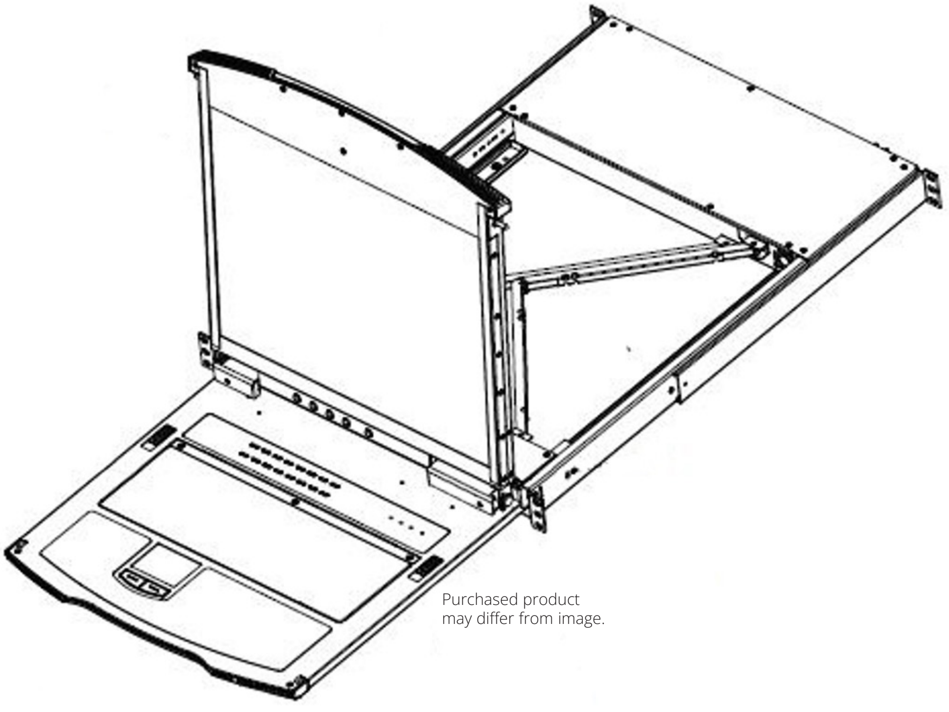
Owners Manual

TRIPP LITE
SERIES

NetDirector® 16-Port Console Cat5 KVM over IP Switch

Model:
B064C-16-1X1-IP



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1. FCC Information

This is an FCC Class A product. This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Note: *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. The user must use shielded cables and connectors with this equipment. Any changes or modifications to this equipment not expressly approved by Eaton could void the user's authority to operate this equipment.*

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:

- B064C-16-1X1-IP Console KVM Switch with Built-in IP
- Rack-Mount Hardware (Preinstalled)
- C13 to C14 Power Cord
- User Documentation

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.

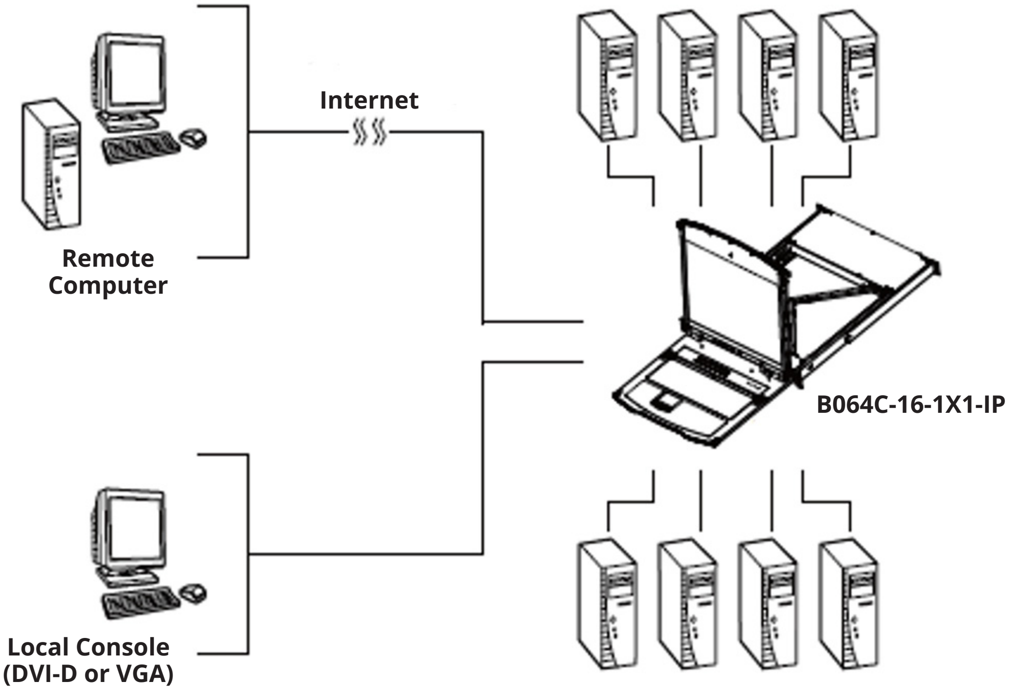
4. Introduction

4.1 Overview

The NetDirector Console KVM Switch IP-based KVM control units allow both a local and remote operator to monitor and access multiple servers from a single KVM (keyboard, video, mouse) console. The B064C-16-1X1-IP can control up to 16 servers in a single-stage setup.

The B064C-16-1X1-IP features IP-based connectivity that allows one local and one remote operator to concurrently monitor and access the computers on your installation. Through TCP/IP, the B064C-16-1X1-IP can be accessed from anywhere via LAN, WAN or Internet — whether it is down the hall, down the street or halfway around the world.

Compact, high-density, RJ45 connectors and CAT 5e/6 cables make for a simple wiring configuration, with the flexibility to use PS/2 and USB KVM adapter cables in any combination to link various types of computers, including PCs, Macs, Sun computers and serial devices.



For added convenience, ports for an external keyboard, monitor (DVI-D or VGA), and mouse are provided on the rear panel, allowing you to manage the switch from a local console.

System administrators can handle a multitude of tasks smoothly and efficiently remotely — from installing and running GUI applications, to BIOS-level troubleshooting, routine monitoring, concurrent maintenance, system administration, rebooting and even pre-booting functions.

4.2 Features

Hardware

- Monitor and control up to 16 computers on a single level.
- High video resolution — up to 1920 x 1200 @ 60 Hz with 24-bit color depth at the local console for a distance of up to 164 ft. (50 m) from the computers and up to 1920 x 1200 @ 60 Hz with 24-bit color depth for remote sessions and on the external local console.
- One bus for remote KVM over IP access.
- Space-saving RJ45 connectors and Cat 5e/6 cabling.
- KVM adapter cables to allow flexible interface combinations (PS/2, USB, Sun and serial).
- Extra console port — manage computers with the LCD KVM switch from an external console (DVI-D or VGA monitor, USB keyboard and mouse).

4. Introduction

- Multiplatform support: PC, Mac, Sun and serial.
- Supports an external USB mouse.
- Dual-rail housing is slightly less than 1U with top and bottom clearance for smooth operation in a 1U rack space.
- Dual rail — LCD monitor slides independent of the keyboard / touchpad.

Management

- Supports 64 user accounts and up to 32 users can be logged in at the same time for control and management.
- End session feature — administrators can terminate any running session.
- Adapter ID stores port information allowing administrators to relocate servers to different ports without having to reconfigure the adapters and switch.
- Critical system event notification via SMTP email, SNMP trap and Syslog support.
- Port Share Mode allows multiple users to gain access to a server simultaneously
- Customizable event notification.
- Out-of-Band Access-Modem dial-in/dial out/dial back support.
- Event logging and Windows-based Log Server support.
- Manage browser access (Browser, http, https).
- Local Log Event.
- Firmware upgradeable.
- IPv6 capable.

Easy-to-Use Interface

- Easy computer selection via pushbuttons, Hotkey Mode, OSD (On-Screen Display) and Browser-based GUI.
- Local Console, Browser and AP GUIs offer a unified multi language interface to minimize user training time and increase productivity
- Multiplatform client support (Windows, Mac OS X, Linux, Sun).
- Multi-browser support: Internet Explorer, Chrome, Firefox, Safari, Opera, Netscape.
- Launch multiple Virtual Remote Desktops to control multiple servers from the same login session Magic Panel.
- Full-screen or sizable and scalable Virtual Remote Desktop.
- Browser-based UI in pure Web technology allows administrators to perform administrative tasks without the need for Java to be pre-installed.
- Panel Array Mode available to both local console and remote access users.
- Video syncing with the local console — local console monitor’s EDID information is stored on the KVM adapter cables for display resolution optimization.
- Keyboard/Mouse Broadcast — keyboard and mouse inputs can be duplicated on all the attached servers.
- Keyboard Language support: English (US); English (UK); German; German (Swiss); French; Spanish; Traditional Chinese; Japanese; Korean; Swedish; Italian; Russian; Hungarian and Greek.

4. Introduction

Advanced Security

- Remote authentication support: RADIUS, LDAP, LDAPS and MS Active Directory.
- Supports TLS 1.2 encryption and RSA 2048-bit certificates to secure user logins from browsers.
- Flexible encryption design allows users to choose any combination of 56-bit DES, 168-bit 3DES, 256-bit AES, 128-bit RC4 or Random for independent KB/Mouse, video and virtual media data encryption.
- IP/MAC Filter support for enhanced security.
- Configurable user and group permissions for server access and control.
- Automated CSR creation utility and third-party CA certificate authentication.

Virtual Media

- Virtual media enables remote file transfers, OS patching software installations and diagnostic testing.
- Works with USB enabled servers at the operating system and BIOS level.
- Supports DVD/CD drives, USB mass storage devices, PC hard drives and ISO images.
- Supports smart card readers on connected computers.

Virtual Remote Desktop

- Video quality can be adjusted to optimize data transfer speed. Monochrome color depth setting, threshold and noise settings for compression of the data bandwidth in low bandwidth situations.
- High-performance graphics for optimum image quality.
- Full-screen or sizable and scalable Virtual Remote Desktop.
- Message board feature allows logged in users to communicate.
- Mouse DynaSync automatically synchronizes local and remote mouse movements.
- Exit Macros support.
- On-screen keyboard with multilanguage support.
- BIOS-level access.

V-Series Exclusive

- Advanced FPGA graphics processor for improved video quality.
- Faster transmission speed (2x) for virtual media devices.
- A separate bus for remote KVM over IP access.
- Supports FIPS 140-2 level 1 security standards.

4.3 Requirements

4.3.1 General

- Computers with at least a Pentium 4 2+ GHz processor and 1 GB RAM.
- Browsers must support TLS 1.2 encryption.
- Network transfer speed of at least 512 kbps is recommended.
- For the *Log Server*, Microsoft Jet OLEDB 4.0 or higher driver installed.

4.3.2 External Console

- DVI-D, VGA, SVGA, or Multisync monitor capable of the highest resolution that you will be using on any computer in the installation.
- USB mouse.
- USB keyboard.

4.3.3 Computers

- VGA, SVGA or Multisync port.
- USB-A port and USB host controller.
- For the browser-based WinClient ActiveX Viewer, DirectX 8 must be present, and at least 150 MB of memory must be available after installation.
- For the browser-based Java Client Viewer, the latest version of the Java Runtime Environment (JRE) must be installed and at least 205 MB of memory must be available after installation.
- For the Windows Client AP, DirectX 8 must be present and at least 90 MB of memory must be available after installation.
- For the Java Client AP, the latest version of the Java Runtime Environment (JRE) must be installed and at least 145 MB of memory must be available after installation.
- For the Log Server, you must have Microsoft Jet OLEDB 4.0 or later.

Note: *The integrated LCD monitor's maximum screen resolution is 1280 x 1024 @ 75 Hz. If you want to use a higher setting for the screen resolutions of the attached computers, see* ***8.2.11 Screen Resolutions Higher than 1280 x 1024****.*

4.3.4 KVM Adapter Cables

- Cat 5e/6 cable is required to connect the B064C-16-1X1-IP to one of the KVM adapters.
- The following KVM adapters are required for use with the B064C-16-1X1-IP:

Function	Model
Connect to devices with PS/2 ports	B055-001-PS2
Connect to devices with USB ports (All platforms – PC, Mac, Sun)	B055-001-USB
Connect to serial-based devices	B055-001-SER
For USB computers – DVI output, Virtual Media and Smart Card Reader support	B055-001-UDV
For USB computers – HDMI output, Virtual Media and Smart Card Reader support	B055-001-UHD
For USB computers – DisplayPort output, Virtual Media and Smart Card Reader support	B055-001-UDP
For USB computers – VGA output, Virtual Media support	B055-001-USB-V2
For USB computers – VGA output, Virtual Media and audio support	B055-001-USB-VA
For USB computers – VGA output, Virtual Media and Smart Card Reader support	B055-001-UV2CAC
Connect to devices with USB-C port, with virtual media support	B055-001-C

Note: *If you use KVM adapters purchased prior to your switch purchase, you may need to upgrade the adapter's firmware.*

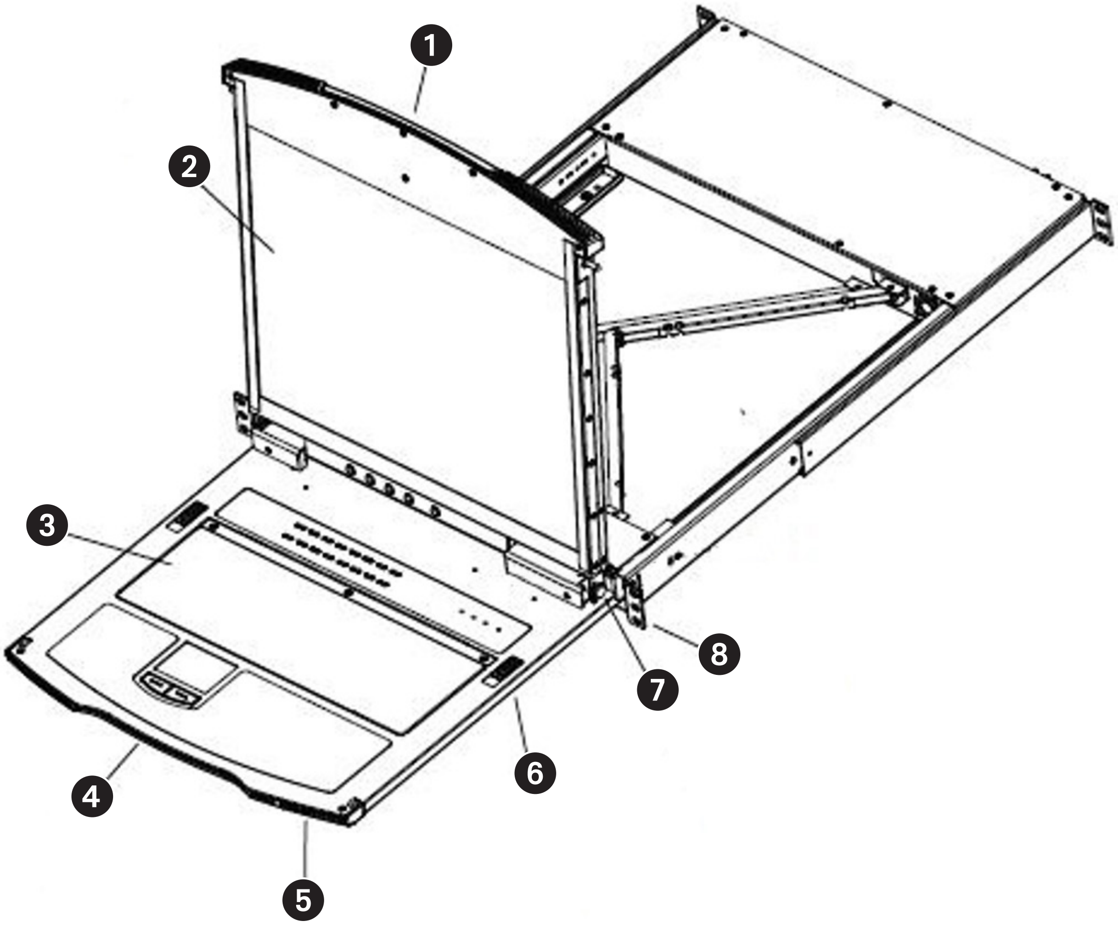
4.3.5 Operating Systems

- Supported operating systems for remote user computers include Windows 2000 or later and those capable of running the Java Runtime Environment (JRE) 6, Update 3 or higher (Linux, Mac, Sun, etc.).
- Supported operating systems for the servers connected to the switch's ports are shown in the table below:

OS		Version
Windows		XP or later
Linux	RedHat	7.1 or later
	Fedora	Core 2 or later
	SuSE	9.0 or later
	Mandriva (Mandrake)	9.0 or later
UNIX	AIX	4.3 or later
	FreeBSD	4.2 or later
	Sun	Solaris 8 or later
Novell	Netware	5.0 or later
Mac		OS 9 or later
DOS		6.2 or later

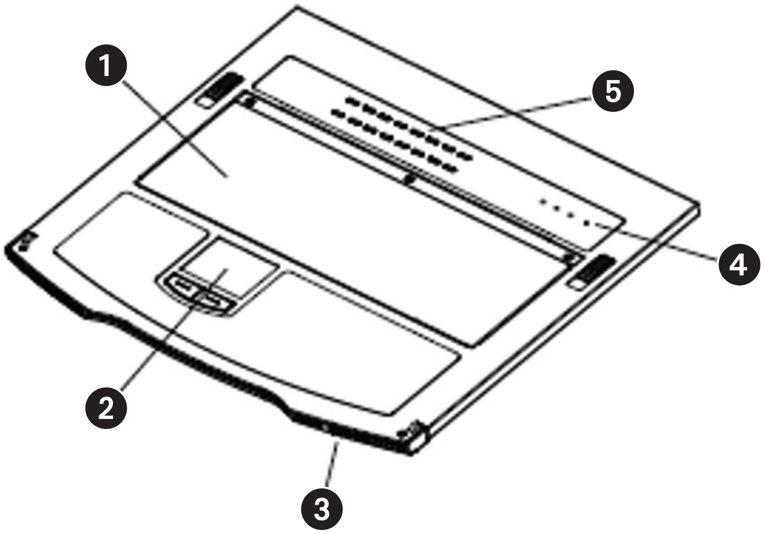
4.4 Components

4.4.1 Front View



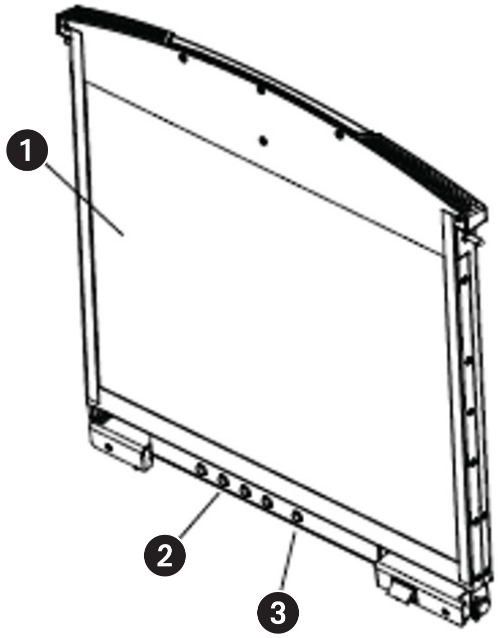
❶	Upper Handle	Pull to slide the LCD module out; push to slide the module in. See **6.1.1 Opening the Console** for more information.
❷	LCD Module	Refer to **4.4.3 LCD Module**, for a detailed description.
❸	Keyboard Module	Refer to **4.4.2 Keyboard Module**, for a detailed description.
❹	Lower Handle	Pull to slide the keyboard module out. See **6.1.1 Opening the Console** for more information.
❺	Power LED	Illuminates (blue) to indicate the unit is receiving power.
❻	Keyboard Release Catch	These (one on each side) release the keyboard module to slide it out.
❼	LCD Release Catch	These (one on each side) release the LCD module to slide it out.
❽	Rack-Mount Brackets	The rack mount brackets located at each corner of the unit secure the chassis to a system rack. See **5.2 Standard Rack Mounting** for more information.

4.4.2 Keyboard Module



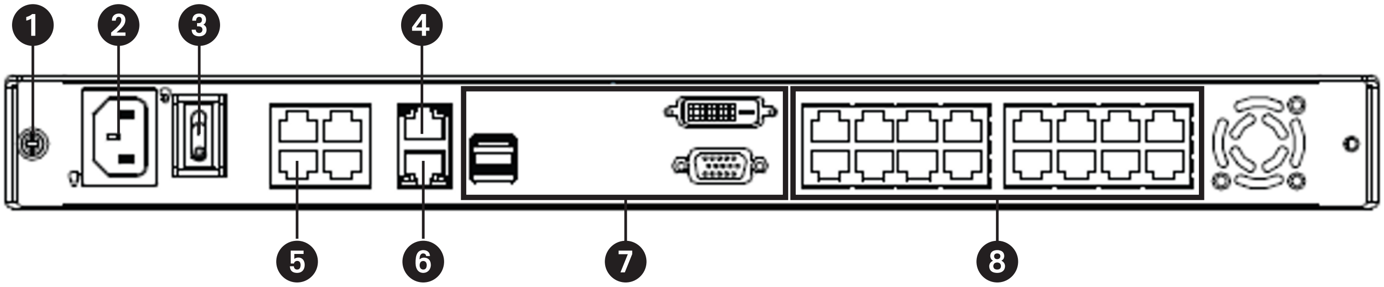
❶	Keyboard	Standard 105-key QWERTY keyboard.
❷	Touchpad	Standard mouse touchpad.
❸	External Mouse Port	A USB Type-A mouse port is provided for users who prefer to use an external mouse.
❹	Lock LEDs and Reset Button	The Num Lock, Caps Lock, Scroll Lock LEDs are located here. A reset button is located just to the right of the Lock LEDs. Press this button using a thin object to perform a system reset.
❺	Port Selection Buttons and LEDs	To access a port on the currently selected station, press its corresponding port selection button. Indicator LEDs are built into the switches: • An **On-Line** LED illuminates to indicate the computer attached to its corresponding port is up and running. • A **Selected** LED illuminates to indicate which port has the KVM focus.

4.4.3 LCD Module



❶	LCD Display	To access the LCD monitor, slide the LCD module out and flip up the cover. See **6.1.1 Opening the Console** for more information.
❷	LCD Controls	These buttons control the position and picture settings of the LCD display. See **6.2 LCD OSD Configuration** for more information.
❸	LCD On / Off Button	Push this button to turn the LCD monitor on and off. The button illuminates when the LCD monitor is off to indicate that only the monitor is off and not the KVM switch itself.

4.4.4 Rear View



❶	Grounding Terminal	The grounding wire used to ground the switch attaches here.
❷	Power Socket	This is a standard C14 AC power socket. The power cord from an AC source plugs in here.
❸	Power Switch	This is a standard rocker switch that powers the unit on and off.
❹	LAN 2 Port	The cable that connects the unit to the backup network interface (10/100/1000 Mbps) plugs in here.
❺	Modem Port	For a dial-in connection in the event the unit is unavailable over the network (see **6.4 Single-Stage Installation** for details).
❻	LAN 1 Port	The cable that connects the unit to the primary network interface (10/100/1000 Mbps) plugs in here.
❼	Local Console Port Section	If this is a single-station installation or you would like to connect an external console, the keyboard, monitor and mouse for the local console plug in here.
❽	KVM Port Section	The Cat 5e/6 cables that link to the KVM adapter cables plug in here.

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.
- This product is for indoor use only.
- 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 utility.
- The device is designed for IT power distribution systems with 230V phase-to-phase voltage.
- To prevent damage to your installation, it is important that all devices are properly grounded.
- The device is equipped with a 3-wire grounding type plug. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. 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.
- Avoid circuit overloads. Before connecting equipment to a circuit, know the power supply's limit and never exceed it. Always review the electrical specifications of a circuit to ensure that you are not creating a dangerous condition or that one does not already exist. Circuit overloads can cause a fire and destroy equipment.
- If an extension cord is used with this device make sure that the total of the ampere ratings of all products used on this cord does not exceed the extension cord ampere rating. Make sure that the total of all products plugged into the wall outlet does not exceed 15 amperes.
- To help protect your system from sudden, transient increases and decreases in electrical power, use a surge suppressor, line conditioner or uninterruptible power supply (UPS).
- Position system cables and power cables carefully; be sure nothing rests on any cables.
- 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:

  o The power cord or plug has become damaged or frayed.

  o Liquid has been spilled into the device.

  o The device has been exposed to rain or water.

  o The device has been dropped, or the cabinet has been damaged.

  o 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.
- Do not connect the RJ11 connector marked "UPGRADE" to a public telecommunications network.

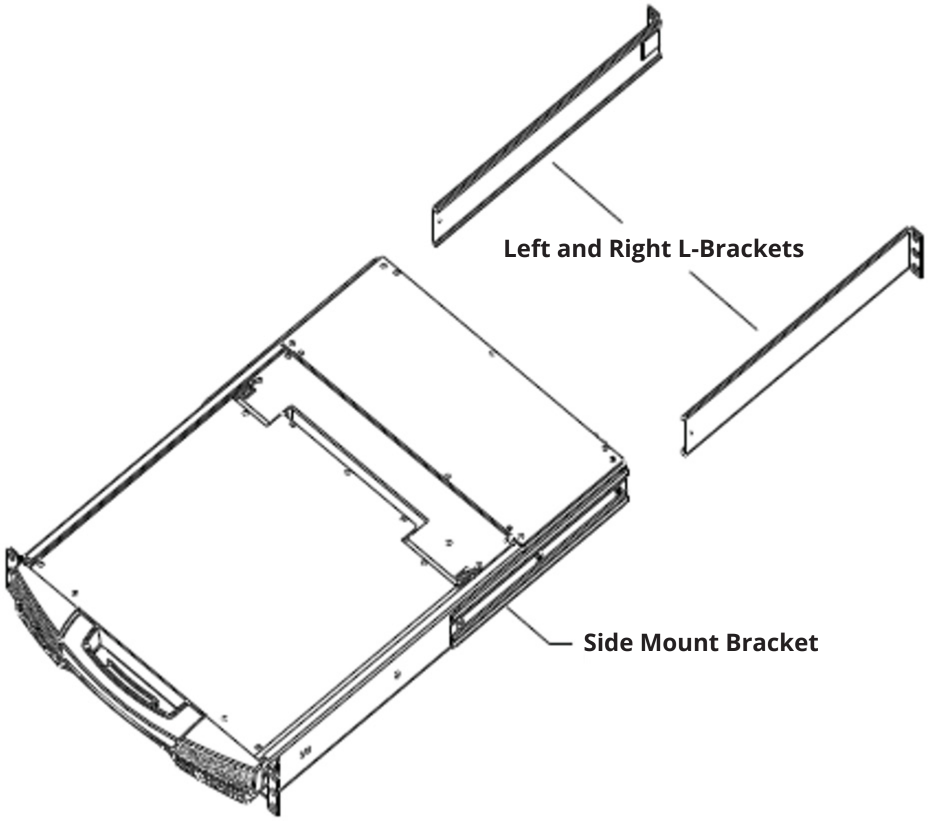
5. Installation

Rack Mounting Safety Instructions

- Prior to installation, ensure KVM is powered OFF and de-energized.
- Before working on the rack, make sure 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 to top; load the heaviest item in the rack first.
- Make sure 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, then slide the device into the rack.
- Do not overload the AC supply branch circuit that provides power to the rack. The total rack load should not exceed 80 percent of the branch circuit rating.
- Make sure that all equipment used on the rack - including power strips and other electrical connectors - are properly grounded.
- Ensure that proper airflow is provided to devices in the rack.
- Ensure that the operating ambient temperature of the rack environment does not exceed the maximum ambient temperature specified for the equipment by the manufacturer.
- Do not step on or stand on any device when servicing other devices in a rack.
- Caution: Slide/rail (LCD KVM) mounted equipment is not to be used as a shelf or a workspace.

5.2 Standard Rack Mounting

A standard rack mount kit is provided with your B064C-16-1X1-IP. The kit enables the switch to be mounted in a rack with a depth of 15.5-30 in. (40-77 cm).



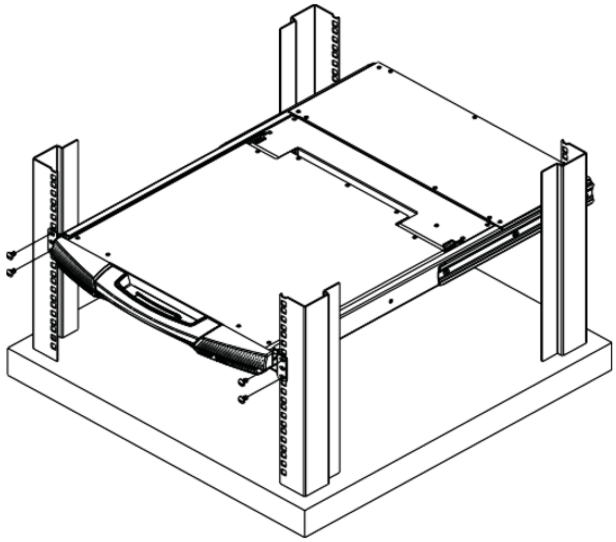
Notes:

- *Two people are required to mount the console.*
- *The standard rack-mount kit does not include screws or cage nuts.*
- *If you need additional screws or cage nuts, contact your rack dealer.*

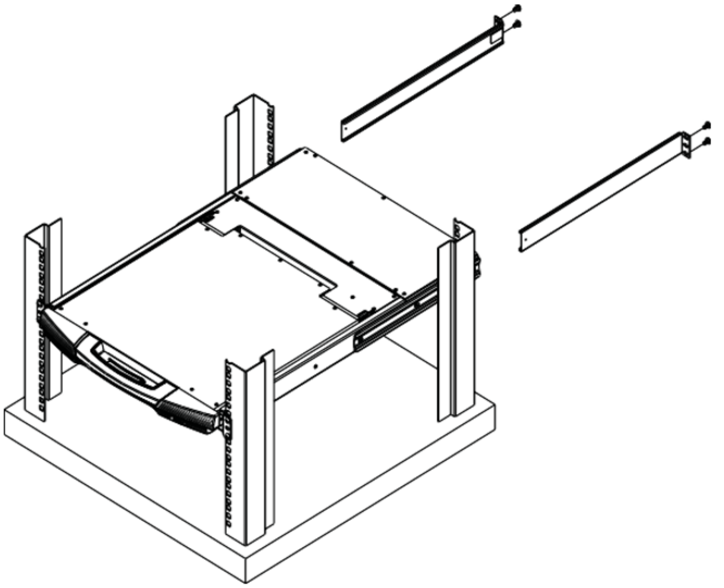
5. Installation

To rack mount the switch:

1. Have one person position the unit in the rack and hold it steady, then the second person attaches the front brackets to the rack.



2. While the first person continues to hold the unit in place, the second person slides the left and right L-brackets into the unit's side mount brackets from the rear. Secure the brackets in place using the four screws.



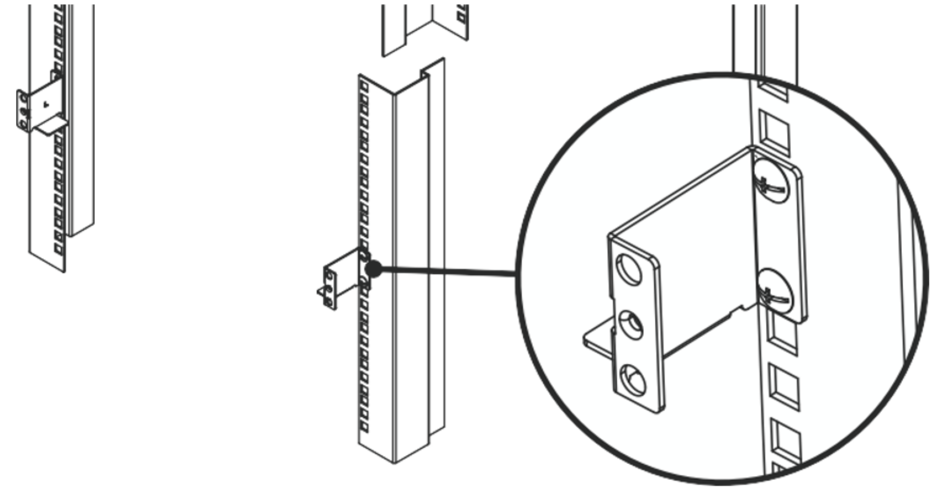
3. Once the L-brackets are secured, tighten all the screws.

   Allow at least 2 in. (5.1 cm) on each side for proper ventilation, and at least 5 in. (12.7 cm) at the back for power cord and cable clearance.

5.3 Front-L Brackets Mounting

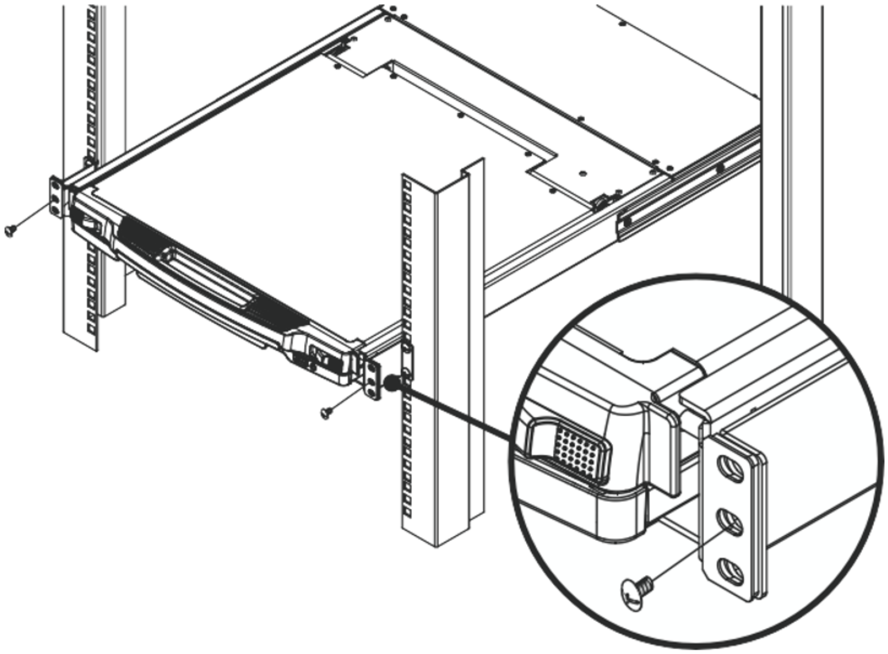
To better enable the tilt function of the LCD screen, install the front L-brackets at the front of the rack.

1. To attach the left and right front L-brackets to the front of the rack, first place screws in the tabs to secure them in place.

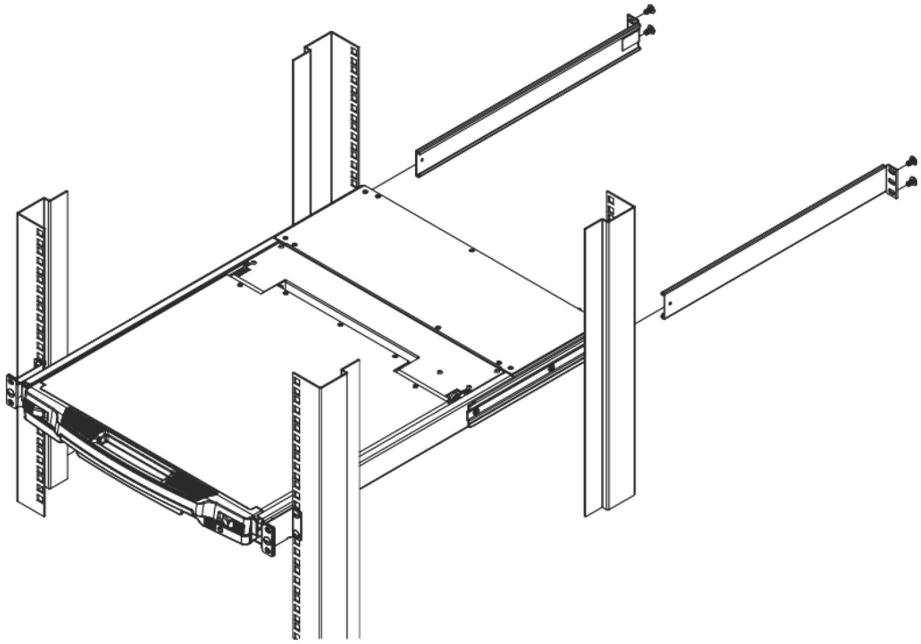


Note: *Rack screws are not provided to mount the unit. We recommend using M5 x P0.8 screws.*

2. Have one person position the unit in the rack and hold it steady. Then have the second person screw the front brackets to the front L-bracket.



3. While the first person continues to hold the unit in place, the second person slides the left and right L-Brackets into the unit's side mount brackets from the rear. Secure the bracket using four screws.

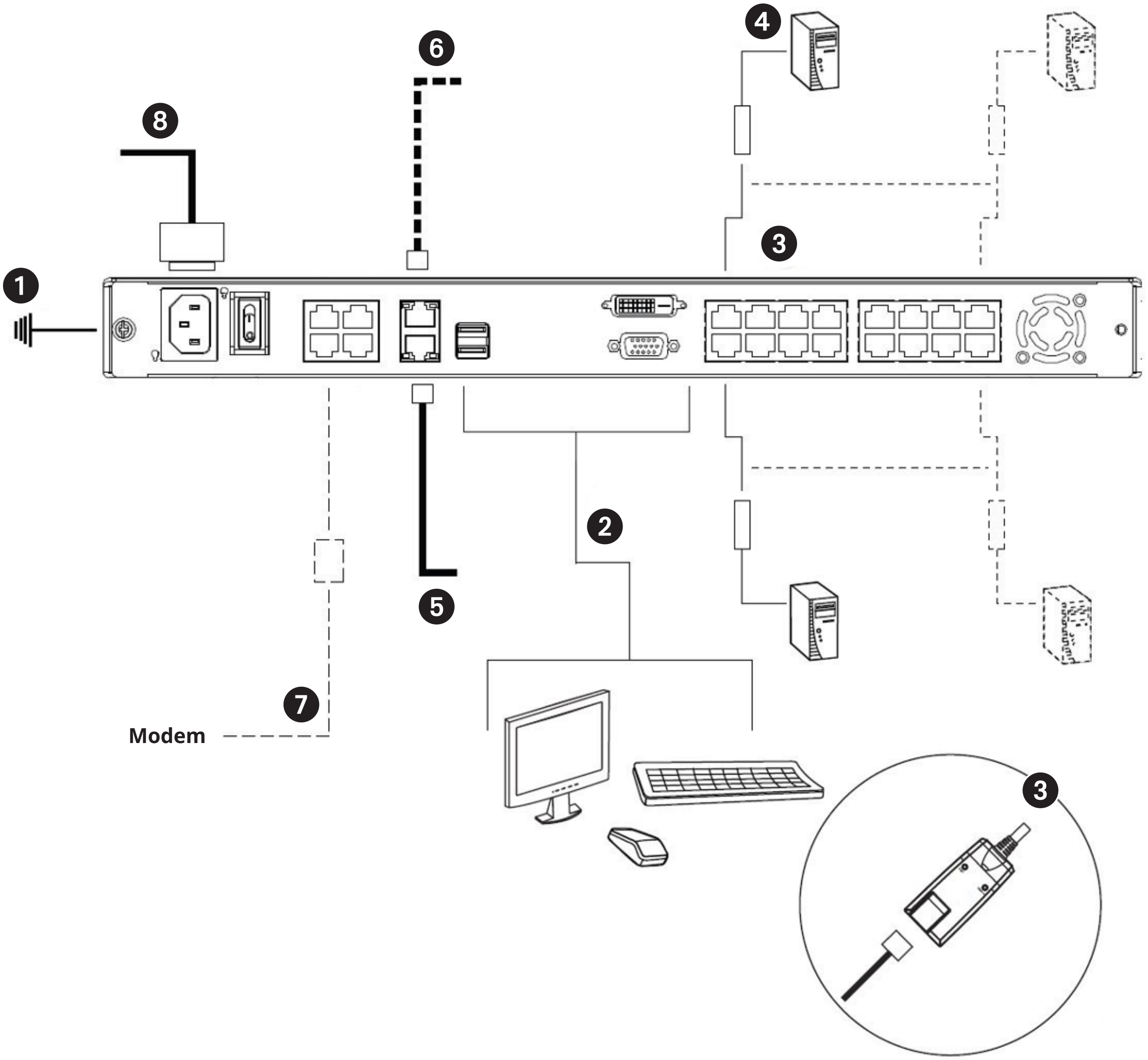


4. Once the L-brackets are secured, tighten all screws.

   Allow at least 2 in. (5.1 cm) on each side for proper ventilation, and at least 5 in. (12.7 cm) at the back for power cord and cable clearance.

5.4 Single-Stage Installation

In a single-stage installation, there are no additional switches daisy-chained down from the first unit. To set up your console KVM switch, refer to the following steps and installation diagram.



5. Installation

❶ Ground the unit by connecting one end of a grounding wire to the grounding terminal and the other end of the wire to a suitable grounded object.

***Note**: **Do not omit this step.** Proper grounding helps to prevent damage to the unit from power surges or static electricity.*

❷ **(Optional)** If you choose to install an external console, plug your keyboard, monitor and mouse into the console ports located on the switch's rear panel. The ports are color coded and marked with an icon for easy identification.

❸ For each computer you are installing, use Cat5e cable to connect any available KVM port to a KVM adapter cable that is appropriate for the computer you are installing (see **4.3.4 KVM Adapter Cables** for details).

***Note:** The maximum supported distance to the adapter cable is 164 ft. (50 m).*

❹ Connect the KVM Adapter cable to the computer. Refer to the *KVM Adapter Cable Installation Diagram* to plug the adapter cable connectors into their respective ports on the computers you are installing.

❺ Plug the LAN or WAN cable into the B064C-16-1X1-IP's LAN port.

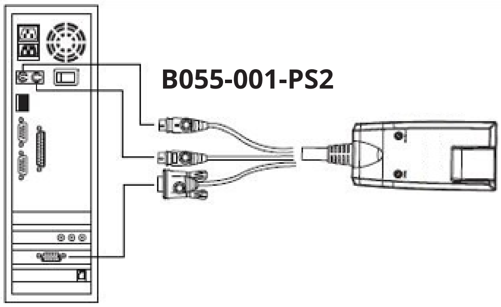
❻ **(Optional)** Plug another cable from the LAN into the B064C-16-1X1-IP's LAN 2 port.

❼ **(Optional)** Use Cat 5e cable to connect the modem port to an RJ45 to DB9 adapter for dial-in modem functionality.

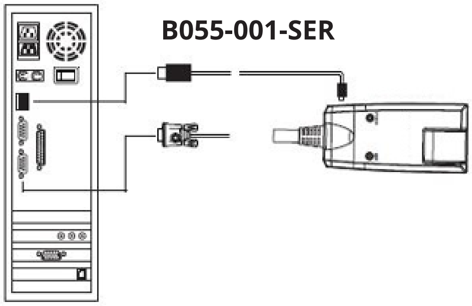
❽ Connect the power cord to the switch and to an AC power source.

Once the B064C-16-1X1-IP is connected properly, you can turn on the power. After the switch is powered on, then turn on the servers.

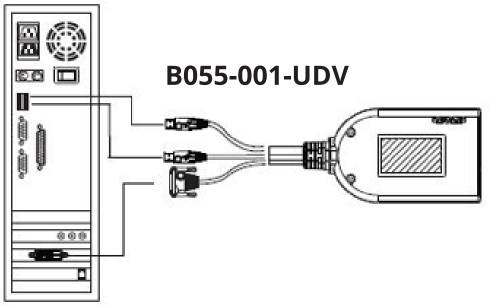
5.5 KVM Adapter Cable Installation



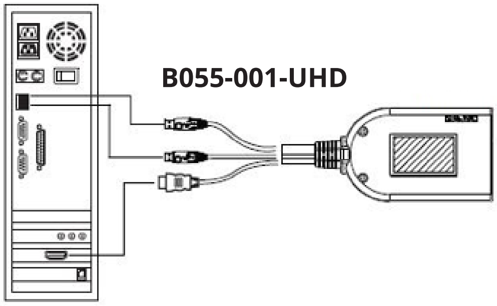
B055-001-PS2



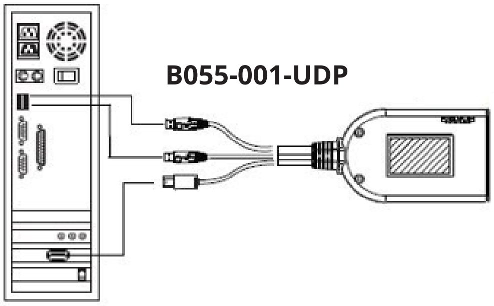
B055-001-SER



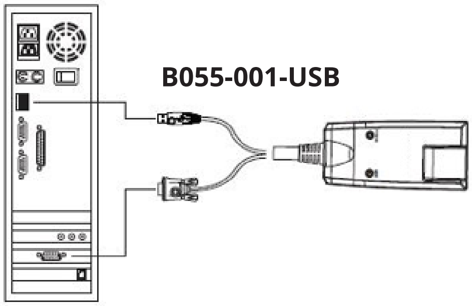
B055-001-UDV



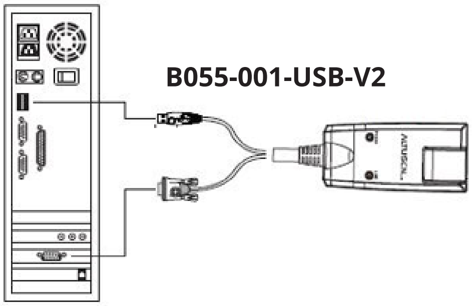
B055-001-UHD



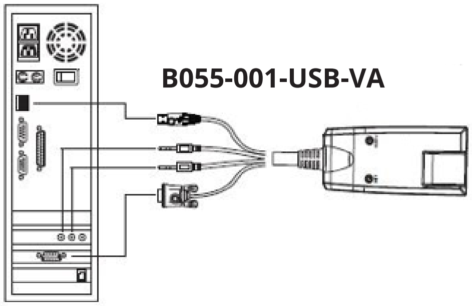
B055-001-UDP



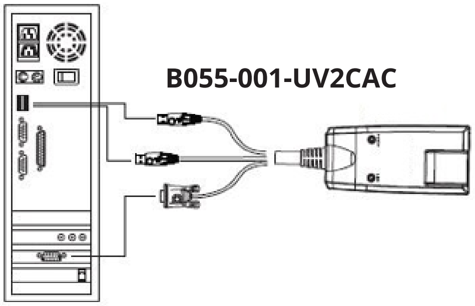
B055-001-USB



B055-001-USB-V2



B055-001-USB-VA



B055-001-UV2CAC

5.6 Hot Plugging

Dual-Rail LCD Over-IP KVM Switches support hot plugging in which components can be removed and added back into the installation by unplugging and replugging cables from the ports without needing to shut the unit down.

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

The Adapter ID Function

Adapter cable information (the adapter ID, port name, OS, keyboard language, and access mode) is stored on the adapter. The switch's Adapter ID function takes this information and stores it along with the adapter cable's configuration information (access rights, etc.) in its database so when you move a server together with its adapter cable from one port to another, you do not have to reconfigure its settings as the Adapter ID function restores them at the new location. The only change is in the port number.

When moving the server and adapter cable to another switch, however, only the information that is stored on the adapter is retained. For the other settings, you must either reconfigure them or use the *Backup/Restore* function to restore them.

Since port settings are stored with the adapter, if you move a server to a new port without its original adapter or if you connect a different server to the adapter, you must manually reconfigure the port settings for the new server.

5.7 Powering Off and Restarting

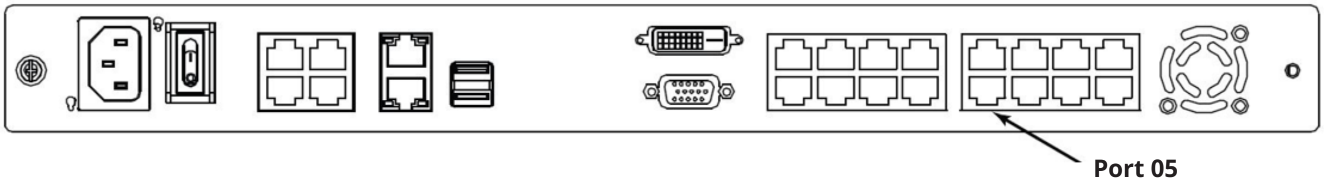
If it becomes necessary to power off the switch or if the switch loses power and needs to be restarted, wait 30 seconds before powering it back on. The servers should not be affected by this, but if any of them should fail simply restart them.

5.8 Port ID Numbering

Each server on the installation is assigned a unique Port ID. Its Port ID is a one or two segment number that is determined as:

- A server attached to a First Stage unit has a one segment Port ID (from 1–16) that corresponds to the KVM Port number that it is connected to.

For example, a Port ID of 5 - 3 refers to a server that is connected to KVM Port 3 of a Second Stage unit that links back to KVM Port 5 of the First Stage unit:



5.9 Port Selection

Port selection is accomplished by means of the GUI. Port selection details are discussed in **7.5 Port Access**.

6. KVM Operation

6.1 Basic Operation

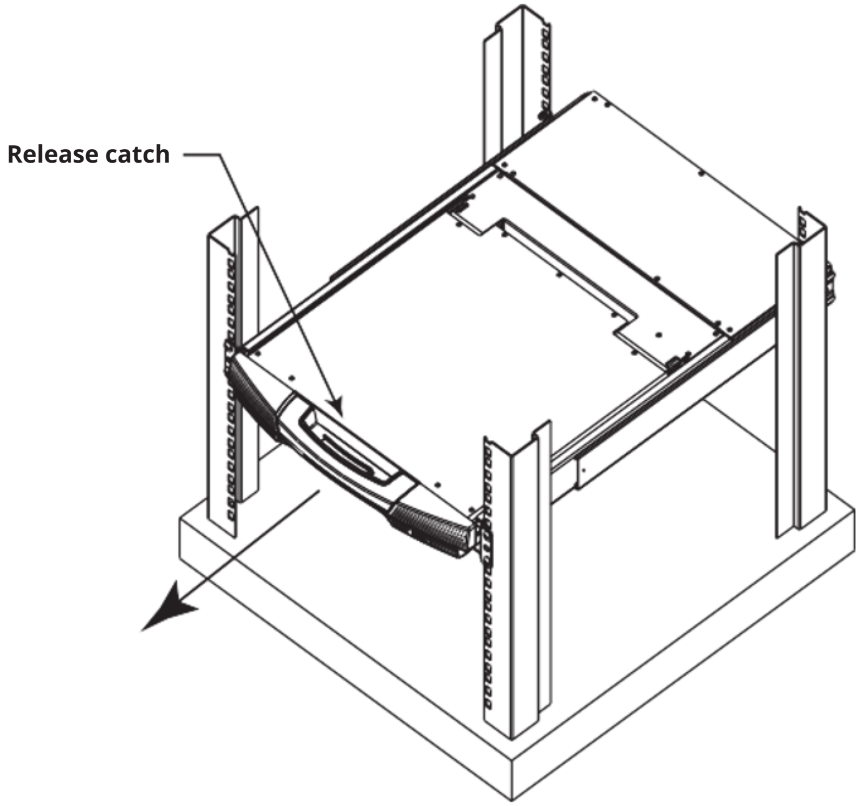
6.1.1 Opening the Console

The B064C-16-1X1-IP consists of two modules: an LCD display module located under the top cover and a keyboard / touchpad module below the LCD module.

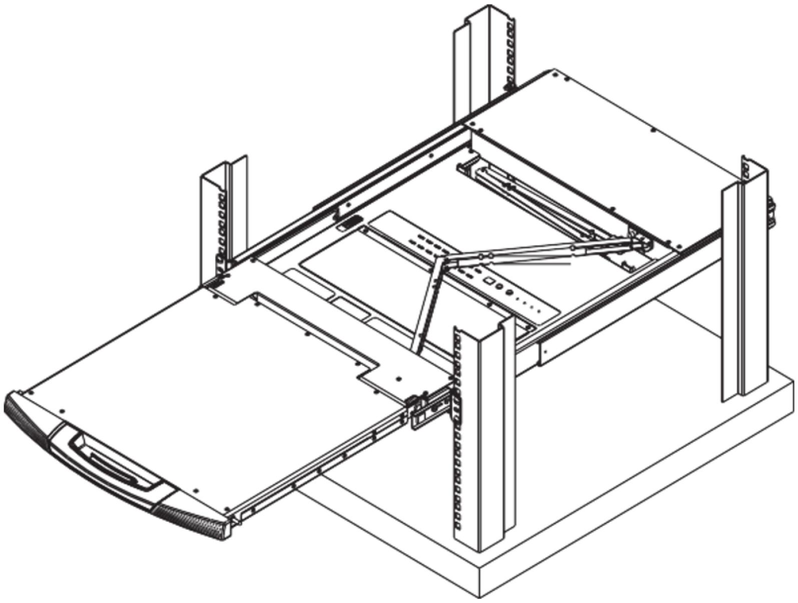
The modules can slide together or independently. This allows you to have the LCD display available for viewing while the keyboard / touchpad module is conveniently out of the way when not in use.

Opening Separately

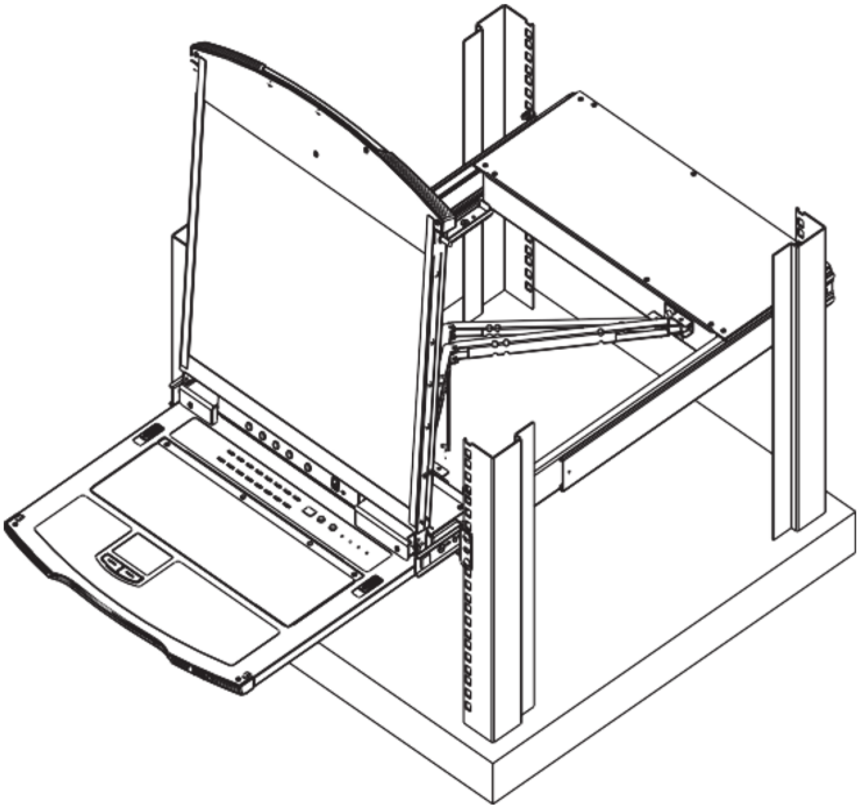
1. Pull the release catch to disengage the console and pull the top panel slightly toward you. Once the console has been released, let go of the release catch.



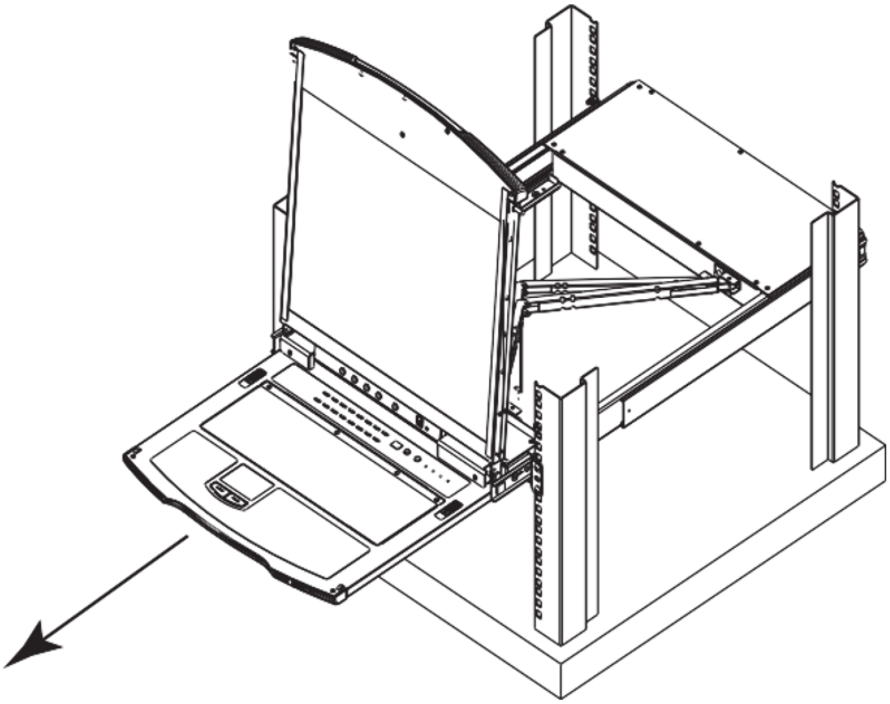
2. Pull out the top panel completely until it clicks into place.



3. Rotate the top panel backward to expose the LCD screen.



4. Reach underneath and pull out the keyboard module completely until it clicks into place.



Opening Together

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

1. While holding the release catch, pull the top and bottom panels out until the keyboard module clicks into place.

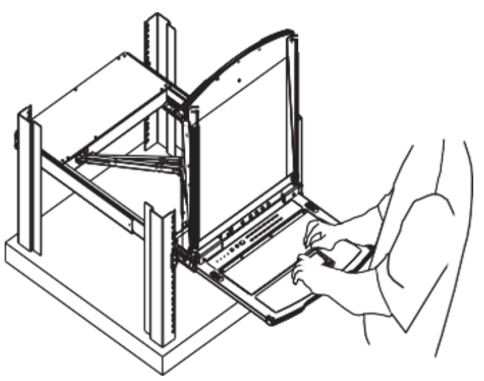
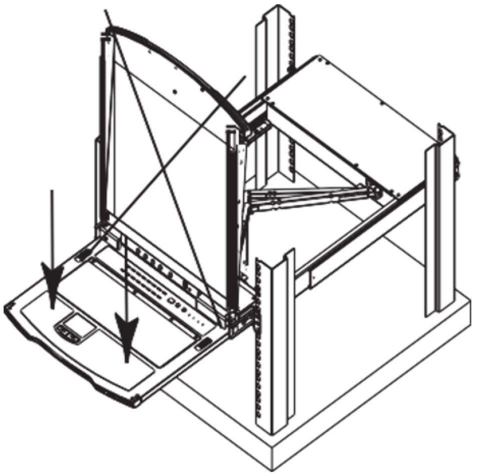
   Note: *Once the console has been released, release the release catch.*

2. Pull out the top panel the rest of the way out until it clicks into place.
3. Rotate the top panel backward to expose the LCD screen.

6. KVM Operation

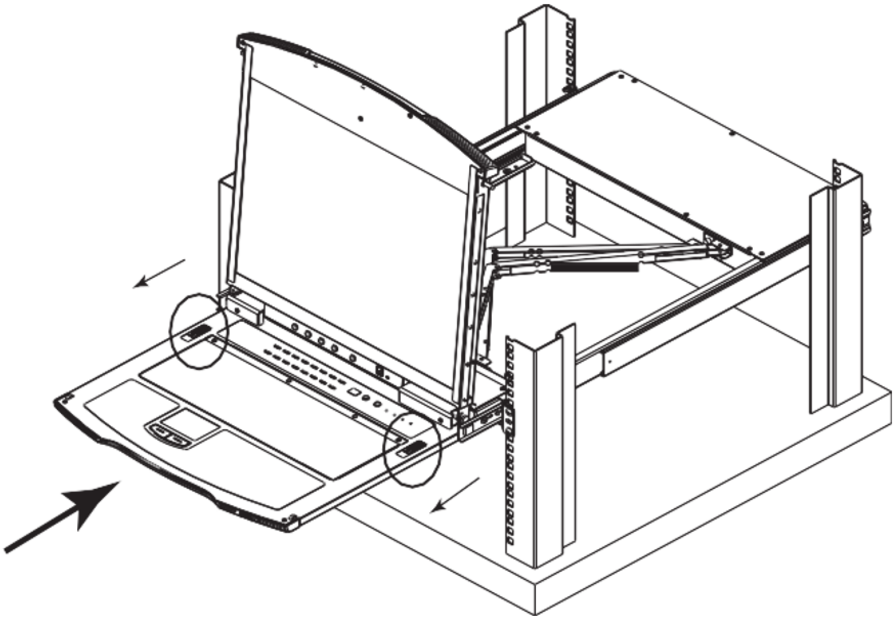
Operating Precautions

The maximum load bearing capacity of the keyboard module is 44 lb. (20 kg). Failure to heed the following information may result in damage to the keyboard module:

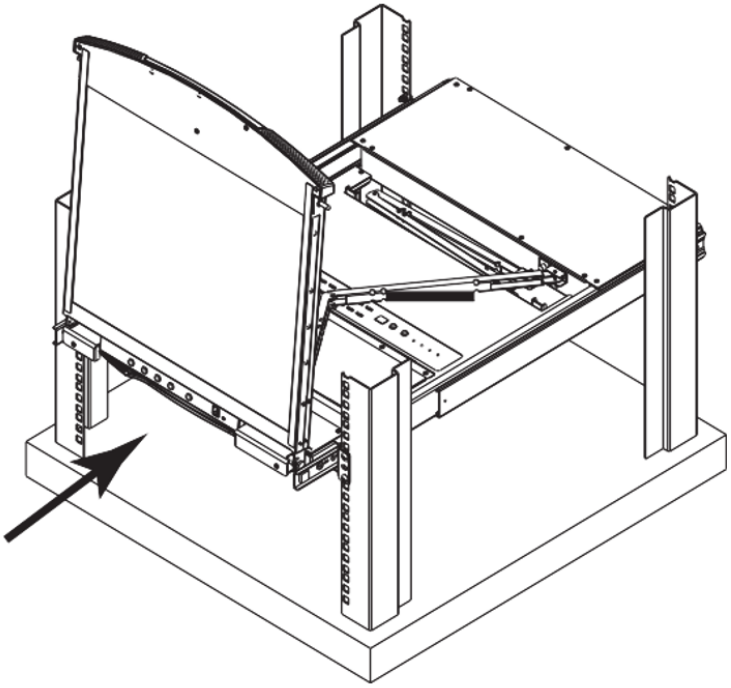
	**Correct** Rest your hands and arms lightly on the keyboard module as you work.
	**Incorrect** • DO NOT lean your body weight on the keyboard module. • DO NOT place heavy objects on the keyboard module.

6.1.2 Closing the Console

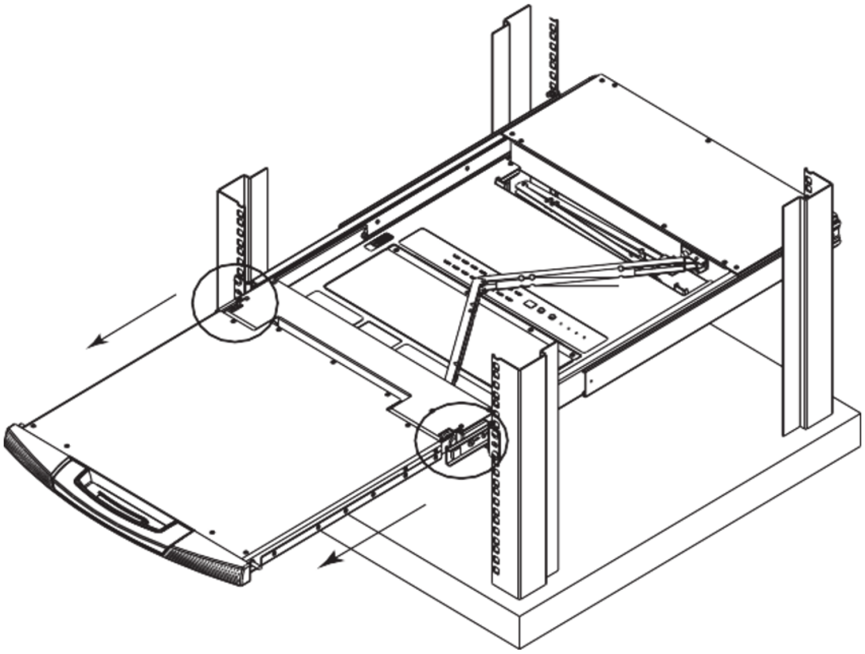
1. Pull the release catches located on each side of the keyboard toward you to release the keyboard module, then slide in the module slightly.



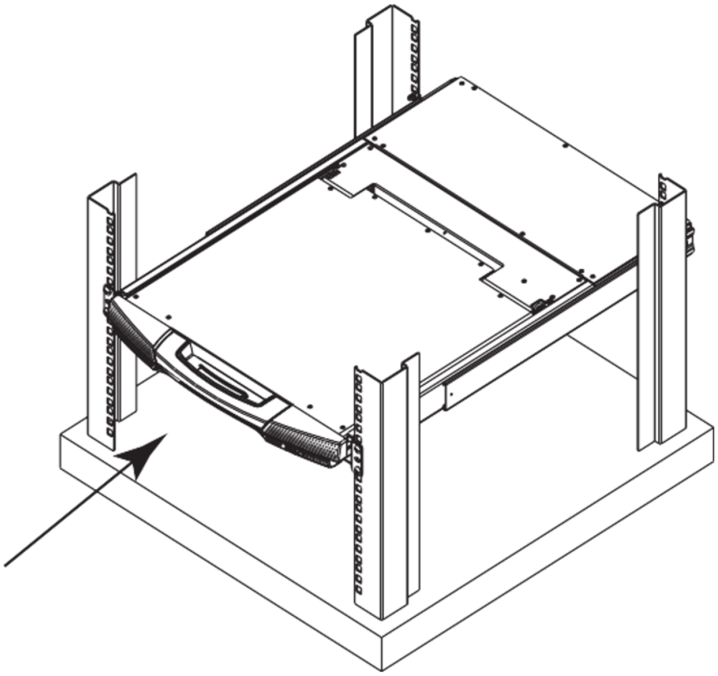
2. Release the release catches. Using the front handle, push in the keyboard module completely.



3. Rotate the LCD module completely, then pull the rear release catches to release the LCD module.



4. Using the front handle, push in the module completely.



6.2 LCD OSD Configuration

6.2.1 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 opens 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 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.

6.2.2 Adjustment Settings

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

Setting	Explanation
Auto Adjust	Auto adjust screen image and resolution
OSD	Adjust OSD Positions and OSD Display Time
Luminance	Adjusts brightness and contrast level of the screen image.
Language	Selects the language that the OSD displays its menus in.
Geometry	Positions the display area on the LCD panel. Adjust Pixel Clock and Phase.
Recall	Color Recall and Recall All Settings (factory defaults)
Color	Adjusts the color quality of the display between three pre-configured settings; 5800k, 6500k, 9300k. This menu also allows you to customize the individual RGB settings to your preference.
Miscellaneous	Adjust Sharpness and Display Information.
Exit	

6.3 Port Selection

The B064C-16-1X1-IP provides three methods to obtain instant access to any computer in your installation: Manual, GUI and Hotkeys.

Manual

For manual port selection, simply press the Port Switch that corresponds to the device you wish to access.

GUI

The B064C-16-1X1-IP provides menu-driven interfaces to the computer switching procedure. A graphical user interface (GUI) is used when you log in locally and remotely over the Internet.

Hotkeys

Hotkeys allow you to conveniently provide KVM focus to a particular computer from the local console keyboard instead of having to manually select them by pressing Port Selection switches.

7. Administration

7.1 IP Address Determination

If you are an administrator logging in for the first time, you need to access the B064C-16-1X1-IP in order to give it an IP address that users can connect to. There are three methods to choose from. In each case, your client computer must be on the same network segment as the B064C-16-1X1-IP. After you have connected and logged in you can give the B064C-16-1X1-IP its fixed network address.

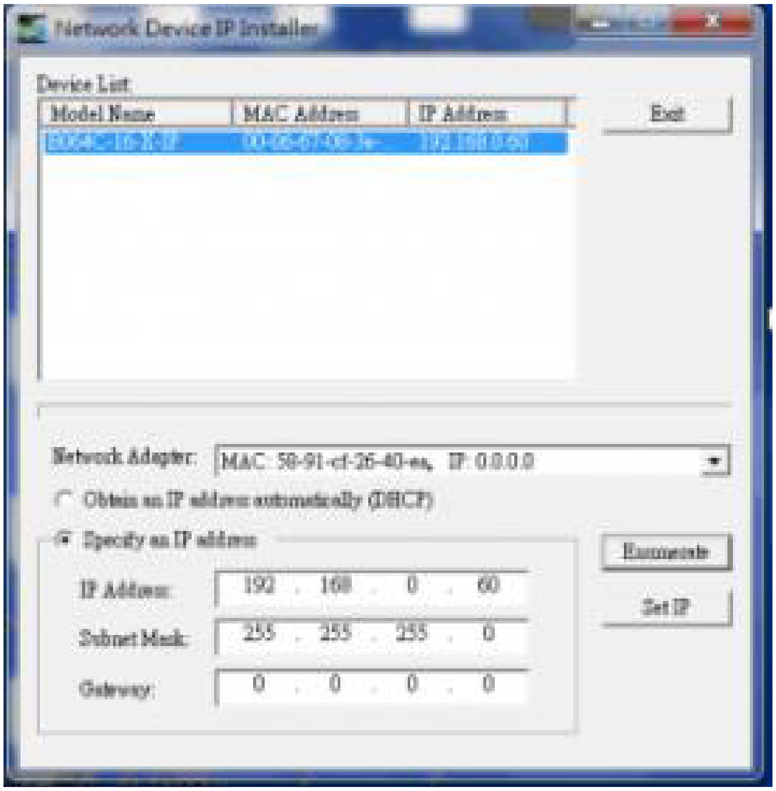
The Local Console

The easiest way to assign an IP address is from the local console.

IP Installer

For client computers running Windows, an IP address can be assigned with the *IP Installer* utility. The *IP Installer* utility can be obtained from Eaton's technical support or website. Look under *DriverISW*, and the model of your switch. After downloading the utility to your client computer, do the following:

1. Unzip the contents of *IPInstaller.zip* to a directory on your hard drive.
2. Go to the directory that you unzipped the IPInstaller program to and run *IPInstaller.exe*. A dialog box similar to the one below will appear:



Model Name	MAC Address	IP Address
B064C-16-X-IP	00-06-67-08-3e-	192.168.0.60

Network Adapter: MAC: 58-91-cf-26-40-ea, IP: 0.0.0.0

○ Obtain an IP address automatically (DHCP)

● Specify an IP address

IP Address: 192 . 168 . 0 . 60

Subnet Mask: 255 . 255 . 255 . 0

Gateway: 0 . 0 . 0 . 0

3. Select B064C-16-1X1-IP in the *Device List*.

Notes:

• If the list is empty, or your device does not appear, click Enumerate to refresh the Device List.

• If there is more than one device in the list, use the MAC address to pick the one you want.

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

Browser

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

   Where *XXX* represents any number or numbers except 60 (192.168.0.60 is the default address of the B064C-16-1X1-IP).

2. Specify the switch's default IP address (192.168.0.60) in your browser to connect.
3. Assign a fixed IP address for the B064C-16-1X1-IP that is suitable for the network segment that it resides on.

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

7.1.1 IPv6

The B064C-16-1X1-IP supports three IPv6 address protocols: *Link Local lPv6 Address, lPv6 Stateless Autoconfiguration* and *Stateful Autoconfiguration (DHCPv6)*.

Link Local IPv6 Address

At power on, the B064C-16-1X1-IP is automatically configured with a Link Local IPv6 Address (for example, fe80::210:74ff:fe61:1ef). To determine what the Link Local IPv6 Address is, log in with the B064C-16-1X1-IP IPv4 address and open the *Device Management* → *Device Information* page. The address is displayed in the *General* list box.

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

For example:

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

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

for the URL bar.

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

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

for the *IP* field of the Server panel (see **7.3.3 Windows Client AP Login**).

Notes:

- *To log in with the Link Local IPv6 Address, the client computer must be on the same local network segment as the B064C-16-1X1-IP.*
- *The %5 is the %interface used by the client computer. To see your client computer's IPv6 address: from the command line issue the following command: ipconfig /all. The % value appears at the end of the IPv6 address.*

IPv6 Stateless Autoconfiguration

If the B064C-16-1X1-IP network environment contains a device (such as a router) that supports the IPv6 Stateless Autoconfiguration function, the B064C-16-1X1-IP can obtain its prefix information from that device to generate its IPv6 address. For example: 2001::74ff:fe6e:59.

As above, the address is displayed in the General list box of the *Device Management* → *Device Information* page.

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

For example:

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

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

for the URL bar.

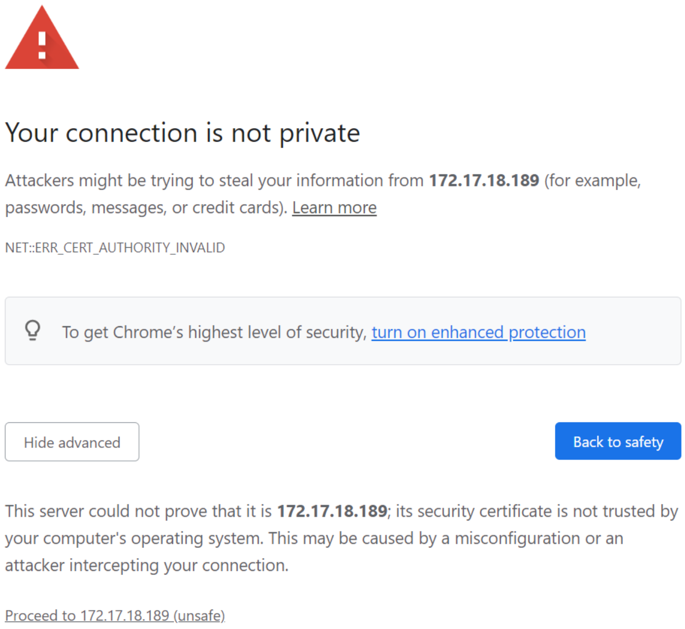
If you are logging in with the AP program, you would key:

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

for the *IP* field of the Server panel (see **7.3.3 Windows Client AP Login**).

7.1.2 Trusted Certificates

When you try to log in to the B064C-16-1X1-IP from your Web browser, a Security Alert message will appear to inform you the device's certificate is not trusted and ask if you want to proceed.



Your connection is not private

Attackers might be trying to steal your information from **172.17.18.189** (for example, passwords, messages, or credit cards). Learn more

NET::ERR_CERT_AUTHORITY_INVALID

To get Chrome's highest level of security, turn on enhanced protection

This server could not prove that it is **172.17.18.189**; its security certificate is not trusted by your computer's operating system. This may be caused by a misconfiguration or an attacker intercepting your connection.

Proceed to 172.17.18.189 (unsafe)

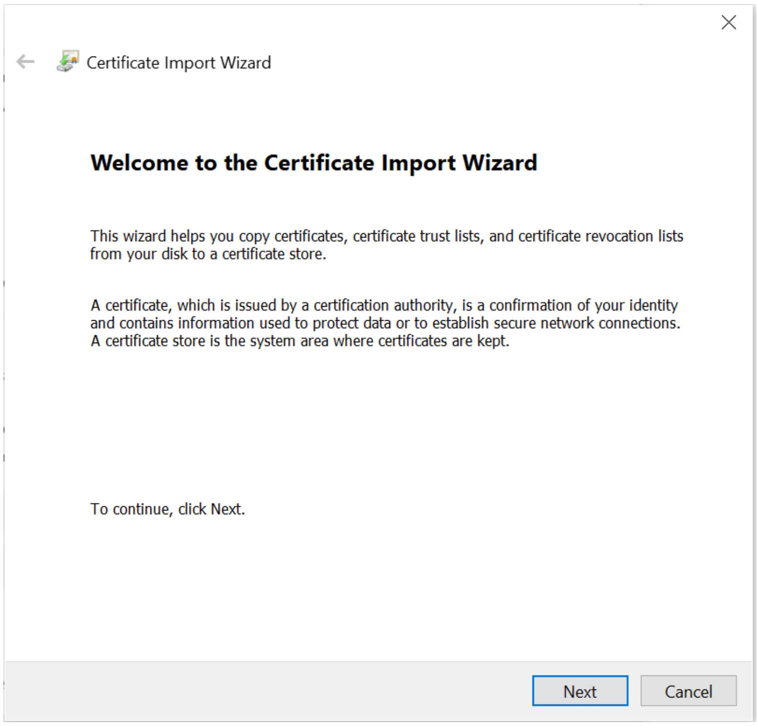
The certificate can be trusted, but the alert is triggered because the certificate's name is not found on Microsoft's list of Trusted Authorities. You have two options: 1) Ignore the warning and click **Proceed**; or 2) Install the certificate and have it be recognized as trusted.

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

Installing the Certificate

To install the certificate:

1. Go to Browser's security setting and look for HTTPS/SSL certificate section. Start the Certificate Import Wizard.



Welcome to the Certificate Import Wizard

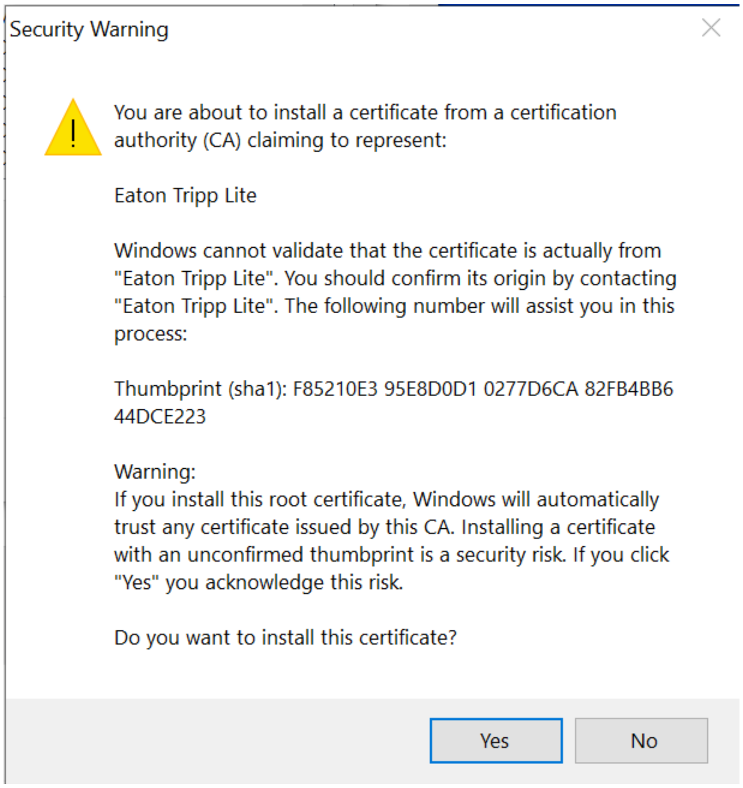
This wizard helps you copy certificates, certificate trust lists, and certificate revocation lists from your disk to a certificate store.

A certificate, which is issued by a certification authority, is a confirmation of your identity and contains information used to protect data or to establish secure network connections. A certificate store is the system area where certificates are kept.

To continue, click Next.

2. Follow the steps and import the trusted certificate into the Trusted Root Certification Authorities Section, then click **Finish**.
3. Follow the Installation Wizard instructions to complete the installation. Unless you have a specific reason to choose otherwise, accept the default options.

4. The Wizard will present a caution screen. Click **Yes**.



Security Warning

You are about to install a certificate from a certification authority (CA) claiming to represent:

Eaton Tripp Lite

Windows cannot validate that the certificate is actually from "Eaton Tripp Lite". You should confirm its origin by contacting "Eaton Tripp Lite". The following number will assist you in this process:

Thumbprint (sha1): F85210E3 95E8D0D1 0277D6CA 82FB4BB6 44DCE223

Warning:
If you install this root certificate, Windows will automatically trust any certificate issued by this CA. Installing a certificate with an unconfirmed thumbprint is a security risk. If you click "Yes" you acknowledge this risk.

Do you want to install this certificate?

5. Click **Finish** to complete the installation.
6. Click **OK** to close the dialog box.

7.1.3 Self-Signed Private Certificates

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

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

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

Notes:

- *The command should be entered all on one line (do not press [Enter] until all parameters have been keyed in).*
- *If there are spaces in the input, surround the entry in quotes (e.g., "Eaton Corporation").*

To avoid inputting information during key generation. the following additional parameters can be used: **/C /ST /L /O / OU /CN /emailAddress**.

Example

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

Importing Files

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

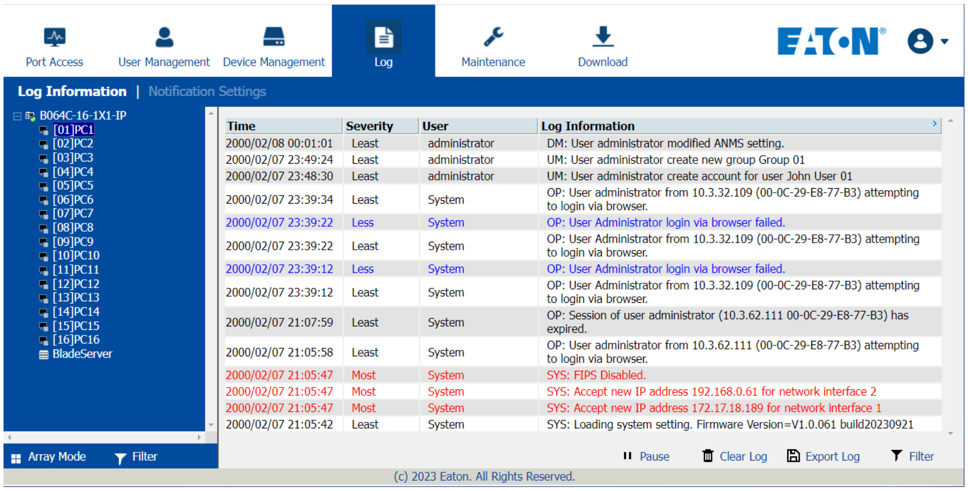
7.2 Super Administrator Setup

7.2.1 First-Time Setup

Once the KVM over IP switch has been connected, the Super Administrator will need to set up the unit for user operation. This involves setting the network parameters and changing the default Super Administrator login. The most convenient way to do this for the first time is from the local console.

Note: *For remote methods of setting up the network, see* ***7.1 IP Address Determination****.*

At the local console, a login prompt appears on the console monitor:



Time	Severity	User	Log Information
2000/02/08 00:01:01	Least	administrator	DM: User administrator modified ANMS setting.
2000/02/07 23:49:24	Least	administrator	UM: User administrator create new group Group 01
2000/02/07 23:48:30	Least	administrator	UM: User administrator create account for user John User 01
2000/02/07 23:39:34	Least	System	OP: User administrator from 10.3.32.109 (00-0C-29-E8-77-B3) attempting to login via browser.
2000/02/07 23:39:22	Less	System	OP: User Administrator login via browser failed.
2000/02/07 23:39:22	Least	System	OP: User Administrator from 10.3.32.109 (00-0C-29-E8-77-B3) attempting to login via browser.
2000/02/07 23:39:12	Less	System	OP: User Administrator login via browser failed.
2000/02/07 23:39:12	Least	System	OP: User Administrator from 10.3.32.109 (00-0C-29-E8-77-B3) attempting to login via browser.
2000/02/07 21:07:59	Least	System	OP: Session of user administrator (10.3.62.111 00-0C-29-E8-77-B3) has expired.
2000/02/07 21:05:58	Least	System	OP: User administrator from 10.3.62.111 (00-0C-29-E8-77-B3) attempting to login via browser.
2000/02/07 21:05:47	Most	System	SYS: FIPS Disabled.
2000/02/07 21:05:47	Most	System	SYS: Accept new IP address 192.168.0.61 for network interface 2
2000/02/07 21:05:47	Most	System	SYS: Accept new IP address 172.17.18.189 for network interface 1
2000/02/07 21:05:42	Least	System	SYS: Loading system setting. Firmware Version=V1.0.061 build20230921

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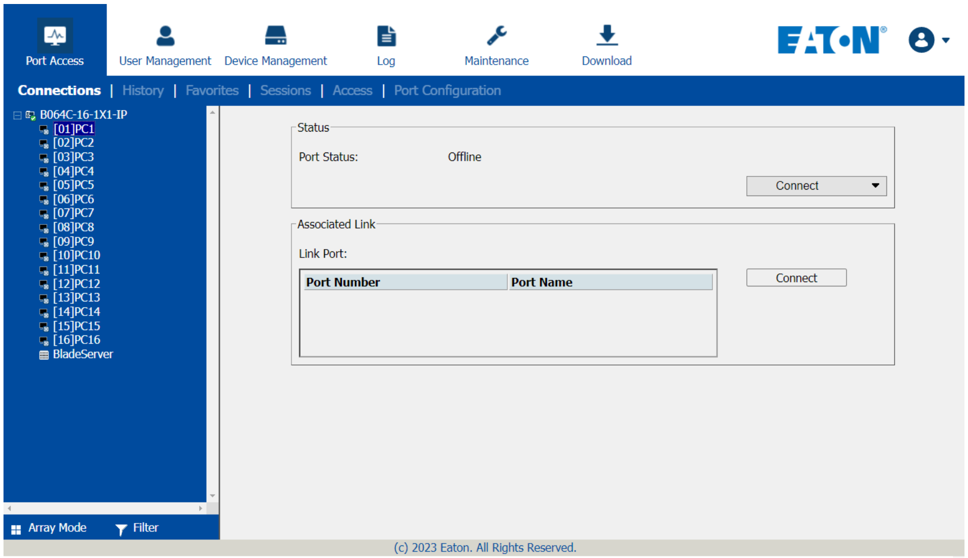
Since this is the first time you are logging in, use the default Username: *administrator* and the default Password: *password*.

Note: *For security purposes, the system will prompt you to change the login password. The password must be different from your login password.*

Once you successfully log in, the Local Console Main Page will appear:



Port Status: Offline

Link Port:

Port Number	Port Name

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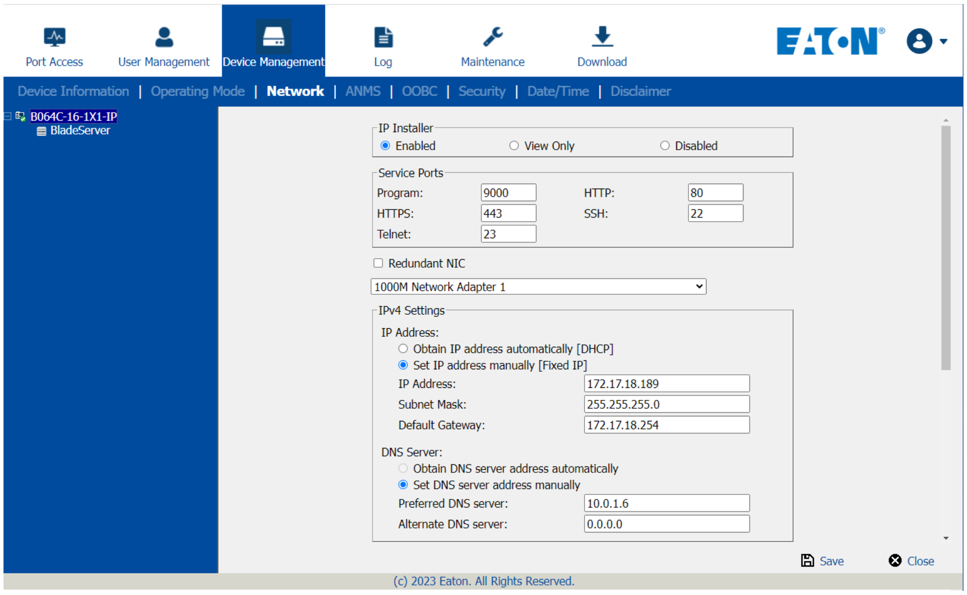
7. Administration

Network Setup

To set up the network, do the following:

1. Click the **Device Management** tab.
2. Select the **Network** tab.


Port Access
User Management
Device Management
Log
Maintenance
Download
Device Information | Operating Mode | Network | ANMS | OOBC | Security | Date/Time | Disclaimer
B064C-16-1X1-IP
BladeServer
Save
Close
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IP Installer

● Enabled ○ View Only ○ Disabled

Service Ports

Program:	9000	HTTP:	80
HTTPS:	443	SSH:	22
Telnet:	23		

□ Redundant NIC

1000M Network Adapter 1

IPv4 Settings

IP Address:

○ Obtain IP address automatically [DHCP]
● Set IP address manually [Fixed IP]

IP Address: 172.17.18.189
Subnet Mask: 255.255.255.0
Default Gateway: 172.17.18.254

DNS Server:

○ Obtain DNS server address automatically
● Set DNS server address manually

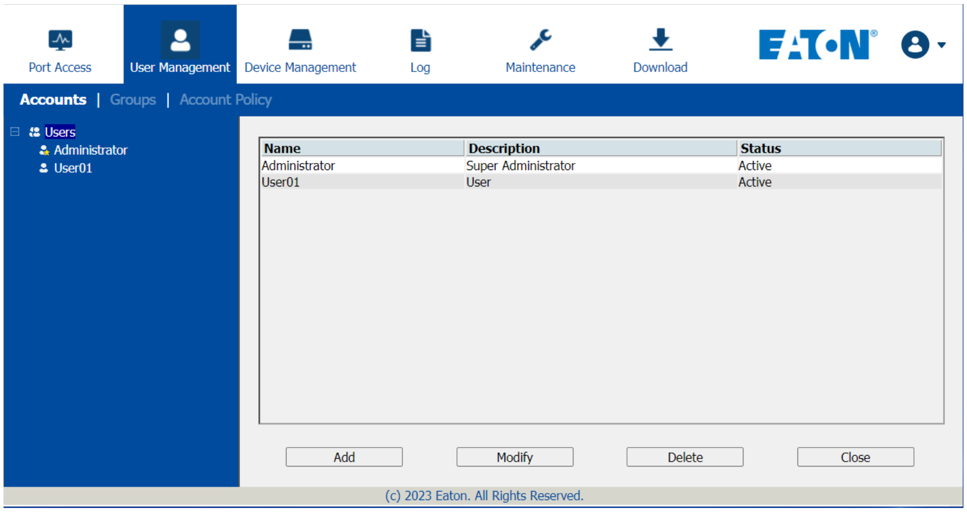
Preferred DNS server: 10.0.1.6
Alternate DNS server: 0.0.0.0

3. Fill in the fields according to the information provided under **XX Network**.

Changing the Super Administrator Login

1. At the top of the screen, click the **User Management** tab.

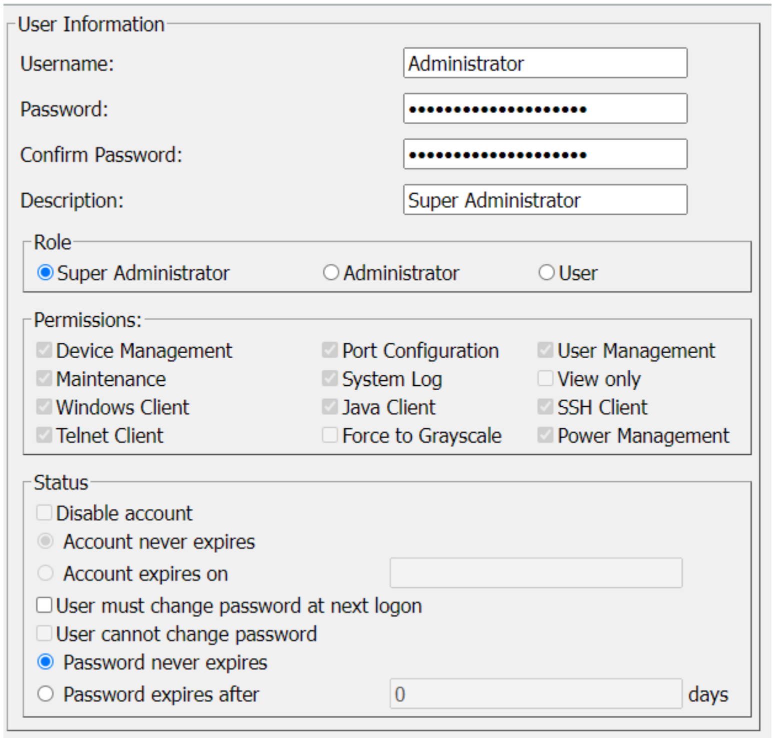
The User Management page has a list of Users and Groups in the Sidebar at the left and a more detailed list of users (and user information) in the large central panel. Since this is the first time the page is being accessed, only the Super Administrator will appear:



Name	Description	Status
Administrator	Super Administrator	Active
User01	User	Active

2. Click **Administrator** in the left panel.
   or
   Select *administrator* in the central panel, then click **Modify** at the bottom of the page.

The *User Information* page will appear:



User Information

Username:	Administrator
Password:	••••••••••••••••••••
Confirm Password:	••••••••••••••••••••
Description:	Super Administrator

Role

● Super Administrator ○ Administrator ○ User

Permissions:

☑ Device Management	☑ Port Configuration	☑ User Management
☑ Maintenance	☑ System Log	□ View only
☑ Windows Client	☑ Java Client	☑ SSH Client
☑ Telnet Client	□ Force to Grayscale	☑ Power Management

Status

□ Disable account

● Account never expires

○ Account expires on

□ User must change password at next logon

□ User cannot change password

● Password never expires

○ Password expires after 0 days

3. Change the Username and Password to something unique.
4. Enter the password again in the *Confirm Password* field to confirm it is correct.
5. Click **Save**.
6. When the dialog box informing you that the change completed successfully appears, click **OK**.
7. Click on another item on the *Local Console Main Page* to close this page.

7.2.2 Moving On

After setting up the network and changing the default Super Administrator password, you can proceed to other administration activities. These include User Management, Device Management and Firmware Upgrade Maintenance.

These activities can be accomplished using any of the KVM over IP switch's GUI utilities. These include the Local Console, the browser-based Windows GUI, the browser-based Java Client Viewer, the stand-alone Windows Client AP and the stand-alone Java Client AP. Choose the approach that suits you best.

Note: *Firmware Upgrade Maintenance cannot be performed from the local console. You must log in remotely with one of the KVM over IP switch's other GUI utilities for this operation.*

7.3 Logging In

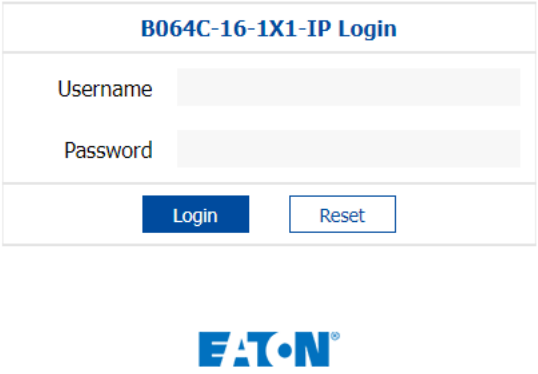
KVM over IP switches can be accessed from a local console, an Internet browser, a Windows application (AP) program and a Java application (AP) program.

No matter which access method you choose, the KVM over IP switch's authentication procedure requires you to submit a valid username and password. If you supply invalid login information, the authentication routine will return an *Invalid Username* or *Password* or *Login Failed* message. If you see this type of message, log in again with a correct username and password.

Note: *If the number of invalid login attempts exceeds a specified amount, a time out period is invoked. You must wait until the time out period expires before you can attempt to log in again.*

7.3.1 Local Console Login

When the local console is attached and there is no user logged in, the KVM over IP switch's login screen appears:



Key in your username and password, then click **Login** to open the Local Console Main Page. The Local Console Main Page is similar to the Web Browser, WinClient and Java Client Main Pages.

Note: *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, the system will prompt you to change the login password. The password must be different from your login password.*

7.3.2 Browser Login

KVM over IP switches can be accessed via an Internet browser running on any platform. To access the switch:

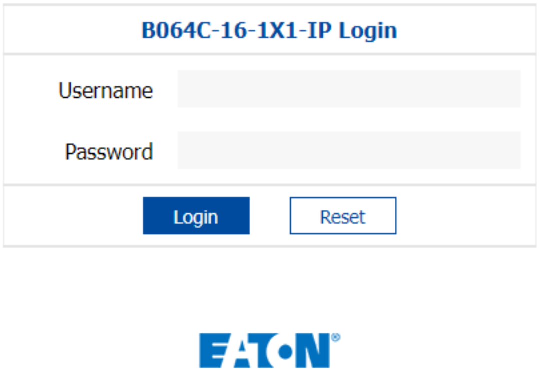
1. Open the browser and specify the IP address of the switch you want to access in the browser's location bar.

Note: *For security purposes, a login string may have been set by the administrator. By default, there is no login string. If so, you must include a forward slash and the login string along with the IP address when you log in. For example:*

```
192.168.0.100/B064C161X1IP
```

2. When a Security Alert dialog box appears, accept the certificate (see **7.1.2 Trusted Certificates** for details). If a second certificate appears, accept it as well.

Once you accept the certificate(s), the login page will appear:



3. Provide your username and password (set by the administrator), then click **Login** to open the Web Main Page.

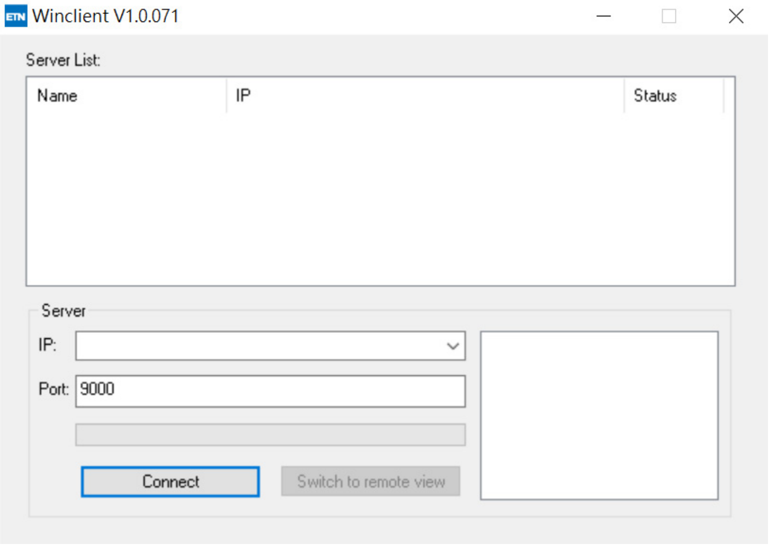
Note: *If you are the administrator and are logging in for the first time, use the default username (**administrator**) and the default password (**password**). For security purposes, the system will prompt you to change the login password. The password must be different from your login password.*

7.3.3 Windows Client AP Login

The Windows AP Client allows direct remote access to Windows systems users without having to go through a browser (although you initially download the Windows AP Client program from the browser page, see **7.10 Download** for more information). To connect to the B064C-16-1X1-IP, go to the location on your hard disk that you downloaded the Windows AP Client program and double-click its icon (WinClient.exe).

7. Administration

To connect to the B064C-16-1X1-IP, click the WinClient.exe program icon (on your desktop) to access the Windows Client Connection screen:



Port: 9000

Windows Client AP Connection Screen

Item	Description
Menu Bar	The Menu Bar contains two items: File and Help. • The *File Menu* allows the operator to Create, Save and Open user created Work files). • The *Help Menu* displays the WinClient AP version.
Server List	Each time the WinClient.exe file is run, it searches the user's local LAN segment for KVM over IP switches and lists whichever ones it finds in this box. If you want to connect to one of these units, **double-click** it. ***Notes:*** *The switch will not appear in the list unless its Enable Device List configuration parameter has been enabled.* *Only units whose Access Port settings for Program match the number specified for Port in the Server area of this dialog box appear in the Server List window.*
Server	This area is used when you want to connect to a KVM over IP 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 is not listed, you can key in the target IP address in the IP field and its port number in the Port field (if you do not know the port number, contact your Administrator). • When the IP address and Port number have been specified, click **Connect**. • When you have finished with your session and come back to this dialog box, click **Disconnect** to end the connection.
Message Panel	Located just to the right of the Server panel, the Message panel lists status messages regarding the connection to the KVM over IP switch.
Switch to Remote View	Once you have been authenticated, this button becomes active. Click it to switch to the GUI Main Page.

7. Administration

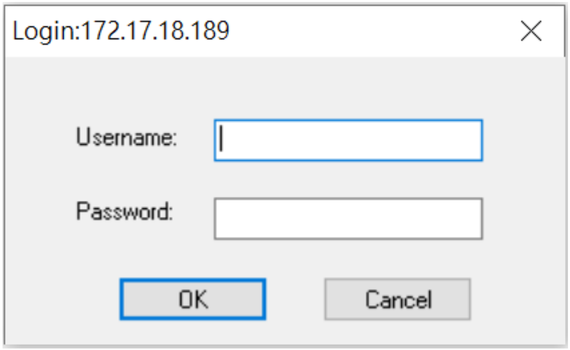
Connecting - Windows Client AP

1. From the *Server List* box, double-click the device that you wish to connect to.

   - Or -

   Specify its IP address and port number in the *Server IP* and *Port* input boxes.
2. Click **Connect**.

The *Login* dialog box appears:



3. Key in a valid Username and Password, then click **OK**.
4. Once you have been authenticated, the *Switch to Remote View* button becomes active. Click it to connect to the switch and open its GUI Main Page.

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.

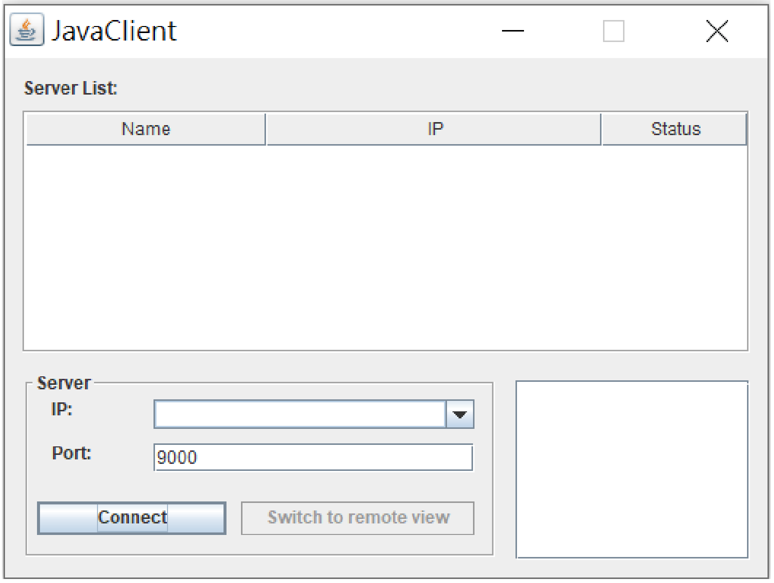
The File menu consists of the following items:

Item	Description
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*.
Exit	Exits the WinClient.

7.3.4 Java Client AP Login

In those cases in which the Administrator does not want the KVM over IP switch to be available via browser access, but the local client users aren't running Windows, the Java AP Client provides direct remote access to non-Windows systems users (although you initially download the Java AP Client program from the browser page, see **7.10 Download**).

To connect to the B064C-16-1X1-IP, go to the location on your hard disk that you downloaded the Java AP Client program to, and double-click its icon (*JavaClient.jar*) to open the Java Client Connection Screen:



Java Client AP Connection Screen

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

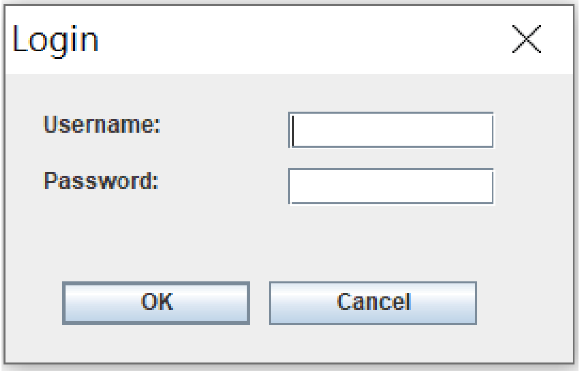
Item	Description
Server List	Each time the JavaClient.jar file is run, it searches the User's local LAN segment for KVM over IP switches and lists whichever ones it finds in this box. If you want to connect to one of these units, **double-click** it. ***Notes:*** • *The switch will not appear in the list unless its Enable Device List configuration parameter has been enabled.* • *Only units whose Access Port settings for Program match the number specified for Port in the Server area of this dialog box appear in the Server List window.*
Server	This area is used when you want to connect to a KVM over IP 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 is not listed, you can key in the target IP address in the IP field and its port number in the Port field (if you do not know the port number, contact your Administrator.) • When the IP address and Port number have been specified, click **Connect**. • When you have finished with your session and come back to this dialog box, click **Disconnect** to end the connection.
Message Panel	Located just to the right of the Server panel, the Message panel lists status messages regarding the connection to the KVM over IP switch.
Switch to Remote View	Once you have been authenticated, this button becomes active. Click it to switch to the GUI Main Page.

Connecting - Java Client AP

To connect to a KVM switch, do the following:

1. From the *Server List* box, double-click the device that you wish to connect to.
   - Or -
   Specify its IP address and port number in the *Server IP* and *Port* input boxes.
2. Click **Login**.

The *Login* dialog box appears:



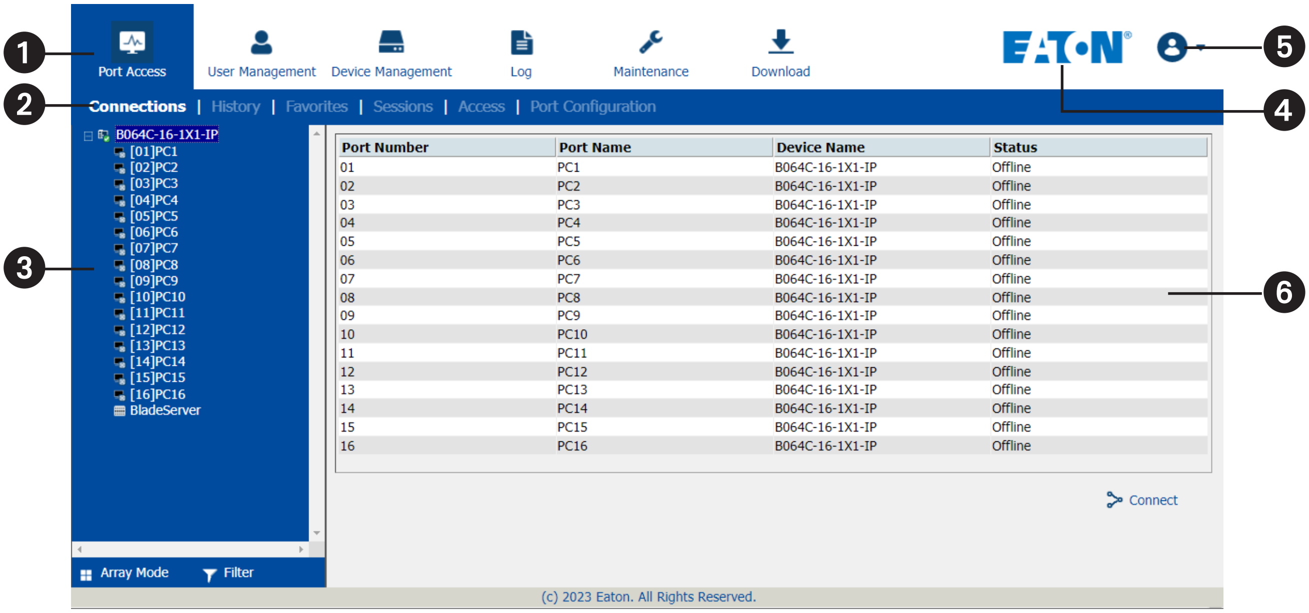
3. Key in a valid username and password, then click **OK**.
4. Once you have been authenticated, the *Remote View* button becomes active:
5. Click it to connect to the switch and access its GUI Main Page.

7.4 User Interface

Once you have successfully logged in, the B064C-16-1X1-IP user interface Main Page will appear. The appearance of the page may vary slightly, depending on which method was used to log in.

7.4.1 Web Browser Main Page

To ensure multi-platform operability, access to the B064C-16-1X1-IP can be accomplished with most standard web browsers. Once users log in and are authenticated, the *Web Browser Main Page* will appear with the Port Access page displayed:



Port Number	Port Name	Device Name	Status
01	PC1	B064C-16-1X1-IP	Offline
02	PC2	B064C-16-1X1-IP	Offline
03	PC3	B064C-16-1X1-IP	Offline
04	PC4	B064C-16-1X1-IP	Offline
05	PC5	B064C-16-1X1-IP	Offline
06	PC6	B064C-16-1X1-IP	Offline
07	PC7	B064C-16-1X1-IP	Offline
08	PC8	B064C-16-1X1-IP	Offline
09	PC9	B064C-16-1X1-IP	Offline
10	PC10	B064C-16-1X1-IP	Offline
11	PC11	B064C-16-1X1-IP	Offline
12	PC12	B064C-16-1X1-IP	Offline
13	PC13	B064C-16-1X1-IP	Offline
14	PC14	B064C-16-1X1-IP	Offline
15	PC15	B064C-16-1X1-IP	Offline
16	PC16	B064C-16-1X1-IP	Offline

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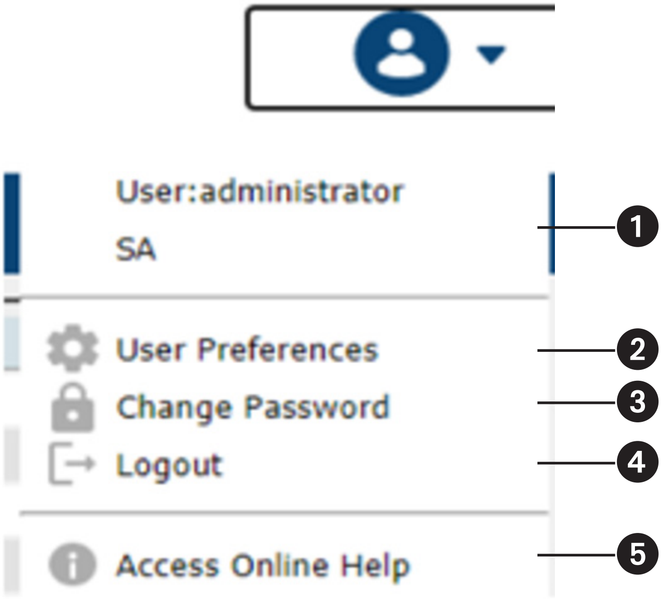
Note: *The above screen shows an administrator's page. Depending on a user's type and permissions, not all of these elements may appear.*

❶	Tab Bar	The tab bar contains the B064C-16-1X1-IP main operation categories. The items that appear in the tab bar are determined by the user's type and the authorization options that were selected when the user's account was created.
❷	Menu Bar	The menu bar contains operational sub-categories that pertain to the item selected in the tab bar. The items that appear in the menu bar are determined by the user's type and the authorization options that were selected when the user's account was created.
❸	Sidebar	The Sidebar provides a tree view listing of ports that relate to the various tab bar and menu bar selections. Clicking a node in the Sidebar will open a page with the details that are relevant to it. **There is a *Filter* button at the bottom of the Sidebar that lets you expand or narrow the scope of the ports that appear in the tree.**
❹	Eaton Logo	Eaton Logo directs user to the official Eaton website https://tripplite.eaton.com/.
❺	User Settings	Click this button for user information, configure user preferences settings, change password, logout and online help.
❻	Interactive Display Panel	This is your main work area. The screens that appear reflect your menu choices and Sidebar node selection.

7. Administration

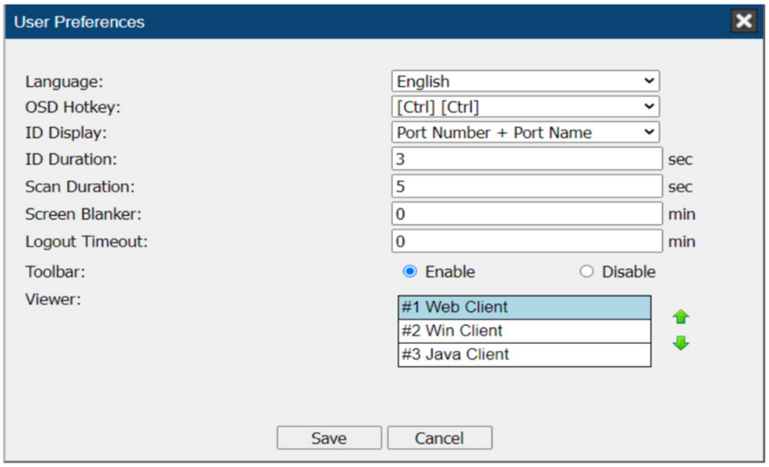
User Settings



1	User Information	Displays the user information and description.
2	User Preferences	Configures the user preference settings.
3	Change Password	Change the login password.
4	Logout	Log out and end the session.
5	Access Online Help	Click to visit the Eaton Website.

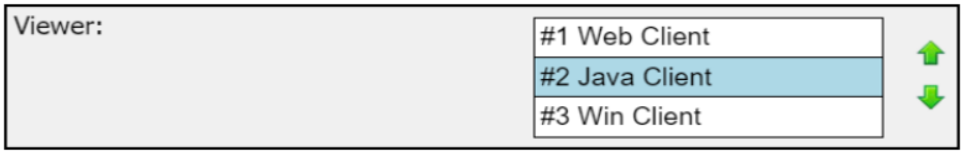
User Preferences

The User Preferences page allows users to set up their own individual working environments. The switch stores a separate configuration record for each user profile and sets up the working configuration according to the Username that was keyed into the Login dialog box:



User Preferences

Language:	English
OSD Hotkey:	[Ctrl] [Ctrl]
ID Display:	Port Number + Port Name
ID Duration:	3 sec
Scan Duration:	5 sec
Screen Blanker:	0 min
Logout Timeout:	0 min
Toolbar:	● Enable ○ Disable
Viewer:	#1 Web Client #2 Win Client #3 Java Client

Setting	Function
Language	Selects the language the interface displays in.
OSD Hotkey	Selects which Hotkey controls the GUI function: [Scroll Lock]. [Scroll Lock] is the default. To select a different combination, click the arrow at the right of the box to drop down the list of choices.
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 1—255 seconds. The default is 3 Seconds. A setting of 0 (zero) means the Port ID is always on.
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 1—255 seconds. The default is 5 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). ***Note:*** *Although this function can be set from either the local console or a remote login, it only affects the local console monitor.*
Logout Timeout	If there is no user input for the amount of time set with this function, the user is automatically logged out. A login is necessary before the KVM over IP switch can be accessed again.
Toolbar	Selects whether the Port Toolbar is enabled when a port is accessed.
Viewer*	In the browser version of this page, a Viewer section is available. You can choose which viewer method is preferred when connecting to a port by clicking the up or down arrow to shift viewer method position around. Usable viewers are automatically determined by the status of the system at the time of the login and by the type of browser. When you try to connect to a port (double-click the port or select a port and click **Connect**), the system will use the viewer according to the viewer list.  Viewer: #1 Web Client #2 Java Client #3 Win Client • The top-most method is the most preferred method and is listed as #1 (Web Client by default). • If the preferred method is supported when connecting to a port, the system will try connecting using the preferred method. • If the method is not supported, the system will try connecting using the next method, and try the last method last.
Save	Click **Save** to save any changes made to the User Preferences settings.

Notes:

- **This item is only available with the Browser version.*
- *The local console's User Preferences page additionally (and exclusively) provides the beeper setting for users to turn the device's beeper on (default) or off.*

7. Administration

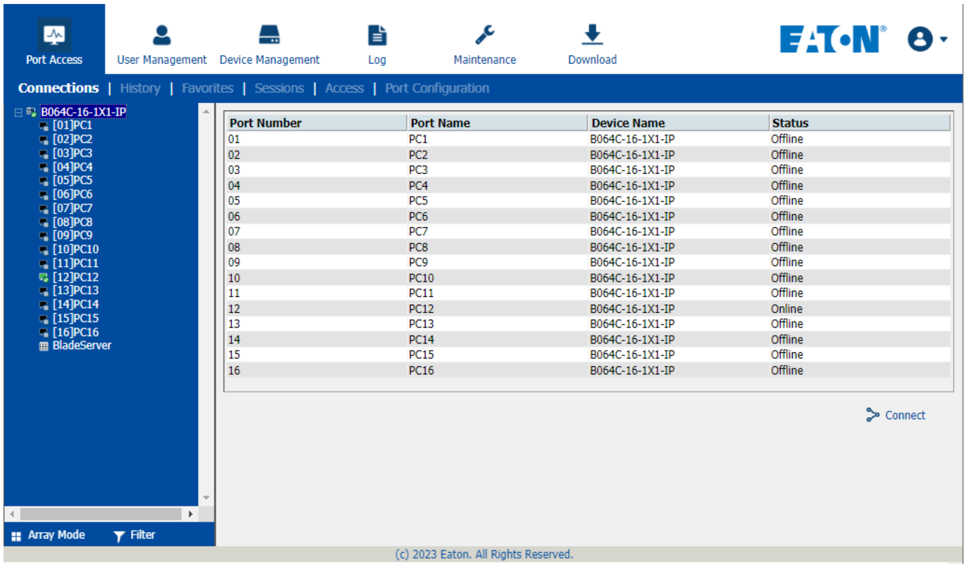
Tab Bar

The number and type of icons that appear on the Tab Bar at the top of the page are determined by the user's type (Super Administrator, Administrator, User) and the permissions assigned when the user's account was created. The functions associated with each of the icons are explained in the table below:

Icon	Function
Port Access	**Port Access:** The Port Access page is used to access and control the devices on the KVM over IP switch installation. This page is available to all users.
User Management	**User Management:** The User Management page is used to create and manage Users and Groups. It can also be used to assign devices to them. This tab is available to the Super Administrator as well as administrators and users who have been given User Management permission. The tab does not appear for other administrators and users.
Device Management	**Device Management:** The Device Management page is used to configure and control the overall operation of the KVM over IP switch. This page is available to the Super Administrator, as well as administrators and users who have been given Device Management permission. The tab does not appear for other administrators and users.
Log	**Log:** The Log page displays the contents of the log file.
Maintenance	**Maintenance:** The Maintenance page is used to install new firmware; backup and restore configuration and account information; ping network devices; and restore default values. This page is available to the Super Administrator (and Administrators and Users with *Maintenance* permission). The icon does not display on the page of ordinary administrators and users.
Download	**Download:** Users can click this icon to download AP versions of the Windows Client; the Java Client; and the Log Server. This page is available to all users. The programs that can be downloaded depend on the user's permissions.

7.4.2 AP GUI Main Page

With WinClient AP and Java Client AP access, once users log in (see **7.3 Logging In**), the *GUI Main Page* will open:



Port Number	Port Name	Device Name	Status
01	PC1	B064C-16-1X1-IP	Offline
02	PC2	B064C-16-1X1-IP	Offline
03	PC3	B064C-16-1X1-IP	Offline
04	PC4	B064C-16-1X1-IP	Offline
05	PC5	B064C-16-1X1-IP	Offline
06	PC6	B064C-16-1X1-IP	Offline
07	PC7	B064C-16-1X1-IP	Offline
08	PC8	B064C-16-1X1-IP	Offline
09	PC9	B064C-16-1X1-IP	Offline
10	PC10	B064C-16-1X1-IP	Offline
11	PC11	B064C-16-1X1-IP	Offline
12	PC12	B064C-16-1X1-IP	Online
13	PC13	B064C-16-1X1-IP	Offline
14	PC14	B064C-16-1X1-IP	Offline
15	PC15	B064C-16-1X1-IP	Offline
16	PC16	B064C-16-1X1-IP	Offline

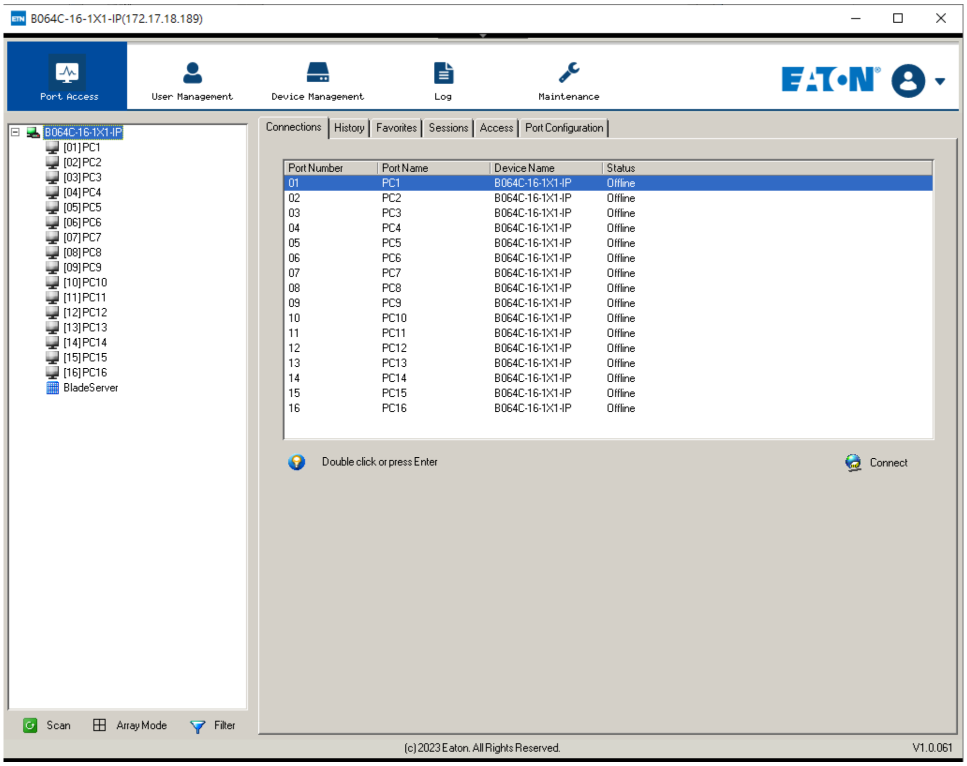
The GUI Main Page is similar to the Web Browser. The differences between them are as follows:

1. The AP GUI version does not have a menu bar below the tab bar; it instead has a series of tabs like a notebook. Like the Web Browser interface, the makeup of the tabbed notebook changes depend on the items selected on the main Tab Bar and in the Sidebar.
2. In addition to *Filter*, there are also buttons for *Scan* and *Array Mode* at the bottom of the Sidebar. These functions are discussed in **7.5 Port Access**.
3. There is a hidden *Control Panel* at the upper or lower center of the screen that becomes visible when you hover your cursor over it (the default is at the upper center of the screen).
4. The GUI can be navigated via the keyboard as shown in the table below:

Keys	Action
Ctrl + P	Opens the Port Access page.
Ctrl + U	Opens the User Management page.
Ctrl + D	Opens the Device Management page.
Ctrl + L	Opens the Log page.
Ctrl + M	Opens the Maintenance page.
Ctrl + A	Opens the Download page.
F1	To see *About* information
F2	To edit the port name of the selected port.
F4	Selects the Sidebar (left) panel.
F5	Selects the main (right) panel
F7	Closes the GUI.
F8	To log out.

7.4.3 Local Console GUI Main Page

The Local Console GUI Main Page is similar to the Java and Windows AP GUI Main Page:



B064C-16-1X1-IP
[01]PC1
[02]PC2
[03]PC3
[04]PC4
[05]PC5
[06]PC6
[07]PC7
[08]PC8
[09]PC9
[10]PC10
[11]PC11
[12]PC12
[13]PC13
[14]PC14
[15]PC15
[16]PC16
BladeServer

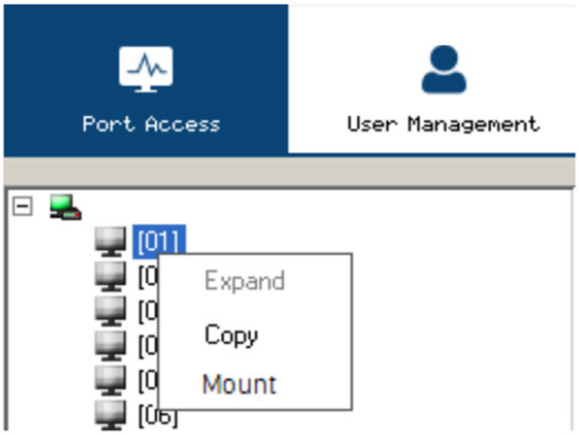
Port Number	Port Name	Device Name	Status
01	PC1	B064C-16-1X1-IP	Offline
02	PC2	B064C-16-1X1-IP	Offline
03	PC3	B064C-16-1X1-IP	Offline
04	PC4	B064C-16-1X1-IP	Offline
05	PC5	B064C-16-1X1-IP	Offline
06	PC6	B064C-16-1X1-IP	Offline
07	PC7	B064C-16-1X1-IP	Offline
08	PC8	B064C-16-1X1-IP	Offline
09	PC9	B064C-16-1X1-IP	Offline
10	PC10	B064C-16-1X1-IP	Offline
11	PC11	B064C-16-1X1-IP	Offline
12	PC12	B064C-16-1X1-IP	Offline
13	PC13	B064C-16-1X1-IP	Offline
14	PC14	B064C-16-1X1-IP	Offline
15	PC15	B064C-16-1X1-IP	Offline
16	PC16	B064C-16-1X1-IP	Offline

The major difference is that the Local Console Main Page does not have a tab for *Download*.

Mounting Virtual Media Locally

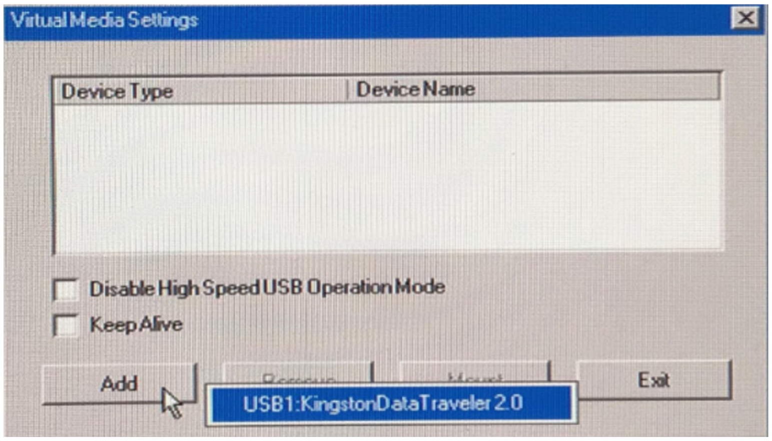
Local console supports virtual media mounting. To mount a virtual media:

1. Plug the USB flash drive into the target server locally.
2. On your local console, right-click the server in the sidebar and click **Mount**.



3. On the *Virtual Media Settings* dialog box that appears, click **Add** to select your virtual media.

   Note: *The mounting virtual media settings are similar to those of via Windows / Java Client Viewer.*



□ Disable High Speed USB Operation Mode

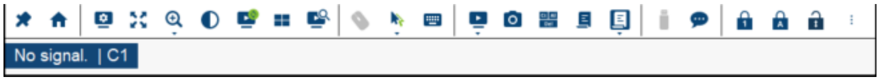
□ Keep Alive

7.4.4 Control Panel

WinClient Control Panel

Since the WinClient Control Panel contains the most complete functionality, this section describes the WinClient Control Panel. Although the Java Control Panel does not enable all the features as the WinClient Control Panel, the functions they do share are the same and you can refer to the information described here when using it.

The Control Panel is hidden at the upper or lower center of the screen (the default is at the lower center) and will become visible when your mouse over it. The panel consists of three rows: an icon row at the top, and text rows below it:



Note: *The above image shows the complete Control Panel. The icons that appear can be user selected.*

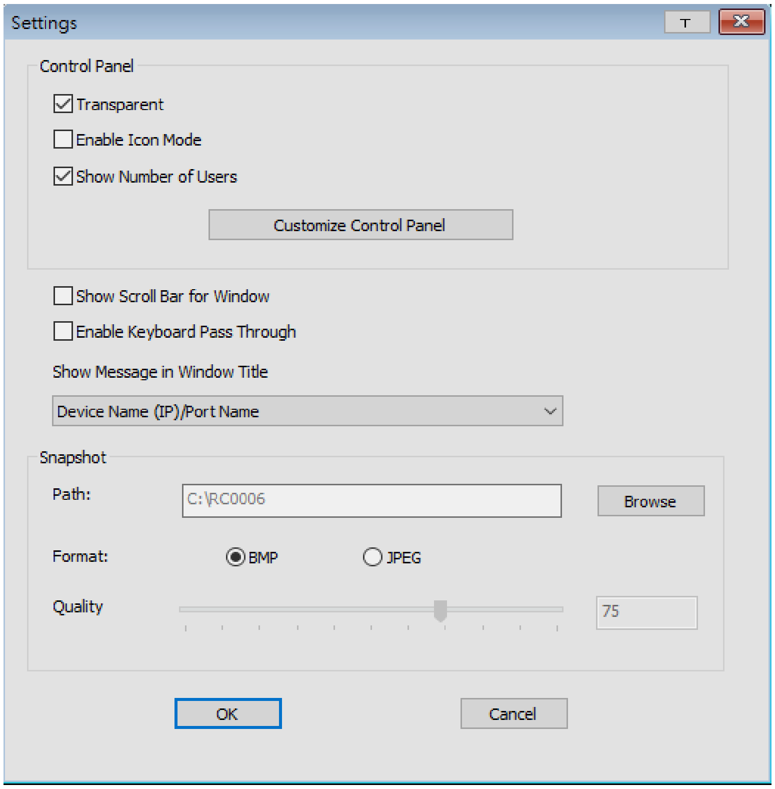
- By default, the left of the text row shows the video resolution of the remote display. As the mouse pointer moves over the icons in the icon bar, information in the upper text row changes to describe the icon's function. In addition, if a message from another user is entered in the message board and you have not opened the message board in your session, the message will appear in the upper row.
- The right of the row shows the IP address of the device you are accessing at the left of the row. The center of the row indicates which bus the user is on (the number before the slash), and the total number of users on that bus (the number behind the slash).

  Notes:

  • *The bus and user information in the center of the row only displays if it has been enabled.*

  • *See **7.11.4 Multiuser Operation** for further information regarding the KVM over IP switch's bus assignments.*

- Right-clicking in the text row area opens a menu-style version of the toolbar. In addition, it allows you to select options for the *Screen Mode, Zoom, Mouse Pointer* type and *Mouse Pointer*.



Settings

Control Panel

☑ Transparent

□ Enable Icon Mode

☑ Show Number of Users

Customize Control Panel

□ Show Scroll Bar for Window

□ Enable Keyboard Pass Through

Show Message in Window Title

Device Name (IP)/Port Name

Snapshot

Path: C:\RC0006 Browse

Format: ● BMP ○ JPEG

Quality 75

OK Cancel

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

WinClient Control Panel Functions

Icon	Function
📌	This is a toggle. Click to make the Control Panel persistent (e.g., always display on top of other screen elements). Click again to display normally.
🏠	Under an accessed port, click to recall the GUI.
⚙	Click to open the Video Options dialog box. Right-click to perform a quick AutoSync.
⛶	Toggles the display between Full Screen Mode and Windowed Mode.
🔍	Click to zoom the remote display window. ***Note:*** *This feature is only available in windowed mode (Full Screen Mode is off).*
◐	Click to toggle the remote display between color and grayscale views.
⟳	Click to perform a video and mouse autosync operation. It is the same as clicking the AutoSync button in the Video Options dialog box.
▦	Under an accessed port, click to invoke Panel Array Mode (see **7.11.3 Panel Array Mode**).

Icon	Function
🔍	Under an accessed port, click to begin Auto Scan Mode. The KVM over IP switch automatically switches among the ports that were selected for Auto Scanning with the Filter function. This allows you to monitor their activity without having to switch among them manually.
🖱	Click to toggle Automatic or Manual mouse sync. • When the selection is Automatic, a green √ appears on the icon. • When the selection is Manual, a red X appears on the icon.
↖	Click to select the mouse pointer type. ***Note:*** *This icon changes depending on which mouse pointer type is selected.*
⌨	Click to access the on-screen keyboard.
▶	Click to select the port you wish to connect to.
📷	Click to take a snapshot (screen capture) of the remote display.
Ct Al Del	Click to send a Ctrl+Alt+Del command to the remote system.
☰	Click to open the Macros dialog box.
☰ ▾	Click to display a dropdown list of User macros to access and run macros more conveniently than using the Macros dialog box.
▯	Click to open the Virtual Media dialog box. The icon changes depending on the status of the virtual media function. ***Note:*** *This icon displays in gray when the function is disabled or not available.*
💬	Click to open the Message Board.
🔒1 🔒A 🔓↕	These icons show the Num Lock, Caps Lock and Scroll Lock status of the remote computer. • When the lock state is *On*, the LED illuminates orange and the lock hasp is closed. • When the lock state is *Off*, the LED illuminates blue and the lock hasp is open. Click on the icon to toggle the status. ***Note:*** *These icons and your local keyboard icons are in sync. Clicking an icon causes the corresponding LED on your keyboard to change accordingly. Pressing a Lock key on your keyboard will cause the icon's color to change accordingly.*
⋮	Click to open more control panel functions.

Macros

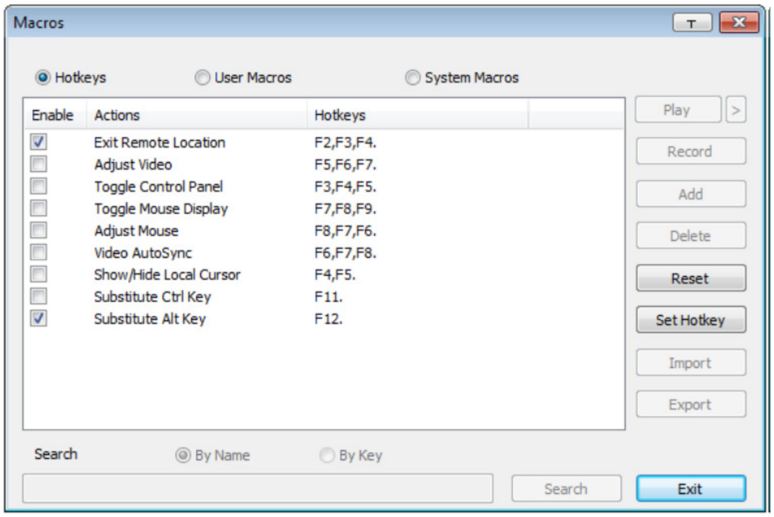
☰ The *Macros* icon provides access to three functions found in the Macros dialog box: Hotkeys, User Macros and System Macros.

7. Administration

Hotkeys

Various actions related to manipulating the remote server can be accomplished with hotkeys. The *Hotkey Setup* utility (accessed by clicking the icon) lets you configure which hotkeys perform the actions.

The hotkeys that invoke an action are shown to the right of its name. Use the checkbox to the left of an action's name to enable or disable its hotkey.



● Hotkeys ○ User Macros ○ System Macros

Enable	Actions	Hotkeys
☑	Exit Remote Location	F2,F3,F4.
□	Adjust Video	F5,F6,F7.
□	Toggle Control Panel	F3,F4,F5.
□	Toggle Mouse Display	F7,F8,F9.
□	Adjust Mouse	F8,F7,F6.
□	Video AutoSync	F6,F7,F8.
□	Show/Hide Local Cursor	F4,F5.
□	Substitute Ctrl Key	F11.
☑	Substitute Alt Key	F12.

Search ● By Name ○ By Key

To change the hotkey for an action, do the following:

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

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

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

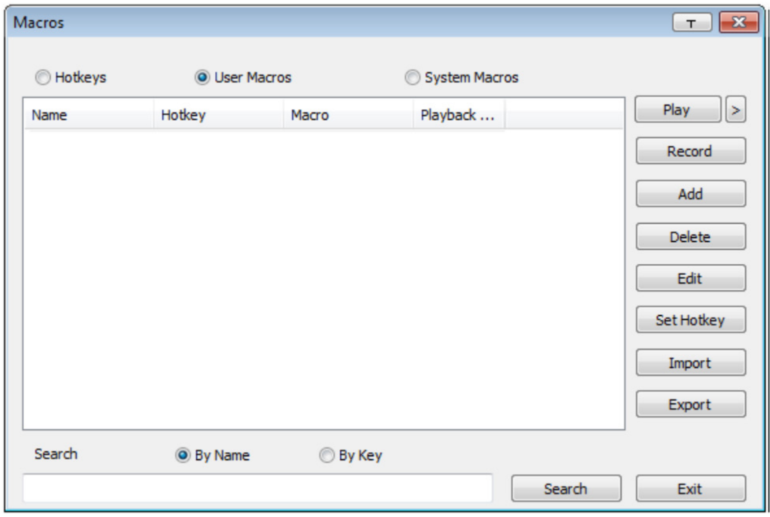
Action	Explanation
Exit Remote Location	Breaks the connection to the B064C-16-1X1-IP and returns you to local client computer operation. This is equivalent to clicking the Exit icon on the Control Panel. The default keys are F2, F3, F4.
Adjust Video	Opens the *Video Settings* dialog box. This is equivalent to clicking the *Video Settings* icon on the Control Panel. The default keys are F5, F6, F7.
Toggle OSD	Toggles the OSD Control Panel Off and On. The default keys are F3, F4, F5.
Toggle Mouse Display	If you find the display of the two mouse pointers (local and remote) to be confusing or troublesome, you can use this function to shrink the non-functioning pointer down to a barely noticeable tiny circle which can be ignored. Since this function is a toggle, use the hotkeys again to bring the mouse display back to its original configuration. This is equivalent to selecting the Single pointer type from the Mouse Pointer icon on the Control Panel. The default keys are F7, F8, F9. ***Note:*** *The Java Control Panel does not have this feature.*
Adjust Mouse	This synchronizes the local and remote mouse movements. The default keys are F6, F7, F8.
Video Autosync	This combination performs an auto-sync operation. It is equivalent to clicking the *Video Autosync* icon on the Control Panel. The default keys are F8, F7, F6.
Show/Hide Local Cursor	Toggles the display of your local mouse pointer off and on. This is equivalent to selecting the Null pointer type from the *Mouse Pointer* icon on the Control Panel. The default keys are F4, F5.

Action	Explanation
Substitute Ctrl key	If your local client computer captures Ctrl key combinations and prevents them from being sent to the remote server, you can implement their effects on the remote server 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 server as [Ctrl + 5]. The default key is F11.
Substitute Alt key	Although all other keyboard input is captured and sent to the B064C-16-1X1-IP switch, [Alt + Tab] and [Ctrl + Alt + Del] work on your local client computer. To implement their effects on the remote server, another key may be substituted for the Alt key. If you substitute the F12 key, for example, you would use [F12 + Tab] and [Ctrl + F12 + Del]. The default key is F12.

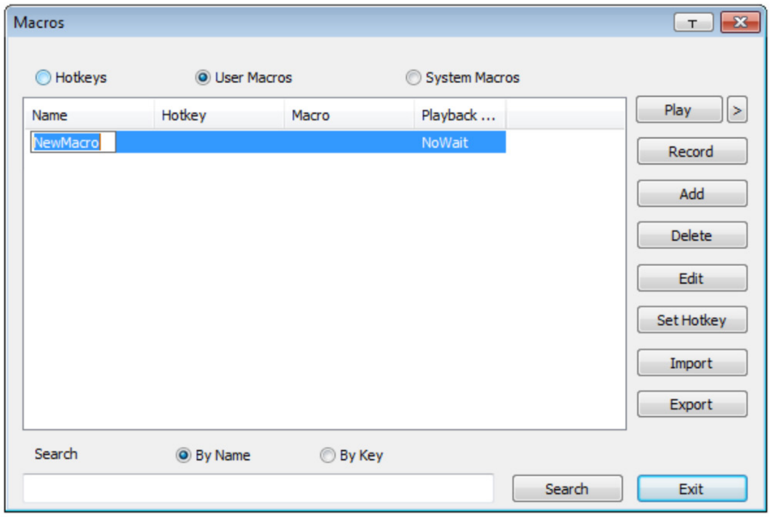
User Macros

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

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



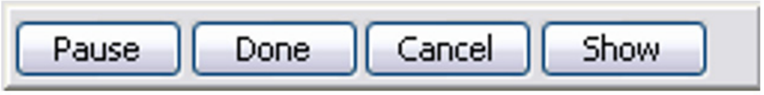
2. In the dialog box that opens, replace the "New Macro" text with a name of your choice for the macro:



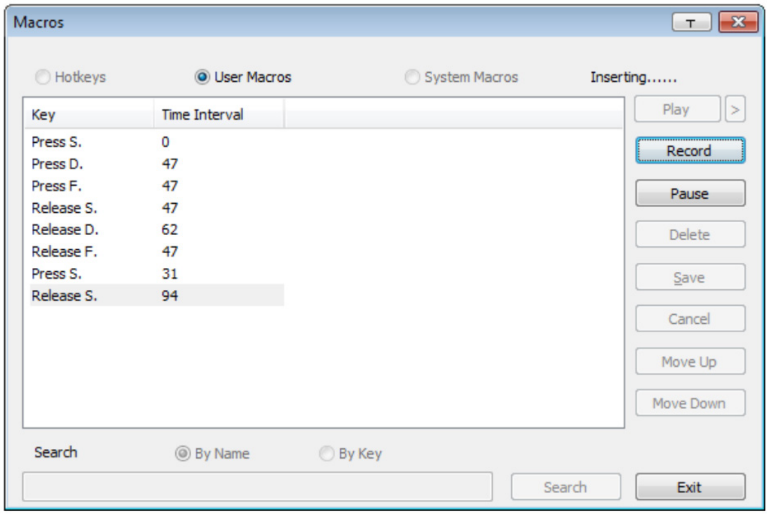
Name	Hotkey	Macro	Playback ...
NewMacro			NoWait

3. Click **Record**.

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



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



Macros

○ Hotkeys ● User Macros ○ System Macros Inserting......

Key	Time Interval
Press S.	0
Press D.	47
Press F.	47
Release S.	47
Release D.	62
Release F.	47
Press S.	31
Release S.	94

Search ● By Name ○ By Key

Clicking **Cancel** cancels all keystrokes.

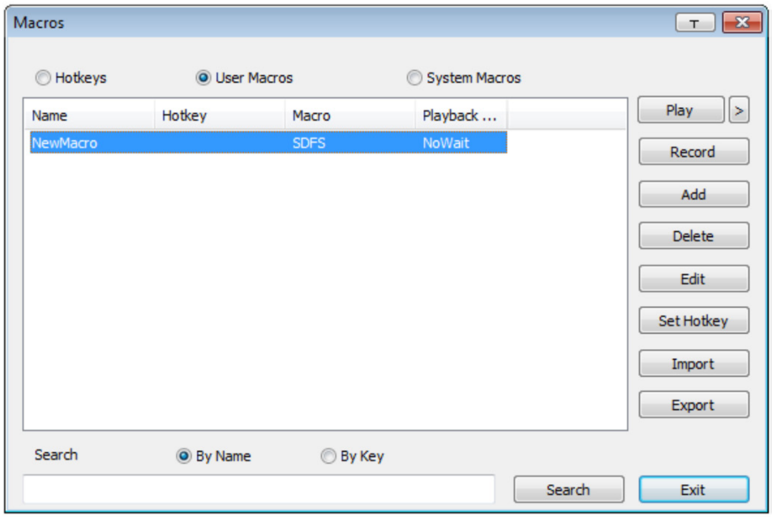
Once you have finished, click **Stop** (this is the equivalent of clicking *Done* in Step 5).

Notes:

- *Case is not considered - typing **A** or **a** has the same effect.*
- *When recording the macro, the focus must be on the remote screen. It cannot be in the macro dialog box.*
- *Only the default keyboard characters may be used. Alternate characters cannot be used. For example, if the keyboard is Traditional Chinese and default character is **A**, the alternate Chinese character obtained via keyboard switching is not recorded.*

5. If you have not opened the Show dialog, click **Done** when you have finished recording your macro. You return to the Macros dialog box with your macro keystrokes displayed in the Macro column:

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



Macros

○ Hotkeys ● User Macros ○ System Macros

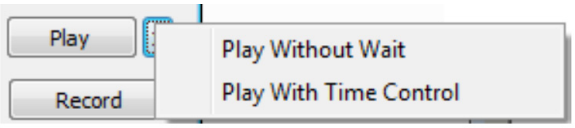
Name	Hotkey	Macro	Playback ...
NewMacro		SDFS	NoWait

Search ● By Name ○ By Key

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

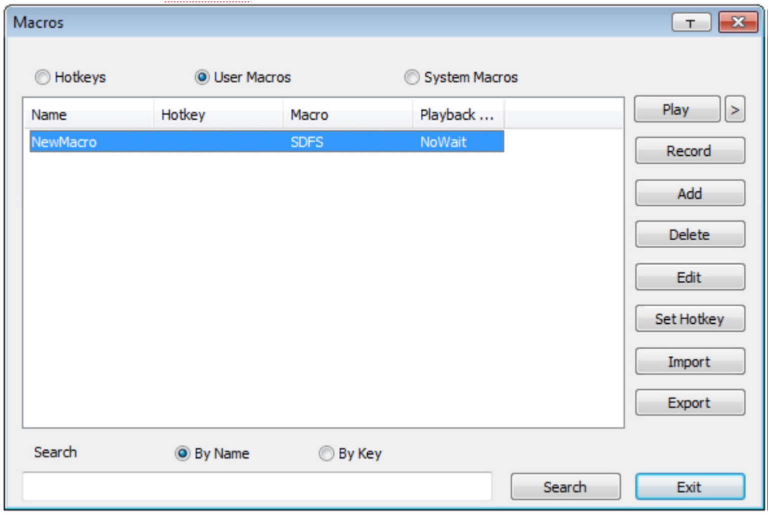
   After creating your macros, you can run them in any of three ways:

   1. Using the hotkey (if one was assigned).
   2. Opening the *Macro List* on the Control Panel and clicking the one you want.
   3. Opening this (Macros) dialog box and clicking **Play**.



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

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



Macros

○ Hotkeys ● User Macros ○ System Macros

Name	Hotkey	Macro	Playback ...
NewMacro		SDFS	NoWait

Search ● By Name ○ By Key

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

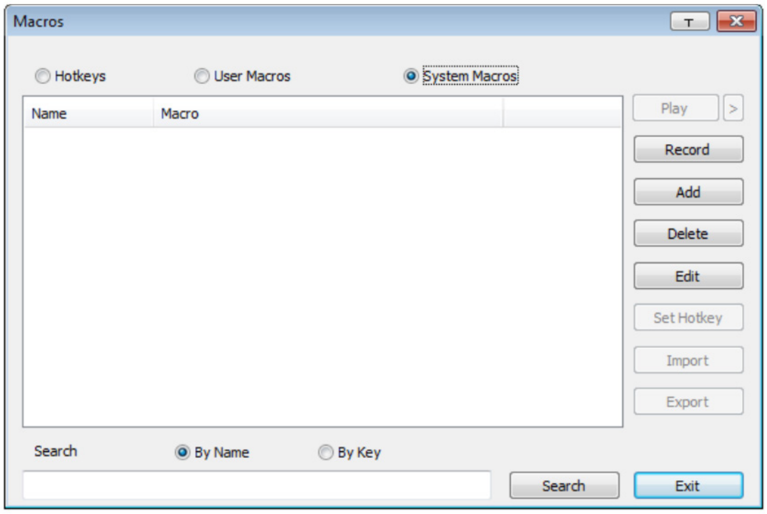
Search

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

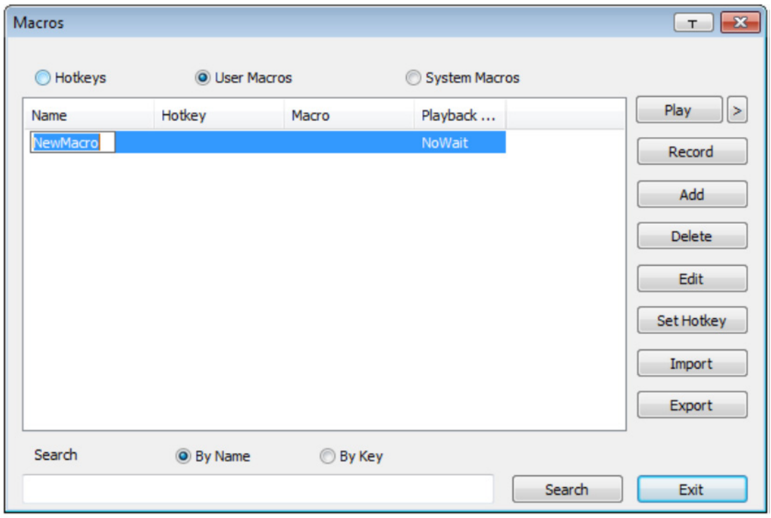
System Macros

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

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

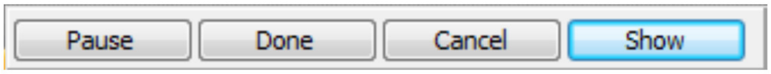


2. In the dialog box that opens, replace the "New Macro" text with a name of your choice for the macro.



3. Click **Record**.

   The dialog box will disappear and a small panel will appear at the top left of the screen.

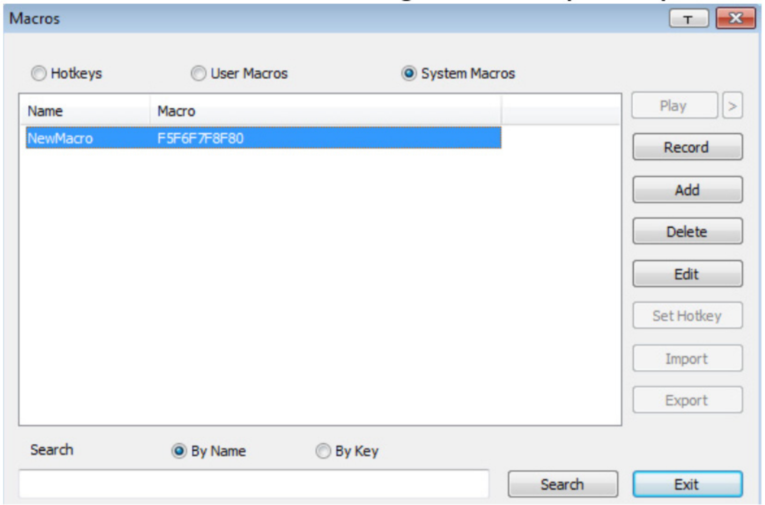


4. Press the keys for the macro.
   - To pause macro recording, click **Pause**. To resume, click **Pause** again.
   - Clicking **Show** opens a dialog box that lists each keystroke that you make, together with the amount of time each one takes.

   Notes:

   - *Case is not considered - typing A or a has the same effect.*
   - *When recording the macro, the focus must be on the remote screen. It cannot be in the macro dialog box.*
   - *Only the default keyboard characters may be used. Alternate characters cannot be used. For example, if the keyboard is Traditional Chinese and default character is A the alternate Chinese character obtained via keyboard switching is not recorded.*

5. If you have not opened the Show dialog, click **Done** when you have finished recording your macro. You will return to the Macros dialog box with your system macro key presses displayed in the Macro column:



○ Hotkeys ○ User Macros ● System Macros

Name	Macro
NewMacro	F5F6F7F8F80

Search ● By Name ○ By Key

6. If you want to change any of the keystrokes, select the macro and click **Edit**. This will open a dialog box similar to the one for Show. You can change the content of your keystrokes, change their order, etc.
7. Repeat the procedure for any other macros you wish to create.

Once the system macros have been created, they are available for use on a port-by-port basis. They get selected on a port's *Port Configuration* → *Port Properties* page.

Notes:

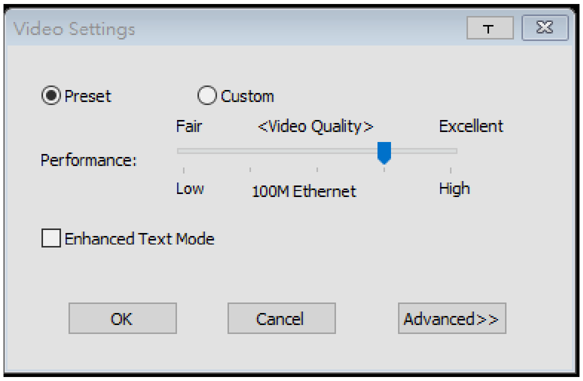
- *You can choose only one system macro per port.*
- *System macros are stored on the switch. Therefore, macro names may not exceed 64 Bytes and hotkey combinations may not exceed 256 Bytes (each key usually takes 3-5 Bytes).*
- *System macro names only support ASCII characters.*

7. Administration

Video Settings

Clicking the *Video Settings* icon on the Control Panel opens the *Basic Video Settings* dialog box with basic settings. The options in the basic dialog box allow you to adjust the Screen Position, set Auto-Sync and slide the Performance bar setting. Selecting the *Advanced* button opens the *Advanced Video Settings* dialog box to provide more detailed options including: *Video Quality, Enable Refresh, Transparency* and *Color Depth Control*.

Basic Video Settings

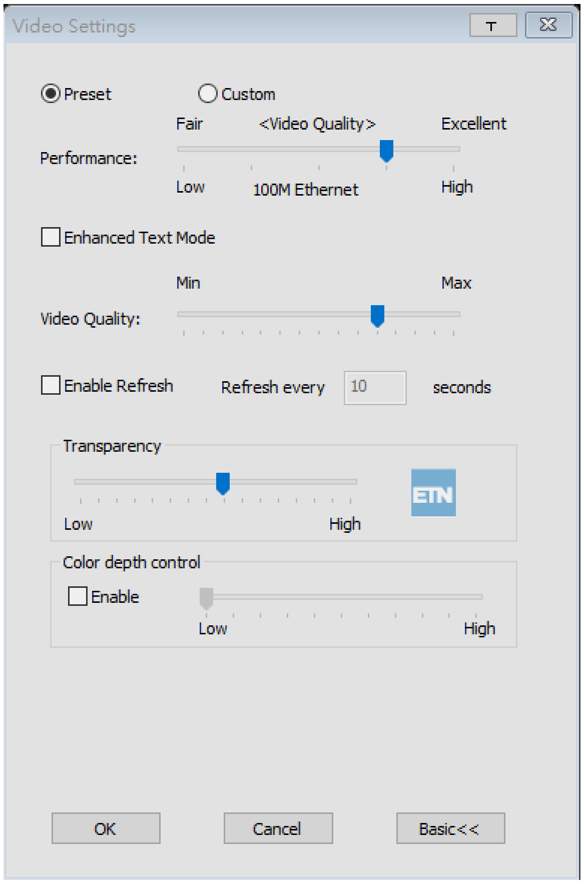


Video Settings

● Preset ○ Custom

□ Enhanced Text Mode

Advanced Video Settings



Video Settings

● Preset ○ Custom

□ Enhanced Text Mode

□ Enable Refresh Refresh every 10 seconds

Color depth control: □ Enable

The meanings of the video adjustment options are provided in the table below:

Options	**Description**
Preset / Custom	Using the Preset and Custom buttons allow you to set and save custom video settings and revert to default video settings.
Performance	Use the slide bar to select the type of Internet connection the local client computer uses. The switch will use that selection to automatically adjust the Video Quality settings to optimize the quality of the video display. Since network conditions vary, if none of the presets are working to your expectations, you can select **Advanced** and use the Video Quality slider bar to adjust the settings to suit your conditions
Video Quality	Drag the slider bar to adjust the overall Video Quality. The larger the value, the clearer the picture and the more video data goes through the network. Depending on the network bandwidth, a high value may adversely affect response time.
Enable Refresh	The KVM over IP switch can redraw the screen every 1 to 99 seconds, eliminating unwanted artifacts from the screen. Select **Enable Refresh** and enter a number from 1 through 99. The KVM over IP 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. ***Notes:*** • *The switch starts counting the time interval when the mouse movement stops.* • *Enabling this feature increases the volume of video data transmitted over the network. The lower the number specified, the more often the video data is transmitted. Setting too low a value may adversely affect overall operating responsiveness.*
Transparency	Adjusts the transparency of the toolbar that opens when the GUI hotkey ([Scroll Lock] [Scroll Lock], for example) is invoked. Slide the bar until the display in the example window is to your liking.
Color Depth Control	This setting determines the richness of the video display by adjusting the amount of color information.

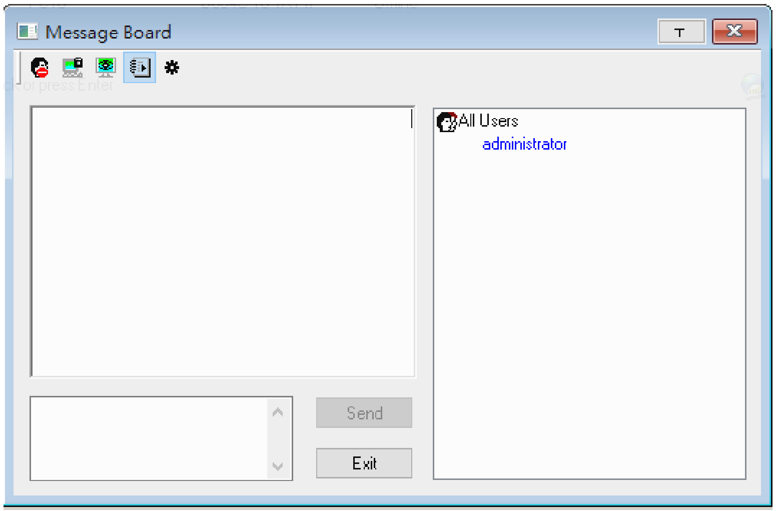
Network Bandwidth Information for KVM Sessions

For network bandwidth management, a KVM session of a full-screen video display at 1920 x 1080 @ 60 Hz will take up approximately 64 Mbps.

However, since the network environment of each station/session varies, the aforementioned information proposes what is ideal but does not warrant the smoothness/quality for each session.

The Message Board

The B064C-16-1X1-IP supports multiple user logins, which may cause access conflicts. To alleviate the problem, a message board is provided to allow users to communicate with one other:



Button Bar

The buttons on the *Button Bar* are toggles.

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, nor 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.

Message Display Panel

Messages that users post to the board (as well as system messages) display in this panel. If you disable Chat, messages that get posted to the board will not appear.

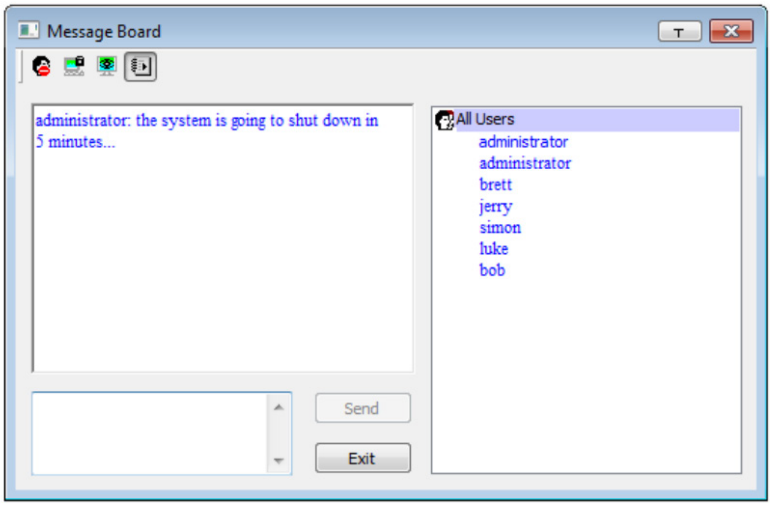
Compose Panel

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 and other users' names appear in black.
- 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, 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 as such.



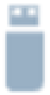
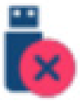
administrator: the system is going to shut down in 5 minutes...

All Users
administrator
administrator
brett
jerry
simon
luke
bob

Virtual Media

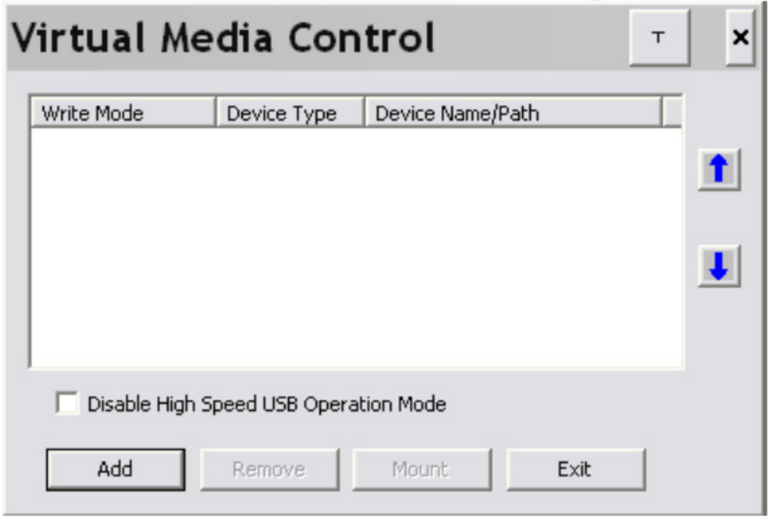
The *Virtual Media* feature allows a drive, folder, image file, removable disk or smart card reader on a user's system to appear and act as if it were installed on the remote server.

The Virtual Media icon changes depending on the status of the virtual media function, as shown in the table below:

Icon	Function
	The icon displays in gray to indicate the virtual media function is disabled or not available.
	The icon displays in blue to indicate that the virtual media function is available. Click the icon to open the virtual media dialog box.
	The icon displays in blue with a red **X** to indicate a virtual media device has been mounted on the remote server. Click the icon to unmount all redirected devices.

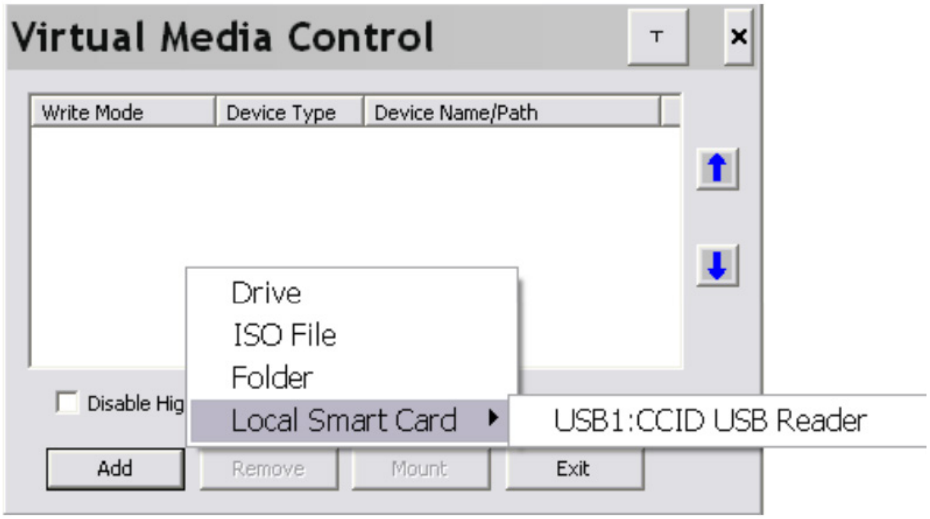
Mounting Virtual Media

1. Click the Virtual Media icon to open the *Virtual Media* dialog box.



Note: *The T button at the top right opens a slider to adjust the transparency of the dialog box. After making your adjustment, click anywhere in the dialog box to dismiss the slider.*

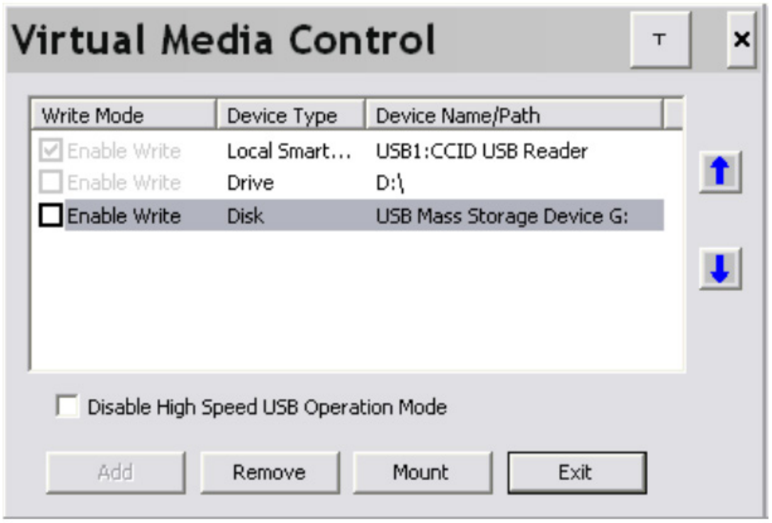
2. Click **Add**; then select the media source.



Depending on your selection, additional dialog boxes appear to select the drive, ISO file, folder, or removable disk you desire. See **8.9 Virtual Media Support** for a list of supported virtual media types and details about mounting them.

3. If your device only supports full-speed USB, put a check in the Disable *High Speed USB Operation Mode* checkbox.
4. To add additional media sources, click **Add** and select the source as many times as you require. Up to three virtual media choices can be mounted. The top three in the list are the ones that are selected. Virtual Media and Smart Card readers can be mounted at the same time. To rearrange the selection order, highlight the device you want to move, then click the Up or Down arrow button to promote or demote it in the list.

5. *Read* refers to the redirected device being able to send data to the remote server and *Write* refers to the redirected device being able to have data from the remote server written to it. For the redirected device to be writable as well as readable, click to put a check in the *Enable Write* checkbox:



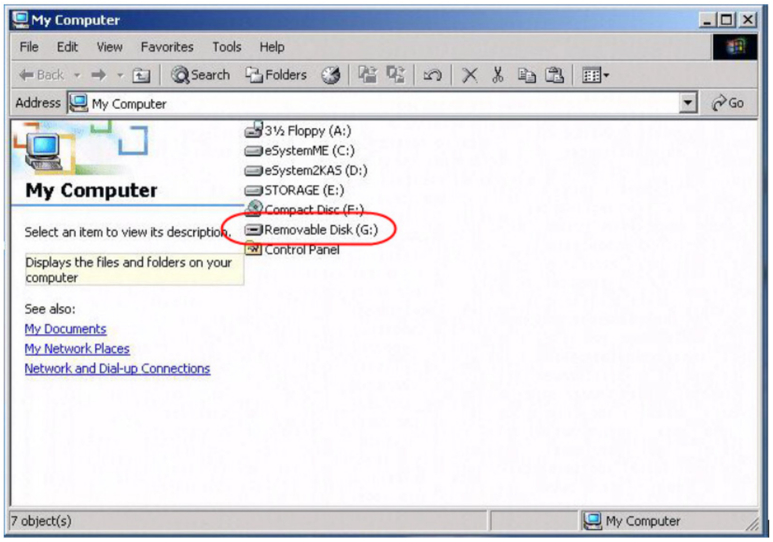
Virtual Media Control

Write Mode	Device Type	Device Name/Path
☑ Enable Write	Local Smart...	USB1:CCID USB Reader
□ Enable Write	Drive	D:\
□ Enable Write	Disk	USB Mass Storage Device G:

□ Disable High Speed USB Operation Mode

Note: *If a redirected device cannot be written to, it will appear in gray.*

6. To remove an entry from the list, select it and click **Remove**.
7. Once you have made your media source selections, click **Mount**. The dialog box will close. The virtual media devices you have selected are redirected to the remote server, where they will appear as drives, files, folders, etc. on the remote server's file system.



My Computer

Address: My Computer

Select an item to view its description.

Displays the files and folders on your computer

See also:
My Documents
My Network Places
Network and Dial-up Connections

3½ Floppy (A:)
eSystemME (C:)
eSystem2KAS (D:)
STORAGE (E:)
Compact Disc (F:)
Removable Disk (G:)
Control Panel

7 object(s)

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

Files saved to the redirected media will be saved on your local client computer's storage and files you drag from the redirected media will come from your local client computer's storage.

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

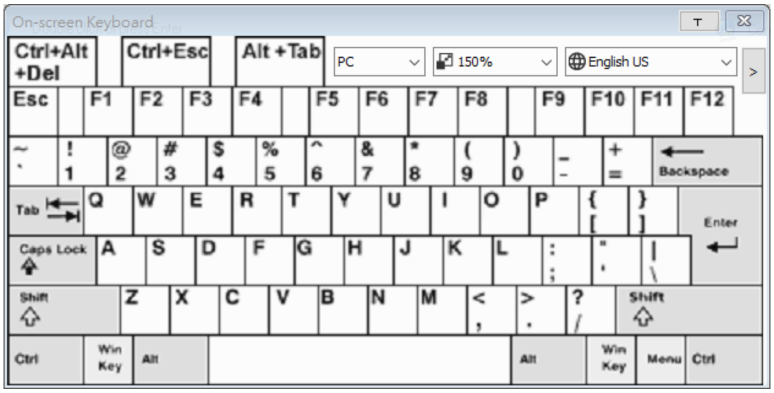
Zoom

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

Setting	Description
100%	Sizes and displays the remote view window at 100%.
75%	Sizes and displays the remote view window at 75%.
50%	Sizes and displays the remote view window at 50%
25%	Sizes and displays the remote view window at 25%
1:1 ⤢ ↔ ↕	Sizes and displays the remote view window at 100%. The difference between this setting and the 100% setting is that when the remote view window is resized its contents do not resize. Instead, they remain at their previous size. To see any objects that are outside of the viewing area, move the mouse to the window edge for the screen to scroll.

On-Screen Keyboard

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

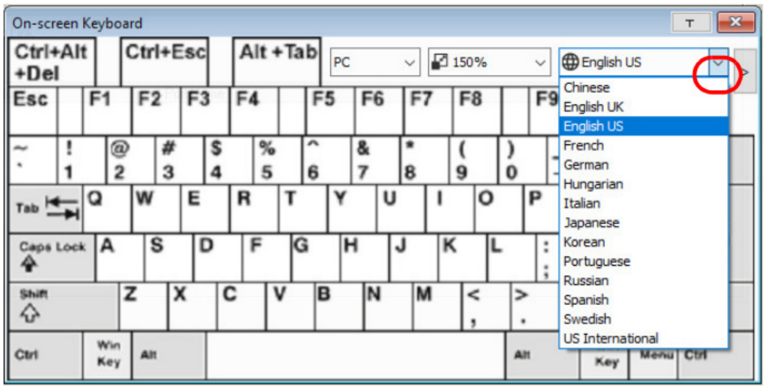


One of the major advantages of the on-screen keyboard is that if the keyboard languages of the remote and local systems are not the same, you do not need to change the configuration settings for either system. Simply access the on-screen keyboard, select the language used by the server you are accessing and use the on-screen keyboard to communicate with it.

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

Changing Languages

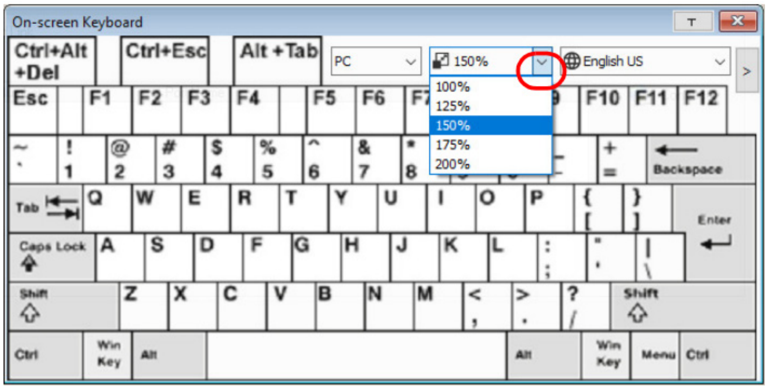
1. Click the down arrow next to the currently selected language to view a drop-down selection of the language list.



2. Select the new language from the list.

Resizing the Keyboard

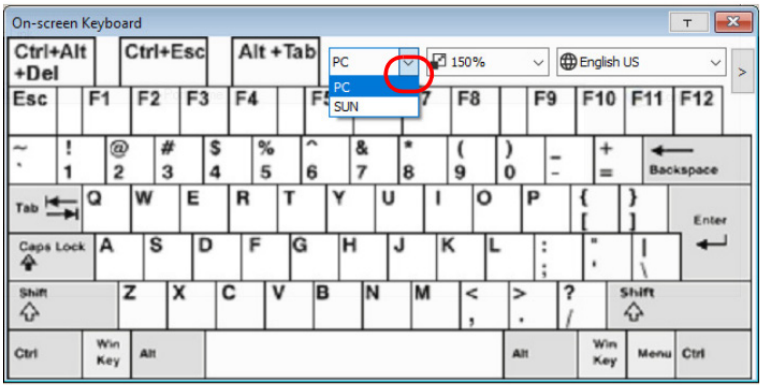
1. Click the down arrow next to the currently selected keyboard size, to drop down the sizing list.



Selecting Platforms

The on-screen keyboard supports the Sun and PC platforms. To select the platform:

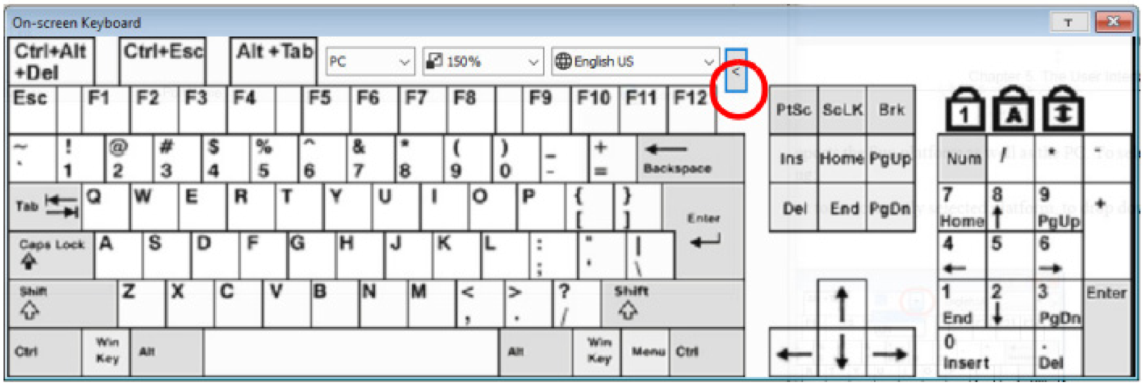
1. Click the down arrow next to the currently selected platform for drop-down of the platform list to appear.



2. Select the new platform from the list.

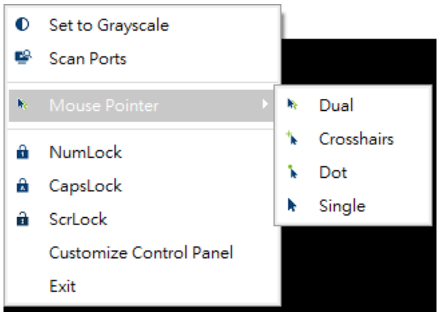
Expanded Keyboard

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



Mouse Pointer Type

KVM over IP switches offer several mouse pointer options when working in the remote display. Click this icon to select from the available choices:



Notes:

- *Before accessing a port it is important to know the Single option is not available. Once the port is accessed, all four pointers are available.*
- *The Dot pointer is not available with the Java Applet Viewer or the Java Client AP.*
- *Selecting the Dot pointer has the same effect as the Toggle mouse display hotkey function.*
- *The icon on the Control Panel changes to match your choice.*

Mouse DynaSync Mode

Synchronization of the local and remote mouse pointers is accomplished automatically or manually.

Automatic Mouse Synchronization (DynaSync)

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

Notes:

- *This feature is only available for Windows and Mac systems (G4 or later) whose adapter attribute OS setting is configured for Win or Mac.*
- *All other configurations must use manual mouse synchronization.*

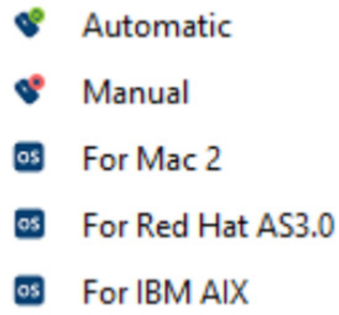
The icon on the Control Panel indicates the synchronization mode status as follows:

Icon	Function
🖱	This icon displays in gray to indicate that Mouse DynaSync is not available and you must use manual synching procedures. This is the default setting for all KVM Adapters, which are connected to the switch with one of the following Adapter Cables: B055-001-UDV, B055-001-UHD, B055-001-UDP, B055-001-USB, B055-001-USB-V2, B055-001-USB-VA, B055-001-UV2CAC.
🖱✓	The green check mark on this icon indicates Mouse DynaSync is available and enabled. This is the default setting when Mouse DynaSync is available.
🖱✗	The red X on this icon indicates Mouse DynaSync is available but is not enabled.

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

Mac and Linux Considerations

- For Mac OS versions 10.4.11 or later, there is a second DynaSync setting to choose from: if the default Mouse DynaSync result is not satisfactory, try the **Mac 2** setting. To select Mac 2, right-click in the text area of the Control Panel and select *Mouse Sync Mode* → *Automatic for Mac 2*:



- Linux does not support DynaSync Mode, but there is a setting on the Mouse Sync Mode menu for Redhat AS3.0 systems. If you are using a USB Adapter Cable with an AS3.0 system and the default mouse synchronization is not satisfactory, you can try the Redhat AS3.0 setting. In either case, you must perform the manual mouse synchronization procedures described in the next section.

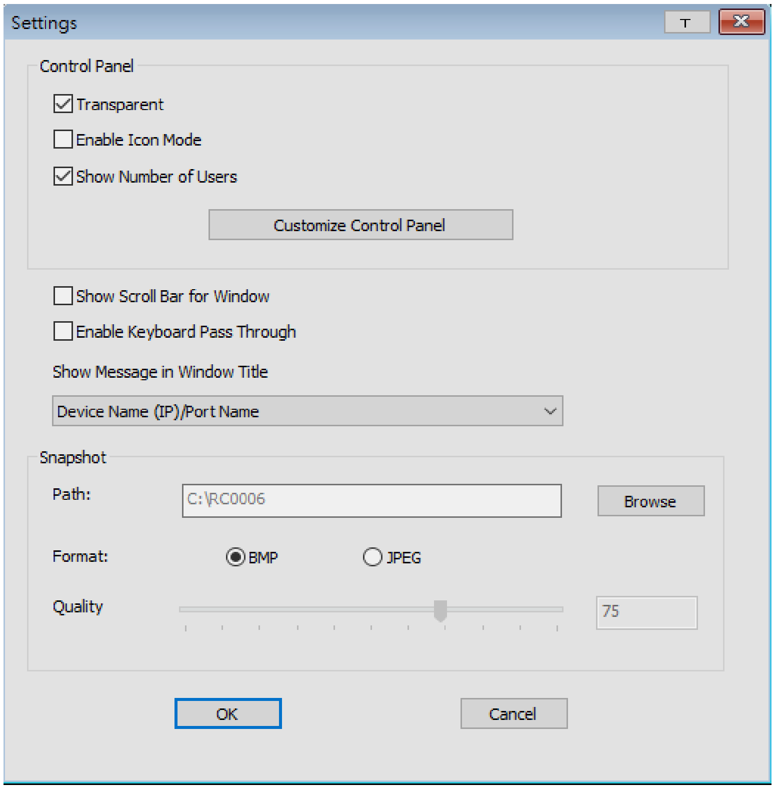
Manual Mouse Synchronization

If the local mouse pointer becomes out of sync with the remote system's mouse pointer, there are several methods to return them to sync:

1. Perform a video and mouse auto sync by clicking the *Video Settings* icon on the Control Panel.
2. Perform an *Auto Sync* with the Video Adjustment function.
3. Invoke the *Adjust Mouse* function with the *Adjust Mouse* hotkeys.
4. Move the pointer into all four corners of the screen (in any order).
5. Drag the Control Panel to a different position on the screen.
6. Set the mouse speed and acceleration for each problematic server attached to the switch. See **8.6.1 Additional Mouse Synchronization Procedures** for details.

Control Panel Configuration

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



Control Panel

☑ Transparent

☐ Enable Icon Mode

☑ Show Number of Users

☐ Show Scroll Bar for Window

☐ Enable Keyboard Pass Through

Show Message in Window Title: Device Name (IP)/Port Name

Snapshot

Path: C:\RC0006

Format: ● BMP ○ JPEG

Quality: 75

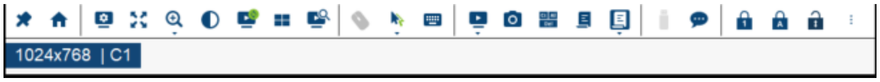
The organization of the dialog box is described in the table below:

Item	Description
Control Panel	• Enabling *Transparent* makes the Control Panel semi-transparent so you can see through it to the display underneath. • Enabling *Enable* Icon causes the Control Panel to display as an icon until you mouse over it. When you mouse over the icon, the full panel comes up. • Enabling *Show Number of Users* shows the number of the bus you are on, as well as the total number of users on the bus. This displays on the bottom row center of the Control Panel as: Bus No./ Total Users.
Customize Control Panel	Allows you to select which icons display in the Control Panel. Check the ones you want to view and uncheck the ones you do not want to view.
Show Scroll Bar for Window	In cases where the remote screen display is larger than your monitor, you can choose how to scroll to the areas that are off-screen. When this is enabled, the show bar for windows allows scroll bars to appear around the screen borders that you can use to scroll to the off-screen areas.
Enable Keyboard Pass Through	When this is enabled, the Alt-Tab key press is passed to the remote server and affects that server. If it is not enabled, Alt-Tab acts on your local client computer.
Show Message in Window Title	Select to show message such as port name, device name, resolution, frame rate and bandwidth in the window title.

Item	Description
Snapshot	These settings allow the user to configure B064C-16-1X1-IP's screen-capture parameters: • Path lets you select a directory that the captured screens automatically get saved to. Click **Browse** and navigate to the directory of your choice, then click **OK**. If you do not specify a directory here, the snapshot is saved to your desktop. • Click a radio button to choose whether you want the captured screen to be saved as a BMP or a JPEG (JPG) file. • If you choose JPEG, you can select the quality of the captured file with the slider bar. The higher the quality, the better looking the image, but the larger the file size.

Java Control Panel

The *Java Client AP Control Panel* is similar to the one used by the WinClient:



The major differences between them are:

- In the Macros dialog box, *Toggle Mouse Display* is not available.
- The *Dot* mouse pointer type is not available.
- In the Message Board, there is no *Show/Hide* button to show or hide the user list. This function is achieved by clicking the arrows at the top of the bar that separates the User List panel from the Main panel.
- The Control Panel *Lock LED* icons are not in sync with your keyboard.
  o When you first connect, the LED display may not be accurate. To be sure, click on the LED icons to set them.
- In *Control Panel Configuration*, the BMP Snapshot format has been replaced by PNG.

To access to the Customize Control Panel, right-click in the text row area to open a menu-style version of the toolbar. Doing this also allows you to select options for the Screen Mode, Zoom, Mouse Pointer and Macro List.

JavaClient Control Panel Functions

Icon	Function
📌	This is a toggle. Click to make the Control Panel persistent (e.g., it always displays on top of other screen elements). Click again to have it display normally.
🏠	Under an accessed port, click to recall the GUI.
⚙	Click to open the Video Options dialog box. Right-click to perform a quick Auto Sync.
⤢	Toggles the display between Full Screen Mode and Windowed Mode.
🔍	Click to zoom the remote display window. ***Note:*** *This feature is only available in windowed mode (Full Screen Mode is off).*
◐	Click to toggle the remote display between color and grayscale views.
⟳	Click to perform a video and mouse auto sync operation. It is the same as clicking the Auto sync button in the Video Options dialog box.
⊞	Under an accessed port, click to invoke Panel Array Mode

7. Administration

Icon	Function
🖥🔍	Under an accessed port, click to begin Auto Scan Mode. The KVM over IP switch automatically switches among the ports that were selected for Auto Scanning with the Filter function. This allows you to monitor their activity without having to switch among them manually.
🖱	Click to toggle Automatic or Manual mouse sync. • When the selection is Automatic, a green √ appears on the icon. • When the selection is Manual, a red X appears on the icon.
↖	Click to select the mouse pointer type. ***Note:*** *This icon changes depending on which mouse pointer type is selected.*
⌨	Click to open the on-screen keyboard.
🖥▾	Click to select the port you wish to connect to.
📷	Click to take a snapshot (screen capture) of the remote display.
Ct Al Del	Click to send a Ctrl+Alt+Del signal to the remote system.
🗎	Click to open the Macros dialog box.
🗎▾	Click to display a dropdown list of User macros to access and run macros more conveniently than using the Macros dialog box.
▯	Click to open the Virtual Media dialog box. The icon changes depending on the status of the virtual media function. ***Note:*** *This icon displays in gray when the function is disabled or not available.*
💬	Click to open the Message Board.
🔒1 🔒A 🔓↕	These icons show the Num Lock, Caps Lock, and Scroll Lock status of the remote computer. • When the lock state is On, the LED illuminates orange and the lock hasp is closed. • When the lock state is Off, the LED illuminates blue and the lock hasp is open. Click on the icon to toggle the status. ***Note:*** *These icons and your local keyboard icons are in sync. Clicking an icon will cause the corresponding LED on your keyboard to change accordingly. Similarly, pressing a Lock key on your keyboard will cause the icon's color to change accordingly.*
⋮	Click to open more control panel functions.

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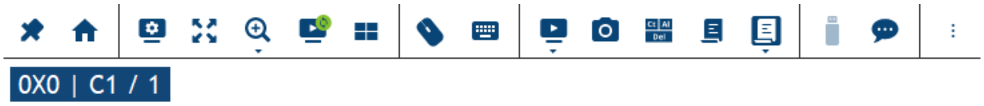
WebClient Control Panel

The *WebClient Viewer* is similar to the one used by the WinClient but with fewer functions.



The Control Panel functions are described in the table below:

Icon	Function
📌	This is a toggle. Click to make the Control Panel persistent (e.g., it always displays on top of other screen elements). Click again to have it display normally.
⚙	Click to open the Video Options dialog box. Right-click to perform a quick Auto Sync.
⛶	Toggles the display between Full Screen Mode and Windowed Mode.
◐	Click to toggle the remote display between color and grayscale views.
⟳	Click to perform a video and mouse auto sync operation. It is the same as clicking the Auto sync button in the Video Options dialog box.
⊞	Under an accessed port, click to invoke Panel Array Mode.
🖱	Click to toggle Automatic or Manual mouse sync. • When the selection is Automatic, a green √ appears on the icon. • When the selection is Manual, a red X appears on the icon.
↖	Click to select the mouse pointer type. ***Note:*** *This icon changes depending on which mouse pointer type is selected.*
⌨	Click to open the on-screen keyboard.
▶	Click to select the port you wish to connect to.
Ct Al Del	Click to send a Ctrl+Alt+Del signal to the remote system.
💾	Click to open the Virtual Media dialog box. The icon changes depending on the status of the virtual media function. ***Note:*** *This icon displays in gray when the function is disabled or not available.*

7. Administration

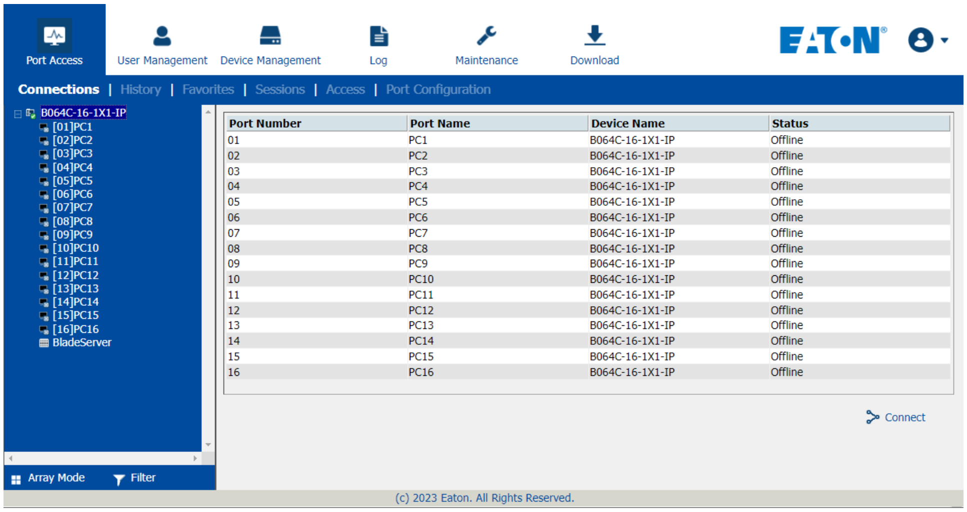
The major differences between the WinClient and WebClient are:

- The Recall is not available.
- The Zoom is not available.
- The Auto Scan Mode is not available.
- The Dot mouse pointer type is not available.
- The Snapshot is not available.
- The Macros Dialog Box is not available.
- The User Macros is not available.
- In Virtual Media, only ISO and Folder are supported.
- The Message Board is not available.
- The Num Lock, Caps Lock and Scroll Lock are not available.
- The More Control Panel is not available.

7.5 Port Access

When you log in to the switch, the *Port Access* page opens with the B064C-16-1X1-IP's *KVM Connections* page displayed.

Browser GUI



Port Number	Port Name	Device Name	Status
01	PC1	B064C-16-1X1-IP	Offline
02	PC2	B064C-16-1X1-IP	Offline
03	PC3	B064C-16-1X1-IP	Offline
04	PC4	B064C-16-1X1-IP	Offline
05	PC5	B064C-16-1X1-IP	Offline
06	PC6	B064C-16-1X1-IP	Offline
07	PC7	B064C-16-1X1-IP	Offline
08	PC8	B064C-16-1X1-IP	Offline
09	PC9	B064C-16-1X1-IP	Offline
10	PC10	B064C-16-1X1-IP	Offline
11	PC11	B064C-16-1X1-IP	Offline
12	PC12	B064C-16-1X1-IP	Offline
13	PC13	B064C-16-1X1-IP	Offline
14	PC14	B064C-16-1X1-IP	Offline
15	PC15	B064C-16-1X1-IP	Offline
16	PC16	B064C-16-1X1-IP	Offline

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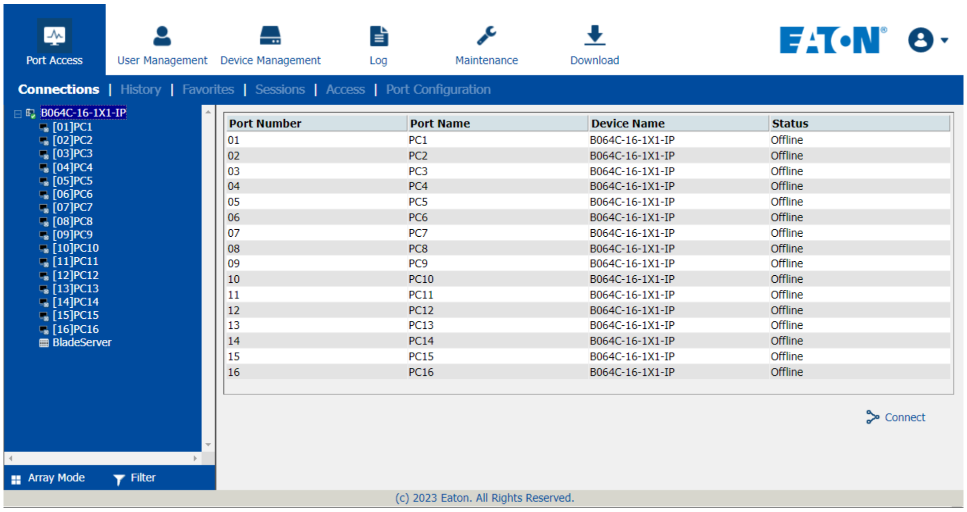
AP GUI

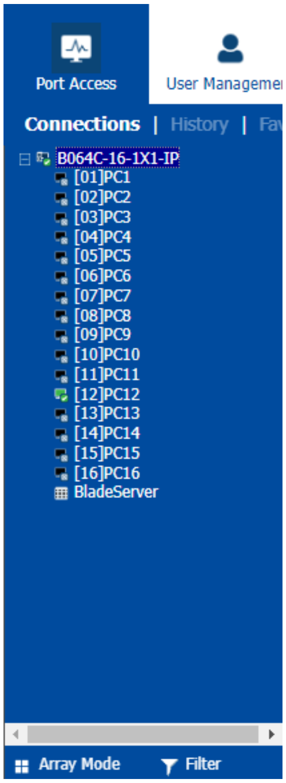


Port Number	Port Name	Device Name	Status
01	PC1	B064C-16-1X1-IP	Offline
02	PC2	B064C-16-1X1-IP	Offline
03	PC3	B064C-16-1X1-IP	Offline
04	PC4	B064C-16-1X1-IP	Offline
05	PC5	B064C-16-1X1-IP	Offline
06	PC6	B064C-16-1X1-IP	Offline
07	PC7	B064C-16-1X1-IP	Offline
08	PC8	B064C-16-1X1-IP	Offline
09	PC9	B064C-16-1X1-IP	Offline
10	PC10	B064C-16-1X1-IP	Offline
11	PC11	B064C-16-1X1-IP	Offline
12	PC12	B064C-16-1X1-IP	Offline
13	PC13	B064C-16-1X1-IP	Offline
14	PC14	B064C-16-1X1-IP	Offline
15	PC15	B064C-16-1X1-IP	Offline
16	PC16	B064C-16-1X1-IP	Offline

The Connections page is organized into several main areas. All devices and ports that a user are permitted to access are listed in the Sidebar at the left of the page. After selecting a device or port in the Sidebar, clicking entries on the menu bar (Browser GUI) or tab bar (AP GUI) opens information and configuration pages related to the item selected in the Sidebar.

7.5.1 Sidebar

All KVM switches are listed in a tree structure in the Sidebar at the left of the screen:



Sidebar Tree Structure

- Users are only allowed to see the devices and ports they have access permission for.
- Ports and chained station devices can be nested under their first station devices.

  Click the + in front of a device to expand the tree and see the ports nested underneath it. Click the - to collapse the tree and hide the nested ports.
- A port's ID number is displayed in brackets next to its icon.
- Switches and ports will have their monitor screen icons in green; gray monitor screens are for devices and ports that are offline.
- To access and operate a port, double-click its icon.

Scan

Scan is found at the bottom of the AP GUI Sidebar. It automatically switches among all the ports that are visible in the Sidebar at regular intervals so that their activity can be monitored automatically.

Note: *This item does not appear at the bottom of the Sidebar in the Browser version. In that version, you must invoke it from the port's Toolbar.*

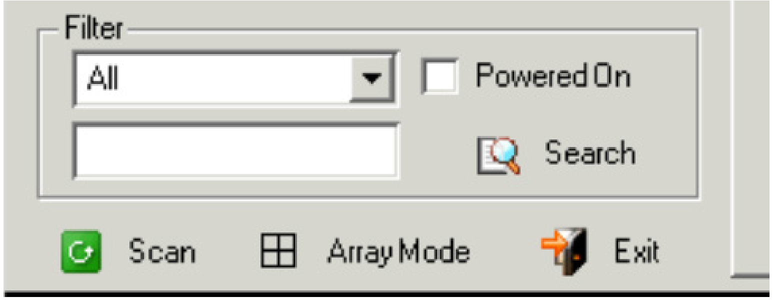
Array

Array is found at the bottom of the Browser and AP GUI Sidebar. It represents another way of monitoring port activity. Under this function, your screen is divided into a grid of panels with each panel showing the video display of a particular port. Only ports that are visible in the Sidebar and that are online are displayed - all other ports are blank.

Note: *This item does not appear at the bottom of the Sidebar in the Browser version. In that version, you must invoke it from the port's Toolbar.*

Filter

Filter allows you to control the number and type of ports that display in the Sidebar, as well as which ports get scanned when Auto Scan and Array Modes are invoked.



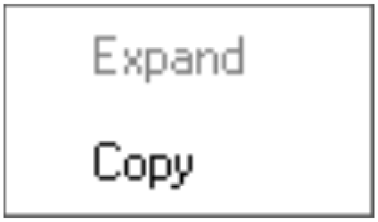
The meanings of the choices are explained in the following table:

Choices	Explanation
All	This is the default view. With no other filter options selected, all the ports that are accessible to the user are listed in the Sidebar. If any Favorites have been specified, you can drop down the list box and select Favorites instead of All. If you select Favorites, only the items you have selected as Favorites display in the tree.
Powered On	If you enable Powered On (by putting a check in the checkbox), only the ports that have their attached devices powered on display in the tree.

Choices	Explanation
Search	If you key in a search string and click **Search**, only port names that match the search string display in the tree. Wildcards (? for single characters; * for multiple characters) and the keyword "or" are supported, so that more than one port can show up in the list. For example: 1. If you key in **Web***, both Web Server 1 and Web Server 2 show up in the list. 2. If you key in **W*1** or **M*2**, both Web Server 1 and Mail Server 2 show up in the list.
Exit	Clicking Exit closes the filter dialog.

Sidebar Utilities

The AP GUI version Port Access *Connections* page provides a convenient method to work with the Sidebar tree. When you right-click an item, a list with options pops up:



Note: *The screenshot shows an example of just one of the pop-ups that can appear. The items that appear in the pop-up depend on whether you are logged in remotely or from a Local Console, what your user type is and whether you selected a switch or a port.*

The following table lists the possible items that may appear:

Item	User Type	Explanation
Expand/ Collapse	Administrator	• If the device's ports are nested (not displayed), the dialog box entry is *Expand*. Click **Expand** to display the nested ports. • If the device's ports are displayed, the dialog box entry is *Collapse*. Click **Collapse** to nest the ports. ***Notes:*** • *This item only appears for switches or for ports that have cascaded station devices connected to them.* • *This has the same effect as clicking the + or - in the tree structure.*
Copy	Administrator	This item is only available for ports. After selecting Copy, you can paste the port into the favorites page.

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Port/Outlet Naming

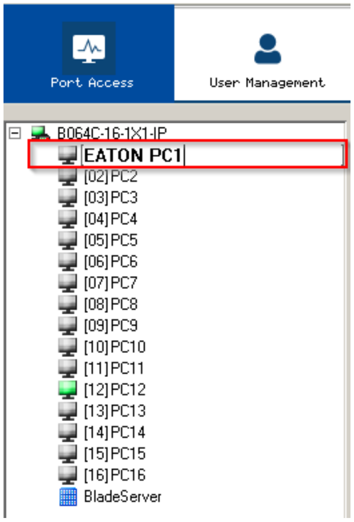
For convenience – especially in large installations with many devices, ports – administrators and users with port configuration permission can give each port or outlet a name. To assign, modify or delete a name, do the following:

1. Click once on the item you want to edit, wait a moment, then click again.

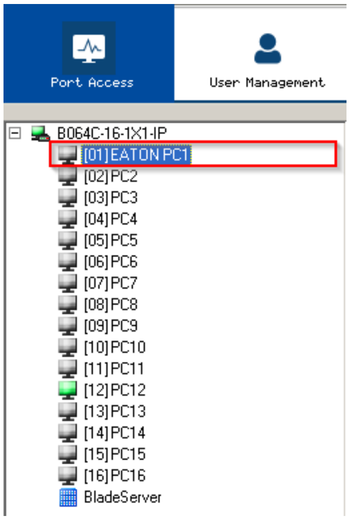
Notes:

- *This is not a double-click, as it involves two separate clicks. A double-click will switch you to the device attached to the port.*
- *In the AP GUI version you can right-click on the port you want to edit, then select **Rename** in the popup box that appears or you can highlight the port and press **F2**.*

After a second or two, the field changes to provide a text input box:



2. Key in a name for the item (or change/delete a previous one).
   - You can use any combination of letters, numbers and symbols on the typewriter keys of keyboards with PC US English layout. In this case, the maximum number of characters allowed is 20.
   - You can also activate your local IME to input non-English characters. For languages that use 2-byte encoding, the maximum number of characters allowed is 9.
3. When you have finished editing the name, press **[Enter]** or click anywhere outside of the input box to complete the operation.

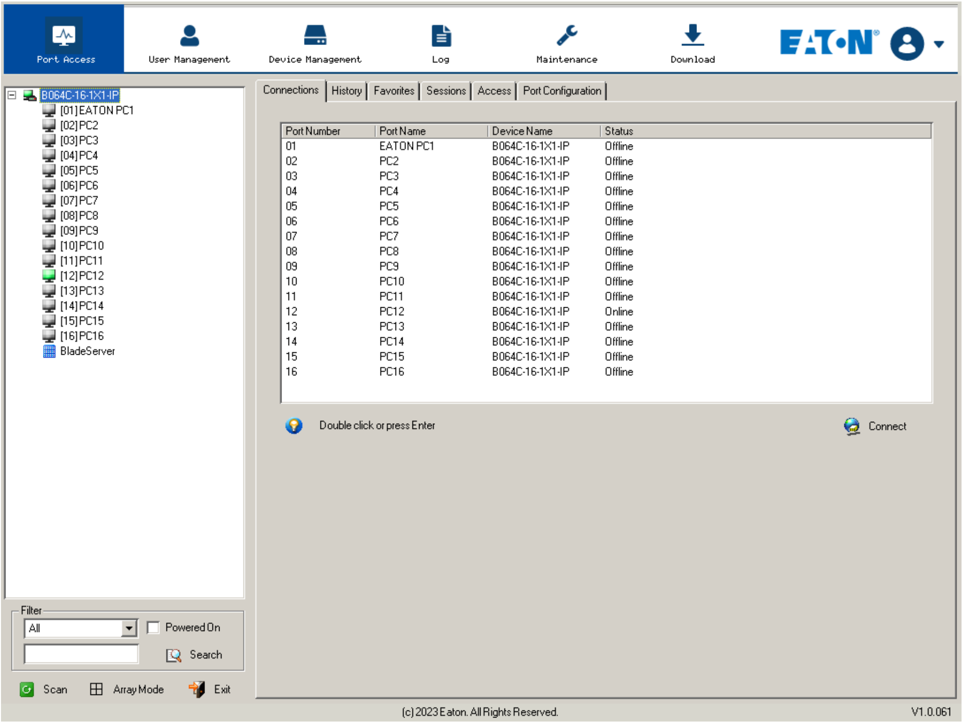


7.5.2 KVM Devices and Ports – Connections Page

The *Connections* page displays port status information at the device level, and port connection configuration options at the port level.

Device Level

When a B064C-16-1X1-IP is selected in the Sidebar, the Connections page displays a list of ports for the device that the user is authorized to access or view.



Port Number	Port Name	Device Name	Status
01	EATON PC1	B064C-16-1X1-IP	Offline
02	PC2	B064C-16-1X1-IP	Offline
03	PC3	B064C-16-1X1-IP	Offline
04	PC4	B064C-16-1X1-IP	Offline
05	PC5	B064C-16-1X1-IP	Offline
06	PC6	B064C-16-1X1-IP	Offline
07	PC7	B064C-16-1X1-IP	Offline
08	PC8	B064C-16-1X1-IP	Offline
09	PC9	B064C-16-1X1-IP	Offline
10	PC10	B064C-16-1X1-IP	Offline
11	PC11	B064C-16-1X1-IP	Offline
12	PC12	B064C-16-1X1-IP	Online
13	PC13	B064C-16-1X1-IP	Offline
14	PC14	B064C-16-1X1-IP	Offline
15	PC15	B064C-16-1X1-IP	Offline
16	PC16	B064C-16-1X1-IP	Offline

The following attributes are listed for each device:

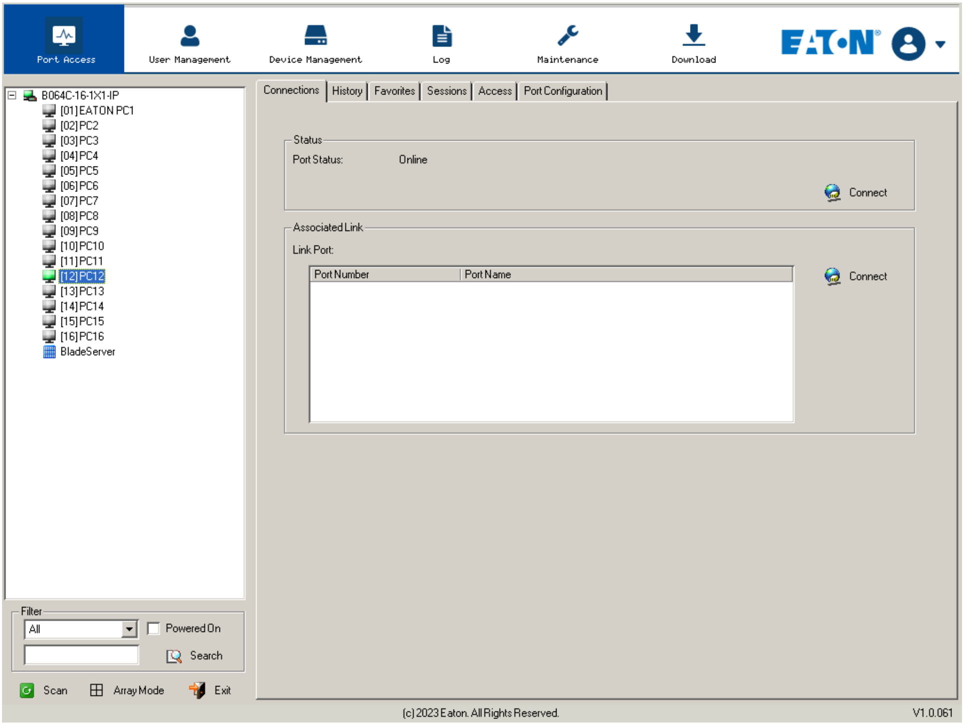
- Port Number - the port's number on the switch.
- Port Name - if a name has been assigned to a port, it displays here.
- Device Name - if a name has been assigned to the switch, it displays here.
- Status - the current status of the port - online or offline.
- Connect - You can access any port from the main panel by selecting it and clicking **Connect**.

Note: *The sort order of the information displayed can be changed by clicking the column headings.*

You can access a port from the main panel either by double-clicking anywhere on its line entry or selecting it anywhere on its line entry and clicking **Connect** at the bottom right of the page.

Port Level

When a port is selected in the Sidebar, the *Connections* page displays port connection configuration properties:



Port Status: Online

Status

The Status Panel displays the port's current status information, including whether the port is online or offline and if the port is mountable. See **7.5.8 Port Configuration** for full details about the properties and how to configure them.

Click the **Connect** button to view the port display via the B064C-16-1X1-IP's built-in Win Viewer (when using Windows Internet Explorer) or Java Viewer (when using other web browsers).

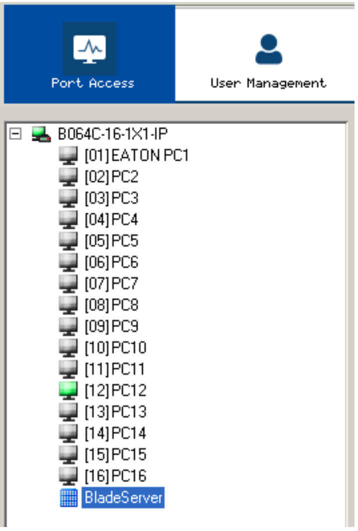
Associated Link

The Associated Links panel displays ports that have been associated with the currently selected port. Associations are configured on the *Port Access* → *Port Configuration* → *Associated Links* page.

7.5.3 Blade Servers – Connections Page

Blade Servers connected to the switches display below the KVM switches in the Sidebar.

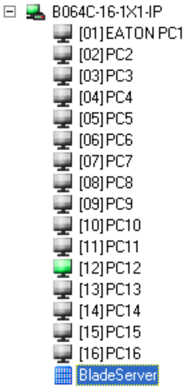
By associating a blade server or blade with a port, the servers and blades are integrated into the Sidebar tree view and appear as devices connected to the port.



Blade Configuration Page

The *Blade Configuration* page is where the associations between the blade servers and the KVM switch ports get made. To access this page, select the blade server or blade then click *Blade Configuration* (the menu item at the far right of the menu bar).

For IBM and Dell blade servers, the entire chassis gets associated with a port and each blade in the chassis will appear in the tree as a child port of the associated port – as in port 08 in the screenshot below.



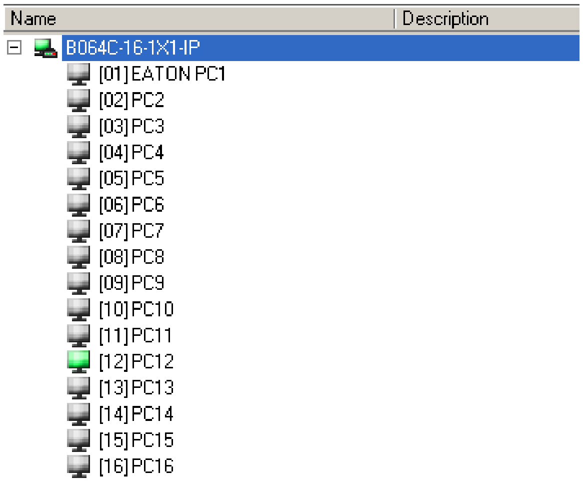
For HP blade servers, associations are made on a blade-by-blade basis. Each blade is associated with a single port.

To access a blade, click on its port entry in the tree.

Associating Ports

Main Panel Device View

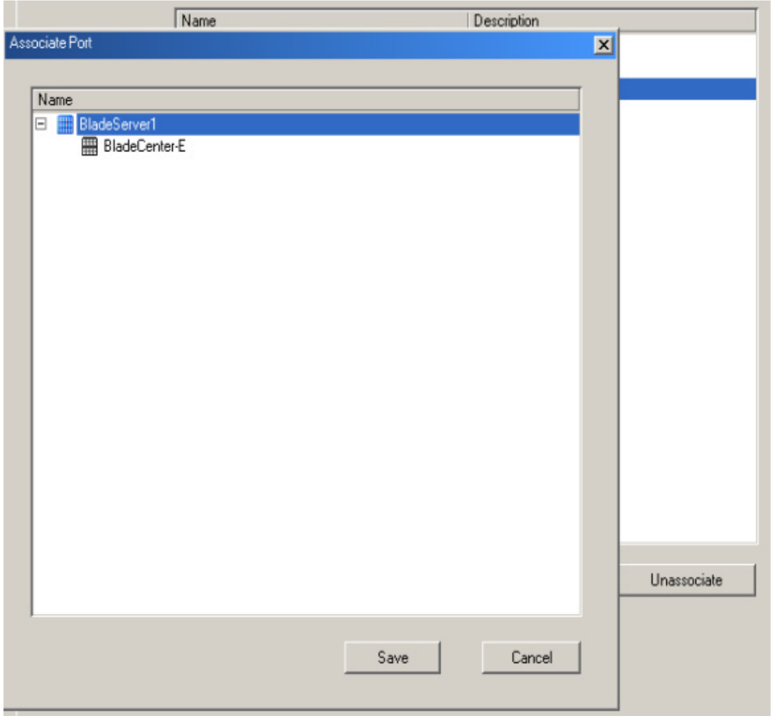
Port association begins by clicking the Blade Configuration menu item at the far right of the menu bar. The page appears in *Device View*, listing all the KVM switch's ports and blade servers (IBM and Dell servers) or individual blades (HP servers) associated with them.



B064C-16-1X1-IP
- [01]EATON PC1
- [02]PC2
- [03]PC3
- [04]PC4
- [05]PC5
- [06]PC6
- [07]PC7
- [08]PC8
- [09]PC9
- [10]PC10
- [11]PC11
- [12]PC12
- [13]PC13
- [14]PC14
- [15]PC15
- [16]PC16

To make an association from the device view, first select a KVM port, then select a blade server or blade to associate it with:

1. Select the port in the main panel.
2. Click **Associate**.
3. In the screen that appears, select the blade server or individual blade you want to associate with the selected port.



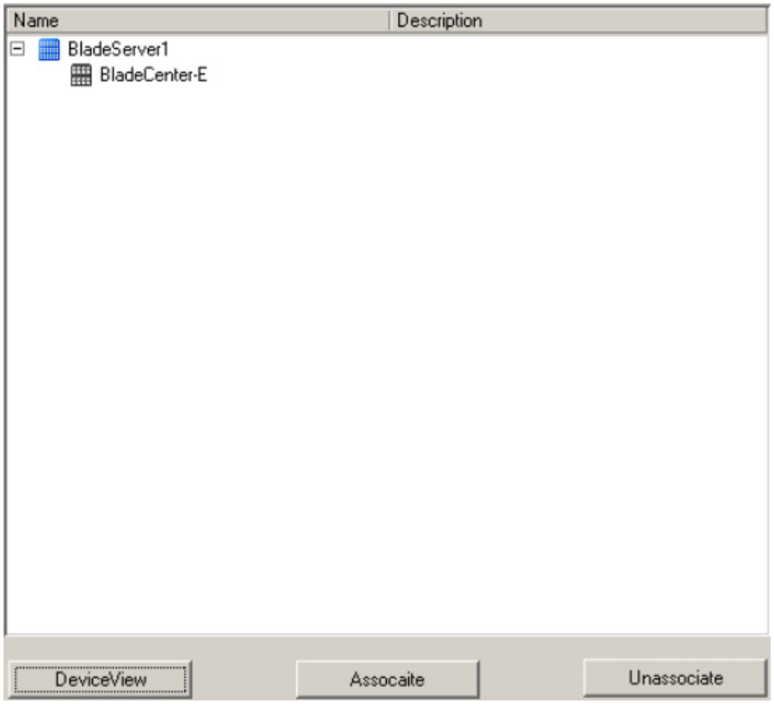
BladeServer1
- BladeCenter-E

4. Click **Save**.

Once the association completes successfully, the *blade icon* will appear as the port indicator in the Sidebar tree. To access the device running on the blade, click on its entry in the Sidebar.

Main Panel Blade View

At the bottom of the Device View main panel is a button labeled *Blade View*. This is a button that toggles the main panel between the two views. Click it to open the main panel in Blade View:

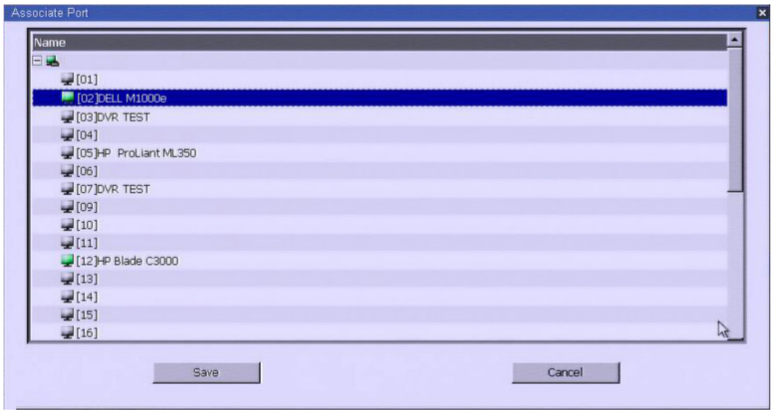


Name	Description
BladeServer1	
BladeCenter-E	

Blade View lists all the blade servers (IBM and Dell servers) and individual blades (HP servers) that are installed on the system, as well as the ports (if any) they are associated with.

To make an association from the blade view, first select a blade server or blade, then select a KVM port to associate it with:

1. Select the blade server or blade in the main panel.
2. Click **Associate** (at the bottom of the main panel).
3. In the screen that appears, select the port you want to associate it with.



Associate Port

Name
[01]
[02]DELL M1000e
[03]DVR TEST
[04]
[05]HP ProLiant ML350
[06]
[07]DVR TEST
[09]
[10]
[11]
[12]HP Blade C3000
[13]
[14]
[15]
[16]

4. Click **Save**.

After the association completes successfully, the *blade icon* will appear as the port indicator in the Sidebar tree. To access the device running on the blade, click on its entry in the Sidebar.

Unassociating Ports

To break the association between a port and a blade server or individual blade, select the association in the main panel, then click **Unassociate**.

7.5.4 History

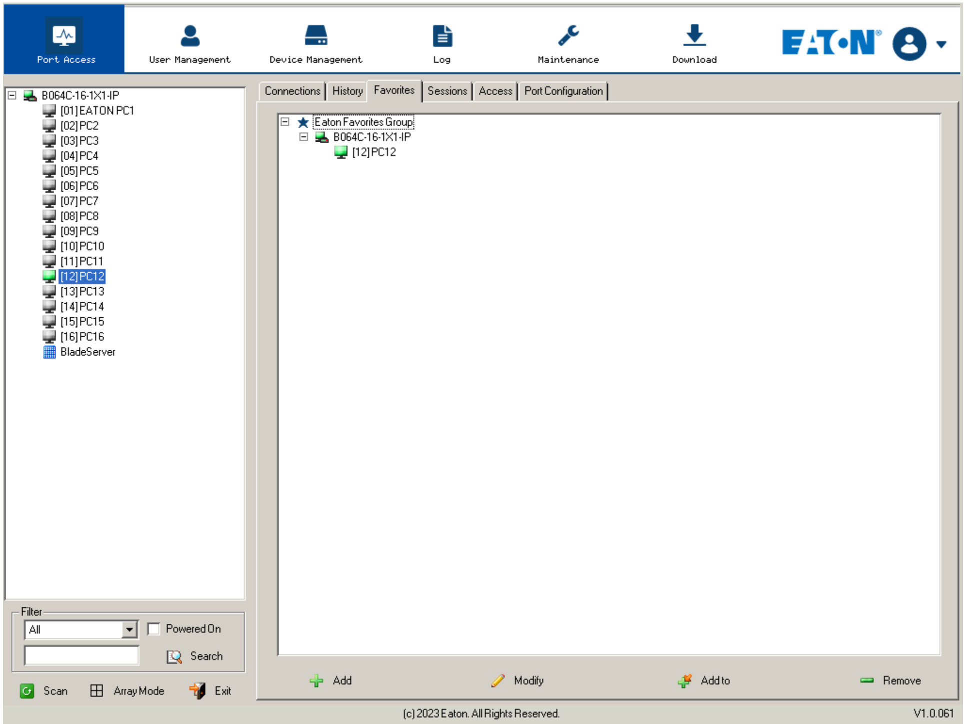
The History page provides a record of each time that a port was accessed and quick access to the most recently used ports. You can access a port shown in the main panel by double-clicking it.

- If there are more entries than there is room on the screen, a scroll bar will appear to let you scroll up and down to see the entire record.
- To clear the record and start over, click the *Clear History* button at the bottom right of the page.

Note: *You can change the sort order of the information displayed by clicking the column headings.*

7.5.5 Favorites

The *Favorites* page is similar to a bookmarks feature. Ports that you frequently access can be saved in a list here. Simply open this page and select the port, rather than searching for it in the Sidebar. This feature is especially useful in large, crowded installations.

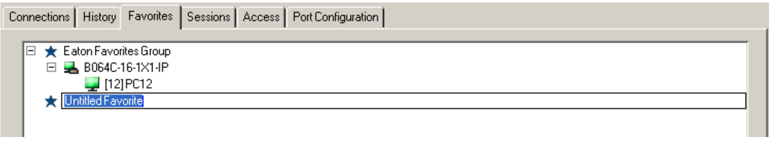


Adding a Favorite

1. Right-click in the main panel, click **Add Favorite**.

   – or –

   Click **Add** at the bottom left of the main panel. An *Untitled Favorite* entry will appear:



2. This will be a container to hold your port entries. Click inside the text entry box to erase *Untitled Favorite* and key in an appropriate name, then click on any empty space in the main panel.
3. To add a port:

   Drag it from the Sidebar and drop it onto the container.

   – or –

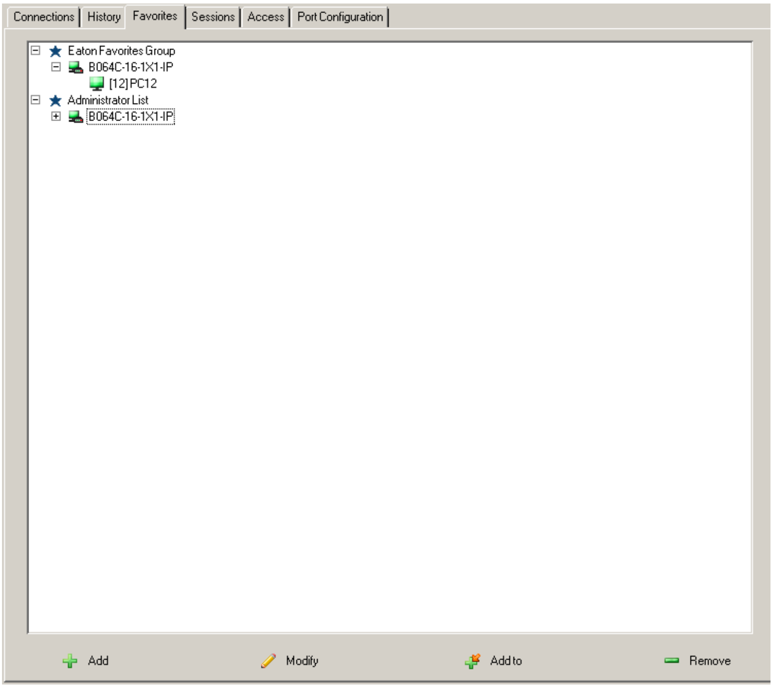
   Right-click on it in the Sidebar and select **Copy**. Right-click on the container, then select **Paste**.

   – or –

   Select the container in the main panel, select the port in the Sidebar, then click **Add** to at the bottom of the main panel.

   The switch that the port belongs to is added to the container and the selected port is appended under the switch.

   Note: *To add multiple ports at the same time, hold the Shift or Ctrl key down while you make your Sidebar selections then drag or copy the entire group to the Favorites panel.*
4. Repeat step 3 for any other *Favorite* categories you wish to create.



Note: *Favorites can be selected for filtering in the Sidebar.*

Modifying a Favorite

- To modify a Favorite or one of the items contained in it, right-click on it, then select a choice from the popup menu that appears.
- To edit a Favorite's name:

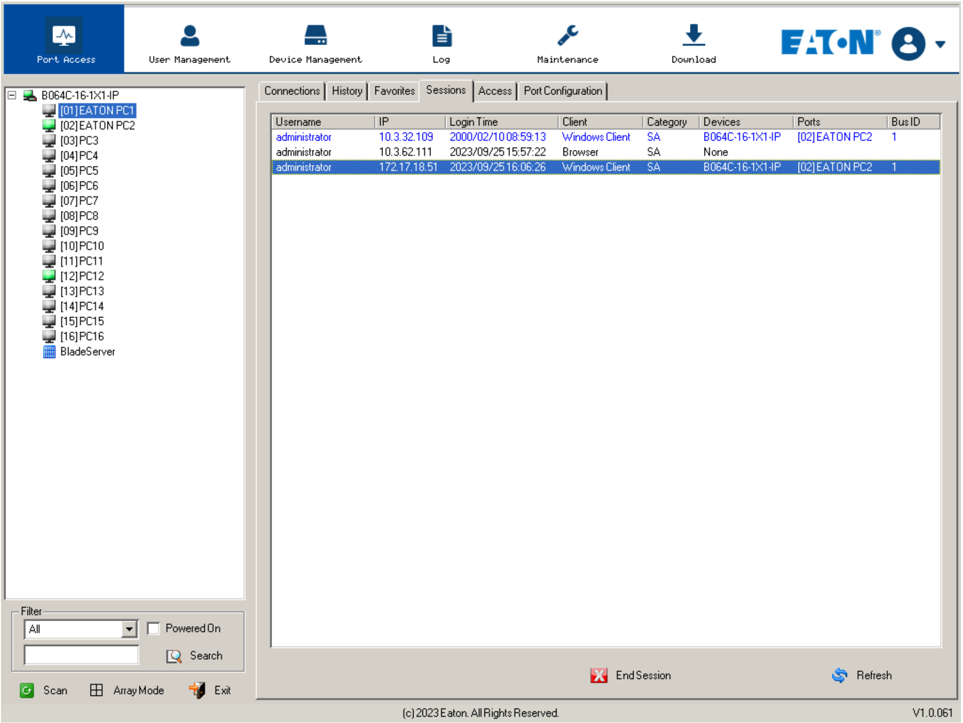
  Click on it once, wait a moment, then click again. You can edit the name after the display changes to provide a text input box. This is the same procedure as the one described for port naming.

  – or –

  Select the Favorite in the main panel, then click **Modify** at the bottom of the main panel.

7.5.6 Sessions

The *Session* page lets the administrator and users with User Management permissions see at a glance which users are currently logged into the KVM over IP switch and provides information about each of their sessions.



Username	IP	Login Time	Client	Category	Devices	Ports	Bus ID
administrator	10.3.32.109	2000/02/10 08:59:13	Windows Client	SA	B064C-16-1X1-IP	[02] EATON PC2	1
administrator	10.3.62.111	2023/09/25 15:57:22	Browser	SA	None		
administrator	172.17.18.51	2023/09/25 16:06:26	Windows Client	SA	B064C-16-1X1-IP	[02] EATON PC2	1

Notes:

- *The Session page is not available for ordinary users.*
- *Users with User Management permissions can only see the sessions of ordinary users.*
- *The Category heading lists the type of user who has logged in: SA (Super Administrator), Admin (Administrator), Normal user (User).*

The *IP* heading refers to the IP address that the user has logged in from and the *Device* and *Port* headings show which device and port the user is currently accessing. The *Bus ID* refers to the bus that the user is currently on (Bus 0 refers to the Local Console's bus).

Notes:

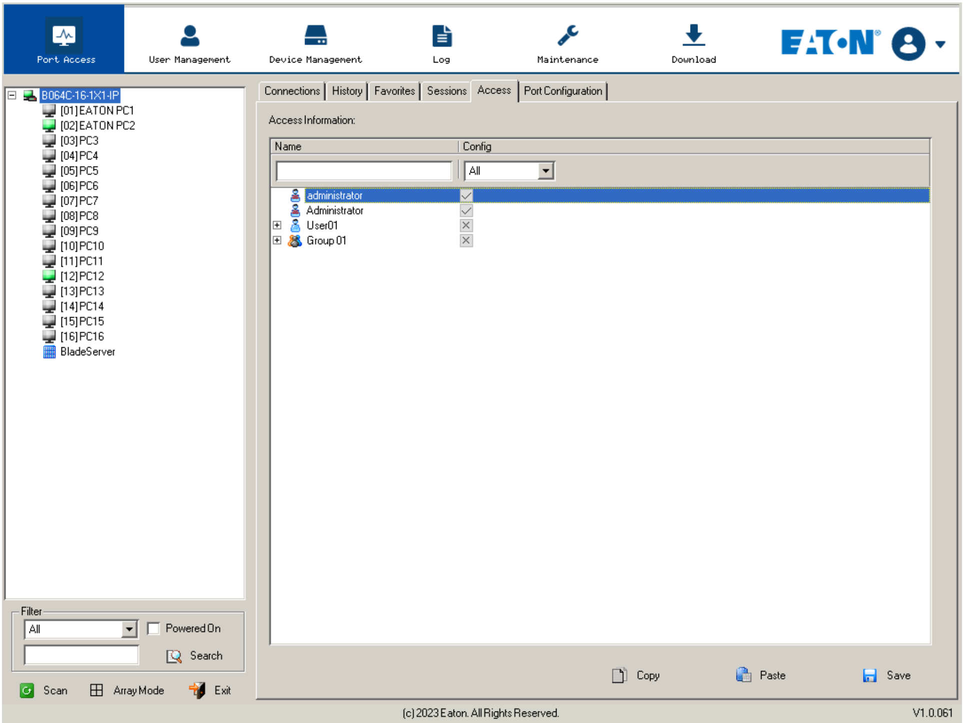
- *The sort order of the information displayed can be changed by clicking the column headings.*
- *The Bus ID also displays on the control panel.*

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

7.5.7 Access

Administrators use the *Access* page to set user and group access and configuration rights for switches and ports.

Note: *The Access page only appears for those users with User Management permissions. It is not available for other users.*

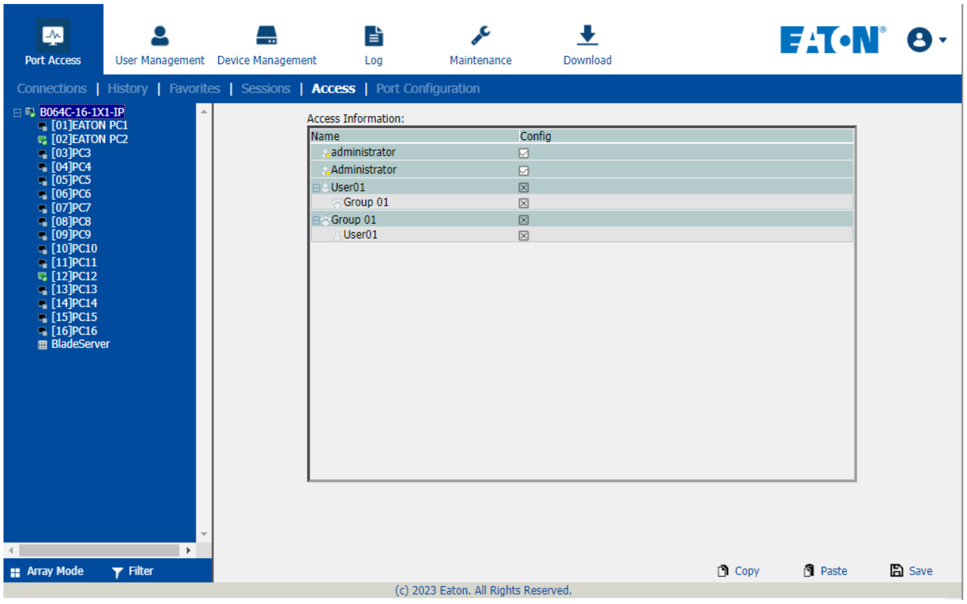


Access Information:

Name	Config
	All
administrator	✓
Administrator	✓
⊞ User01	☒
⊞ Group 01	☒

Device Level Browser GUI

If a switch is chosen in the Sidebar, the Main panel looks similar to the one shown below:



Access Information:

Name	Config
administrator	☑
Administrator	☑
⊟ User01	☒
Group 01	☒
⊟ Group 01	☒
User01	☒

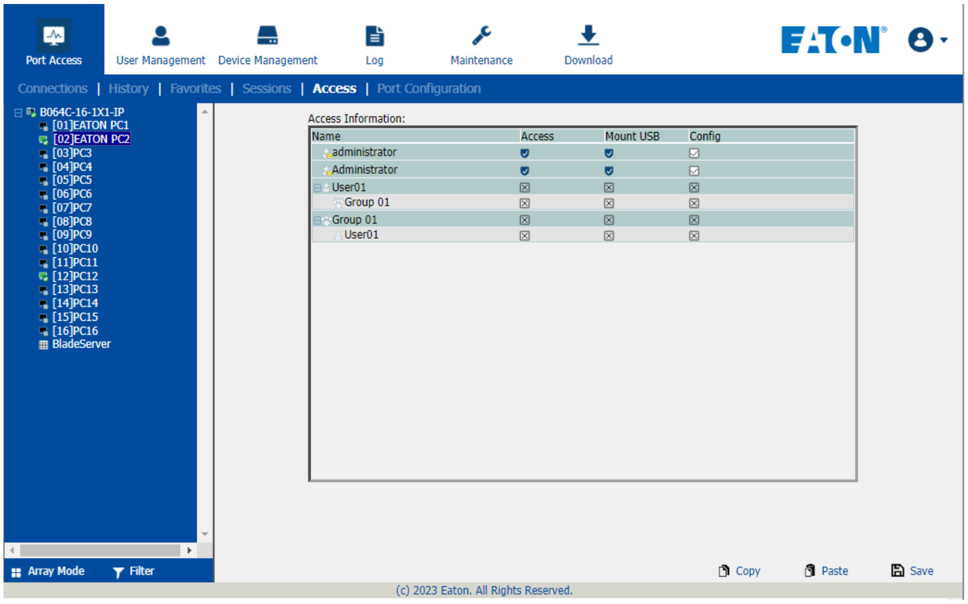
7. Administration

The main panel consists of two columns: *Name*, and *Config*:

- *Name* lists all the users and groups that have been created.
- *Config* indicates the users who have Configuration privileges. A check mark (√) indicates the user has permission to make changes to the switch configuration settings (see **7.7 Device Management**) and an **X** indicates the user is denied permission to make configuration changes. Click the icon to toggle permission for Administrators and Users (Super Administrators always have configuration privileges).
- The *Copy* and *Paste* buttons at the bottom of the main panel provide a shortcut method of assigning the permissions settings of one port to any of the other ports. To do so:
  1. Select the port whose permissions you want the other port(s) to follow.
  2. Click **Copy**.
  3. Select the port you want to receive the permissions.
  4. Click **Paste**.
- When you have finished making your configuration changes, click **Save**.

Port Level Browser GUI Interface

If a port is chosen in the Sidebar, the Main panel looks similar to the one shown below:



Access Information:

Name	Access	Mount USB	Config
administrator	✓	✓	☑
Administrator	✓	✓	☑
User01	☒	☒	☒
Group 01	☒	☒	☒
Group 01	☒	☒	☒
User01	☒	☒	☒

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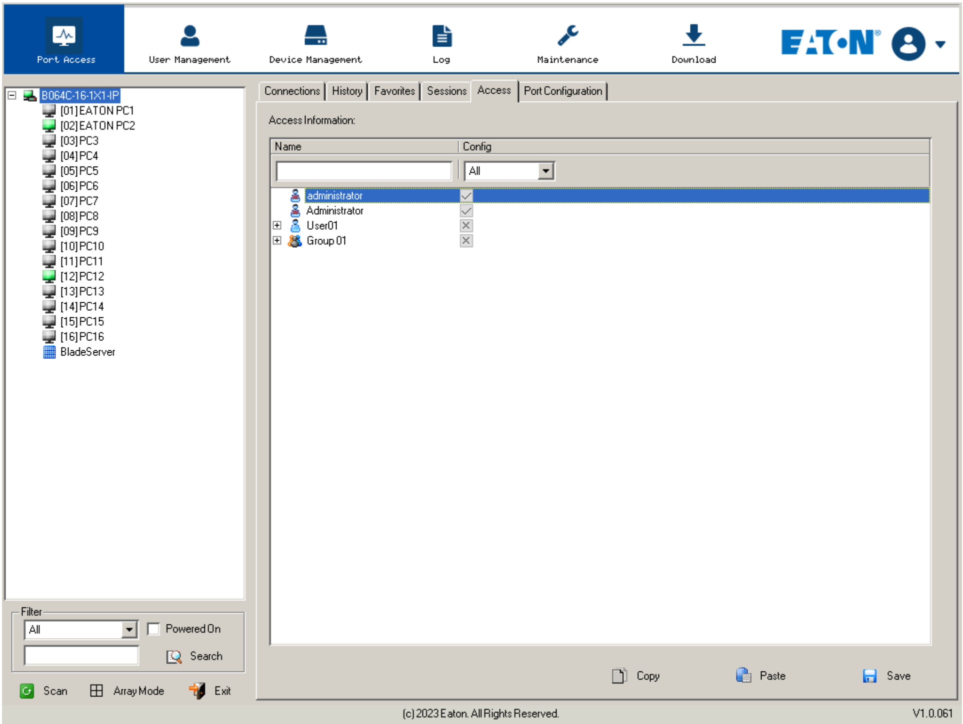
The port access settings are explained in the following table:

<table>
<tr><td>Name</td><td colspan="3">Each port accessible to the user is listed under the <i>Names</i> column.</td></tr>
<tr><td rowspan="4">Access</td><td colspan="3">The Access column is where device access rights are set. To cycle through the choices, click the icon in the row that corresponds to the user you want to configure. The meanings of the icons are as follows:</td></tr>
<tr><td></td><td>Full Access</td><td>The user can view the remote screen and can perform operations on the remote server from his keyboard and monitor.</td></tr>
<tr><td></td><td>View Only</td><td>The user can only view the remote screen and cannot perform any operations on it.</td></tr>
<tr><td>✕</td><td>No Access</td><td>No access rights - the Port will not appear on the User's list on the Main Screen.</td></tr>
<tr><td>Mount USB</td><td colspan="3">The Mount USB column is where permission to mount Virtual Media devices on remote servers is configured. To cycle through the choices, click the icon in the row that corresponds to the user you want to configure. The icons are the same as the ones in the <i>Access</i> column.
• With a <i>Full Access</i> setting, the user can mount, read and write to the virtual media.
• With a <i>View Only</i> setting, the user can only view the contents of the virtual media (read only) and cannot perform any operations on it.
• With a <i>No Access</i> setting, the user will not see the virtual media, even if it has been configured on the remote system.
<b>Note:</b> <i>This entry does not appear for switches that do not support the USB Virtual Media function.</i></td></tr>
<tr><td>Config</td><td colspan="3">Sets or denies permission for the user to make changes to a port's configuration settings. A check mark (√) indicates that the user has permission and an <b>X</b> means that the user does not have permission.</td></tr>
</table>

Device Level AP GUI Interface

If a switch is chosen in the Sidebar, the Main panel looks similar to the one below:



Access Information:

Name	Config
	All
administrator	✓
Administrator	✓
User01	✕
Group 01	✕

Filter: All ☐ Powered On Search

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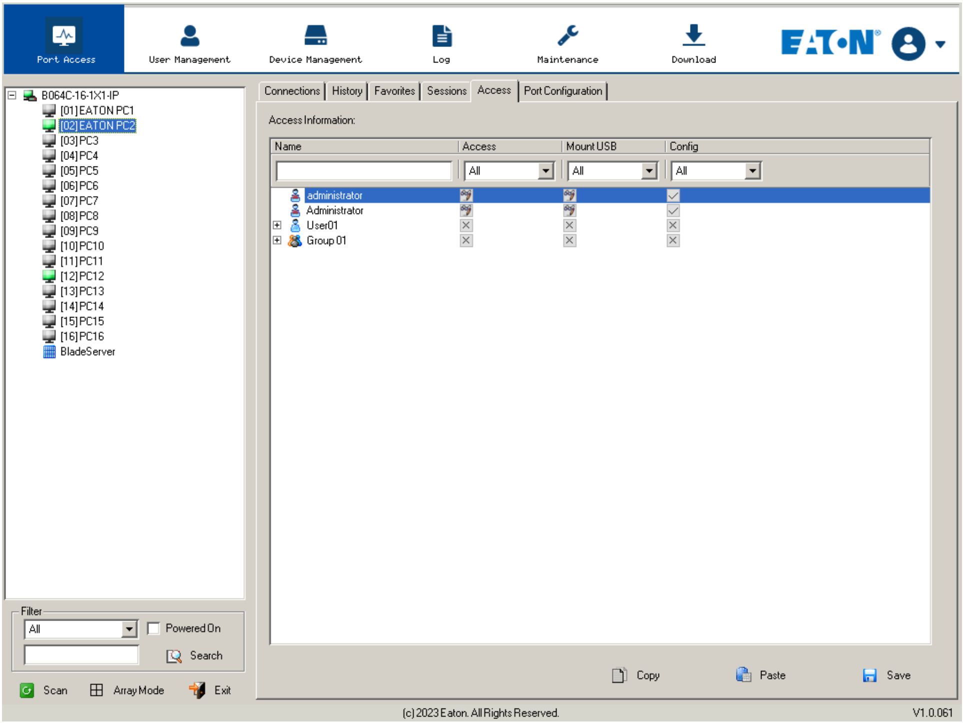
7. Administration

The page is essentially the same as the one for the Browser GUI, with the exception that there are filters at the top of the columns. The filters allow you to expand or limit the scope of the users and groups that are displayed, as described in the following table:

Filter		Description
Name		To filter on the User or Group name, key in the name or partial name and press **Enter**. Only Users and Groups whose names correspond to what you have keyed in will appear in the list. Wildcards (? for single characters; * for multiple characters) and the keyword "or" are supported. For example, *h*ds* would return hands and hoods; *h?nd* would return hand and hind, but not hard; *h*ds* or *h*ks* would return hands and hooks.
Config	All	All Users and Groups appear in the list.
	Permitted	Only Users and Groups with configuration permissions appear in the list.
	Restricted	Only Users and Groups that do not have configuration permissions appear in the list.

Port Level AP GUI Interface

If a port is chosen in the Sidebar, the Main panel will appear similar to the one below:



Access Information:

Name	Access	Mount USB	Config
	All	All	All
administrator			✓
Administrator			✓
User01	☒	☒	☒
Group 01	☒	☒	☒

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The page is essentially the same as the one for the Browser GUI, with the exception that there are filters at the top of the columns. The filters allow you to expand or limit the scope of the users and groups that are displayed, as described in the following table:

Filter		Description
Name		To filter on the User or Group name, key in the name, partial name, or partial name and wild card (*****) then press **Enter**. Only the Users and Groups whose names correspond to what you have keyed in appear in the list.
Access	All	All Users and Groups appear in the list.
	Full Access	Only Users and Groups with Full Access permissions appear in the list.
	View Only	Only Users and Groups with View Only permissions appear in the list.
	No Access	Only Users and Groups with No Access permissions appear in the list.
Mount USB	All	All Users and Groups appear in the list.
	Full Access	Only Users and Groups with Full Access Mount USB permissions appear in the list.
	Read Only	Only Users and Groups with Read Only Mount USB permissions appear in the list.
	No Access	Only Users and Groups with No Access Mount USB permissions appear in the list.
Config	All	All Users and Groups appear in the list.
	Permitted	Only Users and Groups with Permitted Config permissions appear in the list.
	Restricted	Only Users and Groups with Restricted Config permissions appear in the list.

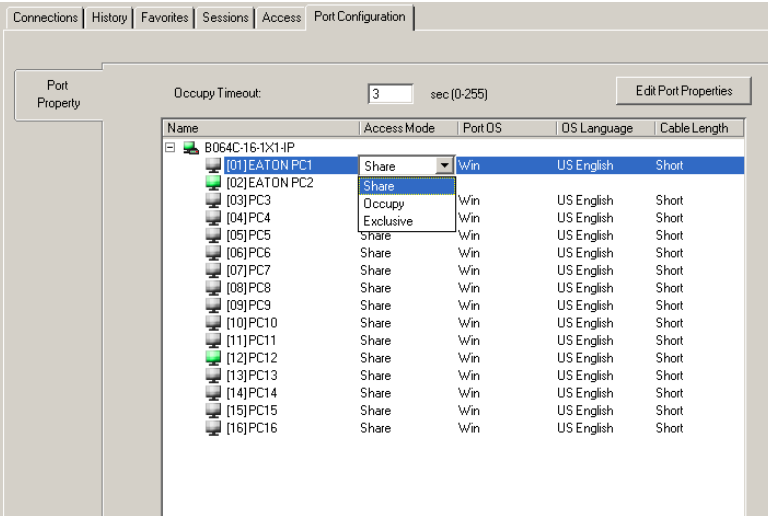
Saving Changes

Click the **Save** button at the lower right corner of the page to save any changes made on the Access page.

7.5.8 Port Configuration

Device Level

When a device is selected in the Sidebar, the only item available under Port Configuration is the Port Properties page with one field to configure: the *Occupy Timeout* setting.



Occupy Timeout: 3 sec (0-255)

B064C-16-1X1-IP

Name	Access Mode	Port OS	OS Language	Cable Length
[01] EATON PC1	Share	Win	US English	Short
[02] EATON PC2				
[03] PC3		Win	US English	Short
[04] PC4		Win	US English	Short
[05] PC5	Share	Win	US English	Short
[06] PC6	Share	Win	US English	Short
[07] PC7	Share	Win	US English	Short
[08] PC8	Share	Win	US English	Short
[09] PC9	Share	Win	US English	Short
[10] PC10	Share	Win	US English	Short
[11] PC11	Share	Win	US English	Short
[12] PC12	Share	Win	US English	Short
[13] PC13	Share	Win	US English	Short
[14] PC14	Share	Win	US English	Short
[15] PC15	Share	Win	US English	Short
[16] PC16	Share	Win	US English	Short

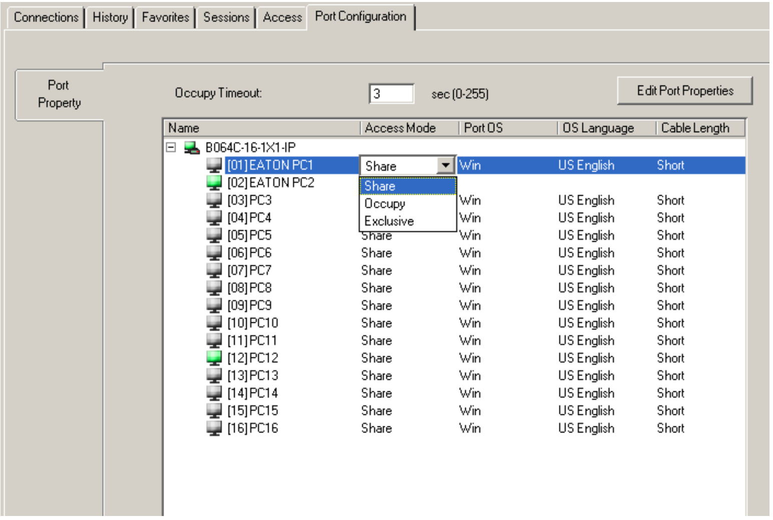
The *Occupy Timeout* field sets a time threshold for users on ports whose Access Mode has been set to Occupy. If there is no activity from the user occupying the port for the time duration set here, the user is timed out and the port is released. The first user to send keyboard or mouse input after the 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.

Edit Port Properties

Click **Edit Port Properties** to list ports and use the drop-down menus to configure *Access Mode, Port OS, OS Language* and *Cable length* settings.

You can also use the **[Shift]** and/or **[ctrl]** keys to select and configure multiple ports.



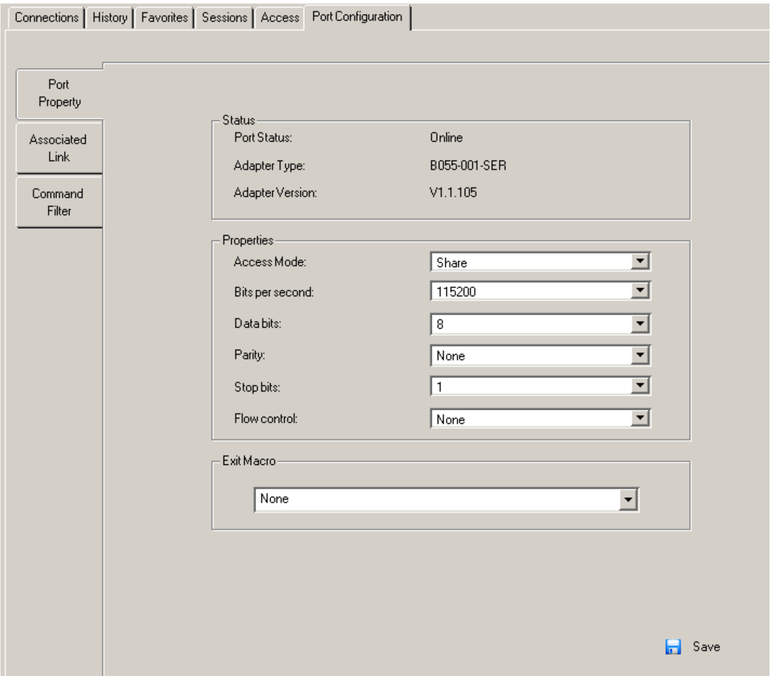
Occupy Timeout: 3 sec (0-255)

Name	Access Mode	Port OS	OS Language	Cable Length
B064C-16-1X1-IP				
[01] EATON PC1	Share	Win	US English	Short
[02] EATON PC2				
[03] PC3		Win	US English	Short
[04] PC4		Win	US English	Short
[05] PC5	Share	Win	US English	Short
[06] PC6	Share	Win	US English	Short
[07] PC7	Share	Win	US English	Short
[08] PC8	Share	Win	US English	Short
[09] PC9	Share	Win	US English	Short
[10] PC10	Share	Win	US English	Short
[11] PC11	Share	Win	US English	Short
[12] PC12	Share	Win	US English	Short
[13] PC13	Share	Win	US English	Short
[14] PC14	Share	Win	US English	Short
[15] PC15	Share	Win	US English	Short
[16] PC16	Share	Win	US English	Short

Port Level

Port Properties

When a port is selected in the Sidebar, the Port Properties page looks similar to the one shown below:



Status

Port Status: Online

Adapter Type: B055-001-SER

Adapter Version: V1.1.105

Properties

Access Mode: Share

Bits per second: 115200

Data bits: 8

Parity: None

Stop bits: 1

Flow control: None

Exit Macro

None

- The *Status* panel provides information as to whether the port is online or offline, the adapter cable used to connect the server (or other device) to the port and the adapter's firmware level.
- The *Properties* panel allows you to make configuration settings for the selected port.
- The *Macro* panel contains a dropdown listbox of user created System macros. You can select a macro from the list that will execute when exiting the remote server.

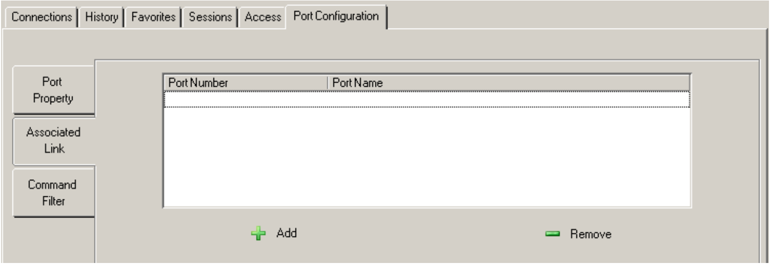
An explanation of the configuration fields is given in the table below:

Field	Explanation
Access Mode	Defines how the port is to be accessed when multiple users have logged on. **Exclusive:** The first user to switch to the port has exclusive control over the port. No other users can view the port. The *Timeout* function does not apply to ports which have this setting. **Occupy:** The first user to switch to the port has control over the port. However, additional users may view the port's video display. If the user who controls the port is inactive for longer than the time set in the *Timeout* box, port control is transferred to the first user to move the mouse or strike the keyboard. **Share:** Users simultaneously share control over the port. Input from the users is placed in a queue and executed chronologically. Under these circumstances, users can take advantage of the *Message Board*, which allows users to communicate with each other regarding control of the keyboard and mouse or keyboard, mouse, and video of a Share port.
Port OS	Specifies the operating system that the server on the connected port is using. Choices are Win, Mac, Sun and Other. The default is Win.
OS Language	Specifies the OS language being used by the server on the connected port. Use the drop-down list to see the available choices. The default is English US.
Cable Length	Lets you specify how long the Cat 5e/6 cable between the port and the KVM adapter cable is. Use the drop-down menu to select the cable length settings: **Short:** up to 82 ft. (25 m) **Medium:** between 65 and 115 ft. (20 and 35 m) **Long:** above 115 ft. (35 m)

Once you have finished making your configuration changes, click **Save.**

Associated Links

The *Associated Links* page provides a method of associating other ports on the same switch to the selected port. This function is primarily intended to be used when connecting both KVM and serial ports (KA7140) from a single server to the switch.

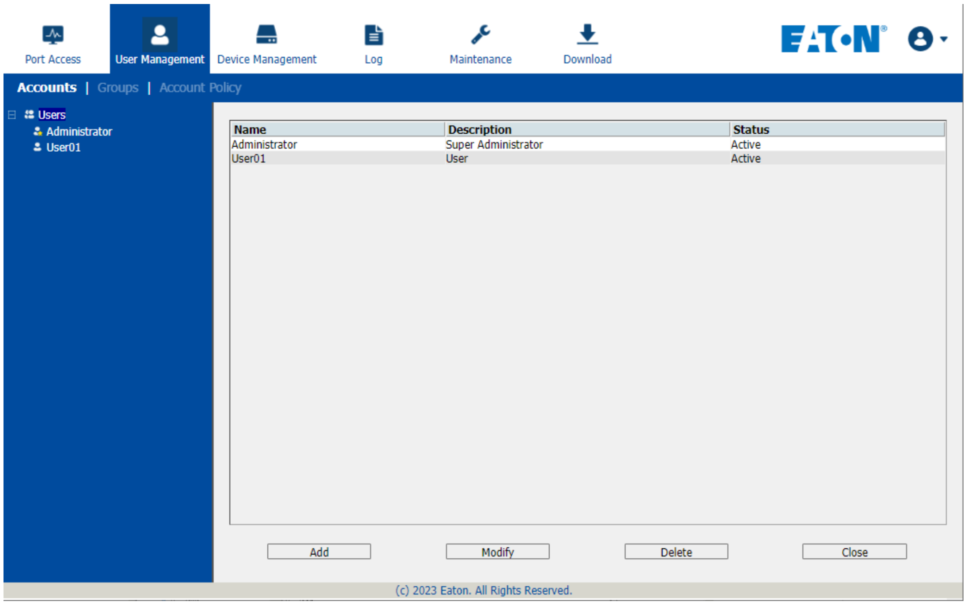


- To associate a port with the currently selected one, click **Add**. In the dialog box that appears, key in the port's number, then click **OK**. The port's number and name appear in the main panel.
- To remove an unwanted associated port, select it in the main panel, then click **Remove**.

7.6 User Management

When you select the *User Management* tab the screen opens with the *Users* page displayed:

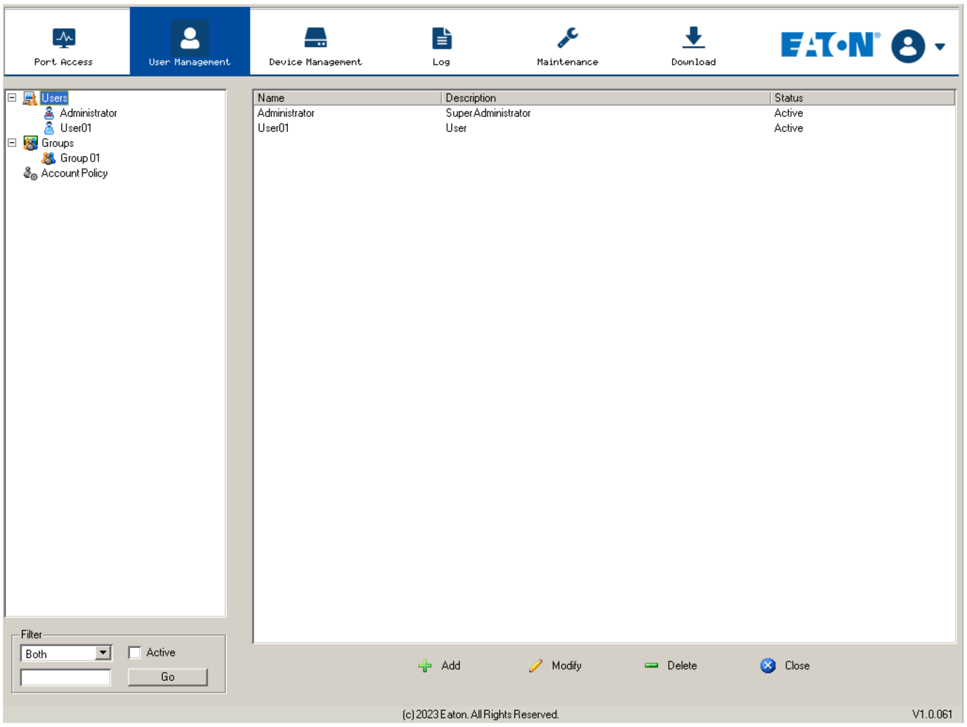
Browser GUI



Name	Description	Status
Administrator	Super Administrator	Active
User01	User	Active

7. Administration

AP GUI



Name	Description	Status
Administrator	Super Administrator	Active
User01	User	Active

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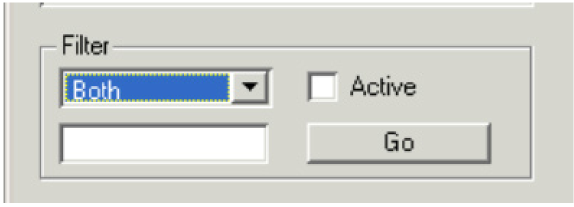
The page is organized into two main areas: the Sidebar at the left, and the large main panel at the right.

- Users and groups appear in the panel at the left of the page. The large panel at the right provides more detailed information for each.
  - o The *Browser GUI* has separate menu bar entries for Accounts (Users) and Groups. Depending on the menu item selected, either Users or Groups are listed in the Sidebar.
  - o The *AP GUI* does not have menu entries. Instead, Users and Groups are listed separately in the Sidebar.
- In the Browser GUI, the sort order of the information displayed can be changed by clicking the main panel column headings.
- In the *AP GUI*, the section below the Sidebar list provides a filter that allows you to manage the list:



- Click the arrow at the right of the list box to select whether you want to view only Users, only Groups, or both Users and Groups.
- Click to put a check in the *Active* checkbox to filter out any users whose accounts are not active.
- To only select Users or Groups that match a particular string, key it into the text box in front of the *Go* button, then click **Go**. Only Users or Groups that match the string will appear in the list.
- Wildcards (? for single characters; * for multiple characters) and the keyword “or” are supported. For example, *h*ds* would return “hands” and “hoods”, h?nd would return “hand” and “hind”, but not “hard”, and *h*ds* or *h*ks* would return “hands” and “hooks”.
- The buttons below the main panel are used to manage users and groups.

7.6.1 Users

The B064C-16-1X1-IP supports three types of user accounts:

User Type	Role
Super Administrator	Access and manage ports and devices. Manage Users. Configure the overall installation. Configure personal working environment.
Administrator	Access and manage authorized ports and devices. Manage Users. Configure personal working environment.
User	Access authorized ports and devices. Manage authorized ports and devices. Configure personal working environment. ***Note:*** *Users who have been given permission to do so may also manage other users.*

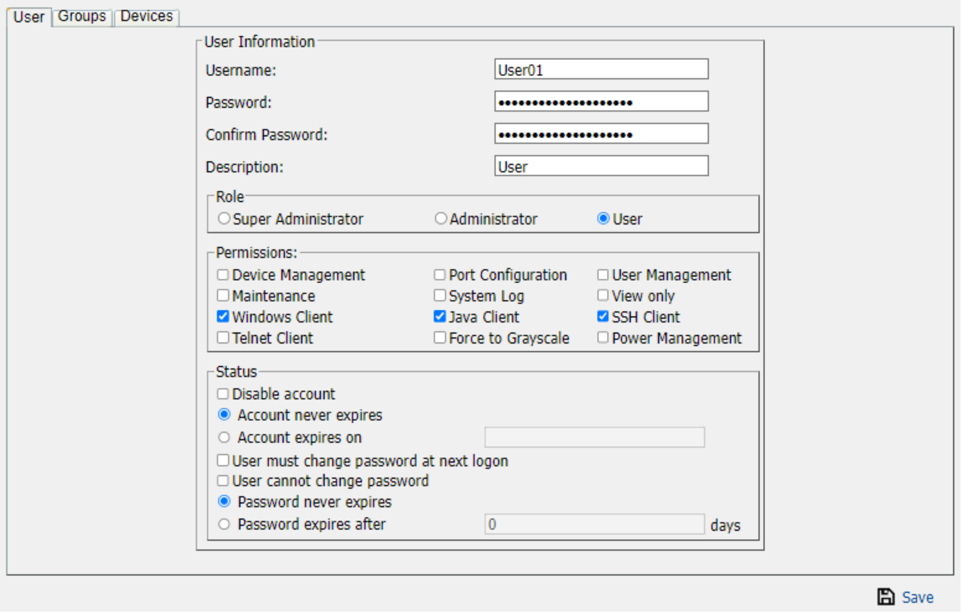
Adding Users

To add a user and assign user permissions:

1. Select *Users* in the Sidebar (Browser GUI)

   - or -

   Select *Users* in the Sidebar (AP GUI).
2. To add a user, click **Add** at the bottom of the main panel. The User notebook opens, with the *User* tab selected:



User Information

Username: User01

Password: •••••••••••••••••••

Confirm Password: •••••••••••••••••••

Description: User

Role

○ Super Administrator ○ Administrator ● User

Permissions:

□ Device Management	□ Port Configuration	□ User Management
□ Maintenance	□ System Log	□ View only
☑ Windows Client	☑ Java Client	☑ SSH Client
□ Telnet Client	□ Force to Grayscale	□ Power Management

Status

□ Disable account

● Account never expires

○ Account expires on

□ User must change password at next logon

□ User cannot change password

● Password never expires

○ Password expires after 0 days

3. Enter the required information in the appropriate fields. A description of each of the fields is given in the table below:

Field	Description
Username	Enter a username from 1 to 16 characters, depending on the Account Policy settings.
Password	Enter a password from 0 to 32 characters, depending on the Account Policy settings.
Confirm Password	To ensure there is no mistake in the password, you will be asked to enter it again. The two entries must match.
Description	Additional information about the user that you may wish to include.

Field	Description
Role	There are three categories: Super Administrator, Administrator and User. There is no limitation on the number of accounts that can be created in each category. • The **Super Administrator** is responsible for the overall installation configuration and maintenance, user management and device and port assignments. The Super Administrator's permissions are automatically assigned by the system and cannot be altered. • The default permissions for **Administrators** include everything except *Force to Grayscale*, but the permissions can be altered for each Administrator by checking or unchecking any of the permissions checkboxes. • The default permissions for **Users** include the Win, Java, and SSH clients, but the permissions can be altered for each User by checking or unchecking any of the permissions checkboxes. ***Note:*** *Users who have been given User Management privileges cannot access or configure Groups.*
Permissions ***Note:*** *For ordinary users, in addition to enabling Device Management, Port Configuration, and Maintenance permissions, the user must also be given those rights for each device and port that he will be allowed to manage. See* ***7.6.4 Device Assignment*** *for details.*	• Enabling *Device Management* allows a user to configure and control the settings for overall operations (see **7.7 Device Management**). • Enabling Maintenance allows a user to perform all the Maintenance operations available under the Maintenance tab (see **7.9 Maintenance**). • Enabling *Windows Client* allows a user to download the Windows Client AP software and access the B064C-16-1X1-IP with it, in addition to (or instead of) the browser access method. • Enabling *Port Configuration* allows a user to configure and control the settings for individual ports (see **7.5.8 Port Configuration**). • Enabling System Log allows a user to access the system log (see **7.8 Log**). • Enabling *Java Client* allows a user to download the Java Client AP software and access the B064C-16-1X1-IP with it, in addition to (or instead of) the browser access method. • Enabling *SSH Client* allows a user to log in and access the KVM over IP switch via an SSH session. • Enabling *Telnet Client* allows a user to log in and access the KVM over IP switch via a Telnet session. • Enabling *User Management* allows a user to create, modify and delete user and group accounts. • Enabling *View Only* limits users to only being able to view the display of connected devices. They cannot control port access, nor can they input any keyboard or mouse signals to the devices they view. • *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.
Status	Status allows you to control the user's account and access the installation. • *Disable Account* lets you suspend a user's account without actually deleting it, so that it can be easily reinstated in the future. • If you do not want to limit the time scope of the account, select *Account never expires*; if you do want to limit the amount of time that the account remains in effect, select *Account expires* on and key in the expiration date. • To require a user to change their password at the next log on, select *User must change password at next logon*. This can be used by the administrator to give the user a temporary password to log in for the first time, then let the user set the password of their choice for future logins. • To make a password permanent so the user cannot change it to something else, select *User cannot change password*. • For security purposes, administrators may want users to change their passwords periodically. o If not, select *Password never expires*. This allows users to keep their current passwords for as long as they like. o If so, select *Password expires after*, and key in the number of days allowed before the password expires. Once the time is up, a new password must be set.

4. At this point you can assign the new user to a group by selecting the *Groups* tab. You can also assign the user's port access rights by selecting the *Devices* tab.

   Note: *Optionally, you can skip this step now and return to it later.*

5. When your selections have been made, click **Save**.
6. When the *Operation Succeeded* message appears, click **OK**.
7. Click **Users** in the Sidebar to return to the main screen. The new user will in the Sidebar list and in the main panel.
   - o The *Sidebar Users* list can expand and collapse. If the list is expanded, click the minus symbol (-) next to the *Users* icon to collapse it; if it is collapsed there is a plus symbol (+) next to the icon. Click the plus symbol to expand it.
   - o The icon for administrators has one red band.
   - o The large main panel shows the user's name; the description that was given when the account was created; and whether the account is currently active or has been disabled.

Modifying User Accounts

To modify a user account:

1. In the Sidebar *User* list, click the user's name

   - or -

   In the main panel, select the user's name.
2. Click **Modify**.
3. In the *User* page that opens, make your changes, then click **Save**.

Deleting User Accounts

To delete a user account:

1. In the main panel, select the user's name.
2. Click **Delete**.
3. Click **OK**.

7.6.2 Groups

Groups allow administrators to manage users and devices with ease and efficiency. Since device access rights apply to anyone who is a member of the group, administrators only need to set them once for the group, rather than setting them for each user individually. Multiple groups can be defined to allow some users access to specific devices, while restricting other users from accessing them.

Creating Groups

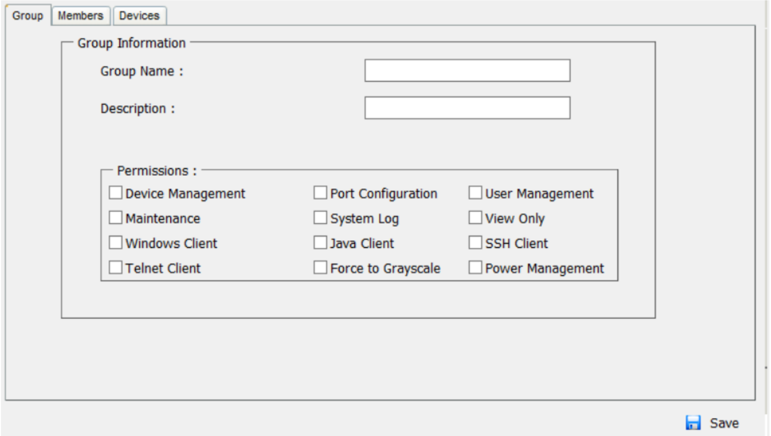
To create a group:

1. Select *Groups* on the menu bar (Browser GUI)

   – or –

   Select *Groups* in the Sidebar (AP GUI).

2. Click **Add** at the bottom of the main panel. The Group notebook opens, with the *Group* tab selected:



Group Information

Group Name :

Description :

Permissions :

□ Device Management	□ Port Configuration	□ User Management
□ Maintenance	□ System Log	□ View Only
□ Windows Client	□ Java Client	□ SSH Client
□ Telnet Client	□ Force to Grayscale	□ Power Management

3. Enter the required information in the appropriate fields. A description of each of the fields is provided in the table below:

Field	Description
Group Name	A maximum of 16 characters is allowed.
Description	Additional information about the user that you may wish to include. A maximum of 63 characters is allowed.
Permissions	Permissions and restrictions for groups are set by checking the appropriate boxes. These are the same permissions as the ones specified for Users.

4. You can now assign users to the group by selecting the *Members* tab. You can also assign the group's port access rights by selecting the *Devices* tab.

   Note: *Optionally, you can skip this step and return to it later.*

5. Once your selections have been made, click **Save**.
6. When the *Operation Succeeded* message appears, click **OK**.
7. Click **Group** in the Sidebar to return to the main screen. The new group will in the Sidebar Group list and in the main panel.
   - The *Sidebar Group* list can expand and collapse. If the list is expanded, click the minus symbol (–) next to the *Users* icon to collapse it. If it is collapsed, there is a plus symbol (+) next to the icon. Click the plus symbol to expand it.
   - The large main panel shows the group's name and the description that was given when the group was created (the *Status* column is inactive).

Repeat the procedure to add additional groups.

Note: *You must perform Step 7 before attempting to add a new group. Otherwise, the new group you are creating will replace the group you just finished creating.*

Modifying Groups

To modify a group:

1. In the Sidebar *Group* list, click the group's name.

   – or –

   In the main panel, select the group's name.
2. Click **Modify**.
3. In the *Group* notebook that comes up, make your changes, then click **Save**.

Deleting Groups

To delete a group:

1. In the Sidebar, click the *Groups* icon.
2. In the main panel, select the group's name.
3. Click **Delete**.
4. Click **OK**.

7.6.3 Users and Groups

There are two ways to manage users and groups: from the Users notebook and from the Group notebook.

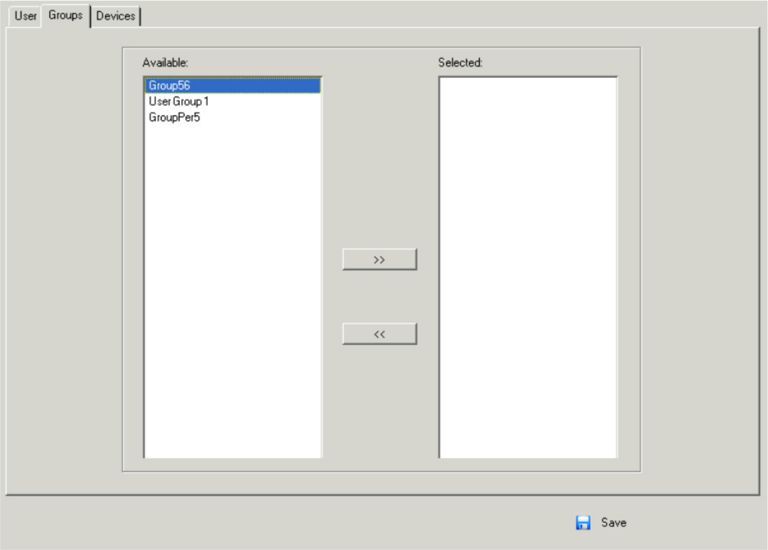
Note: *Before you can assign users to groups, you must first create them.*

Assigning Users to a Group from the User's Notebook

1. In the Sidebar *User* list, click the user's name.

   – or –

   In the main panel, select the user's name.
2. Click **Modify**.
3. In the *User* notebook that appears, select the *Groups* tab.



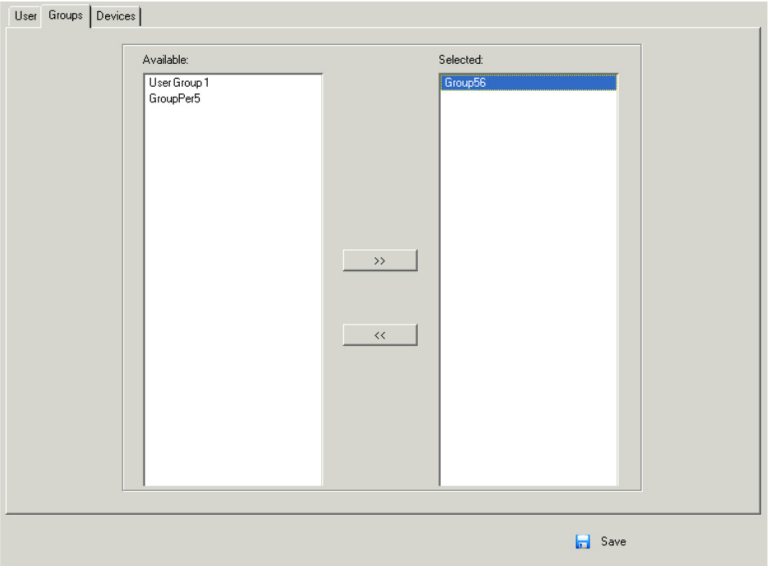
4. In the *Available* column, select the group that you want the user to be in.
5. Click the **Right Arrow** to put the group's name into the *Selected* column.
6. Repeat the above for any other groups that you want the user to be in.
7. Click **Save** when you are done.

   Note: *If a user has permissions in addition to those assigned to the group, the user keeps those permissions in addition to the group ones.*

Removing Users from a Group from the User's Notebook

To remove a user from a group from the User's notebook:

1. In the Sidebar *User* list, click the user's name
   – or –
   In the main panel, select the user's name.
2. Click **Modify**.
3. In the *User* notebook that comes up, select the *Groups* tab.



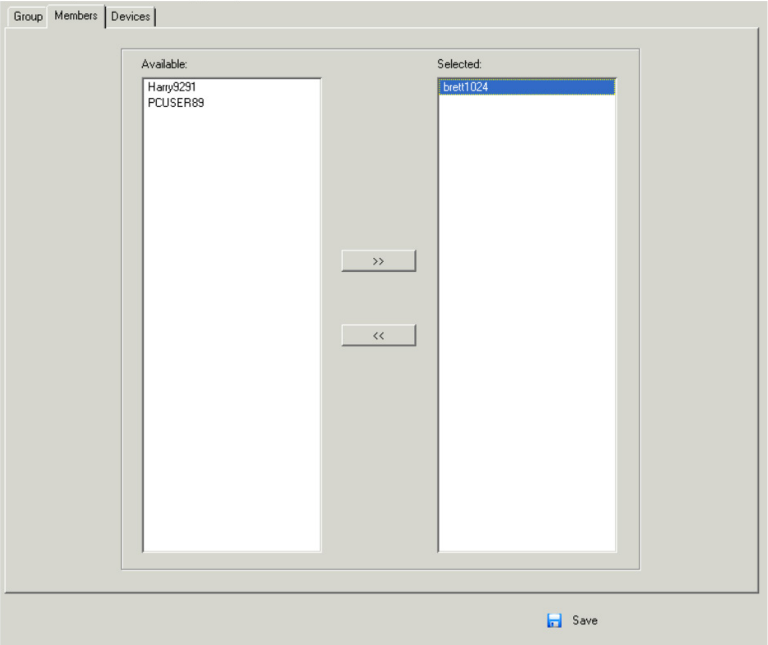
4. In the *Selected* column, select the group that you want to remove the user from.
5. Click the **Left Arrow** to remove the group's name from the *Selected* column (it goes back into the *Available* column).
6. Repeat the above for any other groups that you want to remove the user from.
7. Click **Save** when you are done.

Assigning Users to a Group from the Group's Notebook

1. In the Sidebar *Group* list, click the group's name

   – or –

   In the main panel, select the group's name.
2. Click **Modify**.
3. In the *Group* notebook that appears, select the *Members* tab.

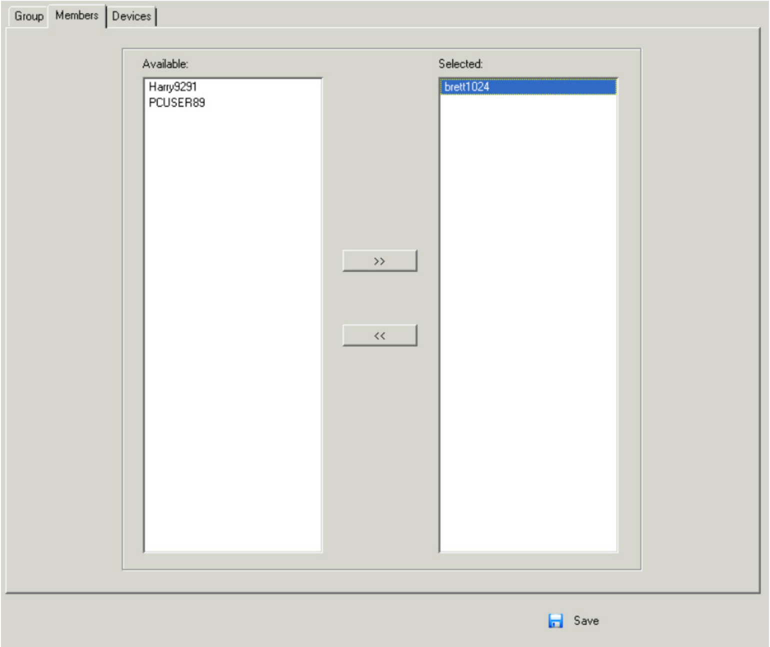


4. In the *Available* column, select the user that you want to be a member of the group.
5. Click the **Right Arrow** to put the user's name into the *Selected* column.
6. Repeat the above for any other users that you want to be members of the group.
7. Click **Save** when you are done.

   Note: *If a user has permissions in addition to the ones assigned to the group, the user keeps those permissions in addition to the group ones.*

Removing Users from a Group from the Group's Notebook

1. In the Sidebar *Group* list, click the group's name
   – or –
   In the main panel, select the group's name.
2. Click **Modify**.
3. In the *Group* notebook that comes up, select the *Members* tab.



4. In the *Selected* column, select the user that you want to remove from the group.
5. Click the **Left Arrow** to remove the user's name from the *Selected* column (it goes back into the *Available* column).
6. Repeat the above for any other users that you want to remove from the group.
7. Click **Save** when you are done.

7.6.4 Device Assignment

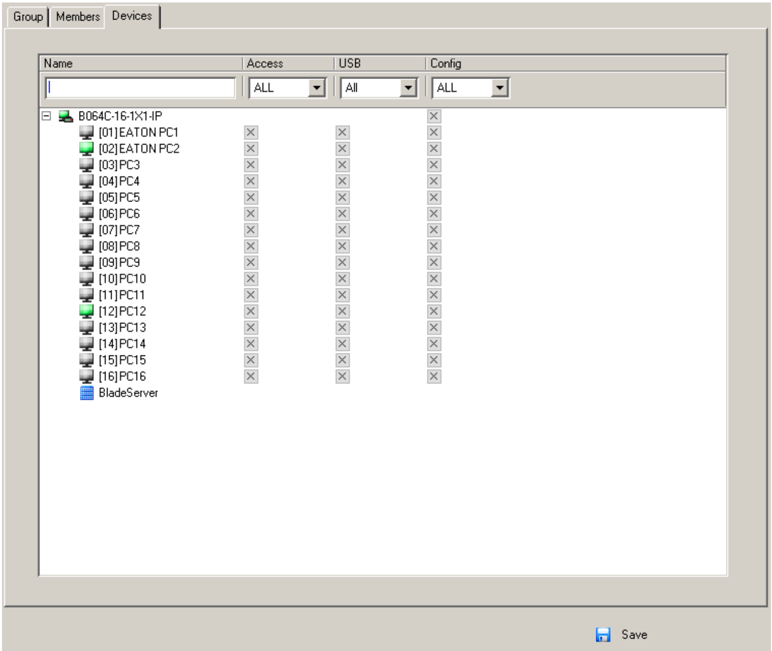
When a user logs in to the KVM over IP switch, the interface will appear with the Port Access page displayed. All ports that the user are permitted to access are listed in the Sidebar at the left of the page. Access permissions for those ports and the devices connected to them are assigned on a port-by-port basis from the *User* or *Group* list on the Sidebar of the User Management page.

Assigning Device Permissions from the User's Notebook

1. In the Sidebar *User* list, click the user's name

   – or –

   In the main panel, select the user's name.
2. Click **Modify**.
3. In the *User* notebook that appears, select the *Devices* tab.



Name	Access	USB	Config
	ALL	All	ALL
B064C-16-1X1-IP			☒
[01]EATON PC1	☒	☒	☒
[02]EATON PC2	☒	☒	☒
[03]PC3	☒	☒	☒
[04]PC4	☒	☒	☒
[05]PC5	☒	☒	☒
[06]PC6	☒	☒	☒
[07]PC7	☒	☒	☒
[08]PC8	☒	☒	☒
[09]PC9	☒	☒	☒
[10]PC10	☒	☒	☒
[11]PC11	☒	☒	☒
[12]PC12	☒	☒	☒
[13]PC13	☒	☒	☒
[14]PC14	☒	☒	☒
[15]PC15	☒	☒	☒
[16]PC16	☒	☒	☒
BladeServer			

4. Make your permission settings for each port according to the information provided below:

   Name: Each port accessible to the user is listed under the *Names* column.

   Access: The *Access* column is where device access rights are set. Click the icon in the row that corresponds to the port you want to configure to cycle through the choices. The meanings of the icons are described in the table below:

	Full Access	The user can view the remote screen and can perform operations on the remote server from his keyboard and monitor.
	View Only	The user can only view the remote screen; he cannot perform any operations on it.
☒	No Access	No access rights - the Port will not show up on the User's list on the Main Screen.

USB: The *USB* column is where USB Virtual Media device access rights are listed. This entry does not appear for switches that do not support the USB Virtual Media function. Click the icon in the row that corresponds to the port you want to configure to cycle through the choices.

- With *Full Access*, the User can mount, read and write the virtual media.
- With *View Only,* the user can only read already mounted virtual media data.

Config: The *Config* column is where a user's permission to make changes to a port's configuration settings are permitted/restricted. Click the icon in the row that corresponds to the port you want to configure to cycle through the choices.

A check mark (√) indicates the user has permission to make changes to the port's configuration settings and an X indicates the user is denied permission to make configuration changes.

5. Once you have finished making your choices, click **Save**.
6. In the confirmation popup that appears, click **OK**.

Note: *In any of the columns, you can use Shift-Click or Ctrl-Click to select a group of ports to configure. Clicking to cycle through the choices on any one of the selected ports causes all of them to cycle in unison.*

Filters

There are four filters at the top of the columns that allow you to expand or limit the scope of the ports displayed in the *Name* column.

Filter		Description
Name		To filter on the port name, key in the name then press Enter. Only the ports whose names correspond to what you have keyed in appear in the list. Wildcards (? for single characters; * for multiple characters) and the keyword or are supported. For example, h*ds would return “hands” and “hoods”, h?nd would return “hand” and “hind”, but not “hard”, h*ds or h*ks would return “hands” and “hooks”.
Access	All	All ports appear in the list.
	Full Access	Only ports configured as Full Access ports appear in the list.
	View Only	Only ports configured as View Only ports appear in the list.
	No Access	Only ports configured as No Access ports appear in the list.
USB	All	All ports appear in the list.
	Full Access	Only ports configured as Full Access USB ports appear in the list.
	Read Only	Only ports configured as Read Only USB ports appear in the list.
	No Access	Only ports configured as No Access USB ports appear in the list.
Config	All	All ports appear in the list.
	Permitted	Only ports configured as Permitted appear in the list.
	Restricted	Only ports configured as Restricted appear in the list.

Assigning Device Permissions from the Groups' Notebook

To assign device permissions to a Group of users, do the following:

1. In the Sidebar *Groups* list, click the group's name.

   – or –

   In the main panel, select the group's name.
2. Click **Modify**.
3. In the *Groups* notebook that appears, select the *Devices* tab.
4. The screen that appears is the same as in the User's notebook. The only difference is that whatever settings you make apply to all members of the group instead of just one individual member.

Make your device assignments according to the information described in **Assigning Device Permissions from the User's Notebook**.

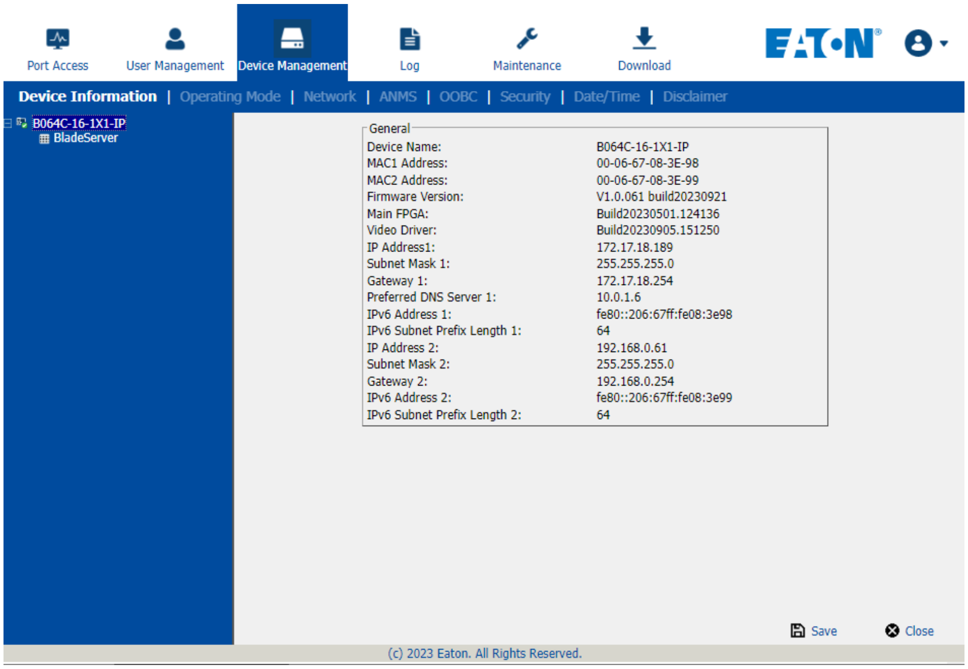
7.7 Device Management

7.7.1 KVM Devices

Device Information

The *Device Management* page opens with the top level KVM over IP switch selected in the Sidebar and the *Device Information* item selected on the menu bar:

Browser GUI



General

Device Name:	B064C-16-1X1-IP
MAC1 Address:	00-06-67-08-3E-98
MAC2 Address:	00-06-67-08-3E-99
Firmware Version:	V1.0.061 build20230921
Main FPGA:	Build20230501.124136
Video Driver:	Build20230905.151250
IP Address1:	172.17.18.189
Subnet Mask 1:	255.255.255.0
Gateway 1:	172.17.18.254
Preferred DNS Server 1:	10.0.1.6
IPv6 Address 1:	fe80::206:67ff:fe08:3e98
IPv6 Subnet Prefix Length 1:	64
IP Address 2:	192.168.0.61
Subnet Mask 2:	255.255.255.0
Gateway 2:	192.168.0.254
IPv6 Address 2:	fe80::206:67ff:fe08:3e99
IPv6 Subnet Prefix Length 2:	64

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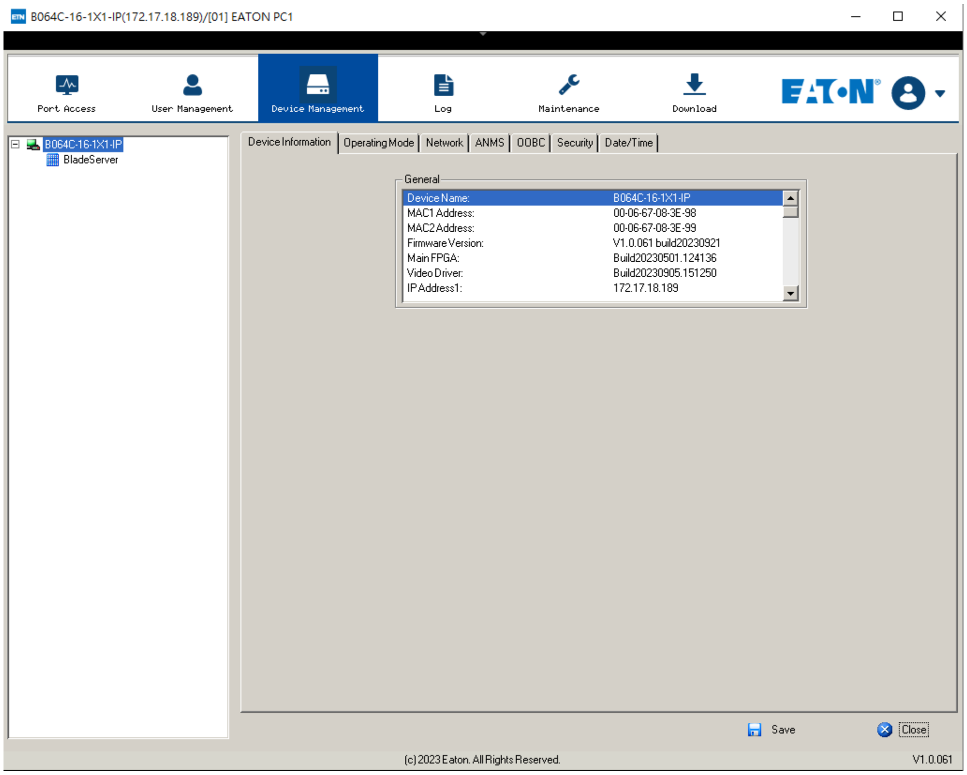
AP GUI



General

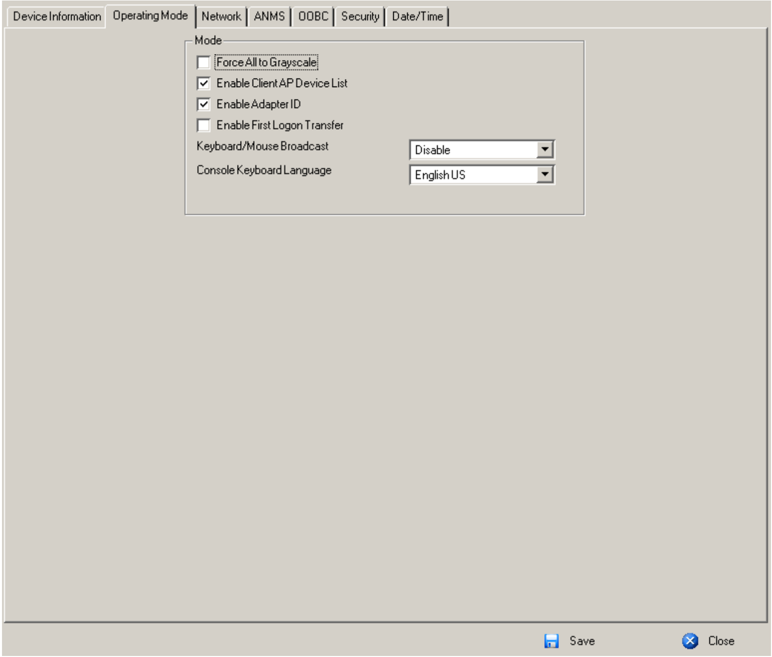
Device Name:	B064C-16-1X1-IP
MAC1 Address:	00-06-67-08-3E-98
MAC2 Address:	00-06-67-08-3E-99
Firmware Version:	V1.0.061 build20230921
Main FPGA:	Build20230501.124136
Video Driver:	Build20230905.151250
IP Address1:	172.17.18.189

General

The General section of the Device Information page displays the name of the selected device, its firmware version, the FPGA (Field-Programmable-Gate-Array) and information about its network configuration.

Note: *The AP GUI version presents the same information as the Browser version. Scroll through the list to see the additional entries.*

Operating Mode



Mode

☐ Force All to Grayscale
☑ Enable Client AP Device List
☑ Enable Adapter ID
☐ Enable First Logon Transfer

Keyboard/Mouse Broadcast: Disable
Console Keyboard Language: English US

The *Operating Mode* page is used to set working parameters:

- If *Force all to grayscale* is enabled, the remote displays of all devices connected to the KVM over IP switch are changed to grayscale. This can speed up I/O transfer in low bandwidth situations.
- If *Enable Client AP Device List* is enabled, the switch appears in the Server List when using the WinClient or Java Client AP (see **7.3.3 Windows Client AP Login** and **7.3.4 Java Client AP Login**). If this option is not enabled, the switch can still be connected. However, its name will not appear in the Server List.
- If *Enable First Logon Transfer* is enabled, only the first user on a bus can switch ports. Other users on the bus cannot switch ports unless there is a bus that is already connected to the port they would like to access or there is a free bus available.

  o For *Keyboard/Mouse Broadcast*, use the drop-down list to make your choice.

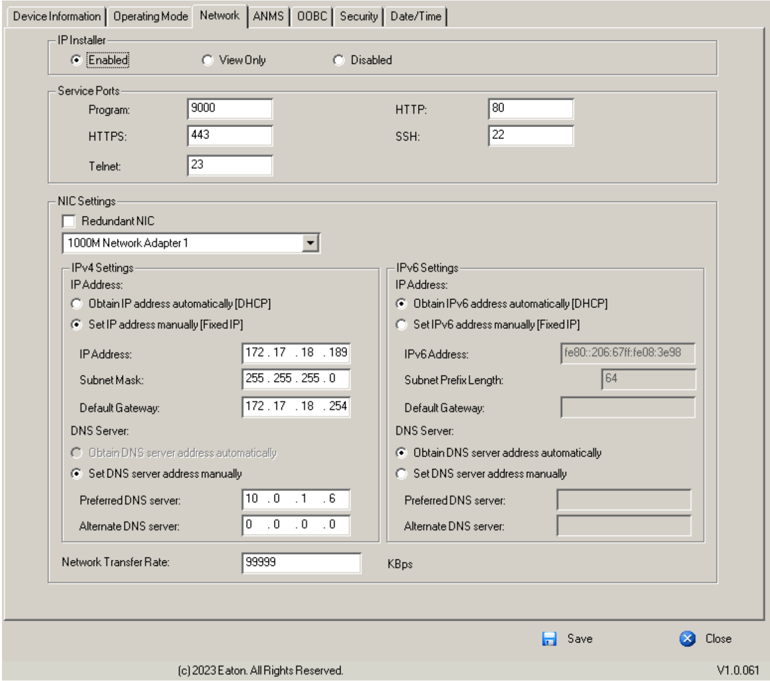
  - If you enable Keyboard Broadcast, your keystrokes will be duplicated on all the attached servers that currently appear in the Sidebar.
  - If you enable Mouse Broadcast, your mouse movements and clicks will be duplicated on all attached servers currently in the Sidebar.

  Notes:

  - *On a KVM switch that is cascaded from the KVM over IP switch, only one port can perform a Keyboard/Mouse broadcast at a time.*
  - *For Mouse Broadcast, you and all the servers must be running the same OS; all the monitors must have the same resolution; and all the screens must have an identical layout.*
  - *The Console Keyboard Language setting lets you specify which keyboard mapping is being used by the Local Console keyboard. Use the drop-down list to make your choice.*

Network

The *Network* page is used to specify the network environment.



IP Installer
● Enabled ○ View Only ○ Disabled

Service Ports
Program: 9000
HTTP: 80
HTTPS: 443
SSH: 22
Telnet: 23

NIC Settings
□ Redundant NIC
1000M Network Adapter 1

IPv4 Settings
IP Address:
○ Obtain IP address automatically [DHCP]
● Set IP address manually [Fixed IP]
IP Address: 172 . 17 . 18 . 189
Subnet Mask: 255 . 255 . 255 . 0
Default Gateway: 172 . 17 . 18 . 254
DNS Server:
○ Obtain DNS server address automatically
● Set DNS server address manually
Preferred DNS server: 10 . 0 . 1 . 6
Alternate DNS server: 0 . 0 . 0 . 0

IPv6 Settings
IP Address:
● Obtain IPv6 address automatically [DHCP]
○ Set IPv6 address manually [Fixed IP]
IPv6 Address: fe80::206:67ff:fe08:3e98
Subnet Prefix Length: 64
Default Gateway:
DNS Server:
● Obtain DNS server address automatically
○ Set DNS server address manually
Preferred DNS server:
Alternate DNS server:

Network Transfer Rate: 99999 KBps

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IP Installer

The *IP Installer* is an external Windows-based utility for assigning IP addresses to the KVM over IP switch.

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

Notes:

- *If you select View Only, you will be able to see the KVM over IP switch in the IP Installer's Device List, but you will not be able to change the IP address.*
- *For security, we strongly recommend you set this to View Only or Disable after each use.*

Service Ports

As a security measure, if a firewall is being used, the Administrator can specify the port numbers that the firewall will allow. If a port other than the default is used, users must specify the port number as part of the IP address when they log in. If an invalid port number (or no port number) is specified, the KVM over IP switch will not be found. An explanation of the fields is provided in the table below:

Field	Explanation
Program	This is the port number for connecting with the WinClient ActiveX Viewer, WinClient AP, Java Client Viewer, Java Client AP or via Virtual Media. The default is 9000.
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.
SSH	The port for SSH access. The default is 22.
Telnet	The port for Telnet access. The default is 23.

Notes:

- *Valid entries for all service ports are from 1–65535.*
- *Service ports cannot have the same value. You must set a different value for each one.*
- *If there is no firewall (on an Intranet, for example), it does not matter what these numbers are set to since they have no effect.*

NIC Settings

- Redundant NIC

  The KVM over IP switch is designed with two network interfaces. If *Redundant NIC* is enabled (the default), both interfaces make use of the IP address of Network Adapter 1.

  Under this configuration, the second interface is usually inactive. If there is a network failure on the first interface, the switch automatically switches to the second interface.

  o Redundant NIC Enabled – Single IP Address for Both Interfaces To enable the Redundant NIC function, do the following:

    1. Click to put a check in the *Redundant NIC* checkbox.
    2. *Network Adapter 1* is selected in the network adapter listbox, and the listbox will be disabled (you cannot configure Network Adapter 2).
    3. Configure the IP and DNS server addresses for *Network Adapter 1*.

- Redundant NIC Not Enabled – Two IP Addresses

  If you choose not to enable the Redundant NIC function, the two NICs can be configured with separate interfaces. Users can log into the KVM over IP switch with either IP address. To set up the switch with this configuration, do the following:

  1. If there is a check in the *Redundant NIC* checkbox, click to remove it.
  2. In the network adapter listbox, select Network Adapter 1.
  3. Configure the IP and DNS server addresses for Network Adapter 1.
  4. Use the drop-down to view the network adapter listbox and select Network Adapter 2.
  5. Configure the IP and DNS server addresses for Network Adapter 2.

- IPv4 Settings
  - IP Address

    IPv4 is the traditional method of specifying IP addresses. The KVM over IP switch can either have its IP address assigned dynamically (DHCP) or it can be given a fixed IP address.

    o For dynamic IP address assignment, select the *Obtain IP address automatically* radio button (this is the default setting).

    o To specify a fixed IP address, select the *Set IP address manually* radio button and fill in the fields with values appropriate for your network.

    Notes:

    - *If you choose Obtain IP address automatically, when the switch starts up it will wait to obtain its IP address from the DHCP server. If it has not obtained the address after one minute, it will automatically revert to its factory default IP address (192.168.0.60.).*
    - *If the switch is on a network that uses DHCP to assign network addresses, and you need to ascertain its IP address.*
  - DNS Server

    o For automatic DNS Server address assignment, select the *Obtain DNS Server address automatically* radio button.

    o To specify the DNS Server address manually, select the *Set DNS server address manually* radio button and fill in the addresses for the Preferred and Alternate DNS servers with values appropriate for your network.

    Note: *Specifying the Alternate DNS Server address is optional.*
- IPv6 Settings
  - IP Address

    IPv6 is the new (128-bit) format for specifying IP addresses (see **7.1.1 IPv6** for more information). The KVM over IP switch can either have its IPv6 address assigned dynamically (DHCP, or it can be given a fixed IP address.

    o For dynamic IP address assignment, select the *Obtain IP address automatically* radio button (this is the default setting).

    o To specify a fixed IP address, select the *Set IP address manually* radio button and fill in the fields with values appropriate for your network.
  - DNS Server

    o For automatic DNS Server address assignment, select the *Obtain DNS Server address automatically* radio button.

    o To specify the DNS Server address manually, select the *Set DNS server address manually* radio button and fill in the addresses for the Preferred and Alternate DNS servers with values appropriate for your network.

    Note: *Specifying the Alternate DNS Server address is optional.*

Network Transfer Rate

This setting allows you to tailor the size of the data transfer stream to match network traffic conditions by setting the rate at which the KVM over IP switch transfers data between itself and the client computers. The range is from 4–99999 Kilobytes per second (KBps).

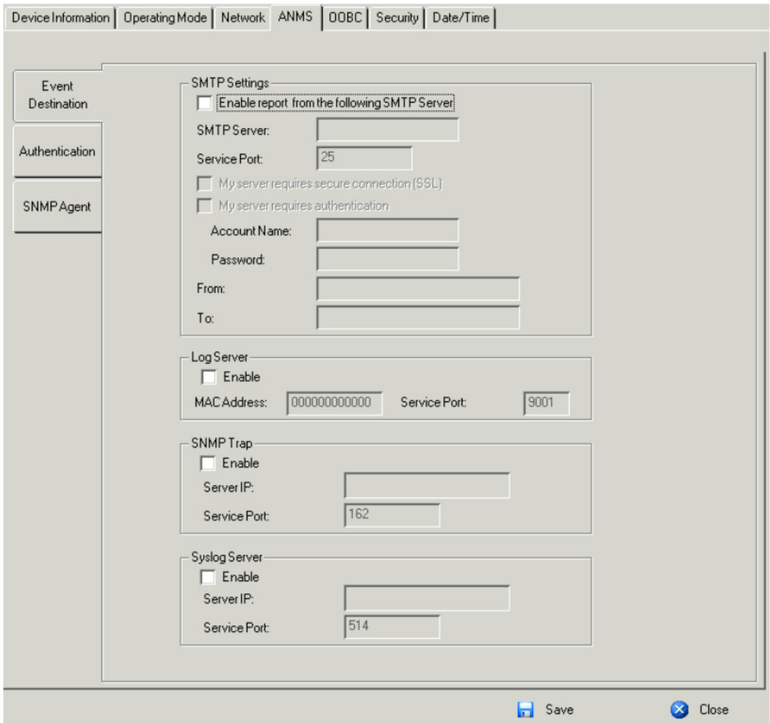
Finishing Up

After making any network changes, make sure to Reset on exit on the *Device Management* → *System Operation* page has been enabled (there is a check in the checkbox) before logging out. This allows network changes to take effect without having to power the switch off and on.

ANMS

The ANMS (Advanced Network Management Settings) page is used to set up login authentication and authorization management from external sources. It is organized as a notebook with two tabs, each with a series of related panels.

Event Destination



SMTP Settings
□ Enable report from the following SMTP Server
SMTP Server:
Service Port: 25
□ My server requires secure connection (SSL)
□ My server requires authentication
Account Name:
Password:
From:
To:

Log Server
□ Enable
MAC Address: 000000000000 Service Port: 9001

SNMP Trap
□ Enable
Server IP:
Service Port: 162

Syslog Server
□ Enable
Server IP:
Service Port: 514

- SMTP Settings

  To have the KVM over IP switch email reports from the SMTP server to you, do the following:

  1. Enable the *Enable report from the following SMTP server* and key in either the IPv4 address, IPv6 address or domain name of the SMTP server.
  2. If your server requires a secure SSL connection, put a check in the *My server requires secure connection (SSL)* checkbox.
  3. If your server requires authentication, put a check in the *My server requires authentication* checkbox, and key in the appropriate account information in the *Account Name* and *Password* fields.
  4. Key in the email address from where the report is being sent in the *From* field.

     Notes:

     • Only one email address is allowed in the From field and it cannot exceed 64 Bytes.

     • 1 Byte = 1 English alphanumeric character.
  5. Key in the email address (addresses) of where you want the SMTP reports sent to in the To field.

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

- Log Server

  Important transactions that occur on the KVM over IP switch such as logins and internal status messages are kept in an automatically generated log file.

  o Specify the MAC address of the computer that the Log Server runs on in the *MAC address* field.

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

  Note: *The port number must be different than the one used for the Program port.*

  See **7.12 Log Server** for details on setting up the log server.

- SNMP Trap

  To be notified of SNMP trap events:

  1. Check *Enable SNMP Agent*.
  2. Key in either the IPv4 address, IPv6 address, or domain name of the computer to be notified of SNMP trap events.
  3. Key in the port number. The valid port range is 1–65535.

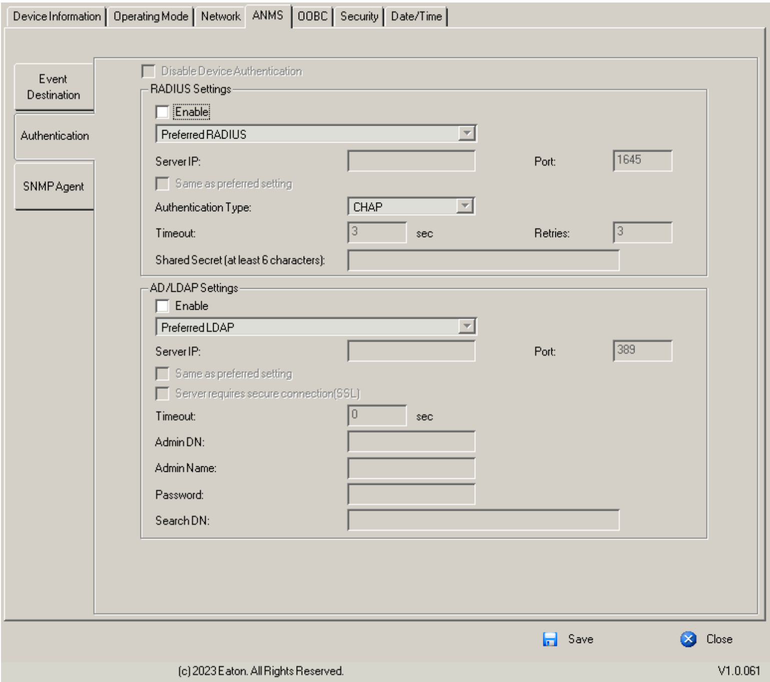
  Note: *The logs that are notified of SNMP trap events are configured on the Notification Settings page under the Log tab (see* ***7.8 Log Notification Settings*** *for details).*

- Syslog Server

  To record all the events that take place on KVM over IP switches and write them to a Syslog server:

  1. Check **Enable**.
  2. Key in either the IPv4 address, IPv6 address or domain name of the Syslog server.
  3. Key in the port number. The valid port range is 1-65535.

Authentication



☐ Disable Device Authentication

RADIUS Settings

☐ Enable

Preferred RADIUS

Server IP:

Port: 1645

☐ Same as preferred setting

Authentication Type: CHAP

Timeout: 3 sec

Retries: 3

Shared Secret (at least 6 characters):

AD/LDAP Settings

☐ Enable

Preferred LDAP

Server IP:

Port: 389

☐ Same as preferred setting

☐ Server requires secure connection(SSL)

Timeout: 0 sec

Admin DN:

Admin Name:

Password:

Search DN:

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- Disable Local Authentication

  Selecting this option disables login authentication on the KVM over IP switch. The switch can only be accessed using LDAP, LDAPS, MS Active Directory, RADIUS or CC Management authentication.

- RADIUS Settings

  To allow authentication and authorization for the KVM over IP switch through a RADIUS server:

  1. Check **Enable**.
  2. Select Preferred or Alternate RADIUS server.
  3. Fill in the IP addresses and service port numbers for the Preferred and Alternate RADIUS servers. You can use the IPv4 address, the IPv6 address or the domain name in the IP fields.
  4. Select the *Authentication Type*.
  5. In the *Timeout* field, set the time in seconds that the KVM over IP switch waits for a RADIUS server reply before it times out.
  6. In the *Retries* field, set the number of allowed RADIUS retries.

7. In the *Shared Secret* field, key in the character string that you want to use for authentication between the KVM over IP switch and the RADIUS Server. A minimum of 6 characters is required.
8. On the RADIUS server, Users can be authenticated with any of the following methods:

   o Set the entry for the user as **su/xxxx**

   Where *xxxx* represents the Username given to the user when the account was created on the KVM over IP switch.

   o Use the same Username on both the RADIUS server and the KVM over IP switch.

   o Use the same Group name on both the RADIUS server and the KVM over IP switch.

   o Use the same Username/Group name on both the RADIUS server and the KVM over IP switch.

   In each case, the user's access rights are the ones assigned that were assigned when the User of Group was created on the KVM over IP switch.

- LDAP / LDAPS Authentication and Authorization Settings

  To allow authentication and authorization via LDAP or LDAPS, the Active Directory's LDAP Schema must be extended so that an extended attribute name for the B064C-16-1X1-IP – *iKVM61-userProfile* is added as an optional attribute to the person class.

  To manually find out the attribute name of the B064C-16-1X1-IP – *iKVM61-userProfile*, go to *Terminal* under *Maintenance* and execute a **get** command (see **7.9.6 Terminal** for details).

  To configure the LDAP server:

  1. Install the Windows Server Support Tools.
  2. Install the Active Directory Schema Snap-in.
  3. Extend and update the Active Directory Schema.

  To allow authentication and authorization for the KVM over IP switch via LDAP / LDAPS, refer to the information in the table below:

Item	**Action**
Enable	Put a check in the Enable checkbox to allow LDAP / LDAPS authentication and authorization.
Type	Click a radio button to specify whether to use LDAP or LDAPS.
LDAP Server IP and Port	Select Preferred or Alternate LDAP Server and fill in the IP address and port number for the LDAP or LDAPS server. • You can use the IPv4 address, the IPv6 address or the domain name in the *LDAP Server* field. • For LDAP, the default port number is 389; for LDAPS, the default port number is 636.
Admin DN	Consult the LDAP / LDAPS administrator to ascertain the appropriate entry for this field. For example, the entry might look like this: ou=B064C161X1IP,dc=eaton,dc=com
Admin Name	Key in the LDAP administrator's username.
Password	Key in the LDAP administrator's password.
Search DN	Set the distinguished name of the search base. This is the domain name where the search starts for user names.
Timeout	Set the time in seconds that the KVM over IP switch waits for an LDAP or LDAPS server reply before it times out.

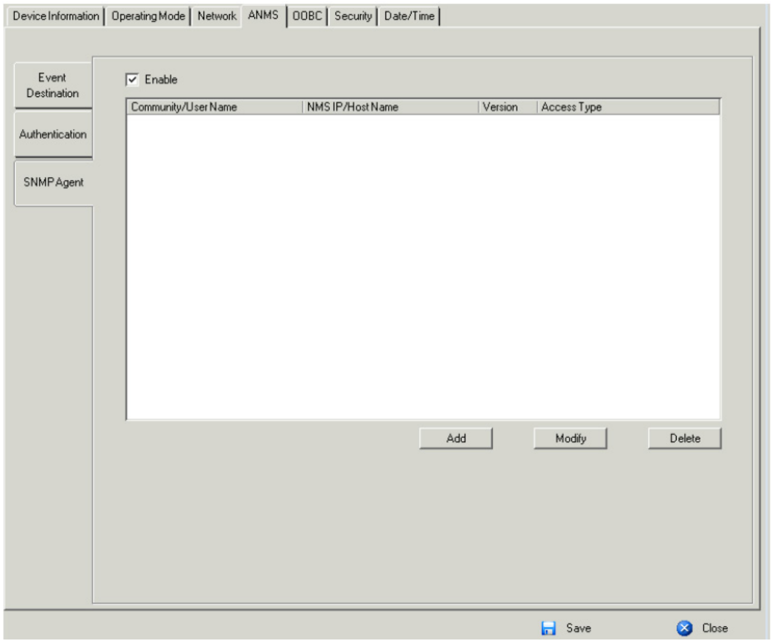
On the LDAP / LDAPS server, Users can be authenticated with any of the following methods:

- With MS Active Directory schema.
- Without schema – Only the Usernames used on the KVM over IP switch are matched to the names on the LDAP / LDAPS server. User privileges are the same as the ones configured on the switch.
- Without schema – Only Groups in AD are matched. User privileges are the ones configured for the groups he belongs to on the switch.
- Without schema – Usernames and Groups in AD are matched. User privileges are the ones configured for the User and the Groups he belongs to on the switch.

SNMP Agent

The SNMP Agent allows you to configure Device Management settings with a MIB browser using the MIB file downloaded from our website. The MIB file imports into the MIB browser to configure the following Device Management settings: *Operating Mode*: Mode; *Network:* IP Installer, Service Ports, IPv4 Settings, IPv6 Settings; *ANMS - Event Destination:* Log Server, SNMP Trap.

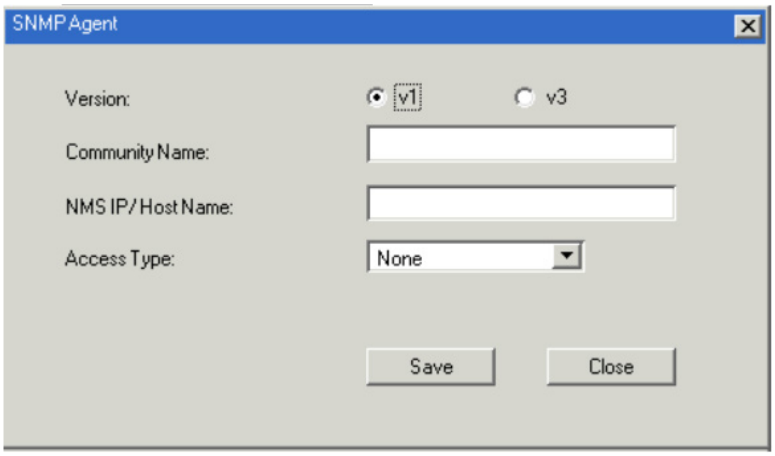
To connect to the switch through an MIB browser, use the instructions below to add an SNMP Agent to allow access from the computer you will use to configure to the switch settings.



☑ Enable

To add an SNMP Agent:

1. Check **Enable**.
2. Click **Add**. A window will appear:



SNMP Agent

Version: ● v1 ○ v3

Community Name:

NMS IP/ Host Name:

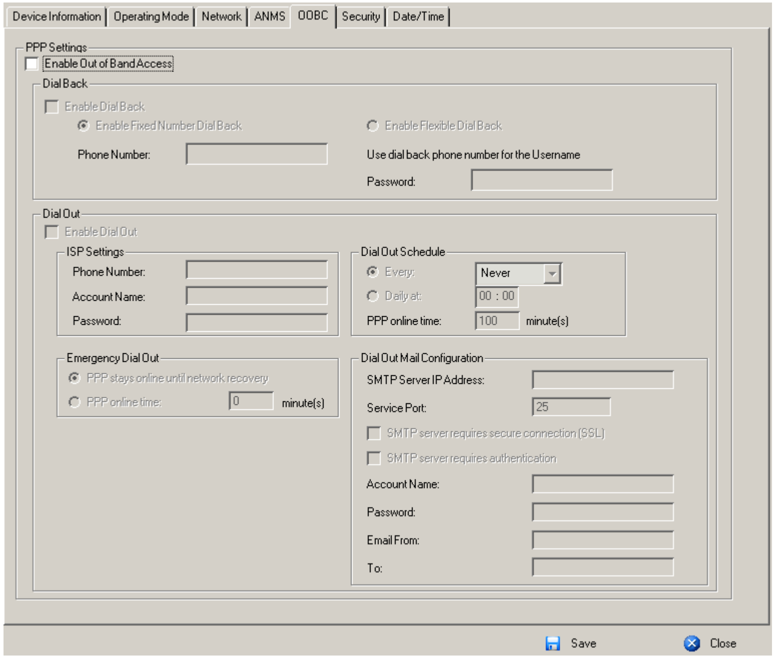
Access Type: None

3. Select the Version.
4. Enter a Community Name.
5. Key in NMS IP/Host Name. Enter the IP address of a computer that will access the switch via a MIB browser.
6. Select the Access Type and click **Save**.
7. From a MIB browser, import the MIB file and enter the IP address of the switch.

Note: *Download the Eaton B064C MIB file on Eaton's website from the B064C-16-1X1-IP product page.*

OOBC

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



PPP Settings

□ Enable Out of Band Access

Dial Back

□ Enable Dial Back

● Enable Fixed Number Dial Back ○ Enable Flexible Dial Back

Phone Number:

Use dial back phone number for the Username

Password:

Dial Out

□ Enable Dial Out

ISP Settings

Phone Number:

Account Name:

Password:

Dial Out Schedule

● Every: Never

○ Daily at: 00 : 00

PPP online time: 100 minute(s)

Emergency Dial Out

● PPP stays online until network recovery

○ PPP online time: 0 minute(s)

Dial Out Mail Configuration

SMTP Server IP Address:

Service Port: 25

□ SMTP server requires secure connection (SSL)

□ SMTP server requires authentication

Account Name:

Password:

Email From:

To:

When you enable Out of Band Access, the *Enable Dial Back*, and *Enable Dial Out* functions become available.

Enable Dial Back

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

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

Enable Dial Out

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

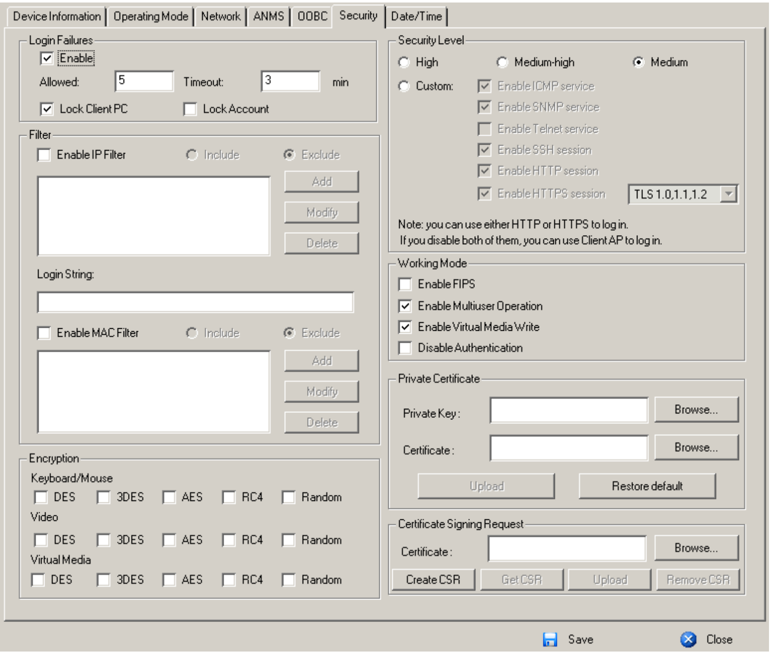
Item	Action
ISP Settings	Specify the telephone number, account name (username), and password that you use to connect to your ISP.
Dial Out Schedule	This entry sets up the times you want the KVM over IP switch to dial out over the ISP connection. • *Every* provides a listing of fixed times from every hour to every four hours. o For example, if you select *Every two hours*, the KVM over IP switch will start dialing out every two hours beginning at 00:00. o If you do not want the KVM over IP switch to dial out on a fixed schedule, select **Never** from the list. • *Daily* will dial out once a day at a specified time. Use the hh:mm format to specify the time. • *PPP online time* specifies how long you want the ISP connection to last before terminating the session and hanging up the modem. A setting of zero means it is always online.
Emergency Dial Out	If the KVM over IP switch gets disconnected from the network or the network goes down, this function puts the switch online via the ISP dial up connection. • If you choose *PPP stays online until network recovery*, the PPP connection to the ISP will last until the network comes back up or the switch reconnects to it. • If you choose *PPP online time*, the connection to the ISP will terminate after the amount of time that you specify is up. A setting of zero means it is always online.

Item	Action
Dial Out Mail Configuration	This section provides email notification of problems that occur on the devices connected to the KVM over IP switch's ports. ***Note:*** *This email notification differs from the one configured under SMTP Settings, in that it uses the ISP mail server rather than the internal company's mail server.* • Key in the IPv4 address, IPv6 address or domain name of your SMTP server in the SMTP Server IP Address field. • Key in the email address of the person responsible for the SMTP server (or some other equally responsible administrator) in the Email From field. • Key in the email address (addresses) of where you want the report sent to in the To field. If you are sending the report to more than one email address, separate the addresses with a comma or a semicolon. • If your server requires a secure SSL connection, put a check in the *SMTP server requires secure connection (SSL)* checkbox. • If your server requires authentication, put a check in the *SMTP server requires authentication* checkbox, then key in the appropriate account name and password in the fields.

Once you have finished making your settings on this page, click **Save**.

Security

The *Security* page is divided into 7 main panels.



Login Failures

☑ Enable

Allowed: 5 Timeout: 3 min

☑ Lock Client PC □ Lock Account

Filter

□ Enable IP Filter ○ Include ● Exclude

Login String:

□ Enable MAC Filter ○ Include ● Exclude

Encryption

Keyboard/Mouse: □ DES □ 3DES □ AES □ RC4 □ Random

Video: □ DES □ 3DES □ AES □ RC4 □ Random

Virtual Media: □ DES □ 3DES □ AES □ RC4 □ Random

Security Level

○ High ○ Medium-high ● Medium

○ Custom: ☑ Enable ICMP service ☑ Enable SNMP service □ Enable Telnet service ☑ Enable SSH session ☑ Enable HTTP session ☑ Enable HTTPS session TLS 1.0,1.1,1.2

Note: you can use either HTTP or HTTPS to log in.
If you disable both of them, you can use Client AP to log in.

Working Mode

□ Enable FIPS

☑ Enable Multiuser Operation

☑ Enable Virtual Media Write

□ Disable Authentication

Private Certificate

Private Key:

Certificate:

Certificate Signing Request

Certificate:

Login Failures

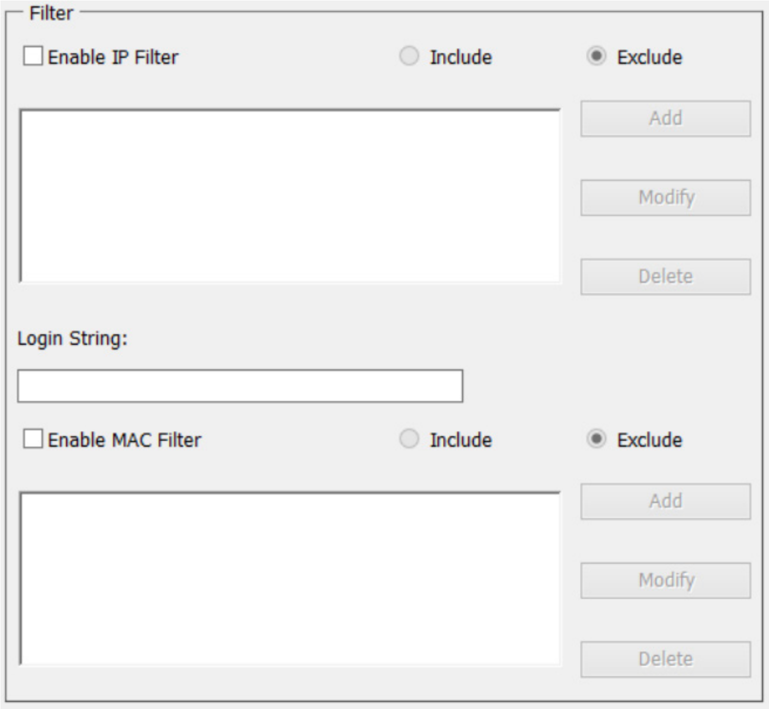
For increased security, the Login Failures section allows administrators to set policies governing what happens when a user fails to log in successfully.

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

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

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

Filter



- IP and MAC Filtering

  IP and MAC Filters control access to the KVM over IP switch based on the IP and/or MAC addresses of the client computers attempting to connect. A maximum of 100 IP filters and 100 MAC filters are allowed. If any filters have been configured, they appear in the IP Filter and/or MAC Filter list boxes.

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

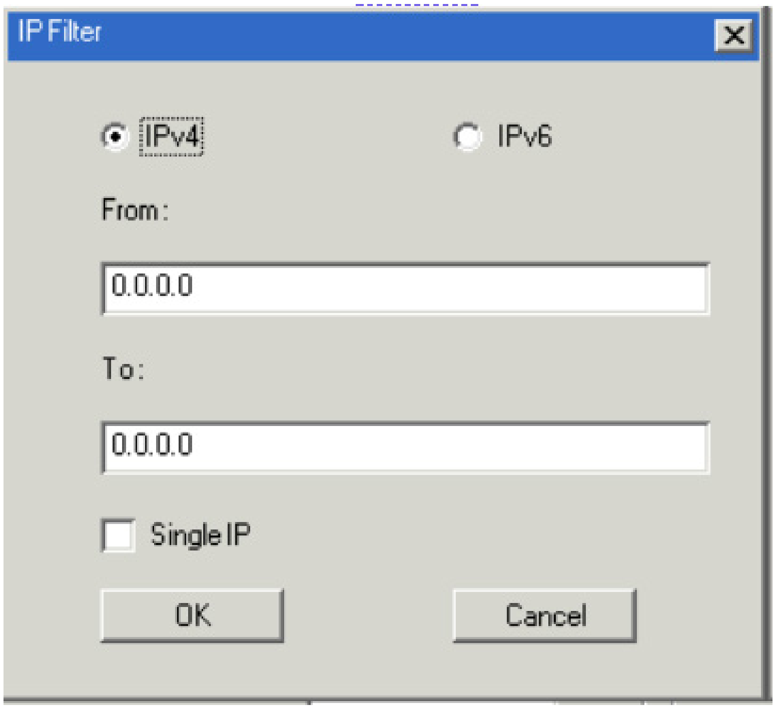
  o If the include button is checked, all the addresses within the filter range are allowed access; all other addresses are denied access.

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

- Adding Filters

  To add an IP filter:

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



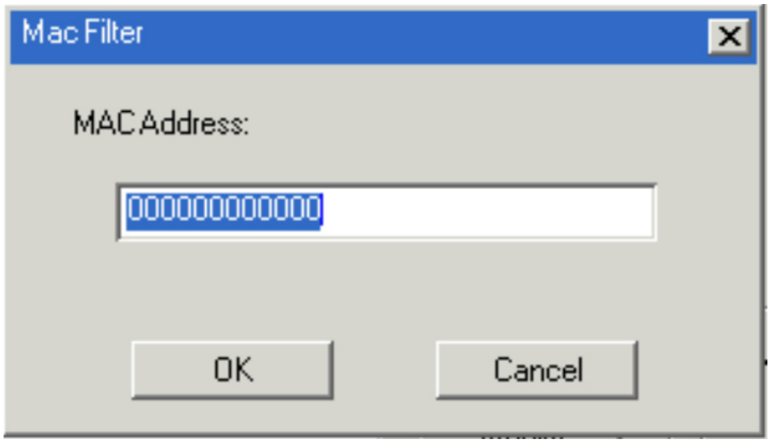
  2. Specify whether you are filtering an IPv4 or IPv6 address.
  3. Key the address you want to filter in the *From:* field.
     - To filter a single IP address, click to put a check in the *Single IP* checkbox.
     - To filter a continuous range of addresses, key in the end number of the range in the *To:* field.

     Notes: *This description is for the AP GUI. The Browser GUI differs as follows:*

     - *It does not offer an IPv4 or IPv6 choice. It only has From and To fields for IPv4 filtering.*
     - *It does not have a checkbox to specify a single IP address. To filter a single IPv4 address, key the same address in both the From and To fields.*
  4. After filling in the address, click **OK**.
  5. Repeat these steps for any additional IP addresses you want to filter.

To add a MAC filter:

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



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

- IP Filter / MAC Filter Conflict

  If there is a conflict between an IP filter and a MAC filter (e.g., if a computer's address is allowed by one filter but blocked by the other), then the blocking filter takes precedence (the computer's access is blocked).

- Modifying Filters

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

- Deleting Filters

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

Login String

The *Login String* entry field lets the super administrator specify a login string (in addition to the IP address) that users must add to the IP address when they access the KVM over IP switch with a browser.

For example, if *192.168.0.126* were the IP address, and *abcdefg* were the login string, then the user would have to key in:

```
192.168.0.126/abcdefg
```

Notes:

- *Users must place a forward slash between the IP address and the string.*
- *If no login string is specified here, anyone will be able to access the KVM over IP switch login page using the IP address alone. This makes your installation less secure.*

The following characters are allowed in the string: 0–9 a–z A–Z ~ ! @ $ & * ( ) _ - = + [ ] .

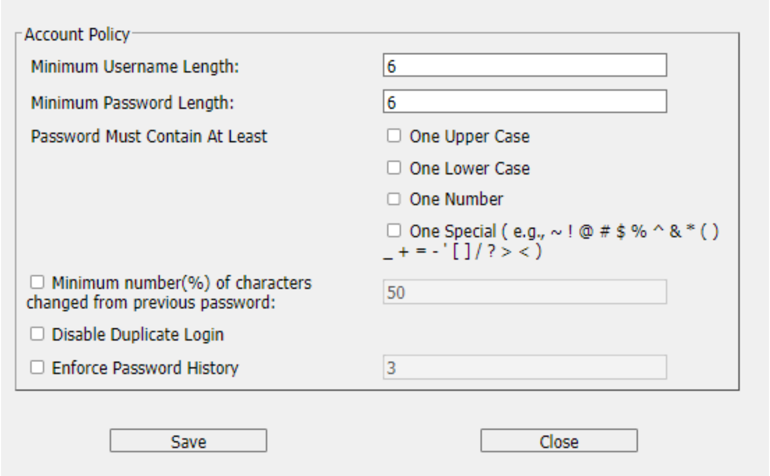
The following characters are not allowed:

% ^ " : / ? # \ ' { } ; ' < > [Space] Compound characters (É Ç ñ ... etc.)

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

Account Policy

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



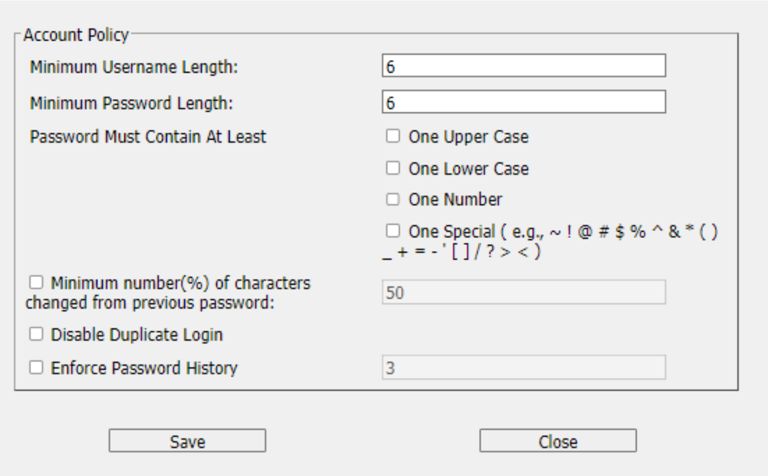
Account Policy

Minimum Username Length:	6
Minimum Password Length:	6
Password Must Contain At Least	□ One Upper Case □ One Lower Case □ One Number □ One Special (e.g., ~ ! @ # $ % ^ & * ( ) _ + = - ' [ ] / ? > <)
□ Minimum number(%) of characters changed from previous password:	50
□ Disable Duplicate Login	
□ Enforce Password History	3

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

Entry	Explanation
Minimum Username Length	Sets the minimum number of characters required for a username. Acceptable values are from 1–16. The default is 6.
Minimum Password Length	Sets the minimum number of characters required for a password. Acceptable values are from 0–32. A setting of 0 means that no password is required. Users can login with only a Username. The default is 6.
Password Must Contain At Least	Checking any of these items requires users to include at least one uppercase letter, one lowercase letter or one number in their password. ***Note:*** *This policy only affects user accounts created after this policy has been enabled and password changes to existing user accounts. For user accounts created before this policy is enabled, there is no change to the existing passwords.*
Minimum Number (%) of Characters Changed from Previous Password	Sets the minimum number in percentage of characters required to be changed from the previous password.
Disable Duplicate Login	Check this to prevent users from logging in with the same account at the same time.
Enforce Password History	Checking this box will require users to create a unique password that does not match the last x passwords they have used. X equals the number entered in the dialog box.

Encryption



Account Policy

Minimum Username Length: 6

Minimum Password Length: 6

Password Must Contain At Least
- □ One Upper Case
- □ One Lower Case
- □ One Number
- □ One Special (e.g., ~ ! @ # $ % ^ & * ( ) _ + = - ' [ ] / ? > <)

□ Minimum number(%) of characters changed from previous password: 50

□ Disable Duplicate Login

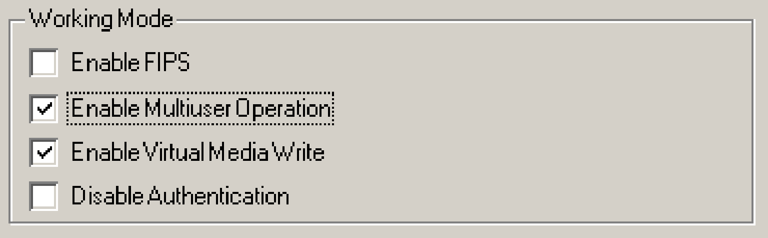
□ Enforce Password History 3

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

Enabling encryption affects system performance. No encryption offers the best performance and the greater the encryption, the greater the adverse effect. If you enable encryption, the performance considerations are as follows:

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

Mode



Working Mode

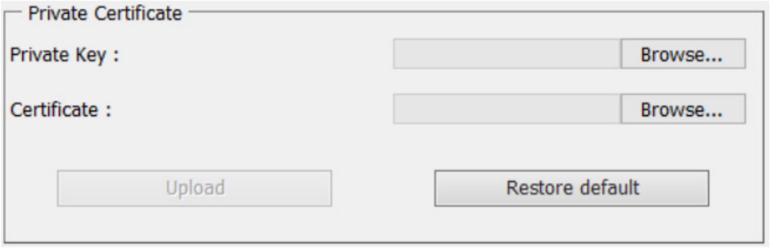
- □ Enable FIPS
- ☑ Enable Multiuser Operation
- ☑ Enable Virtual Media Write
- □ Disable Authentication

An explanation of the *Mode* items is given in the table below:

Item	Explanation
Enable FIPS	Enables the FIPS security standard.
Enable Multiuser Operation	Enabling *Multiuser operation* permits up to 32 users to log in at the same time to share the remote bus. If not enabled, only one user can log in at a time. The default is Enabled.
Enable Virtual Media Write Operation	Enabling *Virtual Media Write Operation* allows redirected virtual media devices on a user's system to send data to a remote server, as well as being able to have data from the remote server written to them.
Disable Authentication	If *Disable Authentication* is checked, no authentication procedures are used to check users attempting to log in. Users gain Administrator access to the KVM over IP switch simply by entering combination of username and password. ***Note:*** *Enabling this setting creates an extremely dangerous result in terms of security and should only be used only under special circumstances.*

Private Certificate

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



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

- Generating a Self-Signed Certificate

  If you wish to create your own self-signed certificate, a free utility – openssl.exe – is available for download over the web. See **7.1.3 Self-Signed Private Certificates** for details about using OpenSSL to generate your own private key and SSL certificate.

- Obtaining a CA Signed SSL Server Certificate

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

- Importing the Private Certificate

  To import the private certificate:

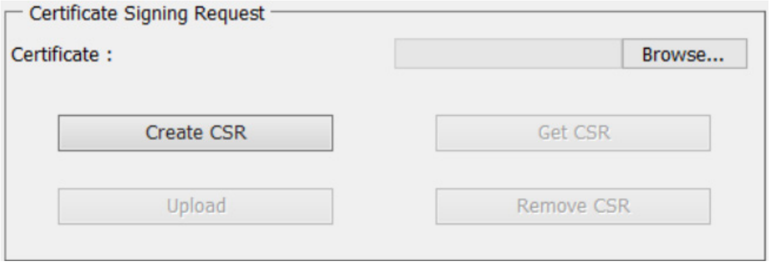
  1. Click **Browse** to the right of *Private Key*, browse to where your private encryption key file is located and select it.
  2. Click **Browse** to the right of *Certificate*, browse to where your certificate file is located and select it.
  3. Click **Upload** to complete the procedure.

Notes:

- *Clicking Restore Default returns the device to using the default certificate.*
- *Both the private encryption key and the signed certificate must be imported at the same time.*

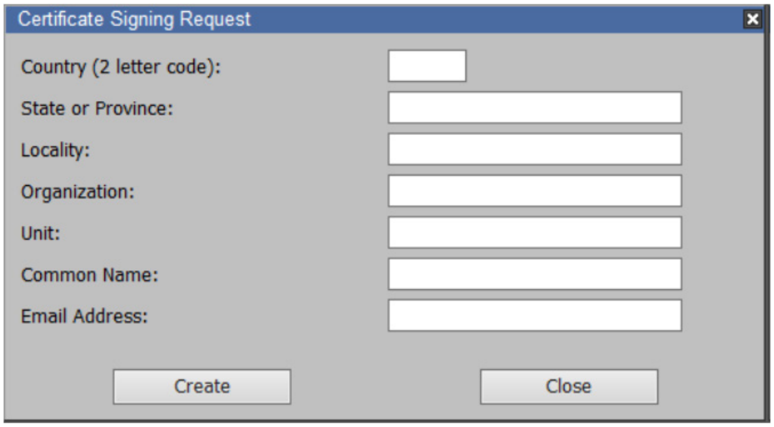
Certificate Signing Request

The *Certificate Signing Request (CSR)* section provides an automated way of obtaining and installing a CA signed SSL server certificate.



To perform this operation:

1. Click **Create CSR**. The following dialog box will appear:



2. Fill in the form with entries that are valid for your site. Example information is provided in the following table:

Information	Example
Country (2 letter code)	US
State or Province	IL
Locality	US
Organization	Your Company, Ltd.
Unit	Techdoc Department
Common Name	mycompany.com ***Note:*** *This must be the exact domain name of the site that you want the certificate to be valid for. If the site's domain name is www.mycompany.com, and you only specify mycompany.com, the certificate will not be valid.*
Email Address	administrator@yourcompany.com

3. After filling in the form (all fields are required), click **Create**.

   A self-signed certificate based on the information you just provided will now be stored on the KVM over IP switch.

4. Click **Get CSR** and save the certificate file (csr.cer) to a convenient location on your computer.

   This is the file that you give to the third-party CA to apply for their signed SSL certificate.

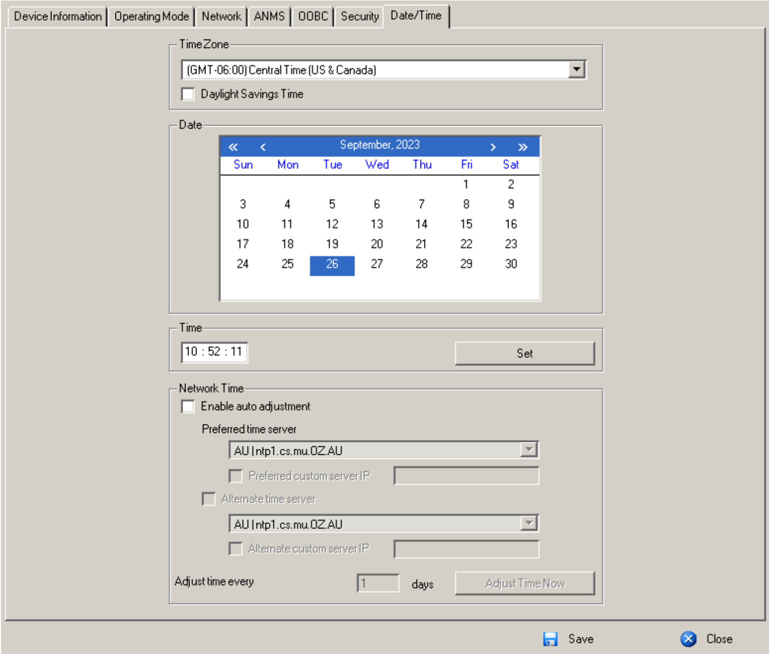
5. After the CA sends you the certificate, save it to a convenient location on your computer. Click **Browse** to locate the file, then click **Upload** to store it on the KVM over IP switch.

Note: *Once you upload the file, the KVM over IP switch will check the file to make sure the specified information still matches. If it does, the file is accepted; if not, it is rejected.*

If you want to remove the certificate (to replace it with a new one because of a domain name change, for example), simply click Remove CSR.

Date/Time

The *Date/Time* dialog page sets the KVM over IP switch time parameters:



Time Zone

(GMT-06:00) Central Time (US & Canada)

□ Daylight Savings Time

Date

« ‹ September, 2023 › »

Sun	Mon	Tue	Wed	Thu	Fri	Sat
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

Time

10 : 52 : 11 Set

Network Time

□ Enable auto adjustment

Preferred time server

AU | ntp1.cs.mu.OZ.AU

□ Preferred custom server IP

□ Alternate time server

AU | ntp1.cs.mu.OZ.AU

□ Alternate custom server IP

Adjust time every 1 days Adjust Time Now

Save Close

Set the parameters according to the information below.

Time Zone

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

Date

- Select the month from the drop-down listbox.
- Click **< or >** to move 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 **Set** to save your settings.

Network Time

To have the time automatically synchronized to a network time server:

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

   – or –

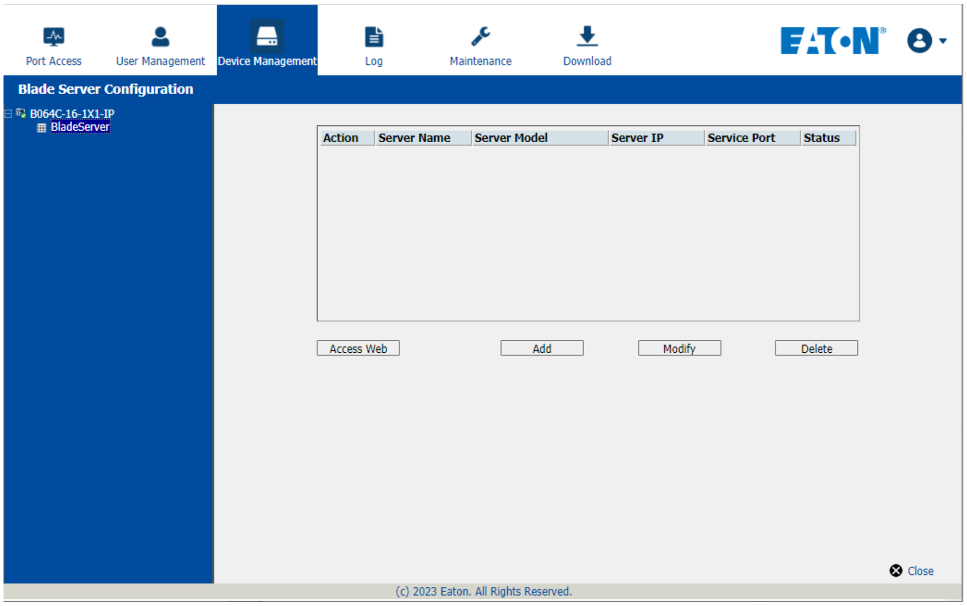
   Check the *Preferred custom server IP* checkbox and key in either the IPv4 address, IPv6 address or domain name of the time server of your choice.
3. If you want to configure an alternate time server, check the *Alternate time server* checkbox and repeat step 2 for the alternate time server entries.
4. Key in your choice for the number of days between synchronization procedures.
5. If you want to synchronize immediately, click **Adjust Time Now**.

7.7.2 Blade Servers

Configuration Page

For Super Administrators, when a Blade Server is selected in the Sidebar, its *Configuration* page will appear:

Browser GUI



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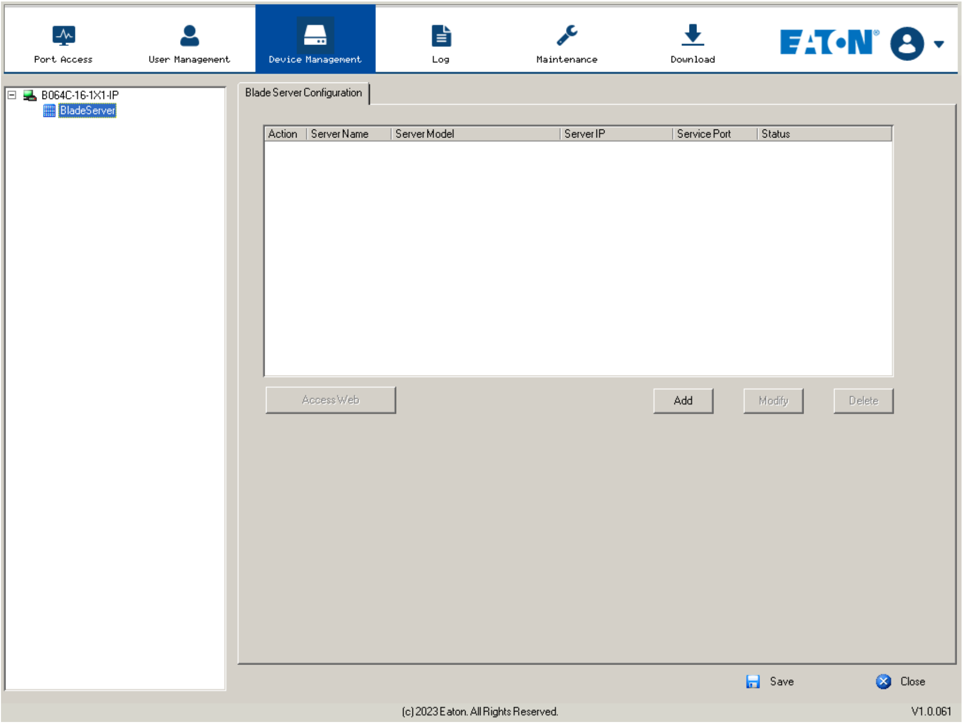
AP GUI



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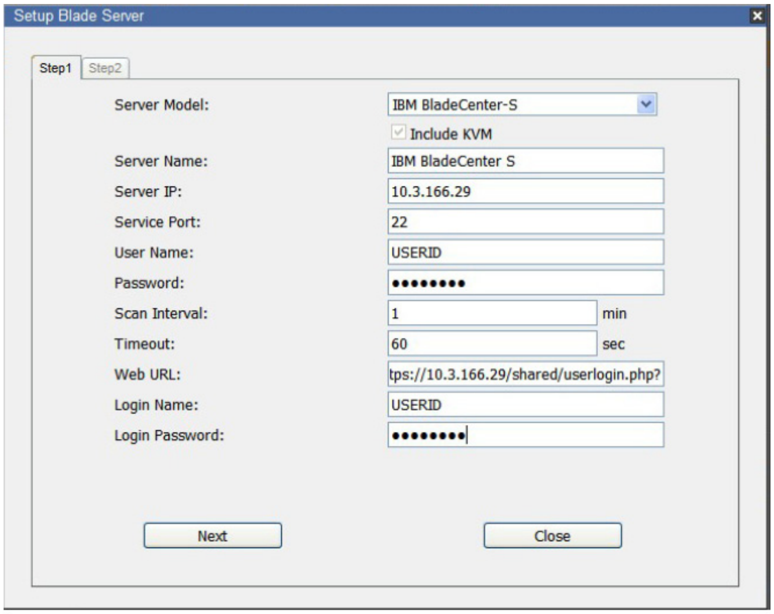
V1.0.061

Blade Server Setup

Adding a Blade Server

1. Select its icon in the Sidebar, then click **Add** in the main panel. The *Setup Blade Server* dialog box appears with the *Step 1* tab displayed:



Server Model: IBM BladeCenter-S

☑ Include KVM

Server Name: IBM BladeCenter S

Server IP: 10.3.166.29

Service Port: 22

User Name: USERID

Password: ••••••••

Scan Interval: 1 min

Timeout: 60 sec

Web URL: tps://10.3.166.29/shared/userlogin.php?

Login Name: USERID

Login Password: ••••••••

2. Fill in the fields according to the information provided in the table below:

Field	Explanation
Server Model	Drop down the list to select the blade server chassis model. If your model is not included in the list of supported servers, contact your dealer for help.
Include KVM	This item is for information purposes and cannot be edited. If the server supports a KVM function, this box is checked. Otherwise, it is unchecked.
Server Name	For convenience, you can give the server a name.
Server IP	Key in the server's IP address (IPv4, IPv6, or domain name) used to access the server via a serial connection (Telnet or SSH).
Service Port	Key in the port number used for serial access.
User Name	Key in the username required for serial access authentication.
Password	Key in the password required for serial access authentication.
Scan Interval	The interval between times that the KVM over IP switch scans the server for information.
Timeout	The amount of time that the KVM over IP switch waits for a response from the server before it stops scanning for information.
Web URL	Key in the server's IP address (IPv4, IPv6, or domain name) used to access the server via a browser.
Login Name	Key in the username required for browser authentication.
Login Password	Key in the password required for browser authentication.

3. When you have finished configuring the fields, click **Next** to open the dialog box with the *Step 2* tab displayed.
4. The *Step 2* dialog presents a summary of the blade server's configuration, including the number of blades installed. Click **Save** to add the blade server to the installation.

Modifying / Deleting a Blade Server

- To modify a blade server's configuration, select it in the Sidebar, then click **Modify**. Make your changes on the *Setup Blade Server* dialog box.
- To remove a blade server, select it in the Sidebar, then click **Delete**.

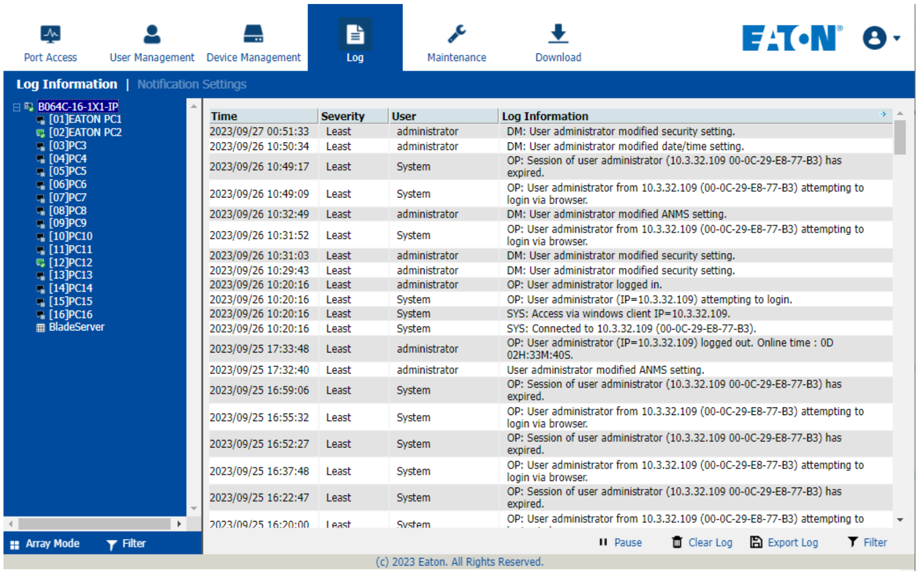
Web Access

To access the blade server's Web page, select it in the Sidebar, then click **Access Web**.

7.8 Log

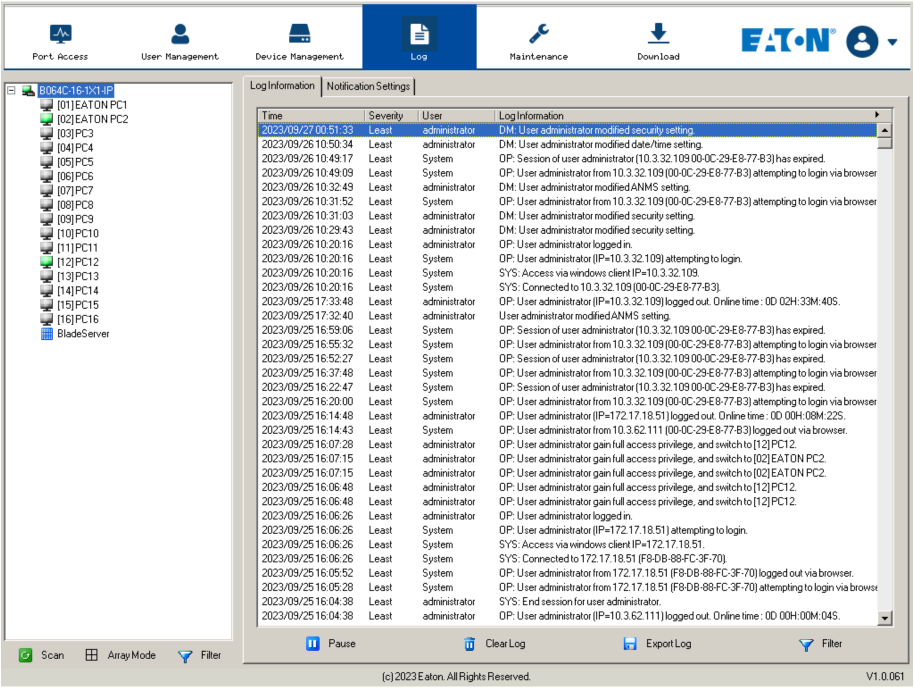
The KVM over IP switch logs all the events that take place on it. To view the contents of the log, click the *Log* tab.

Browser GUI



Time	Severity	User	Log Information
2023/09/27 00:51:33	Least	administrator	DM: User administrator modified security setting.
2023/09/26 10:50:34	Least	administrator	DM: User administrator modified date/time setting.
2023/09/26 10:49:17	Least	System	OP: Session of user administrator (10.3.32.109 00-0C-29-E8-77-B3) has expired.
2023/09/26 10:49:09	Least	System	OP: User administrator from 10.3.32.109 (00-0C-29-E8-77-B3) attempting to login via browser.
2023/09/26 10:32:49	Least	administrator	DM: User administrator modified ANMS setting.
2023/09/26 10:31:52	Least	System	OP: User administrator from 10.3.32.109 (00-0C-29-E8-77-B3) attempting to login via browser.
2023/09/26 10:31:03	Least	administrator	DM: User administrator modified security setting.
2023/09/26 10:29:43	Least	administrator	DM: User administrator modified security setting.
2023/09/26 10:20:16	Least	administrator	OP: User administrator logged in.
2023/09/26 10:20:16	Least	System	OP: User administrator (IP=10.3.32.109) attempting to login.
2023/09/26 10:20:16	Least	System	SYS: Access via windows client IP=10.3.32.109.
2023/09/26 10:20:16	Least	System	SYS: Connected to 10.3.32.109 (00-0C-29-E8-77-B3).
2023/09/25 17:33:48	Least	administrator	OP: User administrator (IP=10.3.32.109) logged out. Online time : 0D 02H:33M:40S.
2023/09/25 17:32:40	Least	administrator	User administrator modified ANMS setting.
2023/09/25 16:59:06	Least	System	OP: Session of user administrator (10.3.32.109 00-0C-29-E8-77-B3) has expired.
2023/09/25 16:55:32	Least	System	OP: User administrator from 10.3.32.109 (00-0C-29-E8-77-B3) attempting to login via browser.
2023/09/25 16:52:27	Least	System	OP: Session of user administrator (10.3.32.109 00-0C-29-E8-77-B3) has expired.
2023/09/25 16:37:48	Least	System	OP: User administrator from 10.3.32.109 (00-0C-29-E8-77-B3) attempting to login via browser.
2023/09/25 16:22:47	Least	System	OP: Session of user administrator (10.3.32.109 00-0C-29-E8-77-B3) has expired.
2023/09/25 16:20:00	Least	System	OP: User administrator from 10.3.32.109 (00-0C-29-E8-77-B3) attempting to

AP GUI



Time	Severity	User	Log Information
2023/09/27 00:51:33	Least	administrator	DM: User administrator modified security setting.
2023/09/26 10:50:34	Least	administrator	DM: User administrator modified date/time setting.
2023/09/26 10:49:17	Least	System	OP: Session of user administrator (10.3.32.109 00-0C-29-E8-77-B3) has expired.
2023/09/26 10:49:09	Least	System	OP: User administrator from 10.3.32.109 (00-0C-29-E8-77-B3) attempting to login via browser
2023/09/26 10:32:49	Least	administrator	DM: User administrator modified ANMS setting.
2023/09/26 10:31:52	Least	System	OP: User administrator from 10.3.32.109 (00-0C-29-E8-77-B3) attempting to login via browser
2023/09/26 10:31:03	Least	administrator	DM: User administrator modified security setting.
2023/09/26 10:29:43	Least	administrator	DM: User administrator modified security setting.
2023/09/26 10:20:16	Least	administrator	OP: User administrator logged in.
2023/09/26 10:20:16	Least	System	OP: User administrator (IP=10.3.32.109) attempting to login.
2023/09/26 10:20:16	Least	System	SYS: Access via windows client IP=10.3.32.109.
2023/09/26 10:20:16	Least	System	SYS: Connected to 10.3.32.109 (00-0C-29-E8-77-B3).
2023/09/25 17:33:48	Least	administrator	OP: User administrator (IP=10.3.32.109) logged out. Online time : 0D 02H:33M:40S.
2023/09/25 17:32:40	Least	administrator	User administrator modified ANMS setting.
2023/09/25 16:59:06	Least	System	OP: Session of user administrator (10.3.32.109 00-0C-29-E8-77-B3) has expired.
2023/09/25 16:55:32	Least	System	OP: User administrator from 10.3.32.109 (00-0C-29-E8-77-B3) attempting to login via browser
2023/09/25 16:52:27	Least	System	OP: Session of user administrator (10.3.32.109 00-0C-29-E8-77-B3) has expired.
2023/09/25 16:37:48	Least	System	OP: User administrator from 10.3.32.109 (00-0C-29-E8-77-B3) attempting to login via browser
2023/09/25 16:22:47	Least	System	OP: Session of user administrator (10.3.32.109 00-0C-29-E8-77-B3) has expired.
2023/09/25 16:20:00	Least	System	OP: User administrator from 10.3.32.109 (00-0C-29-E8-77-B3) attempting to login via browser
2023/09/25 16:14:48	Least	administrator	OP: User administrator (IP=172.17.18.51) logged out. Online time : 0D 00H:08M:22S.
2023/09/25 16:14:43	Least	System	OP: User administrator from 10.3.62.111 (00-0C-29-E8-77-B3) logged out via browser.
2023/09/25 16:07:28	Least	administrator	OP: User administrator gain full access privilege, and switch to [12] PC12.
2023/09/25 16:07:15	Least	administrator	OP: User administrator gain full access privilege, and switch to [02] EATON PC2.
2023/09/25 16:07:15	Least	administrator	OP: User administrator gain full access privilege, and switch to [02] EATON PC2.
2023/09/25 16:06:48	Least	administrator	OP: User administrator gain full access privilege, and switch to [12] PC12.
2023/09/25 16:06:48	Least	administrator	OP: User administrator gain full access privilege, and switch to [12] PC12.
2023/09/25 16:06:26	Least	administrator	OP: User administrator logged in.
2023/09/25 16:06:26	Least	System	OP: User administrator (IP=172.17.18.51) attempting to login.
2023/09/25 16:06:26	Least	System	SYS: Access via windows client IP=172.17.18.51.
2023/09/25 16:06:26	Least	System	SYS: Connected to 172.17.18.51 (F8-DB-88-FC-3F-70).
2023/09/25 16:05:52	Least	System	OP: User administrator from 172.17.18.51 (F8-DB-88-FC-3F-70) logged out via browser.
2023/09/25 16:05:28	Least	System	OP: User administrator from 172.17.18.51 (F8-DB-88-FC-3F-70) attempting to login via browse
2023/09/25 16:04:38	Least	administrator	SYS: End session for user administrator.
2023/09/25 16:04:38	Least	administrator	OP: User administrator (IP=10.3.62.111) logged out. Online time : 0D 00H:00M:04S.

7.8.1 Log Information

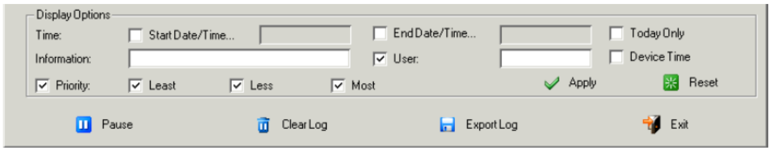
The Log Information page displays events that take place on the B064C-16-1X1-IP and provides a breakdown of the time, the severity, the user, and a description of each one. You can change the sort order of the display by clicking on the column headings.

The log file tracks a maximum of 512 events. When the limit is reached, the oldest events get discarded as new events come in. The purpose of the buttons at the bottom of the page are described in the following table:

Button	Explanation
Pause	Clicking *Pause* stops the display of new events. When the display is paused, the button changes to *Resume*. Click **Resume** to start displaying events again.
Clear Log	Clicking *Clear Log* clears the log file.
Export Log	Clicking *Export Log* lets you save the contents of the log to a file on your computer.
Filter	Clicking *Filter* allows you to search for particular events by date or by specific words or strings.

Filter

Filter lets you narrow the log event display to ones that occurred at specific times, ones containing specific words or string or ones involving specific users. When you access this function, the log filter dialog box appears at the bottom of the page:



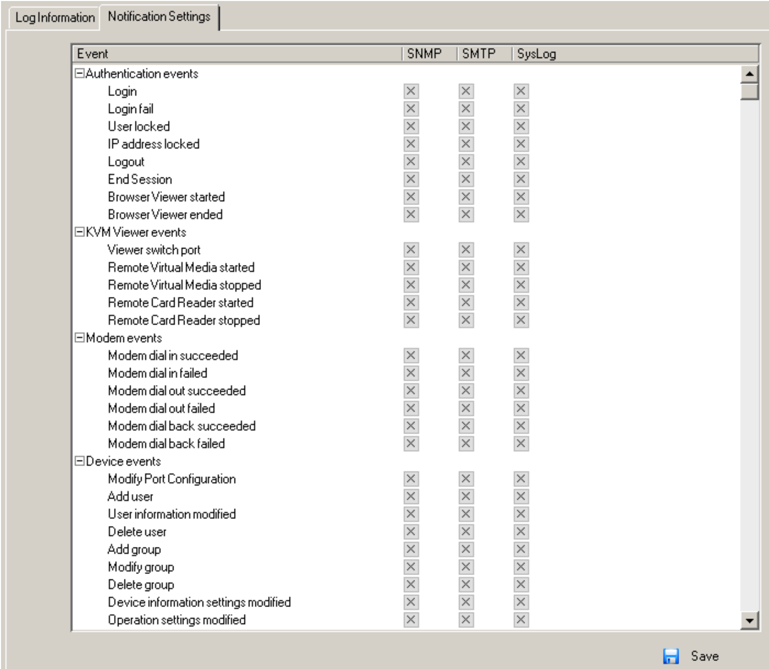
A description of the filter items is provided in the table below:

Item	Description
Time	This feature lets you filter for events that occurred at specific times. **Today Only:** Only the events for the current day are displayed. **Device Time:** Shows the events according to the time configured on the switch. **Start Date/Time:** Filters for events from a specific date and time to the present. Put a check in the checkbox to open a calendar. Set the date and time that you want the filtering to start from. All events from the Start Date/Time to the present are displayed. For the Web Browser interface, after checking Start Date/Time, click inside the text box to open the calendar. Once you have made your calendar choices, click the A icon at the lower right of the calendar panel. **End Date/Time:** Filters for events from a specific date and time to a specific date and time. First select the Start Date/Time (described above), then check **End Date/Time** to set the ending date and time. For the Web Browser interface, after checking End Date/Time, you click inside the text box to open the calendar. Once you have made your calendar choices, click the **A** icon at the lower right of the calendar panel.
Information	Filters for a particular word or string. Key the word or string into the *Information* text box. Only events containing that word or string are displayed. Wildcards (? for single characters; * for multiple characters) and the keyword or are supported. For example, *h*ds* would return "hands" and "hoods", *h?nd* would return "hand" and "hind", but not "hard" and *h*ds* or *h*ks* would return "hands" and "hooks".
User	Filters for specific users. First put a check in the User checkbox, key in the user's Username, then click Apply. Only events containing that Username are displayed. ***Note:*** *If the User checkbox is not checked here in the Filter panel, the entire User column does not appear in the main panel.*

Item	Description
Severity	Filters based on the severity rating of the event. Least events appear in black, less events appear in blue and most events appear in red. First put a check in the Severity checkbox, then check the severity options you want to filter for (you can check more than one item). Only events that match the severity ratings you specified appear in the display. ***Note:*** *If the Severity checkbox is not checked here in the Filter panel, the entire Severity column does not appear in the main panel.*
Apply	Click to apply the filter choices.
Reset	Click this button to clear the entries in the dialog box and start new.
Exit	Click this button to exit the log filter function.

7.8.2 Log Notification Settings

The *Notification Settings* page lets you decide which events trigger a notification and how the notification are sent:



Event	SNMP	SMTP	SysLog
⊟Authentication events			
Login	☒	☒	☒
Login fail	☒	☒	☒
User locked	☒	☒	☒
IP address locked	☒	☒	☒
Logout	☒	☒	☒
End Session	☒	☒	☒
Browser Viewer started	☒	☒	☒
Browser Viewer ended	☒	☒	☒
⊟KVM Viewer events			
Viewer switch port	☒	☒	☒
Remote Virtual Media started	☒	☒	☒
Remote Virtual Media stopped	☒	☒	☒
Remote Card Reader started	☒	☒	☒
Remote Card Reader stopped	☒	☒	☒
⊟Modem events			
Modem dial in succeeded	☒	☒	☒
Modem dial in failed	☒	☒	☒
Modem dial out succeeded	☒	☒	☒
Modem dial out failed	☒	☒	☒
Modem dial back succeeded	☒	☒	☒
Modem dial back failed	☒	☒	☒
⊟Device events			
Modify Port Configuration	☒	☒	☒
Add user	☒	☒	☒
User information modified	☒	☒	☒
Delete user	☒	☒	☒
Add group	☒	☒	☒
Modify group	☒	☒	☒
Delete group	☒	☒	☒
Device information settings modified	☒	☒	☒
Operation settings modified	☒	☒	☒

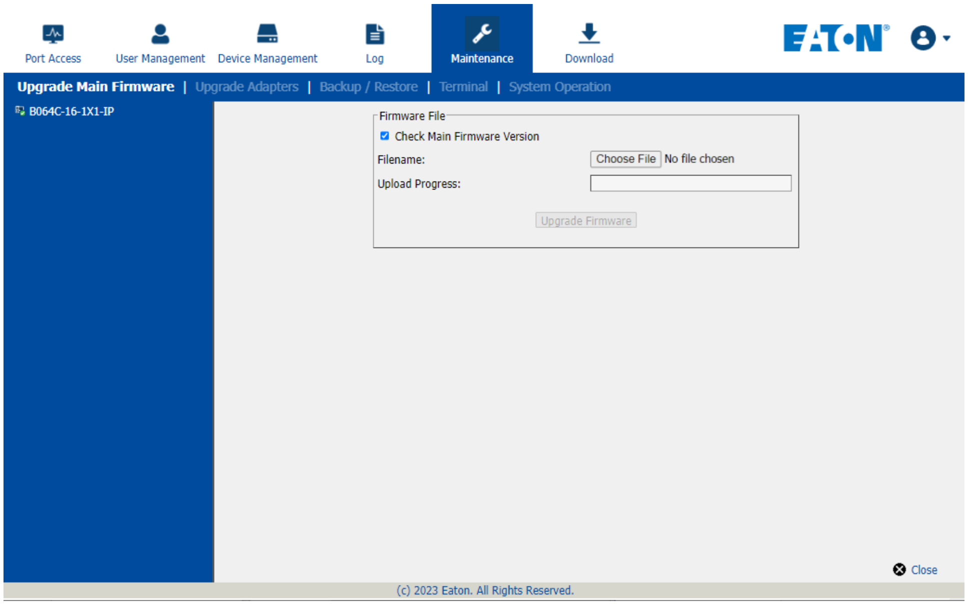
Notifications can be sent via SNMP trap, SMTP email, written to the SysLog file, or any combination of the three. A check mark (√) indicates that notification of the event is enabled for the method specified in the column heading and an X indicates that notification is not enabled.

Note: *In any of the columns, you can use Shift-Click or Ctrl-Click to select a group of events. Clicking to enable/disable any one of them will cause all of them to change in unison.*

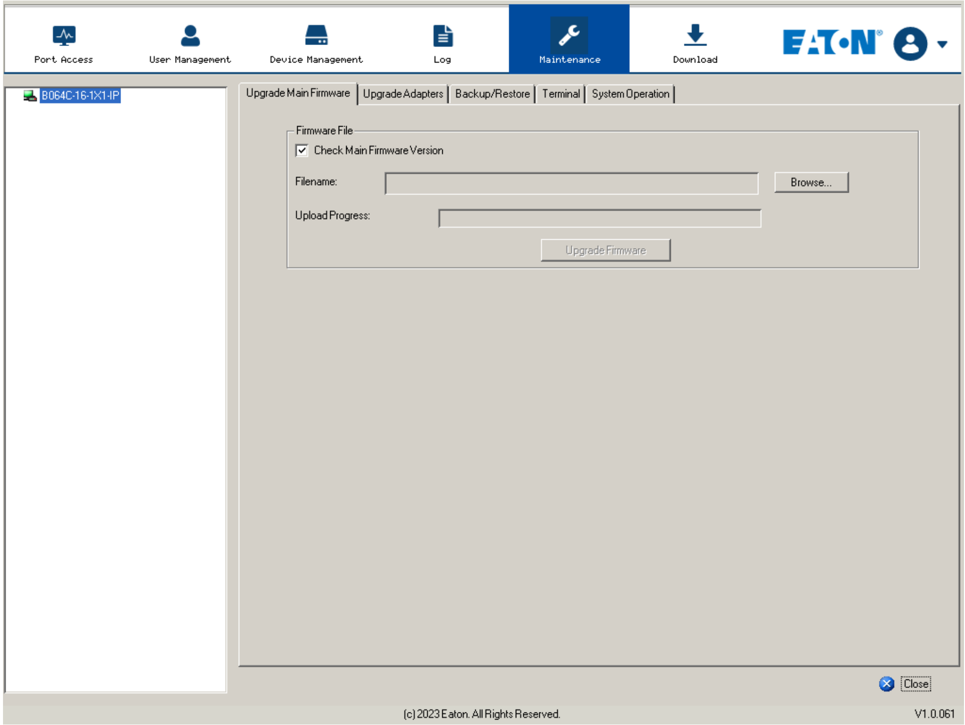
7.9 Maintenance

The *Maintenance* function is used to upgrade firmware, backup and restore configuration and account information, ping network devices, and restore default values.

Browser GUI



AP GUI

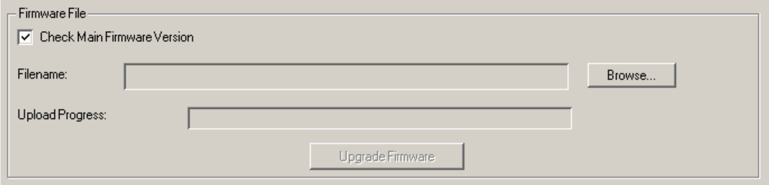


7.9.1 Main Firmware Upgrade

As new versions of the firmware become available, they can be downloaded from tripplite.eaton.com/products/management-firmware-matrix. Check the website regularly to find the latest information and packages.

To upgrade the main firmware:

1. Download the new firmware file to your computer.
2. Log in to the KVM over IP switch; and click the Maintenance tab. The Maintenance tab opens to the *Upgrade Main Firmware* page:



3. Click **Browse**, navigate to the directory the new firmware file is in and select the file.
4. Click **Upgrade Firmware** to start the upgrade procedure.
   - If you enabled *Check Main Firmware Version*, the current firmware level is compared with that of the upgrade file. If the current version is equal to or higher than the upgrade version, a popup message appears to inform you of the situation and stop the upgrade procedure.
   - If you did not enable *Check Main Firmware Version*, the upgrade file is installed without checking what its level is.
   - As the upgrade proceeds, progress information is shown in the *Progress* bar.
   - Once the upgrade completes successfully, the switch will reset.
5. Log in again and check the firmware version to be sure it is the new one.

7.9.2 Recovering from Failed Firmware Upgrade

Should the switch's main firmware upgrade procedure fail and the switch becomes unusable, follow these steps to resolve the problem:

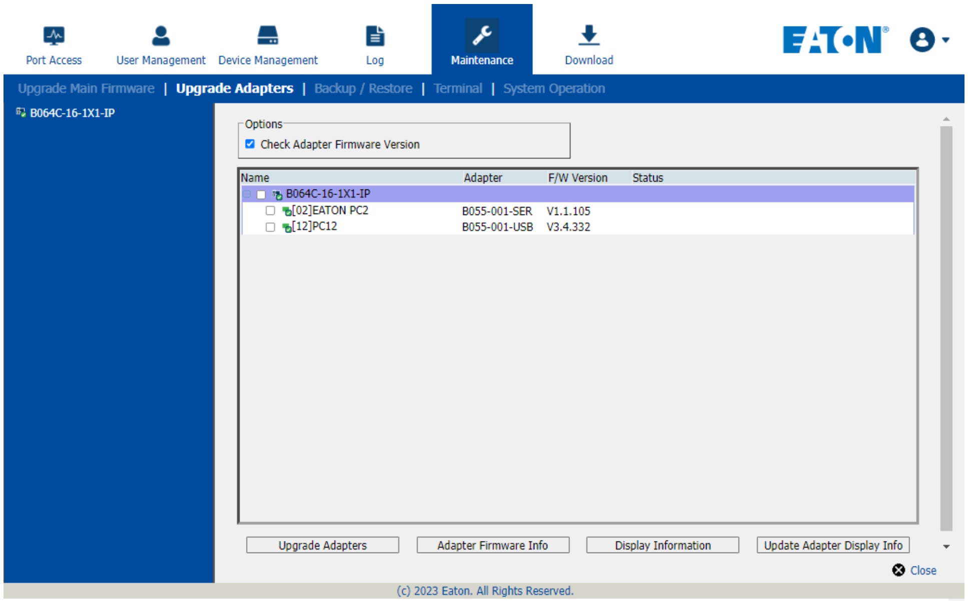
1. Power off the switch.
2. Press and hold the reset button.
3. While holding the reset button, power the switch back on.

This will cause the switch to use the original factory installed main firmware version. Once the switch is operational, you can try upgrading the main firmware again by logging on to the KVM over IP switch via web browser (see **7.9.1 Main Firmware Upgrade**).

7.9.3 Upgrade Adapters

The *Upgrade Adapters* page allows you to view and update KVM adapter firmware and display information. This section refers to the KVM adapter cables that provide the EDID display information to the connected server, which allow its video to be displayed on the local console monitor.

Browser GUI


Port Access
User Management
Device Management
Log
Maintenance
Download
EATON
Upgrade Main Firmware | Upgrade Adapters | Backup / Restore | Terminal | System Operation
B064C-16-1X1-IP
Upgrade Adapters
Adapter Firmware Info
Display Information
Update Adapter Display Info
Close
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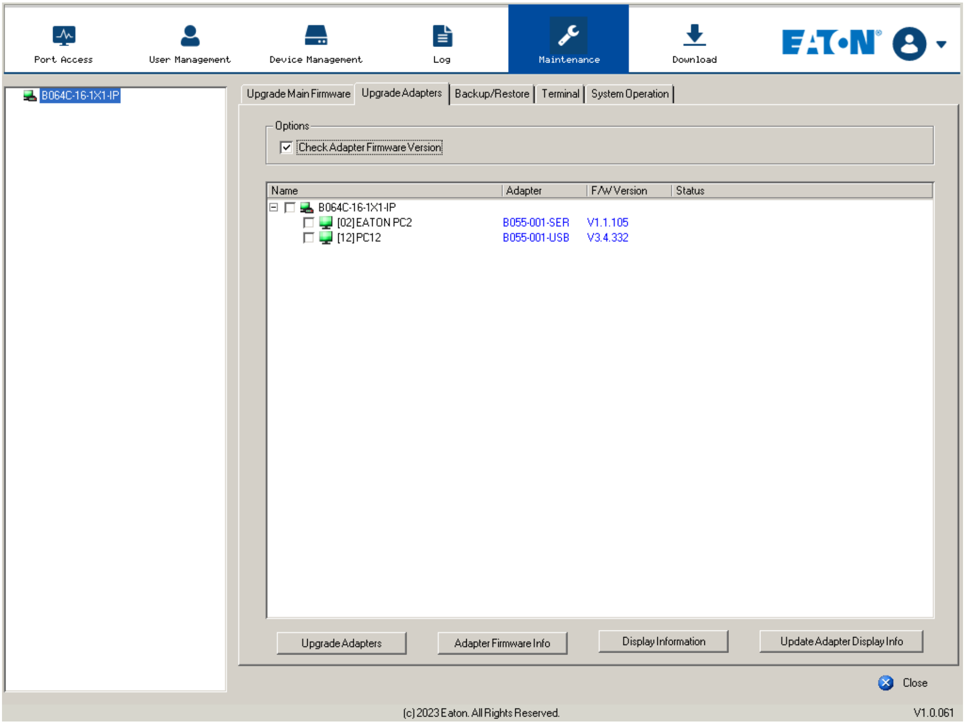
Options

☑ Check Adapter Firmware Version

Name	Adapter	F/W Version	Status
□ B064C-16-1X1-IP			
□ [02]EATON PC2	B055-001-SER	V1.1.105	
□ [12]PC12	B055-001-USB	V3.4.332	

AP GUI



Options

☑ Check Adapter Firmware Version

Name	Adapter	F/W Version	Status
□ B064C-16-1X1-IP			
□ [02]EATON PC2	B055-001-SER	V1.1.105	
□ [12]PC12	B055-001-USB	V3.4.332	

7. Administration

Upgrade Adapters

The *Upgrade Adapters* button is used to upgrade the firmware of the KVM Adapter Cables.

To perform the upgrades:

1. Click the *Maintenance* tab and select the *Upgrade Adapters* menu item.
2. Click **Adapter Firmware Info** to open a list of the adapter firmware versions stored in the main firmware. If you upgraded the main firmware, it may contain newer versions of the adapter firmware than the versions currently on the adapters.
3. Compare the adapter firmware versions stored in the main firmware with the versions listed in the *F/W Version* column of the Main Panel. If the versions stored in the firmware are newer than the ones on the adapters, you may want to perform the adapter upgrade.
4. In the *Name* column of the Main Panel, check the ports whose Adapters you want to upgrade.
5. Click **Upgrade Adapters** to start the upgrade procedure.
   - If you enabled *Check Adapter Firmware Version*, the current firmware level(s) are compared with the upgrade versions. If the current version is equal to or higher than the upgrade version, a message will appear in the adapters *Progress* column informing you that no upgrade is available and the upgrade procedure will stop.
   - If you did not enable *Check Adapter Firmware Version*, the upgrade files are installed without checking their level.
   - When the procedure completes, the new adapter firmware version displays.

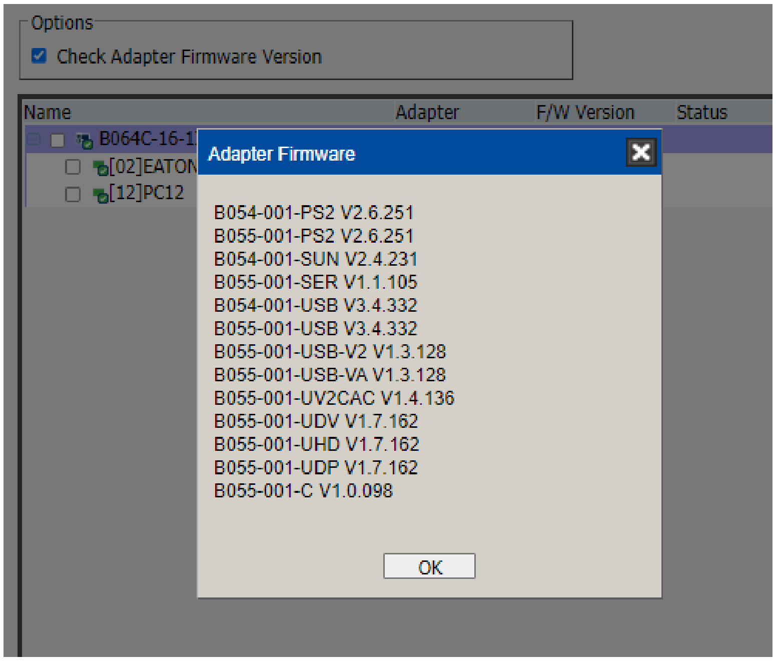
Notes:

- *The switch may work with older adapter firmware versions, but for optimum compatibility we recommend upgrading your adapter cable firmware to that stored with the switch's Main firmware.*
- *You can perform the upgrade procedure any time you add an adapter to the installation to make sure it is working with the latest firmware version.*
- *To recover from a "failed upgrade" situation, see* ***7.9.4 Adapter Firmware Upgrade Recovery****.*

Adapter Firmware Info

The *Adapter Firmware Info* button provides a list of the adapter cable firmware stored on the switch's main firmware. You can use this information to compare it to the *F/W Version* listed for the connected adapter cables. For optimum compatibility, we recommend upgrading your adapter cable's firmware to match that stored with the switch's main firmware.

Browser GUI



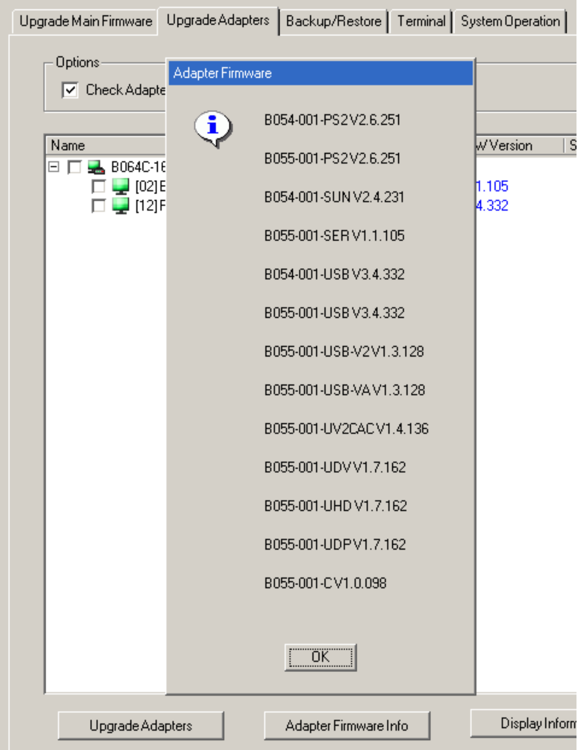
Options

☑ Check Adapter Firmware Version

Adapter Firmware

B054-001-PS2 V2.6.251
B055-001-PS2 V2.6.251
B054-001-SUN V2.4.231
B055-001-SER V1.1.105
B054-001-USB V3.4.332
B055-001-USB V3.4.332
B055-001-USB-V2 V1.3.128
B055-001-USB-VA V1.3.128
B055-001-UV2CAC V1.4.136
B055-001-UDV V1.7.162
B055-001-UHD V1.7.162
B055-001-UDP V1.7.162
B055-001-C V1.0.098

AP GUI



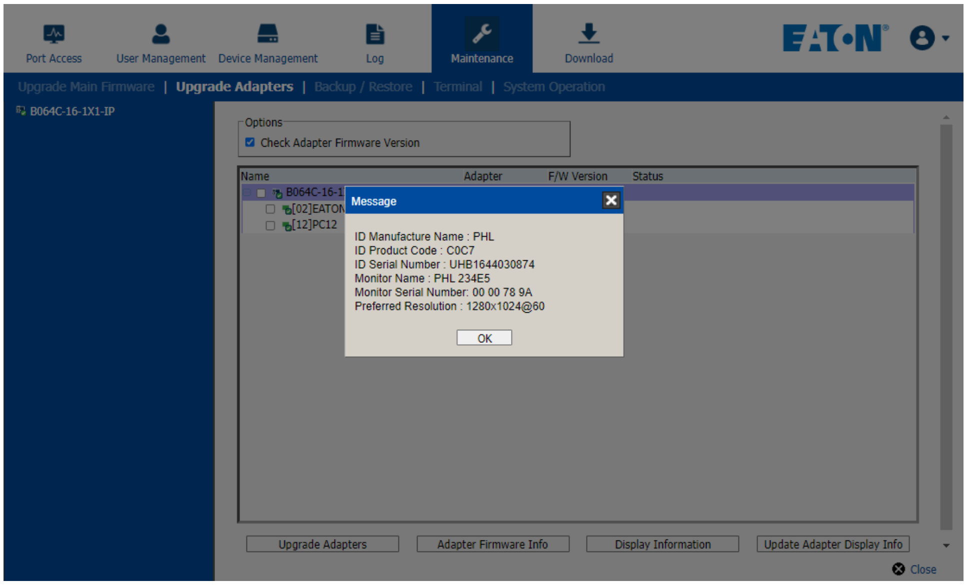
Adapter Firmware

B054-001-PS2 V2.6.251
B055-001-PS2 V2.6.251
B054-001-SUN V2.4.231
B055-001-SER V1.1.105
B054-001-USB V3.4.332
B055-001-USB V3.4.332
B055-001-USB-V2 V1.3.128
B055-001-USB-VA V1.3.128
B055-001-UV2CAC V1.4.136
B055-001-UDV V1.7.162
B055-001-UHD V1.7.162
B055-001-UDP V1.7.162
B055-001-C V1.0.098

OK

Display Information

The *Display Information* button will query and show the locally connected monitor's EDID information.



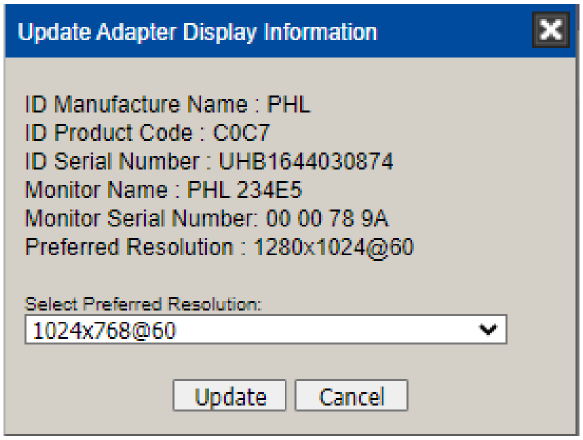
Message

ID Manufacture Name : PHL
ID Product Code : C0C7
ID Serial Number : UHB1644030874
Monitor Name : PHL 234E5
Monitor Serial Number: 00 00 78 9A
Preferred Resolution : 1280x1024@60

OK

Update Adapter Display Info

The *Update Adapter Display Info* button will query the local monitor's EDID information and update it on the adapter cable. The EDID information tells the server's video card about the hardware of the display it is connected to (in this case, the monitor connected to the KVM console).



ID Manufacture Name : PHL
ID Product Code : C0C7
ID Serial Number : UHB1644030874
Monitor Name : PHL 234E5
Monitor Serial Number: 00 00 78 9A
Preferred Resolution : 1280x1024@60

Select Preferred Resolution: 1024x768@60

Use the *Display Information* button to obtain the local monitor's Preferred Resolution (optional) and apply it with the Select *Preferred Resolution* drop down menu, then click **Write**. If the local console is not connected to a monitor, the default EDID setting is loaded on the adapter cable.

7.9.4 Adapter Firmware Upgrade Recovery

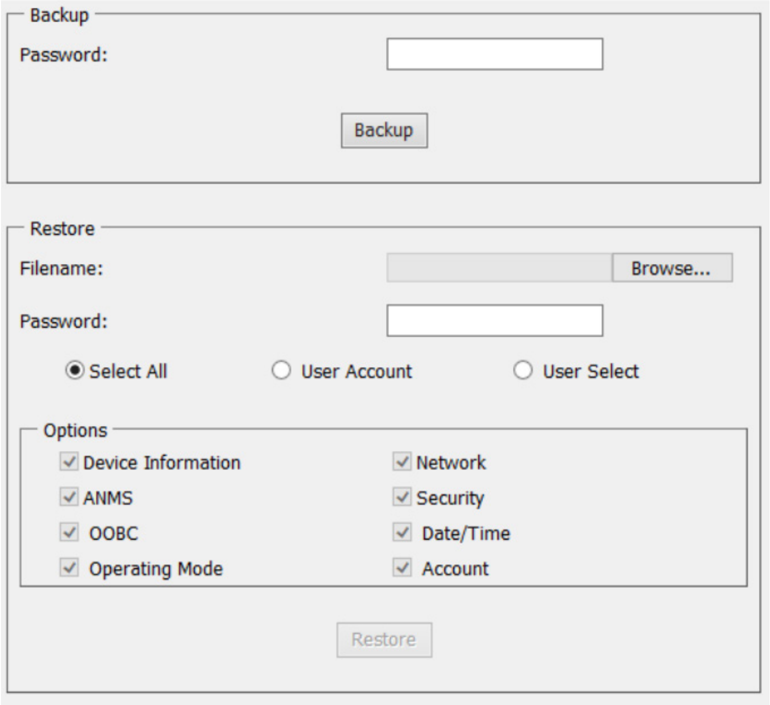
Should the adapter firmware upgrade procedure fail for one of the KVM adapter cables and the adapter becomes unusable, the following adapter firmware upgrade recovery procedure will resolve the problem:

1. Unplug the adapter from the server it is connected to.
2. Slide its *firmware upgrade recovery switch* (located next to the Cat5e connector) to the **RECOVER** position.
3. Plug the adapter back into the server.
4. Repeat the adapter upgrade procedure.

After the adapter has been successfully upgraded, unplug the adapter from the server it is connected to, slide the firmware upgrade recovery switch back to the **NORMAL** position and plug the adapter back in.

7.9.5 Backup/Restore

Selecting the *Backup/Restore* menu item gives you the ability to back up the switch's configuration and user profile information.



● Select All ○ User Account ○ User Select

☑ Device Information ☑ Network
☑ ANMS ☑ Security
☑ OOBC ☑ Date/Time
☑ Operating Mode ☑ Account

Backup

To backup the device's settings:

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

   Notes:

   - *Setting a password is optional. If you do not set one, the file can be restored without specifying a password.*
   - *If you do set a password, make a note of it, since you will need it to be able to restore the file.*

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

Restore

To restore a previous backup:

1. Click **Browse**, then navigate to the file and select it.

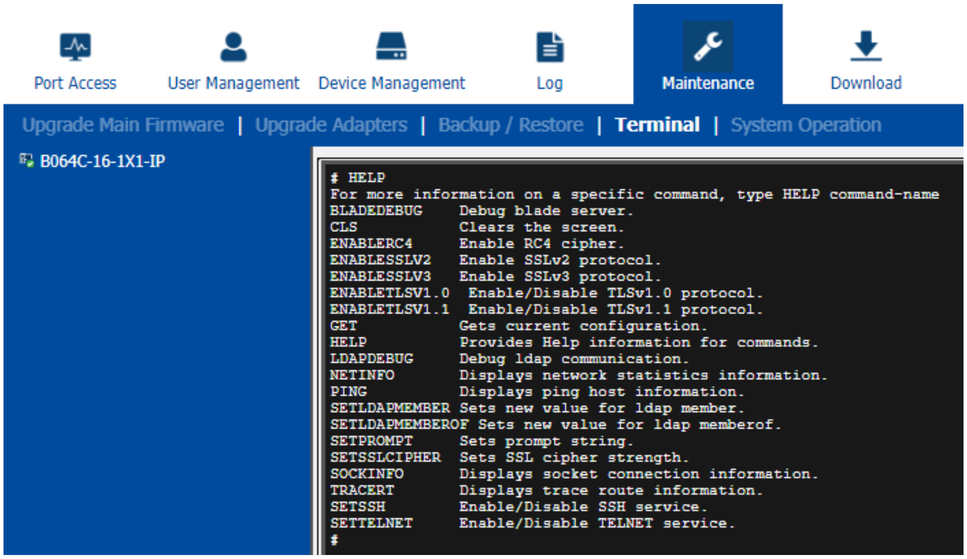
   Note: *If you renamed the file, you can keep the new name. There is no need to return it to its original name.*

2. If you set a password when you created the file, key it in the *Password* field.
3. Select as many of the options that are presented as you wish to restore.
4. Click **Restore**.

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

7.9.6 Terminal

Terminal is also available for access to more advanced instructions through a terminal-like interface.


Port Access
User Management
Device Management
Log
Maintenance
Download
Upgrade Main Firmware | Upgrade Adapters | Backup / Restore | Terminal | System Operation
B064C-16-1X1-IP

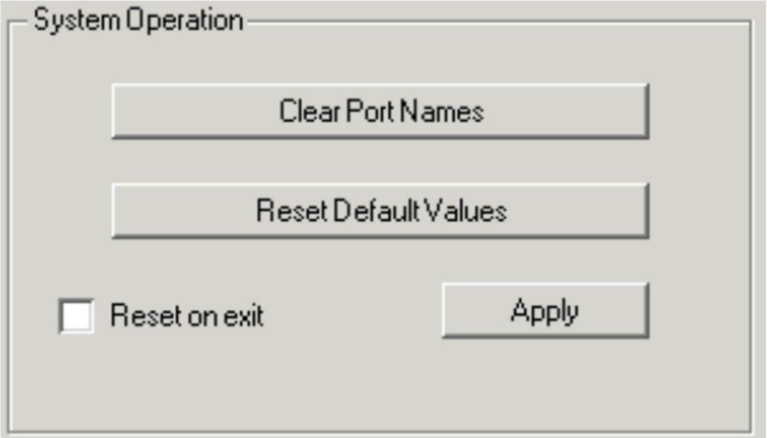
```
# HELP
For more information on a specific command, type HELP command-name
BLADEDEBUG    Debug blade server.
CLS           Clears the screen.
ENABLERC4     Enable RC4 cipher.
ENABLESSLV2   Enable SSLv2 protocol.
ENABLESSLV3   Enable SSLv3 protocol.
ENABLETLSV1.0  Enable/Disable TLSv1.0 protocol.
ENABLETLSV1.1  Enable/Disable TLSv1.1 protocol.
GET           Gets current configuration.
HELP          Provides Help information for commands.
LDAPDEBUG     Debug ldap communication.
NETINFO       Displays network statistics information.
PING          Displays ping host information.
SETLDAPMEMBER Sets new value for ldap member.
SETLDAPMEMBEROF Sets new value for ldap memberof.
SETPROMPT     Sets prompt string.
SETSSLCIPHER  Sets SSL cipher strength.
SOCKINFO      Displays socket connection information.
TRACERT       Displays trace route information.
SETSSH        Enable/Disable SSH service.
SETTELNET     Enable/Disable TELNET service.
#
```

Available commands include:

- BLADEDEBUG => Debug blade server.
- CLS => Clears the screen.
- ENABLERC4 => Enable RC4 cipher.
- ENABLESSLV2 => Enables SSLv2 protocol.
- ENABLESSLV3 => Enables SSLv3 protocol.
- ENABLETLSV1.0 => Enables/disables TLSv1.0 protocol.
- ENABLETLSV1.1 => Enables/disables TLSv1.1 protocol.
- GET => Gets current configuration.
- HELP => Provides Help information for commands.
- LDAPDEBUG => Debugs ldap communication.
- NETINFO => Displays network statistics information.
- PING => Displays ping host information.
- SETLDAPMEMBER => Sets new value for ldap member.
- SETLDAPMEMBEROF => Sets new value for ldap memberof.
- SETPROMPT => Sets prompt string.
- SETSSLCIPHER => Sets SSL cipher strength.
- SOCKINFO => Displays socket connection information.
- TRACERT => Displays trace route information.
- SETSSH => Enables/disables SSH service.
- SETTELNET => Enables/disables TELNET service.

7.9.7 Restore Values

The *Restore Values* page lets you restore certain configuration changes that were made to the KVM over IP switch back to their original factory default values.



The functions performed on this page are as follows:

Clear Port Names

Clicking this button removes names that have been assigned to the ports.

Restore Default Values

Clicking this button undoes all Customization page changes that have been made to the KVM over IP switch (except for Port Names), as well as the Network Transfer Rate (on the Network page) and returns the parameters to the original factory default settings.

Reset on Exit

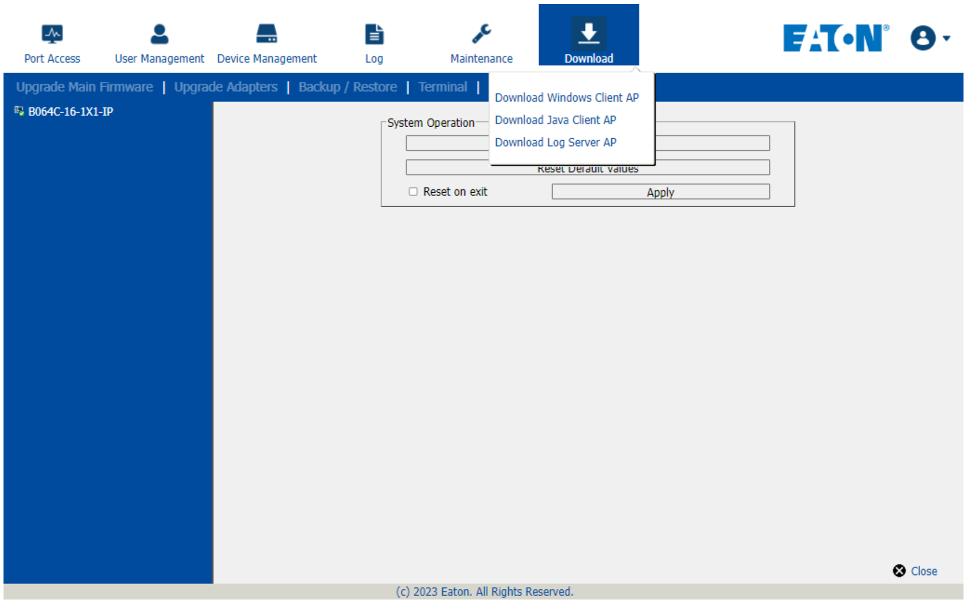
Place a check here and click **Apply** to have the KVM over IP switch reset itself and implement all the new settings when you log out. Following the reset, wait approximately 30 to 60 seconds before logging in again.

If you change the switch's IP Address, the checkbox is automatically checked and the KVM switch will reset when you log out. If you clear the check mark before logging out, the changed IP settings will be ignored and the original IP address settings will remain in effect.

Note: *Even though the changed IP settings are ignored, they will remain in the network settings fields. The next time you open this page the Reset on exit checkbox will automatically be enabled and when the switch resets, the new IP settings thought to be discarded will instead become those used by the switch. To avoid this problem, go back to the network settings page and make sure the IP settings that appear in the fields are the ones you want to use.*

7.10 Download

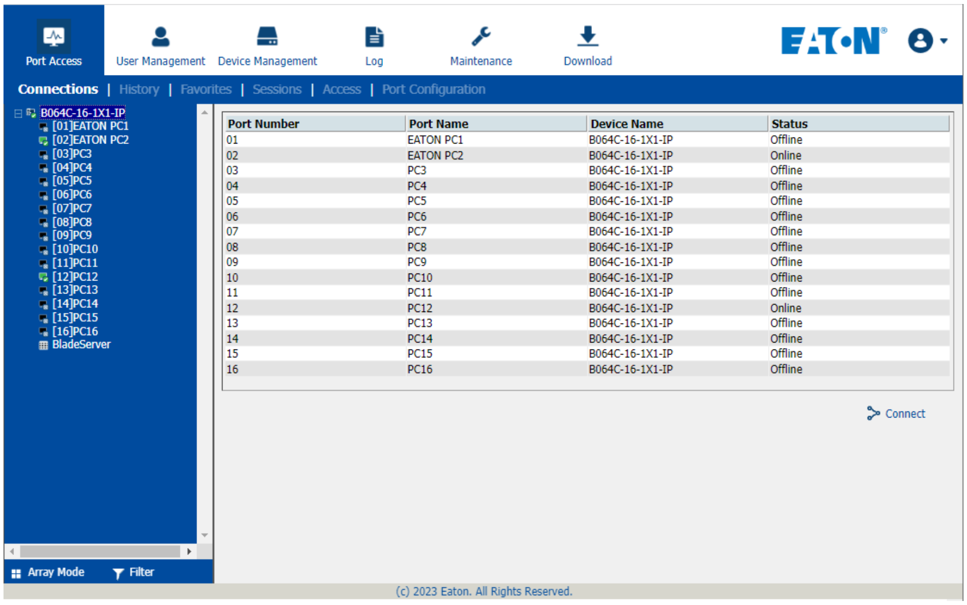
Download is used to download stand-alone AP versions of the Windows Client, Java Client and Log Server



Click the program you want to download, save it to a convenient location on your hard disk and run it.

7.11 Port Operation

Once you have successfully logged in (see **7.8 Logging In**), the B064C-16-1X1-IP opens to the Port Access tab's *Connections* page with the first KVM over IP switch selected in the sidebar.



Port Number	Port Name	Device Name	Status
01	EATON PC1	B064C-16-1X1-IP	Offline
02	EATON PC2	B064C-16-1X1-IP	Online
03	PC3	B064C-16-1X1-IP	Offline
04	PC4	B064C-16-1X1-IP	Offline
05	PC5	B064C-16-1X1-IP	Offline
06	PC6	B064C-16-1X1-IP	Offline
07	PC7	B064C-16-1X1-IP	Offline
08	PC8	B064C-16-1X1-IP	Offline
09	PC9	B064C-16-1X1-IP	Offline
10	PC10	B064C-16-1X1-IP	Offline
11	PC11	B064C-16-1X1-IP	Offline
12	PC12	B064C-16-1X1-IP	Online
13	PC13	B064C-16-1X1-IP	Offline
14	PC14	B064C-16-1X1-IP	Offline
15	PC15	B064C-16-1X1-IP	Offline
16	PC16	B064C-16-1X1-IP	Offline

Notes:

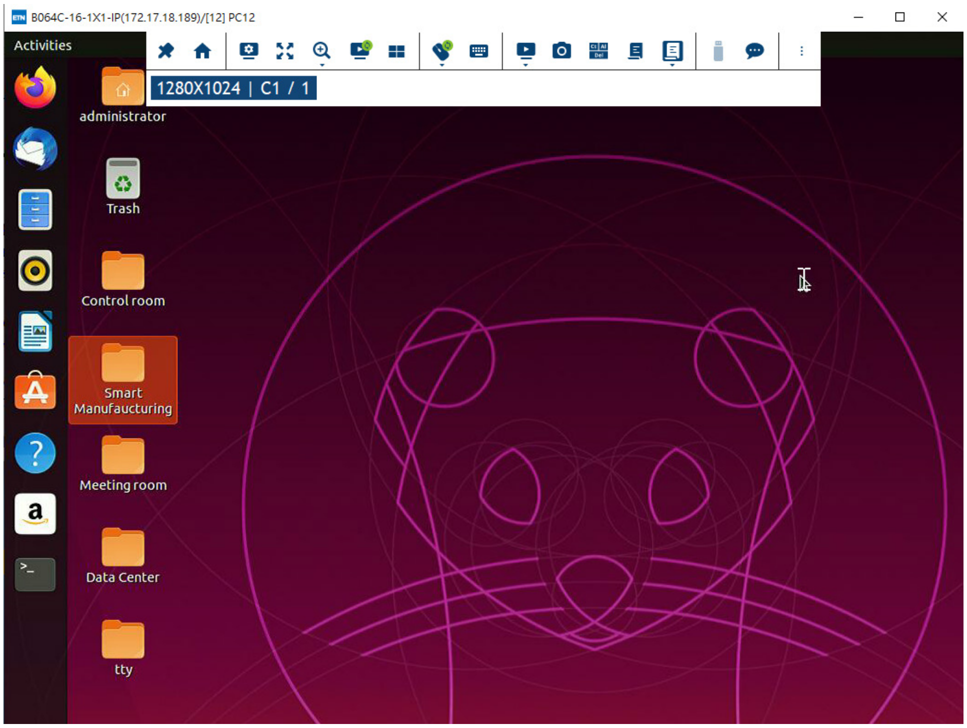
- *The WinClient and Java Client AP programs have a hidden Control Panel at the upper center of the screen that becomes visible when you mouse over it. The Browser version's Control Panel only appears when you switch to a port.*
- *See **7.5.2 KVM Devices and Ports – Connections Page** for details about the Port Access Connections page.*

7.11.1 Connecting to a Port

All devices, ports and outlets a user is permitted to access are listed in the Sidebar at the left of the page.

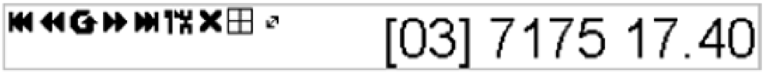
- To connect to a port when a device is selected in the Sidebar, double-click its icon in the Sidebar; or double-click anywhere on its line entry in the main central panel; or select it in the main panel and click **Connect** at the bottom right of the page.
- To connect to a port when the port is selected in the Sidebar, click **Connect** at the right of the Status panel.

Once you switch to a port, its screen will display on your monitor and your keyboard and mouse input will work with the remote server:



7.11.2 Port Toolbar

The B064C-16-1X1-IP’s interface provides a toolbar to help you with port switching operations from within the captured port. To open the toolbar, tap the OSD hotkey (Scroll Lock or Ctrl), twice. The toolbar appears at the upper left corner of the screen:



Depending on the settings that were selected for ID Display, the Port Number and/or the Port Name will display on the right of the toolbar.

When the toolbar displays mouse and keyboard input has no effect on the server connected to the port. To carry out operations on the server, close the toolbar by clicking its X icon.

To return to the Port Access Connections page, either click the appropriate icon or tap the OSD hotkey again.

Notes:

- *You can adjust the toolbar transparency.*
- *The toolbar functions and icons are also incorporated in the Control Panel. If you choose to enable them in the* control panel, *you can disable the* toolbar. *To recall the Port Access Connections page when there is no Toolbar, simply tap the OSD hotkey twice.*

Toolbar Icons

The toolbar icons are explained in the table below.

Icon	Purpose
⏮	Click to skip to the first accessible port on the entire installation without having to recall the Port Access page.
⏪	Click to skip to the first accessible port previous to the current one without having to recall the Port Access page.
↻	Click to begin Auto Scan Mode. The KVM over IP switch automatically switches among the ports that were selected for Auto Scanning with the *Filter* function. 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 recall the Port Access page.
⏭	Click to skip from the current port to the last accessible port on the entire installation without having to recall the Port Access page.
1⌗	Click to recall the Port Access page.
✖	Click to close the toolbar.
⊞	Click to invoke Panel Array Mode (see **7.11.3 Panel Array Mode**).
⤢	Lets you specify how long the Cat5e/6 cable between the port and the KVM adapter cable is. Click the icon to select one of three cable length settings: **Short:** up to 82 ft. (25 m) **Medium:** between 65 and 115 ft. (20 and 35 m) **Long:** above 115 ft. (35 m)

Toolbar Hotkey Port Switching

When the toolbar displays, you can use hotkeys to provide KVM focus to a port directly from the keyboard. The B064C-16-1X1-IP provides the following hotkey features:

- Going directly to a port by keying in its port number and clicking **Enter**.
- Auto Scanning
- Skip Mode Switching

The hotkeys are: A and P for Auto Scanning and the Arrow Keys for Skip Mode.

Notes:

- *For hotkey operations to take place, the toolbar must be visible (see **7.11.2 Port Toolbar**).*
- *To use the keys designated as hotkeys (i.e. A, P, etc.) for normal, non-hotkey purposes, you must first close the toolbar.*
- *For issues affecting multiple user operation in Auto Scan Mode, see **7.11.4 Multiuser Operation**.*

Auto Scanning

The *Scan* function automatically switches among all the ports that are accessible to the currently logged on user at regular intervals so the user can monitor their activity automatically. Users can also limit the number of ports scanned with the Sidebar's *Filter* function.

- Setting the Scan Interval

  The amount of time Auto Scan dwells on each port is set with the Scan Duration setting.

- Invoking Auto Scan

  To start Auto Scanning with the toolbar showing 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 the port is being accessed in Auto Scan Mode.

- Pausing Auto Scan

  While you are in Auto Scan Mode, you can pause scanning to better maintain focus on a particular server by pressing **P**. During the time that Auto Scanning is paused, the **S** in front of the Port ID will blink.

  Pausing when you want to maintain focus on a particular server can be more convenient than exiting Auto Scan Mode because when you *Resume* scanning, you start from where you left off. If on the other hand, you were to exit and then restart Auto Scan Mode, the scanning would start over from the very first server on the installation.

  To *Resume* Auto Scanning after a pause, 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 to regain normal control of the keyboard. To exit Auto Scan Mode, press **[Esc]** or **[Spacebar]**. Auto Scanning stops when you exit Auto Scan Mode.

Skip Mode

Skip Mode allows you to switch ports to monitor the servers manually. You can focus 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.

Arrow	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.

Recalling the Port Access Page

To dismiss the toolbar and return to the Port Access page, do one of the following:

- Tap the OSD Hotkey once.
- From the toolbar, click the icon that recalls the Port Access page.

The toolbar will close and the Port Access Page will appear.

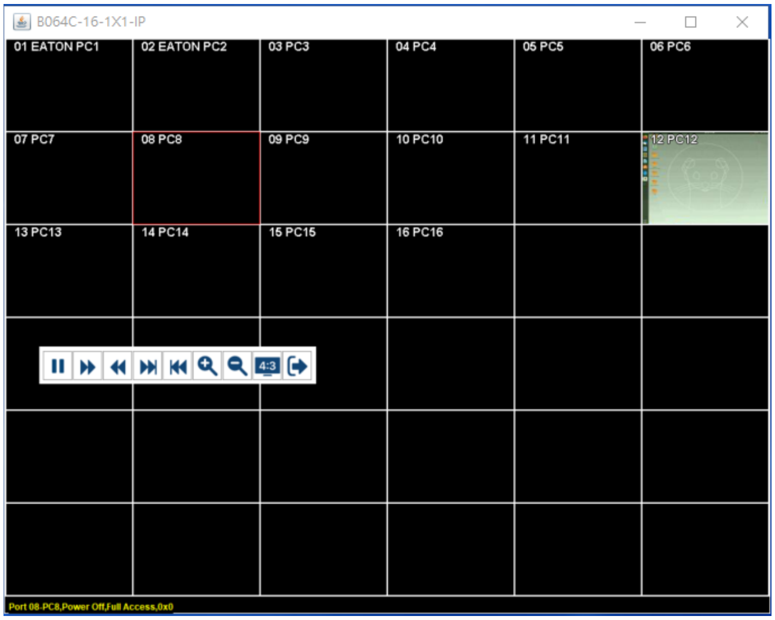
OSD Hotkey Summary Table

The following table presents a summary of the OSDHotkey actions after you have accessed a port. See **7.7.5 User Preferences** to set the OSD Hotkey.

To...		Do This...
Open the Toolbar		Click the OSD Hotkey twice
Open the Port Access Page	The Toolbar is open	Click the OSD Hotkey once
	The Toolbar is not open	Click the OSD Hotkey three times

7.11.3 Panel Array Mode

Clicking the toolbar's *Panel* icon invokes *Panel Array Mode*. Under this mode, the screen divides into a grid of up to 64 panels:



Port 08-PC8,Power Off,Full Access,0x0

- Each panel represents one of the switch's ports beginning with Port 1 at the upper left, and going from left to right, top to bottom.
- The number of panels in the array can be selected by clicking the **Show More Ports** and **Show Fewer Ports** symbols on the panel array toolbar.
- Only ports that are accessible to the user are displayed. For ports that are not accessible, the panel will be blank.
- If the server connected to a port is online, its screen displays in its panel; otherwise the panel will be blank.
- Hovering a mouse over a panel displays information about the port (port name, online status, port access status and resolution).
- You can access a server connected to a port by moving the mouse pointer over its panel and clicking. You can switch to the server exactly as if you had selected it from the Port Access page.

Panel Array Toolbar

The panel array toolbar provides shortcut navigation and control of the panel array. The toolbar can be dragged anywhere on the screen. Mousing over an icon opens a "tooltip" that provides a short description of the icon's function.

✥	Click and drag to move the toolbar. ***Note:*** *This icon is only available with the Windows Clients. To move the Java Client toolbars, click on any empty space and drag.*
⏸	Pause panel scanning, leaving the focus on the panel that currently has it.
⏮	Move back four panels.
⏪	Move to the previous panel.
⏩	Move to the next panel.
⏭	Move ahead four panels.
✚	Show More Ports: Increase the number of panels in the array.
━	Show Fewer Ports: Decrease the number of panels in the array.
4⁄3	Toggle 4/3 aspect ratio.
✖	Exit Panel Array mode.

Note: *When Panel Array Mode is being used by one of the members of the bus, independent bus switching does not work. For rules of multiple user operation and bus usage in Panel Array Mode, see **7.11.4 Multiuser Operation**.*

7.11.4 Multiuser Operation

The B064C-16-1X1-IP supports multiuser operation. When multiple users simultaneously access the switch from client computers, the rules of precedence that apply are shown in the following table:

Operation	Rule
General	Each bus is independent. Each user can open his own independent GUI Main Page.
Auto Scan Mode	If a user has invoked Auto Scan Mode and another user logs on, at first the new user will see the GUI Main Page. However, as soon as they access any port, they will automatically enter Auto Scan Mode. Any user can halt Auto Scan Mode by recalling the GUI Main Page. When this occurs, Auto Scan Mode stops and all the other users on the bus are switched to the port that was being accessed when Auto Scan Mode stopped.
Panel Array Mode	• If a user has invoked Panel Array Mode and another user logs on, the new user will see the GUI Main Page. However as soon as they access any port, they will automatically enter Panel Array Mode. • Panel Array Mode continues until the original user stops it (Administrators can override Panel Array Mode, however). • Only the user who starts Panel Array Mode can use the Skip Mode 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 one of the other users does not have access rights to the port that the original user switches to, that user will not be able to view the 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 increases.

Users and Buses

- All KVM over IP switches support independent bus switching. With independent bus switching, if a user switches to a port that is being utilized by someone on a different bus, only the user that switched ports goes to the new port and the new bus (the other users on the original bus remain on the original port and original bus).
- Independent bus switching does not work when Auto Scan Mode or Panel Array Mode is being used by one of the members of the bus.
- We recommend that the user who starts Panel Array Mode set it to display at least four panels. Otherwise, it is possible other users may only receive part of the picture.

7.12 Log Server

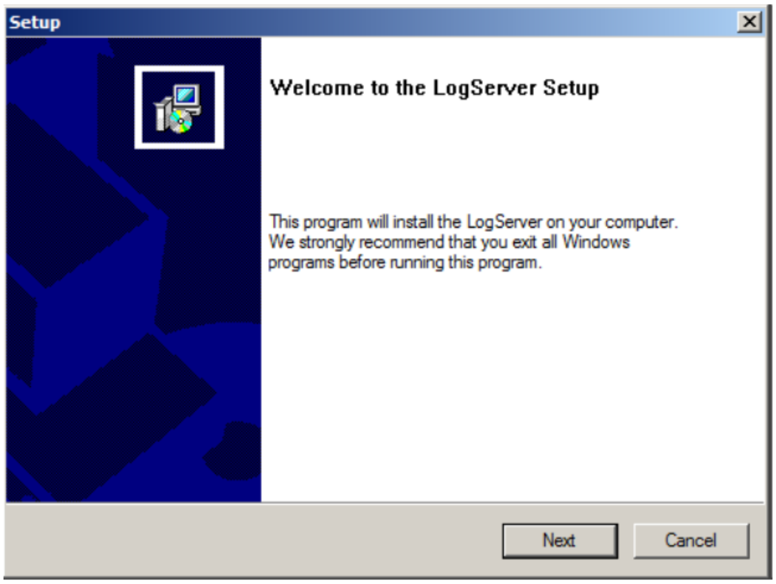
The Windows-based *Log Server* is an administrative utility that records all events that take place on selected B064C-16-1X1-IP units and writes them to a searchable database.

7.12.1 Log Server Installation

1. Log into the B064C-16-1X1-IP.
2. Click the *Download* tab and download the *Log Server AP* program.
3. Go to the location on your hard disk that you downloaded the Log Server program to and double click its icon (*LogSetup.exe*) to access the Windows Client Connection Screen.

   Note: *If the browser cannot run the file, save it to disk and run the file from your disk.*

   The Log Server installation screen will appear:



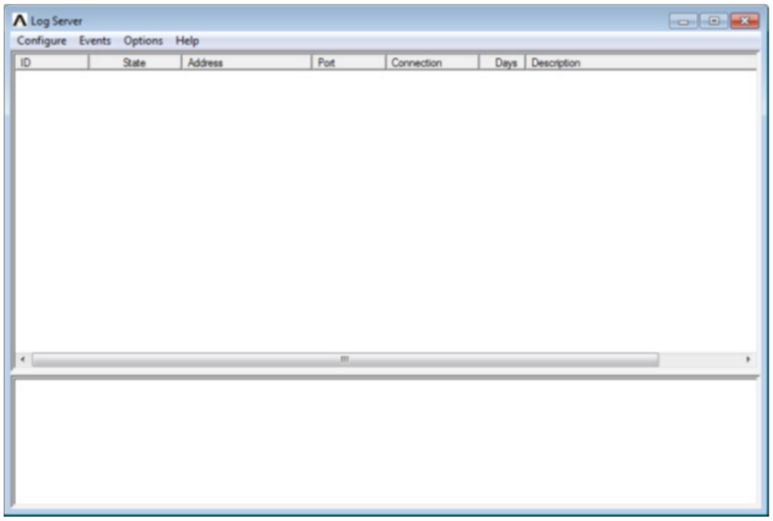
Welcome to the LogServer Setup

This program will install the LogServer on your computer. We strongly recommend that you exit all Windows programs before running this program.

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

7.12.2 Log Server Startup

To start the Log Server, 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 will appear:



Notes:

• The MAC address of the Log Server computer must be specified in the ANMS settings.

• The Log Server requires the Microsoft Jet OLEDB 4.0 driver.

The Menu Bar

The *Menu bar* consists of four items:

- Configure
- Events
- Options
- Help

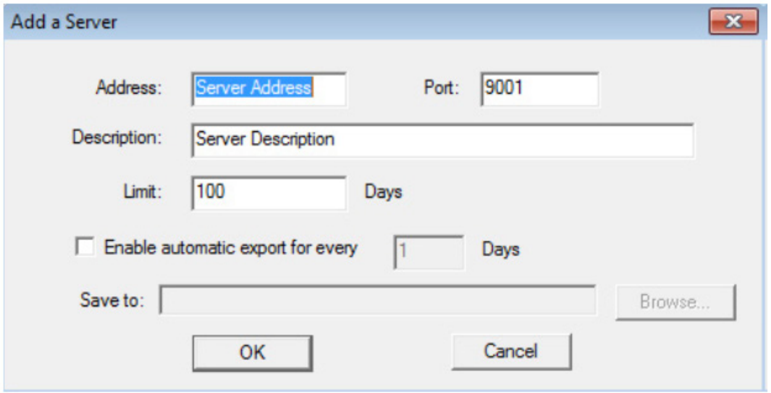
Note: *If the Menu Bar appears to be disabled, click in the List window to enable it.*

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 unit to the list, click **Add**.
- To edit or delete a listed unit, first select the target 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 will appear:



Address: Server Address Port: 9001

Description: Server Description

Limit: 100 Days

□ Enable automatic export for every 1 Days

Save to:

A description of the fields is provided in the table below:

Field	Explanation
Address	This can either be the IP address of the computer the Log Server is running on, or its DNS name.
Port	The port number that was assigned to the Log Server under *Device Management* (see **7.8 Log Server**).
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 an event should be kept in the Log Server's database. Events that exceed the amount of time specified here can be removed with the Maintenance function (see **7.9 Maintenance**).
Enable Automatic Export	Check this box and enter the number of days to pass before the log server automatically exports a log file. Click **Browser** to select the directory where you want the log file saved to.

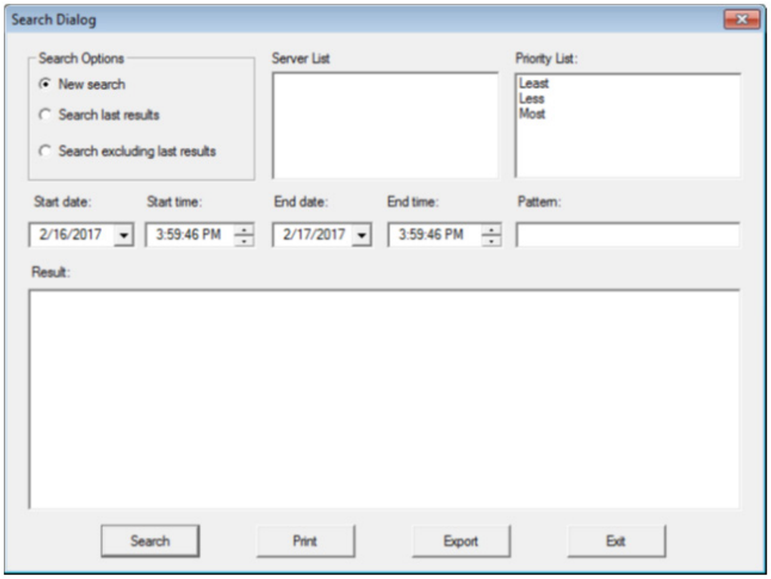
Fill in or modify the fields, then click **OK** to finish.

Events

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

Search

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



Search Options

● New search
○ Search last results
○ Search excluding last results

Start date: 2/16/2017
Start time: 3:59:46 PM
End date: 2/17/2017
End time: 3:59:46 PM
Pattern:

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

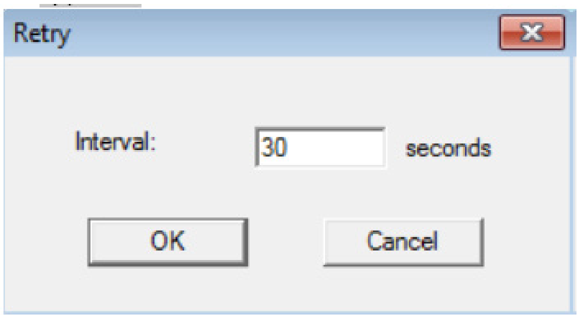
Item	Description
New Search	This is one of three radio buttons that define the scope of the search. If it is selected, the search is performed on all the events in the database for the selected unit.
Search Last Results	This is a secondary search performed on the events that resulted from the previous search.
Search Excluding Last Results	This is a secondary search performed on all the events in the database for the selected unit excluding the events that resulted from the previous search.
Server List	Matrix KVMs 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.
Priority	Sets the level for how detailed the search results display should be. Least is the most general and Most is the most specific. Least results appear in black and Less results appear in blue; most results appear in red.
Start Date	Select the date that you want the search to start from. The format follows the YYYY/MM/DD convention, as follows: 2024/11/04
Start Time	Select the time that you want the search to start from. The format follows the HH:MM:SS convention.
End Date	Select the date that you want the search to end at.
End Time	Select the time that you want the search to end at.
Pattern	Key in the pattern that you are searching for here. The multiple character wildcard (%) is supported. (e.g., h%ds would match hands and hoods).
Results	Lists the events that contained matches for the search.
Search	Click this button to start the search.
Print	Click this button to print the search results.
Export	Click this button to save the search results to file.
Exit	Click this button to exit the Log Server.

Maintenance

This function allows the administrator to perform manual maintenance of the database, such as erasing specified records before their expiration time is up.

Options

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



Interval: 30 seconds

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

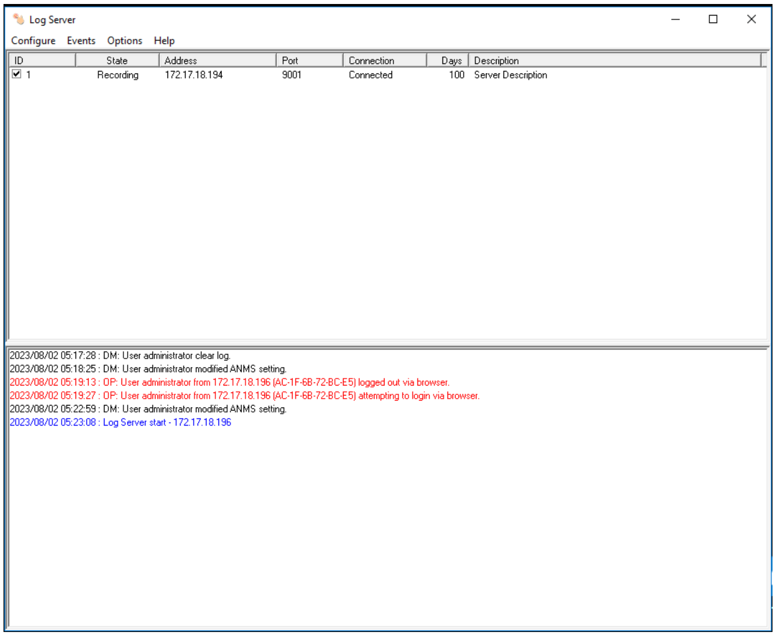
Help

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

7.12.3 Log Server Main Screen

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

- The upper (List) panel lists all units that have been selected for the Log Server to track.
- The lower (Event) panel displays the tick information for the currently selected unit (if there is more than one unit, the selected unit is the one that is highlighted).
- To select a unit in the list, simply click on it.



ID	State	Address	Port	Connection	Days	Description
☑ 1	Recording	172.17.18.194	9001	Connected	100	Server Description

```
2023/08/02 05:17:28 : DM: User administrator clear log.
2023/08/02 05:18:25 : DM: User administrator modified ANMS setting.
2023/08/02 05:19:13 : OP: User administrator from 172.17.18.196 (AC-1F-6B-72-BC-E5) logged out via browser.
2023/08/02 05:19:27 : OP: User administrator from 172.17.18.196 (AC-1F-6B-72-BC-E5) attempting to login via browser.
2023/08/02 05:22:59 : DM: User administrator modified ANMS setting.
2023/08/02 05:23:08 : Log Server start - 172.17.18.196
```

The List Panel

The List panel contains six fields:

Field	Explanation
ID	Provides the list of devices which have been added to the log server. Use the checkbox to select devices for which you want to view logs.
State	Displays whether or not the Log Server records the ticks for this unit. If the ID checkbox is checked, the field displays Recording and the ticks are recorded. If the ID checkbox is not checked, the field displays *Paused*, and the ticks are not recorded. ***Note:*** *Even though a unit is not currently the one selected, if its ID checkbox is checked, the Log Server will still record its ticks.*
Address	This is the IP Address or DNS name that was given to the unit when it was added to the Log Server.
Port	This is the Access Port number assigned to the unit.
Connection	• If the Log Server is connected to the unit, this field will display as *Connected*. • If the Log Server is not connected, this field will display as *Waiting*. This means that the Log Server’s MAC address has not been set properly and needs to be set on the *Device Management Date/Time* page.
Days	This field displays the number of days that the unit'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 unit when it was added to the Log Server.

Event Panel

The lower panel displays log events for the currently selected unit. Note that if there is more than one unit, even though they are not currently selected if their *Recording* checkbox is checked, the Log Server will record their log events and keep them in its database.

8. Troubleshooting

8.1 Administration

Problem	Resolution
After upgrading firmware, the B064C-16-1X1-IP still appears to be using the old firmware version.	Your Internet browser is displaying cached web pages, not new ones. Clear your browser cache, delete all temporary Internet files and cookies, close the Internet browser, and then open a new instance of the browser.
The default network setting for the B064C-16-1X1-IP is DHCP, but the network uses fixed IP addresses and does not have a DHCP server.	Use the local console OSD's F4 function to give the B064C-16-1X1-IP a fixed IP address.

8.2 Operation

8.2.1 General Operation

Problem	Resolution
Erratic Operation	Press and hold the Reset Switch for longer than three seconds.
Mouse and/or keyboard not responding due to improper mouse and/or keyboard reset.	Unplug the cable(s) from the console port(s), then plug it back in again.
Sudden loss of network connection due to local reset of B064C-16-1X1-IP.	Close your B064C-16-1X1-IP connection. Wait approximately 30 seconds and log in again.
Mouse Pointer Confusion	If you find the display of two mouse pointers (local and remote) to be confusing or annoying, you can use the Toggle Mouse Display function to shrink the non-functioning pointer.
Some characters that are keyed in do not display on the remote system	This is likely due to the local OS keyboard language and the remote OS keyboard language being different. Make sure that the keyboard language for both systems are the same.
Keyboard and/or mouse do not work after computer boots up.	For computers with PS/2 connectors, if you are using 2L-520xP cables, make sure all connectors (keyboard, video, and mouse) are plugged into their ports on the computer before starting the computer. Plugging the cables in after the computer has booted will not resolve the problem.
When I emulate the Sun keyboard, I cannot go into OK Mode ([Stop] [A]).	To go into OK Mode, use the following key sequence: 1. Press and release [Ctrl]. 2. Press and hold [T]. 3. Press and hold [A]. 4. Release [T] and [A] together.
There are ghost images on the external monitor.	The distance between the external console and the B064C-16-1X1-IP is too great. The maximum VGA cable distance should not exceed 65 ft. (20 m) and in some cases, may need to be shorter. Replace the VGA cable with one of an appropriately short length.
I cannot set the computers' screen resolutions higher than 1280 x 1024, even though the B064C-16-1X1-IP supports 1920 x 1200 for remote computers.	The maximum screen resolution of the B064C-16-1X1-IP's integrated LCD monitor is 1280 x 1024. To protect it from being damaged by resolutions that are beyond its display capability, we recommend the screen resolutions of the connected computers be set to 1280 x 1024 or lower. If you wish to set the screen resolutions of the connected computers to something higher than 1280 x 1024, see **8.2.11 Screen Resolutions Higher than 1280 x 1024**.

8. Troubleshooting

Problem	Resolution
When I switch to one of the computers on my installation, the LCD monitor screen goes blank. All I see is a black screen.	The maximum screen resolution of the B064C-16-1X1-IP's integrated LCD monitor is 1280 x 1024. The screen resolution of the problem computer is set to something that is too high for the B064C-16-1X1-IP's LCD monitor to display. To resolve the problem, connect an external KVM console (with a monitor capable of displaying the problem computer's screen resolution) to the B064C-16-1X1-IP's 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 B064C-16-1X1-IP, itself can support video resolutions up to 1920 x 1200 @ 60 Hz. If you wish to set the screen resolutions of the connected computers to something higher than 1280 x 1024, see* ***8.8 Screen Resolutions Higher than 1280 x 1024*** *for details.*
My B064C-16-1X1-IP unit is not listed in the Device List of the IP Installer.	• Make sure the Broadcast function is enabled from your switch or router for the auto-discover to work properly. • Make sure to turn off your firewall and/or antivirus software temporarily for the auto-discover to work properly. • Make sure the unit and the PC are under the same network segment.
I have been provided an account, but I am unable to log in.	1. Make sure you have correctly specified your Username and Password. 2. Make sure the administrator has given you the necessary permission to access the switch.
I cannot access the switch, even though I have specified the IP address and port number correctly.	If the switch is behind a router, the router's Port Forwarding (also referred to as Virtual Server) feature must be configured (see **8.3 Port Forwarding**).
When logging in from a browser, the following message appears: *404 Object Not Found*.	If a login string has been set, make sure to include the forward slash and correct login string when you specify the KVM over IP switch IP address (see **7.8 Login String**).
Sudden loss of network connection.	Close your connection to the KVM over IP switch. Wait approximately 30 seconds and log in again.
There is no remote server video display on the client computer.	Check that your KVM Adapter Cable's firmware version is the same as the version stored in the switch's Main firmware (see **7.9.3 Upgrade Adapters**).
	Set the remote server resolution to 1280 x 1024 or less.
There is no remote server video display on the client computer, but mouse movements appear on the local console and mouse clicks have no effect.	Press and release the left Alt key, then press and release the right Alt key
The display on the client computer is distorted and performing an Auto sync does not resolve the problem.	Switch ports to a port with a different resolution, then switch back. If the above did not resolve the problem, change the resolution and refresh rate for the system running on the port. Afterward, you can run at the new resolution or switch back to the original resolution.
The Lock Key LEDs on the Control Panel do not accurately reflect the actual locked status of my keyboard input.	When you first connect, the display may not accurately reflect the LEDs on your keyboard. To resolve the problem, click the LEDs on the Control Panel until they match your keyboard. Afterward, when you change them from the keyboard, they will change on the Control Panel.
When I log in, the browser generates a *CA Root certificate is not trusted or a Certificate Error response*.	The certificate's name is not found on Microsoft's list of Trusted Authorities. The certificate can be trusted (see **7.1.2 Trusted Certificates**).

Problem	Resolution
In multiuser operation, I had exclusive (or occupy) rights on the port I was viewing. After I recalled the Port Access page and then returned to the port I was occupying, it had been taken over by another user. Why did this happen?	If you try to return to the port by selecting again in the tree, the switch acts as if you are accessing the port for the first time. If another user was waiting on the port, they take precedence and get the port. The correct way to return to the port is to click the Close icon at the top right of the Port Access page.

8.2.2 Mouse Problems

Problem	Resolution
Mouse and/or keyboard are not responding.	• Check that your KVM adapter cable's firmware version is the same as the version stored in the switch's Main firmware (see **7.9.3 Upgrade Adapters**). • Unplug the cable(s) from the console port(s), then plug it/them back in.
Mouse movement extremely slow.	There is too much data being transferred for your connection's bandwidth. Lower the video quality so less video data is transmitted.
There are two mouse pointers after the remote server is accessed.	Select another pointer type.
When the mouse pointer is in Single Pointer mode, I cannot access the Control Panel.	Recall the Control Panel and immediately change the pointer to Dual mode.
Why is there a Dual Pointer mode?	When you are not in Mouse DynaSync Mode, you need the two pointers so that you know the remote server pointer is actually at the location you think it is. Otherwise, you may perform a mouse operation and due to net lag, the remote server pointer may not be at the location your client computer pointer is.
Mouse pointer confusion.	If you find the display of two mouse pointers (local and remote) to be confusing or annoying, use the Toggle Mouse Display function to shrink the non-functioning pointer.
When I log in with my Windows system, the local and remote mouse pointers do not sync.	1. Check the status of the Mouse Sync Mode setting. If it is set to Automatic, change the setting to Manual and refer to the information for Manual Mouse Synchronization. 2. If you are in Manual mode, use the AutoSync feature to sync the local and remote monitors. 3. If that does not resolve the problem, use the Adjust Mouse feature to bring the pointers back in sync. 4. If the above fails to resolve the problem, refer to **8.6.1 Additional Mouse Synchronization Procedures** for further actions.
When I log in with my Mac system, the local and remote mouse pointers do not sync.	There are two automatic Mouse DynaSync settings: the default, and Mac2. If mouse synchronization is not satisfactory with the default, try the Mac 2 setting.
When I log in with my Sun system, the local and remote mouse pointers do not sync	1. Automatic Mouse DynaSync sync only supports USB mice on Windows and Mac (G4 or higher) systems. You must sync the pointers manually. 2. If the above fails to resolve the problem, refer to **8.6.1 Additional Mouse Synchronization Procedures** for further actions..

Problem	Resolution
When I log in with my Linux system, the local and remote mouse pointers do not sync.	1. Automatic Mouse DynaSync sync only supports USB mice on Windows and Mac (G4 or higher) systems. You must sync the pointers manually. 2. If the above fails to resolve the problem, refer to **8.6.1 Additional Mouse Synchronization Procedures** for further actions.

8.2.3 Virtual Media

Problem	Resolution
Virtual Media does not work.	The remote server's mainboard does not support USB. If there is a newer firmware and BIOS version for the remote server's mainboard (e.g., one that supports USB) get it from the manufacturer and upgrade the server's mainboard firmware and BIOS.
There is no Virtual Media icon on my Control Panel.	1. Virtual Media only supports devices connected with KB055-001-UDV, B055-001-UHD, B055-001-UDP, B055-001-USB-V2, B055-001-USB-VA, or B055-001-UV2CAC KVM SIUs with B064C-16-1X1-IP switches. 2. You must be have Administrator privileges on your client computer (this is a Windows limitation).
I cannot boot my remote server from my Virtual Media drive.	Your remote server's BIOS does not support booting from a USB drive. Get the latest firmware and BIOS version for your mainboard from the manufacturer and upgrade your mainboard BIOS.
If I connect a USB floppy drive to a remote server, it can boot the remote server. However, if I map it to the remote server as a Virtual Media drive, it cannot boot the remote server.	USB floppy drives have two format types: UFI and CBI. Both can be used for OS level virtual media functions, but currently only UFI is supported for BIOS level (such as boot) functions.
I cannot mount a Folder as a Virtual Media device.	If the actual Folder is formatted with the FAT16 file system, it cannot be mounted if its size exceeds 2GB.

8.2.4 Windows Client

Problem	Resolution
A "Login Failed" error appears and Windows Client Viewer cannot be run.	1. Make sure your KVM over IP Switch is updated to the latest firmware version. 2. Make sure the required service ports, such as 80, 443, and 9000, are allowed by your Firewall. 3. Close the viewer and try again.
Remote mouse pointer is out of sync.	1. Use the *AutoSync* feature to sync the local and remote monitors. 2. If that does not resolve the problem, use the *Adjust Mouse* feature to bring them back in sync. 3. If the two methods described above fail to resolve the problem, use the *Toggle Mouse Display* function.
Part of remote window is off my monitor.	1. Perform an Auto Sync. 2. If Keep Screen Size is not enabled, use the AutoSync feature to sync the local and remote monitors. 3. If Keep Screen Size is enabled, you can scroll to the areas that are off screen.
My antivirus program reports that there is a trojan after I access the B064C-16-1X1-IP with my browser and then open the Windows Client Viewer.	The Windows Client Viewer uses an ActiveX plug-in (windows.ocx) that some antivirus programs mistakenly see as a virus or trojan. We have tested our firmware extensively and found no evidence of a virus or trojan. You can add the plug-in to your antivirus program's White List and use the Viewer safely. If you are reluctant to use the Windows Client Viewer, however, you can simply use the Java Client Viewer, instead.
After upgrading the firmware, the WinClient ActiveX Viewer or WinClient AP does not run.	The old version of your *.ocx* file was not deleted. You must delete the old file. There are two methods to delete the file. 1. For the ActiveX Viewer: Open IE → Tools → Manage Add-ons. Delete or disable all occurrences of WinClient. 2. For the WinClient AP: Open Explorer and search for WinClient.ocx. Delete all occurrences.
The remote screen is rotated 90 degrees.	Enable *Keep Screen Size*.
I cannot run Net Meeting when the WinClient is running.	Enable *Keep Screen Size*.
After logging in, I cannot open the WinClient ActiveX viewer.	You do not have the authority to install the WinClient Control add-on on your client computer. Have the person with administrator privileges on your client computer run the program the first time to get it installed.
My B064C-16-1X1-IP units do not appear in the Server List window when I start the WinClient AP program.	Only units whose Access Port settings for Program match the number specified for Port in the Server area of this dialog box appear in the Server List window. Make sure that your entry for Port matches the entry you have specified for Program on the Device Management Network page.
The WinClient ActiveX Viewer and the WinClient AP will not connect to the B064C-16-1X1-IP.	DirectX 8.0 or higher must be installed on your client computer.

8.2.5 Java Client

Problem	Resolution
Java Client will not connect to the B064C-16-1X1-IP.	1. The latest Java version must be installed on your computer. 2. Check if you need to specify the Program port along with the IP address (see **7.3.4 Java Client AP Login**). 3. Close the Java Client, reopen it and try again.
A "Login Failed" error appears and Java Client Viewer cannot be run.	1. Make sure your KVM over IP Switch is updated to the latest firmware version. 2. Make sure the required service ports, such as 80, 443, and 9000, are allowed by your Firewall. 3. Close the viewer and try again.
I have installed the latest Java JRE, but I am having performance and stability problems.	There may be issues with the latest version because it is so new. Try using a Java version that is one or two versions earlier than the latest one.
After upgrading the firmware and logging in with the Java Client Viewer or the Java Client AP, the switch appears to still be using the old firmware version.	Log out. Delete your Java temporary internet files as follows: 1. Open Control Panel → Java. 2. In the *Temporary Internet Files* section, click **Settings**. 3. In the *Disk Space* section, click **Delete Files**. In the dialog box that comes up, click **OK**.
Pressing the Windows Menu key has no effect.	Java does not support the Windows Menu key.
Java Performance deteriorates.	Exit the program and start again.
National language characters do not appear.	• Change the keyboard language of your client computer to English-UK. • Use the KVM over IP switch On-Screen Keyboard and set the on-screen keyboard to the same language that the other system is using.
When I try to **Add** a folder to be mounted as a virtual media drive, I cannot select the folder. My only choice is *Desktop*.	In the folder selection entry field, enter the root directory of the folder you want to add. After that, the folders contained under the root directory will display. You can now navigate to the folder you want to select.

8.2.6 Sun Systems

Problem	Resolution

Video display problems with 13W3 interface systems (e.g. Sun Ultra servers).
Note: *These solutions work for most common Sun VGA cards. If using them fails to resolve the problem, consult the Sun VGA card's manual*
	The display resolution should be set to 1024 x 768.
	Under Text Mode:
	1. Go to *OK mode* and issue the following command:
	`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.

8.2.7 Mac Systems

Problem	Resolution
When I log in to the KVM over IP Switch with my Safari browser, it hangs when I use the Snapshot feature.	Force close Safari, then reopen it. Do not use the Snapshot feature in the future.
	To use the Snapshot feature with Safari, upgrade to Mac OS 10.4.11 and Safari 3.0.4.

8.2.8 Redhat Systems

Problem	Resolution
With Redhat 9.0 (2.4.20-8) installed as a server, the keyboard and mouse aren't working normally with the B055-001-USB-V2 / B055-001-USB-VA console modules.	Choose the AS3.0 setting for your mouse synchronization mode.
With Redhat 9.0 (2.4.20-8) installed as a desktop system, the keyboard and mouse are not working normally with the B055-001-USB-V2 / B055-001-USB-VA console modules.	First, plug your keyboard and mouse into a USB 2.0 hub, then plug the hub into the Redhat 9.0 server.

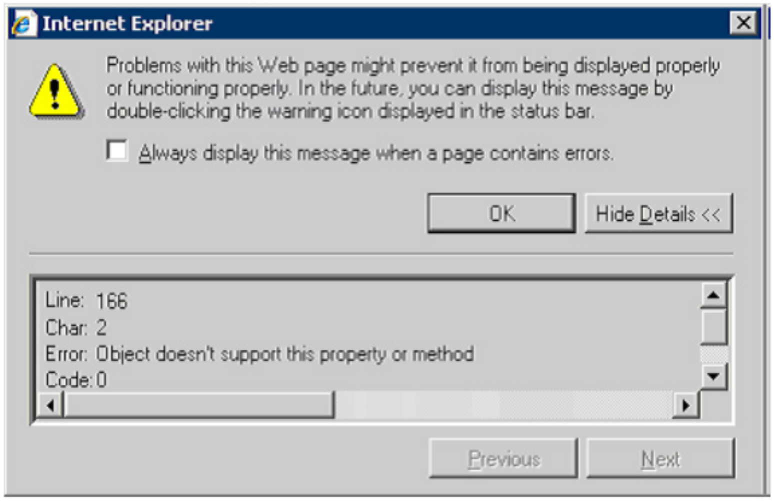
8.2.9 Log Server

Problem	Resolution
The Log Server program does not run.	The Log Server requires the Microsoft Jet OLEDB 4.0 driver 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.

8.2.10 Panel Array Mode

Problem	Resolution
Low resolution video – the screens do not display clearly.	This may occur due to the screens being scaled to fit in the panels. Decrease the number of panels that are displayed.
When multiple remote users are logged in, some only receive a partial image.	The first user to invoke Panel Array Mode should set it to display at least four panels.
When I try to move forward or backward one port, the display sometimes moves forward two ports or remains on the original port.	This occurs occasionally due to a net lag problem. The array automatically moves through the ports at a pre-selected time. By the time it gets your input It has already moved forward a port on its own but that has not shown up on your display as yet. When it moves ahead or back due to your input it appears to have moved two ports (from its own movement plus your "forward one port" command) or remains on the original port (from its own forward movement plus your "back one port" command).

When I open a viewer, the web page does not display or work correctly and I receive an error message that is similar one of the following:


Internet Explorer

Problems with this Web page might prevent it from being displayed properly or functioning properly. In the future, you can display this message by double-clicking the warning icon displayed in the status bar.

☐ Always display this message when a page contains errors.

Line: 166
Char: 2
Error: Object doesn't support this property or method
Code: 0

1. Reset the Internet Explorer security settings to enable Active Scripting, ActiveX controls and Java applets.

   By default, Internet Explorer 6 and some versions of Internet Explorer 5.x use the High security level for the Restricted sites zone and Microsoft Windows Server 2003 uses the High security level for both the Restricted sites zone and the Internet zone. To enable Active Scripting, ActiveX controls, and Java applets, follow these steps:

   a) Start Internet Explorer.

   b) On the Tools menu, click **Internet Options**.

   c) In the *Internet Options* dialog box, click **Security**.

   d) Click **Default Level**.

   e) Click **OK**.

2. Verify that Active Scripting, ActiveX, and Java are not blocked.

   If some client computers work but others do not, verify that Internet Explorer or another program on your client computer such as an anti-virus program or a firewall are not configured to block scripts, ActiveX controls or Java applets.

3. Verify that your anti-virus program is not set to scan the Temporary Internet Files or Downloaded Program Files folders.

4. Delete all the temporary Internet-related files.

   To remove all the temporary Internet-related files from your client computer, follow these steps:

   a) Start Internet Explorer.
   b) On the Tools menu, click **Internet Options**.
   c) Click the *General* tab.
   d) Under *Temporary Internet files*, click **Settings**.
   e) Click **Delete Files**.
   f) Click **OK**.
   g) Click **Delete Cookies**.
   h) Click **OK**.
   i) Under *History*, click **Clear History**, and then click **Yes**.
   j) Click **OK**.
5. Make sure that you have the latest version of Microsoft DirectX installed.

   For information about how to install the latest version of Microsoft DirectX, visit the following Microsoft Web site:

   http://www.microsoft.com/windows/directx/default.aspx?url=/windows/directx/downloads/default.htm
6. Make sure that you have the latest version of the Java JRE installed, the Java Web site: www.java.com.

8.2.11 Screen Resolutions Higher than 1280 x 1024

The maximum screen resolution of the B064C-16-1X1-IP's integrated LCD monitor is 1280 x 1024. To protect it from being damaged by resolutions that are beyond its display capability, we recommend 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.

Notes:

- *We strongly recommend you close the B064C-16-1X1-IP LCD console before continuing (see* ***6.1.2 Closing the Console****). 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 external local console when the integrated console is closed, simply connect an external KVM console with a monitor that supports 1920 x 1200 @ 60 Hz to the B064C-16-1X1-IP's external console ports.*

1. From a remote computer, log in to the B064C-16-1X1-IP and access the computer whose screen resolution you wish to change.
2. Open the computer's Control Panel and double-click **Display**. The *Display Properties* dialog box will appear.
3. Click the *Settings* tab, then click **Advanced**.
4. In the dialog box that appears, click the *Monitor* tab.
5. Under *Monitor settings*, click to clear the *Hide modes that this monitor cannot display* check box.
6. Click **Apply**.
7. Click the *Adapter* tab, then click **List All Modes**. The *List All Modes* dialog box appears.
8. 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 supported for the external local console and remote computers is 1920 x 1200 @60 Hz.*
9. Click **OK**, and then click **Apply**. The display mode will change to the one you selected.
10. If the *Monitor Settings* dialog box appears requesting you to confirm the settings change, click **Yes**.
11. After the Monitor Settings dialog box closes, click **OK**.
12. In the Display Properties dialog box, click **OK**.

Repeat these steps for any other computer whose screen resolution you wish to change.

8.3 Port Forwarding

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

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

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

8.4 B055-001-SER Configuration and Operation

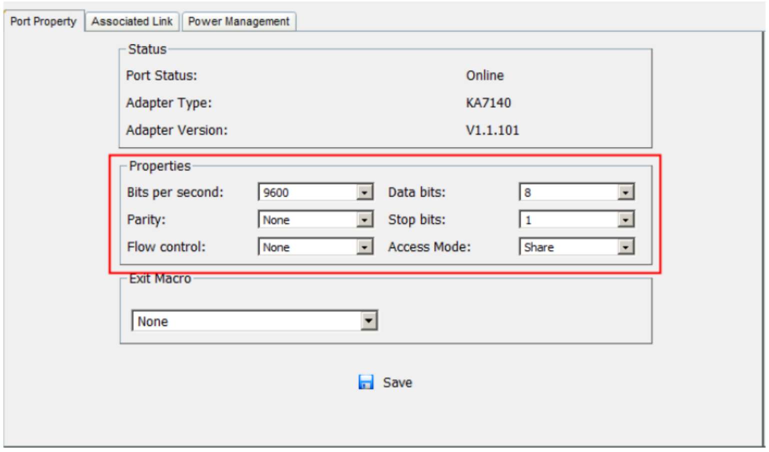
The B055-001-SER SIU Adapter Cable connects a serial device to the KVM over IP Switch.

8.4.1 Configuration

To configure the B055-001-SER SIU to interact with the connected device, set its serial parameters to match the parameters of the device.

1. In the Port Access page Sidebar, select the port that the B055-001-SER SIU is connected to.
2. Select **Port Configuration** on the menu bar.

A page with the *Port Properties* tab selected will appear.



Status

Port Status: Online

Adapter Type: KA7140

Adapter Version: V1.1.101

Properties

Bits per second: 9600

Data bits: 8

Parity: None

Stop bits: 1

Flow control: None

Access Mode: Share

Exit Macro

None

3. In the Properties section, use the drop-down lists to select the port property values that match the ones used by the connected serial console device. The port property settings that the B055-001-SER supports are provided in the following table:

Setting	Meaning
Bits per second (Baud Rate)	This sets the port's data transfer speed. Choices are from 300-38400 (use the drop-down list to see them all). Set this to match the baud rate setting of the serial console device. Default is 9600 (which is a basic setting for many serial console devices).
Data Bits	This sets the number of bits used to transmit one character of data. Choices are: 7 and 8. Set this to match the data bit setting of the serial console device. Default is 8 (the default for the majority of serial console devices).
Parity	This bit checks the integrity of the transmitted data. Choices are: None; Odd; Even. Set this to match the parity setting of the serial console device. Default is Odd.

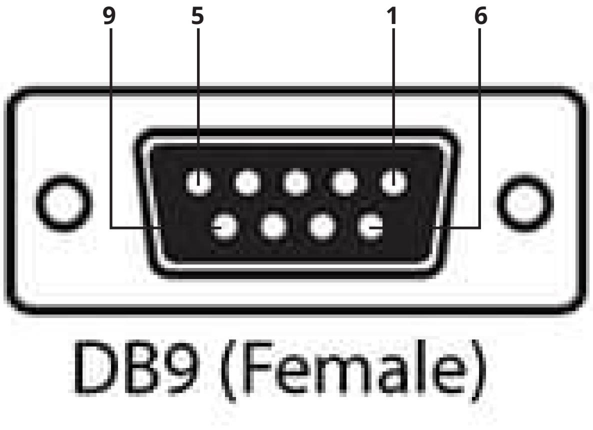
Setting	Meaning
Stop Bits	This indicates that a character has been transmitted. Set this to match the stop bit setting of the serial console device. Choices are: 1 and 2. Default is 1 (the default for the majority of serial console devices).
Flow Control	This allows you to choose how the data flow will be controlled. Choices are: None, Hardware, and XON/XOFF. Set this to match the flow control setting of the serial console device. Default is None. ***Note:*** *None is only supported for baud rates of 9600 and lower. For baud rates greater than 9600, you must choose Hardware or XON/XOFF.*
Access Mode	This allows you to set the serial console device's access mode. Choices are: Share, Occupy, and Exclusive. Default is Share.

4. When you have finished making your selections, click **Save**.

8.4.2 Operation

To operate the device connected to the port, in the Port Access page double-click the port to establish a serial connection to the device.

8.4.3 B055-001-SER Pin Assignments

Pin	Assignment	
1	DCD	
2	RXD	
3	TXD	
4	DTR	
5	GND	
6	DSR	
7	RTS	
8	CTS	
9	N/A	

8.5 Keyboard Emulation

8.5.1 Mac Keyboard

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

PC Keyboard	Mac Keyboard
[Shift]	Shift
[Ctrl]	Ctrl
⊞	⌘
[Ctrl] [1]	🔇
[Ctrl] [2]	🔉
[Ctrl] [3]	🔊
[Ctrl] [4]	⏏
[Alt]	Alt
[Print Screen]	F13
[Scroll Lock]	F14
▤	=
[Enter]	Return
[Backspace]	Delete
[Insert]	Help
[Ctrl] ⊞	F15

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

8.5.2 Sun Keyboard

The PC-compatible (101/104 key) keyboard can emulate the functions of the Sun keyboard when the Control key **[Ctrl]** is used in conjunction with other keys. The corresponding functions are shown in the table below.

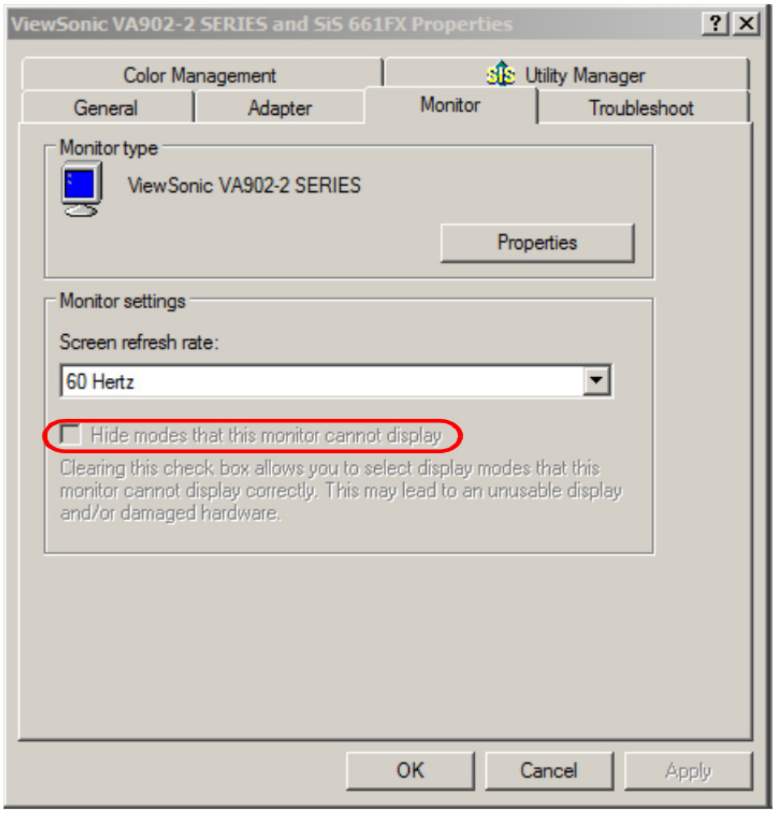
PC Keyboard	Sun Keyboard
[Ctrl] [T]	Stop
[Ctrl] [F2]	Again
[Ctrl] [F3]	Props
[Ctrl] [F4]	Undo
[Ctrl] [F5]	Front
[Ctrl] [F6]	Copy
[Ctrl] [F7]	Open
[Ctrl] [F8]	Paste
[Ctrl] [F9]	Find
[Ctrl] [F10]	Cut
[Ctrl] [1]	◫ 🔇
[Ctrl] [2]	◐ - 🔉
[Ctrl] [3]	◐ + 🔊
[Ctrl] [4]	☾
[Ctrl] [H]	Help
☰	Compose
⊞	◆

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

8.6 Additional Video Resolution Procedures

If you are running Windows and wish to use new refresh rates, do the following:

1. Open *Control Panel* → *Display* → *Settings* → *Advanced* → *Monitor*.
2. In the dialog box that appears, make sure that the *Hide modes that this monitor cannot display* checkbox is unchecked.



Screen refresh rate: 60 Hertz

□ Hide modes that this monitor cannot display

Clearing this check box allows you to select display modes that this monitor cannot display correctly. This may lead to an unusable display and/or damaged hardware.

3. Click the arrow at the right of the *Screen refresh rate* listbox and select the refresh rate you want from the list that appears.

   Note: *Make sure your monitor supports the refresh rate you choose. Otherwise, you may seriously damage your monitor.*

8.6.1 Additional Mouse Synchronization Procedures (Windows, Sun, Linux)

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

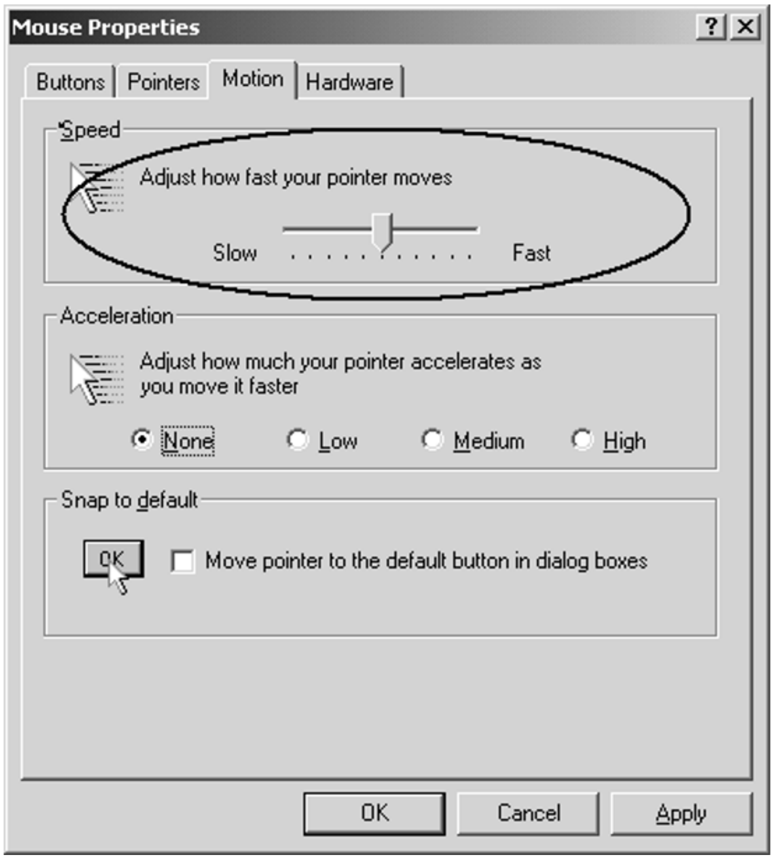
Notes:

- *These procedures are to be performed on the computers attached to the B064C-16-1X1-IP's ports, not on the computer you are using to access the B064C-16-1X1-IP.*
- *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.*

8. Troubleshooting

Windows

1. Windows 2000:
   a) Open the Mouse Properties dialog box (*Control Panel* → *Mouse* → *Mouse Properties*)
   b) Click the *Motion* tab.
   c) Set the mouse speed to the middle position (6 units in from the left).
   d) Set the mouse acceleration to *None*.



Mouse Properties

Speed

Adjust how fast your pointer moves

Acceleration

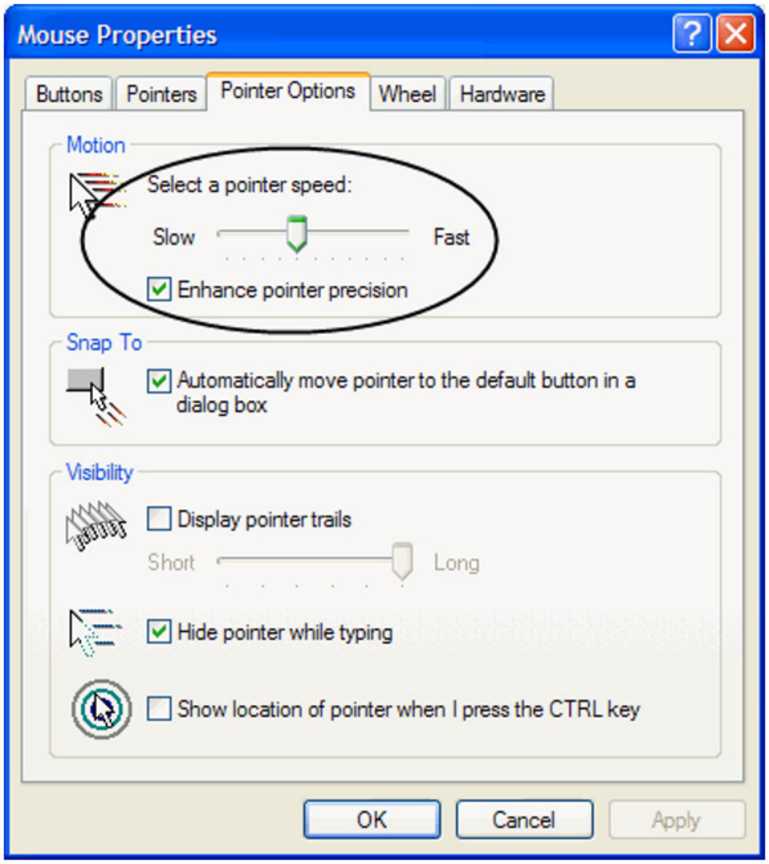
Adjust how much your pointer accelerates as you move it faster

● None ○ Low ○ Medium ○ High

Snap to default

□ Move pointer to the default button in dialog boxes

2. Windows XP / Windows Server 2003:
   a) Open the Mouse Properties dialog box (*Control Panel* → *Mouse*)
   b) Click the *Pointer Options* tab.
   c) Set the mouse speed to the middle position (6 units in from the left).
   d) Disable *Enhance Pointer Precision*.



Select a pointer speed:

Slow — Fast

☑ Enhance pointer precision

☑ Automatically move pointer to the default button in a dialog box

☐ Display pointer trails

Short — Long

☑ Hide pointer while typing

☐ Show location of pointer when I press the CTRL key

3. Windows ME:
   Set the mouse speed to the middle position and disable mouse acceleration (click **Advanced** to get the dialog box).
4. Windows NT / Windows 98 / Windows 95: Set the mouse speed to the slowest position.

Sun / Linux

Open a terminal session and issue the following command:

Sun: `xset m 1`

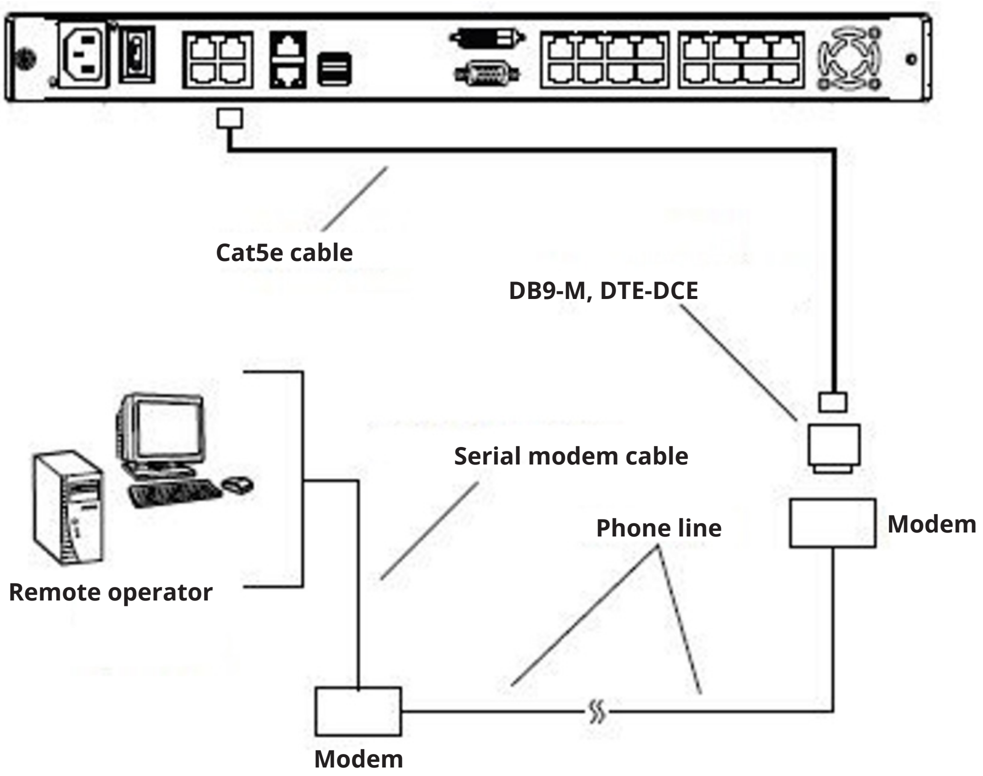
Linux: `xset m 0`

8.7 PPP Modem Operation

8.7.1 Basic Setup

The B064C-16-1X1-IP can be accessed through its serial port using a PPP dial-in connection.

1. Set up your hardware configuration to match the diagram.



2. From your client computer, use your modem dial-in program to dial into the B064C-16-1X1-IP modem.

   Note: *If you do not know the B064C-16-1X1-IP's serial parameters, get them from the administrator.*

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

   Notes:

   - *The default username and password are blank.*
   - *For the modem session, the KVM over IP Switch has an IP address of 192.168.192.1; the user side has an IP address of 192.168.192.101.*

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

8.7.2 Connection Setup Example (Windows XP)

To set up a dial-in connection to the B064C-16-1X1-IP under Windows XP:

1. From the *Start* menu, select *Control Panel* → *Network Connections* → *Create a New Connection*.
2. When the *Welcome to the New Connection Wizard* dialog box appears, click **Next** to move on.
3. In the *Network Connection Type* dialog box, select *Connect to the network at my workplace*, then click **Next**.
4. In the *Network Connection* dialog box, select *Dial-up connection*, then click **Next**.
5. In the *Connection Name* dialog box, key in a name for the connection (for example, *B064C-16-1X1-IP*), then click **Next**.
6. In the *Connection Availability* dialog box, you can select either *Anyone's use* or *My use only* (depending on your preferences), then click **Next**.

   Note: *If you are the only user on this client computer, this dialog box will not appear.*
7. In the *Phone Number to dial* dialog box, key in the phone number of the modem connected to the KVM over IP Switch (make sure to include country and area codes, if necessary), then click **Next**.
8. In the *Completing the New Connection Wizard* dialog box, check *Add a shortcut to this connection on my desktop*, then click **Finish**.

This completes the connection setup. Double-click the desktop shortcut icon to make a PPP connection to the B064C-16-1X1-IP.

8.8 Serial Adapter Pin Assignments

SA0142: RJ45-F to DB9-M (Black Connector) DTE to DCE

B064C-16-1X1-IP (RJ45)	Pins (8)		Modem/Device (DB9)
RTS	1	<——————————>	7
DTR	2	<——————————>	4
TXD	3	<——————————>	3
CTS	4	<——————————>	8
GND	5	<——————————>	5
RXD	6	<——————————>	2
DCD	7	<——————————>	1
DSR	8	<——————————>	6
			9 NC not used

8.9 Virtual Media Support

8.9.1 WinClient ActiveX Viewer / WinClient AP

- IDE CDROM/DVD-ROM Drives – Read Only
- IDE Hard Drives – Read Only
- USB CDROM/DVD-ROM Drives – Read Only
- USB Hard Drives – Read/Write
- USB Flash Drives – Read/Write
- USB Floppy Drives – Read/Write
- Smart Card Readers – Read/Write (B055-001-UDV, B055-001-UHD, B055-001-UDP, B055-001-UV2CAC SIUs only)

Note: *These drives can be mounted as a Drive or as a Removable Disk (see **8.2.3 Virtual Media**). Removable disks allow the user to boot the remote server if the disk contains a bootable OS. In addition, if the disk contains more than one partition, the remote server can access all the partitions.*

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

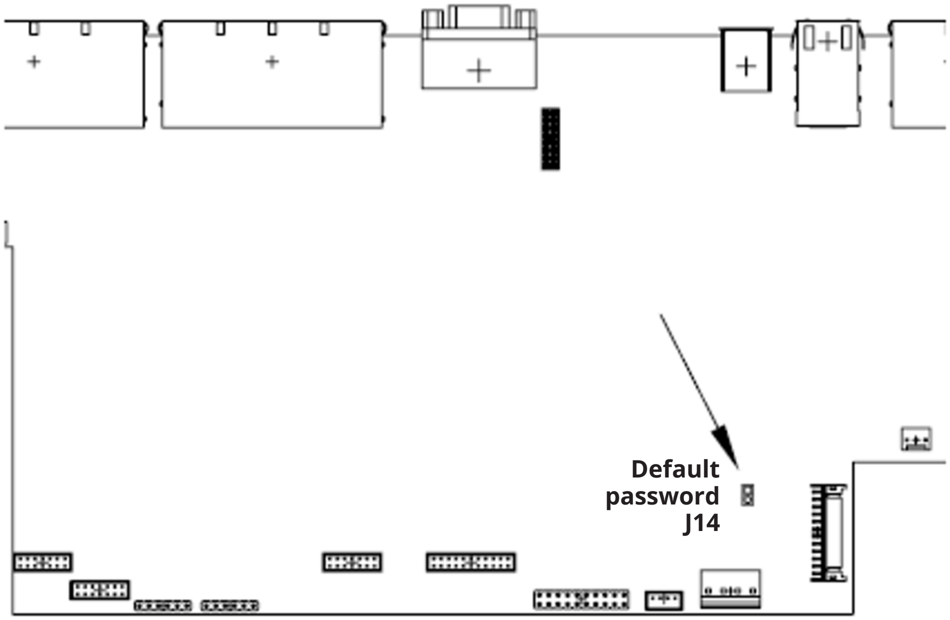
8.9.2 Java Client Viewer / Java Client AP

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

8.10 Administrator Login Failure

If you are unable to perform an Administrator login (e.g., the Username and Password information has become corrupted or you have forgotten it) you can clear the login information with the following procedure:

1. Power off the B064C-16-1X1-IP and remove its housing.
2. Short the jumper labeled **J14**.



3. Power on the switch.
   The on-screen display will show a message informing you that the password information has been cleared.
4. Power off the switch.
5. Remove the jumper cap from **J14**.
6. Close the housing and restart the B064C-16-1X1-IP.

Once you restart, you can use the default Username and Password (see **7.8 Logging In**).

8.11 Factory Default Settings

Setting	Default
Language	English
OSD Hotkey	[Scroll Lock] [Scroll Lock]
Port ID Display	Port Number + Name
Port ID Display Duration	3 Seconds
Scan Duration	5 Seconds
Screen Blanker	0 Minutes (disabled)
Beeper	On
Viewer	Auto Detect
Welcome Message	Hide
Accessible Ports	Super Administrators (full for all ports) All other Users (none for all ports)

9. Specifications

Function			B064C-16-1X1-IP
Computer Connections	Direct		16
	Max.		256 (via Cascade)
Console Connections	Local		1
	Remote		1
Port Selection			OSD, Hotkey, Pushbutton
Connectors	Computer (KVM) Ports		16 x RJ45 Female
	Console Ports	Keyboard	1 x USB Type-A Female (White)
		Video	1 x HDB-15 Female (Blue) / DVI-D Female (White)
		Mouse	1 x USB Type-A Female (White)
	LAN		2 x RJ45 Female
	Modem		1 x RJ45 Female
	Power		1 x IEC 60320/C14
	External Mouse Port		1 x USB Type-A Female
Switches	Power		1 x Rocker
	LCD Power		1 x Pushbutton
	LCD Adjustment		4 x Pushbutton
	Port Selection		16 x Pushbutton
	Reset		1 x Semi-recessed Pushbutton
LEDs	Port	Online	16 (Green)
		Selected	16 (Orange)
	Power		1 (Blue)
	Lock	Num	1 (Green)
		Caps	1 (Green)
		Scroll	1 (Green)
	10/100/1000 Mbps		2 (10 Mbps: Orange / 100 Mbps: Orange+Green / 1000 Mbps: Green)
	LCD Power		1 (Orange)
Emulation	Keyboard/Mouse		PS/2; USB
Panel	LCD Module		19"
	Resolution		1280 x 1024 @ 75 Hz
	Response time		5 ms
	Viewing Angle		170° (H), 160° (V)
	Pixel Pitch		0.294 mm x 0.294 mm
	Support Color		16.7M colors
	Contrast Ratio		1000:1
	Luminance		250 cd/m²
Video			1920 x 1200 @ 60 Hz
Scan Interval			1 - 255 sec.
Input			100 - 240 V AC; 50 - 60 Hz; 1 A
Power Consumption			AC 110 : 32.1 W : 157 BTU AC 220 : 32.4 W : 158 BTU

9. Specifications

Function		**B064C-16-1X1-IP**
Environment	Operating Temperature	32 ~104°F (0 ~ 40°C)
	Storage Temperature	-4 ~140°F (-20 ~ 60°C)
	Humidity	0–80% RH; Non-condensing
Physical Properties	Housing	Metal
	Weight	33.66 lb. (15.28 kg)
	Dimensions [L x W x H]	18.9 x 27.61 x 1.73 in. (48.00 x 70.12 x 4.40 cm)

10. Warranty

1-YEAR LIMITED WARRANTY

We warrant our products to be free from defects in materials and workmanship for a period of one (1) year from the date of initial purchase. Our obligation under this warranty is limited to repairing or replacing (at its sole option) any such defective products. Visit Tripplite.Eaton.com/support/product-returns before sending any equipment back for repair. 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.

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Regulatory Compliance Identification Numbers

For the purpose of regulatory compliance certifications and identification, your product has been assigned a unique series number. The series number can be found on the product nameplate label, along with all required approval markings and information. When requesting compliance information for this product, always refer to the series number. The series number should not be confused with the marking name or model number of the product.

WEEE Compliance Information for Customers and Recyclers (European Union)

Under the Waste Electrical and Electronic Equipment (WEEE) Directive and implementing regulations, when customers buy new electrical and electronic equipment from Eaton, they are entitled to:

- Send old equipment for recycling on a one-for-one, like-for-like basis (this varies depending on the country)
- Send the new equipment back for recycling when this ultimately becomes waste

Warning

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.

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