User's Manual

2- & 4-Port KVM Switches
Model #'s: B022-002-KT-R & B022-004-R

Note: Follow these installation and operating procedures to ensure correct performance and to prevent damage to this unit or to its connected devices.

Tripp Lite World Headquarters
1111 W. 35th Street, Chicago, IL 60609 USA
(773) 869-1234, www.tripplite.com

TRIPP·LITE

1. Features

- Compact design
- Works with all major operating systems
- PS/2 and USB compatible
- Easy to install—no software required—simple plug and play operation
- Easy to operate—computer selection via push-buttons or Hotkeys
- Power on detection—automatically switches to the first powered on port
- Auto scan function to monitor computer operation
- LED display for easy status monitoring
- Hot pluggable—add or remove computers without powering down the switch
- Caps Lock, Num Lock, and Scroll Lock states are saved and restored when switching
- Keyboard and mouse emulation for error-free computer booting
- Supports Microsoft® IntelliMouse® and the scrolling wheel on most mice
- Superior video quality—up to 2048 x 1536; DDC2B
- Self-powered for any location
- Saves time, space, power, and equipment costs

2. System Requirements

Console

- A VGA, SVGA, or Multisync monitor capable of the highest resolution that you will be using on any computer in the installation
- A PS/2 style keyboard
- A PS/2 style mouse

Computers

The following equipment must be installed on each computer that is to be connected to the system:

- A VGA, SVGA, or Multisync port
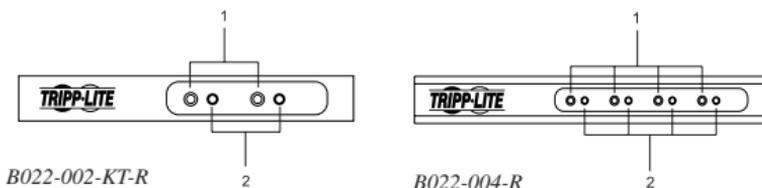- A PS/2 or USB keyboard port
- A PS/2 or USB mouse port

Cables

- A Console Connector Cable is provided with this package.
  [HD15 (F) and 2 PS/2 (F) connectors]
- P774-series KVM cable kits - PS/2
- P776-series KVM cable kits - USB
- (2) P774-series KVM cable kits are included with the B022-002-KT-R. Use a B015-000 PS/2 to USB adapter (sold separately) to connect to a USB computer.

3. Components

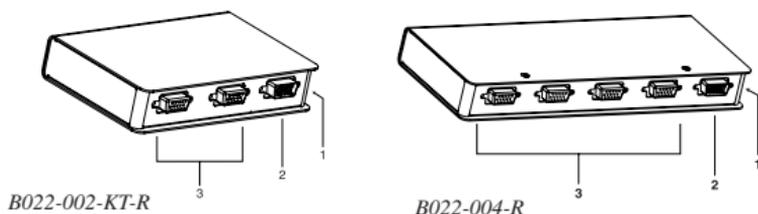## 3.1 Front View

B022-002-KT-R

B022-004-R

1) Port Selection Buttons

• Press a button to select the corresponding port

2) Port LEDs

The Port LEDs are built into the Port Selection Buttons. A lit LED indicates that its corresponding Port is the one that has been selected. If flashing, the corresponding port is being accessed in an auto scan.

3.2 Rear View

B022-002-KT-R

B022-004-R

1) Power Jack (not shown)

The power adapter cable plugs in here.

Note: The KVM switch does not require external power. Use of a power adapter is optional, and requires a separate purchase.

2) Console Port Connector

The Console Adapter Cable plugs in here.

3) CPU Port Connectors

The KVM cables that connect the unit to the mouse, keyboard, and video ports on the computers you are connecting can plug into any available port.
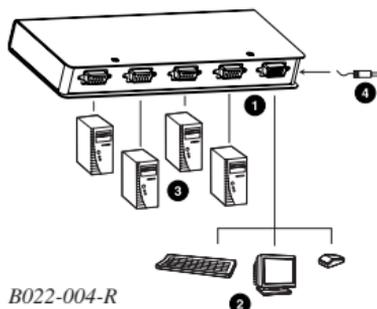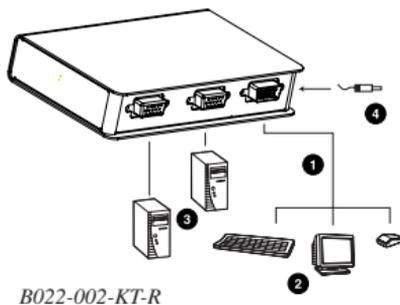
4. Installation

Note: Make sure all PS/2 computers are powered off prior to installation.

1) Refer to the diagrams as you do the following:

2) Plug the Console Adapter Cable into the Console Port Connector on the rear panel of the KVM switch.

3) Plug your keyboard, monitor and mouse into their respective connectors on the Console Adapter Cable. The connectors are color-coded and marked with an appropriate icon for easy identification.

4) Use the Tripp Lite KVM cables (described in the *Cables* section on p. 3), to connect the CPU Ports on the KVM switch to the monitor, keyboard and mouse ports of the computers you are installing.

5) While power is rarely needed, if you choose to use external power, plug a power adapter into an AC power source, then plug the power adapter cable into the unit's Power Jack.

Note: The power adapter should be DC9V with the inside positive and the outside negative: ⏚⊙+ ⎓9V

6) Turn on the power to the computers.

Note: The KVM's default is to link to the first computer you turn on.

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5. Operation

5.1 Manual Port Selection

With Manual Port Selection, simply press the appropriate Port Selection button on the unit's front panel to select its corresponding port. The Port LED lights to indicate that its port has been selected.

5.2 Hotkey Port Selection

Hotkey port selection allows you to directly access a computer from the keyboard, instead of having to manually switch to it with the Port Selection button.

On the B022-002-KT-R:

1) Press and hold down the [**Num Lock**] key.

2) Press and release the [**Asterisk**] key or the [**Minus**] key.

   Note: The [*Asterisk*] *or* [*Minus*] *key must be released within one half second, otherwise Hotkey activation is canceled, and it has no effect.*

3) Release the [**Num Lock**] key.

4) The port will immediately switch.

On the B022-004-R:

1) Press and hold down the [**Num Lock**] key.

2) Press and release the [**Asterisk**] key or the [**Minus**] key.

   Note: The [*Asterisk*] *or* [*Minus*] *key must be released within one half second, otherwise Hotkey activation is canceled, and it has no effect.*

3) Release the [**Num Lock**] key.

4) The Caps Lock and Scroll Lock LEDs on the keyboard will flash in succession. They stop flashing and revert to normal status when you exit Hotkey Mode. Enter the number for the desired port (1, 2, 3 or 4).

5. Operation *(continued)*

5.3 Auto Scan Mode

The KVM Switch's Auto Scan feature automatically cycles through the ports at regular 5 seconds intervals so that you can monitor the computer activity without having to take the trouble of switching manually.

Note: While Auto Scan Mode is in effect, ordinary keyboard and mouse functions are suspended. You must exit Auto Scan Mode in order to regain normal control of their use.

On the B022-002-KT-R:

1) Press and hold down both manual port switches on the front of the KVM and hold down for 5 seconds. Auto Scan will be initiated.

2) Once scanning begins, it continues until you press one of the manual port switches on the front of the KVM.

On the B022-004-R:

1) Press and hold down the [**Num Lock**] key.

2) Press and release the [**Asterisk**] key or the [**Minus**] key.

   Note: The [*Asterisk*] *or* [*Minus*] *key must be released within one half second, otherwise Hotkey activation is canceled, and it has no effect. The* [*Caps Lock*] *and* [*Scroll Lock*] *LEDs on the keyboard will flash in succession. They stop flashing and revert to normal status when you exit Hotkey Mode.*

3) Release the [**Num Lock**] key.

4) Press and release **[A]**.

   Once scanning begins, it continues until you press **[Esc]** or **[Spacebar]** to exit Auto Scan Mode. The Port that is active at the time scanning stops remains active.

5. Operation *(continued)*

5.4 Skip Mode (B022-004-R only)

This feature allows you to skip from the currently active Port to the Previous or Next one with a single keystroke. In contrast to Auto Scan Mode (which switches Ports at a fixed interval), you can maintain activation on a particular port for as long or as little as you like.

To activate Skip Mode:

1) Press and hold down the [**Num Lock**] key.

2) Press and release the [**Asterisk**] key or the [**Minus**] key

   Note: The [**Asterisk**] *or* [**Minus**] *key must be released within one half second, otherwise Hotkey activation is canceled, and it has no effect. The Caps Lock and Scroll Lock LEDs on the keyboard will flash in succession. They stop flashing and revert to normal status when you exit Hotkey Mode.*

3) Release the [**Num Lock**] key.

4) Press [◄] to skip from the current port to the port that comes before it (3 to 2; 2 to 1, etc.).

5) Press [►] to skip from the current port to the port that comes after it (1 to 2; 2 to 3, etc.).

   Note: Skip Mode remains in effect until you exit it. You can use [◄] and [►] as often as you like. Ordinary keyboard and mouse functions are suspended— only [►] and [◄] can be input. You must exit Skip Mode in order to regain normal control of the console.

6) Pressing **[Esc]** or **[Spacebar]** exits both Skip Mode and Hotkey Mode.

5. Operation *(continued)*

5.5 Hotkey Summary Table (for B022-004-R only)

Activate Hotkey mode using the [**Num Lock**] + [*****]; or [**Num Lock**] + [**-**] Hotkey command. Once Hotkey mode is activated, hit the keys in the table below to perform the corrsponding action.

Combination	Function
[Port ID Number]	Switches the KVM selection to the computer that corresponds to that Port ID.
[A]	Activates Auto Scan Mode
[←]	Switches the KVM selection from the current port to the previous port.
[→]	Switches the KVM selection from the current port to the next port.
[Esc] or **[Spacebar]**	Exits Hot Key, Auto Scan, and Skip Modes.

5.6 LED Display

LED Off	Port is not selected
LED On (Steady)	Port is selected
LED Flashing	Port has been selected in Auto Scan mode

6. Specifications

	B022-002-KT-R	B022-004-R
CPU Ports	2	4
Port Selection	Push-Button Switches; Hotkeys	Push-Button Switches; Hotkeys
Connectors CPU	2 x HD15 (F)	4 x HD15 (F)
Console	1 x HD15 (F)	1 x HD15 (F)
LEDs	2 Selected Port (Green)	4 Selected Port (Green)
Emulation Keyboard	PS/2	PS/2
Mouse	PS/2	PS/2
Scan Interval	5 secs.	5 secs.
Operating Temperature	32° F - 122° F	32° F - 122° F
Storage Temperature	4° F - 140° F	4° F - 140° F
Humidity	0 - 80% RH, Noncondensing	0 - 80% RH, Noncondensing
Housing	Metal	Metal
Weight	0.73 lbs.	1.1 lbs.
Dimensions (L x W x H)	4.9 x 3.1 x 1.0 in.	7.9 x 3.1 x 1.0 in.

7. Troubleshooting

If you are experiencing problems, first make sure that there are no cable problems. Check all cable connections.

Problem	Cause	Solution
Mouse Not Responding*	Mouse needs to be reset	Unplug the mouse from the Switch, then plug it back in.
	Switch needs to be reset	Turn off the PCs. Wait 5 seconds; then turn the PCs on.
	Wrong type of mouse or adapter	The switch will only work with a PS/2 mouse. A serial mouse cannot be converted to a PS/2 mouse by using a serial to PS/2 adapter. One exception is a combo-mouse which is specifically designed for both applications. In this case, ensure that the mouse is set up for PS/2 mode and is being used with the adapter originally provided.
	Unsupported or incorrect mouse driver	Each PC needs to be using the mouse driver correlating to the mouse connected to the console port.
		Some newer mice (with extra buttons and wheels) have unique drivers that may not be supported. Try a regular mouse with a generic mouse driver (like the one that comes with the operating system).
Video Problems	Resolution and/or Bandwidth set too high	The Switch supports VGA, SVGA, Multisync, and XGA (interlaced) monitors with resolutions of up to 2048 x 1536 Hz.
	A power source such as a power panel or poorly insulated device is too close to the KVM switch or its cables	Move the device that is creating the electromagnetic interference, or move the KVM switch and/or its cables.
Keyboard Not Responding*	Keyboard needs to be reset	Unplug the keyboard from the Switch, then plug it back in.
	Switch needs to be reset	Turn off the PCs. Wait 5 seconds; then turn the PCs on.
	Switch is in *Auto Scan* Mode	On 4-port, press the [Spacebar] to exit *Auto Scan* mode. On 2-port, press any manual port selection awitch on the KVM.
	Switched between PCs during boot-up procedure	Shut down the PC and reboot without switching between PCs.

Some notebook computers, notably the IBM® Thinkpad® and Toshiba® Tecra®, have trouble working with a switch when their mouse and keyboard ports are used simultaneously. To avoid this problem, only connect the mouse port or the keyboard port to the switch. If you connect the mouse port, you will need to use the notebook's keyboard when the notebook is the active computer. These switches are designed to work with PS/2 keyboards. Older XT (84 key) and AT keyboards will not work.

8. Warranty

FCC Radio / TV Interference Notice

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy, and if not installed and used in accordance with the instruction manual, may cause interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference using one or more of the following measures: reorient or relocate the receiving antenna; increase the separation between the equipment and the receiver; connect the equipment into an outlet on a circuit different from that which the receiver is connected; consult the dealer or an experienced radio/television technician for help. The user must use shielded cables and connectors with this product. Any changes or modifications to this product not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. This device complies with part 15 of the FCC rules. Operation is subject to the following 2 conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.

5-YEAR LIMITED WARRANTY

Tripp Lite warrants its products to be free from defects in materials and workmanship for a period of five (5) years from the date of initial purchase. Tripp Lite's obligation under this warranty is limited to repairing or replacing (at its sole option) any such defective products. To obtain service under this warranty, you must obtain a Returned Material Authorization (RMA) number from Tripp Lite or an authorized Tripp Lite service center. Products must be returned to Tripp Lite or an authorized Tripp Lite service center with transportation charges prepaid and must be accompanied by a brief description of the problem encountered and proof of date and place of purchase. This warranty does not apply to equipment which has been damaged by accident, negligence or misapplication or has been altered or modified in any way.

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