

AUGUST 2004

BLACK BOX[®] *ServSwitch*[™]

Wireless KVM Extender



ACU5200A

Welcome to the ServSwitch™ Family!

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

That's because the ServSwitch Wireless KVM Extender 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 Wireless KVM Extender product, 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 Wireless KVM Extender that's just right for you.

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

*

This manual will tell you all about your new ServSwitch Wireless KVM Extender, including how to install, operate, and troubleshoot it. For an introduction to the ServSwitch Wireless KVM Extender, see Chapter 2.

**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

USA (UL, FCC class A)

Canada (cUL, ICES-003)

European Union (CE)

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UL is a registered trademark of Underwriters Laboratories Inc.

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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 bloquear 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 debe 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 período 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 for firmware that could cause these specifications to change without notice.

ServSwitch Wireless KVM Extender Product Specifications

Agency Approvals

FCC Class A, UL, cUL

Mechanical

Height: 1.75" (4.45 cm)

Width: 6.25" (15.88 cm)

Depth: 5.25" (13.34 cm)

Weight: 1 lb (0.45 kg)

Environmental/Power

Power supply: 12 VDC @ 1A from supplied 100 to 240 VAC 50/60 Hz switching power supply

Operating temperature: 0° C-40° C

Storage temperature: -20° C-50° C

Multimedia

Video Link Performance: 640 x 480, 800 x 600, 1024 x 768

Video Link Compatibility: VGA, SVGA, XGA

VGA compatible with analog RGB (15-Pin D-shell), non-interlaced 60 Hz refresh rate

Audio Support: Analog radio

Supported Hardware

Computer: Most standard computers with the exception of Macintosh

Video Resolution: VGA, SVGA, XGA

Peripherals: PS/2 keyboard, PS/2 mouse, speakers

Radio

Radio Protocol: IEEE 802.11a

ServSwitch Wireless KVM Extender Product Specifications

Radio Frequency: 150-5250; 5250-5350; 5725-5825 MHz

Radio Modulation: OFDM (Orthogonal Frequency Division Multiplexing)

Nominal Output Power: 17 dBm

Range: XGA video resolution to 100 feet

Security: AES encryption with 802.1x authentication

2. Product Overview

2.1 Features and Benefits

The BLACK BOX ServSwitch Wireless KVM Extender connects Keyboard, Video, Mouse (KVM) and audio peripherals wirelessly to your computer, from up to 100 feet away. The ServSwitch Wireless KVM Extender is a digital system that processes analog video, inbound and outbound, utilizing a unique, proprietary compression engine. At the heart of the compression engine is a multimedia DSP and an FPGA that are coupled to an IEEE 802.11a radio board.

Its industry standard design makes the ServSwitch Wireless KVM Extender compatible with virtually any PC, display technology and operating system. Installation is essentially Plug and Play requiring no new drivers or software.



Figure 2.1: ServSwitch Wireless KVM Extender Model

The ServSwitch Wireless KVM Extender On-Screen Display (OSD)

The ServSwitch Wireless KVM Extender OSD makes it simple to set up and adjust your video parameters. Accessed from the receiver side, the OSD makes tuning your video fast and convenient.

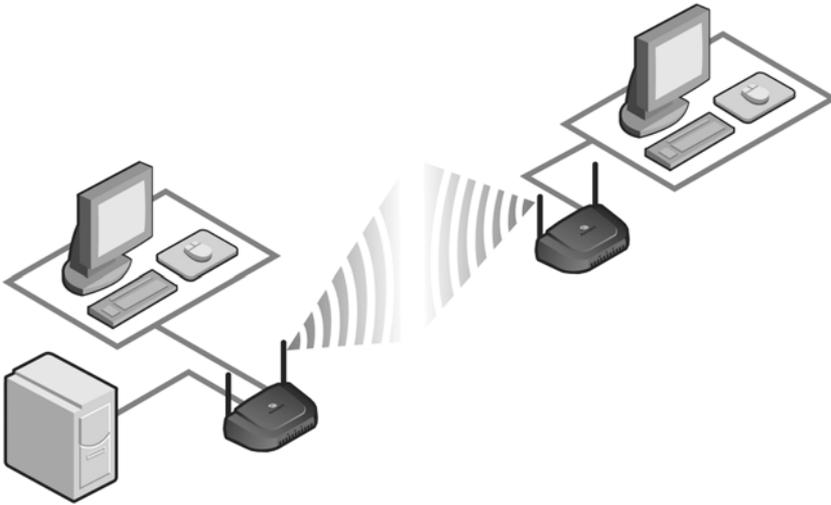


Figure 1.2: Example ServSwitch Wireless KVM Extender Configuration

Secure connectivity and 802.11a standards-based design

Advanced Encryption Standard (AES) provides secure connections through a proprietary design based on the 802.11a standard.

The ServSwitch Wireless transmitter

The ServSwitch Wireless transmitter connects directly to your computer and serves as the radio interface device enabling the computer to transmit audio and video data. It also acts as the receiver for keyboard and mouse signals from extended devices. The ServSwitch Wireless transmitter contains five chassis-mounted connectors for local video, keyboard and mouse peripherals, in addition to power and audio in from the computer. It includes a 3.5 foot cable with video and PS/2 keyboard and mouse connectors. Power is supplied to the transmitter from a universal input 12 V DC switching power supply (included).

The ServSwitch Wireless receiver

The ServSwitch Wireless receiver connects directly to your user interface devices (keyboard, video monitor and mouse) and serves as the radio interface device for these components. It receives audio and video data from the source computer and sends keyboard and mouse data from the user interface devices to the source computer. The ServSwitch Wireless receiver has five chassis-mounted connectors for video, keyboard, mouse and audio peripherals and power. Power is supplied to the transmitter from a universal input 12 V DC switching power supply (included).

2.2 Compatibility with Peripherals

The ServSwitch Wireless KVM Extender is compatible with the following peripherals:

- Keyboard- The ServSwitch Wireless transmitter and receiver support virtually any standard PS/2 keyboard.
- Mouse- The ServSwitch Wireless transmitter and receiver support 2-button PS/2 mice. Mice that have more than two buttons work with the reduced functionality of a 2-button mouse.
- Video- The ServSwitch Wireless KVM Extender supports VGA, SVGA and XGA resolutions up to 60 Hz refresh rate. Both CRT and LCD monitors with standard 15-pin high density connectors are supported.
- Audio- Speakers and headphones with 3.5 mm audio plugs are supported on the receiver side of your ServSwitch Wireless KVM Extender, provided the transmitter has been connected to the sound card of your PC with the provided audio cable.

2.3 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 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. BLACK BOX warranties do not apply to damage resulting from user-supplied cable.

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 and the ServSwitch Wireless transmitter unit off the supply.

NOTE: The AC inlet is the main disconnect.

3. Installation

3.1 Getting Started

Before installing your ServSwitch Wireless KVM Extender, refer to the list below to ensure that you have all the items that shipped with the product.

Supplied with the ServSwitch Wireless KVM Extender

- ServSwitch Wireless transmitter
- ServSwitch Wireless receiver
- Two local country power supplies
- Audio cable
- ServSwitch Wireless Installer/User Guide
- ServSwitch Wireless Quick Installation Guide

3.2 Installing a ServSwitch Wireless KVM Extender

Follow the procedures in the *To install a ServSwitch Wireless transmitter* and *To install a ServSwitch Wireless receiver* sections to properly install your new KVM extension system.

WARNING: To reduce the risk of electric shock or damage to your equipment -Disconnect the power from the unit by unplugging the power supply from the electrical outlet.

To install a ServSwitch Wireless transmitter:

1. Ensure that the video setting of your computer is 1024 x 768, 800 x 600 or 640 x 480 at 60 Hz refresh rate. Best performance will be achieved if the color resolution is set to 24 bit color or higher.
2. Power down the computer that will be connected to your ServSwitch Wireless KVM Extender.
3. Unplug the peripherals (keyboard, mouse, monitor and speakers with built-in amplifiers, if applicable) from your computer.

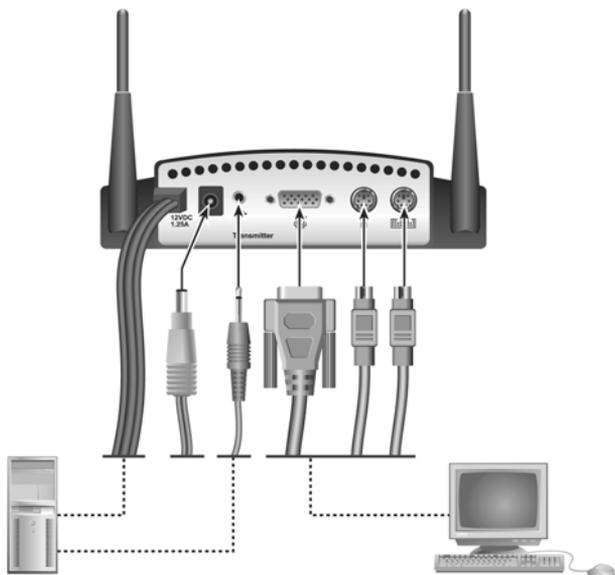


Figure 3-1. ServSwitch Wireless Transmitter Installation Example

4. Prepare locations for your ServSwitch Wireless KVM Extender equipment, computer and peripherals. Place the transmitter near your computer. Best performance is achieved when the antennas are clearly visible and free from obstructions.
5. Connect the ServSwitch Wireless transmitter cables into the computer's PS/2 keyboard (purple connector), PS/2 mouse (green connector) and monitor connections (blue connector).
6. Using the supplied audio cable, connect one end to the ServSwitch Wireless transmitter's audio input connection (lime green connector) and the other end to the computer's audio output connection (lime green connector).
7. Connect your ServSwitch Wireless transmitter to an AC power source with one of the power supplies included with your ServSwitch Wireless KVM Extender.

NOTE: The transmitter must be powered up before the computer.

NOTE: Use only an BLACK BOX-supplied power supply.

8. Power up your computer.

3.3 Connecting the ServSwitch Wireless Receiver

Virtually any industry-standard display device can be attached to the ServSwitch Wireless receiver, as long as it has a 15-pin D shell connector for video input and can accept VGA (640 x 480), SVGA (800 x 600) and XGA (1024 x 768) resolution video.

To install a ServSwitch Wireless receiver:

1. Select a location for your ServSwitch Wireless receiver. Find a convenient position for locating the ServSwitch Wireless receiver, such as a desktop that is near your

extended display. Best performance is achieved when the antennas are clearly visible and free from obstructions.

2. Connect the extended display's video input into the ServSwitch Wireless receiver's video input (blue connector).

NOTE: The extended display must have a standard 15-pin D-shell RGB analog interface.

3. Connect the extended display's PS/2 keyboard and mouse (if applicable) into the ServSwitch Wireless receiver's keyboard connection (purple connector) and mouse connection (green connector).

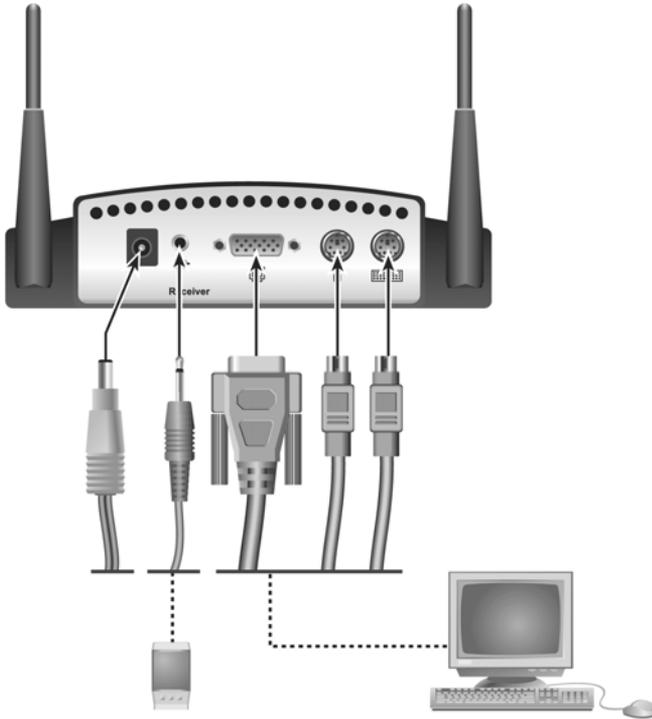


Figure 3-2. ServSwitch Wireless Receiver Installation Example

4. Connect your speakers into the ServSwitch Wireless receiver's audio output connection (lime green connector).
5. Connect the ServSwitch Wireless KVM Extender power supply into the ServSwitch Wireless receiver and into the AC power source.

NOTE: Use only an BLACK BOX-supplied power supply.

6. Connect your monitor's power supply to appropriate electrical outlets.

4. Operations

4.1 Powering the ServSwitch Wireless KVM Extender

The ServSwitch Wireless KVM Extender units (transmitter and receiver) have been factory configured to operate as a companion pair. The initial radio link between the two units is established by the receiver, although all other aspects of the link are controlled by the transmitter. Once the radio link is established, mouse, keyboard, video and audio data is free to flow between the two units.

To power up the ServSwitch Wireless KVM Extender:

1. Complete all of the installation steps. See Chapter 2.
2. Power up the ServSwitch Wireless transmitter and wait for the middle LED labeled S2 to illuminate.
3. Power up the monitor attached to the ServSwitch Wireless receiver.
4. Power up the ServSwitch Wireless receiver.
5. Power up your computer.

NOTE: Always power up the ServSwitch Wireless transmitter and wait for the middle LED labeled S2 to illuminate before powering up your computer.

4.2 Informational Messages

When the ServSwitch Wireless receiver is powered up, it will display a message on the computer monitor to which it is attached:

Searching for CLT_000c4116bc7b

The *000c4116bc7b* is replaced by the MAC id of the radio board in your transmitter unit. This message indicates that your receiver unit is actively searching for its companion transmitter. When it finds the companion transmitter, it will display a second message beneath the first:

Connecting to CLT_000c4116bc7b

The *000c4116bc7b* is replaced by the MAC id of the radio board in your transmitter unit. This message indicates that your receiver unit is establishing the radio link with your transmitter unit. When this link is established, both messages will be removed and the monitor will display video information from your computer.

4.3 LEDs

Both the ServSwitch Wireless transmitter and receiver contain three LEDs visible from the front of each unit. The LEDs are labeled on the unit.



Figure 4-1. Transmitter LEDs

LED Conditions

S1	S2	PWR	Condition
OFF	OFF	ON	No Activity, Power is On
OFF	OFF	OFF	No Activity, Power is Off
OFF	ON	ON	Establish Link
ON	ON	ON	Connected

4.4 Fine-Tuning the Image Settings

Once the radio link has been established, and the monitor attached to the receiver is displaying computer generated video, some fine-tuning of the video settings may be desired. This fine-tuning should only be necessary the first time that a ServSwitch Wireless transmitter is used with a particular computer; settings, once adjusted, are saved in the transmitter unit.

A mouse or keyboard driven menu, called the On-Screen Display (OSD), enables you to perform these adjustments. The ServSwitch extender OSD allows you to use an Auto Setup feature to adjust the image settings, or enables you to manually adjust any of the individual image settings. New settings may be temporarily or permanently saved.

Main menu options

The ServSwitch Wireless KVM Extender Main menu has two options- Auto Setup and Link Status. The Auto Setup checks the video parameters for your source computer and then automatically optimizes the video quality portrayed on your monitors. The Link Status indicates the signal strength of the wireless connection between your ServSwitch Wireless transmitter and receiver.

Advanced menu options

The ServSwitch Wireless KVM Extender OSD Advanced menu allows you to fine-tune the video settings that were established with the Auto Setup function. You may tune the horizontal and vertical position of the video monitor window, as well as adjust the brightness and contrast of the video image. You may also adjust the video clock phase in the ServSwitch Wireless transmitter relative to the video clock at your source computer to assure the cleanest, sharpest video image.

4.5 Image Adjustment Using the ServSwitch Wireless KVM Extender OSD

When configuring the OSD, you may use the Auto Setup function to automatically optimize the video of your ServSwitch Wireless KVM Extender, or you may choose to

optimize it manually. When optimizing video, best results can be obtained by displaying a fixed image on screen during the optimization process.

To optimize video automatically:

1. Activate the OSD Main menu on the receiver unit by pressing and holding the left **Shift** key followed by the right **Shift** key and then releasing both. You may also activate the OSD via the mouse by right-clicking twice and left-clicking once in rapid succession.

Optimize the video setup of your ServSwitch Wireless KVM Extender by selecting *Auto Setup - Run*. This will automatically optimize your video setup parameters. Select *Finish* at the bottom to save your OSD, keyboard and Auto Setup parameters.

-or-

Select *Cancel* to exit without saving changes.

To optimize video manually:

If your monitor image requires further adjustment after running the Auto Setup, you may use the Advanced Setup options from the ServSwitch Wireless KVM Extender OSD menu.

1. Activate the OSD Main menu on the receiver unit by pressing and holding the left **Shift** key followed by the right **Shift** key and then releasing both. You may also activate the OSD via the mouse by right-clicking twice and left-clicking once in rapid succession.
2. Select the *Advanced* tab from the OSD Main menu.
3. On the OSD Advanced menu, use the fine-tuning options to make further adjustments to your video image, as needed.

Press the **Left** or **Right** arrow keys to make adjustments for:

- Horizontal Position
- Vertical Position
- Brightness
- Contrast
- Clock Phase

4. Select *Finish* at the bottom of the Main OSD menu to save the parameters.

-or-

If you wish to exit without saving changes, select the Cancel button.

5. Troubleshooting

5.1 Issues and Solutions

If you determine that your ServSwitch Wireless KVM Extender is malfunctioning, consult the following table for a list of issues and possible solutions.

No power status light on transmitter or receiver	
	Verify that the green LED on the separate BLACK BOX-supplied power supply is illuminated, indicating that the power supply is plugged in correctly.
	Ensure that the power cable from the BLACK BOX-supplied power supply is securely plugged into the ServSwitch Wireless transmitter or ServSwitch Wireless receiver unit.
No video on monitor attached to transmitter	
	Verify that the monitor has power.
	Ensure that the video cable from the ServSwitch Wireless transmitter is securely plugged in to the correct connector on the computer.
	Ensure that the video cable from the monitor is securely plugged in to the correct connector on the ServSwitch Wireless transmitter.
	Verify that the computer is powered.
	As a last check, plug the video cable from the monitor directly into the computer to verify that the monitor is working and that the computer is generating active video. If this is functioning, check that the display settings for your computer are set no higher than a resolution of 1024 x 768 at 60 Hz refresh rate. If the monitor does not function correctly, replace it.
No mouse and/or keyboard operation from peripherals attached to transmitter	
	Verify that the mouse and keyboard are connected to the correct PS/2 ports on the computer. Match the connector color codes (green is mouse and purple is keyboard).
	If the ServSwitch Wireless transmitter was powered up after the computer, turn off the computer and transmitter. Power up the ServSwitch Wireless transmitter unit, wait for the middle LED to illuminate, then power up the computer.
	Retest the mouse and keyboard by connecting them directly to the computer and rebooting the computer. If one does not function correctly, replace the nonfunctioning peripheral.
No video on monitor attached to receiver	
	Verify that the monitor attached to the ServSwitch Wireless receiver has power.

Ensure that the video cable from the monitor is securely plugged in to the correct connector on the ServSwitch Wireless receiver.

Ensure that the video cable from the ServSwitch Wireless transmitter is securely plugged in to the correct connector on the computer.

Verify that the computer is powered.

Cycle power to the ServSwitch Wireless receiver. An informational message should appear on the monitor for a brief moment. If the message does not appear, check the monitor by plugging the video cable from the monitor directly into the computer to verify that the monitor is working and that the computer is generating active video. If this is functioning, check that the display settings for your computer are set no higher than a resolution of 1024 x 768 at 60 Hz refresh rate. If the monitor does not function correctly, replace it.

Verify that all three LEDs on both the ServSwitch Wireless transmitter and the ServSwitch Wireless receiver are illuminated a short period of time after power up (30 seconds or less). If all three LEDs are not illuminated, move the ServSwitch Wireless receiver closer to the ServSwitch Wireless transmitter unit until all LEDs are illuminated.

As a last check, plug the video cable from the monitor directly into the computer to verify that the monitor is working and that the computer is generating active video. If this is functioning, check that the display settings for your computer are set no higher than a resolution of 1024 x 768 at 60 Hz refresh rate. If the monitor does not function correctly, replace it.

No mouse and/or keyboard operation from peripherals attached to receiver

Ensure that the mouse and keyboard operation cables are connected to the correct PS/2 ports on the ServSwitch Wireless receiver. Match the connector color codes (green is mouse and purple is keyboard).

Ensure that the mouse and keyboard cables from the ServSwitch Wireless transmitter are connected to the correct PS/2 ports on the computer. Match the connector color codes (green is mouse and purple is keyboard).

Verify that all three LEDs on both the ServSwitch Wireless transmitter and the ServSwitch Wireless receiver are illuminated a short period of time after power up (30 seconds or less). If all three LEDs are not illuminated, move the ServSwitch Wireless receiver closer to the ServSwitch Wireless transmitter unit until all LEDs are illuminated.

Retest the mouse and keyboard by connecting them directly to the computer and rebooting the computer. If one does not function correctly, replace the nonfunctioning peripheral.

No audio from speakers attached to receiver

Ensure that the audio cable is securely plugged into the line in port of the ServSwitch Wireless transmitter unit.

Ensure that the audio cable is securely plugged into the line out port of the computer (should be color-coded green).

Ensure that the speaker cable is securely plugged into the line out port of the ServSwitch Wireless receiver unit.

Verify that all three LEDs on both the ServSwitch Wireless transmitter and the ServSwitch Wireless receiver are illuminated a short period of time after the power up (30 seconds or less). If all three LEDs are not illuminated, move the ServSwitch Wireless receiver closer to the ServSwitch Wireless transmitter unit until all LEDs are illuminated.

Retest the speakers by connecting them directly to the computer. If they do not function correctly, replace them.

Poor video quality on monitor attached to receiver

Run Auto Setup from the OSD. Remember to click Finish to save new settings.

Ensure that the video cable from the monitor is securely plugged in to the correct connector on the ServSwitch Wireless receiver.

Ensure that the video cable from the ServSwitch Wireless transmitter is securely plugged in to the correct connector on the computer.

Slow response from peripherals attached to ServSwitch Wireless receiver

Run Auto Setup from the OSD. Remember to click Finish to save new settings.

5.2 Calling Black Box

Before contacting Black Box Technical Support, 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.

5.3 Shipping and Packaging

If you need to transport or ship your ServSwitch Wireless KVM Extender:

- Package it carefully. We recommend that you use the original container.
- If you are shipping the ServSwitch Wireless KVM Extender for repair, make sure you include its power cord and the cables you are using with it. If you are returning the ServSwitch Wireless extender, make sure you include everything you received with it. Before you ship, contact Black Box to get a Return Authorization (RA) number.



Doc. No. 590-433-001A

Customer Support Information:

For FREE Technical Support 24 hours a day, 7 days a week, call 724-746-5500 or fax 724-746-0746

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

World-Wide Web: www.blackbox.com • Email: info@blackbox.com

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