the remote mouse pointer and Click.

If the above steps were successful, a *Mouse calibration finished* message appears. If not, a *Wrong position* message displays, in which case you should try the procedure again.

Direction Pad

In case some part of the remote display is off your monitor screen, scroll Up, Down, Left, or Right by clicking in the appropriate direction on the Direction Pad to see the desired view, or Click **AutoSync** to synchronize the local and remote screens automatically.

Tip: Since the *User Panel* is located at the bottom of the local display, it covers the Windows *Start* menu. To get at the *Start* menu, move the remote display with the Direction Pad.

Exit

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

Num Cap Scr Lock LEDs

These simulated LEDs show what the Lock key status on the remote system is. They turn Green on the browser screen when they are active.

Troubleshooting

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

Symptom	Action
I cannot find the CN-6000 on the network.	Check with your system administrator.
Java Client won't connect to the CN-6000	1. Make sure to include the correct name of the web page when you specify the CN-6000's IP address. 2. Close the Java Client, reopen it, and try again.
The CN-6000 doesn't complete the login.	The CN-6000's default setting is to use port 9000 and port 9001. This situation can occur if there is a firewall blocking these ports. Have the administrator change the port settings.
The mouse doesn't work properly in the login dialog box.	In the login window the mouse is set to the local computer setting. After logging in the mouse will work properly.
Remote mouse pointer is out of step.	1. Use the *AutoSync* feature (see p. 47), to synch the local and remote monitors. *2.* Use the *Mouse Synchronization* feature (see p. 48) to bring them back in step.
Part of remote window is off my monitor.	Use the *AutoSync* feature (see p. 47), to synch the local and remote monitors.
Java Client performance deteriorates.	Exit the program and start again.

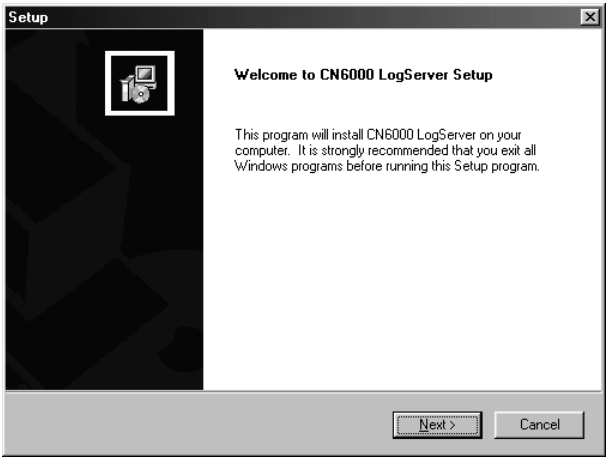
Notes:

Chapter 6.
The Log Server

The Windows-based *CN-6000 Log Server* is an administrative utility that records all the events that take place on selected CN-6000 units and stores them in a searchable database.

Installation

Tthe Log Server is provided on the distribution CD included with this package. To install the Log Server, insert the CD into your CD-ROM drive and double click the *CN6KLogSer...* package icon. The following screen appears:

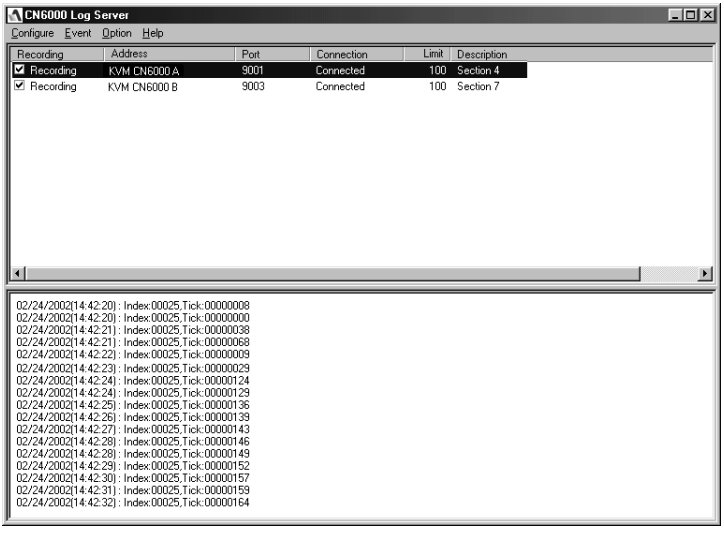


Follow the on-screen instructions. When the installation completes, a *CN6000 LogServer* icon appears on your desktop.

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).

Starting Up

To bring up the Log Server Main Screen, **Double Click** the *CN6K LogServer* icon, or key in the full path to the program 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 *CN-6000* units in the middle
- A panel containing an *Events List* at the bottom

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

The Menu Bar

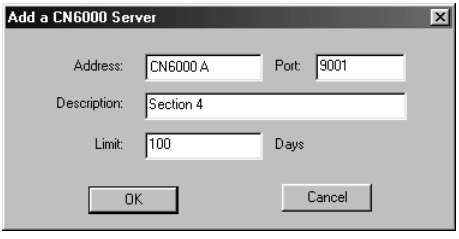
The Menu bar consists of four items: Configure, Events, Options, and Help. These are discussed in the sections that follow.

Note: If the Menu Bar appears to be disabled, click anywhere in the CN-6000 List panel to enable it.

Configure

The Configure menu contains three items: Add, Edit, and Delete. They are used to add new CN-6000 units to the CN-6000 List; edit the information for units already on the list; or delete CN-6000s from the list.

To edit or delete a listed CN-6000, first select the one you want in the CN-6000 List window, then open this menu and click **Edit** or **Delete**. To add a CN-6000 to the CN-6000 List, click **Add**. 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	Expalanation
Address	This can either be the IP address of the CN-6000 or its DNS name (if the network administrator has assigned it a DNS name).
Port	The Port number assigned to the CN-6000 (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.

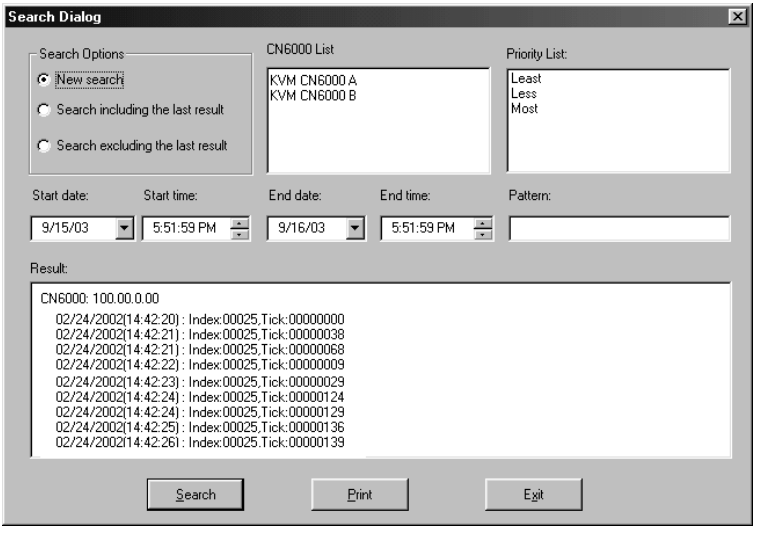
Fill in or modify the fields, then click **OK** to finish.

Events

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

■ Search:

Search fallows 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	Expalanation
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 CN-6000.
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 CN-6000 *excluding* the events that resulted from the last search.
CN-6000 List	CN-6000 units are listed according to their IP address or DNS name. 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.
Start Date	Select the date that you want the search to start from. The format follows the MM/DD/YYYY convention, and is numeric, as follows: `9/15/03`
Start Time	Select the time that you want the search to start from. The format follows the HH:MM:SS convention, and is numeric, as follows: `5:51:59 PM`
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*.
Search	Click this button to start the search.
Print	Click this button to print the search results
Results	Lists the events that contained matches for the search.

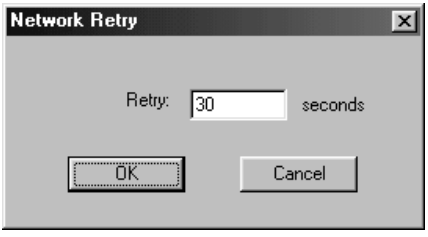
Maintenance

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 Configure function (see p. 54)

Options

This menu has a single item: *Retry*.

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 CN-6000 List Panel

Overview

The *CN-6000 List* panel (refer back to the figure on p. 52), displays a list of all the CN-6000 units that have been selected for the Log Server to track (see *Configure*, p. 53).

Tick information for the currently selected CN-6000 displays in the *Events List* panel below. To select a CN-6000 unit in the list, simply click on it.

The CN-6000 List window contains five fields:

Field	Expalanation
Recording	Determines whether the the Log Server records the ticks for this CN-6000, or not. If the Recording checkbox is checked, the field displays *Recording*, and the ticks are recorded. If the Recording checkbox is not checked, the field displays *Paused*, and the ticks are not recorded. **Note:** Even though a CN-6000 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 CN-6000 when it was added to the Log Server (see *Configure*, p. 53).
Port	This is the Port number assigned to the CN-6000 (see *Configure*, p. 53).
Connection	If the Log Server is connected to the CN-6000, this field displays *Connected*. If it is not connected, this field displays *Waiting*. This means that the Log Server's MAC address has not been set properly. It needs to be set on the *Network* page of the *Administrator Utility* (see p. 16).
Limit	This field displays the number of days that the CN-6000's events are to be kept in the Log Server's database before expiration (see *Configure*, p. 53).
Description	This field displays the descriptive information given for the CN-6000 when it was added to the Log Server (see *Configure*, p. 53).

The Event List Window

This window displays tick information for the currently selected CN-6000. Note that even though any other CN-6000s aren't currently selected, if their *Recording* checkbox is checked, the Log Server records their tick information and keeps it in its database.

Troubleshooting

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.

Appendix

Specifications

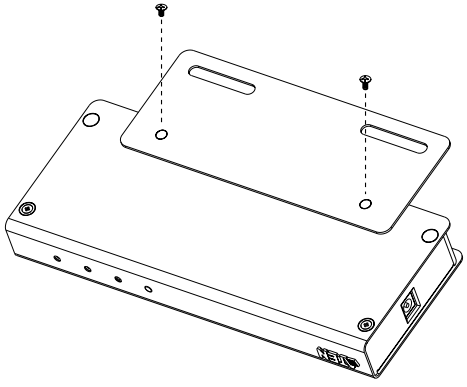
Specifications for the CN-6000 are given in the table, below:

Function		Specification
Connectors	CPU Port	1 x SPDB-15 F - KVM Link
	Console Ports	1 x 6 pin mini-DIN F - Keyboard 1 x 6 pin mini-DIN F - Mouse 1 x HDB-15 F - Video
	LAN	1 x RJ-45 Receptacle
	Power	1 x 3 Pronged Receptacle
	Reserved	1 x RS-232 M (DB9)
LEDs	Power	1 (Blue)
	Link	1 (Green)
	10/100 Mbps	1 (Green/Orange Dual Color)
Video		Up to 1280 x 1024 @ 60 Hz
Protocols		10BaseT Ethernet; 100BaseT Fast Ethernet; TCP/IP
Operating Temperature		0 - 50^{o} C
Storage Temperature		-20 - 60^{o} C
Humidity		0 - 80% RH
Housing		Metal
Weight		0.5 Kg
Dimensions (L x W x H)		20 x 8 x 2.5 cm

Rack Mounting

For convenience and flexibility, the CN-6000 can be mounted on a system rack. To rack mount the unit do the following:

1. Screw the mounting bracket into the top or bottom of the unit as shown in the example diagram below.



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

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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