BLACK BOX®
ServSelect III ™
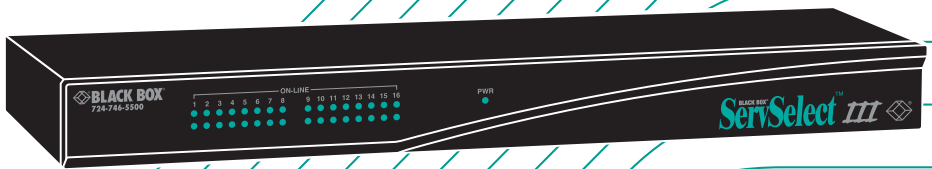
ON-LINE
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

BLACK BOX®
724-746-5500

PWR

ServSelect III ™

KV21008A
KV22008A
KV22016A
KV21008E
KV22008E
KV22016E

BLACK BOX®
NETWORK SERVICES

Welcome to the ServSwitch™ Family!

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

That's because the 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 work table 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!

<div align="center">*</div>

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

<div align="center">

KV21008A   KV21008E

KV22008A   KV22008E

KV22016A   KV22016E

</div>

This manual also includes information about the ServSelct III cables and Server Access Modules (SAMs), which have their own manuals or installation guides.

ServSelect III cables	SAMs
EHN21000PS2-0007	KV123A
EHN21000PS2-0010	KV125A
EHN21000PS2-0015	KV126A
EHN21000USB-0007	KV127A
EHN21000USB-0010	
EHN21000USB-0015	

**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.

$C\epsilon$

Japanese Compliance Statement

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Other Agency Approvals

USA (UL, FCC)

Canada (cUL, ICES-003)

European Union (CE)

Germany (GS)

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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 deber 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 connectado 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 fisica 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 lineas de energia.

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 liquidos 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: Objectos 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.

Table of Contents

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.

ServSelect III Product Specifications

Agency Approvals	
	UL, FCC Class A, cUL, ICES Class A, CE, GS, VCCI Class A
Mechanical	
Height x Width x Depth:	1.75 x 17.00 x 11.00 in 1U form factor (4.45 x 43.18 x 27.94 cm)
Weight:	8 lbs (3.6 kg) without cables
Environmental/Power	
Power consumption:	12.5 W
AC- input power:	max 40 W
Heat dissipation:	92 BTU/Hr
Humidity:	20-80% non-condensing operating 5-95% non-condensing nonoperating
Operating temperature:	50°F to 122°F; 10°C to 50°C
Storage temperature:	-4°F to 140 F; -20°C to 60°C
AC-input voltage rating:	100-240 VAC Autosensing
AC-input current rating:	0.5 A
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
AC frequency:	50/60 HZ
Airflow:	8 cfm
Server ports	
Number	8 or 16
Types	PS/2, Sun, USB and serial SAMs or PS/2 and USB ServSelect III cables

ServSelect III Product Specifications

Connectors	RJ-45
Sync Types	Separate horizontal and vertical
Plug and Play	DDC2B
Video Resolution	Analog Port Maximum 1280 x 1024 @ 75 Hz
Update Port	
Number	1
Type	Serial RS-232
Connector	DB9 Male
Analog Port Sets	
Number	1 or 2
Type	PS/2, VGA and ACI
Connectors	PS/2 miniDIN, 15 pin D, RJ-45

2. Product Overview

2.1 Features and Benefits

The ServSelect® III family of switches integrate field-proven analog keyboard, video and mouse (KVM) switching technology with advanced cable management, flexible access for two simultaneous users and a patented, easy-to-use interface. This ServSelect III family of KVM switches conveniently supports all major server platforms, and features powerful on-screen management for easy system configuration and server selection.

Server Access Module

A benefit of the ServSelect III switches are the Server Access Modules (SAM). The SAM with CAT 5 design dramatically reduces cable clutter, while providing optimal resolution and video settings. The built-in memory of the SAM simplifies configuration by assigning and retaining unique server names and Electronic ID (EID) numbers for each attached server. The SAM is powered directly from the server and provides Keep Alive functionality even if the ServSelect III is not powered.

Each ServSelect III has either eight or 16 server ports for connecting SAMs. Utilizing a SAM, you can attach additional switches to expand your ServSelect III switching system. This flexibility allows you to add capacity as your data center grows. Reduced cost ServSelect III cables are also available.

Multiplatform support

The SAMs are available with the ServSelect III support PS/2, Sun™, USB and serial server environments. Using the On Screen Display (OSD) in conjunction with these modules allows you to switch easily across platforms.

Two-User Share Mode

The ServSelect III switches feature a Share Mode function that allows two users to gain access to a primary server. The user configurable time-out feature allows you to determine the amount of time (up to 600 seconds) for the target to remain idle before the other user can take control of the target.

On Screen Display

ServSelect III uses an OSD, which features intuitive menus to configure your switching system and select computers. Computers can be identified by unique name, EID or port number, allowing you to assign unique server names.

Security

The OSD allows you to protect your system with a screen saver password. After a user-defined time, the screen saver mode engages and access is prohibited until the appropriate password is entered to reactivate the system.

Operation modes

The OSD provides convenient operation modes for easy system administration of the ServSelect III family of switches. These modes (broadcast, scan, switch and share) allow you to manage your switching activities. Chapter 3 explains these modes in detail.

Video

The ServSelect III provides optimal resolution for analog VGA, SVGA and XGA video. Achieve resolutions of up to 1280 x 1024 with a 10 foot cable and up to 800 x 600 with a 50 foot cable. Resolutions will vary depending upon the length of cable separating your switch and servers.

Plug and Play

The ServSelect III also supports Display Data Channel (DDC) Plug and Play, which automates configuration of the monitor and is compliant with the VESA DDC2B standard.

Flash upgradable

Upgrade your firmware at any time through a simple update utility to ensure that your ServSelect III switching system is always running the most current version available. Both the ServSelect III and the SAMs are Flash upgradable. See *Appendix A* for more information.

NOTE:
ServSelect III cables are not firmware upgradable.

Cascading expansion

The ServSelect III provides support for up to 16 directly attached servers and can conveniently scale to support more. You can expand your system using cascadable BLACK BOX products such as other ServSelect switches. This extra "cascade" of units allows you to attach up to 256 servers in one system. See Chapter 3 for more information.

NOTE:
KV21008A and KV22008A only support eight directly attached servers.

ServSelect III cables

The ServSelect III also features ServSelect III cables designed to provide the same ease of use as the SAM. Available in three different lengths, ServSelect III cables are RJ45 style cables that provide a reduced cost alternative to SAMs. ServSelect III cables support PS/2 and USB connectivity. ServSelect III cables are not upgradeable.
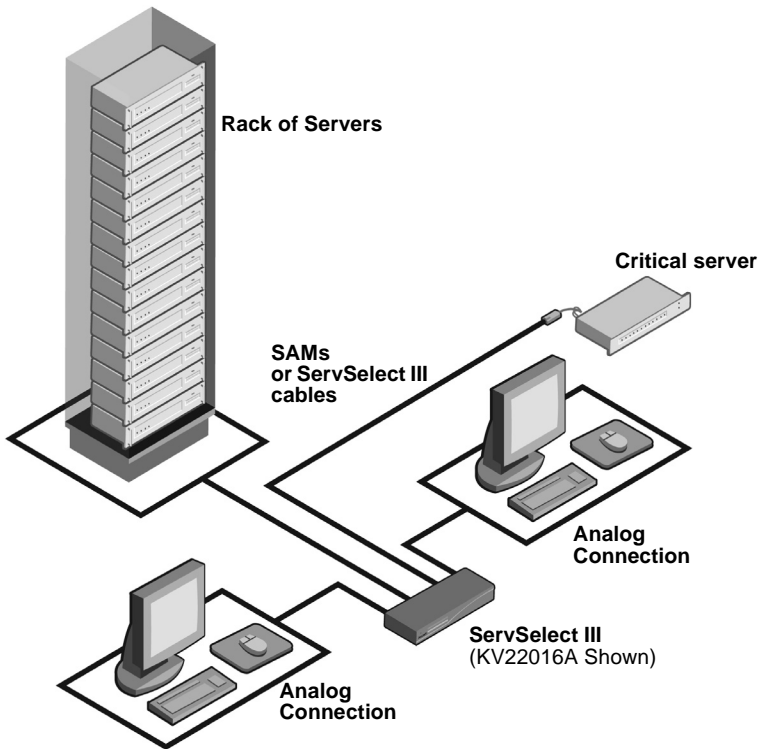
Figure 2-1. Example of a ServSelect III Configuration

2.2 Safety Precautions

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

• If the building has 3-phase AC power, ensure that the computers and monitors 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 Uninterruptible Power Supply (UPS), power the computer, the monitor and the ServSelect III off the supply.

NOTE:
The AC inlet is the main disconnect.

Rackmount safety considerations

• Elevated Ambient Temperature: If 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 unit.

• 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 nameplate 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

3.1 Getting Started

Before installing your ServSelect III switch, 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.

Supplied with the ServSelect III switch

• Power cord
• One null modem serial cable
• Rackmounting kit
• ServSelect III Installer/User Guide
• ServSelect III Quick Installation Guide
• ServSelect III Cable Quick Installation Guide

Additional items needed

One ServSelect III cable or SAM and UTP cabling per attached server or switch

3.2 Rack Mounting Your ServSelect III Switch

Your ServSelect III switch may be rackmounted using the brackets supplied in your rackmounting kit. Before installing the switch and other components in the rack cabinet (if not already installed), stabilize the rack in a permanent location. Install your equipment starting at the bottom of the rack cabinet, then work to the top.

Figure 3-1.   ServSelect III Switch Horizontal Installation

CAUTION:
Rack Loading - Overloading or uneven loading of racks may result in shelf or rack failure, causing damage to equipment and possible personal injury. Do not exceed your rack load rating.

To install the 1U switch mounting bracket:

1. Remove the first two screws on each side of the switch.
2. Line up the holes in the "long side" of the kit's side brackets with the screw holes in the switch.
3. With a Phillips screwdriver, fasten the mounting brackets to the switch using two screws on each side.

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4. Attach 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.

NOTE:
Nuts are not included with the rackmount kit.

---

5. 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.

6. 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.

3.3 Installing the ServSelect III Switch

Plug the supplied power cord into the back of the appliance and then into an appropriate power source. Figure 2.1 illustrates one possible configuration for your ServSelect III switch.

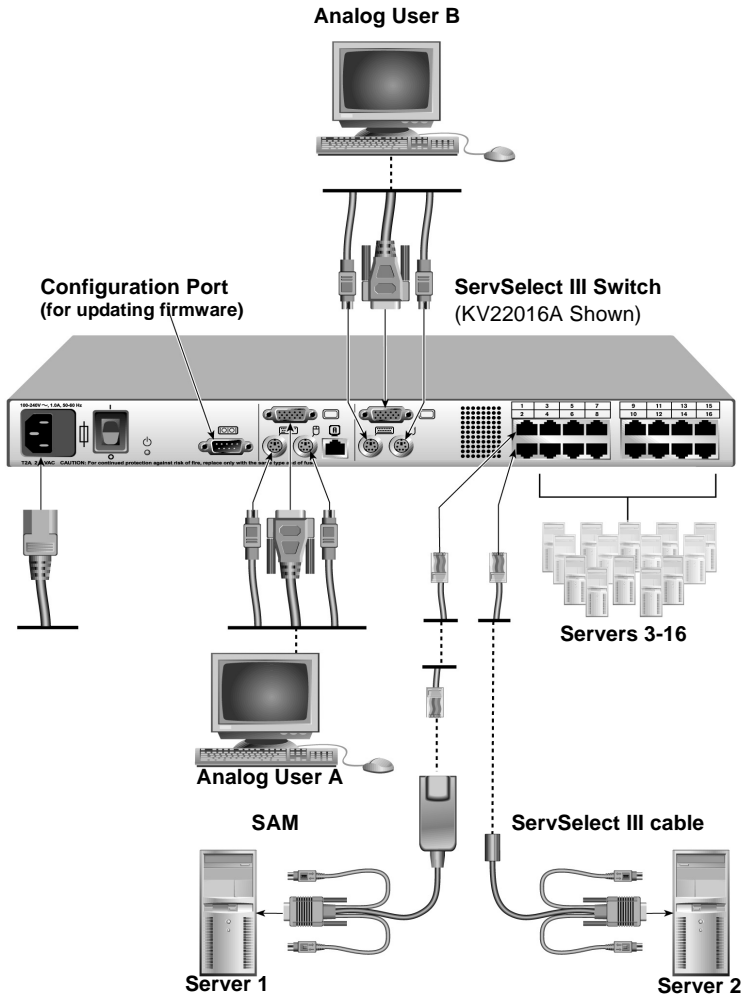
CAUTION:
To reduce the risk of electric shock or damage to your equipment -
- Do not disable the power cord grounding plug. The grounding plug is an important safety feature.
- Plug the power cord into a grounded (earthed) outlet that is easily accessible at all times.
- Disconnect the power from the unit by unplugging the power cord from either the electrical outlet or the unit.

Analog User B

Configuration Port
(for updating firmware)

ServSelect III Switch
(KV22016A Shown)

Servers 3-16

Analog User A

SAM

ServSelect III cable

Server 1

Server 2

Figure 3-2.   Basic ServSelect III Switch Configuration

To connect a server using a SAM:

1. Locate the SAMs for your ServSelect III switch.
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 appliance.
3. Attach one end of a CAT 5 cable to the RJ45 connector on the SAM.
4. Connect the other end of the CAT 5 cable to the desired port on the back of your ServSelect III switch.
5. Repeat steps 2 through 4 for each server you wish to attach.

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

To connect a server using a ServSelect III cable:

1. Locate a ServSelect III cable for the server you wish to connect.

2. Attach the appropriately color-coded cable ends of the ServSelect III cable to the keyboard, monitor and mouse ports on the server you will be connecting to the switch.

3. Attach the other end of the ServSelect III cable to the desired port on the back of your ServSelect III switch.

4. Repeat steps 1 through 3 for each server you wish to attach.

3.4 Connecting Users

To connect local peripherals:

1. Select the keyboard, monitor and mouse to be connected to local analog user A.

2. Locate the port set labeled A on the back of the appliance. Connect these peripherals to their respective ports.

3. Bundle and label the cables for easy identification.

4. Repeat these steps for user B, if desired.

3.5 Cascading ServSelect III Switches

You can cascade multiple ServSelect III switches to enable one or two users to connect to as many as 256 servers. In a cascaded system, each user port on the main ServSelect III switch will connect to the server port on each cascaded ServSelect III switch. Each cascaded switch can then be connected to a server with an SAM or ServSelect III cable. The example shown in Figure 2.3 shows one ServSelect III switch cascaded under the main switch, enabling the connection of up to 15 primary servers and 16 secondary servers. Using this configuration, you could cascade 16 ServSelect III switches under the main switch, enabling the connection of up to 256 servers. Only one level of tiering is supported in this type of configuration, which means you cannot cascade any additional legacy switches or another ServSelect III switch.

In this configuration, the local port OSD interface is disabled in switches cascaded below the main ServSelect III switch.
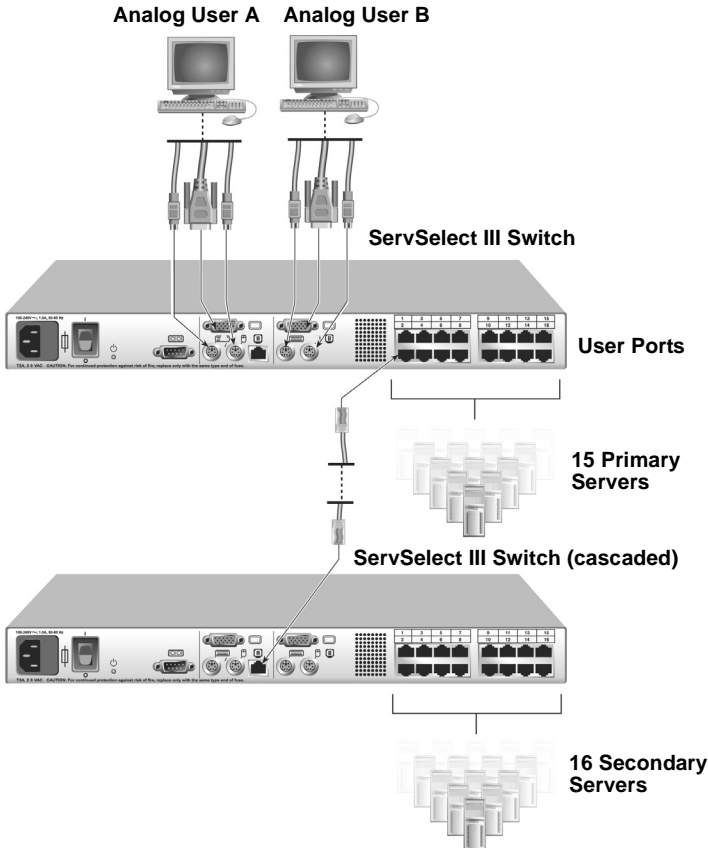
To cascade multiple ServSelect III switches:

1. Connect the cascaded ServSelect III switch to each server as described in the previous *Installing the ServSelect III Switch* section.

2. Connect the local peripherals to analog user A and/or B of the main switch as described in *To connect local peripherals*.

3. Attach one end of the CAT 5 cabling that will run between your main and cascaded ServSelect III switch to the RJ45 server port on the cascaded ServSelect III switch.

4. Attach the other end of the CAT 5 cable to one of the RJ45 user ports on the main ServSelect III switch.

NOTE:
The system will automatically "merge" the two switches together as one. All servers connected to the cascaded ServSelect III switch will display on the main ServSelect III switch server list in the OSD interface.

5.   Repeat steps 3 and 4 for all additional (secondary) cascaded ServSelect III switches you wish to attach.

Figure 3-3.   ServSelect III Switch Configuration with a Cascaded Switch

3.6 Adding Legacy Switches

You can add legacy switches to the ServSelect III switching system for easy integration into your existing configuration. In a cascaded system, each user port will accommodate up to 24 servers.
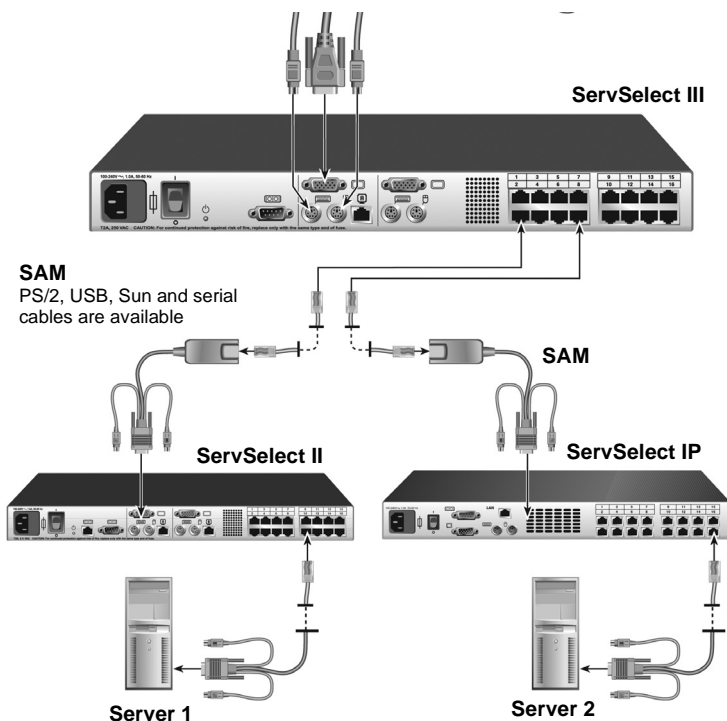
Figure 3-4.   ServSelect III Switch Configuration with Legacy KVM Switches

To add a legacy KVM switch:

1. Mount the primary KVM switch into your rack cabinet.
2. Connect one end of a CAT 5 cable to an available port on the back of your ServSelect III switch.
3. Attach the keyboard, monitor and mouse connectors of the SAM to a user port on your cascaded switch.
4. Attach the other end of the CAT 5 cabling to the RJ45 connector on the SAM.
5. Connect the servers to your cascaded switch according to the instructions included with the switch.
6. Power cycle the cascaded switch to enable its local user port to recognize the SAM.
7. Repeat steps 2 to 6 for all cascaded switches you wish to attach to your system.

NOTE:
A ServSelect III can also be used as a secondary switch in the configuration shown in Figure 3-4.

To connect local peripherals:

1. Select the keyboard, monitor and mouse to be connected to local user A.

2. Locate the port set labeled A on the back of the switch. Connect these peripherals to their respective ports.

3. For the multiuser, 16-port ServSelect III switch, repeat steps 1 and 2 for the local analog port set labeled B.

4. Bundle and label the cables for easy identification.

3.7 Setting Up Your ServSelect III Switching System

The ServSelect III switching system enables you to auto detect and configure each port on your appliance. Chapter 4 provides detailed instructions on name customization and OSD setup and configuration.

4. Basic Operations

4.1 Controlling Your System at the Analog Ports

The ServSelect III switch features one or two analog port sets on the back of the switch that allow you to connect a monitor and a PS/2 keyboard and mouse for direct analog access. The ServSelect III switch uses the OSD interface, featuring intuitive menus to configure your system and select servers.

4.2 Viewing and Selecting Ports and Servers

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

The Port column indicates the user port to which a server is connected. If you connect a legacy KVM switch to the main ServSelect III switch or a cascaded ServSelect III switch, the port numbering displays the user port first, then the switch port to which the server is connected. For example, in Figure 3.1, servers 04-03 and 01-02 are connected to switches, then to servers on ports 03 and 02 respectively.

To access the Main dialog box:

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

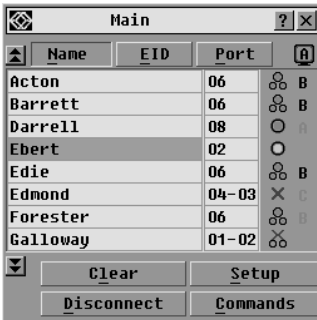**Figure 4-1. Example of Configured Main Dialog Box**

NOTE:
You can also press the **Control** key twice, the **Alt** key twice or the **Shift** key twice within one second to launch the OSD interface. See *Changing Display Behavior* later in this chapter for further details. You can use this key sequence in any place you see **Print Screen** throughout this installer/user guide.

Viewing the status of your switch

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 Interface Status Symbols

Symbol	Description
⬤	SAMs and ServSelect III cables are online (green circle).
✕	SAMs and ServSelect III cables are offline or are not operating properly.
🔳	Server is cascaded through a cascade legacy switch. The switch is online and has power.
✕	Server is cascaded through a cascade legacy switch. The switch is offline or has no power.
◯	SAM is being upgraded (yellow circle).
A	SAMs and ServSelect III cables are being accessed by the indicated user channel (green channel letter).
A	SAMs and ServSelect III cables are blocked by the indicated user channel (black channel letter).

Selecting servers

Use the Main dialog box to select servers. When you select a server, the switch 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 disconnect the user from a server:

Press **Print Screen** and then **Alt+0**. 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 interface will not display.

To configure servers for soft switching:

1. Press **Print Screen** to launch the OSD interface. The Main dialog box displays.
2. Click *Setup - Menu.* The Menu dialog box displays.
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 Interface

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

OSD Interface Navigation Basics

This Keystroke	Does This
Print Screen,Ctrl-Ctrl Shift-Shift, and/or **Alt-Alt**	Activates the OSCAR interface. See *Changing the display behavior* later in this chapter for further details.
Print Screen-Print Screen	Press **Print Screen** twice to send the **Print Screen** keystroke to the currently selected device.
Escape	Closes the current dialog box without saving changes and returns to the previous one. In the Main dialog box, it closes the OSD interface and returns to the flag. In a message box, it closes the pop-up box and returns to the current dialog box

OSD Interface Navigation Basics (Continued)

This Keystroke	Does This
F1	Opens the Help screen for the dialog box.
Alt+Hotkey	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 *OK* button, then returns to the previous dialog box.
Single-click, Enter	In a text box, 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 interface.
Print Screen, Backspace	Toggles back to previous selection.
Print Screen, Alt+0 (zero)	Immediately disengages a user from a server; no server is selected. Status flag displays *Free*. (This only applies to the **0** on the keyboard and not the keypad.)
Print Screen, Pause	Immediately turns on screen saver mode and prevents access to that specific console, if it is password protected.
Up/Down Arrows	Moves the cursor from line to line.
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.
Delete	Deletes characters in a text box.
Page Up/Page Down	Pages up and down through Name and Port lists and Help pages.
Numbers	Type from the keyboard or keypad.
Print Screen, Ctrl+ F4	Logs the current user out of the switch (only available when Enable Local User Accounts is checked on the Security screen).

4.4 Configuring OSD Interface Menus

You can configure your ServSelect III switch from the Setup menu within the OSD interface. Select the *Names* button when initially setting up your switch to identify servers by unique names. Select the other setup features to manage routine tasks for your servers from the OSD interface 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 interface 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 appropriate number of ports on an attached cascaded switch.
Names	Identify servers by unique names.
Switch	Choose the switch mode and the share mode time-out.
Keyboard	Choose the keyboard country code that is sent to the SAM or ServSelect III cables.
User	Allows the administrator to set up the Local User Accounts (only visible when Enable Local User Accounts is checked on the Security screen).

NOTE:
Only the Menu, Flag and Security screens are available to the users without administrator privileges. All other screens, except the User screen, are available to the administrator when Enable Local User Accounts is disabled in the Security screen.

To access the Setup menu:

1. Press **Print Screen** to launch the OSD interface. The Main dialog box displays.

2.   Click *Setup*. The Setup dialog box displays.

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 or ServSelect III cable, so even if you move the module/cable to another user port, the name and configuration will be recognized by the switch.

NOTE:
If a server is turned off, its respective SAM or ServSelect III cable will not appear in the Names list.

To access the Names dialog box:

1.   Press **Print Screen** to launch the OSD interface. The Main dialog box will appear.

2.   Click *Setup - Names.* The Names dialog box displays.

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 displays.
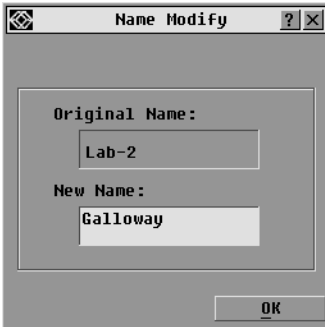
Figure 4-4. Name Modify Dialog Box

2. Type a name in the New Name box. Names of servers may be up to 15 characters long. Supported characters include: A to Z, a to z, 0 to 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 to 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 ServSelect III switch automatically discovers cascaded KVM switches, but you will need to specify the number of ports on the cascaded switch through the Devices dialog box. You will see an Sw-8 or Sw-24 display in the Type category for the cascaded switch. Select the switch from the list and the Modify button displays, allowing you to assign it the appropriate number of ports.

NOTE:
The Modify button will only be available if a configurable switch is selected.

To access the Devices dialog box:

1. Press **Print Screen** to launch the OSD interface. The Main dialog box will appear.

2. Click *Setup - Devices.* The Devices dialog box displays.

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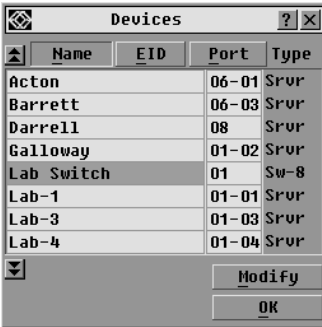
Figure 4-5. Devices Dialog Box

When the ServSelect III switch discovers a cascaded switch, you will notice the port numbering change to accommodate each server under that switch. For example, if the switch is connected to user 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.

To assign a device type:

1. In the Devices dialog box, select the desired port number.
2. Click *Modify.* The Device Modify dialog box displays.
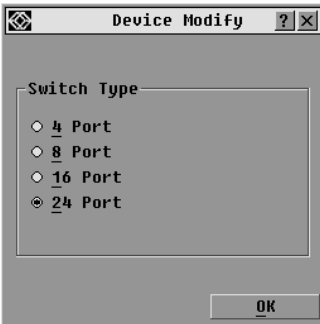
Figure 4-6. Device Modify Dialog Box

3. Choose the number of ports supported by your cascaded switch and click *OK*.
4. Repeat steps 1 to 3 for each port requiring a device type to be assigned.
5. Click *OK* in the Devices dialog box to save settings.

NOTE:
Changes made in the Device Modify dialog box are not saved until you click *OK* in the Devices dialog box.

Changing the display behavior

Use the Menu dialog box to change the display order of servers, change the key sequence to launch the OSD interface and set a Screen Delay Time for the OSD interface. 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 interface. The Main dialog box displays.
2. Click *Setup - Menu* in the Main dialog box. The Menu dialog box displays.
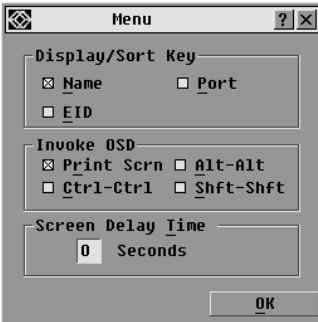
Figure 4-7. Menu Dialog Box

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 up key sequences to launch the OSD interface:

1. Click the box next to the key sequence you want to start the OSD interface. Unchecking all boxes will leave **Print Screen** as the default.
2. Click *OK*.

To set a Screen Delay Time for the OSD interface:

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

Setting a Screen Delay Time allows you to complete a soft switch without the OSD interface 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 Interface Status Flags

Flag	Description
Darrell	Flag type by name
520255-73F344	Flag type by EID number
Free	Flag indicating that the user has been disconnected from all systems
Darrell　·》	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 displays.

Figure 4-8. 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 Set 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 4-9. Set 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 interface 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. If you should lose or forget your password, please contact BLACK BOX Technical Support about returning your switch for service.

To access the Security dialog box:

1. Press **Print Screen** to launch the OSD interface. The Main dialog box will appear.

2. Click *Setup - Security*. The Security dialog box displays.

Figure 4-10. Security Dialog Box

NOTE:
Figure 4-10 is the Security screen for the administrator and local user when the Enable User Accounts feature is turned off. The restricted user can only access the Change Password function of this screen.

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. Supported characters are: A to Z, a to z, 0 to 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.

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 the use of 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 displays. Type your password, then click *OK*.
3. The Main dialog box displays if the password was entered properly.

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To remove password protection from your console:

1. From the Main dialog box, click *Setup - Security*; the Password dialog box displays. 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 local user accounts:

1. Click the *Enable Local User Accounts* checkbox.
2. Click *OK*.

To disable local user accounts (admin user only):

1. Click *Enable Local User Accounts* to uncheck the box and disable this option.
2. Click *OK*.

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 to 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 the use of 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 displays and any previous server connection will be restored.

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 Displaying Version Information

The OSD interface enables you to display the versions of the ServSelect III switch, as well as the SAM and ServSelect III cable firmware. 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 displays. The top half of the box lists the subsystem versions in the appliance.

```
┌─────────────────────────────┐
│ ◈     Version      ?│×│     │
│ ┌─────────────────────────┐ │
│ │ Application:   02.00.00  │ │
│ │ Boot:          02.01.07  │ │
│ │ Hardware:      00.02.16  │ │
│ │ Video:         128.128.144│ │
│ │ Matrix:        02.00.03  │ │
│ │ UART:          192.192.00│ │
│ │ EID:   520321-012345-0000│ │
│ │                          │ │
│ │        ┌────────┐        │ │
│ │        │ Target │        │ │
│ │        └────────┘        │ │
│ ├──────────────┬───────────┤ │
│ │ © 2005       │   en-us   │ │
│ └──────────────┴───────────┘ │
└─────────────────────────────┘
```

Figure 4-11. Version Dialog Box

3. Click the *Target* button to view individual SAM and ServSelect III cable version information. The Target Selection dialog box displays.

```
┌───────────────────────────────┐
│ ◈    Target Selection ?│×│    │
│ ┌─┐┌──────┬─────┬──────┐      │
│ │▲││ Name │ EID │ Port │      │
│ └─┘└──────┴─────┴──────┘      │
│ │Lab Switch       │ 06 │      │
│ │Ebert            │ 06 │      │
│ │EngLab Switch    │ 08 │      │
│ │Acton            │ 02 │      │
│ │Edie             │ 06 │      │
│ │Barrett          │ 04 │      │
│ │Forester         │ 06 │      │
│ │Darrell          │ 01 │      │
│ ┌─┐        ┌──────────┐      │
│ │▼│        │ Version  │      │
│ └─┘        └──────────┘      │
└───────────────────────────────┘
```
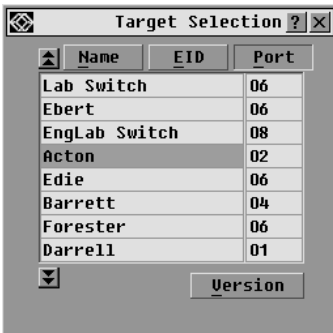
Figure 4-12. Target Selection Dialog Box

4. Select an SAM or ServSelect III cable to view and click the *Version* button. The Target Version dialog box displays. For more information on loading firmware, see *Appendix A*.

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Figure 4-13. Target Version Dialog Box

5. Click *X* to close the Target Version dialog box.

NOTE:
Load Firmware button will only display for a SAM; ServSelect III cables are not upgradable. Only the administrator and the user (when local user accounts are disabled) can upgrade the firmware on a SAM.

4.6 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.

To add servers to the scan list:

1. If the OSD interface is not open, press **Print Screen**. The Main dialog box will appear.

2. Click *Setup - Scan*. The Scan dialog box displays.

Figure 4-14. Scan Dialog Box

3. The dialog box contains a listing of all servers attached to your appliance. Click the checkbox next to the servers you wish to scan.

-or-

Double-click on a server's name or port.

-or-

Press **Alt** and the number of the server you wish to scan. You can select up to 16 servers from the entire list.

4.   In the Scan Time box, type the number of seconds (from 3 to 99) of desired time before the scan moves to the next server in the sequence.

5.   Click *OK*.

To remove a server from the scan list:

1.   In the Scan dialog box, deselect the checkbox next to the server to be removed.

-or-

Double-click on the server's name or port.

-or-

Click the *Clear* button to remove all servers from the scan list.

2.   Click *OK*.

To start the scan mode:

1.   If the OSD interface is not open, press **Print Screen.** The Main dialog box will appear.

2.   Click *Commands*. The Commands dialog box displays.

Figure 4-15.   Commands Dialog Box

NOTE:
Figure 4-15 shows the Commands screen for the administrator and local user when the Enable User Accounts feature is turned off. The restricted user will only have access to the Display Versions, Device Reset and Log Out buttons.

---

3.   Select *Scan Enable* in the Commands dialog box.

4.   Click *X* to close the Commands dialog box.

NOTE:
Scanning will begin when the Main dialog box or flag is displayed. Scanning is inhibited in any other OSD interface dialog box.

To cancel scan mode:

1. Select a server if the OSD interface is open.
    -or-
    Move the mouse or press any key on the keyboard if the OSD interface is not open. Scanning will stop at the currently selected server.

2. Press **Print Screen**. The Main dialog box will appear.
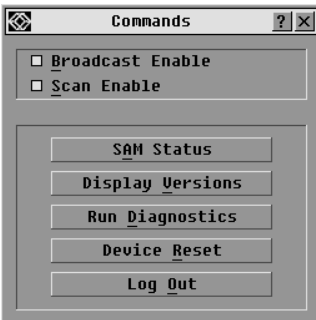
3. Click *Commands*. The Commands dialog box displays.

4. Clear *Scan Enable*.

4.7 Running System Diagnostics

You can validate the integrity of your system through the Run Diagnostics command. This command checks the main board functional sub-systems (memory, communications, switch control and the video channels) for each system controller. When you select the *Run Diagnostics* option, you will receive a warning indicating that all users (remote and local) will be disconnected. Click *OK* to confirm and begin the test.

The Diagnostics dialog box displays. The top section of the dialog box displays the hardware tests. The bottom portion divides the tested SAM and ServSelect III cables into three categories: On-line, Offline or Suspect.

NOTE:
SAM or ServSelect III cables may appear to be offline while being upgraded.
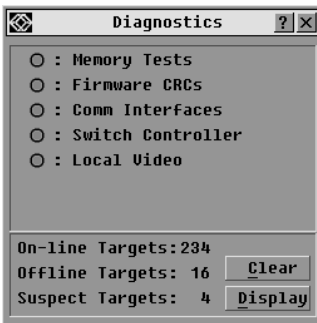
Figure 4-16. Diagnostics Dialog Box

Next to each item to be tested, you will see a pass (green circle) or fail (red x) symbol display to the left of each item as that test finishes. The following table details each of the tests**.**

Diagnostic Test Details

Test	Description
Memory Tests	Reports on the condition of the main board RAM
Firmware CRCs	Reports on the condition of the main board RAM
Comm Interfaces	Validates the current firmware images stored in the system's Flash
Switch Controller test	Verifies the switch matrix controller is accessible and functional
Local Video	Indicates the condition of the local video monitor
On-line Targets	Indicates the total number of currently connected and powered targets
Offline Targets	Indicates the number of targets that have been connected successfully in the past and are powered down
Suspect Targets	Indicates the number of targets that have been detected, but are either unavailable for connection or have dropped packets during the ping tests

To run diagnostic tests:

1. If the OSD interface is not open, press **Print Screen**. The Main dialog box will appear.
2. Click *Commands* **-** *Run Diagnostics*. A warning message displays indicating that all users will be disconnected.

Figure 4-17. Diagnostics Warning Dialog Box

3.   Click *OK* to begin diagnostics.

      -or-

      Click *X* or press **Escape** to exit the dialog box without running a diagnostic test.

4.   All users are disconnected and the Diagnostics dialog box displays.

5.   As each test is finished, a pass (green circle) or fail (red x) symbol displays. The test is complete when the last test's symbol displays.

4.8 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 user 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 displays.

Figure 4-18. Broadcast Dialog Box

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

NOTE:
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 Commands dialog box displays.

4.   Click the *Broadcast Enable* checkbox to activate broadcasting. The Broadcast Enable Confirm/Deny dialog box displays.

Figure 4-19. Broadcast Enable Confirm/Deny Dialog Box

5.   Click *OK* to enable the broadcast. Click *X* or press **Escape** to cancel and return to the Commands dialog box.

6.   If broadcasting is enabled, type the information and/or perform the mouse movements you want to broadcast from the switch. Only servers in the list are accessible.

NOTE:
The other user is disabled when broadcast mode is enabled.

To turn broadcasting off:

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

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4.9 Changing Your Switch Mode

Your ServSelect III switch allows you to connect to attached servers using two methods: Preemptive and Cooperative.

Select *Preemptive* (default setting) to allow any user to select any server at any time; a request from another user disconnects the current user without warning.
 -or-
Select *Cooperative* to maintain the current user connection; the current user will not be disconnected if another user requests connection.

To access the Switch dialog box:

1. Press **Print Screen**. The Main dialog box will display.
2. Click *Setup - Switch*. The Switch dialog box displays.

Figure 4-20. Switch Dialog Box

3. Select either *Preemptive* or *Cooperative* as your switch mode.
4. Click OK to save changes. Click *X* or press **Escape** to cancel.

Setting the Share Mode feature

The Share Mode feature of the ServSelect III switches allows two users to gain access to a primary server.

To enable Share Mode:

1. Press **Print Screen**. The Main dialog box will display.
2. Click *Setup - Switch*. The Switch dialog box displays.
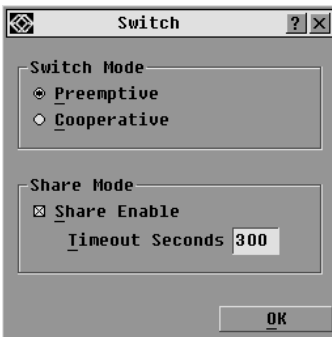3. Select *Share Enable* from the Switch dialog box.
4. Choose the amount of inactivity time for the target (up to 600 seconds) before another user can take control of the target.
5. Click *OK* to save changes. Click *X* or press **Escape** to cancel.

5. Advanced Operations

5.1 Using Administrator Privileges

The ServSelect III switches allow up to four users and one administrator to log into a switch, with the administrator having the ability to restrict users from accessing the targets via the Security menu. The administrator can edit, access and/or delete user accounts.

Figure 5-1. Security Menu

To access the User Setup screen (administrator only):

1. Click the *Enable User Account* checkbox in the Security menu. The Setup menu will appear.
2. Click the *OK* button.
3. Click the *User* button on the Setup screen to enter the User Setup screen.

NOTE: Clicking the *User* button on the Setup screen will automatically log out any currently logged in user. Other users will remain logged out until your changes are complete.

Figure 5-2. Setup Menu (Administrator Only)

Figure 5-3. User Setup Menu (Administrator Only)

User Setup menu functions (administrator only)

The User Setup menu allows the administrator to edit, access and/or delete a user account.
The menu is only accessible if the Enable User Account checkbox is enabled in the
Security menu. The ServSelect III switches will have four standard user accounts, with the
default names of User1, User2, User3 and User4.

To edit a user:

1.   Click the username of the user to be modified.
2.   Click *Edit* to change the username and/or password of the selected user.
3.   Click *Access* to restrict port access for the selected user.
4.   Click *Delete* to restore the selected user to the default state (default name, no pass-
     word, no port access).
5.   Click *OK* on the User Setup screen to save changes, or click the *Exit* button to escape
     without saving any changes.

User Edit menu (administrator only)

The Edit menu allows the administrator to set or change user names and passwords for all
users.

Figure 5-4. User Edit Menu (Administrator Only)

The Username field displays default names that can be edited by the administrator. Usernames must be between 1 to 15 characters. Administrators can also set user passwords in the User Edit menu. Passwords must be between 5 to 12 characters and must contain at least one number and one alpha character. Administrators must verify new passwords by retyping the password in the Repeat Password field.

NOTE: Changes are not saved until the administrator clicks *OK* in the User Setup menu.

User Access menu (administrator only)

The Access menu displays each user name, port number and whether the user has access to the listed KVM ports. The administrator controls which ports are accessible to which user by clicking in the appropriate checkbox.

Figure 5-5. User Access Menu (Administrator Only)

The *Clear All* button allows the administrator to clear access to all ports for a given user instead of deleting the account. The *Check All* button allows the administrator to assign all available KVM ports to any user.

NOTE: Changes are not saved to memory until the administrator clicks *OK* on the User Setup screen.

User Setup menu - Delete (administrator only)

The Delete button in the User Access menu allows an administrator to delete user accounts. Simply select an account from the menu and click the *Delete* button. The deleted user account will immediately return to default settings.

Appendix A: Flash Upgrades

Upgrading the ServSelect III

You can upgrade the firmware of your ServSelect III by using a special update utility provided by BLACK BOX. This utility automatically configures the port communications settings to allow direct downloading from the connected server.

Items needed for the upgrade

- Server running Windows NT®, Windows® 95, Windows 98 or Windows 2000
- Available serial port (COM port) on the server
- Null modem serial cable that connects the switch and the server
- Firmware update

To upgrade firmware:

1. Connect the null modem serial cable to a COM port on the server and to the serial connector on the back panel of the switch. Make a note of which COM port you have chosen, then turn on the switch.

2. Go to www.blackbox.com to access the firmware upgrade file. Once the download is complete, navigate to the drive where you have saved the firmware update and unzip the file.

3. Double-click to run the file ApplianceUpdate.exe.

4. Click the *Next* button to display the main dialog box.

5. In the dialog box that displays, select the desired language from the selected Language drop-down list and the appropriate COM Port from the COM Port menu.

6. Click *Update*.

7. Once the firmware is updated, an *Update Complete* message displays. Click the *Close* button to exit the dialog box.

8. The switch automatically reboots after the upgrade is completed.

Possible error conditions

If the download does not execute properly, verify the following:

- Verify that the COM port is correct.
- Verify that no other program is currently using the COM port, or that no previous DOS window/shell is open that had used the desired COM port.
- Verify that no other copies of the Appliance Update utility are currently running.
- Verify that a null modem serial cable is used.
- In the selected COM port Advanced Port settings, verify that the FIFO buffers are selected and that the receive buffer is set to High.

CAUTION:
While upgrading, do not use your computer for anything else or switch between windows. Close all other windows if necessary. If the upgrade was unsuccessful (such as during a power outage), repeat the procedure.

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Upgrading the SAM firmware

The SAMs can be upgraded individually or simultaneously.

NOTE:
ServSelect III cables are not upgradable.

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 displays.

```
┌─────────────────────────────┐
│ ◈      SAM Status     ? X    │
├──────────┬─────────────┬─────┤
│ Type     │ New Version │ Qty │
├──────────┼─────────────┼─────┤
│ □ PS/2   │ 03.00.06    │ 00  │
├──────────┼─────────────┼─────┤
│ □ USB    │ 02.00.03    │ 00  │
├──────────┼─────────────┼─────┤
│ □ Sun    │ 02.00.03    │ 00  │
├──────────┼─────────────┼─────┤
│ □ SRL    │ 01.00.02    │ 00  │
└──────────┴─────────────┴─────┘
Select the SAM type(s) to
load. All SAMs of same type
will be loaded at one time.
                    Upgrade
```
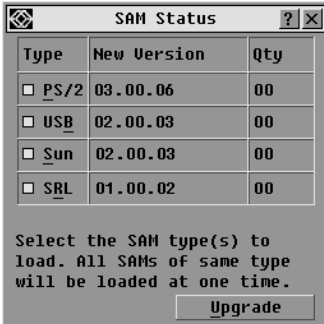
Figure 1-1. SAM Status Dialog Box

3. Click one or more types of modules to upgrade. Click *Upgrade*.
4. The SAM Upgrade dialog box displays. Click *OK* to initiate the upgrade and return to the SAM Status dialog box.

```
┌─────────────────────────────┐
│ ◈      SAM Upgrade      X    │
├─────────────────────────────┤
│ The selected SAM types will │
│ receive current application │
│ firmware. All selected SAMs │
│ with different application   │
│ firmware will be offline     │
│ up to 8 minutes during the   │
│ upgrade process.             │
│ You may EXIT the screen      │
│ to abort, or select OK to    │
│ Load.                        │
│                              │
│                      OK      │
└─────────────────────────────┘
```

Figure 1-2. SAM Upgrade 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 displays.

Figure 1-3. Version Dialog Box

3.   Click *Target* to view individual SAM information. The Target Selection dialog box displays.
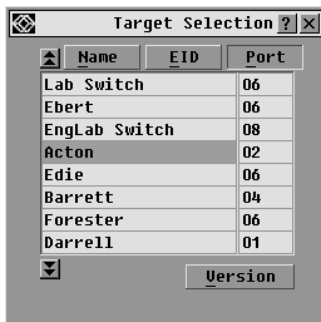

Figure 1-4. Target Selection Dialog Box

4.   Select an SAM to upgrade and click the *Version* button. The Target Version dialog box displays.

Figure 1-5. Target Version Dialog Box

5.   Click the *Load Firmware* button. The SAM Load dialog box displays.

NOTE:
The *Load Firmware* button displays for SAMs only; ServSelect III cables are not upgradable.

Figure 1-6.   SAM Load Dialog Box

6.   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.

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NETWORK SERVICES

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