Owner's Manual

Console KVM Switch with IP Access

Model # B020-008-17-IP and B020-016-17-IP

TRIPP·LITE

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Tested To Comply With FCC Standards

RoHS COMPLIANT

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1. FCC Information

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

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

2. User Notice

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

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

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

3. Package Contents

This package consists of:

- (1) B020-008-17-IP or B020-016-17-IP Console KVM Switch with IP Access
- (2) P774-006 PS/2 KVM Cable Sets
- (1) Power Cord
- (1) CD with Owner's Manual*

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

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

4. Introduction

4.1 Overview

The NetDirector Console KVM Switch with IP Access is a control unit that allows secure access to multiple computers from a single KVM (keyboard, video, and mouse) console. It consists of an integrated LCD monitor, keyboard, and touchpad in a 1U rack-mountable housing. The NetDirector Console KVM Switch with IP Access features dual-rail technology. To maximize space in your data center, the keyboard/touchpad module slides back to "hide away" when not in use, while the thin profile LCD monitor rotates back – flush against the rack – allowing convenient monitoring of computer activity.

The NetDirector Console KVM Switch with IP Access features IP-based connectivity that allows multiple remote operators to concurrently monitor the computers on your installation. It uses TCP/IP for its communications protocol, allowing it to be accessed from any computer on the LAN, WAN, or Internet – whether that computer is located down the hall, down the street, or halfway around the world.

Remote

Optional External Console
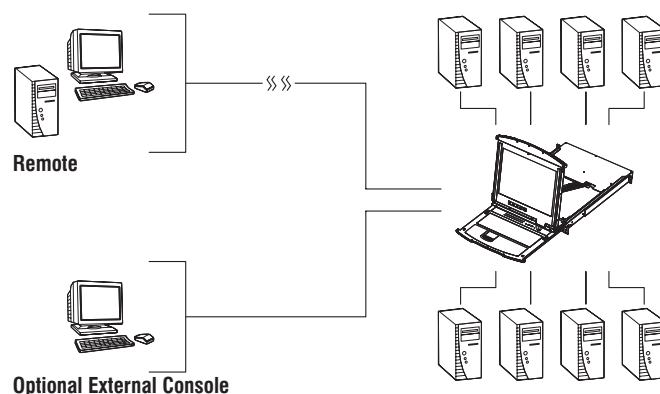
4.2 Features

- Console KVM Switch with built-in IP Access in a dual-rail housing with top and bottom clearance for smooth operation in 1U of rack space.
- Integrated KVM console with 17" LCD monitor, keyboard, and touchpad.
- Dual-Rail – LCD Monitor module can slide independently of the keyboard/touchpad module.
- A single console controls up to 16 computers – cascade additional units to control up to 256 computers.
- Remotely access computers via the LAN, WAN, or Internet – control your installation when and where you want.
- Grayscale option to improve transfer speed in low bandwidth situations.
- User-selectable network transfer rate.
- Optional external console ports located on the rear of the unit – manage computers in the LCD KVM switch from an external console (PS/2 keyboard, monitor, and PS/2 mouse).
- Optional external PS/2 mouse port on Keyboard panel – provides a convenient setup for an external mouse.
- Console lock – enables the console modules to remain securely locked away in position when not in use.
- Internet browser access – Windows Client and Java Client provided, Java Client works with most operating systems*.

- Graphical OSD and graphical toolbars for convenient, user-friendly operation.
- Up to 64 user accounts – up to 32 concurrent remote logins.
- Panel Array Mode – view all ports at the same time.
- Message board feature allows logged in users to communicate with each other and allows a remote user to take exclusive control of the KVM functions.
- Windows-based Log Server.
- Three user account types: Administrator, User, and Select.
- Advanced security features include password protection and advanced encryption technologies: 1024-bit RSA, 256-bit AES, 56-bit DES, and 128-bit SSL.
- Supports RADIUS server authentication.
- Flash firmware upgradable over a network connection.
- Ports can be set to Exclusive, Occupy and Share.
- Network Interfaces: TCP/IP, HTTP, HTTPS, UDP, RADIUS, DHCP, SSL, ARP, DNS, 10Base-T/100Base-TX, Auto Sense, and Ping.
- High video resolution: up to 1280 x 1024 @ 75Hz (17" LCD monitor); 1600 x 1200 @ 60Hz (remote computer).

* Browsers must support 128-bit SSL encryption.

4.3 System Requirements

4.3.1 Optional External Console

- A VGA, SVGA, or MultiSync monitor capable of displaying the highest resolution provided by any computer in the installation.
- PS/2 keyboard and mouse.

4.3.2 Computers

The following equipment must be installed on each computer:

- A VGA, SVGA or MultiSync video graphics card with an HD15 port.

  Note: The integrated LCD monitor's maximum resolution is 1280 x 1024 @ 75Hz. Ensure that none of the computer resolution settings exceed the LCD monitor's maximum resolution.

Either:

- PS/2 mouse and keyboard ports (6-pin Mini-DIN).
- USB port.

4.3.3 Remote Computers

- For best results, computers that remotely access the KVM switch should have at least a Pentium III 1 GHz processor, with their screen resolution set to 1024 x 768.
- Users who want to access the KVM switch with the Windows Client must have DirectX 7.0 or higher installed.
- If you don't already have it, DirectX is available for free download from Microsoft's Website: http://www.microsoft.com/downloads.
- Users who want to access the KVM switch with the Java Client must have Sun's Java 2 (1.4.2 or higher) runtime environment installed. Java is available for free download from the Sun Java Website: http://java.sun.com.
- Browsers must support 128-bit SSL encryption.
- For best results, a network transfer speed of at least 128 Kbps is recommended.

4.3.4 Cables

Custom wired PS/2 and USB KVM cable kits are available via Tripp Lite for use with the NetDirector Console KVM Switch with IP Access. You must use these custom wired KVM cable kits when connecting to a computer/server to ensure the KVM operation.

Item	Length	Part Number
PS/2 KVM Cable Kit	6 ft.	P774-006
PS/2 KVM Cable Kit	10 ft.	P774-010
PS/2 KVM Cable Kit	15 ft.	P774-015
PS/2 KVM Cable Kit	25 ft.	P774-025
USB KVM Cable Kit	6 ft.	P776-006
USB KVM Cable Kit	10 ft.	P776-010
USB KVM Cable Kit	19 ft.	P776-019

4. Introduction *(continued)*

4.3 System Requirements *(continued)*

4.3.5 Converters and Adapters

Use a B015-000 PS/2 to USB Adapter to convert any P774-Series PS/2 KVM Cable Kit for use with a USB computer/server.

4.3.6 Operating Systems

Supported operating systems are shown in the table, below:

Operating System	Versions Supported
Windows	2000 and higher
Linux RedHat	6.0 and higher
Linux SuSE	8.2 and higher
Linux Mandriva (Mandrake)	9.0 and higher
UNIX AIX	4.3 and higher
UNIX Free BSD	3.51 and higher

| Operating System	Versions Supported
UNIX Sun	Solaris 8 and higher
Novell Netware	5.0 and higher
Mac	8.6 and higher
OS/2	Warp and higher
DOS	6.2 and higher

4.4 Components

4.4.1 Front View

1 Upper Handle: Pull to slide the LCD module out; push to slide the module in.

2 LCD Module: See LCD Module, section 4.4.3

3 Keyboard Module: See *Keyboard Module*, section 4.4.2

4 Lower Handle: Pull to slide the keyboard module out; push to slide the module in.

5 Power LED: Lights (blue) to indicate that the unit is receiving power.

6 Keyboard Release Catch: These catches (one on each side) release the keyboard module so you can slide it away.

7 LCD Release Catch: These catches (one on each side) release the LCD module so you can slide it away.

8 Rack Mounting Tabs: The rack mounting tabs located at each corner of the unit secure the chassis to a system rack. See section 5.2, Standard Rack Mounting, for details.

9 Console Release Tabs: These tabs (one on each side) must be pressed inward to release the LCD and keyboard module, allowing them to be pulled out of the rack.
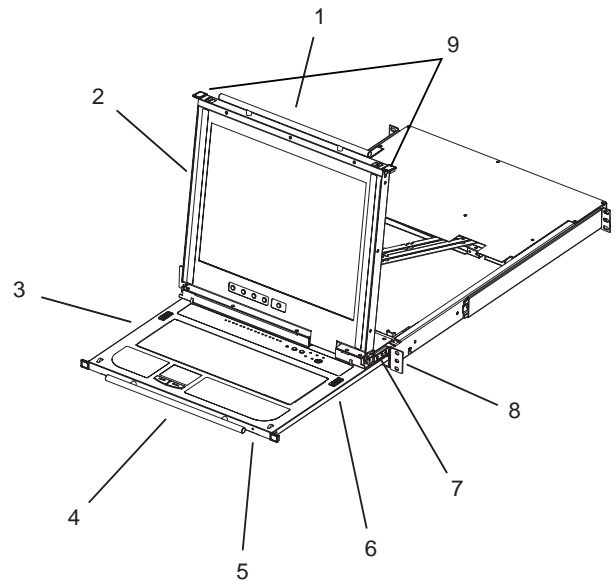
4.4.2 Keyboard Module

1 Port LEDs: An On Line LED lights (amber) to indicate that the device attached to its corresponding port is up and running. A Selected LED lights (green) to indicate that the computer attached to its corresponding port has the KVM focus.

2 Keyboard: 99-key keyboard.

3 Touchpad: Standard mouse touchpad.

4 Reset Switch: Pressing and holding this switch in while powering on the unit causes the KVM switch to revert to the original factory installed firmware version – allowing you to recover from a failed firmware upgrade. Pressing and holding this switch in for more than three seconds performs a system reset.

Note: The switch is recessed and must be pushed with a thin object – such as the end of a paper clip or a ballpoint pen.

5 Port Selection Switches: The left button (DOWN), shifts the KVM focus down through the ports (port 7 → port 6, etc.). After port 1, it cycles back to the last port. The right button (UP), shifts the KVM focus up through the ports. After the last port, it cycles to port 1.

6 Connection LEDs: The Link LED flashes (green) when a remote client connects to the KVM switch. The 10/100 Mbps LED lights (orange) to indicate 10 Mbps data transmission speed. It lights (green) for 100 Mbps.

7 External Mouse Port: This PS/2-type mouse port is provided for users who prefer to use an external mouse.

8 Lock LEDs: The Num Lock, Caps Lock, Scroll Lock LEDs are located here.
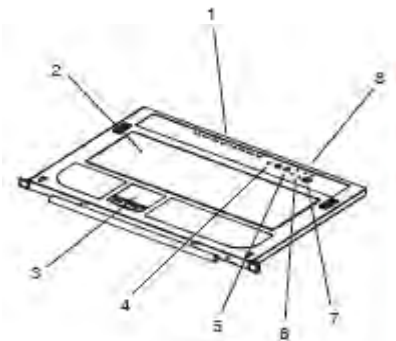
4.4 Components *(continued)*

4.4.3 LCD Module

1 **LCD Display:** To access the LCD monitor, slide the LCD module out and flip up the cover.

2 **LCD Controls:** These buttons control the position and picture setting of the LCD display.

3 **LCD On/Off Button:** Push this button to turn the LCD monitor on and off. The button lights (orange) when the LCD monitor is off to indicate that only the monitor is off – not the KVM switch itself.
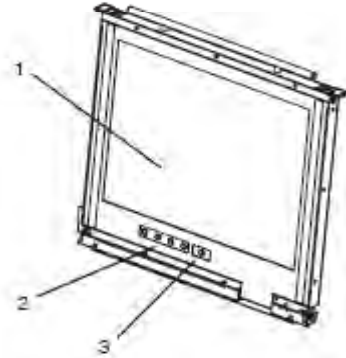
4.4.4 Rear View

1 **Power Socket:** This is a standard C14 AC power socket. The power cord that comes with the unit plugs in here.

2 **Power Switch:** This is a standard rocker switch that powers the unit on and off.

3 **External Console Ports:** For flexibility and convenience, the NetDirector Console KVM Switch with IP Access supports an external KVM console.

4 **LAN Port:** The cable that connects the KVM switch to a LAN, WAN, or Internet plugs in here.

5 **KVM Ports:** The custom wired KVM cable kits that connect to the computers plug in here.

Note: The shape of these 15-pin connectors has been specifically modified to work only with Tripp Lite P774-Series (PS/2) and P776-Series (USB) KVM Cable Kits.
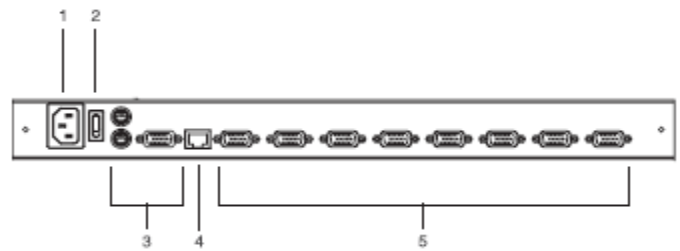
Note: The B020-008-17-IP is pictured above. The only difference between this and the B020-016-17-IP is the number of KVM ports.

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5. Installation

5.1 General Safety Instructions

- Read all of these instructions. Save them for future reference.
- Follow all warnings and instructions marked on the device.
- Do not place the device on any unstable surface (cart, stand, table, etc.). If the device falls, serious damage will result.
- Do not use the device near water.
- Do not place the device near, or over, radiators or heat registers.
- The device cabinet is provided with slots and openings to allow for adequate ventilation. To ensure reliable operation, and to protect against overheating, these openings must never be blocked or covered.
- The device should never be placed on a soft surface (bed, sofa, rug, etc.) as this will block its ventilation openings. Likewise, the device should not be placed in a built in enclosure unless adequate ventilation has been provided.
- Never spill liquid of any kind on the device.
- Unplug the device from the wall outlet before cleaning. Do not use liquid or aerosol cleaners. Use a damp cloth for cleaning.
- The device should be operated from the type of power source indicated on the marking label. If you are not sure of the type of power available, consult your dealer or local power company.
- This device is designed for IT power distribution systems with up to 230V phase to phase voltage.
- The device is equipped with a 3-wire grounding type plug. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not attempt to defeat the purpose of the grounding-type plug. Always follow your local/national wiring codes.
- Do not allow anything to rest on the power cord or cables. Route the power cord and cables so that they cannot be stepped on or tripped over.
- If an extension cord is used with this device make sure that the total of the ampere ratings of all products used on this cord does not exceed the extension cord ampere rating. Make sure that the total of all products plugged into the wall outlet does not exceed 15 amperes.
- Consideration should be given to the connection of equipment to the supply circuit, and what effect overloading the supply circuit might have on overcurrent protection and supply wiring.
- To help protect your system from sudden, transient increases and decreases in electrical power, use a Tripp Lite Surge Suppressor, Line Conditioner, or Uninterruptible Power Supply (UPS).
- Position system cables and power cables carefully; be sure that nothing rests on any cables.
- When connecting or disconnecting power to hot pluggable power supplies, observe the following guidelines:
  - Install the power supply before connecting the power cable to the power supply.
  - Unplug the power cable before removing the power supply.
  - If the system has multiple sources of power, disconnect power from the system by unplugging all power cables from the power supplies.

- Never push objects of any kind into or through cabinet slots. They may touch dangerous voltage points or short out parts resulting in a risk of fire or electrical shock.
- Do not attempt to service the device yourself. Refer all servicing to qualified service personnel.
- If the following conditions occur, unplug the device from the wall outlet and bring it to qualified service personnel for repair:
  - The power cord or plug has become damaged or frayed.
  - Liquid has been spilled into the device.
  - The device has been exposed to rain or water.
  - The device has been dropped, or the cabinet has been damaged.
  - The device exhibits a distinct change in performance, indicating a need for service.
  - The device does not operate normally when the operating instructions are followed.
- Only adjust those controls that are covered in the operating instructions. Improper adjustment of other controls may result in damage that will require extensive work by a qualified technician to repair.
- Use of this equipment in life support applications where failure of this equipment can reasonably be expected to cause the failure of the life support equipment or to significantly affect its safety or effectiveness is not recommended. Do not use this equipment in the presence of a flammable anesthetic mixture with air, oxygen or nitrous oxide.

Rack Mounting

- The ambient operating temperature in the rack may be an issue and is dependent upon the rack load and ventilation. When installing in a closed or multi-unit rack assembly, make sure that the temperature will not exceed the maximum rated ambient temperature (0° to 40° C).
- Before working on the rack, make sure that the stabilizers are secured to the rack, extended to the floor, and that the full weight of the rack rests on the floor. Install front and side stabilizers on a single rack or front stabilizers for joined multiple racks before working on the rack.
- Always load the rack from the bottom up, and load the heaviest item in the rack first.
- Always load the rack so that a hazardous condition is not created due to uneven loading.
- Make sure that the rack is level and stable before extending a device from the rack.
- Use caution when pressing the device rail release latches and sliding a device into or out of a rack; the slide rails can pinch your fingers.
- After a device is inserted into the rack, carefully extend the rail into a locking position, and then slide the device into the rack.
- Do not overload the AC supply branch circuit that provides power to the rack. The total rack load should not exceed 80 percent of the branch circuit rating.
- Ensure that proper airflow is provided to devices in the rack.
- Do not step on or stand on any device when servicing other devices in a rack.

5. Installation *(continued)*

5.2 Standard Rack Mounting

The NetDirector Console KVM Switch with IP Access is designed for mounting in a 1U rack system. For convenience, a rack mounting kit is included with your console KVM switch for quick installation. The various mounting options are explained in the sections that follow.

Standard Rack Mounting

The standard rack mounting brackets that come attached to the console KVM switch allow the unit to be installed in a standard 1U rack by a single individual.

1. Slide out the rear mounting brackets from the console and mount both brackets (separate from the console) to the inside rear of a standard 1U rack system using user-supplied screws.

2. Take the console and gently slide it into the two rear-mounted brackets in the rack and secure the console in place by inserting user-supplied screws.

2-Post Rackmounting

The console KVM switch can also be mounted in a 2-post rack installation using the optional 2-Post Rack Mount Kit (model #: B019-000).
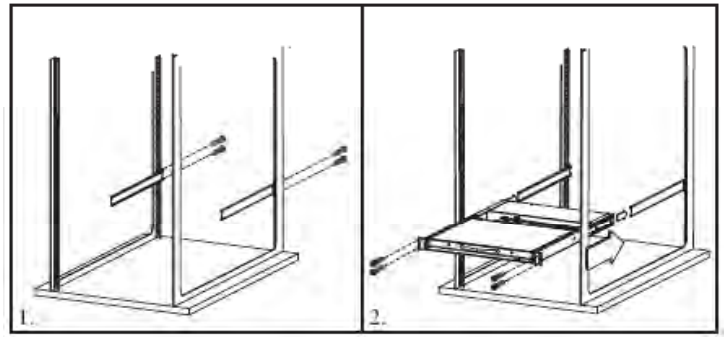
The mounting hardware allows for the console to be opened with the drawer in any position. Heavy-duty 14-gauge steel provides stability and prevents the console frame from twisting. See the B019-000 instructional manual for detailed mounting instructions.

5.3 Single-Stage Installation

In a Single Stage installation, there are no additional switches cascaded down from the first unit. To set up a single stage installation, refer to the installation diagram (the numbers in the diagram correspond to the numbers of the installation steps) and do the following:

Note: Power off all computers before connecting them to the console KVM switch.

1 (Optional) If you choose to install an external console, plug your keyboard, monitor, and mouse into the Console Ports located on the rear panel. (The external mouse can also be connected to the external mouse port located on the Keyboard Panel of the unit.)

2 Using a P774-Series (PS/2) or P776-Series (USB) KVM Cable Kit, plug the yellow custom HD15 connector into any available KVM port on the switch.

3 At the other end of the cable, plug the keyboard, video (blue), and mouse connectors into their respective ports on the computer.

Repeat steps 2 and 3 for each additional computer/server you are connecting to the console KVM switch.
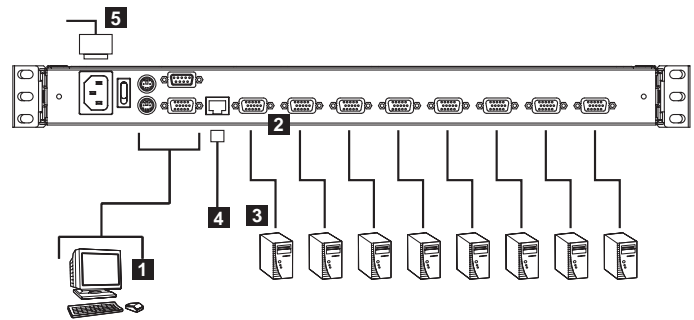
4 Plug the Cat5e/6 cable from the LAN into the LAN port on the rear panel.

5 Connect the power cord provided with this package to an AC source and the power socket.

After you are all cabled up, you can power on the switch. After the switch is powered on, power on the computers.

Note: The B020-008-17-IP is pictured above. The only difference between it and the B020-016-17-IP is the number of KVM ports.

5.4 Two-Stage Installation

To expand the number of computers that can be controlled in your KVM installation, up to 16* additional KVM switches (model B007-008 or B022-U16) can be cascaded to a NetDirector Console KVM Switch with IP Access. As many as 256* computers can be controlled in a complete two stage installation. In a two stage installation, the NetDirector Console KVM Switch with IP Access is considered the first stage unit; the cascaded KVM switches are considered second stage units.

*Using a B020-016-17-IP as the first stage unit and cascading 16 B022-U16 KVMs.

To set up a two stage installation, do the following:

1. Make sure that power to all the devices you will be connecting up, including all preexisting devices on the installation, have been turned off.

2. Use a P774-Series (PS/2) KVM Cable Kit to connect any available KVM port on the First Stage unit to the Console ports of the B007-008 Second Stage unit. Use either a P774-or P776-Series KVM Cable Kit to connect to the console ports of a B022-U16 Second Stage unit.

3. Use the appropriate KVM cable kits (as described in the Cables section of the B007-008 or B022-U16 owner's manual to connect any available KVM port on the second stage KVM switch to the keyboard, video, and mouse ports of the computers you are installing.

   (Repeat Steps 2 and 3 for any additional second stage KVM switches that you wish to cascade from the NetDirector Console KVM Switch with IP Access.)

4. If it is not already powered on, power on the NetDirector Console KVM Switch with IP Access.

5. Power on the second stage KVM switches.

6. Power on the connected computers.

6. Basic Operation

6.1 Opening the Console

The console consists of two modules: an LCD display module located under the top cover and a keyboard / touchpad module below the LCD module.

The modules can either slide together, or independently. This allows you to have the LCD display available for viewing while the keyboard / touchpad module is conveniently out of the way when not in use.

6.1.1 Opening Separately

1. Release the console by sliding the front panel catches toward the center and pull the top panel a few centimeters toward you. Once the console has been released, you can let go of the catches.

Release Catch
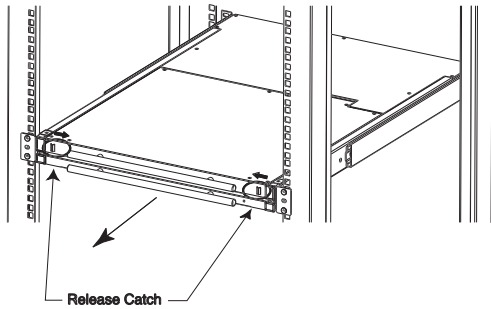
2. Pull the top panel all the way out until it clicks into place.
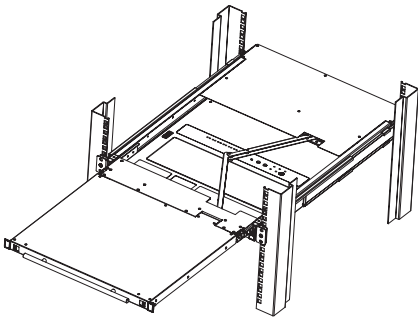
3. Rotate the top panel all the way back to expose the LCD screen.
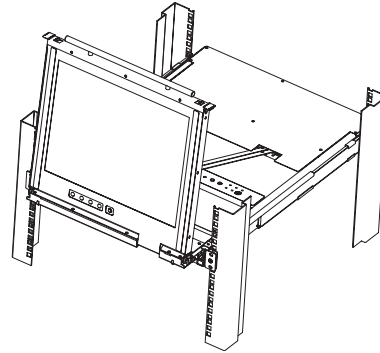
4. Reach underneath and pull the keyboard module all the way out until it clicks into place.
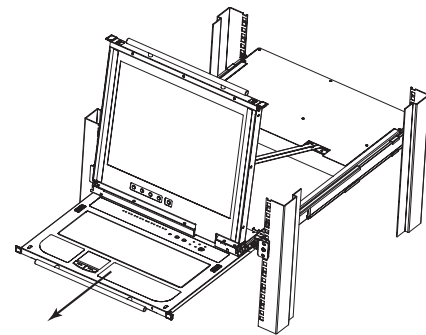
6.1.2 Opening Together

Refer to the diagrams in the *Opening Separately* section as you do the following:

1. Push the release catches in and pull the top and bottom panels out until the keyboard module clicks into place. Once the console has been released, you can let go of the catches.

2. Pull the top panel the rest of the way out until it clicks into place.

3. Rotate the top panel all the way back to expose the LCD screen.

6.1.3 Operating Precautions

The maximum load bearing capacity of the keyboard module is 65 lbs. Failure to heed the information below can result in damage to the keyboard module.

RIGHT

Rest your hands and arms lightly on the keyboard module as you work.
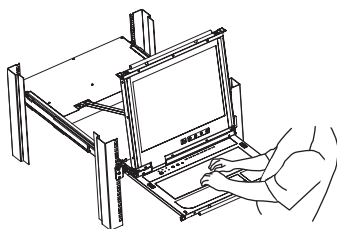
WRONG!

- **DO NOT** lean your body weight on the keyboard module.

- **DO NOT** place heavy objects on the keyboard module.
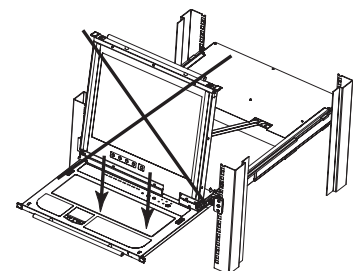
6.2 Closing the Console

1. Pull the release catches located on either side of the keyboard toward you to release the keyboard module, then slide the module slightly in.
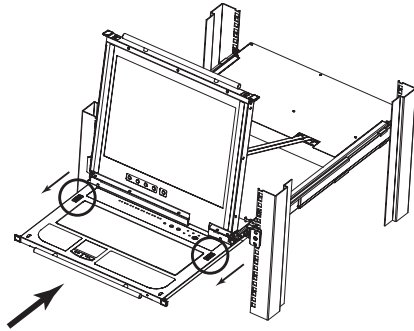
2. Let go of the catches. Using the front handle, push the keyboard module all the way in.

3. Rotate the LCD module all the way down, then pull the rear catches to release the LCD module.

4. Using the front handle, push the module all the way in.

6.3 LCD OSD Configuration

The LCD Buttons

The LCD OSD allows you to set up and configure the LCD display. Four buttons are used to perform the configuration, as described in the table below:

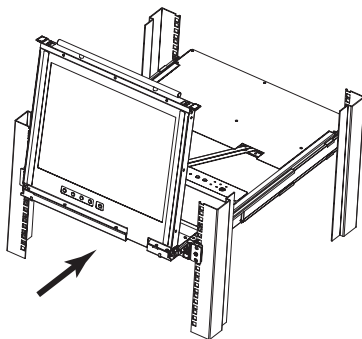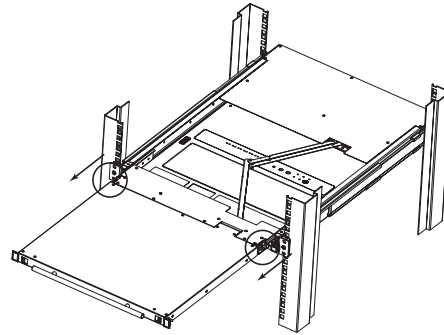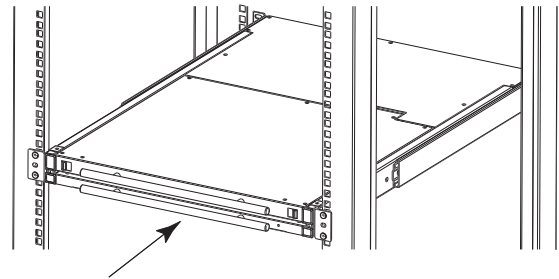| Button	Function
MENU	When you have not entered the LCD OSD Menu function, pressing this button invokes the Menu function and brings up the Main Menu.
▶|▲	When navigating through the menus, this button moves you right or up. When making an adjustment, it increases the value.
◀|▼	When navigating through the menus, this button moves you left or down. When making an adjustment, it decreases the value.
EXIT	• When you have not entered the LCD OSD Menu function, pressing this button performs an auto adjustment. An auto adjustment automatically configures all the settings for the LCD panel to what the OSD considers their optimum values to be. • When you have entered the LCD OSD Menu function, pressing this button exits the current menu and returns you to the previous menu. Use it to leave an adjustment menu when you are satisfied with the adjustment you have made. • When you are at the Main Menu, pressing this button exits the LCD OSD.

The Adjustment Settings

An explanation of the LCD OSD adjustment settings is given in the table below:

Setting	Explanation
Brightness	Adjusts the background black level of the screen image.
Contrast	Adjusts the foreground white level of the screen image.
Phase	Adjusts the vertical size of the screen image.
Clock	Adjusts the horizontal size of the screen image.
H-Position	Positions the display area on the LCD panel horizontally (moves the display area left or right).
V-Position	Positions the display area on the LCD panel vertically (moves the display area up or down).
Color Temperature	Adjusts the color quality of the display. You can adjust the "warmth" value, color balance, etc. The *Adjust Color* selection has a further submenu that lets you fine tune the RGB values.
Language	Selects the language that the LCD OSD displays its menus in (English, French, German, Spanish or Italian).
OSD Duration	Lets you set the amount of time that the OSD displays on the screen. If there is no input for the amount of time you choose, the OSD display turns off.
Reset	Resets the menu and submenu adjustments (except for language settings) to the original factory default settings.

6. Basic Operation *(continued)*

6.4 Port Selection

The NetDirector Console KVM Switch with IP Access provides three port selection methods to access the computers on the installation: Manual Pushbuttons, an OSD (On Screen Display) menu system, and Hotkeys. OSD Operation and Hotkey Port Selection are discussed in the *Windows Client Port Operation* and *Java Client Port Operation* chapters.

6.4.1 Manual Port Switching

Use the *Port Selection Buttons* on the keyboard to manually switch to a port. The left button switches to the previous port (7 to 6, etc.). When at port 1, the left button will switch to the last port in the installation. The right button switches to the next port. When at the last port, the right button will switch to the first port in the installation.

6.5 Hot Plugging

The NetDirector Console KVM Switch with IP Access supports *hot plugging* - components can be removed and added back into the installation by unplugging and replugging their cables from the ports without the need to shut the unit down.

If you change computer positions, in order for the OSD menus to correspond to the KVM port changes, you must manually edit the Port Names for the OSD to reflect the new port information. See *Port Names* (section 7.2.3) for details.

Note: If the computer's operating system does not support hot plugging, this function may not work properly.

6.6 Powering Off and Restarting

If it becomes necessary to power off the KVM switch, or if the switch loses power and needs to be restarted, wait 10 seconds before powering it back on. The computers should not be affected by this, but if any of them should fail, simply restart the affected computers.

6.7 Port ID Numbering

Each port is assigned a two-digit Port ID number. You can access any device by specifying the Port ID of the port that it is connected to. Port numbers from 1 - 9 start with a preceding zero, so they become 01 - 09. For example, a computer attached to Port 6 would have a Port ID of: **06**.

7. Administration

7.1 Local Console

Once the NetDirector Console KVM Switch with IP Access has been installed, the next step that the Administrator needs to perform is to set up the unit for user operation. The most convenient way to do this for the first time is from the local console.

After turning on the unit, a login prompt appears:

Since this is the first time you are logging in, use the default Username: *administrator*; and the default Password: *password*. For security purposes, we strongly recommend that you use the User Management function (see section 7.6.1) to remove these and give yourself a unique username and password with the appropriate permissions.

After you successfully log in, the Local Console OSD appears:

The OSD consists of four pages, each with a specific set of functions: Main, Configuration, Administration, and Log. Each page is discussed in the sections that follow.

The functions of the two buttons at the right of the title bar are described in the table below. Functions can be invoked by clicking the icon, or by pressing its associated function key.

Button	Key	Function
Ex	Esc	**Close:** Closes the OSD display but does not log you out of the session. You can bring the display back with the OSD hot-keys (Scroll Lock + Scroll Lock).
x	F8	**Log Out:** Closes the OSD display and logs you out of the KVM switch. You must re-enter your username and password to regain access to the KVM switch.

7.2 Main Page

The Main page governs port access. Selecting a port and double-clicking it switches you to the device on that port.

• A *monitor* icon is in front of the port number. The monitor icon is green for ports that have devices connected to them that are powered on; otherwise, it is gray.

• If a port has been specified as a Quick View port (see below), a red *eye* icon is displayed along with the monitor icon to indicate so.

In addition to using this page to select ports to switch to, the administrator can also use this page to enable/disable *Quick View* status for selected ports, and to create, modify, or delete names for each of the ports. The following sections describe how to enable Quick View and how to assign names to ports.

7.2.1 Quick View Ports

Selecting certain ports as Quick View ports is a way of limiting which ports are displayed in the OSD List, and which ports are accessed when performing an auto scan. Once marked as a Quick View port, you can set it up so only Quick View ports are listed in the OSD Menu and/or accessed during and auto scan.

The spacebar toggles a port's Quick View status. To select/deselect a port, highlight it and press the **spacebar**. When a port has been selected as a Quick View port, a red *eye* icon displays in the port icon column to indicate so. When a port isn't selected, there is no red *eye* icon.

7.2.2 List Function

The List Function lets you broaden or narrow the scope of which ports the OSD displays in the Main screen. To invoke the List Function, click the arrow at the upper right corner of the screen, or press [F3]:

The screen changes to allow you to choose the ports that will be listed:
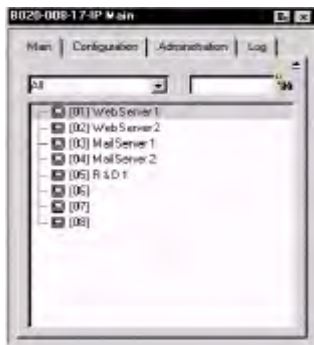
The drop down list on the left offers four fixed choices as shown in the table below:

Choice	Meaning
All	Lists all of the ports on the installation
Powered On	Lists only the ports that have their attached devices powered on
Quick View	Lists only the ports that have been selected as Quick View ports
Quick View + Powered On	Lists only the ports that have been selected as Quick View ports and have their attached computers powered on

The text input box on the right allows you to key in a port name so that only port names that match what you key in show up in the list. Wildcards (? and *) are acceptable and offer you more flexibility when searching. For example, if you want to find a server with the name *Windows 2*, type *W*2* (the first and last character in the port name must be entered). If you want to find a server with the name *Windows 1*, type *W??????1* (the first and last character in the port name must be entered) in the search box.
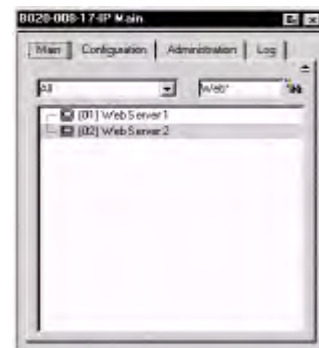
• After you key in your string, either click the binoculars icons to the right of the box, or press [**Enter**].

• To go back to the default view, erase the string and either click the binoculars to the right of the box, or press [**Enter**].

• To dismiss the List function, click the arrow or press [**F3**].

7.2 Main Page *(continued)*

7.2.3 Port Names

To help remember which computer is attached to a particular port, every port can be given a name. This field allows the Administrator to create, modify, or delete port names. To configure a port name:

1. Click once on the port you want to edit, wait one second and then click again. (Alternately, use the up and down arrow keys to move the highlight bar to the port, and then press the F2 function key.)

   Note: This is not a double-click. It involves two separate clicks. A double-click will switch you to the device attached to the port.

After a second or two, the bar changes to provide you with a text input box:

2. Key in the new Port Name, or modify/delete the old one. The maximum number of characters allowed for a Port Name is 15. You can use all letters, numbers, and symbols on the typewriter keys of keyboards with PC US English layout.

3. When you have finished editing the port name, press [**Enter**] or click anywhere outside of the input box to complete the operation.

7.3 Port Operation

Because the methods used to access the target device(s) are the same for the local console as for the Windows Client, the procedures are discussed in the *Windows Client* and the *Java Client* chapters.

7.4 Configuration Page

The *OSD Configuration* page allows users to set up their own, individual, working environments. The NetDirector Console KVM Switch with IP Access stores a separate configuration record for each user profile, and sets up the working configuration according to the *username* that is used to log in.
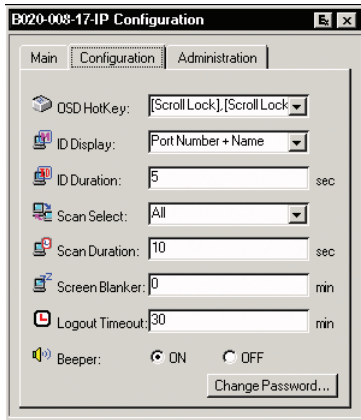
The *Configuration* page settings are explained in the following table:

Setting	Function
OSD Hotkey	Selects which Hotkey controls the OSD function: **[Scroll Lock] [Scroll Lock]** or **[Ctrl] [Ctrl]**. Since the Ctrl key combination may conflict with programs running on the computers, the default is the Scroll Lock combination.
ID Display	Selects how the Port ID is displayed: the Port Number alone **(PORT NUMBER)**; the Port Name alone **(PORT NAME)**; or the Port Number plus the Port Name **(PORT NUMBER + PORT NAME)**. The default is PORT NUMBER + PORT NAME.
ID Duration	Determines how long a Port ID displays on the monitor after a port change has taken place. You can choose an amount from 0 - 255 seconds. The default is 5 seconds. 0 is Always On.

Setting	Function
Scan Select	Selects which computers will be accessed under Auto Scan Mode (To start Auto Scan Mode, see section 9.4.2, *Toolbar Icons*) Choices are: **ALL** - All the ports which have been set Accessible; **POWERED ON** - Only those ports which have been set Accessible and are Powered On; **QUICK VIEW** - Only those ports which have been set Accessible and have been selected as Quick View ports; **QUICK VIEW + POWERED ON** - Only those ports which have been set Accessible and have been selected as Quick View ports and are Powered On. The default is ALL.
Scan Duration	Determines how long the focus dwells on each port as it cycles through the selected ports in Auto Scan Mode. Key in a value from 0 - 255 seconds. The default is 10 seconds; a setting of 0 disables the Scan function.
Screen Blanker	If there is no input from the console for the amount of time set with this function, the screen is blanked. Key in a value from 1 - 30 minutes. A setting of 0 disables this function. The default is 0 (disabled).
Logout Timeout	If there is no Operator input for the amount of time set with this function, the Operator is automatically logged out. A login is necessary before the KVM switch can be accessed again. Enter a value from 0 - 180 minutes. The default is 30 minutes. 0 disables the function.
Beeper	When set to ON, the beeper sounds whenever the port is switched, when activating the Auto Scan function, or when an invalid entry is made on an OSD menu. The default is ON.
Change Password	Allows a user to change the account password. After clicking the Change Password button, a dialog box appears. Enter the old password. Then, enter a new password and confirm it by entering it again. Press OK to save changes, or press Cancel to discard changes.

7. Administration *(continued)*

7.6 Administration Page

When you click the Administration tab, the Administration page comes up. Each of the administrative functions is represented by an icon at the left of the page. Clicking the icon brings up its associated dialog box. When the Administration page first comes up the *General* dialog box appears:
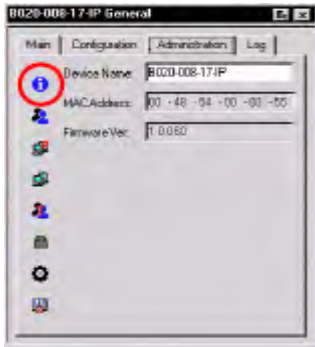

General

The General Page (shown) presents four items of information. This is the same information that displays after you log in from a browser, or when you click the General icon at the top left of the browser main page. The meaning of these items is described in the table below:

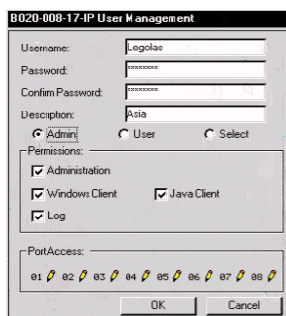| Item	Description
Device Name	This field lets you give the switch a unique name. This can be convenient when you need to differentiate among several devices in multi-station installations.
MAC Address	This item displays the KVM switch's MAC address.
Firmware Version	This item displays the current firmware version number.
Last IP from DHCP Server	If the switch is on a network that uses DHCP assigned IP addresses, this item is a convenient way of ascertaining what its IP address is.

7.6.1 User Management

The User Management dialog box is used to create and manage user profiles. Up to 64 user profiles can be established.
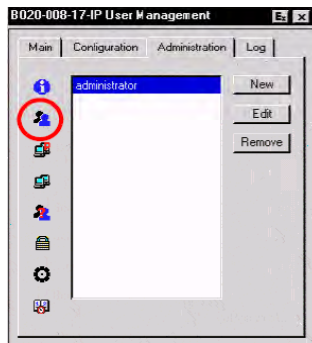
- To delete a user profile, select it in the list box, and click **Remove**.
- To modify a user profile, select it and click **Edit**.
- To add a user, click **New**.

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

Fill in the required information for a new profile, or modify the existing information to edit a previous profile. A description of the field headings is given in the table below:

| Heading	Description
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 (optional).
Admin	Gives the user Administrator level access to the KVM switch. All permissions are granted (see *Permissions* in this table).
User Permissions	Gives the user Windows Client and Java Client (see *Permissions* in this table).
Select	This allows the Administrator to individually select permissions for a user.
Permissions	These fields are used together with the Select radio button to set up permissions that differ from the defaults for Admin and User.
	1. Checking Administration assigns administration privileges, which allows the user to modify the KVM switches Administration page settings.
	2. Checking Windows Client allows a user to access the KVM switch via the Windows Client software. By default, all users may access the KVM switch via the Windows Client software.
	3. Checking Log allows a User to view and query the log file. The Log and Log Server buttons appear on the Main web page of Users who have Log permission (see section 8.2, *Webpage Layout*).
	4. Checking Java Client allows a User to access the KVM switch via the Java Client software.
	5. Checking Force to Grayscale forces the user's view of the remote display to be in grayscale. This can speed up I/O transfer in low bandwidth situations.

7.6 Administration Page *(continued)*

7.6.1 User Management *(continued)*

Heading	Description
Port Access	This function allows the Administrator or a user with *Administration* permission to define the selected user's access to the computers on a Port-by-Port basis.
	For each User profile, select a port and click it to cycle through the choices:
	Full - The user can view the screen and can perform operations on the system from the keyboard and mouse.
	View - A diagonal line through the port icon indicates the port access is View. The user can view the screen, but cannot perform operations on the system.
	Null (no access rights) - An X through the port icon indicates no port access. The port will not show up on the user's list on the Main screen.
	Repeat until access rights have been set for all ports.
	The default is **Full** for all users on all ports.
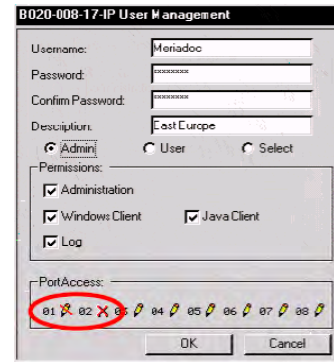
7.6.2 Service Configuration
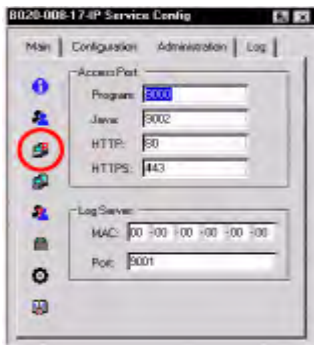
Access Port

As a security measure, if a firewall is being used, the Administrator can specify the port numbers that the firewall will allow, and set the firewall accordingly. Users must specify the port number when they log in to the NetDirector Console KVM Switch with IP Access. If an invalid port number (or no port number) is specified, the KVM switch will not be found.

An explanation of the *Access Port* fields is given in the table below:

Field	Explanation
Program	This is the port number that must be specified when connecting from the Windows Client software program. Valid entries are from 1024 - 60,000. The default is 9000.
Java	This is the port number used for Java Client connections. Valid entries are from 0 - 65535.
HTTP	The port number for a browser login. The default is 80.
HTTPS	The port number for a secure browser login. The default is 443.

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. You must set different values for each of the service ports.

Log Server

Important transactions that occur on the KVM switch, such as logins and internal status messages, are kept in an automatically generated log file. In this panel, you specify the MAC address and a port number for the computer that the Log Server resides on.
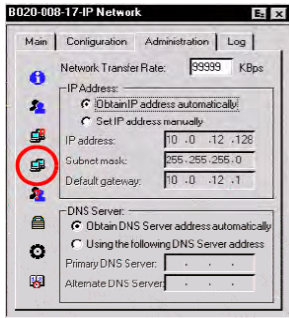
Installation and operation of the Log Server is discussed in Chapter 12. The Log File is discussed in Chapter 11.

7.6 Administration Page (continued)

7.6.3 Network

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

Network Transfer Rate
Set the rate at which the KVM switch transfers data to remote computers. The range is from 8 to 99999 Kilobytes per second (Kbps).

IP Address
The NetDirector Console KVM Switch with IP Access can either have its IP address assigned dynamically (DHCP), or it can be given a fixed IP address.
• For dynamic IP address assignment, select the *Obtain IP address automatically* button.
• To specify a fixed IP address, select the *Set IP address manually* button and fill in the IP address, subnet mask and default gateway.
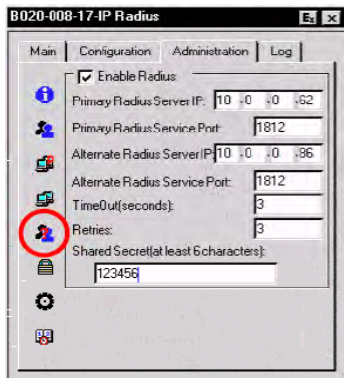
DNS Server
• For automatic DNS Server address assignment, select the *Obtain DNS Server address automatically* button.
• To specify the DNS Server address manually, select the *Use the following DNS Server* button, and fill in the addresses for the primary and alternate DNS servers.
Note: Specifying the primary DNS Server address is mandatory. The alternate DNS Server address is optional.

7.6.4 RADIUS Settings

To allow authorization for the NetDirector Console KVM Switch with IP Access through a RADIUS server, do the following:

1. Check **Enable Radius**.

2. Fill in the IP addresses and Service Ports for the primary and alternate RADIUS servers.

3. Set the time in seconds that the KVM switch waits for a RADIUS server reply before it times out in the Timeout field.

4. Set the number of RADIUS retries allowed in the Retries field.

5. Key the *Shared Secret* character string that you want to use for authentication between the KVM switch and the RADIUS Server in this field.

Note: Set the access rights for each user on the RADIUS server according to the information in the table on the next page.

RADIUS Server Access Rights

Character	Meaning
C	Grants the user administrator privileges, allowing the user to configure the system.
W	Allows the user to access the system via the Windows Client program.
J	Allows the user to access the system via the Java Client program.
L	Allows the user to access log information via a Web browser.
PN	Restricts the user from accessing specified ports on the OSD port list.
	Syntax: PN/1/2/3/4 (etc.)
PV	Limits the user to only being able to view specified ports on the OSD port list.
	Syntax: PV/1/2/3/4 (etc.)
UHK	Defines the OSD Hotkey.
	UHK0: Scroll Lock + Scroll Lock
	UHK1: Ctrl + Ctrl
UOL	Defines the OSD List Function.
	UOL0: All
	UOL1: Powered On
	UOL2: Quick View
	UOL3: Quick View + Powered On
UODM	Selects how the Port ID displays.
	UODM0: Port Number + Port Name
	UODM1: Port Number
	UODM2: Port Name
UODT	Determines the length of time in seconds that the Port ID displays on the monitor after a port change.
	Syntax: UODTn (where n represents a number from 0–255)

7.6 Administration Page *(continued)*

7.6.4 Radius *(continued)*

| Character	Meaning
UBUZ	Turns the beeper on or off.
	UBUZ0: Beeper Off
	UBUZ1: Beeper On
ULT	Sets the Logout Timeout. When there is no input from the user for the amount of time set with this function, the user is automatically logged out and will need to log in again. The valid Logout Timeout range is from 0-180 minutes.
	Syntax: ULT*n* (where *n* represents a number from 0-180 minutes)
USM	Selects which computers the user can access under Auto Scan Mode.
	USM0: All
	USM1: Powered On
	USM2: Quick View
	USM3: Quick View + Powered On
UST	Determines the length of time in seconds the KVM focus dwells on each port in Auto Scan Mode.
	Syntax: USTn (where n represents a number from 0-255)

Note: Characters are not case sensitive. Upper or lower case works equally well. Characters are comma delimited. An invalid character in the configuration string will prohibit access to the KVM switch for the user.

Examples:

| Character	Meaning
c,w	User has administrator privileges; user can access the system via the Windows Client.
w,j,l	User can access the system via the Windows Client; user can access the system via the Java Client; user can access log information via the user's Web browser.

7.6.5 Security

The Security page controls access to the NetDirector Console KVM Switch with IP Access.
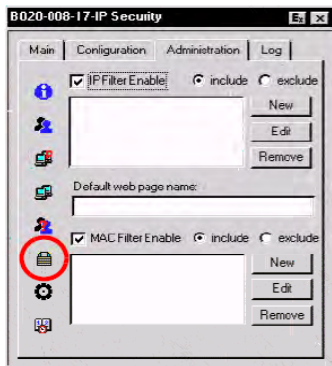
IP and MAC Filtering

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

• IP and MAC filters control access to the KVM switch based on the IP and/or MAC addresses of the computers attempting to connect. A maximum of 100 IP filters and 100 MAC filters are allowed. To enable IP and/or MAC filtering, Click the *IP Filter Enable* and/or *MAC Filter Enable* checkbox.

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

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

• To add a filter, click **New**. A dialog box similar to the ones shown appear:
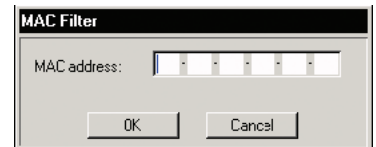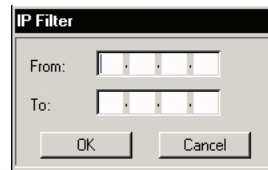
Note: Each IP filter can consist of a single address, or a range of addresses. To filter a single IP address, key in the same address in both the From *and* To *fields. To filter a continuous range of IP addresses, key in the start of the range in the* From *field; key in the end of the range in the* To *field.*

After you specify the filter addresses, click **OK.**

• To delete a filter, select it in the IP filter and/or MAC filter list boxes and click **Remove**.

• To modify a filter, select it in the IP filter and/or MAC filter list boxes and click **Edit**. The Edit dialog box is similar to the New Dialog box. When it comes up, simply delete the old address and replace it with the new one.

Default Webpage Name

• The Default web page name entry field lets the Administrator specify a login string (in addition to the IP address) that the user must include when accessing the KVM switch with a browser. For example: 192.168.0.126/abcdefg

• The user must include the forward slash and the string along with the IP address. For security purposes, we recommend that you change this string from time to time.

Note: If no string is specified here, anyone will be able to access the KVM switch with the Web browser using the IP address alone. This makes your installation less secure.

7.6 Administration Page *(continued)*

7.6.6 Customization

The Customization dialog box is arranged in four major sections: Login Failures; Working Mode; I/O; and untitled miscellaneous functions at the bottom. The functions of each of the Customization items are described in the sections that follow.
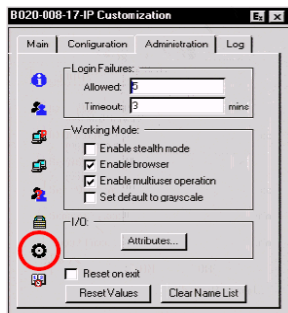
Login Failures

• **Allowed:** sets the number of consecutive failed login attempts that are permitted from a remote computer.

• **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 NetDirector Console KVM Switch with IP Access cannot be pinged.

• To permit browser access to the KVM switch, click the *Enable Browser* checkbox. If browser access is not enabled, users will not be able to log into the unit via their browsers.

Note: Before you disable browser access, you will need to download the API versions of the Windows and Java Clients from the IP Home Page. (See section 8.2 for details) The only way to access the API versions is to access the KVM switch via a browser.
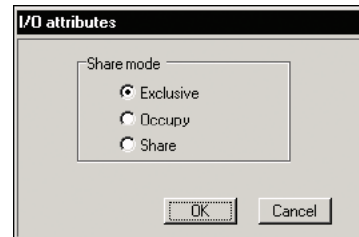
• If *Multiuser Operation* is enabled, up to 32 users can simultaneously access the KVM switch.

• If *Set default to grayscale* is enabled, the remote display is changed to grayscale. This can speed up I/O transfer in low bandwidth situations.

I/O

• Clicking the *Attributes* button brings up a dialog box that allows you to set *Share mode* and *Timeout* threshold for each of the ports:
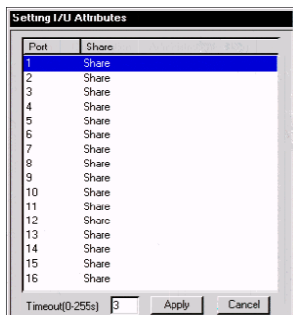
• To set a port's Share mode, double click it to bring up the I/O attributes dialog box:

Set the port's Share mode according to the information in the following table:

Attribute	Action
Exclusive	The first user to occupy the port has exclusive control over it. No other user can view or access it.
Occupy	The first user to occupy the port has control over it. Up to 31 additional users can view its video output. The Timeout function applies to ports that have this setting selected.
Share	Allows up to 32 users to simultaneously share control over the port. User input is placed in a queue and executed sequentially. In addition, a user can access the KVM switch's *Message Board* function to gain control of the Share designated port. (See section 9.2.3, *Message Board*.)

• The *Timeout* field sets a time threshold for users on ports whose Share Mode has been set to *Occupy*. If there is no activity from the user occupying the port for the amount of time set here, the user is timed out and the port is released. The first user to send keyboard or mouse input after the port has been released gets to occupy the port. Input a value from 0 to 255 seconds. The default is 3 seconds. A setting of 0 causes the port to be released the instant there is no input.

Miscellaneous

The functions performed by the remaining elements at the bottom of the screen are described in the table on the next page:

Download from Www.Somanuals.com. All Manuals Search And Download.

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7.6 Administration Page *(continued)*

7.6.6 Customization *(continued)*

| Parameter	Explanation
Reset On Exit	Select this check box to reset the KVM switch and implement new settings when you log out. Following a reset, wait one to two minutes before logging back in. *Note: For some changes the* Reset on exit *check box is automatically selected and the KVM switch will reset when you log out. Clearing the check mark before logging out will cause the new settings to be discarded.*
Reset Values	Clicking this button undoes all changes that have been made to the Configuration and Administration pages (except for port names, usernames, and passwords) and returns the parameters to the original factory default settings (see section 14.2, *OSD Factory Default Settings*).
Clear Name List	This function clears the Port Names on the Main page.

7.6.7 Date/Time

The Date/Time dialog box lets the Administrator set up the KVM switch's time parameters:
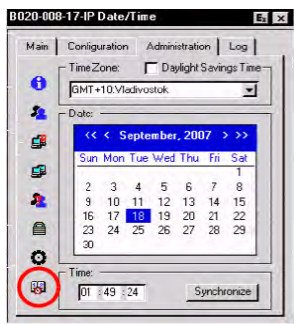
- If your country or region employs Daylight Saving Time (Summer Time), check the corresponding box.
- To establish the time zone that the KVM switch is located in, drop down the *Time Zone* list and choose the city that most closely corresponds to where it is at.
- To set the year and day, use the Calendar graphic.
- Clicking < or > moves you backward or forward by one month increments.
- Clicking << or >> moves you backward or forward by one year increments.
- In the calendar, click on the day.
- To set the time, use the 24 hour HH:MM:SS format.
- Click **Synchronize** to save your settings.

Log Page

Clicking the Log tab brings up the contents of the log file. The log file is discussed in Chapter 11.
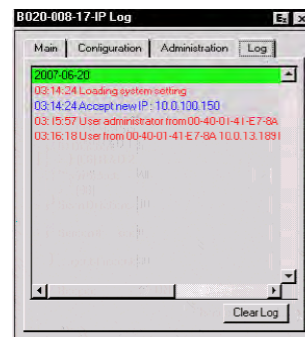

7.7 Upgrading the Firmware

As new versions of the NetDirector Console KVM Switch with IP Access firmware become available, they can be downloaded from our Website at www.tripplite.com.

Note: Although upgrading the firmware isn't on the OSD Administration page, it is an administrative function, so we will discuss it in this chapter.

To upgrade the firmware, do the following:

1. Download the new firmware file to a computer that is not part of your KVM switch installation.

2. From that computer, open your browser and log in to the NetDirector Console KVM Switch with IP Access (see section 8.1, *Logging In*).

3. Click the **Firmware** icon (see section 8.2, *Webpage Layout*) to open the *Firmware configuration* dialog box:
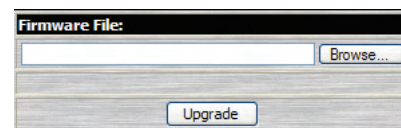
4. Click **Browse**; navigate to the directory that the new firmware file is in and select the file.

5. Click **Upgrade**.

6. After the upload completes, click the **Logout** icon to exit and reset the KVM switch.

8. Browser Operation

8.1 Logging In

To log in from an Internet browser:

1. Using the IP address (see section 7.6.3, *Network*) and Default Web Page Name (see section 7.6.5, *Security*) given to you by your system administrator, log in to the KVM switch via your web browser.

Note: If browser access is denied (see section 7.6.6, Customization*), you will need to obtain the Windows Client or Java Client API program from your system administrator to access the KVM switch.*

2. When you log in to the KVM switch from your Web browser, a Security Alert message appears to inform you that the device's certificate is not trusted, and asks if you want to proceed.
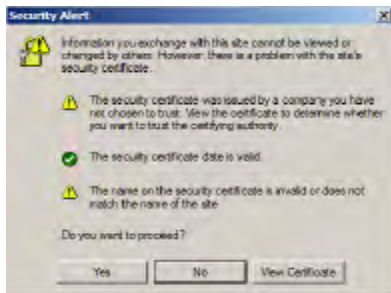
The certificate can be trusted, but the alert is triggered because the certificate's name is not found on Microsoft's list of Trusted Authorities. You have two options:

- If you are working on a computer at another location, accept the certificate for just this session by clicking **Yes**.

- If you are working at your own computer, install the certificate on your computer (see below for details). After the certificate is installed, it will be recognized as trusted.
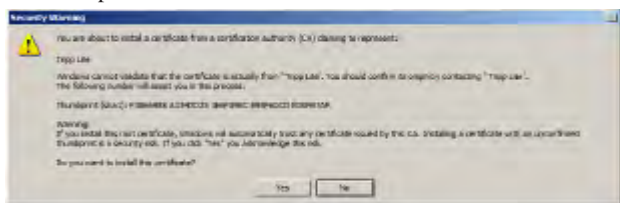
Installing the Certificate

1. In the **Security Alert** dialog box, click **View Certificate**. The **Certificate** dialog box appears.
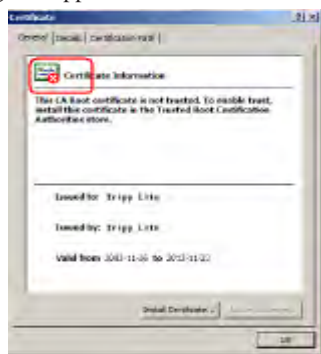
*Note: There is a red and white **X** logo over the certificate to indicate that it is not trusted.*

2. Click **Install Certificate**.

3. Follow the Installation Wizard to complete the installation. Unless you have a specific reason to choose otherwise, accept the default options. The Wizard presents a caution screen:
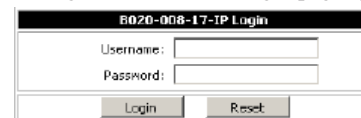
4. Click **Yes.**

5. Click **Finish** to complete the installation.

6. Click **OK** to close the dialog box. The certificate is now trusted:
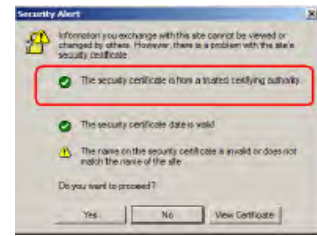
When you click **View Certificate**, you can see that the red and white **X** logo is no longer present – further indication that the certificate is trusted.
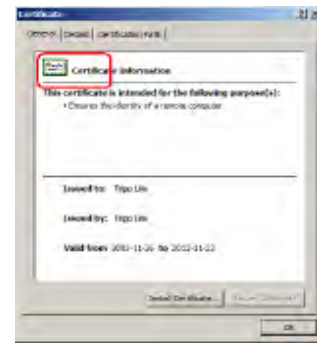
After accepting/installing the certificate, a login page appears:

Provide a valid username and password (set up by the system administrator), then click **Login** to continue.

Note: 1. If you supply an invalid login, the authentication routine will return a message stating, Invalid Username or Password. Please try again. *If you exceed the number of login failures set by the administrator, a message stating that* The page cannot be displayed, *appears. This is done 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.*

2. 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 section 7.6.1,* User Management).

After you have successfully logged in, the KVM switch's Main webpage appears with the General dialog box displayed:

Note: This is the same dialog box that appears whenever you click the General *icon at the top left of the page.*

8. Browser Operation *(continued)*

8.2 Webpage Layout

Webpage Icons

The purpose of the icons at the top of the Webpage are explained in the table below:

Icon	Function
	Click this icon to display the General dialog box. See *General Dialog Box*, for an explanation of the dialog box fields.
	Click this icon to synchronize the KVM switch's time with your computer's time. • If both are in the same time zone, the device's time is changed to match the computer's time. • If they are in different time zones, the device's time is changed to match the computer's time, except that the time zone difference is still maintained.
	Click this icon to install new versions of the NetDirector Console KVM Switch with IP Access firmware. See section 7.7 for details. ***Note:*** *The Firmware icon only displays for users with administrative permission. It doesn't appear on the Webpages of users who don't have the proper permission.*
	You should always click this icon to log out and end your session. If you close the browser without first logging out, you will have to wait approximately one minute before logging in again unless multiuser operation is enabled (see section 7.6.6, *Customization*).

General Dialog Box
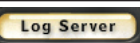
The General dialog box is the default Webpage. An explanation of the dialog box fields is given in the table below:

Field	Purpose
Device Name	To make it easier to manage installations that have more than one KVM switch. You can give the KVM switch a unique name here.
MAC Address	The NetDirector Console KVM Switch with IP Access MAC address displays here.
Firmware Version	Indicates the KVM switch's current firmware version level.
Network Transfer Rate	Displays the currently selected rate for data transmission. The network transfer rate is administrator selectable – see *Network Transfer Rate*, section 7.6.3.
Reset on Exit	Select this check box to reset the KVM switch and implement new settings when you log out. Following a reset, wait one to two minutes before logging back in. (This check box is only enabled for users who have administration privileges.)
	Note: *For some changes, the* Reset on exit *check box is automatically selected and the KVM switch will reset when you log out. Clearing the check mark before logging out will cause the new settings to be discarded.*
Last IP from DHCP Server	Displays the current IP address of the NetDirector Console KVM Switch with IP Access. ***Note:*** *This field only appears when the System Administrator has chosen to obtain an IP Address via a DHCP server (see section 7.6.3,* Network*).*

Note: New versions of the NetDirector Console KVM Switch with IP Access firmware can be downloaded from our Website as they become available.

Webpage Buttons

The purpose of the icons at the left of the Webpage are explained in the table below:

Icon	Purpose
Windows Client	Click this button to download the Windows Client software to remotely control the connected computer(s). *Note: You must download a new Windows Client each time you log in from your browser.*
Java Client	For platform independence, the Java Client allows users that have Java installed on their computers to connect to the NetDirector Console KVM Switch with IP Access. Click this button to download the Java Client software to remotely control the connected server(s). *Note: You must download a new Java Client each time you log in from your browser.*
Windows Client	In some instances, administrators don't want the KVM switch to be accessible by browser. Clicking this button allows the System Administrator to download the API version of the Windows Client. Once browser access is disabled, users will need to obtain the API program from their System Administrator. API operation is discussed in Chapter 13.
Java Client	In some instances, administrators don't want the KVM switch to be accessible by browser. Clicking this button allows the System Administrator to download the API version of the Java Client. Once browser access is disabled, users will need to obtain the API program from their System Administrator. API operation is discussed in Chapter 13.
Log Server	Clicking this button allows an administrator to download and install the Log Server application. See Chapter 12 for Log Server details.
Log	All the events that take place on the KVM switch installation are recorded in a log file. Clicking this icon displays the contents of the log file.

9. Windows Client

9.1 Activating the OSD

After you have successfully logged in (section 8.1), activate the browser-based Windows Client OSD by doing the following:

1. Click the **Windows Client** button at the left of the Webpage.

Note: You must have DirectX 7.0 or higher installed on your computer. If not, the Windows Client will not load. If you don't already have it, DirectX is available for free download from Microsoft's Website: http://www.microsoft.com/downloads.

2. When the file download security warning dialog box appears, click **Run**.

3. If a second security warning dialog box appears, click **Run** again.

Note: If the browser cannot run the file, save it to disk, instead. Then, with your browser still open to the KVM switch Webpage, run the file from your disk. 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 KVM switch, you must log in to the Webpage with a valid username and password to download a fresh copy of the program.

4. When a connection to the KVM switch has been established, the screen opens to the Windows Client OSD with the *Main* page and *Windows Client Control Panel* displayed:
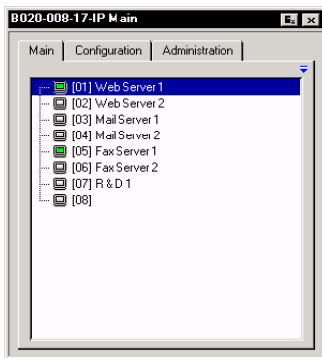
Before you Begin

The first time you run the program, you may want to make some display configuration changes. To do so, click the curved Arrow icon on the Control Panel at the lower right of the remote display. A screen similar to the one below appears:
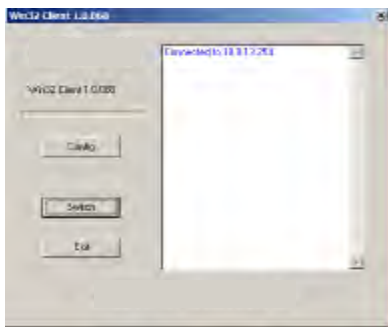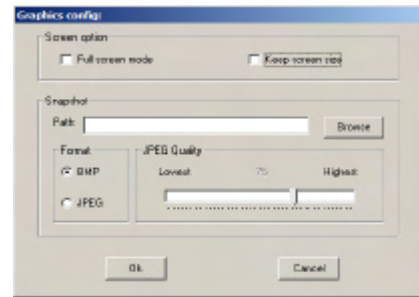

There are three buttons: Config, Switch, and Exit. Their actions are described in the table below:

Button	Action
Config	Brings up the Graphics Configuration dialog box, which allows you to set up the graphical environment. The Graphics Configuration dialog box is discussed in the next section.
Switch	Switches you to the Windows Client OSD. The Windows Client OSD is discussed in section 9.2.
Exit	Ends the program and closes the application.

Graphics Configuration Dialog Box

The dialog box is organized into two main parts: Screen Option and Snapshot.

Screen Options

Screen Options lets you set up the way the remote display appears on the local monitor:

• If *Full Screen Mode* is enabled (the box is checked), the remote display fills the entire screen.

• If *Full Screen Mode* is not enabled (the box is not checked), the remote display appears as a window on the local desktop. If the remote screen is larger than what is able to fit in the window, move the mouse pointer to the screen border that is closest to the area you want to view and the screen will scroll.

• If *Keep Screen Size* is enabled (the box is checked), the remote screen is not resized.

• If *Keep Screen Size* is not enabled (the box is not checked), the remote screen is resized to fit the local monitor's resolution.

• If the remote resolution is smaller than that of the local monitor, its display appears like a window centered on the screen.

• If the remote resolution is larger than that of the local monitor, its display is centered on the 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.

Snapshot

These settings let the user configure the KVM switch's screen capture parameters (see section 9.3, *Windows Client Control Panel*).

• Path lets you select a directory that the captured screens automatically get saved to. Click **Browse**; navigate to the directory of your choice; then click **OK**. By default, the captured screens get saved to your desktop.

• Click a button to choose whether you want the captured screen to be saved as a BMP or a JPEG (JPG) file.

• If you choose JPEG, you can select the quality of the captured file with the slider bar. The higher the quality, the better looking the image, but the larger the file size.

Finishing Up

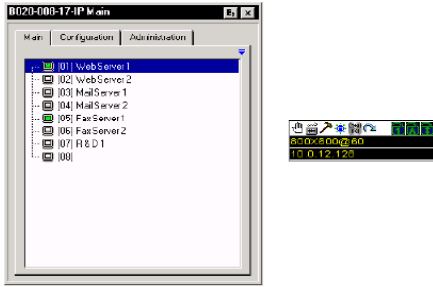After you have finished making your configuration settings:

1. Click **OK** to close the dialog box.

2. Click **Switch** to go back to the Windows Client OSD *Main* page.

9. Windows Client (continued)

9.2 Windows Client OSD

After you gain control of the KVM switch, the OSD comes up with the *Main* page and *Windows Client Control Panel* displayed:

The remote OSD is the same as the local OSD, except the Log tab is not available. The Log can be accessed remotely via the Remote Main Page (see section 8.2, *Webpage Layout*). The Main tab (section 7.2), the Configuration tab (section 7.4) and the Administration tab (section 7.6) all function exactly as described earlier in this manual.

Note: The Administration *tab is disabled for users who don't have administration privileges.*

9.3 Windows Client Control Panel

The control 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 in the icon bar, however, the text bar information changes to describe the icon's function. The functions that the icons perform are described in the table below:

Icon	Purpose
	Click on the hand icon and drag to move the control panel to another position on the screen.
	Click to bring up the Hotkey Setup dialog box (see section 9.3.1, *Hotkey Setup*, for details).
	Click to bring up the Video Options dialog box. Right-click to perform a quick Auto Sync (see section 9.3.2, *Video Adjustment*).
	Left click this icon to toggle *Full Screen Mode* on and off. Right click this icon to toggle *Keep Screen Size* on and off. See section 9.1, *Activating the OSD*, for details.
	Click to take a snapshot of the remote screen. The captured screen is saved in the directory you set up in the *Graphics Configuration* dialog box. See section 9.1, *Activating the OSD*, for details.
	Click to bring up the Message Board (see section 9.3.3, *Message Board*, for details).
	Click to exit the remote view.
	These Lock Key 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.*

9. Windows Client *(continued)*

9.3 Windows Client Control Panel *(continued)*

9.3.1 Hotkey Setup

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 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 panel to the right.

If you find the default Hotkey combinations inconvenient, you can reconfigure them by following these five steps:

1. Highlight the Action, and 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**. Repeat for any other actions for which you wish to re-assign Hotkeys.

5. Click **Close**.

*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.*

An explanation of the Hotkey Setup Actions is given in the table below:

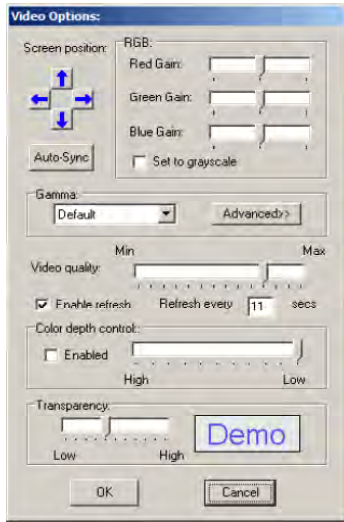| Icon	Purpose	Default Hotkey
Exit remote and location	Breaks the remote connection to the KVM switch returns you to local operation.	F2, F3, F4
Adjust Video	Brings up the video adjustment utility.	F5, F6, F7
Toggle OSD	Toggles the OSD display off and on.	F9, F10, F11
Toggle mouse display	If you find 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.	F11, F10, F9
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.	F8, F7, F6
Video Auto-sync	This combination performs an auto-sync operation. It is the same as clicking the Auto-sync button in the Video Options dialog box (see section 9.3.2, *Video Adjustment*).	F10, F11
Show/Hide Local Cursor	Use this function to toggle the local cursor on/off. Unlike Toggle Mouse Display, this function removes the local mouse pointer altogether.	F6, F7
Substitute Alt key	Although all other keyboard input is captured and sent to the B020-008-17-IP, [Alt + Tab] and [Ctrl + Alt + Del] work on your local computer. In order to implement their effects on the remote system, another key may be substituted for the Alt key. If you substitute the F12 key, for example, you would use [F12 + Tab] and [Ctrl + F12 + Del].	F12
Substitute Ctrl key	If your local computer captures Ctrl key combinations, preventing them from being sent to the remote system, you can implement their effects on the remote system by specifying a function key to substitute for the Ctrl key. If you substitute the F11 key, for example, pressing [F11 + 5] would appear to the remote system as [Ctrl + 5].	F6, F7
Substitute Ctrl key	If your local computer captures Ctrl key combinations, preventing them from being sent to the remote system, you can implement their effects on the remote system by specifying a function key to substitute for the Ctrl key. If you substitute the F11 key, for example, pressing [F11 + 5] would appear to the remote system as [Ctrl + 5].	LCntrl

Note: To invoke an action, you must press and release the keys one key at a time.

9.3 Windows Client Control Panel *(continued)*

9.3.2 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 Control Panel, or use the *Adjust Video* hotkeys (see section 9.3.1, *Hotkey Setup*). 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 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. If you enable *Set to Grayscale*, the remote video display is changed to grayscale.
Gamma	This section allows you to adjust the video display's gamma level. This function is discussed in detail in the next section, *Gamma Adjustment*.
Video Quality	Drag the slider bar to adjust the overall Video Quality. Values can be from 20 to 100. The larger the value, the clearer the picture and the more video data goes through the network. Depending on the network bandwidth, a high value may adversely effect response time.

Option	Usage
Enable Refresh	The NetDirector Console KVM Switch with IP Access can redraw the screen every 1 to 99 seconds, eliminating unwanted artifacts from the screen. Select **Enable Refresh** and enter a number from 1 through 97. The KVM switch will redraw the screen at the interval you specify. This feature is disabled by default. Click to put a check mark in the box next to *Enable Refresh* to enable this feature.
Color Depth Control	This setting adjusts the amount of color information for the video data sent over the network. The higher the color setting, the greater the data. 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.
Transparency	Adjusts the transparency of the toolbars displayed by the Windows and Java Client applications. Slide the bar until the display in the *Demo* window is to your liking.

Gamma Adjustment

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

Under *Basic* configuration, there are ten preset and four user-defined levels to choose from. Drop down the list box and choose the most suitable one.

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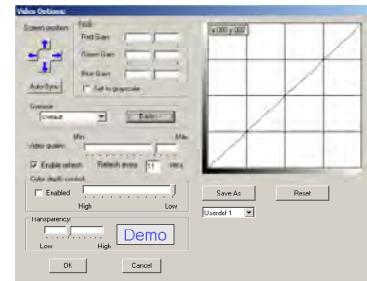
- Click and drag the diagonal line at as many points as you wish to achieve the display output you desire.
- Click **Save As** to save up to four user-defined configurations derived from this method. Saved configurations can be recalled from the list box at a future time.
- Click **Reset** to abandon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

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

9.3 Windows Client Control Panel *(continued)*

9.3.3 Message Board

The NetDirector Console KVM Switch with IP Access supports multiple user logins, which can possibly give rise to access conflicts. To alleviate this problem, a message board feature has been provided, allowing users to communicate with each other.

The message board functions much like an Internet chat program does. When you click the Message Board icon on the Windows Client Control Panel, a screen similar to the one below appears:

The Button Bar

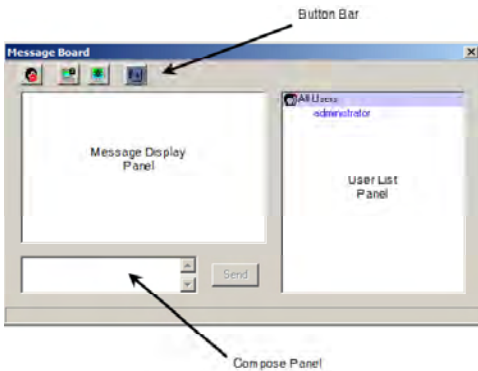The buttons on the Button Bar are described in the table below:

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

Message Display Panel

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

Compose Panel

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

User List Panel

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

• Your name appears in blue; other users' names appear in black.

• By default, messages are posted to all users. To post a message to one individual user, select the user's name before sending your message.

• If a user's name is selected, and you want to post a message to all users, select All Users before sending your message.

• If a user has disabled Chat, its icon displays before the user's name to indicate so.

• If a user has occupied the KVM or the KM, its icon displays before the user's name to indicate so.

9. Windows Client *(continued)*

9.4 Port Operation

Select a port on the OSD Main Screen either by moving the highlight bar to it with the Up and Down Arrow keys and pressing **Enter**, or by **double-clicking** it. Once you select a port, its screen displays on your monitor, and your keyboard and mouse input affects the remote system.

9.4.1 OSD Toolbar

The OSD provides a toolbar to help you control the KVM switch remotely. To bring up the toolbar, tap the OSD Hotkey (Scroll Lock or Ctrl) twice. The toolbar appears in the upper left corner of the screen:
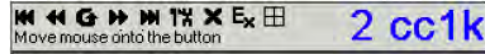
Depending on the settings that were selected under *ID Display* (see section 7.4), the Port Number and/or the Port Name display at the right of the toolbar.

*Note: Click on a free area of the toolbar and drag to move it around the screen. When the toolbar displays, mouse input is confined to the toolbar area and keyboard input has no effect. To carry out operations on the computer connected to the port, close the toolbar by clicking the **X** on it; or, recall the OSD and select the port again.*

9.4.2 OSD Toolbar Icons

OSD Toolbar Icons

The meanings of the toolbar icons are explained in the table below:

Icon	Function
⏮	Click to skip to the first accessible port on the entire installation without having to invoke the OSD.
⏪	Click to skip to the first accessible port previous to the current one without having to invoke the OSD.
G	Click to begin Auto Scan Mode. The KVM switch automatically switches among the ports that were selected for Auto Scanning under the Configuration *Scan Select* function (see section 7.4). This allows you to monitor their activity without having to switch among them manually.
⏩	Click to skip from the current port to the next accessible one without having to invoke the OSD.
⏭	Click to skip from the current port to the last accessible port on the entire installation without having to invoke the OSD.
👁	Click to bring up the OSD.
✖	Click to close the toolbar.
Eₓ	Click to logout and exit the Windows Client application.
⊞	Click to invoke Panel Array Mode (see section 9.4.3).

9.4.3 Panel Array Mode

Clicking on the OSD Toolbar's *Panel Array* icon invokes Panel Array Mode. Under this mode, the OSD divides your screen into a 4 x 4 grid of 16 panels:

- Each panel represents one of the KVM switch's ports. Starting with port 1 at the upper left; going from left to right; top to bottom; port 16 is at the lower right.

- When the Array is first invoked, it scans through each of the ports that were selected for Auto Scanning under the Configuration page's *Scan Select* function (see section 7.4), and displays information about the port (port name, resolution, on line status, port access status), at the bottom of the panel.

Note: The scan duration in panel array mode is not user-defineable. It defaults at a scan duration of 1 second.

The number of panels in the array (16, 9, 4, or 1) can be selected by clicking **Show More Ports** (+), and **Show Fewer Ports** (-) on the panel array toolbar.

- If the computer connected to a port is on line, its screen displays in its panel, otherwise the panel is blank.

- Only ports that are accessible to the currently logged in user are displayed (see *User Management*, section 7.6.1). All other panels are blank.

- If you move the mouse pointer over a panel, information about the port displays at the bottom of the screen.

- You can access a computer connected to a port by moving the mouse pointer over its panel and clicking. You switch to the computer exactly as if you had selected it from the OSD Main screen.

9.4.3 Panel Array Mode *(continued)*

- **Panel Array Toolbar**

    The Panel Array toolbar, at the lower right of the screen, provides shortcut navigation and control of the panel array as described in the table below:

Icon	Function
✛	Click and drag to move the toolbar to another position on the screen.
⏸	Pause panel scanning, leaving the focus on the panel that currently has it.
⏮	Move the attention of the panel array mode scan back four panels.
⏪	Move the attention of the panel array mode scan to the previous panel.
⏩	Move the attention of the panel array mode scan to the next panel.

Icon	Function
⏭	Move the attention of the panel array mode scan ahead four panels.
✚	Increase the number of panels in the array.
━	Decrease the number of panels in the array.
⁴⁄₃	Toggle 4/3 aspect ratio for widescreen monitors.
✖	Exit Panel Array mode.

Note: For issues affecting multiple user operation in Panel Array Mode, see section 9.4.4, Multiuser Operation.

9.4.4 Multiuser Operation

Multiuser Operation

The NetDirector Console KVM Switch with IP Access supports multiuser operation. Up to 32 users can log in at the same time. When multiple users simultaneously access the KVM switch from remote computers, the rules of precedence that apply are shown in the following table:

| Operation	Rule
General	Once a user invokes the OSD, no other user can invoke it until the original user closes it.
Auto Scan Mode	If a user has invoked Auto Scan Mode, but the OSD has not been invoked, another user can interrupt Auto Scan Mode by invoking the OSD.
Panel Array Mode	• When a user has invoked Panel Array Mode, all successive users automatically enter Panel Array Mode. Panel Array Mode continues until the original user stops it. (Administrators can override Panel Array Mode.) • Only the user who starts Panel Array Mode can use the Skip Mode (see section 9.4.3) function. • Only the user who starts Panel Array Mode can switch ports. Other users automatically switch to the ports that the original user selects. However, if an individual user does not have access rights to the port that the original user switches to, the user will not be able to view that port. • Individual users can increase or decrease the number of panels they wish to view in Panel Array Mode; however, the picture quality may decrease as the number of panels decreases.

9.4.5 Keyboard Hotkey Operation

Keyboard hotkey combinations allow you to provide KVM focus to a port directly from the keyboard. The NetDirector Console KVM Switch with IP Access hotkey features are described in the following sections.

Auto Scanning

The Auto Scan function automatically switches among all the ports that are accessible to the currently logged on User, so that the user can monitor their activity automatically. (See *Scan Select*, section 7.4, for information regarding accessible ports.)

Setting the Scan Interval

The amount of time Auto Scan dwells on each port is set with the *Scan Duration* setting (see section 7.4).

Invoking Auto Scan

To start Auto Scanning, open the OSD toolbar by pressing your chosen hotkey twice (either *Scroll Lock* or *Ctrl*), and then tap the **A** key. The Auto Scan function cycles through the ports in order - starting from the first port on the installation. An **S** appears in front of the Port ID Display to indicate that the port is being accessed under Auto Scan Mode.

Pausing Auto Scan

While you are in Auto Scan Mode, you can pause the scanning and focus on a particular computer by pressing **P**. During the time that Auto Scanning is paused, the **S** in front of the Port ID blinks on and off. Pausing when you want to keep the focus on a particular computer is more convenient than exiting Auto Scan Mode because when you resume scanning, you start from where you left off. If you were to exit and restart Auto Scan Mode, the scanning would start from the very first computer on the installation. To resume Auto Scanning after pausing, press any key except *Esc* or the *Spacebar*. Scanning continues from where it left off.

Exiting Auto Scan

While Auto Scan Mode is in effect, ordinary keyboard functions are suspended. You must exit Auto Scan Mode in order to regain normal control of the keyboard. To exit Auto Scan Mode, press *Esc* or the *Spacebar*. Auto Scanning stops when you exit Auto Scan Mode.

Skip Mode

Skip Mode allows you to switch ports in order to monitor the computers manually. You can dwell on a particular port for as long or as little as you like - as opposed to Auto Scanning, which automatically switches after a fixed interval. The Skip Mode hotkeys are the four Arrow keys. Just as with the Auto Scan Hotkeys, you must first open the OSD Toolbar by pressing your chosen hotkey twice (either Scroll Lock or Ctrl) in order to use the Skip Mode hotkey. Their operation is explained in the table below:

Hotkey	Action
←	Skips from the current port to the first accessible port previous to it.
→	Skips from the current port to the first accessible port that comes after it.
↑	Skips from the current port to the first accessible port on the installation.
↓	Skips from the current port to the last accessible port on the installation.

9. Windows Client *(continued)*

9.5 Keyboard and Mouse Considerations

9.5.1 Keystrokes

Except for [Alt + Tab] and [Ctrl + Alt + Del], all keyboard input is sent to the remote system. The above two chorded key 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 keyboard, you may select another key as a substitute for the **Alt** and/or **Ctrl** keys.

For example, the **F11** key could substitute for the **Ctrl** key and the **F12** key could substitute for the **Alt** key, in which case [F12 + Tab] substitutes for [Alt + Tab]; and [F11 + F12 + Del] substitutes for [Ctrl + Alt + Del]. See section 9.3.1, *Hotkey Setup*, for details on setting up a substitute key.

Note: While any key may be used as a Substitute key, you must not use one that is being used as the first position Hotkey for another action. Also, when the KVM switch is being accessed with Win 98 under Full Screen Mode, if you mistakenly press Ctrl + Alt + Del, you will have to exit the Windows Client (by clicking the arrow on the Windows Client control panel), and restart the Windows Client from the Remote Control Main Webpage.

In the case of the [Ctrl + Alt + Del] function, the icon is also available on the Windows Client Toolbar. Clicking this icon will perform the same function as hitting the [Ctrl + Alt + Del] keys.

9.5.2 Mouse Synchronization

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

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:

• Right-clicking on the hammer icon in the Windows Client Control Panel.

• Moving the mouse pointer into the Control Panel and back out again.

• Performing an *Auto Sync* with the Video Adjustment function (see section 9.3.2, *Video Adjustment*, for details).

• Invoke the *Adjust Mouse* function with the *Adjust Mouse* hotkeys (see section 9.3.1, *Hotkey Setup*, for details).

• After activating the *Adjust Mouse* function, move the local mouse pointer exactly on top of the remote mouse pointer and click.

For additional mouse synchronization procedures, see pages 32-33.

10. Java Client

10.1 Activating the OSD

Access the NetDirector Console KVM Switch with IP Access remote main page. (see section 8.1, *Logging In*, for details) The layout of the remote main page is discussed in detail in Chapter 8.

After you have successfully logged in, to activate the Java Client OSD, do the following:

1. Click the button at the left of the Webpage.

Note: You must have Sun's Java 2 JRE 1.4.2 or higher installed on your computer before running the Java Client. Java is available for free download from the Sun Java Website: http://java.sun.com.

2. Accept the security certificates.

3. When the browser dialog asks what to do with the program file, click **Open**.

Note: If the browser cannot run the file, save it to the hard drive. Then, with your browser still open to the Remote Webpage, run the file from your disk. 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 remotely access the KVM switch, you must log in to the Webpage with a valid username and password to download a fresh copy of the program.

10.2 Java Client OSD

When you bring up the OSD, the Main screen comes up in the center of your monitor.

The remote OSD is the same as the local OSD, except the Log tab is not available. The Log can be accessed remotely via the remote main page (see section 8.2, *Webpage Layout*). The Main tab (see section 7.2), the Configuration tab (see section 7.6.2) and the Administration tab (see section 7.6) all function exactly as described earlier in this manual.

Note: The Administration tab is disabled for users who don't have administration privileges.
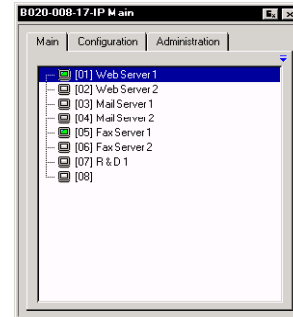
10.3 Java Client Control Panel

Instead of a control panel like the one that the Windows Client uses, the Java Client has a hidden control panel, located at the bottom center of the screen. The panel becomes visible when the mouse pointer is moved over it. The Java Client Control Panel icons and their functions are described in the sections that follow.
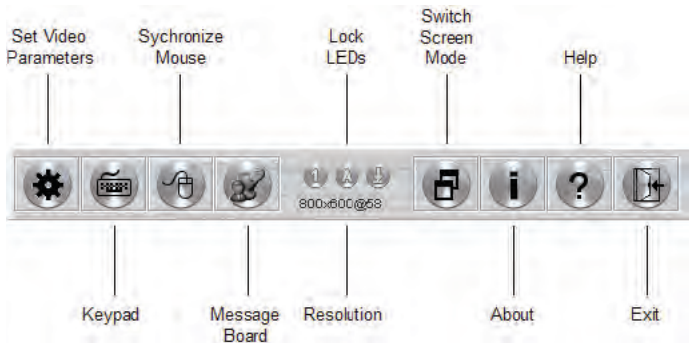
Set Video Parameters

Clicking this button brings up the *Video Adjustment* dialog box:
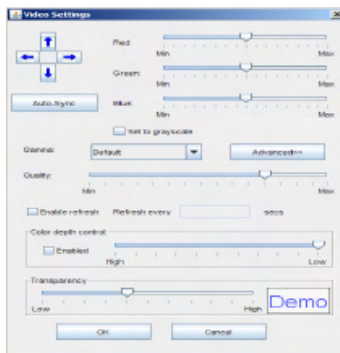
The *Video Settings* dialog box functions exactly the same as the *Video Option* dialog box in the Windows Client (see section 9.3.2, *Video Adjustment*, for details).

Keypad

Some keyboard combinations cannot be captured and sent to the KVM switch when using the Java Client. 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. There are two methods available to bring the pointers into sync:

1. Click the Mouse Synchronization button; wait for the remote mouse pointer to move to the upper left corner of the screen; move your local mouse pointer directly on top of the remote pointer, and click.

2. Move your local mouse pointer over the Java Client Control Panel, and click.

Additional Mouse Synchronization Procedures

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

Note: These procedures are to be performed on the computers attached to the KVM switches ports - not on the computer you are using to remotely access the KVM switch. In order for the local and remote mice to synchronize, you must use the generic mouse driver supplied with the Windows operating system. If you have a third party driver installed - such as one supplied by the mouse manufacturer - you must remove it.

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10.3 Java Client Control Panel *(continued)*

Windows 2000:

Set the mouse speed to the middle position; set the mouse acceleration to *None.*

(Control Panel → Mouse → Mouse Properties → Motion):
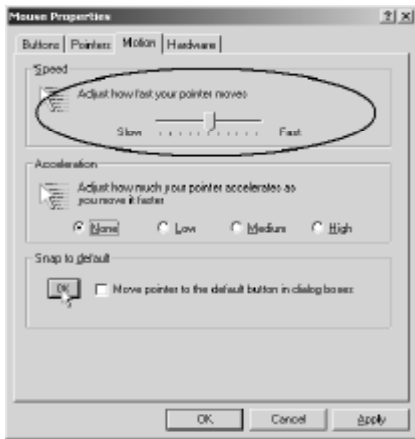
Windows XP / Windows Server 2003:

Set the mouse speed to the middle position; disable *Enhance Pointer Precision.*

(Control Panel → Printers and Other Hardware → Mouse → Pointer Options):
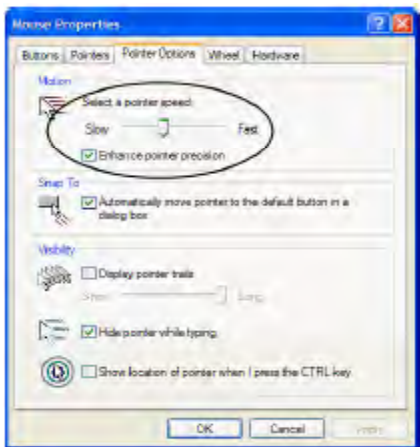
Windows ME / Windows 95:

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

Windows NT / Windows 98:

Set the mouse speed to the slowest position.

Sun / Linux:

Open a terminal session and issue the following command:

Sun: xset m 1

Linux: xset m 0

Message Board

The NetDirector Console KVM Switch with IP Access supports multiple user logins, which can possibly give rise to access conflicts. To alleviate this problem, a message board feature, similar to an Internet chat program, allows users to communicate with each other.

When you click the Message Board icon on the Java Client Control Panel, a screen similar to the one below appears:
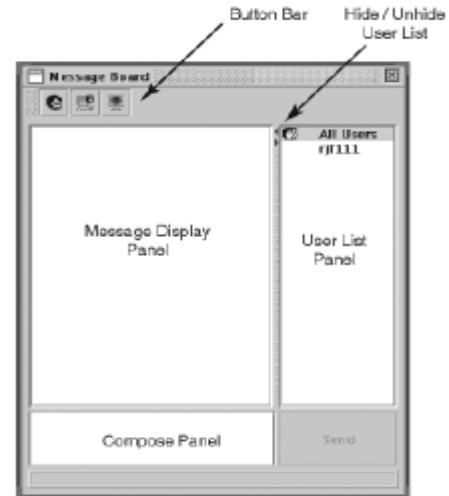
10.3 Java Client Control Panel *(continued)*

10.3.1 Message Board Button Bar

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

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

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

- Key in the messages that you want to post to the board in the Compose panel. Click **Send**, to post the message to the board.

- The names of all the logged in users appear in the *User List* panel.

- By default, messages are posted to all users. To post a message to an individual user, select the user's name before sending your message.

- If a user's name is selected, and you want to post a message to all users, select *All Users* before sending your message.

- If a user has disabled Chat, the icon displays before the user's name to indicate so.

- If a user has occupied the KVM, the icon displays before the user's name to indicate so.

- If a user has occupied the keyboard/mouse, the icon displays before the user's name to indicate so.

- To Hide/Unhide the *User List* panel, click on the arrows in the panel separator.

10.3.2 Lock Key LEDs

These LEDs show the Num Lock, Caps Lock, and Scroll Lock status of the remote computer. They turn green when the Lock status is **On**. 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.

10.3.3 Resolution

The video resolution of the device connected to the remote port displays directly below the Lock LEDs.

10.3.4 Switch Screen Mode

Clicking this button enables or disables Full Screen Mode. (By default the Java Client opens in Full Screen Mode.)

10.3.5 About

Clicking this button opens the About dialog box, which displays the Java Client Version information. Click the OK button to close the dialog box.

10.3.6 Send Ctrl+Alt+Del

Clicking this button sends a Ctrl+Alt+Del signal to the remote system.

10.3 Java Client Control Panel *(continued)*

10.3.7 Help

Clicking this button brings up the online help screen for the Java Client.

10.3.8 Exit

Clicking the Exit button terminates the Java Client session.

10.4 Port Operation

Java Client port operation is the same as for the Windows Client. See section 9.4, *Port Operation*, for details.

10.4.1 Panel Array Mode

This is very similar to the Windows Client Panel Array Mode (see section 9.4.3 for details), except for some differences in the toolbar. The Java Client Panel Array Mode Toolbar is described in the table below:

Icon	Function
	Pauses on the panel that has the focus at the time you click the pause button. After you click Pause, the button changes to an arrowhead and its caption changes to Resume. To resume scanning, click the Resume button.
	Brings the current panels focus to the first available port that is four ports before the port you were just on.
	Brings the current panels focus to the first available port before the port you were just on.
	Brings the current panels focus to the first available port after the port you were just on.

Icon	Function
	Brings the current panels focus to the first available port that is four ports after the port you were just on.
	Increase the number of panels in the array. (Choose between 16, 8, 4 and 1.)
	Decrease the number of panels in the array. (Choose between 16, 8, 4 and 1.)
	Toggle 4/3 aspect ratio.
	Exit Panel Array mode.

10.4.2 Keyboard Hotkey Operation

Keyboard hotkey operation is the same as for the Windows Client. See section 9.4.5, *Keyboard Hotkey Operation*, for details.

11. Log File

11.1 Log File on Remote Main Page

The NetDirector Console KVM Switch with IP Access logs all the events that take place on it. To view the contents of the log file, click the Log icon at the left of the remote main page; or, click on the Log tab of the local console OSD. A screen similar to the one below appears:
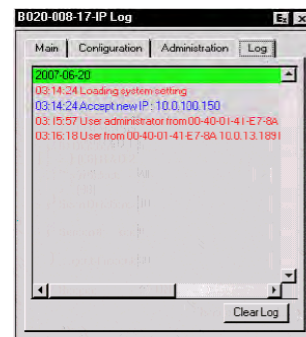
A maximum of 512 events are stored in the log file. To clear the log file, click on the Clear Log icon at the lower right of the screen.

Note: The Log File is a temporary file that is erased when the KVM switch is turned off or loses power. It is recommended that you install the Log Server to back up the contents of the log file.

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12. Log Server

The Windows-based Log Server is an administrative utility that records all the events that take place on selected units and writes them to a searchable database.

12.1 Installation

1. Specify the MAC address of the Log Server computer on the *Service Configuration* page of the *Administrator Utility* (see section 7.6.2).

5. Click **Next**. Then follow the on-screen instructions to complete the installation and have the Log Server program icon placed on your desktop.Specify the MAC address of the Log Server computer on the *Service Configuration* page of the *Administrator Utility* (see section 7.6.2).
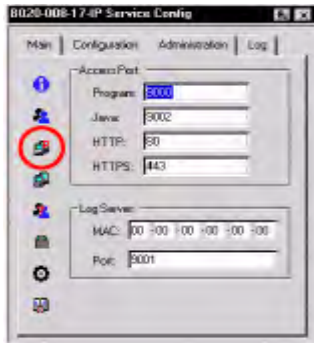
2. From the computer that you want to use as the Log Server, open your browser and log into the remote main page. The computer you are installing the log server on must be connected to the same network as the KVM switch.

3. Click the **Log Server** button at the left of the Webpage to start the Log Server installation program.

4. If any security warning dialog boxes appear, ignore them and click **Run** or **Open**.

Note: If the browser cannot run the file, save it on your computer and run it from there.

12.2 Starting Up

To bring up the Log Server, either double click the program icon, or key in the full path to the program on the command line. The first time you run it, a screen similar to the one below appears:
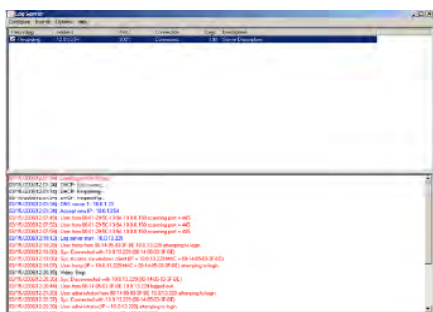
Note: The Log Server requires the Microsoft Jet OLEDB 4.0 driver in order to access the database. This driver comes standard in Microsoft OS installations.

The Log Server screen is divided into three components:

• A *Menu Bar* at the top.

• A panel that will contain a list of units in the middle (see section 12.4, *Log Server Main Screen*, for details).

• A panel that will contain an *Events List* at the bottom.

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

12.3 Menu Bar

The Menu bar consists of four items:

* Configure

* Events

* Options

* Help

Note: If the Menu Bar appears to be disabled, you may need to click in the list window to enable it.

12.3.1 Configure

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

* To add a KVM switch to the list, click **Add**.

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

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

Field	Explanation
Address	This can either be the IP address of the KVM switch or its DNS name (if the network administrator has assigned it a DNS name).
Port	The port number that was assigned to the Log Server in the KVM switch's OSD.
Description	This field is provided so that you can put in a descriptive reference for the unit to help identify it.
Limit	This specifies the number of days that an event should be kept in the Log Server's database before it expires and it is cleared out.

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

12.3.2 Events

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

Search

Search allows you to search for events containing specific words or strings. When you access this function, a screen similar to the one below appears:
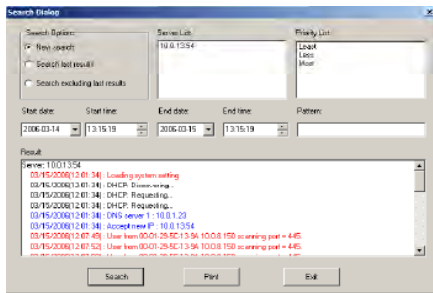
A description of the items is given in the table below:

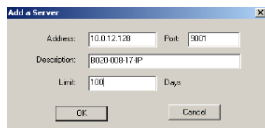| Item	Explanation
New search	This is one of three radio buttons that define the scope of the search. If it is selected, the search is performed on all the events in the database for the selected KVM switch.
Search last results	This is a secondary search performed on the events that resulted from the last search.
Search excluding last results	This is a secondary search performed on all the events in the database for the selected KVM switch *excluding* the events that resulted from the last search.

Item	Explanation
Server List	KVM switches are listed according to their IP address. Select the unit that you want to perform the search on from this list. You can select more than one unit for the search. If no units are selected, the search is performed on all of them.
Priority List	Sets the level for how detailed the search results display should be.
Start Date	Select the date that you want the search to start from. The format follows the MM/DD/YYYY convention, as follows: 06/11/2007
Start Time	Select the time that you want the search to start from.
End Date	Select the date that you want the search to end at.
End Time	Select the time that you want the search to end at.
Pattern	Key in the pattern that you are searching for here. The multiple character wildcard (%) is supported. E.g., h%ds would display all records that contain a words that start with an h and end with ds.
Results	Lists the events that contained matches for the search.
Search	Click this button to start the search.
Print	Click this button to print the search results.
Exit	Click this button to exit the Search dialog box.

Maintenance

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

12. Log Server (continued)

12.3 Menu Bar (continued)

12.3.3 Options

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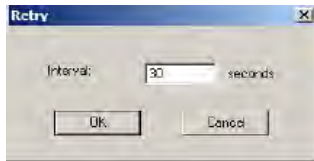
Key in the number of seconds, then click **OK** to finish.

12.3.4 Help

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

12.4 Log Server Main Screen

12.4.1 Overview

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

- The upper (List) panel lists the KVM switches that have been selected for the Log Server to track (see section 12.3.1, *Configure*).

- The lower (Event) panel displays the log events for the currently selected KVM switch (the highlighted one - if there are more than one). To select a KVM switch from the list, simply click on it.
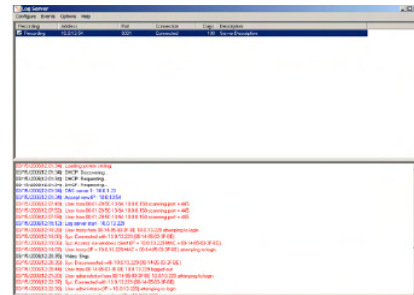
12.4.2 List Panel

List Panel	
The List panel contains six fields:	
Field	**Explanation**
Recording	Determines whether the Log Server is recording log events for the corresponding KVM switch. If the Recording check box is the field displays Recording, and log events are recorded. If the Recording check box is not checked, the field displays *Paused*, and log events are not being recorded. ***Note:*** *Even if a KVM switch in the list is not highlighted, the Log Server will still record its log events if the Recording check box is checked.*
Address	This is the IP address or DNS name that was given to the KVM switch when it was added to the Log Server.
Port	This is the port number that was assigned to the Log Server in the KVM switch's OSD.
Connection	If the Log Server is connected to the KVM switch, 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, and will need to be set up on the *Service Configuration* page of the KVM switch's OSD (see section 7.6.2).
Days	This field displays the number of days that the KVM switch's log events are to be kept in the Log Server's database before expiration.
Description	This field displays the descriptive information given for the KVM switch when it was added to the Log Server.

12.4.3 Event Panel

The lower panel displays event information for the currently selected KVM switch. Note that if the installation contains more than one KVM switch, the Log Server will still record its event information and keeps it in the database as long as the Recording check box is checked.

13. AP Operation

13.1 Overview

In some cases, the Administrator may not want the NetDirector Console KVM Switch with IP Access to be available via web browser. AP versions of the Windows Client and the Java Client are provided to enable direct access of the KVM switch without having to go through a browser. The programs are initially downloaded from the KVM switches remote main page by the system administrator. After they have been downloaded by the Administrator, browser access is disabled, and users must get the AP versions of the Windows and Java client in order to remotely access the KVM switch.

13.2 Windows Client

13.2.1 Installation

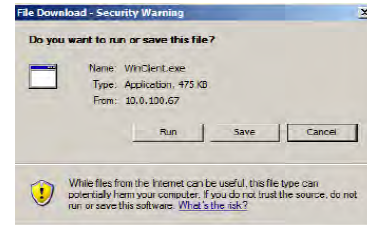To install the Windows Client on your computer, you must first obtain the AP Windows Client from your system administrator, and save it on your computer.

13.2.2 Starting Up

To connect to the KVM switch, go to the Windows Client program and double-click its icon (WinClient.exe) to bring up the Windows Client Connection Screen:
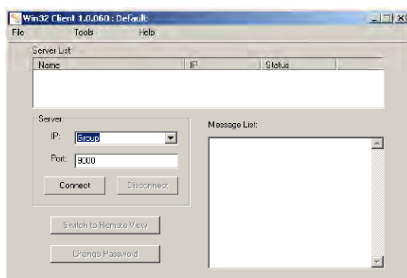
Note: You must have DirectX 7.0 or higher installed on your computer. If not, the Client program will not load.

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

Term	Explanation
Menu Bar	The Menu Bar contains three items: File, Tools, and Help. • The *File Menu* allows the operator to Create, Save, and open user created Work files. • The *Tools Menu* contains two entries: Keyboard and Config.
Server List	Each time the WinClient.exe file is run, it searches the User's local LAN segment for KVM switches, and lists them in this box. If you want to connect to one of these units, **double-click** it.

Term	Explanation
Server	This area is used when you want to connect to a KVM switch at a remote location. You can drop down the *IP* list box and select an address from the list. If the address you want isn't listed, you can key in the IP address you want. Then, key in the port number in the *Port* field. If you don't know the port number, contact your system administrator. When the IP address and port number for the unit you wish to connect to have been specified, Click **Connect**. When you have finished with your session, Click **Disconnect**.
Message List	Lists status messages regarding the connection to the KVM switch.
Switch to Remote View	Once contact with a KVM switch has been established, this button becomes active. Click it to switch and take over console control of the KVM switch. The screen output of the unit appears on your monitor. Your keystrokes and mouse movements are captured and sent to the KVM switch. If the NetDirector Console KVM Switch with IP Access is connected to a KVM switch, you can control the KVM switch and its connected computers just as if you were connected locally.
Change Password	This button becomes active after a connection to a KVM switch has been established. It allows the User to change the password used to log in to the KVM switch.

File Menu

The *File Menu* allows the operator to Create, Save, and Open user created Work files. A Work File consists of all the information specified in a Client session. This includes the Server List and Server IP list items, as well as the Hotkey 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.

The File menu consists of three items, as follows:

|	
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*.

Tools Menu

Tools menu operations are performed after you connect, but before you switch to remote view. There are two entries on the Tools Menu: *Keyboard* and *Config*.

Keyboard

Various configuration actions related to the keyboard, video, and mouse can be performed via hotkey combinations. The Hotkey Setup utility is accessed by opening the *Tools* menu and selecting *Keyboard*. The Hotkey Setup Screen that appears is essentially the same dialog box discussed in the browser-based *Windows Client* chapter. See section 9.3.1, *Hotkey Setup*, for details.

Config

When you select *Config*, a screen similar to the one below appears:
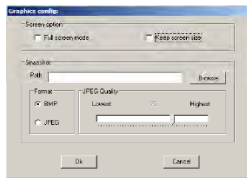
The dialog box is organized into two main parts: *Screen Options* and *Snapshot*.

Screen Options

Screen options lets you set up the way the remote display appears on the local monitor:

• If *Full Screen Mode* is enabled (the box is checked), the remote display fills the entire screen.

• If *Full Screen Mode* is not enabled (the box is not checked), the remote display appears as a window on the local desktop. If the remote screen is larger than what is able to fit in the window, move the mouse pointer to the screen border that is closest to the area you want to view and the screen will scroll.

• If *Keep Screen Size* is enabled (the box is checked), the remote screen is not resized.

• If *Keep Screen Size* is not enabled (the box is not checked), the remote screen is resized to fit the local monitor's resolution.

• If the remote resolution is smaller than that of the local monitor, its display appears like a window centered on the screen.

• If the remote resolution is larger than that of the local monitor, its display is centered on the 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.

Snapshot

These settings let the user configure the KVM switch's screen capture parameters.

• Path lets you select a directory that the captured screens automatically get saved to. Click **Browse**; navigate to the directory of your choice; then click **OK**. By default, the captured screens get saved to your desktop.

• Click a button to choose whether you want the captured screen to be saved as a BMP or a JPEG (JPG) file.

• If you choose JPEG, you can select the quality of the captured file with the slider bar. The higher the quality, the larger the file size.

13.2.3 Connecting

To connect to a port on the KVM switch:

1. From the *Server List* box, **double-click** the device that you wish to connect to. If you are using the *Server IP* input box, specify the IP address and port number in the *Server IP* and *Port* input boxes, and then Click **Connect**. The Login dialog box appears:

2. Key in a valid Username and Password, and then click **OK**. The program attempts to connect to the selected KVM switch. While it does so, you can check the *Message List* window for status messages regarding the operation's progress.

3. Once contact with the KVM switch has been established, the *Switch to Remote View* button becomes active. Click it to connect to the KVM switch and take over console control of the unit that is connected to it.
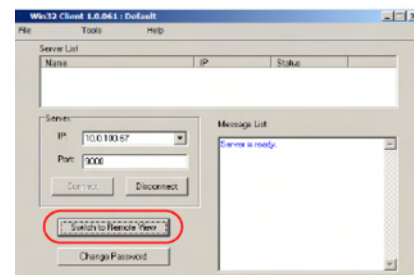
13. AP Operation *(continued)*

13.2 Windows Client *(continued)*

13.2.4 Operation

Once a connection to the KVM switch has been established, 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.

The look and feel of the AP Windows client operation is the same as for the browser version of the Windows client. Refer back to chapter 9 for details.

Ending the Session

After you log out of the KVM switch, you return to the Connection dialog box. Click **Disconnect** to end the session.

13.3 Java Client

13.3.1 Installation

To install the Java Client on your computer, you must first obtain the AP Java Client from your system administrator.

13.3.2 Starting Up

To connect to the NetDirector Console KVM Switch with IP Access, go to the AP Java Client program and double click its icon to bring up the Address Input dialog box.

Note: The Java Client requires Java version 1.4.2 or higher.

1. Key in the IP address for the unit you want to connect to – including a forward slash followed by the login string (if one has been set-up by your system administrator), then click **OK**.

2. Note: For security purposes, the login string must be specified correctly as part of the IP address. The system administrator may change the string from time to time to thwart unauthorized access attempts. Be sure you have the correct string when you attempt to connect.
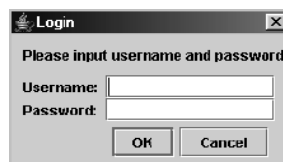
3. After you establish a connection, a Login dialog box appears. Provide a valid Username and Password, and then click **OK**.

Once the authentication procedure completes successfully, the KVM switch remote main page displays on your monitor.

13.3.3 Operation

The look and feel of the AP Java Client operation is the same as for the browser version of the Java client. Refer to chapter 10 for details.

14. Appendix

14.1 Specifications

Specification	B020-008-17-IP	B020-016-17-IP
Number of Server Ports	8	16
Daisy-Chain/Cascadeable	Cascade	Cascade
Cascadeable KVM Switch	B007-008, B022-U16	B007-008, B022-U16
Max Number of Connected Computers	128	256
Port Selection	OSD, Hotkey, Pushbutton	OSD, Hotkey, Pushbutton
External Console Connectors	(1) HD15 Female, (3) MiniDIN6 Female *(1) MiniDIN6 mouse port is located on the keyboard panel	(1) HD15 Female, (3) MiniDIN6 Female *(1) MiniDIN6 mouse port is located on the keyboard panel
KVM Port Connectors	(8) HD15 Female	(16) HD15 Female
KVM Cable Kits – PS/2	P774-Series KVM Cable Kits	P774-Series KVM Cable Kits
KVM Cable Kits – USB	P776-Series KVM Cable Kits	P776-Series KVM Cable Kits
Power Cord Port	IEC-320-C13	IEC-320-C13
LAN Port	RJ45 Female	RJ45 Female
Reset Button	Yes	Yes
Power On/Off Switch	Yes	Yes
Port Selection Buttons	Yes	Yes
LCD Monitor Power On/Off Button	Yes	Yes
LCD Settings Menu	Yes	Yes
Online LEDs	(8) Green	(16) Green
Selected LEDs	(8) Orange	(16) Green
KVM Switch Power LED	(1) Blue	(1) Blue

Specification	B020-008-17-IP	B020-016-17-IP
LCD Monitor Power LED	(1) Orange	(1) Orange
Num Lock LED	(1) Green	(1) Green
Caps Lock LED	(1) Green	(1) Green
Scroll Lock LED	(1) Green	(1) Green
Link LED	(1) Green	(1) Green
10/100 Mbps LED	(1) Orange/Green	(1) Orange/Green
Local LCD Video Resolution	1280 x 1024 @ 75Hz; DDC2B	1280 x 1024 @ 75Hz; DDC2B
Remote Monitor Video Resolution	1600 x 1200 @ 60Hz; DDC2B	1600 x 1200 @ 60Hz; DDC2B
Scan Interval	1 – 255 Seconds	1 – 255 Seconds
Input Rating	100-240V AC, 50/60Hz, 1A	100-240V AC, 50/60Hz, 1A
Power Consumption	120V/31W, 230V/39W	120V/31W, 230V/39W
Operating Temperature	0° to 40° C	0° to 40° C
Storage Temperature	-20° to 60° C	-20° to 60° C
Humidity	0% to 80% RH, Non-condensing	0% to 80% RH, Non-condensing
Housing	Metal	Metal
Weight	37.7 lbs (14.1 kg)	38.1 lbs (14.3 kg)
Dimensions (H x W x D, In)	1.7 x 19 x 27.8	1.7 x 19 x 27.8

14.2 OSD Factory Default Settings

The factory default settings are as follows:

Setting	Default
OSD Hotkey	[Scroll Lock] [Scroll Lock]
Port ID Display	Port Number + Name
Port ID Display Duration	5 Seconds
Scan / Skip Mode	All

Setting	Default
Scan Duration	10 Seconds
Screen Blanker	0 Minutes (disabled)
Beeper	On
Accessible Ports	F (Full) For all Users on all Ports

14.3 Troubleshooting

14.3.1 Overview

Operation problems can be due to a variety of causes. The first step in solving them is to make sure that all cables are securely attached and seated completely in their sockets.

In addition, updating the product's firmware may solve problems that have been discovered and resolved since the prior version was released. If your product is not running the latest firmware version, we strongly recommend that you upgrade. See section 7.7, *Upgrading the Firmware*, for upgrade details.

14.3.2 Administration Problems

Symptom	Action
After upgrading firmware, the KVM switch still appears to be using the old firmware version.	Delete all temporary Internet files and cookies, close the Web browser, and then open a new instance of the Web browser.
After making changes and checking Reset on exit and then logging out, the KVM switch doesn't reset after I exit.	Upgrade your browser to Internet Explorer 6.0.2800.1106 or higher.
After making changes and checking Reset on exit, when I log back in the calendar changes to an incorrect (much earlier) date.	Log in from a remote console to automatically recover the correct date. If you log in from the local console, go to the Administration page and reset the calendar to the correct date.

14.3.3 General Operation Problems

Symptom	Action
Erratic operation.	Press and hold the Reset button for at least three seconds.
Mouse and/or keyboard not responding.	Unplug the cable(s) from the console port(s), and then plug it back in again.
Sudden loss of network connection.	Close your KVM switch connection. Wait approximately 30 seconds, and then log in again.
When logging in from a browser, the following message appears: 404 Object Not Found.	Make sure to include the forward slash and correct login string when you specify the KVM switches IP address. (See *Default Webpage Name*, section 7.6.5.)
Two pointers appear when I login from a remote computer.	You can shrink the non-functioning pointer so that it is almost invisible.
I can't set the computers' screen resolutions higher than 1280 x 1024, even though the KVM switch supports 1600 x 1200 for remote computers.	If you wish to set the screen resolutions of the connected computers to something higher than 1280 x 1024, see section 14.4, *Screen Resolutions Higher than 1280 x 1024*.
When I switch to one of the computers on my installation, the LCD monitor screen goes blank. All I see is a black screen.	To resolve the problem, connect an external KVM console (with a monitor capable of displaying the problem computer's screen resolution) to the KVM switches external console ports. Use the external console to access the problem computer and reduce its resolution to 1280 x 1024. *Note: Although the LCD monitor only supports video resolutions of up to 1280 x 1024, the KVM switch itself can support video resolutions up to 1600 x 1200 @ 60 Hz. If you wish to set the screen resolutions of the connected computers to something higher than 1280 x 1024, see Screen Resolutions Higher than 1280 x 1024, page x for details.*
When viewing a computer with a high screen resolution from a remote computer, I can't see the entire desktop.	Try to move the pointer up and down, and side to side to expose the parts of the desktop that you can't see. If this doesn't work, toggling the mouse display will allow you to use the computer's own pointer to view the rest of the desktop.

14.3.4 Java Client Problems

Symptom	Action
Java Client won't connect to the KVM switch.	1. Java 2 JRE 1.4.2 or higher must be installed on your computer. 2. Make sure to include the forward slash and login string (see *Default Webpage Name*, section 7.6.5) when you specify the KVM switches IP address. 3. Close the Java Client, reopen it, and try again.
Pressing the Windows Menu key has no effect.	Java doesn't support the Windows Menu key.
Java Client performance deteriorates.	Exit the program and start again.
National language characters do not appear.	If the local keyboard is set to a non-English layout, you must set the remote computer's keyboard layout to English.
IP and MAC address filters do not work with the Java Client.	IP and MAC address filters only work with the Windows Client. We recommend using the Default Web page name (see section 7.6.5) as a means to enhance the overall security of the KVM switch.

14.3 Troubleshooting *(continued)*

14.3.4 Java Client Problems *(continued)*

Symptom	Action
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 and 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.

14.3.5 Panel Array Mode Problems

Problem	Action
Low resolution video in Panel Array Mode.	Increase the number of panels that are displayed.
When multiple remote users are logged in concurrently, some of them only receive a partial image.	The first user to invoke Panel Array Mode should set it to display at least 4 panels.

14.3.6 Windows Client Problems

Symptom	Action
The Windows Client won't connect to the KVM switch.	DirectX 7.0 or higher must be installed on the remote computer.
The remote computer's pointer is out of sync.	1. Use the AutoSync feature (see section 9.3.2, *Video Adjustment*), to sync the local and remote monitors. 2. If that doesn't resolve the problem, use the Adjust Mouse feature (see Adjust mouse, page xx) to bring them back in sync. 3. If the two methods described above fail to resolve the problem, use the Toggle Mouse Display function (see section 9.3.1).
Part of the remote window is off my monitor.	1. If *Keep Screen Size* (see section 9.1) is not enabled, use the AutoSync feature (see section 9.3.2, *Video Adjustment*) to synchronize the local and remote monitors. 2. If Keep Screen Size is enabled, you can scroll to the areas that are off the screen. See the note in section 9.1 for details.
The remote computer's display is rotated 90 degrees.	Enable *Keep Screen Size* (see section 9.1).
I cannot run Net Meeting when the Windows Client is running.	Enable *Keep Screen Size* (see page 9.1).
When I log in, the browser generates a CA Root certificate is not trusted, or a Certificate Error response.	The certificate's name is not found on Microsoft's list of Trusted Authorities. However, the certificate can be trusted. See Trusted Certificates, section 8.1, for details.

14.3.7 Sun Systems Problems

Symptom	Action

Video display problems with HDB-15 interface systems (e.g. Sun Blade 1000 servers).	The display resolution should be set to 1024 x 768 @ 60Hz.
	Under Text Mode:
	1. Enter the ok prompt and issue the following firmware 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 @ 60Hz.
	Under Text Mode:
	1. Enter the ok prompt and issue the following firmware 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.

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

14. Appendix *(continued)*

14.4 Screen Resolutions Higher than 1280 x 1024

The maximum screen resolution of the NetDirector Console KVM Switch with IP Access integrated LCD monitor is 1280 x 1024. In order to protect it from being damaged by resolutions that are beyond its display capability, we recommend that the screen resolutions of the connected computers be set to 1280 x 1024 or lower.

If you wish to display screen resolutions higher than 1280 x 1024, follow the procedure described below to change the computers' screen resolutions and safeguard the KVM switch's LCD monitor:

Note: • *We strongly recommend that you close the KVM switch's LCD console before continuing.*

• *Using the LCD monitor to view computers that are set to resolutions that exceed its maximum capability can damage it and shorten its life span.*

• *To access computers from the local console when the integrated console is closed, simply connect an external KVM console with a monitor that supports 1600 x 1200 @ 60 Hz to the KVM switch's external console ports.*

From a remote computer, log into the KVM switch and access the computer whose screen resolution you wish to change.

1. Open the computer's *Control Panel* and double-click **Display**. The *Display Properties* dialog box appears.
2. Click the **Settings** tab, and then click **Advanced**.
3. In the dialog box that appears, click the **Monitor** tab.
4. Under *Monitor settings*, click to clear the *Hide modes that this monitor cannot display* check box.
5. Click **Apply**.
6. Click the **Adapter** tab, and then click **List All Modes**. The *List All Modes* dialog box appears.
7. Under *List of valid modes*, select the display mode that you want the computer to use.

Note: The maximum screen resolution and refresh rate that the KVM switch supports for remote computers is 1600 x 1200@60 Hz.

8. Click **OK**, and then click **Apply**. The display mode changes to the one you selected.
9. If the *Monitor Settings* dialog box appears requesting you to confirm the settings change, click **Yes**.
10. After the *Monitor Settings* dialog box closes, click **OK**.
11. In the *Display Properties* dialog box, click **OK**.

This completes the procedure. Repeat these steps for any other computer whose screen resolution you wish to change.

14.5 About HD15 Connectors

This product uses HD15 connectors for its KVM and/or Console ports. We have specifically modified the shape of these connectors so that only KVM cables that we have designed to work with this product can be connected.

15. Warranty

1-YEAR LIMITED WARRANTY

TRIPP LITE warrants its products to be free from defects in materials and workmanship for a period of one (1) year from the date of initial purchase. TRIPP LITE's obligation under this warranty is limited to repairing or replacing (at its sole option) any such defective products. To obtain service under this warranty, you must obtain a Returned Material Authorization (RMA) number from TRIPP LITE or an authorized TRIPP LITE service center. Products must be returned to TRIPP LITE or an authorized TRIPP LITE service center with transportation charges prepaid and must be accompanied by a brief description of the problem encountered and proof of date and place of purchase. This warranty does not apply to equipment which has been damaged by accident, negligence or misapplication or has been altered or modified in any way. EXCEPT AS PROVIDED HEREIN, TRIPP LITE MAKES NO WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. Some states do not permit limitation or exclusion of implied warranties; therefore, the aforesaid limitation(s) or exclusion(s) may not apply to the purchaser. EXCEPT AS PROVIDED ABOVE, IN NO EVENT WILL TRIPP LITE BE LIABLE FOR DIRECT, INDIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OF THIS PRODUCT, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE. Specifically, TRIPP LITE is not liable for any costs, such as lost profits or revenue, loss of equipment, loss of use of equipment, loss of software, loss of data, costs of substitutes, claims by third parties, or otherwise.

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