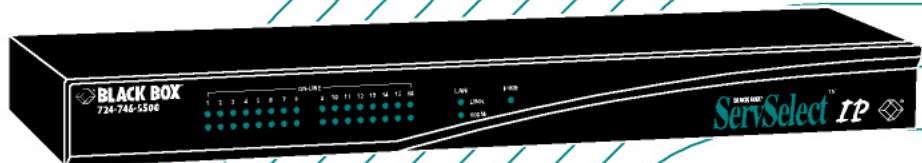


SEPTEMBER 2002

BLACK BOX[®] *ServSelect™ IP*



**KV120A
KV120E
KV121A
KV121E**

 **BLACK BOX[®]**
NETWORK SERVICES

Welcome to the ServSwitch™ Family!

Thank you for purchasing a BLACK BOX® ServSelect IP! We appreciate your business, and we think you'll appreciate the many ways that your new ServSelect IP will save you money, time, and effort.

That's because our ServSwitch family is all about breaking away from the traditional, expensive model of computer management. You know, the one-size-fits-all-even-if-it-doesn't model that says, "One computer gets one user station, no more, no less." Why not a single user station (monitor, keyboard, and mouse) for multiple computers—even computers of different platforms? Why not a pair of user stations, each of which can control multiple computers? Why not multiple user stations for the same computer?

With our ServSwitch products, there's no reason why not. We carry a broad line of robust solutions for all these applications. Do you have just two PCs, and need an economical alternative to keeping two monitors, keyboards, and mice on your desk? Or do you need to share dozens of computers, including a mix of IBM® PC, RS/6000®, Apple® Macintosh®, Sun Microsystems®, and SGI™ compatibles among multiple users with different access levels? Does your switch have to sit solidly on a worktable and use regular everyday cables? Or does it have to be mounted in an equipment rack and use convenient many-to-one cables? No matter how large or small your setup is, no matter how simple or how complex, we're confident we have a ServSwitch system that's just right for you.

The ServSwitch™ family from BLACK BOX—the one-stop answer for all your KVM switching needs!

*

This manual will tell you all about your new ServSelect IP, including how to install, operate, and troubleshoot it. For an introduction to the ServSelect IP, see Chapter 2. The ServSelect IP product codes covered in this manual are:

KV120A KV120E KV121A KV212E

This manual also includes information about the ServSelect IP Software and the Server Access Modules, which have their own manuals or installation guides:

KV125A KV126A KV127A KV128A

And this manual also includes information about the ServSwitch™ Multi Z8 switch:

KV158A

**FEDERAL COMMUNICATIONS COMMISSION AND
INDUSTRY CANADA****RADIO-FREQUENCY INTERFERENCE STATEMENTS**

This equipment generates, uses, and can radiate radio-frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio communication. It has been tested and found to comply with the limits for a Class A computing device in accordance with the specifications in Subpart B of Part 15 of FCC rules, which are designed to provide reasonable protection against such interference when the equipment is operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference, in which case the user at his own expense will be required to take whatever measures may be necessary to correct the interference.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This digital apparatus does not exceed the Class A limits for radio noise emission from digital apparatus set out in the Radio Interference Regulation of Industry Canada.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la classe A prescrites dans le Règlement sur le brouillage radioélectrique publié par Industrie Canada.

EUROPEAN UNION DECLARATION OF CONFORMITY

This equipment has been tested and found to comply with the limits for a class A computing device in accordance with the specifications in the European standard EN55022. These limits are designed to provide reasonable protection against harmful interference. This equipment generates, uses and can radiate radio-frequency energy, and if not installed and used in accordance with the instructions, might cause harmful interference to radio or television reception.

However, there is no guarantee that harmful interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment on and off, you can correct the interference with one or more of the following measures:

- (a) Reorient or relocate the receiving antenna.
- (b) Increase the separation between the equipment and the receiver.
- (c) Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- (d) Consult the supplier or an experienced radio/TV technician for help.

Shielded cables must be used with this equipment to maintain compliance with radio frequency energy emission regulations and ensure a suitably high level of immunity to electromagnetic disturbances. This equipment has also been found to comply with European standards EN50082 and EN60950.



Japanese Compliance Statement


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Other Agency Approvals

UL 1950, CSA C22. 2 No. 950, IEC 950

Republic of Korea EMI Standard Certificate Number: E-F900-01-2012 (A)

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Normas Oficiales Mexicanas (NOM) Electrical Safety Statement

INSTRUCCIONES DE SEGURIDAD

1. Todas las instrucciones de seguridad y operación deberán ser leídas antes de que el aparato eléctrico sea operado.
2. Las instrucciones de seguridad y operación deberán ser guardadas para referencia futura.
3. Todas las advertencias en el aparato eléctrico y en sus instrucciones de operación deben ser respetadas.
4. Todas las instrucciones de operación y uso deben ser seguidas.
5. El aparato eléctrico no deberá ser usado cerca del agua—por ejemplo, cerca de la tina de baño, lavabo, sótano mojado o cerca de una alberca, etc.
6. El aparato eléctrico debe ser usado únicamente con carritos o pedestales que sean recomendados por el fabricante.
7. El aparato eléctrico debe ser montado a la pared o al techo sólo como sea recomendado por el fabricante.
8. Servicio—El usuario no debe intentar dar servicio al equipo eléctrico más allá a lo descrito en las instrucciones de operación. Todo otro servicio deberá ser referido a personal de servicio calificado.
9. El aparato eléctrico debe ser situado de tal manera que su posición no interfiera su uso. La colocación del aparato eléctrico sobre una cama, sofá, alfombra o superficie similar puede bloquea la ventilación, no se debe colocar en libreros o gabinetes que impidan el flujo de aire por los orificios de ventilación.
10. El equipo eléctrico debe ser situado fuera del alcance de fuentes de calor como radiadores, registros de calor, estufas u otros aparatos (incluyendo amplificadores) que producen calor.
11. El aparato eléctrico deberá ser conectado a una fuente de poder sólo del tipo descrito en el instructivo de operación, o como se indique en el aparato.
12. Precaución debe ser tomada de tal manera que la tierra física y la polarización del equipo no sea eliminada.
13. Los cables de la fuente de poder deben ser guiados de tal manera que no sean pisados ni pellizcados por objetos colocados sobre o contra ellos, poniendo particular atención a los contactos y receptáculos donde salen del aparato.
14. El equipo eléctrico debe ser limpiado únicamente de acuerdo a las recomendaciones del fabricante.
15. En caso de existir, una antena externa deberá ser localizada lejos de las líneas de energía.
16. El cable de corriente deberá ser desconectado del cuando el equipo no sea usado por un largo periodo de tiempo.

17. Cuidado debe ser tomado de tal manera que objetos líquidos no sean derramados sobre la cubierta u orificios de ventilación.
18. Servicio por personal calificado deberá ser provisto cuando:
 - A: El cable de poder o el contacto ha sido dañado; u
 - B: Objetos han caído o líquido ha sido derramado dentro del aparato; o
 - C: El aparato ha sido expuesto a la lluvia; o
 - D: El aparato parece no operar normalmente o muestra un cambio en su desempeño; o
 - E: El aparato ha sido tirado o su cubierta ha sido dañada.

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1. Specifications

During the course of this product's lifetime, modifications might be made to its hardware or firmware that could cause these specifications to change without notice.

Agency Approvals

EN55022 Class A, EN55024, EN61000-3-3, FCC15 Class A, VCCI Class A, IEC950, EN60950, UL 1950/60950 third edition, CSA C22.2 No. 950

Server Ports

Number	16
Interface Type	Proprietary composite of video, keyboard and mouse (to SAM adapters)
Connectors	RJ-45
Sync Types	Separate horizontal and vertical
Plug and Play	DDC2B
Video Resolution	Analog Port Maximum 1600 x 1280 @ 75 Hz Digital Port Maximum 1280 x 1024 @ 75 Hz

Configuration Port

Number	1
Interface Type	Serial RS-232, DTE
Connector	DB9 Female

Network Connection

Number	1
Interface Type	Ethernet: IEEE 802.3, 10BASE-T, Fast Ethernet: IEEE 802.3U, 100BASE-T
Connector	RJ-45

Analog Port

Number	1
Interface Types	PS/2 and VGA
Connectors	(2) 6 pin MiniDIN, (1) HD15

Other Characteristics

Heat Dissipation	92 BTU/Hr
Airflow	8 cfm
Temperature	10° to 50° Celsius (50° to 122° Fahrenheit) operating -20° to 60° Celsius (-4° to 140° Fahrenheit) nonoperating
Humidity	20 to 80% noncondensing operating 5 to 95% noncondensing nonoperating
Power	100 to 240 VAC, 50 to 60 Hz (autosensing), 40 W maximum
AC-input current rating	1A
AC-input cable	18 AWG three-wire cable, with a three lead IEC-320 receptacle on the power supply end and a country or region dependent plug on the power resource end
Power Consumption	25 W
Size (HxWxD)	4.45 x 43.18 x 27.94 cm 1U form factor (1.75 x 17.00 x 11.00 in)
Weight	3.6 kg (8 lb) without cables

2. Introduction



2.1 Features and Benefits

The BLACK BOX® ServSelect™ IP switches combine analog and digital technology to provide flexible, centralized control of data center servers. This solution delivers secure digital access and flexible server management from anywhere at any time.

NOTE:

Throughout the text, the word “appliance” is used generically to describe the ServSelect IP switch.

The ServSelect IP consists of a rackmountable keyboard, video and mouse (KVM) switch configurable for analog or digital connectivity. Each ServSelect IP has 16 Analog Rack Interface (ARI) ports for connecting devices and operates over standard LAN connections. Access servers across a 100BASE-T Ethernet connection or directly through an analog port on the ServSelect IP for analog KVM connectivity and administration. Video resolutions through the analog port can be up to 1600 x 1280 with an end-to-end cable length of up to 15 meters (50 feet). Digital users can achieve video resolution of up to 1280 x 1024 with a cable length of up to 10 meters (32 feet) between the ServSelect IP and the server.

	Number of servers*	Digital users	Analog user
 <p>ServSelect IP - KV120</p>	128	1	1
 <p>ServSelect IP - KV121</p>	128	2	1

*Maximum number of servers with a fully configured KV158A switch attached to each of the 16 ARI ports.

Figure 2-1. ServSelect IP Model Comparison

Server Access Modules

The Server Access Module (SAM) with CAT5 design dramatically reduces cable clutter, while providing optimal digital display resolution and video settings. The built-in memory of the SAM simplifies configuration by assigning and retaining unique server names or Electronic ID (EID) numbers for each attached server. This integrated intelligence enhances security and prevents unauthorized access to a server through cable manipulation. The SAM is powered directly from the server and provides Keep Alive functionality even if the ServSelect IP is not powered.

Access via network connection

No special software or drivers are required on the attached computers. Digital users access the ServSelect IP and all attached systems via Ethernet from a PC running ServSelect IP Software. This software resides on the user's PC only. User PCs can be located anywhere a valid network connection exists. The ServSelect IP can be configured on a separate network from your data network, allowing access to your servers even if your applications network is down.

Point and click control with ServSelect IP Software

The ServSelect IP Software is a cross-platform management application that allows you to view and control the ServSelect IP and all attached servers. The ServSelect IP Software provides secure authentication, data transfers and username/password storage. By utilizing a browser interface for navigation with an intuitive split-screen interface, this software provides you with a single point of access for your entire system. From here, you can manage the ServSelect IP, install a new ServSelect IP or launch a video session to a system server. Multiple servers can be accessed by one user; each additional computer's video will appear in a separate program window.

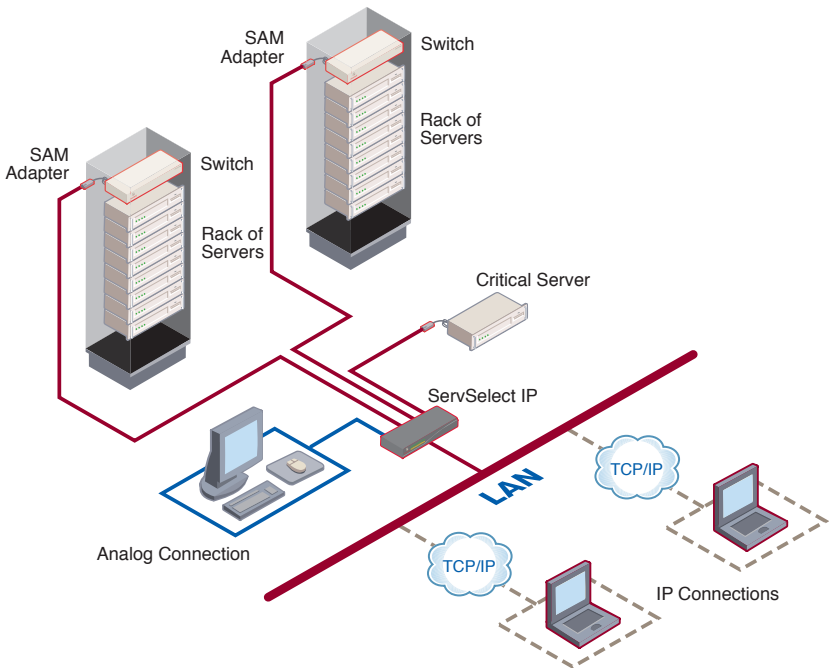


Figure 2-2. Example ServSelect IP Configuration

2.2 Safety Precautions

To avoid potential video and/or keyboard problems when using these products:

- If the building has 3-phase AC power, ensure that the computer and monitor are on the same phase. For best results, they should be on the same circuit.
- Use only BLACK BOX-supplied cable to connect computers and KVM switches.

To avoid potentially fatal shock hazard and possible damage to equipment, please observe the following precautions:

- Do not use a 2-wire extension cord in any BLACK BOX product configuration.
- Test AC outlets at the computer and monitor for proper polarity and grounding.
- Use only with grounded outlets at both the computer and monitor. When using a backup power supply (UPS), power the computer, the monitor and the appliance off the supply.

NOTE:

The AC inlet is the main disconnect.

Rackmount safety considerations

- **Elevated Ambient Temperature:** If the equipment is installed in a closed rack assembly, the operation temperature of the rack environment may be greater than room ambient. Use care not to exceed the rated maximum ambient temperature of the equipment.
- **Reduced Air Flow:** Installation of the equipment in a rack should be such that the amount of airflow required for safe operation of the equipment is not compromised.
- **Mechanical Loading:** Mounting of the equipment in the rack should be such that a hazardous condition is not achieved due to uneven mechanical loading.
- **Circuit Overloading:** Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of circuits might have on overcurrent protection and supply wiring. Consider equipment name-plate ratings for maximum current.
- **Reliable Earthing:** Reliable earthing of rackmounted equipment should be maintained. Pay particular attention to supply connections other than direct connections to the branch circuit (for example, use of power strips).

3. Installation

The ServSelect® IP system requires that the ServSelect IP Software be installed prior to use. ServSelect IP Software allows you to view and control a server attached to the appliance system, configure and maintain the system and prevent unauthorized access to the appliance via IP connection.

NOTE:

The analog port does not require the ServSelect IP Software for operation. The analog port uses the On-Screen Display (OSD). For more information, see Chapter 4.

The ServSelect IP system uses Ethernet networking infrastructure and TCP/IP protocol to transmit keyboard, video and mouse information between operators and connected computers. Although 10BASE-T Ethernet may be used, a dedicated, switched 100BASE-T network provides improved performance.

3.1 Getting Started

Before installing your ServSelect IP appliance, refer to the following list to ensure you have all items that shipped with the appliance as well as other items necessary for proper installation. The KV120/121A models ship with power input cords appropriate for North America. The KV120/121E models ship with power input cords appropriate for Europe.

Supplied with the ServSelect IP

- ServSelect IP unit
- Power cord
- Rackmounting kit
- One straight-through null modem serial cable
- ServSelect IP Installer/User Guide
- ServSelect IP Software Installer/User Guide
- ServSelect IP Quick Installation Guide

Additional items needed

- One SAM per attached server or switch

Setting up your network

The ServSelect IP system uses IP addresses to uniquely identify the appliances and the computers running ServSelect IP Software. The ServSelect IP appliance supports both BootP (a subset of DHCP) and static IP addressing. BLACK BOX®

recommends that IP addresses be reserved for each unit and that they remain static while the appliances are connected to the network.

3.2 Rackmounting Your ServSelect IP

Your ServSelect IP appliance ships with rackmounting brackets for easy integration into your rack. Before installing the appliance and other components in the rack cabinet, stabilize the rack in a permanent location. Install your equipment starting at the bottom of the rack cabinet, then work to the top. Avoid uneven loading or overloading of rack cabinets.

To install the 1U switch mounting bracket:

1. Line up the holes in the “long side” of the kit’s side brackets with the screw holes in the switch.
2. With a Phillips screwdriver, fasten the mounting brackets to the switch using two 8/32" x 1/2" pan head screws on each side.
3. Attach the four cage nuts or clip nuts to the rackmounting flange of the rack cabinet so that the nut is positioned on the inside of the rack.
4. Mount the switch assembly to the rack cabinet by matching the holes in the “short side” of each bracket to an appropriate set of matching holes on your rack cabinet. Next, insert the combination hex head screws through the slots in the bracket and the holes in the mounting rail, then into the cage nuts or clip nuts.

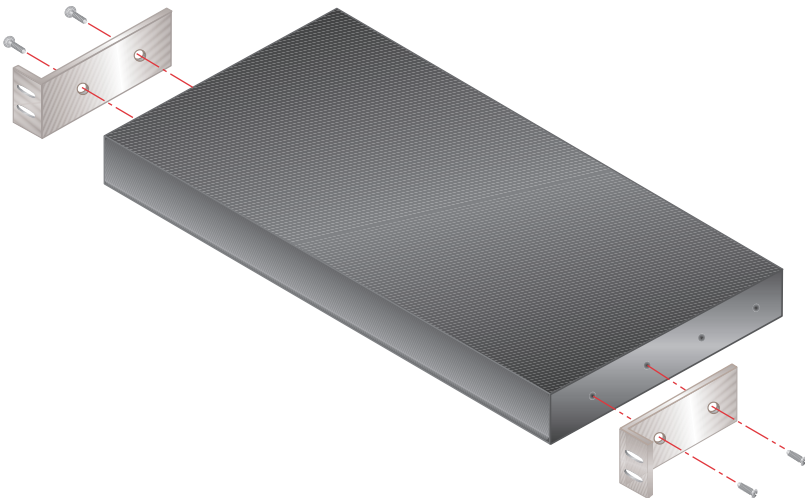


Figure 3-1. ServSelect IP Horizontal Installation

3.3 Installing the ServSelect IP

Figure 3.2 illustrates one possible configuration for your ServSelect IP appliance. Follow the detailed set of procedures following Figure 3.2 to successfully install your appliance.

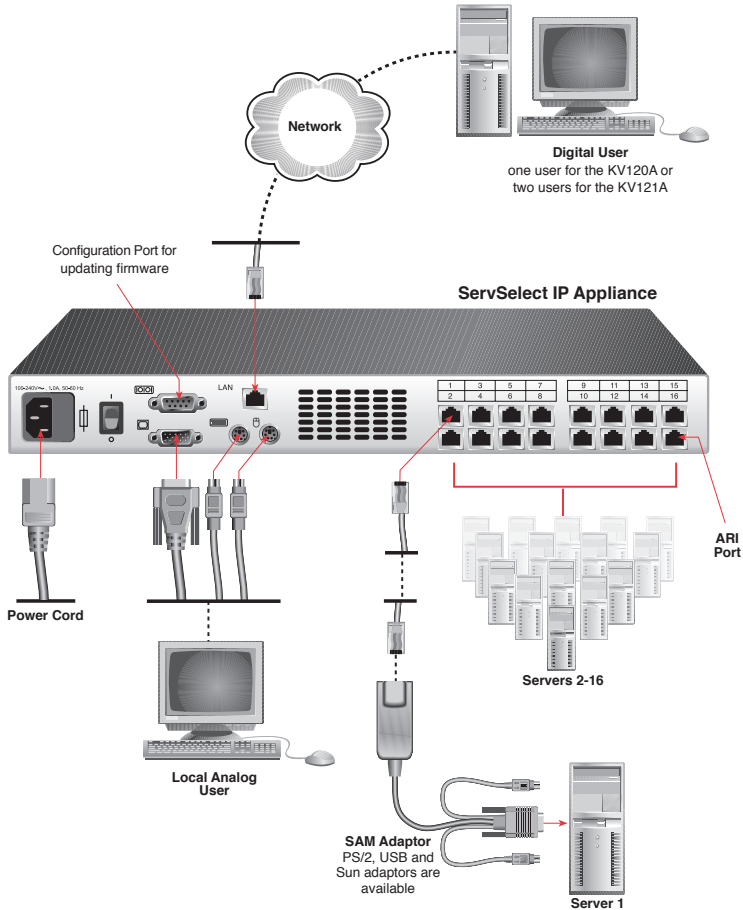


Figure 3-2. Basic ServSelect IP Configuration

CAUTION:

To reduce the risk of electric shock or damage to your equipment-

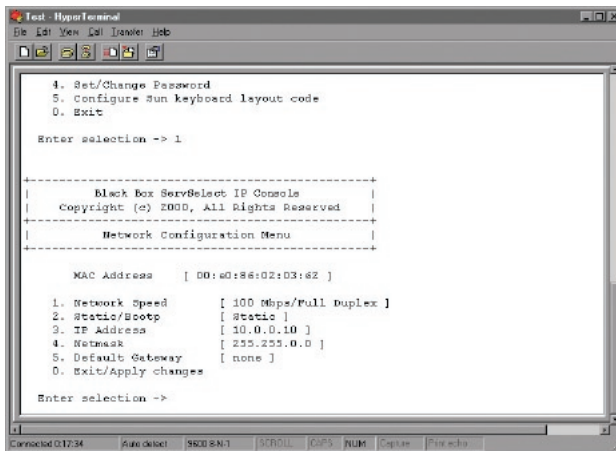
- Do not disable the power cord grounding plug. The grounding plug is an important safety feature.
- Plug the power cord into a grounded (earthed) outlet that is easily accessible at all times.
- Disconnect the power from the unit by unplugging the power cord from either the electrical outlet or the unit.

To install the ServSelect IP hardware:

1. Connect a terminal or PC running terminal emulation software (such as HyperTerminal™) to the configuration port on the back panel of the appliance using an RS-232 DB9 null modem cable. The terminal should be set to 9600 bps, 8 data bits, 1 stop bit, no parity and no flow control.
2. Plug the supplied power cord into the back of the appliance and then into an appropriate power source.
3. When you turn on the power, the Power indicator on the front of the unit will blink for 30 seconds while performing a self-test. Approximately 10 seconds after it stops blinking, press the **Enter** key to access the main menu.

To configure the ServSelect IP hardware:

1. You will see the Terminal Applications menu with six options. Select option 1, *Network Configuration*.

**Figure 3-3. Network Configuration Menu**

2. Select option 1 to set your network speed. When possible, you should set your connection manually without relying on the auto negotiate feature. Once you enter your selection, you will be returned to the Network Configuration menu.
3. Select option 2 and specify if you are using a static or BootP IP address. Use a static IP address for ease of configuration. If you are using a BootP address, please configure your BootP server to provide an IP address to the appliance, skip step 4 and continue to the next procedure.
4. Select options 3-5 from the Terminal Applications menu, in turn, to finish configuring your appliance for IP address, Netmask and Default Gateway. Once this is completed, type a **0** to return to the main menu.

To adjust the mouse acceleration:

Before a server can be connected to the ServSelect IP, an adjustment to mouse acceleration must be made. Use the default Microsoft® Windows® PS/2® mouse driver for all attached Microsoft Windows systems attached to the appliance.

For Microsoft Windows NT® (using default drivers):

1. From the desktop, select *Start - Settings - Control Panel - Mouse*.
2. Click on the *Motion* tab.
3. Set the pointer speed to *Slow*. You will need to set this for any Windows NT user account that will be accessing the Windows NT system through the appliance.

For Microsoft Windows 2000/Windows XP®:

1. From the desktop, select *Start - Settings - Control Panel - Mouse*.
2. Click on the *Motion* tab.
3. Set the Acceleration setting to *None* and the speed setting to the default of *50%*.

To connect a SAM adapter to each server:

1. Locate the SAM adaptors for your ServSelect IP unit.
2. Attach the appropriately color-coded cable ends to the keyboard, monitor and mouse ports on the first server you will be connecting to the unit.
3. Attach one end of the CAT5 cabling that will run between your SAM and ServSelect IP unit to the RJ-45 connector on the SAM adapter.
4. Connect the other end of the CAT5 cable to the desired ARI port on the back of your ServSelect IP unit.
5. Repeat steps 2-4 for all servers you wish to attach.

NOTE:

When connecting a Sun SAM adapter, you must use a multi-sync monitor to accommodate Sun computers that support both VGA and sync-on-green or composite sync.

To add a KV158A ServSwitch® Multi Z8 switch:

You can add a KV158A ServSwitch Multi Z8 to the ServSelect IP system. In a cascaded system, each ARI port will accommodate up to eight servers.

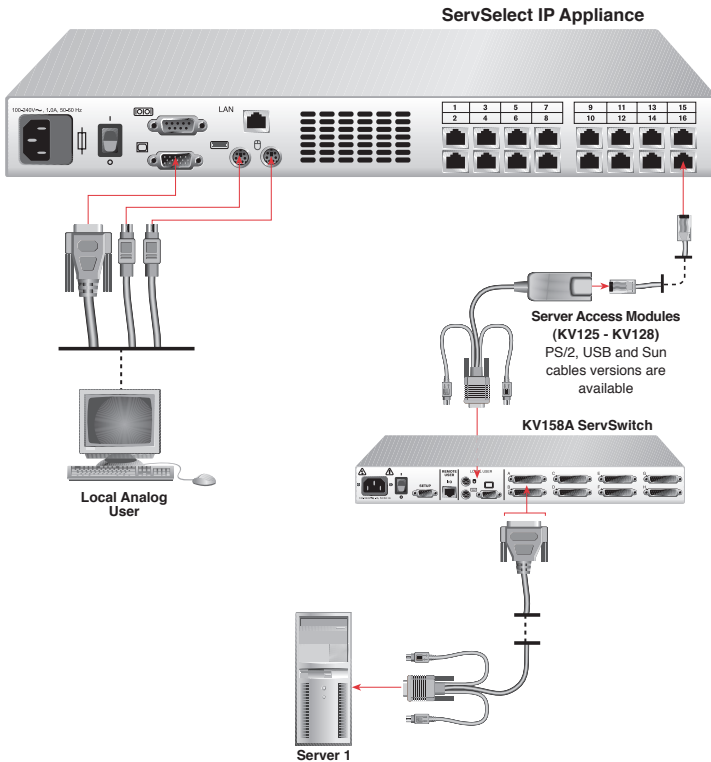


Figure 3-4. ServSelect IP Configuration with a Legacy KVM Switch

1. Mount the Z8 into your rack cabinet. Locate a length of CAT5 cabling to connect your appliance to the SAM for your Z8.
2. Attach one end of the CAT5 cabling to the RJ-45 connector on the SAM.
3. Connect the other end of the CAT5 cable to a port on the back of your ServSelect IP.
4. Attach the keyboard, monitor and mouse connectors of the SAM to a user port on your Z8.
5. Connect the servers to your Z8 according to the instructions in the Z8's manual.
6. Power cycle the Z8 to enable the cascade code.
7. Repeat steps 2-6 for all Z8s you want to attach to your system.

To connect the network and turn on your ServSelect IP:

1. Connect your network cable from the LAN port on the rear of the ServSelect IP appliance to your network.
2. The components in the ServSelect IP system may be turned on in any order. However, since the SAMs are powered by the servers, turn on the servers first and then turn on all attached systems for the most efficient startup.

3.4 Setting Up Your ServSelect IP and Software

See the ServSelect IP Software Installer/User Guide that ships with your appliance.

The ServSelect IP system has a local analog port that allows you to attach a monitor and a PS/2 keyboard and mouse to the back of the unit. First, set up your servers at the analog port via the OSD before proceeding to use the ServSelect IP Software to finish configuring your system. Proceed to Chapter 4 in this installer/user guide for detailed instructions on the OSD setup and configuration. Once your servers are named, you will want to use a digital station to configure the ServSelect IP Software. See the ServSelect IP Quick Installation Guide for an overview of the hardware and software installation procedure.

4. Analog Port Operation

4.1 Controlling Your System at the Analog Port

The ServSelect® IP includes a local analog port on the back of the unit that allows you to connect a monitor and a PS/2 keyboard and mouse for direct analog access. The appliance uses the OSD, which utilizes intuitive menus to configure your system and select computers.

4.2 Viewing and Selecting Ports and Servers

Use the OSD Main dialog box to view, configure and control servers in the ServSelect IP system. View your servers by name, port or by the unique Electronic ID number (EID) embedded in each SAM. You will see an OSD-generated port list by default when you first launch the OSD.

The Port column indicates the ARI port to which a server is connected. If you connect a legacy KVM switch to the appliance, the port numbering displays the ARI port first, then the switch port to which the server is connected. For example, in Figure 4-1, servers 04-03 and 01-02 are connected to switches.

To access the Main dialog box:

Press **Print Screen** to launch the OSD. The Main dialog box appears.

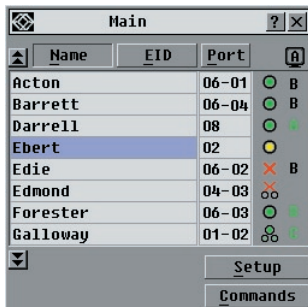


Figure 4-1. Example of Configured Main Dialog Box

NOTE:








You can also press the **Control** key twice within one second to launch the OSD. You can use this key sequence in any place you see **Print Screen** throughout this installer/user guide.

Viewing the status of your appliance

The status of the servers in your system is indicated in the right columns of the Main dialog box. The following table describes the status symbols.

OSD Status Symbols

Symbol Description

	SAM is online (green circle).
	SAM is offline or is not operating properly.
	Connected switch is online.
	Connected switch is offline or is not operating properly.
	SAM is being upgraded (yellow circle).
	SAM is being accessed by the indicated user channel.
	SAM is blocked by the indicated user channel. For instance, in Figure 4-1, user B is viewing Forester, but is blocking access to Acton, Barrett and Edie which are connected to the same SAM chain.

Selecting servers

Use the Main dialog box to select servers. When you select a server, the appliance reconfigures the keyboard and mouse to the proper settings for that server.

To select servers:

Double-click the server name, EID or port number.

-or-

If the display order of your server list is by port (*Port* button is depressed), type the port number and press **Enter**.

-or-

If the display order of your server list is by name or EID number (*Name* or *EID* button is depressed), type the first few characters of the name of the server or the EID number to establish it as unique and press **Enter**.

To select the previous server:

Press **Print Screen** and then **Backspace**. This key combination toggles you between the previous and current connections.

To disengage the user from a server:

Press **Print Screen** and then **Alt+Ø**. This leaves the user in a free state, with no server selected. The status flag on your desktop displays *Free*.

Soft switching

Soft switching is the ability to switch servers using a hotkey sequence. You can soft switch to a server by pressing **Print Screen** and then typing the first few characters of its name or number. If you have set a Screen Delay Time and you press the key sequences before that time has elapsed, the OSD will not display.

To configure servers for soft switching:

1. Press **Print Screen** to launch the OSD. The Main dialog box appears.
2. Click *Setup - Menu*. The Menu dialog box appears.
3. For Screen Delay Time, type the number of seconds of delay desired before the Main dialog box is displayed after **Print Screen** is pressed.
4. Click *OK*.

To soft switch to a server:

1. To select a server, press **Print Screen**. If the display order of your server list is by port (*Port* button is depressed), type the port number and press **Enter**.
-or-
If the display order of your server list is by name or EID number (*Name* or *EID* button is depressed), type the first few characters of the name of the server or the EID number to establish it as unique and press **Enter**.
2. To switch back to the previous server, press **Print Screen** then **Backspace**.

4.3 Navigating the OSD

This table describes how to navigate the OSD using the keyboard and mouse.

OSD Navigation Basics

This Keystroke	Does This
Print Screen	Opens the OSD. Press Print Screen twice to send the Print Screen keystroke to the currently selected device.
F1	Opens the Help screen for the current dialog box.
Escape	Closes the current dialog box without saving changes and returns to the previous one. In the Main dialog box, it closes the OSD and returns to the flag. In a message box, it closes the pop-up box and returns to the current dialog box.
Alt	Opens dialog boxes, selects or checks options and executes actions when used with underlined or other designated letters.
Alt+X	Closes the current dialog box and returns to the previous one.
Alt+O	Selects the <i>OK</i> button, then returns to the previous dialog box.
Single-click, Enter	In a text box, it selects the text for editing and enables the Left and Right Arrow keys to move the cursor. Press Enter again to quit the edit mode.
Enter	Completes a switch in the Main dialog box and exits the OSD.
Print Screen, Backspace	Toggles back to previous selection.
Print Screen, Alt+Ø	Immediately disengages user from a server; no server is selected. Status flag displays <i>Free</i> . (This only applies to the Ø on the keyboard and not the keypad.)
Print Screen, Pause	Immediately turns on screen saver mode and prevents access to that particular console, if it is password protected.
Up/Down Arrows	Moves the cursor from line to line in lists.
Right/Left Arrows	Moves the cursor between columns. When editing a text box, these keys move the cursor within the column.
Page Up/Page Down	Pages up and down through Name and Port lists and Help pages.
Home/End	Moves the cursor to the top or bottom of a list.
Backspace	Erases characters in a text box.
Delete	Deletes current selection in the scan list or characters in a text box.
Shift-Del	Deletes from the current selection to the end of the list when editing a scan list.
Numbers	Type from the keyboard or keypad.
Caps Lock	Disabled. Use the Shift key to change case.

4.4 Configuring the OSD

You can configure your ServSelect IP system from the Setup menu within the OSD. Select the *Names* button when initially setting up your appliance to identify servers by unique names. Select the other setup features to manage routine tasks for your servers from the the OSD menu.

Setup Features to Manage Routine Tasks for your Servers

Feature	Purpose
Menu	Change the server listing between numerically by port or EID number and alphabetically by name.
	Change the Screen Delay Time before the OSD displays after pressing Print Screen .
Flag	Change display, timing, color or location of the status flag.
Broadcast	Set up to simultaneously control multiple servers through keyboard and mouse actions.
Scan	Set up a custom scan pattern for up to 16 servers.
Security	Set passwords to restrict server access.
	Enable the screen saver.
Devices	Identify the number of ports on an attached cascade switch.
Names	Identify servers by unique names.

To access the Setup menu:

1. Press **Print Screen** to launch the OSD. The Main dialog box appears.
2. Click *Setup*. The Setup dialog box appears.



Figure 4-2. Setup Dialog Box

Assigning server names

Use the Names dialog box to identify individual servers by name rather than by port number. The Names list is always sorted by port order. Names are stored in the SAM, so even if you move the cable/server to another ARI port, the name and configuration will be recognized by the appliance.

NOTE:

If a server is turned off, its respective SAM will not appear in the Names list.

To access the Names dialog box:

1. Press **Print Screen**. The Main dialog box will appear.
2. Click *Setup - Names*. The Names dialog box appears.

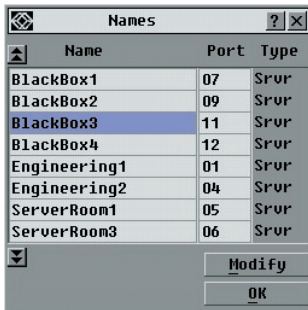


Figure 4-3. Names Dialog Box

NOTE:

If the server list changes, the mouse cursor will turn into an hourglass as the list is automatically updated. No mouse or keyboard input will be accepted until the list update is complete.

To assign names to servers:

1. In the Names dialog box, select a server name or port number and click *Modify*. The Name Modify dialog box appears.



Figure 4-4. Name Modify Dialog Box

2. Type a name in the New Name box. Names of servers may be up to 15 characters long. Legal characters include: A-Z, a-z, Ø-9, space and hyphen.
3. Click *OK* to transfer the new name to the Names dialog box. Your selection is not saved until you click *OK* in the Names dialog box.
4. Repeat steps 1-3 for each server in the system.
5. Click *OK* in the Names dialog box to save your changes.
-or-
Click *X* or press **Escape** to exit the dialog box without saving changes.

NOTE:

If a SAM has not been assigned a name, the EID is used as the default name.

Assigning device types

The appliance automatically discovers ServSwitch Multi Z8s that are attached to it and will automatically assign the number of ports (eight) to that switch. You will see an Sw-8 appear in the Type category. When you select that switch from the list, the Modify button appears, but do not click it: at the time of this writing, the KV158A 2x8 ServSwitch Multi Z8 is the only available cascade switch; do not attempt to select or add other switch types, or specify a different number of ports.

To access the Devices dialog box:

1. Press **Print Screen**. The Main dialog box will appear.
2. Click *Setup - Devices*. The Devices dialog box appears.



Figure 4-5. Devices Dialog Box

When the ServSelect IP appliance discovers a ServSwitch Multi Z8, you will notice the port numbering change to accommodate each server under that switch. For example, if the switch is connected to ARI port 6, the switch port would be listed as 06 and each server under it would be numbered sequentially 06-01, 06-02 and so on.

Changing the display behavior

Use the Menu dialog box to change the display order of servers and set a Screen Delay Time for the OSD. The display order setting alters how servers will display in several screens including the Main, Devices and Broadcast dialog boxes.

To access the Menu dialog box:

1. Press **Print Screen** to launch the OSD. The Main dialog box appears.
2. Click *Setup - Menu* in the Main dialog box. The Menu dialog box appears.

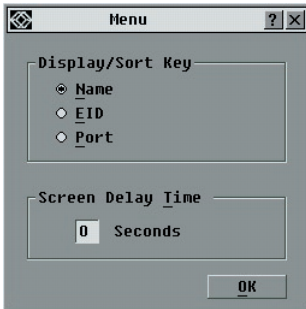


Figure 4-6. Menu Dialog Box

To choose the default display order of servers:

1. Select *Name* to display servers alphabetically by name.
-or-
Select *EID* to display servers numerically by EID number.
-or-
Select *Port* to display servers numerically by port number.
2. Click *OK*.

To set a Screen Delay Time for the OSD:


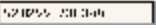


1. Type in the number of seconds (0-9) to delay the OSD display after you press **Print Screen**. Entering 0 will instantly launch the OSD with no delay.
2. Click *OK*.

Setting a Screen Delay Time allows you to complete a soft switch without the OSD displaying. To perform a soft switch, see *Soft switching* in this chapter.

Controlling the status flag

The status flag displays on your desktop and shows the name or EID number of the selected server or the status of the selected port. Use the Flag dialog box to configure the flag to display by server name or EID number, or to change the flag color, opacity, display time and location on the desktop.

OSD Status Flags

Flag	Description
	Flag type by name
	Flag type by EID number
	Flag indicating that the user has been disconnected from all systems
	Flag indicating that Broadcast mode is enabled

To access the Flag dialog box:

1. Press **Print Screen**. The Main dialog box will appear.
2. Click *Setup - Flag*. The Flag dialog box appears.



Figure 4-7. Flag Dialog Box

To determine how the status flag is displayed:

1. Select *Name* or *EID* to determine what information will be displayed.
2. Select *Displayed* to show the flag all the time or select *Timed* to display the flag for only five seconds after switching.
3. Select a flag color in Display Color.
4. In Display mode, select *Opaque* for a solid color flag or select *Transparent* to see the desktop through the flag.
5. To position the status flag on the desktop:
 - a. Click *Set Position* to gain access to the Position Flag screen.
 - b. Left-click on the title bar and drag to the desired location.
 - c. Right-click to return to the Flag dialog box.

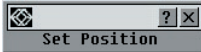


Figure 4-8. Position Flag

NOTE:

Changes made to the flag position are not saved until you click *OK* in the Flag dialog box.

6. Click *OK* to save settings.
- or-
- Click *X* to exit without saving changes.

Setting console security

The OSD enables you to set security on your analog port console. You can establish a screen saver mode that engages after your console remains unused for a specified Inactivity Time. Once engaged, your console will remain locked until you press any key or move the mouse. You will then need to type in your password to continue.

Use the Security dialog box to lock your console with password protection, set or change your password and enable the screen saver.

NOTE:

If a password has been previously set, you will have to enter the password before you can access the Security dialog box.

To access the Security dialog box:

1. Press **Print Screen**. The Main dialog box will appear.
2. Click *Setup - Security*. The Security dialog box appears.



Figure 4-9. Security Dialog Box

To set or change the password:

1. Single-click and press **Enter** or double-click in the New text box.
2. Type the new password in the New text box and press **Enter**. Passwords must contain both alpha and numeric characters, are case sensitive and may be up to 12 characters long. Legal characters are: A-Z, a-z, Ø-9, space and hyphen.

3. In the Repeat box, type the password again and press **Enter**.
4. Click *OK* to change only your password, and then close the dialog box.

NOTE:

If you should lose or forget your password, you must return your ServSelect IP.

To password protect your console:

1. Set your password as described in the previous procedure.
2. Select *Enable Screen Saver*.
3. Type the number of minutes for Inactivity Time (from 1 to 99) to delay activation of password protection and the screen saver feature.
4. For Mode, select *Energy* if your monitor is ENERGY STAR® compliant; otherwise select *Screen*.

CAUTION:

Monitor damage can result from using Energy mode with monitors not compliant with ENERGY STAR.

5. (Optional) Click *Test* to activate the screen saver test which lasts 10 seconds then returns you to the Security dialog box.
6. Click *OK*.

To log in to your console:

1. Press any key or move the mouse.
2. The Password dialog box appears. Type your password, then click *OK*.
3. The Main dialog box appears if the password was entered properly.

To remove password protection from your console:

1. From the Main dialog box, click *Setup - Security*; the Password dialog box appears. Type your password, then click *OK*.
2. In the Security dialog box, single-click and press **Enter** or double-click in the New box. Leave the box blank. Press **Enter**.
3. Single-click and press **Enter** or double-click in the Repeat box. Leave the box blank. Press **Enter**.
4. Click *OK* to eliminate your password.

To enable the screen saver mode with no password protection:

1. If your console does not require a password to gain access to the Security dialog box, proceed to step 2.
-or-

If your console is password protected, see the previous procedure, then go to step 2.

2. Select *Enable Screen Saver*.
3. Type the number of minutes for Inactivity Time (from 1–99) to delay activation of the screen saver.
4. Choose *Energy* if your monitor is ENERGY STAR compliant; otherwise select *Screen*.

CAUTION:

Monitor damage can result from using Energy mode with monitors not compliant with ENERGY STAR.

5. (Optional) Click *Test* to activate the screen saver test which lasts 10 seconds then returns you to the Security dialog box.
6. Click *OK*.

NOTE:

Activation of the screen saver mode disconnects the user from a server; no server is selected. The status flag displays *Free*.

To exit the screen saver mode:

Press any key or move your mouse. The Main dialog box appears and any previous server connection will be restored. If a digital user is on that connection, they will be disconnected and will receive a preemption message.

To turn off the screen saver:

1. In the Security dialog box, clear *Enable Screen Saver*.
2. Click *OK*.

To immediately turn on the screen saver:

Press **Print Screen**, then press **Pause**.

4.5 Viewing and Disconnecting User Connections

You can view and disconnect users through the User Status dialog box. The user name (U) will always be displayed; however, you can display either the server name or EID number to which a user is connected. If there is no user currently connected to a channel, the user field will be blank and the server field will display *Free*.

To view current user connections:

1. Press **Print Screen**. The Main dialog box will appear.
2. Click *Commands - User Status*. The User Status dialog box appears.

To disconnect a user:

1. Press **Print Screen**. The Main dialog box will appear.
2. Click *Commands - User Status*. The User Status dialog box appears.
3. Click the letter of a user to disconnect. The *Disconnect* dialog box will appear.

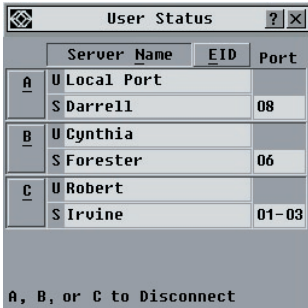


Figure 4-10. User Status Dialog Box Figure 4-11. Disconnect Dialog Box

4. Click *OK* to disconnect the user and return to the User Status dialog box.
-or-
Click *X* or press **Escape** to exit the dialog box without disconnecting a user.

NOTE:

If the User Status list has changed since it was last displayed, the mouse cursor will turn into an hourglass as the list is automatically updated. No mouse or keyboard input will be accepted until the list update is complete.

4.6 Resetting Your Keyboard and Mouse

If your keyboard or mouse locks up during a communication with a CPU that has PS/2 type keyboard and mouse ports, you may be able to re-establish operation by issuing a reset command. The reset command sends a key sequence to the server which causes the mouse and keyboard settings to be sent to the appliance. With communication re-established between the server and the appliance, functionality is restored to the user.

To reset the mouse and keyboard values:

1. Press **Print Screen**. The Main dialog box will appear.
2. Click *Commands - Reset PS/2*. A message box displays indicating that the mouse and keyboard have been reset.
3. Click *X* to close the message box.

4.7 Displaying Version Information

The OSD enables you to display the ServSelect IP and SAM firmware versions. For optimum performance, keep your firmware current. For more information, see *Appendix A*.

To display version information:

1. Press **Print Screen**. The Main dialog box will appear.
2. Click *Commands - Display Versions*. The Version dialog box appears. The top half of the box lists the subsystem versions in the appliance.



Figure 4-12. Version Dialog Box

3. Click *Digital* to view the Digitizer unit firmware versions. The Digital Version dialog box appears. The top section identifies the Digitizer subsystem versions. The center section identifies the current network settings. Click *X* or press **Escape** to return to the Version dialog box.



Figure 4-13. Digital Version Dialog Box

4. Click *SAM* (see *Figure 4-12*) to view individual SAM version information. The SAM Selection dialog box appears.

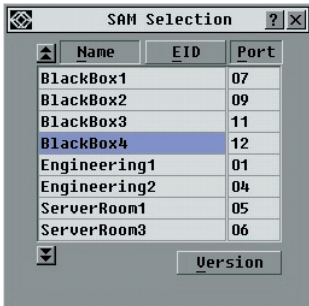


Figure 4-14. SAM Selection Dialog Box

5. Select a SAM to view and click the *Version* button. The SAM Version dialog box appears. For more information on loading firmware, see *Appendix A*.



Figure 4-15. SAM Version Dialog Box

6. Click X to close the Version dialog box.

4.8 Scanning Your System

In scan mode, the appliance automatically scans from port to port (server to server). You can scan up to 16 servers, specifying which servers to scan and the number of seconds that each server will display. The scanning order is determined by placement of the server in the list. The list is always shown in scanning order. You can, however, choose to display the server’s name or EID number by pressing the appropriate button.

NOTE:

Scanning is only available to the local analog user.

To add servers to the scan list:

1. Press **Print Screen**. The Main dialog box will appear.
2. Click *Setup - Scan*. The Scan dialog box appears.

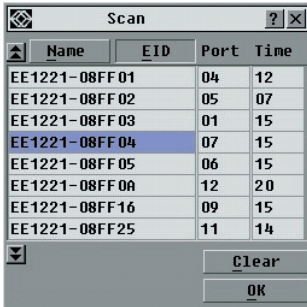


Figure 4-16. Scan Dialog Box

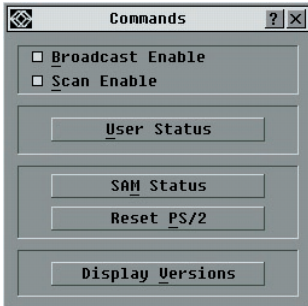
3. Determine the order within the list to add the server. If there are no servers in the scan list, your cursor will appear in a blank line at the top of the list.
 - or-
 - To add a server to the end of the list, place your cursor in the last server entry and press the **Down Arrow** key.
 - or-
 - To add a server in the midst of an existing list, place your cursor at the entry below where you want to insert a new server and press **Insert**.
4. Type the first few characters of a server name or port number to scan. The first matching server will appear in the line.
 - or-
 - To move through the list, press the following keyboard commands in the Name, Port or Sec column to move through the list of servers available to scan.
 - a. Press **Alt+Down Arrow** to move the cursor down through the list of servers.
 - b. Press **Alt+Up Arrow** to move the cursor up through the list of servers.
 - c. Press **Alt+Home** to move the cursor to the first server in the list.
 - d. Press **Alt+End** to move the cursor to the last server in the list.
5. In the Sec column, type the number of seconds (from 3 to 255) of desired time before the scan moves to the next server in the sequence.
6. Move the cursor to the next line or press the **Down Arrow** and repeat steps 2-5 for each of the remaining servers to be included in the scan pattern.
7. Click *OK*.

To remove a server from the scan list:

1. In the Scan dialog box, click the server to be removed.
2. Press **Delete**.
 - or-
 - Press **Shift+Delete** to remove the selected server and all entries below it.
3. Click *OK*.

To start the scan mode:

1. Press **Print Screen**. The Main dialog box will appear.
2. Click *Commands*. The Command dialog box appears.

**Figure 4-17. Command Dialog Box**

3. Select *Scan Enable* in the Command dialog box.
4. Click X to close the Command dialog box.

NOTE:

Scanning will commence when the Main dialog box or flag is displayed. Scanning is inhibited in any other the OSD dialog box.

To cancel scan mode:

1. Select a server if the OSD is open.
-or-
Move the mouse or press any key on the keyboard if the OSD is not open.
Scanning will stop at the currently selected server.
-or-
Press **Print Screen**. The Main dialog box will appear.
2. Click *Commands*. The Command dialog box appears.
3. Clear *Scan Enable*.

4.9 Broadcasting to Servers

The analog user can simultaneously control more than one server in a system, to ensure that all selected servers receive identical input. You can choose to broadcast keystrokes and/or mouse movements independently.

NOTE:

You can broadcast to up to 16 servers at a time, one server per ARI port.

To access the Broadcast dialog box:

1. Press **Print Screen**. The Main dialog box will appear.
2. Click *Setup - Broadcast*. The Broadcast dialog box appears.



Figure 4-18. Broadcast Dialog Box

NOTES:

Broadcasting Keystrokes - The keyboard state must be identical for all servers receiving a broadcast to interpret keystrokes identically. Specifically, the keyboard **Caps Lock** and **Num Lock** modes must be the same for all servers. While the appliance attempts to send keystrokes to the selected servers simultaneously, some servers may inhibit and thereby delay the transmission.

Broadcasting Mouse Movements - For the mouse to work accurately, all systems must have identical mouse drivers, desktops (such as identically placed icons) and video resolutions. In addition, the mouse must be in exactly the same place on all screens. Because these conditions are extremely difficult to achieve, broadcasting mouse movements to multiple systems may have unpredictable results.

To broadcast to selected servers:

1. From the Broadcast dialog box, select the mouse and/or keyboard checkboxes for the servers that are to receive the broadcast commands.
-or-
Press the **Up** or **Down Arrow** keys to move the cursor to the target server. Then press **Alt+K** to select the keyboard checkbox and/or **Alt+M** to select the mouse checkbox. Repeat for additional servers.
2. Click *OK* to save the settings and return to the Setup dialog box. Click *X* or press **Escape** to return to the Main dialog box.
3. Click *Commands*. The Command dialog box appears.
4. Click the *Broadcast Enable* checkbox to activate broadcasting.
5. From the user station, type the information and/or perform the mouse movements you want to broadcast.

To turn broadcasting off:

From the Command dialog box, clear the *Broadcast Enable* checkbox.

5. Terminal Operations

Each individual ServSelect® IP may be configured at the unit level through the configuration port on the back of the unit. All terminal commands are accessed through a terminal or PC running terminal emulation software.

Configuring the Terminal Menu

The ServSelect IP Terminal Applications menu features five selections: Network Configuration, Firmware Management, Enable Debug Messages, Set/Change Password and Exit.

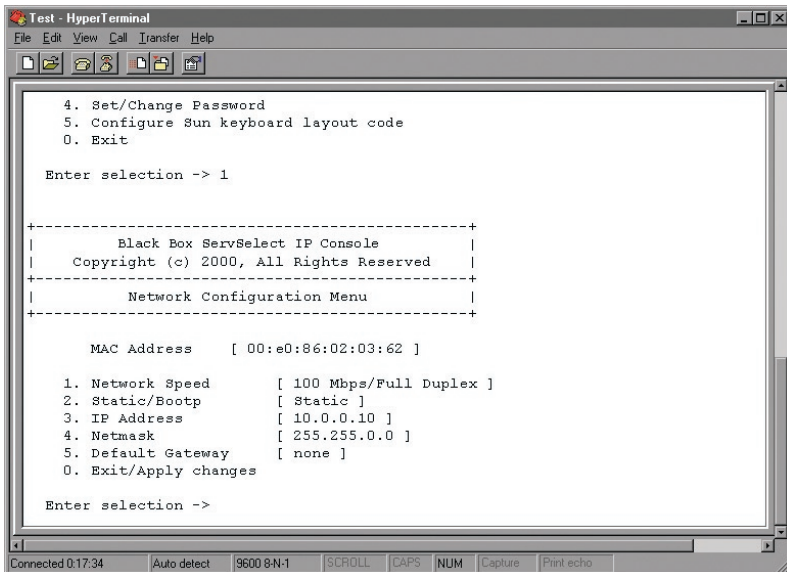


Figure 5-1. Network Configuration Menu

To access the Terminal menu:

1. Connect a terminal or PC running terminal emulation software (such as HyperTerminal) to the configuration port on the back panel of the ServSelect IP using a RS-232 DB9 null modem cable. The terminal should be set to 9600 bps, 8 data bits, 1 stop bit, no parity and no flow control. The terminal may be connected at any time, even when the ServSelect IP is powered on.
2. Press any key to access the main menu.

Network Configuration

The ServSelect IP is configured for network access through the Network Configuration option. When it is selected, you will have access to the addressing

that allows the ServSelect IP to be positioned in your network. For more information, see *Installing the ServSelect IP* in Chapter 3.

Firmware Management

This menu option contains the FLASH Download command. The FLASH Download selection allows you to keep your ServSelect IP firmware current with upgrades available from BLACK BOX®. For more information, see *Appendix A: FLASH Upgrades*.

Enable Debug Messages

This menu option allows you to configure the ServSelect IP to display messages regarding the status of the ServSelect IP. Once you select the level of detail to receive, the ServSelect IP will begin to display information on your terminal screen. When you are finished viewing, press any key to exit this mode.

Set/Change Password

The ServSelect IP can be set to a secure mode where the Terminal menu cannot be accessed without first entering a password.

To activate security:

1. Select the *Set/Change Password* menu option. You will be prompted with the option to continue. Enter a **Y**.
2. Type a password for this ServSelect IP and press **Enter**. This password must be a minimum of five characters and can be up to a maximum of 12 characters (10 are visible). The password must consist of a combination of letters and numbers.
3. You will be prompted to re-type the password. Once you complete this step, security will be active and you will not be able to access ServSelect IP terminal operations without the password.

To change the password:

1. Select the *Set/Change Password* menu option.
2. You will be prompted to type the old password and a new one.
3. Re-type the new password to verify.

NOTE:

This password places your ServSelect IP terminal in a secure mode. This password should be guarded like any network password and care should be taken to avoid forgetting or misplacing it. There are no means for recovering a lost password.

Exit

This menu selection will return you to the ready prompt.

6. Troubleshooting

6.1 Calling BLACK BOX

If you determine that your ServSelect IP is malfunctioning, do not attempt to alter or repair the unit. It contains no user-serviceable parts. Contact BLACK BOX Technical Support at 724-746-5500.

Before you do, make a record of the history of the problem. We will be able to provide more efficient and accurate assistance if you have a complete description, including:

- the nature and duration of the problem;
- when the problem occurs;
- the components involved in the problem;
- any particular application that, when used, appears to create the problem or make it worse; and
- the results of any testing you've already done.

6.2 Shipping and Packaging

If you need to transport or ship your ServSelect IP:

- Package it carefully. We recommend that you use the original container.
- If you are shipping the ServSelect for repair, make sure you include its power cord and the cables you're using with it. If you are returning the ServSelect IP, make sure you include everything you received with it. Before you ship, contact BLACK BOX to get a Return Authorization (RA) number.

Appendix: FLASH Upgrades

A.1 Upgrading the ServSelect IP

The ServSelect® IP FLASH upgrade feature allows you to upgrade your unit with the latest firmware available. To perform this update you will need a TFTP server. There are several free TFTP servers that you can download off the internet.

Next, you will need to download the latest FLASH firmware from BLACK BOX®. Contact BLACK BOX technical support and follow their directions for downloading the firmware. Save the FLASH upgrade file to the appropriate directory on your TFTP server. Once this is complete, the following steps will upload the new FLASH file to the ServSelect IP.

To upload a new FLASH file:

1. Connect a terminal or PC running terminal emulation software (such as HyperTerminal) to the configuration port on the back panel of the ServSelect IP. The terminal should be set to 9600 bps, 8 data bits, 1 stop bit, no parity and no flow control.
2. Connect the LAN port on the ServSelect IP to an Ethernet hub that is also connected to the PC being used as the TFTP server.
3. Launch both the server software and the terminal emulation software.
4. Verify that the ServSelect IP is turned on. After approximately 40 seconds, the ServSelect IP will send out a message, *BLACK BOX ServSelect IP Ready__ Press any key to continue*. Press any key to access the main menu. The ServSelect IP main menu appears.
5. Get the IP address of the TFTP server: If using the SolarWinds TFTP server, it appears in the lower right-hand corner of the server's pane. Otherwise, extract it from the OS tools (may be OS-dependent):
 - a. Right-click on *Network Neighborhood*.
 - b. Select *Properties*.
 - c. Select the *Protocols* tab.
 - d. Select *TCP/IP protocol*.
 - e. Select *Properties* and note the IP address.
6. Assign the IP address in the ServSelect IP, if needed:
 - a. In the HyperTerminal window, type **1** to select Network Configuration.
 - b. Note the appliance IP address. The first three numbers must be the same as in the server's IP address from step 5 above. The last number must be different. If the IP address is not correct, change it as follows: type **3** to select IP address, then enter the correct address.
 - c. Type **0** to exit the Network Configuration menu. If you changed the IP address, wait per the directions on the screen.

7. From the main menu, type **2** to select Firmware Management. The current version of your firmware displays in the Firmware Management screen.
8. From the Firmware Management menu, type **1** to select FLASH Download.
9. Type the IP address of the TFTP server and press **Enter**.
10. Type the name of the FLASH file and press **Enter**.
11. Confirm the TFTP download by typing **y** or **yes** and pressing **Enter**.
12. The ServSelect IP will verify the file you downloaded is valid. Next you will be prompted to confirm the upgrade. Type **y** or **yes** and press **Enter**.
13. The ServSelect IP will begin the FLASH upgrade process. On-screen indicators will display the upgrade process. When the upload is complete, the ServSelect IP will reset and upgrade the internal subsystems.

CAUTION:

Do not cycle power to the ServSelect IP during this process. A loss of power might render the appliance inoperable and require the unit be returned to the factory for repair. This upgrade may take up to 10 minutes to complete.

14. Once the upgrade is complete, the startup message from step 4 will appear on the terminal screen.

A.2 Upgrading the SAM firmware

You may upgrade SAMs either individually or simultaneously.

To simultaneously upgrade multiple SAMs:

1. Press **Print Screen**. The Main dialog box will appear.
2. Click *Commands - SAM Status*. The SAM Status dialog box appears.

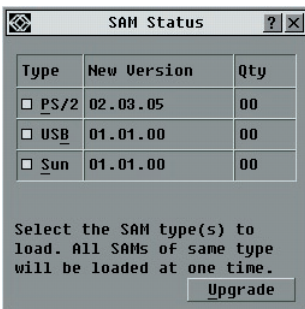


Figure A-1. SAM Status Dialog Box

3. Click one or more types of adaptors to upgrade. Click *Upgrade*.



Figure A-2. SAM Upgrade Dialog Box

4. The SAM Upgrade dialog box appears. Click *OK* to initiate the upgrade and return to the SAM Status dialog box.

To upgrade SAM firmware individually:

1. Press **Print Screen**. The Main dialog box will appear.
2. Click *Commands - Display Versions*. The Version dialog box appears.



Figure A-3. Version Dialog Box

3. Click *SAM* to view individual cable version information.

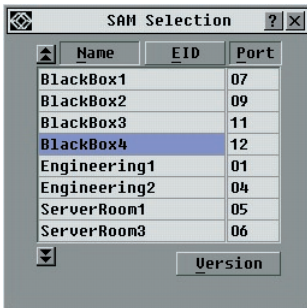


Figure A-4. SAM Selection Dialog Box

- Select a SAM to upgrade and click the *Version* button. The SAM Version dialog box appears.



Figure A-5. SAM Version Dialog Box

- Click the *Load Firmware* button. The Load dialog box appears.

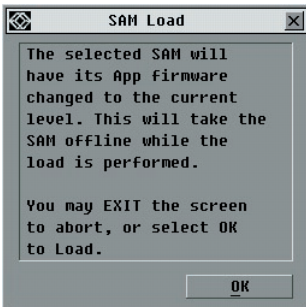


Figure A-6. SAM Load Dialog Box

- Click *OK* to initiate the upgrade and return to the Status dialog box.

NOTE:

During an upgrade, the SAM status indicator in the Main dialog box will be yellow. The SAM is unavailable while an upgrade is in progress. When an upgrade is initiated, any current connection to the server via the SAM will be terminated.



Customer Support Information:

For FREE Technical Support 24 hours a day, 7 days a week, call **724-746-5500** or fax **725-746-0745**

Mailing address: **Black Box Corporation**, 1000 Park Dr., Lawrence, PA 15055-1018

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