Owner's Manual

17-in. USB/ PS2 Dual Rail Console

Model: B021-02R-17

TRIPP·LITE

1111 W. 35th Street, Chicago, IL 60609 USA
www.tripplite.com/support

Package Contents:

- **B021-02R-17 17-in. USB/PS2 Dual Rail Console**
- **Rackmount Hardware**
- **USB/PS2 Console Cable Kit**
- **RJ11 to DB9 Firmware Upgrade Cable**
- **C13 to 5-15P Power Cord**
- **Grounding Wire**
- **Owner's Manual CD**

Features

- Integrated 17-in. LCD display, 99-key keyboard and touchpad in a 1U rackmountable housing.
- Dual rail configuration allows for the keyboard and LCD panel to slide independently of each other, which provides the ability to monitor computer activity while stowing keyboard module out of the way.
- Can be mounted in racks with a depth ranging from 22-in. to 34-in.
- Includes a USB/PS2 Combo KVM Cable Kit, allowing you to connect to a computer or KVM with either USB or PS/2 connectors.
- Compatible with all operating systems, and most KVMs with a VGA and USB or PS/2 ports.
- Back panel of the unit includes external VGA, PS/2 (x2) and USB (x2) ports for connecting an external console. An additional USB port is located on the front of the unit's keyboard panel for convenient connection of an external mouse.
- Supports video resolutions up to 1280 x 1024 @ 75Hz.
- DDC, DDC2 and DDC2B emulation allows the video settings of the connected computer to be automatically adjusted for optimal display on the console monitor.
- Firmware upgradeable via the included firmware upgrade cable (RJ11 to DB9).
- Features keyboard commands for Sun keyboard emulation.

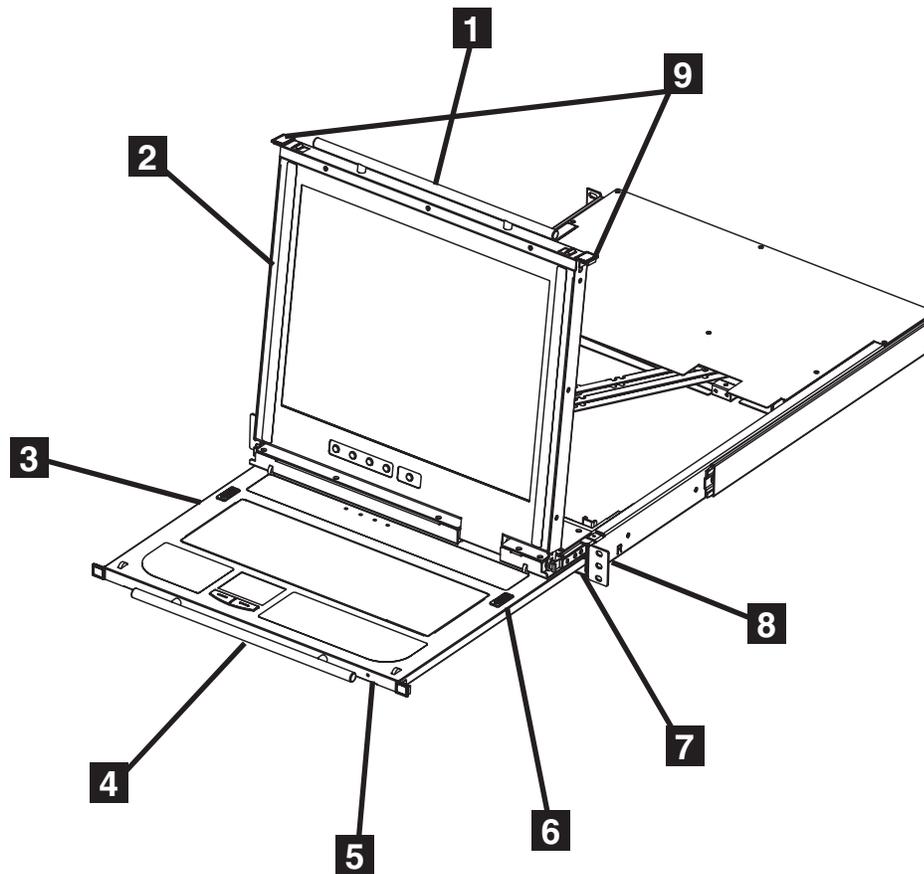## System Requirements

Connected Computer/KVM
- A VGA (HD15) input
- A USB A Female port, or two PS/2 keyboard/mouse ports

External Console
- A monitor with a VGA (HD15) input
- USB or PS/2 Keyboard and Mouse

Components

Front View

1 **LCD Module Handle –** Pull to slide the LCD module out, push to slide the LCD module in.

2 **LCD Module –** See LCD Module on page 5 for details.

3 **Keyboard Module –** See Keyboard Module on page 4 for details.

4 **Keyboard Module Handle –** Pull to slide the keyboard module out, push to slide the keyboard module in.

5 **Power LED –** Illuminates to indicate that the unit is powered on.

6 **Keyboard Release Catch –** When fully extended, the keyboard module locks into place. Pulling the release catches on both sides of the keyboard panel will allow you to slide the module back into the rack.

7 **LCD Release Catch –** When fully extended, the LCD module locks into place. Pulling the release catches on both sides of the console will allow you to slide the module back into the rack.

8 **Rackmount Brackets –** Secure the console to your rack using the rackmount brackets located at each corner of the unit.

9 **Console Release Tabs –** These tabs (one on each side) must be pressed inward to release the LCD and keyboard modules, allowing them to be removed from the rack.
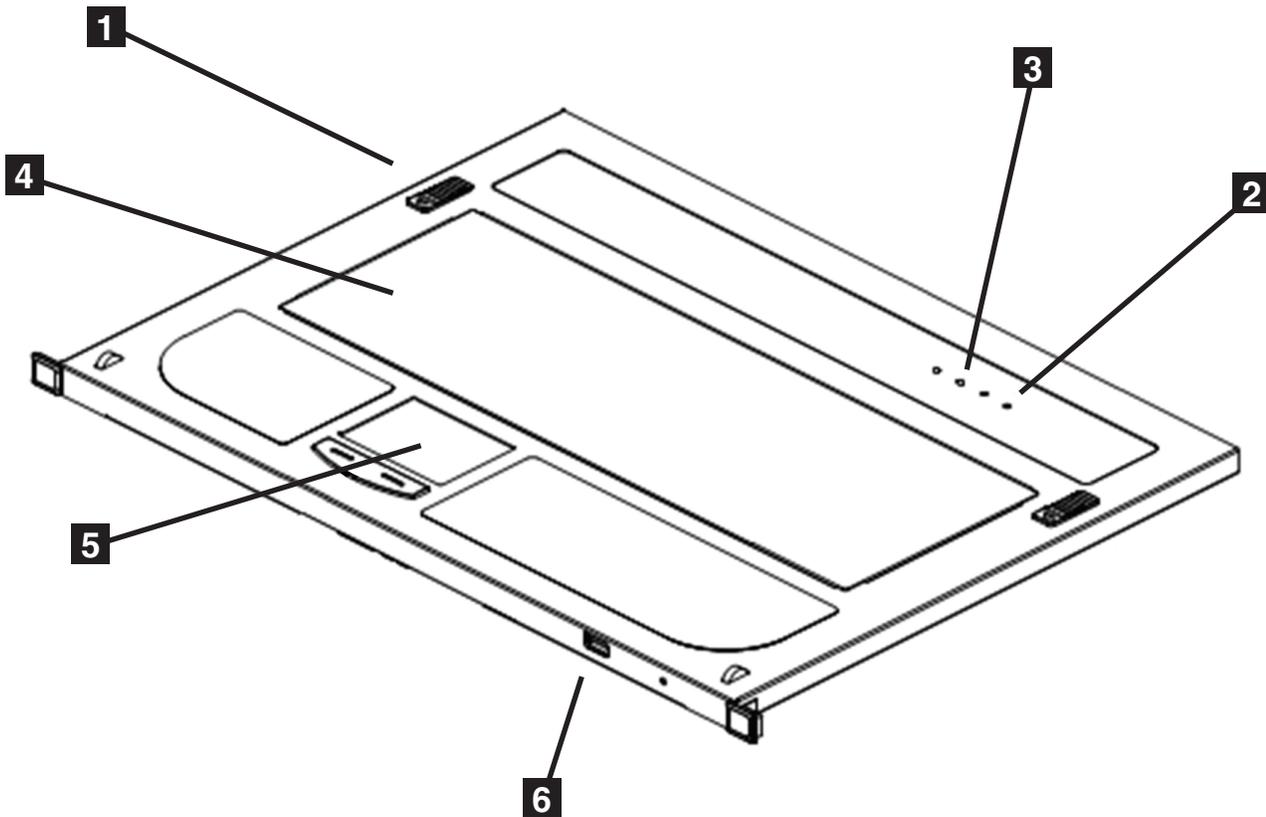
Keyboard Module

1 **Keyboard Release Catch –** When fully extended, the keyboard module locks into place. Pulling the release catches on both sides of the keyboard panel will allow you to slide the module back into the rack.

2 **Reset Button –** Pressing the reset button will perform a system reset.
Note: The reset button is semi-recessed and should be pushed with a thin object, such as a paper clip.

3 **Lock LEDs –** The [Num Lock], [Scroll Lock] and [Caps Lock] keyboard LEDs are located here.

4 **Keyboard**

5 **Touchpad**

6 **External Mouse Port –** A USB port is provided for convenient connection of an external mouse.

LCD Module

1 **17-in. LCD Display**

2 **LCD OSD Controls –** Use these buttons to adjust the video settings of the LCD display.

3 **LCD On/Off Button –** Press this button to turn the LCD display on or off. The button illuminates to indicate that the LCD display is turned off.

4 **Firmware Upgrade Port –** When performing a firmware upgrade, the included firmware upgrade cable connects to the console here.

5 **Firmware Upgrade Switch –** During normal operation, this switch should be in the Normal postion. When recovering from a failed firmware upgrade, this switch should be in the Recover position. (See Firmware Upgrade Recovery on page 13 for details)
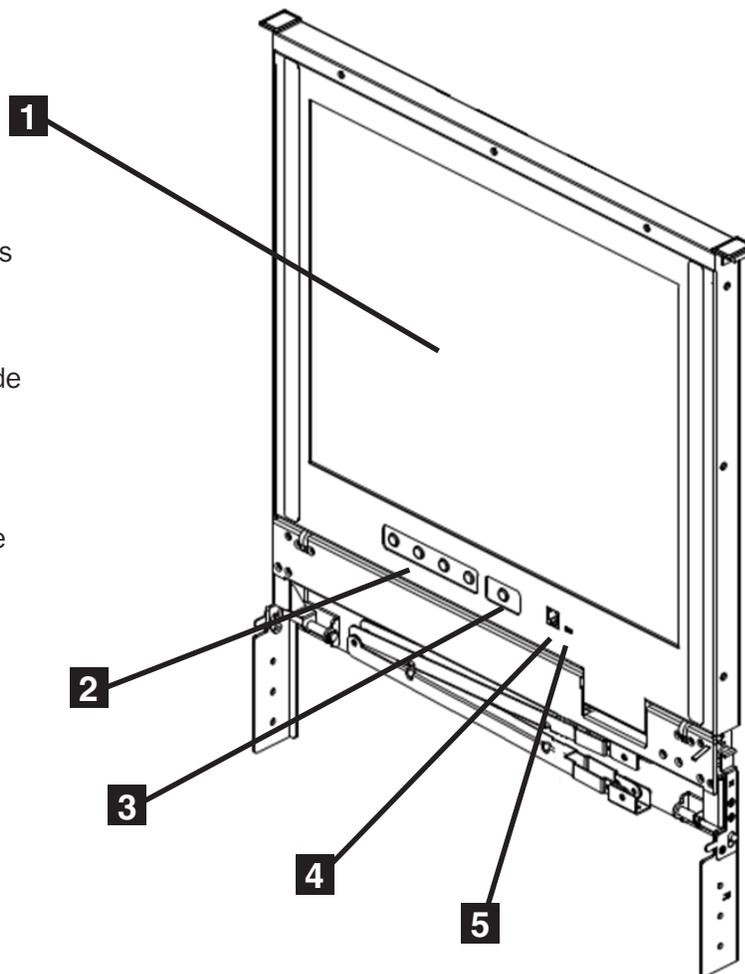
Rear View

1 **C14 Power Socket –** The included C13 to 5-15P power cord connects to the console here.

2 **Power Switch –** This is a standard power switch that turns the console off and on.

3 **External Console Ports –** A HD15 Female, MiniDin6 Female (x2) and USB A Female (x2) ports are available for connection of an external console. Note: An additional USB A Female port is located on the front of the keyboard module for convenient connection of an external mouse.

4 **Computer Port –** The included USB/PS2 combo KVM cable kit connects to the console here.

5 **Grounding Terminal –** The included grounding wire connects to the console here.
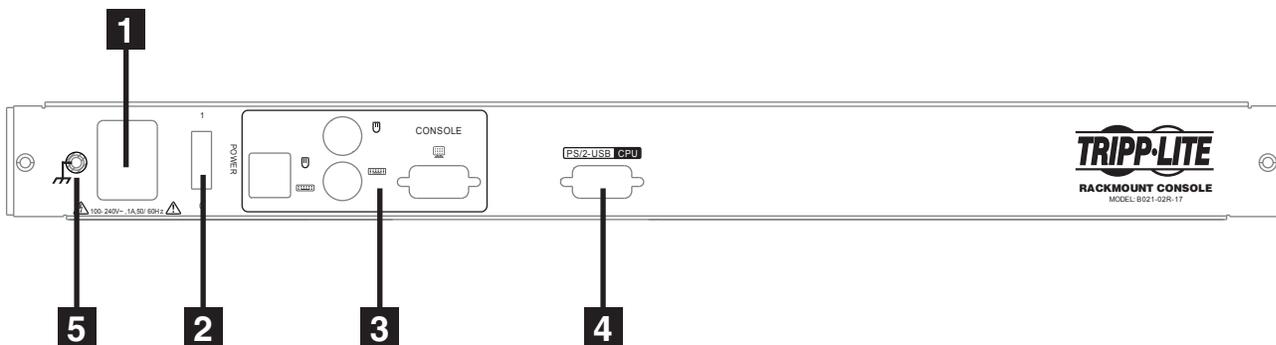
Hardware Setup

General Safety Instructions

- Read all of these instructions. Save them for future reference.

- Follow all warnings and instructions marked on the device.

- This equipment is not recommended for use in life support applications where equipment failure can reasonably be expected to cause failure in life support equipment or to significantly affect its safety or effectiveness. Do not use this equipment in the presence of a flammable anesthetic mixture with air, oxygen or nitrous oxide.

- This device is designed for IT power distribution systems with up to 230V phase-to-phase voltage.

- Do not place the device on any unstable surface (cart, stand, table, etc.). If the device falls, serious damage will result.

- Do not use the device near water.

- Do not place the device near or above radiators or heat registers.

- The device cabinet is provided with slots and openings to permit adequate ventilation. To ensure reliable operation and protect against overheating, these openings must never be blocked or covered.

- The device should not be placed on a soft surface (bed, sofa, rug, etc.), as this will block its ventilation openings. Likewise, the device should not be placed in a built-in enclosure unless adequate ventilation has been provided.

- Never spill liquid of any kind on the device.

- Unplug the device from the wall outlet before cleaning. Use a damp cloth for cleaning. Do not use liquid or aerosol cleaners.

- The device should be operated from the type of power source indicated on the marking label. If you are not sure of the type of power available, consult your dealer or local power company.

- To prevent damage to your installation, ensure that all devices are properly grounded.

- The device is equipped with a 3-wire grounding-type plug. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your outlet. Do not attempt to defeat the purpose of the grounding-type plug. Always follow your local/national wiring codes.

- Carefully position system cables and power cables to ensure that nothing rests on any cable. Route the power cord and cables so that they cannot be stepped on or tripped over.

- If an extension cord is used with this device, make sure that the total ampere rating of all products used on the cord does not exceed the extension cord ampere rating. Make sure that the total of all products plugged into the wall outlet does not exceed 15 amperes.

- To help protect your system from sudden transient increases and decreases in electrical power, it is recommended that you plug your devices into a Tripp Lite surge suppressor, line conditioner or uninterruptible power supply (UPS).

- When connecting or disconnecting power to hot-swappable power supplies, observe the following precautions:
    - o   Install the power supply before connecting the power cable to the power supply.
    - o   Unplug the power cable before removing the power supply.
    - o   If the system has multiple sources of power, disconnect power from the system by unplugging all power cables from the power supplies.
    - o   Never push objects of any kind into or through cabinet slots. They may touch dangerous voltage points or short out parts, resulting in a risk of fire or electrical shock.
    - o   Do not attempt to service the device yourself. Refer all servicing to qualified service personnel.

- If any of the following conditions occur, unplug the device from the wall outlet and bring it to qualified service personnel for repair.

    o   The power cord or plug has become damaged or frayed.

    o   Liquid has been spilled into the device.

    o   The device has been exposed to rain or water.

    o   The device has been dropped or the cabinet has been damaged.

    o   The device exhibits a distinct change in performance, indicating a need for service.

    o   The device does not operate normally when the operating instructions are followed.

- Adjust only those controls that are covered in the operating instructions. Improper adjustment of other controls may result in damage that will require extensive repair work by a qualified technician.

- Do not connect the RJ11 connector marked "UPGRADE" to a public telecommunications network

Rackmounting Safety Instructions

- Before working on the rack, make sure that the stabilizers are secured to the rack, extended to the floor, and that the full weight of the rack rests on the floor. Install front and side stabilizers on a single rack or front stabilizers for joined multiple racks before working on the rack.

- Always load the rack from the bottom up, and load the heaviest item in the rack first.

- Make sure that the rack is level and stable before extending a device from the rack.

- Use caution when pressing the device rail release latches and sliding a device into or out of a rack; the slide rails can pinch your fingers.

- After a device is inserted into the rack, carefully extend the rail into a locking position, and then slide the device into the rack.

- Do not overload the AC supply branch circuit that provides power to the rack. The total rack load should not exceed 80 percent of the branch circuit rating.

- Make sure that all equipment used on the rack, including power strips and other electrical connectors, is properly grounded.

- Ensure that proper airflow is provided for devices in the rack.

- Ensure that the operating ambient temperature of the rack environment does not exceed the maximum ambient temperature specified for the equipment by the manufacturer.

- Do not step on or stand on any device when servicing other devices in the rack.

- **Caution!** Slide/Rail mounted equipment (LCD KVM) is not to be used as a shelf or a workspace.

CAUTION!
Slide/rail-mounted
**equipment is not to be**
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Rackmounting

The B021-02R-17 is designed for mounting in a 1U rack system. The various mounting options are explained in the sections that follow.

Standard 4-Post Rackmounting

The standard rackmounting brackets that come attached to the B021-02R-17 allow the unit to be installed in standard 1U racks by a single individual.

1 Slide out the rear mounting brackets from the console and mount both brackets (separate from the console) to the inside rear of a standard 1U rack system using user-supplied screws.

2 Take the console and gently slide it into the two rear-mounted brackets in the rack and secure the console in place by inserting user-supplied screws.
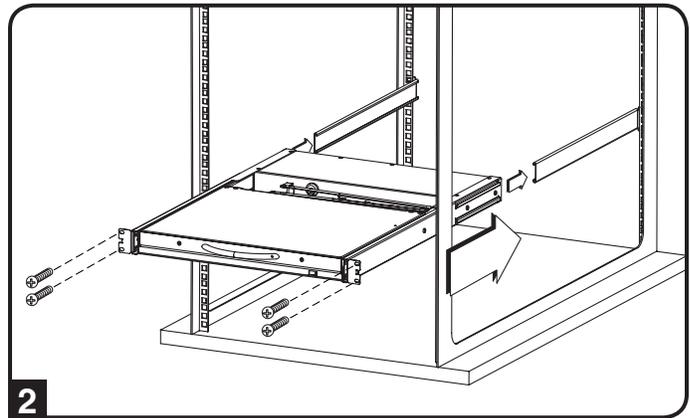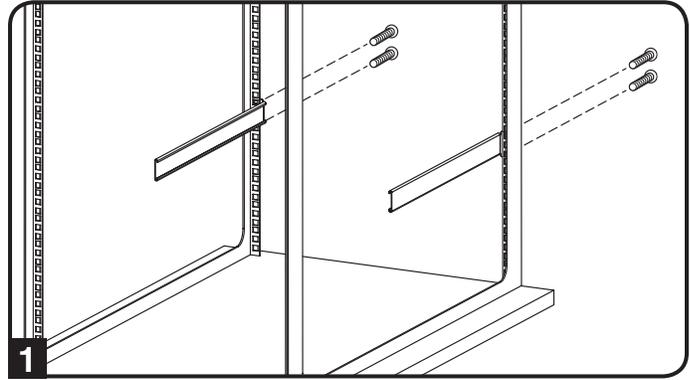
2-Post Rackmounting

The B021-02R-17 can also be mounted in a 2-post rack using the optional 2-Post Rackmount Kit (Model: B019-000). The mounting hardware allows for the console to be opened with the drawer in any position. The kit provides added stability and prevents the console frame from twisting. See the B019-000 Owner's Manual for detailed
mounting instructions.

Installation

1 Turn off the power to all devices that are being connected. You must unplug the power cord of any computer that has the Keyboard Power On function.

2 Connect the Yellow HD18 connector on the included KVM cable kit to the computer port on the back of the unit.

3 Connect the Blue HD15 connector on the included KVM cable kit to the HD15 port on your computer or KVM.

4 Connect the USB connector or PS/2 connectors on the included KVM cable kit to a USB port or the PS/2 ports on your computer or KVM.

5 If you are installing an external console, connect your external VGA monitor and USB or PS/2 keyboard and mouse to the external console ports on the unit.

6 Connect the included power cord from the console to a Tripp Lite Surge Suppressor, Power Distribution Unit (PDU) or Uninterruptible Power Supply (UPS).

7 Turn on the power to the console.

8 Turn on the power to the connected computer or KVM.

Operation

This section covers the operation of the console; opening/closing the LCD and Keyboard modules, hot plugging, hotkeys, etc.

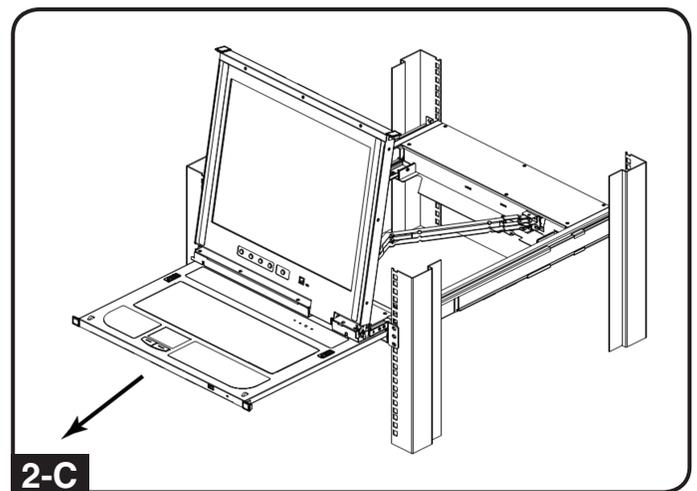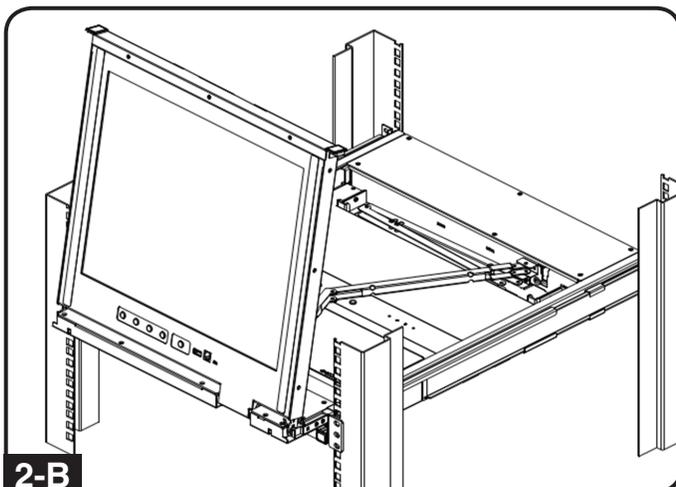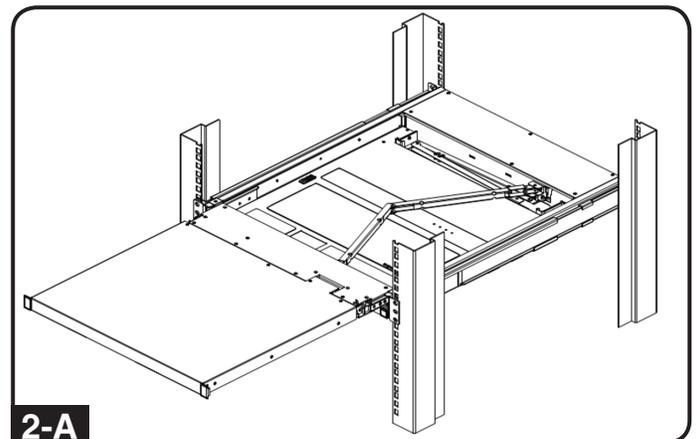## Opening and Closing the Console Modules

The B021-02R-17 features dual rail technology, which allows the LCD module to slide independently of the keyboard module, letting you slide the keyboard module back into the rack while leaving the LCD module open for monitoring the connected computer or KVM. This section describes how to open and close each module. Note: The maximum load bearing capacity of the keyboard module is 66 lbs. (30 kg.). Do not lean your body weight on the keyboard module, or place heavy objects on it.

Opening the Console Modules

1 The console modules can be opened together or separately. To open the console modules, simply slide the console release tabs inward, and then slide the modules out of the rack until they lock into place.
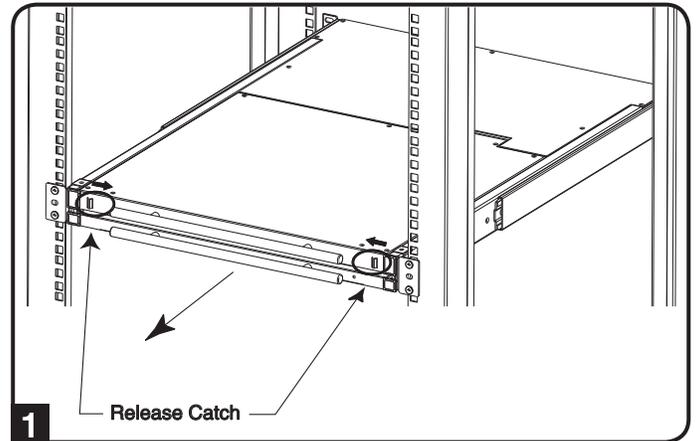

2 The LCD module extends further than the keyboard module, so if you open both at the same time, pull them until the keyboard module locks into place, and then pull the LCD module separately until it locks into place. When the LCD module is locked into place, rotate it all the way back so that the LCD is displayed.

Closing the Console Modules

1 To close the keyboard module, slide the release catches on both sides of the unit forward and push the keyboard module into the rack.
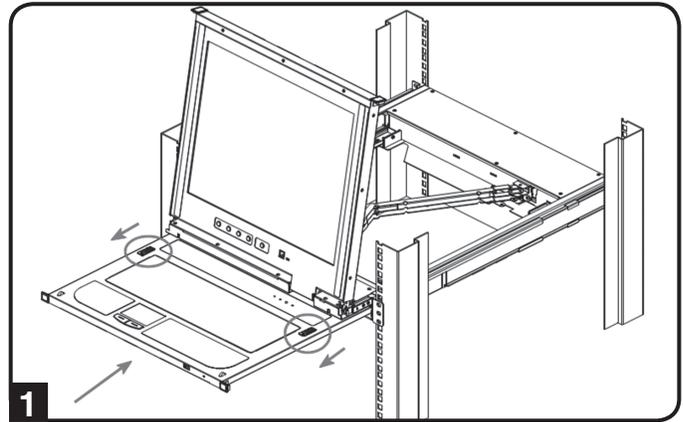
2 You can let go of the release catches once the unit has been pushed forward, and slide the unit the rest of the way into the rack.
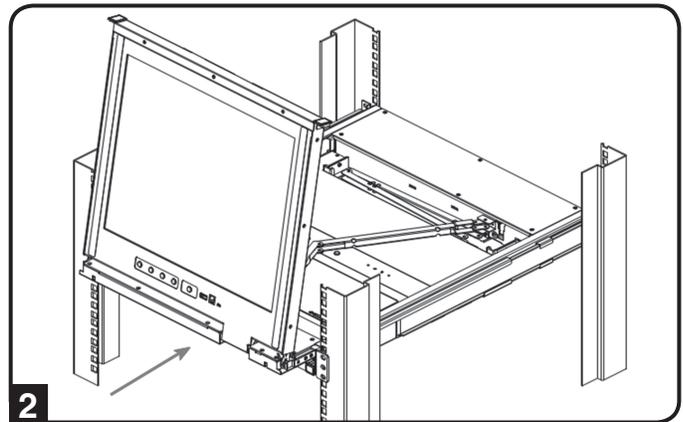
3 To close the LCD module, rotate the display all the way down, and then pull the release catches on each side of the unit forward.
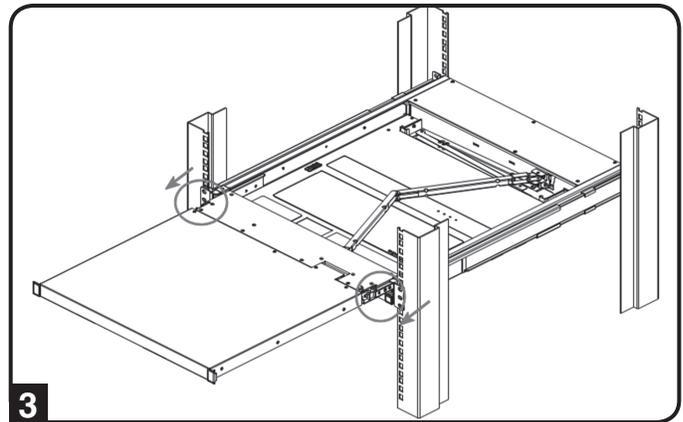
4 Push the module all the way into the rack.

Hot-Swapping

The B021-02R-17 supports hot-swapping, allowing components to be connected and disconnected without having to shut down the console.

Hotkey Commands

The hotkey commands in the table below are available for controlling the console. Each key in the hotkey command must be pressed one at a time.
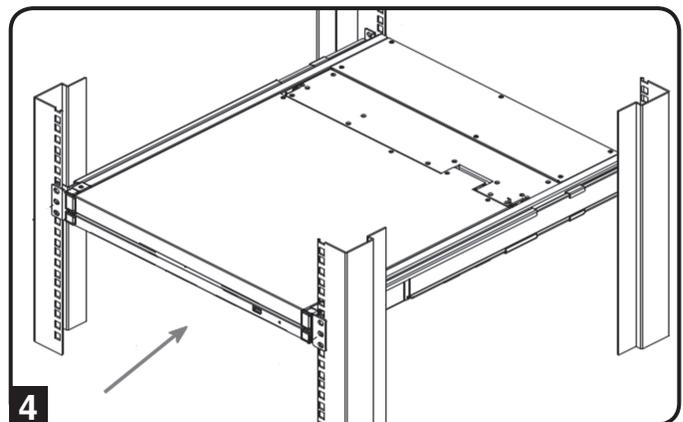
Hotkey	Description
[Ctrl], [Alt], [Shift], [p], [c], [Enter]	This is the default computer setting for the console. It should be selected when connecting anything other than a Sun computer.
[Ctrl], [Alt], [Shift], [s], [u], [n], [Enter]	When a Sun computer is connected, use this setting for optimal compatibility.
[Ctrl], [Alt], [Shift], [u], [p], [g], [r], [a], [d], [e], [Enter]	Activates firmware upgrade mode. (See Firmware Upgrade on page 12 for details)
[Ctrl], [Alt], [Shift], [l], [Enter]	Enables access to the connected computer/KVM via the built-in (local) console only. Access via the external (remote) console is disabled.
[Ctrl], [Alt], [Shift], [r], [Enter]	Enables access to the connected computer/KVM via the external (remote) console only. Access via the built-in (local) console is disabled.
[Ctrl], [Alt], [Shift], [l], [r], [Enter] or [Ctrl], [Alt], [Shift], [r], [l], [Enter]	Enables access to the connected computer/KVM via either the built-in (local) or external (remote) console. This is the default setting.

Note:

1. *Console hotkey settings are not stored indefinitely. If the console is powered off, it will revert to the default settings when powered back on.*

2. *If the console is connected to a KVM switch that uses the hotkey combination [Ctrl], [Alt], [Shift], you will not be able to access that KVMs hotkey commands. The console will recognize the [Ctrl], [Alt], [Shift] combination as its own hotkey sequence.*

Firmware Upgrade

As firmware upgrade files become available, they can be found at www.tripplite.com/support. A single upgrade file contains both the Windows-based Firmware Upgrade Utility and the Firmware Upgrade file. To upgrade the firmware of your console, follow the steps below:

1 From a computer that is not connected to your console, go to www.tripplite.com/support to obtain the firmware upgrade file, and save it to your computer.

2 Using the firmware upgrade cable that came with the unit, connect the cable from the RJ11 firmware upgrade port on the LCD panel of the console to a DB9 Serial port on the computer you saved the firmware to.

3 Invoke Firmware Upgrade Mode using the hotkey command mentioned in the table on page 11. ([Ctrl], [Alt], [Shift], [u], [p], [g], [r], [a], [d], [e], [Enter]) The firmware upgrade recovery switch (see page 5 for details) must be in the Normal position to use this hotkey command. You can also enter firmware upgrade mode using the steps outlined in the Firmware Upgrade Recovery section on page 13. When in firmware upgrade mode, the screen will be black and the [Num Lock], [Caps Lock] and [Scroll Lock] LEDs will flash on and off.

4 On the computer the firmware upgrade file is saved to, run the Firmware Upgrade Utility file by double-clicking on it or by opening up a command line and typing in the path to it.

5 After reading the license agreement, click on the I Agree option and click Next. The Firmware Upgrade Utility main screen appears and the utility searches for and displays all upgradeable devices.

6 If you want the Firmware Upgrade Utility to check the firmware version to see if it is older/newer than the firmware upgrade file, check the Check Firmware Version box in the lower-left corner of the screen. If you want the Firmware Upgrade Utility to upload the firmware upgrade file without checking the KVM's firmware version, leave this box unchecked. Click Next.

7 If the Check Firmware Version box is checked, and the Firmware Upgrade Utility finds the KVM's firmware is newer than that of the firmware upgrade file, you will be prompted to continue or cancel. Once the firmware upgrade starts, status messages appear in the Status Message panel and progress toward completion is shown in the Progress Bar. When the upgrade is complete, the Status Message panel will inform you that the firmware upgrade was OK. At this point, click Finish to complete the firmware upgrade.

Firmware Upgrade continued
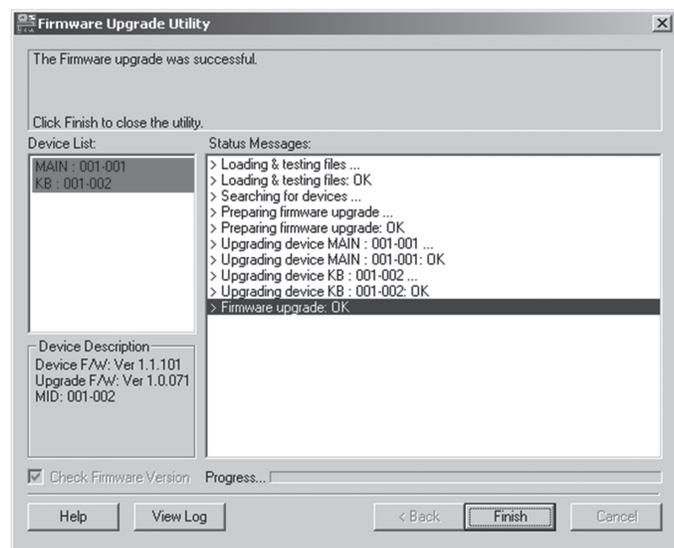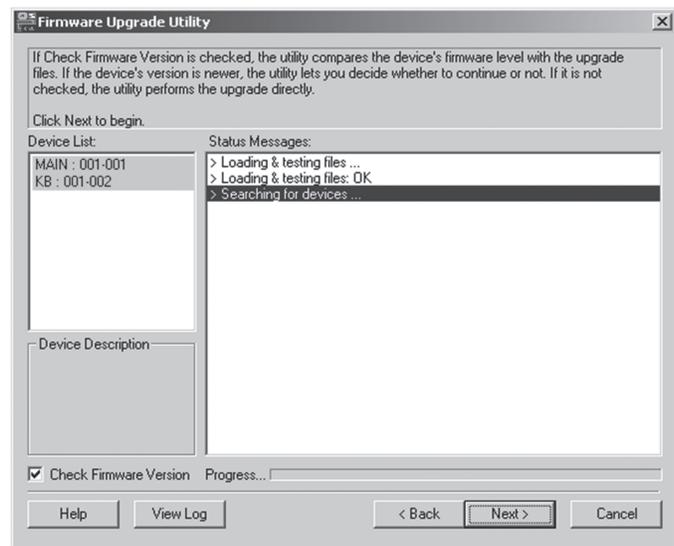
Firmware Upgrade Failed

In the event of an upgrade failure, the Status Messages panel will display a message that says the upgrade failed, and a dialog box will appear asking if you wish to retry the firmware upgrade. Click Yes to retry the firmware upgrade, or No to cancel and proceed to a firmware upgrade recovery.

Firmware Upgrade Recovery

If you are unable to successfully upgrade your firmware, you may not be able to operate the console. If this is the case, follow the procedure below to recover from a firmware upgrade failure.

1 Slide the firmware upgrade recovery switch on the LCD panel of the unit to the Recover position.

2 Power off and restart the KVM switch.

3 Connect the included firmware upgrade cable from the RJ11 firmware upgrade port on the LCD panel of the switch to a DB9 Serial port on the computer you saved the firmware to.

4 Proceed with the firmware upgrade starting with step 4 in the Firmware Upgrade section. (See page 12 for details.)

5 When the upgrade is complete, power off the console. Slide the firmware upgrade recovery switch to the Normal position and then power on the console.

Appendix

Sun Keyboard Emulation

The PC compatible keyboard can emulate the functions of the Sun keyboard using the PC keystrokes in the table below. Note: When more than one key is required on the PC Keyboard to emulate the Sun keyboard, press and release the first key, and then press and release the second key.

PC Keyboard	Sun Keyboard
[Ctrl], [T]	[Stop]
[Ctrl], [F2]	[Again]
[Ctrl], [F3]	[Props]
[Ctrl], [F4]	[Undo]
[Ctrl], [F5]	[Front]
[Ctrl], [F6]	[Copy]
[Ctrl], [F7]	[Open]
[Ctrl], [F8]	[Paste]
[Ctrl], [F9]	[Find]
[Ctrl], [F10]	[Cut]
[Ctrl], [1]	▭ 🔇
[Ctrl], [2]	◑- 🔉
[Ctrl], [3]	◑+ 🔊
[Ctrl], [4]	🌙
[Ctrl], [H]	[Help]
🖹	[Compose]
⊞	◇

Specifications

Feature	Specification
Form Factor	1U Rackmount
Console Port	HD15 Female, USB A Female (x2), MiniDIN6 Female (x2)
Computer/KVM Monitor Connection	HD15 Male (via included KVM cable kit)
Computer/KVM Keyboard and Mouse Connectors	USB A Male (x1), MiniDIN6 Male (x2) (via included KVM cable kit)
Power Jack	IEC-320-C14
I/P Rating	100-240V, 50/60Hz, 1A
Power Consumption	29.6W
On/Off Power Switch	Yes
Reset Button	Yes
Keyboard/Mouse Emulation	PS/2, USB
Max Video Resolution	1280 x 1024 @ 75Hz, DDC2B
Operating Temperature	0° to 40° C (32° to 104° F)
Storage Temperature	-20° to 60° C (-4° to 140° F)
Humidity	0 to 90% RH, Non-Condensing
Unit Dimensions (H x W x D, In)	1.73 x 19 x 22.8
Unit Weight (Lbs)	35

Technical Support

Website: www.tripplite.com/support • E-mail: techsupport@tripplite.com

Warranty and Warranty Registration

LIMITED WARRANTY

Seller warrants this product, if used in accordance with all applicable instructions, to be free from original defects in material and workmanship for a period of 2 years from the date of initial purchase. If the product should prove defective in material or workmanship within that period, Seller will repair or replace the product, in its sole discretion. Service under this Warranty can only be obtained by your delivering or shipping the product (with all shipping or delivery charges prepaid) to: Tripp Lite, 1111 W. 35th Street, Chicago, IL 60609 USA. Seller will pay return shipping charges. Visit www.tripplite.com/support before sending any equipment back for repair.

THIS WARRANTY DOES NOT APPLY TO NORMAL WEAR OR TO DAMAGE RESULTING FROM ACCIDENT, MISUSE, ABUSE OR NEGLECT. SELLER MAKES NO EXPRESS WARRANTIES OTHER THAN THE WARRANTY EXPRESSLY SET FORTH HEREIN. EXCEPT TO THE EXTENT PROHIBITED BY APPLICABLE LAW, ALL IMPLIED WARRANTIES, INCLUDING ALL WARRANTIES OF MERCHANTABILITY OR FITNESS, ARE LIMITED IN DURATION TO THE WARRANTY PERIOD SET FORTH ABOVE; AND THIS WARRANTY EXPRESSLY EXCLUDES ALL INCIDENTAL AND CONSEQUENTIAL DAMAGES. (Some states do not allow limitations on how long an implied warranty lasts, and some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions may not apply to you. This Warranty gives you specific legal rights, and you may have other rights which vary from jurisdiction to jurisdiction).

WARNING: The individual user should take care to determine prior to use whether this device is suitable, adequate or safe for the use intended. Since individual applications are subject to great variation, the manufacturer makes no representation or warranty as to the suitability or fitness of these devices for any specific application.

Service

Your Tripp Lite product is covered by the warranty described in this manual. A variety of Extended Warranty and On-Site Service Programs are also available from Tripp Lite. For more information on service, visit www.tripplite.com/support. Before returning your product for service, follow these steps:

1. Review the installation and operation procedures in this manual to insure that the service problem does not originate from a misreading of the instructions.

2. If the problem continues, do not contact or return the product to the dealer. Instead, visit www.tripplite.com/support.

3. If the problem requires service, visit www.tripplite.com/support and click the Product Returns link. From here you can request a Returned Material Authorization (RMA) number, which is required for service. This simple on-line form will ask for your unit's model and serial numbers, along with other general purchaser information. The RMA number, along with shipping instructions will be emailed to you. Any damages (direct, indirect, special or consequential) to the product incurred during shipment to Tripp Lite or an authorized Tripp Lite service center is not covered under warranty. Products shipped to Tripp Lite or an authorized Tripp Lite service center must have transportation charges prepaid. Mark the RMA number on the outside of the package. If the product is within its warranty period, enclose a copy of your sales receipt. Return the product for service using an insured carrier to the address given to you when you request the RMA.

WARRANTY REGISTRATION

Visit www.tripplite.com/warranty today to register the warranty for your new Tripp Lite product. You'll be automatically entered into a drawing for a chance to win a FREE Tripp Lite product!*

* No purchase necessary. Void where prohibited. Some restrictions apply. See website for details.

FCC Notice, Class A

This device complies with part 15 of the FCC Rules. Operation is subject to the following two 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.

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense. The user must use shielded cables and connectors with this equipment. Any changes or modifications to this equipment not expressly approved by Tripp Lite could void the user's authority to operate this equipment.

Regulatory Compliance Identification Numbers

For the purpose of regulatory compliance certifications and identification, your Tripp Lite product has been assigned a unique series number. The series number can be found on the product nameplate label, along with all required approval markings and information. When requesting compliance information for this product, always refer to the series number. The series number should not be confused with the marking name or model number of the product.

WEEE Compliance Information for Tripp Lite Customers and Recyclers (European Union)

Under the Waste Electrical and Electronic Equipment (WEEE) Directive and implementing regulations, when customers buy new electrical and electronic equipment from Tripp Lite they are entitled to:

• Send old equipment for recycling on a one-for-one, like-for-like basis (this varies depending on the country)

• Send the new equipment back for recycling when this ultimately becomes waste

Tripp Lite follows a policy of continuous improvement. Specifications are subject to change without notice.

TRIPP·LITE

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