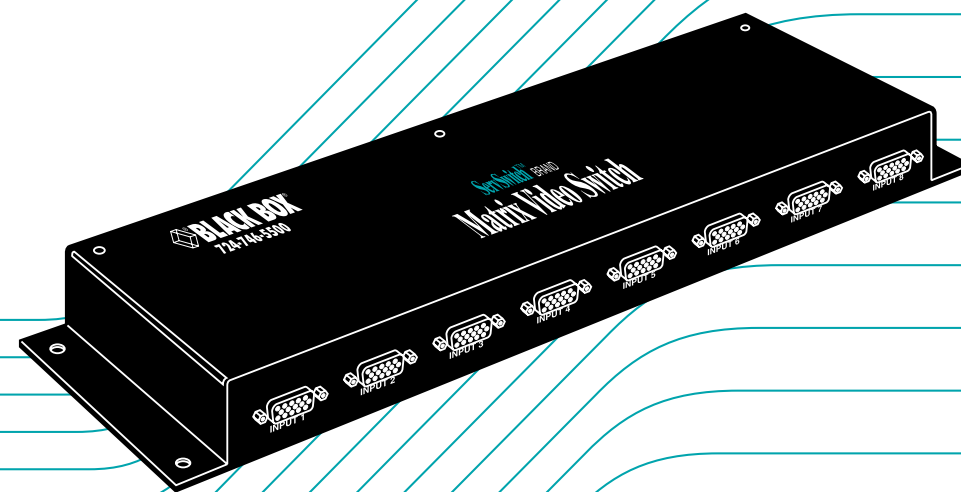


APRIL 2002



ServSwitch™ BRAND
**8x2 Matrix
Video Switch**



ACL0802A

Customer Support Information:

FREE tech 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 • E-mail: info@blackbox.com
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Welcome to the ServSwitch™ Family!

Thank you for purchasing a BLACK BOX® ServSwitch™ Brand KVM switch! We appreciate your business, and we think you'll appreciate the many ways that your new ServSwitch keyboard/video/mouse switch will save you money, time, and effort.

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

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

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

*

This manual will tell you all about your new ServSwitch™ Brand 8 x 2 Matrix Video Switch, including how to install, operate, and troubleshoot it. For an introduction to the Switch, see **Chapter 2**. The Switch product code covered in this manual is:

ACL0802A

**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.

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 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 may 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, the user is encouraged to 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.




**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 conectado a una fuente de poder sólo del tipo descrito en el instructivo de operación, o como se indique en el aparato.

12. Precaución debe ser tomada de tal manera que la tierra física y la polarización del equipo no sea eliminada.
13. Los cables de la fuente de poder deben ser guiados de tal manera que no sean pisados ni pellizcados por objetos colocados sobre o contra ellos, poniendo particular atención a los contactos y receptáculos donde salen del aparato.
14. El equipo eléctrico debe ser limpiado únicamente de acuerdo a las recomendaciones del fabricante.
15. En caso de existir, una antena externa deberá ser localizada lejos de las líneas de energía.
16. El cable de corriente deberá ser desconectado del cuando el equipo no sea usado por un largo periodo de tiempo.
17. Cuidado debe ser tomado de tal manera que objetos líquidos no sean derramados sobre la cubierta u orificios de ventilación.
18. Servicio por personal calificado deberá ser provisto cuando:
 - A: El cable de poder o el contacto ha sido dañado; u
 - B: Objetos han caído o líquido ha sido derramado dentro del aparato; o
 - C: El aparato ha sido expuesto a la lluvia; o
 - D: El aparato parece no operar normalmente o muestra un cambio en su desempeño; o
 - E: El aparato ha sido tirado o su cubierta ha sido dañada.

TRADEMARKS USED IN THIS MANUAL

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IBM and RS/6000 are registered trademarks of International Business Machines Corporation.

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1. Specifications

Compliance:	CE; FCC Part 15 Subpart B Class A, IC Class/class A
Standards:	VGA, SVGA, XGA, or XGA-2 video
Interfaces:	Video: Single or dual VGA; Keypads: EIA/TIA RS-232 serial, pinned according to a subset of TIA-574 (compatible with IBM PC serial ports)
Supported Video Types:	RGBHV (VGA, SVGA, XGA, or XGA-2), RGBS, or RGsB (“sync on green”) from one or two video heads
Resolution and Refresh Rate:	Up to 1600 x 1280 noninterlaced at up to 85 Hz on each display
Video Coupling and Bandwidth:	DC to 265 MHz
Video Level:	0.7 volts peak-to-peak
Video Gain:	1-to-1 (buffered); for distances over 100 ft. (30 m), can be set to proportionally apply higher gain to higher signal frequencies
Maximum Distance:	Up to 300 ft. (90 m) of total cable length from any attached CPU or other input device to any attached monitor or other output device
User Controls:	(2) 10-button switching keypads, (1) for each user, or optional switching through attached serial devices; Serially triggered on-screen menu for selecting normal or tandem (dual-head) video switching; (2) Rear-mounted 8-position DIP switches—(1) for each user port—for distance compensation
Indicators:	(16) Rear-mounted LEDs, (2) for each video-source port; (10) LEDs on each keypad

SERVSWITCH™ BRAND 8 X 2 MATRIX VIDEO SWITCH

Connectors:	Front-mounted: (8) HD15 female for video input; Rear-mounted: (2) HD15 female for video output, (1) for each user port; (2) DB9 female for keypad input, (1) for each user port; (1) 5-pin DIN female power inlet
Maximum Altitude:	10,000 ft. (3048 m)
Temperature Tolerance:	Operating: 32 to 122°F (0 to 50°C); Storage: -40 to +185°F (-40 to +85°C)
Humidity Tolerance:	Up to 95% noncondensing
Enclosure:	Steel
MTBF:	300,000 hours (calculated estimate)
Power:	From utility-power (mains) outlet, through included detachable output cord and external universal power supply: Input: 100 to 240 VAC at 50 to 60 Hz (autosensing); Output: +5 VDC at 1 A, +12 VDC at 0.5 A, and -12 VDC at 0.5 A; Consumption: 5 VA (5 watts) maximum
Size:	1.5"H x 12.1"W x 4.1"D (3.9 x 30.8 x 10.4 cm); mounting ears protrude an additional 0.9" (2.3 cm) wide on each side
Weight:	Net: Switch itself: 2.3 lb. (1 kg); Keypads: 1 lb. (0.5 kg) each; Power supply: 1.3 lb. (0.6 kg); Shipping: 6.7 lb. (3 kg)

2. Introduction

The ServSwitch™ Brand 8 x 2 Matrix Video Switch is an ideal tool for sharing and/or switching between the output of as many as eight video sources (such as PCs), in order to display or capture that output at two video destinations (such as monitors). Once you attach all your devices, you can hook the Switch to the included keypad for full manual switching control.

The Switch's features include:

- With its large bandwidth, it can handle even very high resolutions and refresh rates, up to 1600 x 1280 pixels at up to 85 Hz.
- It can switch the single video output of as many as eight devices and send it to both monitors simultaneously, or it can switch the dual video output of as many as four devices, sending one head's signal to one monitor and the other head's signal to the other monitor.
- It includes two serial keypads, so it's ready to do manual switching almost right out of the box (you *do* have to attach the keypad to the Switch first). Or you can attach one or both of the Switch's keypad ports to a PC's serial ports or to some other serial device and perform switching and monitoring with serial commands.
- Because it has a universal power supply, you can plug it in almost anywhere if you have the right input cord. (And it's small and light enough to take almost anywhere!)
- It's primarily designed to carry VGA/SVGA video, but it can handle separate horizontal and vertical sync, composite sync, and sync on green, so with the right kinds of cables or adapters it can accept all sorts of video from all sorts of devices.
- All of its input and output signals are buffered, so you'll get the sharpest possible images.
- It can drive video signals as far as 300 ft. (90 m) end-to-end, so it's ideal for use in auditoriums, conference halls, and similar spaces.
- Its front-panel LEDs show you right away which video inputs are going to which outputs.
- To top it off, it can be operated by pressing a single keypad button, so anybody can use it without having to be extensively trained.

SERVSWITCH™ BRAND 8 X 2 MATRIX VIDEO SWITCH

The Switch comes with:

- (2) 10-button keypads
- (2) 6-ft. (1.8-m) DB9 male to DB9 female keypad cables
- Power supply
- This manual

3. Installation and Configuration

To set up your ServSwitch™ Brand 8 x 2 Matrix Video Switch system, take these steps:

1. Making sure that the Switch is powered off, find its input ports. (These are the HD15 connectors on its front panel labeled “INPUT 1” through “INPUT 8.”) Run cabling from these ports to the video-output ports of the PC CPUs or other devices that will be providing the Switch’s video input.

If all of these input devices are transmitting VGA/SVGA/XGA-type video signals on HD15 female connectors, you can use standard VGA video-extension cables such as our product code EVNPS05-MM. Keep in mind that the length of any of these cables plus the length of any of your monitor/output cables (see step 2) should not be more more than 300 ft. (90 m). (You’ll configure the Switch for the length of your cables in step 3.)

If any of your input devices transmit some other type of video signal and/or use some other type of video connector, you might need special cables or adapters; call Black Box Technical Support.

If you are attaching single-head video-source devices, attach as many as eight of them in any order to any of the input ports. But if you are attaching dual-head devices, you can only attach up to four of them, and you need to connect the *left* heads to input ports #1 through 4 and the *right* heads to the corresponding input ports #5 through 8. (If the left video from a device goes into INPUT 6, the right video from that device must go into INPUT 10, etc.)

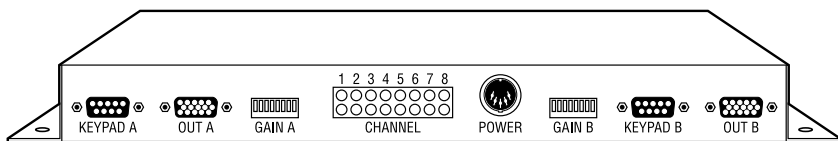


Figure 3-1. The Switch’s rear-panel components.

2. The Switch’s output ports are the two HD15 female connectors labeled “OUT A” and “OUT B” on the Switch’s rear panel. If both of your output devices are standard VGA or multisync monitors with HD15 male connectors on their video cables, you can plug them directly into these ports (if they’ll be placed nearby) or run video-extension cables to them such as our product code EVNPS05-MF (if they’ll be some distance away). Keep in mind that the length of any of these cables plus the length of any of your CPU/input cables (see step 1) should not be more more than 300 ft. (90 m). (You’ll configure the Switch for the length of your cables in step 3.)

If either of your output devices are designed to receive a non-VGA video signal and/or use a different type of video connector, you might need special cables or adapters; call Black Box Technical Support.

- For each of the two outputs there is an 8-position DIP switch on the Matrix Video Switch's rear panel—labeled “GAIN A” for “OUT A” and “GAIN B” for “OUT B”—that you can use to control the gain applied to the corresponding input signals. For each of the eight inputs, calculate the total lengths of the video cables from the source to each of the two destinations (the devices attached to OUT A and OUT B). Then set the corresponding switch position (“1” for input 1 through “8” for input 8 on either GAIN A for OUT A or GAIN B for OUT B): Move it DOWN if the total length is 100 ft. (30 m) or less, or UP if the total length is over 100 ft. (30 m). (In the UP setting, extra compensation is added to the signal to make up for the high-frequency losses typical of longer cabling.)
- Plug the output cord of the Switch's power supply into the Switch's 5-pin DIN female power inlet. Plug one end of the power supply's input cord into the transformer's IEC 320 male inlet; plug the other end of the input cord into a working AC outlet.

The Switch should power up automatically in its factory-default state (it has no ON/OFF switch): If you're running single-head video, both of the Switch's outputs will be set to display input #1 (even though there's no video present yet). If you're running dual-head video, output #1 will display input #1 and output #2 will display input #5 (inputs #1 and #5 should be from the same source, even though there's no video present yet). After subsequent power-ups, the Switch will display whichever inputs were selected by the outputs when power was most recently removed.

- Plug in and turn on all devices attached to the switch. If the Switch displays what it should at its output monitors, you can proceed to the following steps. If it doesn't, check the rear-panel LEDs to make sure the Switch is ON; check your devices and make sure they're ON; and check your input and output cabling and make sure it's all properly connected. If everything seems like it should work but the system still doesn't display video correctly, call Black Box Technical Support.
- Serial control and/or dual-head video only:* Attach the male end of a DB9 male-to-female serial cable such as EDN12H-MF to either of the DB9 female connectors labeled “KEYPAD A” and “KEYPAD B” on the Switch's rear panel. (Refer to the **Appendix** for the pinout of these connectors.) Attach the female end of this cable to the serial port on a terminal, a PC running a terminal emulator such as HyperTerminal™, or some other RS-232 device

that can output ASCII characters. (Configure this port or device to transmit at 9600 bps, 8 data bits, no parity, and 1 stop bit.)

7. *Dual-head video only:* Type an uppercase “P” on the PC’s or terminal’s keyboard or send an uppercase “P” from the device to the Switch. The Switch will send this menu text to appear on screen:

```
Select Switching Mode
N = Normal
T = Tandem (used for dual-head displays)
```

Type an uppercase “T” on the PC’s or terminal’s keyboard or send an uppercase “T” from the device to the Switch; the Switch will respond with the string “Tandem mode selected.” The Switch will stay in tandem (dual-video) mode until you repeat this step and select “N” instead, at which point the Switch will respond “Normal mode selected” and go back to normal (single-video) mode. If you type in any other character than “T” or “N,” the Switch will default to normal mode.

If you will be controlling the Switch with a keypad only, disconnect the serial cable. If you’ll be controlling the Switch with both a keypad and a serial device simultaneously, move the serial cable to “KEYPAD B” if it isn’t already attached to that port. If you’ll be controlling the Switch with a serial device only, you can leave the serial cable where it is.

8. *Keypad control only:* Run the included 6-ft. (1.8-m) DB9 cable(s) from the keypad(s) you’re using (also included) to the DB9 female connectors labeled “KEYPAD” on the Switch’s rear panel. If you’re running dual-head video, you’ll only need one keypad, and you should connect it to “KEYPAD A.” If you’re using both keypads, connect one to “KEYPAD A” and one to “KEYPAD B.” If you’re using one keypad and one serial-device connection in a single-head video system, it doesn’t matter which “KEYPAD” port the keypad and device are connected to.

If you have an attached monitor placed farther than 6-ft. (1.8 m) from the Switch, you can use DB9 male to DB9 female extension cable such as EDN12H-MF to run just as far to the corresponding keypad, up to the maximum of 300 ft. (90 m).

9. Test the Switch’s keypad- and/or serial-switching features and make sure they work properly. If they don’t, check your keypad and/or serial cabling and make sure it’s properly connected. If everything seems like it should work but the system still doesn’t switch correctly, call Black Box Technical Support.

Your Matrix Video Switch system is now fully installed, as shown in Figure 3-2 on the next page. The system should be ready for continuous operation.

SERVSWITCH™ BRAND 8 X 2 MATRIX VIDEO SWITCH

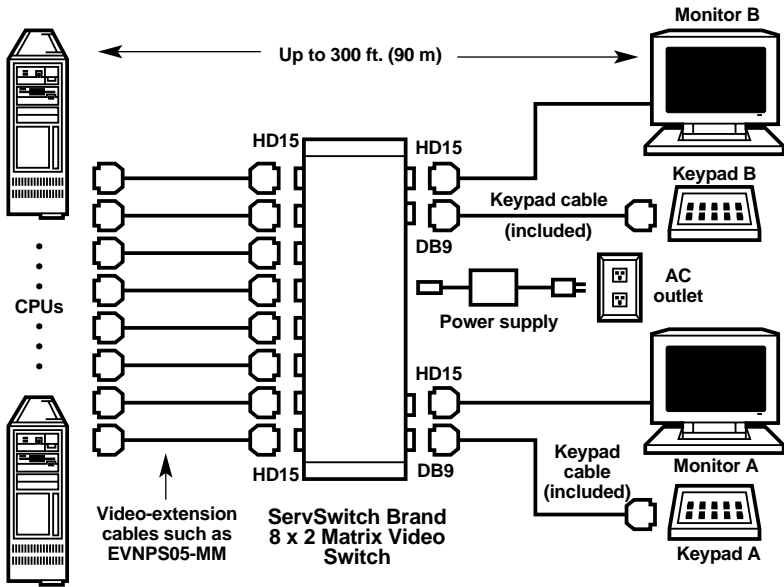


Figure 3-2. A fully installed single-head Switch system using keypad switching.

4. Operation

4.1 The Switch's LEDs

The LEDs on the ServSwitch™ Brand 8 x 2 Matrix Video Switch's rear panel, shown in Figure 3-1 at the start of **Chapter 3**, indicate which of the Switch's outputs are displaying the video from which inputs, and which outputs have been blanked and aren't showing anything (see **Section 4.3**).

There are two rows of eight LEDs, labeled "Channel" and "1" through "8." The top row shows which input is selected for "OUT A," while the bottom row shows which input is selected for "OUT B." If no LEDs are lit in an output port's row, the output has been blanked and the keypad is in test mode (see **Section 4.3**).

4.2 Switching with the Keypads

In a single-head video system: To switch your output port's monitor or other destination device to display a given input, press the number of that input on your keypad. For example, to display the video from a CPU attached to INPUT 8, press the "8" button. The LED next to that button will light (and will stay lit until a different port is selected).

In a dual-head video system: To switch the output-port monitors or other pair of destination devices to display a given pair of inputs, press the number of the lower-numbered input on your keypad (which must be connected to the Switch's "KEYPAD A" port). For example, to display the video from a CPU attached to INPUT 3 and INPUT 7, press the "3" button. The LED next to that button will light (and will stay lit until a different port is selected). Buttons #5 through #8 have no function.

In either single- or dual-head systems: Buttons 9 and 10 on the keypad have no switching function; pressing them will have no effect unless you press both at the same time, which will blank the output and trigger the keypad's self-test function (see **Section 4.4**).

If you use both a keypad and a serial device (see **Section 4.3**) to control the Switch, keep in mind that the serial device can switch *both* outputs, so your display might sometimes switch to a different input without your pressing any buttons on the keypad. If this happens, you can check the keypad's LEDs to see which input is now being displayed.

4.3 Switching and Monitoring with Serial Devices

You can send the Switch ASCII commands to switch input channels using a terminal, a PC running a terminal emulator, or some other RS-232 device that can output ASCII characters. If you're using a PC or other device that can receive ASCII input, you can also monitor the switching state of either of the Switch's outputs. (Configure the device to transmit and/or receive at 9600 bps, 8 data bits, no parity, and 1 stop bit. The ASCII letters in these commands must be entered in uppercase.)

In a single-head video system: To switch either output port's monitor or other destination device to display a given input, send the ASCII string "OyIx" followed by a carriage return, where *x* is the number of the input port and *y* is the number of the output port. (If *x* is zero, output *y* is blanked and goes into self-test mode—see **Section 4.4.**) For example, to switch output #2 to input #6, send "O2I6 [Enter]".

In a dual-head video system: To switch the output-port monitors or other pair of destination devices to display a given pair of inputs, send the ASCII string "Ix" followed by a carriage return, where *x* is the number of the lower-numbered input port. (If *x* is zero, the outputs are blanked—see **Section 4.4.**) For example, to display the video from a CPU attached to INPUT 3 and INPUT 7, send "I3 [Enter]". (If you are also using a keypad, the keypad should be attached to "KEYPAD A" and the serial device should be attached to "KEYPAD B".)

In either single- or dual-head systems: When the switching action is complete, the Switch will send a copy of the command string, including the carriage return, out of *both* KEYPAD ports. (Attached serial devices must be able to either ignore such strings or react appropriately to them. Any attached keypad will change the state of its LEDs if a command string affects its output, and will ignore all command strings that affect only the other output.)

To query the current switching state of either output (particularly at power-up, which is normally the only time when the output state won't be certain), send the ASCII string "Oy?" followed by a carriage return, where *y* is the number of the output port. The Switch will respond with the string "OyIx [Enter]", just like the switching command. In a dual-head video system, "O1?" and "O2?" will return the numbers of the input-port pair: "O1?" will return the number of the lower-numbered input port (for example, "O1I4 [Enter]") and "O2?" will return the number of the higher-numbered input port (for example, "O2I8 [Enter]").

If you use both a keypad (see **Section 4.2**) and a serial device to control the Switch, keep in mind that the keypad can switch its own output independently of the serial device, and the serial device can switch *both* outputs independently of the keypad. If the serial device switches the keypad's output, the state of the keypad's LEDs will change to reflect the switch.

4.4 Blanking the Video Output and Performing a Keypad Self-Test

4.4.1 WITH THE KEYPADS

Pressing both the 9 and 10 buttons simultaneously on one of the Switch's keypads will blank the video output controlled by that keypad (the monitor will go dark). It will also cause that keypad to go into self-test mode and light all of its LEDs.

If you see that any of a keypad's LEDs don't light while it's in self-test mode, consider contacting Black Box to arrange for the keypad to be repaired or returned. (A dark LED probably just means that the LED is defective, but there's a slim chance that something more serious might be wrong.)

To exit test mode and restore video output, press any of the buttons 1 through 8 to select the corresponding channel.

4.4.2 WITH A SERIAL DEVICE

To blank *either* output using a serial-control device, send one of the following command strings to *either* of the Switch's KEYPAD ports:

- *Single-head video*: Send "O1I0 [Enter]" (uppercase letter O, number one, uppercase letter I, number zero, carriage return) to blank output #1. Send "O2I0 [Enter]" (uppercase letter O, number two, uppercase letter I, number zero, carriage return) to blank output #2.
- *Dual-head video*: Send "I0 [Enter]" (uppercase letter I, number zero, carriage return) to blank both outputs.

After the Switch receives the command and blanks the designated monitor, it will send a copy of the command string, including the carriage return, out of *both* KEYPAD ports. (Attached serial-control devices must be able to either ignore such strings or react appropriately to them. Any attached keypad that receives such a string will go into self-test mode and light all of its LEDs *if* the string affects its output; it will ignore the string otherwise.)

Refer to **Section 4.4.1** if you see that any of a keypad's LEDs don't light while it's in self-test mode. To exit test mode and restore video output, send a switching command (see **Section 4.3**) to select channel 1 through 8.

5. Troubleshooting

5.1 Calling Black Box

If you determine that your ServSwitch™ Brand 8 x 2 Matrix Video Switch is malfunctioning, *do not attempt to alter or repair it*. It contains no user-serviceable parts. Contact Black Box Technical Support at 724-746-5500.

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

- the nature and duration of the problem;
- when the problem occurs;
- the components involved in the problem—that is, what types of computers or other video sources; what types, makes, and models of monitors or other video destinations; etc.;
- 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.

5.2 Shipping and Packaging

If you need to transport or ship your ServSwitch Brand 8 x 2 Matrix Video Switch:

- Package it carefully. We recommend that you use the original container.
- Before you ship the Switch back to Black Box for repair or return, contact us to get a Return Authorization (RA) number.

Appendix: Pinout of the Serial/Keypad Port

The “KEYPAD A” and “KEYPAD B” ports on the rear panel of the ServSwitch™ Brand 8 x 2 Matrix Video Switch are RS-232 serial ports that use a subset of the TIA-574 pinout on DB9 female connectors:

Pin	Direction	Signal
1	(reserved)	(used by keypad, do not connect to other devices)
2	output from Switch	Transmit Data (TD)
3	input to Switch	Receive Data (RD)
4	input to Switch	Data Set Ready (DSR), signal level must be high in order for the Switch to transmit
5	common	Signal Ground (SGND)
6	output from Switch	Data Terminal Ready (DTR), high signal indicates that the Switch is ready to receive
7, 8	(no connection)	(none)
9	(reserved)	(used by keypad, do not connect to other devices)

NOTES