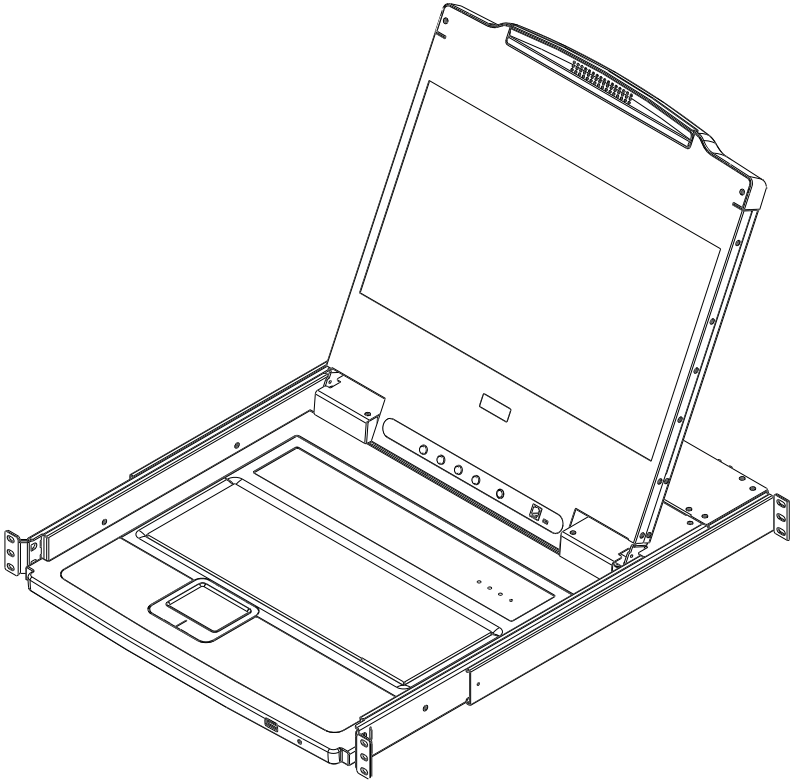


USER MANUAL  
**RM-KB-LCD17HD**  
RACKMOUNT LCD KEYBOARD



  
Middle Atlantic Products

I-00711 Rev -

## FCC, CE Information

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**FEDERAL COMMUNICATIONS COMMISSION INTERFERENCE STATEMENT:** 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.

**FCC Caution:** Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

**CE Warning:** This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

## RoHS

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This product is RoHS compliant.

## Telephone Support

---

Corporate Headquarters

Corporate Voice 973-839-1011 - Fax 973-839-1976 / International Voice +1 973-839-8821 - Fax +1 973-839-4982

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## User Notice

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All information, documentation, and specifications contained in this manual are subject to change without prior notification by the manufacturer. The manufacturer makes no representations or warranties, either expressed or implied, with respect to the contents hereof and specifically disclaims any warranties as to merchantability or fitness for any particular purpose. Any of the manufacturer's software described in this manual is sold or licensed *as is*. Should the programs prove defective following their purchase, the buyer (and not the manufacturer, its distributor, or its dealer), assumes the entire cost of all necessary servicing, repair and any incidental or consequential damages resulting from any defect in the software.

The manufacturer of this system is not responsible for any radio and/or TV interference caused by unauthorized modifications to this device. It is the responsibility of the user to correct such interference.

The manufacturer is not responsible for any damage incurred in the operation of this system if the correct operational voltage setting was not selected prior to operation. **PLEASE VERIFY THAT THE VOLTAGE SETTING IS CORRECT BEFORE USE.**

A typical LCD (Liquid Crystal Display) monitor has millions of pixels. A dead pixel refers to a pixel with a defect in its ability to display the correct color output. It most often looks like a tiny black or white spot on your screen, although it can be any other color. Since even a tiny dust particle on one of the pixels during the manufacturing process or a slight bump during shipping can create a dead pixel, the ISO 13406-2 norm defines 4 classes of acceptable screens with dead pixels--Class 1 is the best; Class 4 is the worst. Almost all manufacturers use Class 2 to establish their warranties, which allows a certain amount of dead pixels to exist before they will replace the screen. Since the manufacturers consider these screens to be acceptable under ISO specifications, we cannot be responsible for replacement or warranty of the TFT LCD panel.

## **Package Contents**

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### **Basic Package**

The basic RM-KB-LCD17HD package consists of:

- 1 RM-KB-LCD17HD Rackmount LCD Keyboard with Standard Rack Mount Kit
- 1 Custom USB DVI KVM Cable Set
- 1 Power Cord
- 1 Firmware Upgrade Cable
- 1 User Instructions\*

Check to make sure that all of the components are present and in good order. If anything is missing, or was damaged in shipping, contact your dealer.

Read this manual thoroughly and follow the installation and operation procedures carefully to prevent any damage to the console or to any other devices on the RM-KB-LCD17HD installation.

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\* Changes may have been made to the manual since it was published. Please visit our web site to download the most up-to-date version of the manual

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## About this Manual

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This User Manual is provided to help you get the most from your RM-KB-LCD17HD system. It covers all aspects of installation, configuration and operation. An overview of the information found in the manual is provided below.

### Overview

**Chapter 1, Introduction**, introduces you to the RM-KB-LCD17HD, its purpose, features and benefits are presented, and its components are described.

**Chapter 2, Hardware Setup**, provides step-by-step instructions for setting up your installation, and explains some basic operation procedures.

**Chapter 3, Operation**, describes the fundamental concepts involved in operating the RM-KB-LCD17HD.


**Chapter 4, Firmware Upgrade**, explains how to upgrade the RM-KB-LCD17HD's firmware with the latest available versions.

**An Appendix**, provides specifications and other technical information regarding the RM-KB-LCD17HD.

## Conventions

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This manual uses the following conventions:

- `Monospaced` Indicates text that you should key in.
- [ ] Indicates keys you should press. For example, [Enter] means to press the **Enter** key. If keys need to be chorded, they appear together in the same bracket with a plus sign between them: [Ctrl+Alt].
  - 1. Numbered lists represent procedures with sequential steps.
  - ◆ Bullet lists provide information, but do not involve sequential steps.
  - Indicates selecting the option (on a menu or dialog box, for example), that comes next. For example, Start → Run means to open the *Start* menu, and then select *Run*.
  -  Indicates critical information.

# Chapter 1

## Introduction

### Overview

---

The RM-KB-LCD17HD DVI Full HD LCD Console features a 17.3" HD widescreen with integrated keyboard and touchpad in a 1U rack-mountable sliding housing. The RM-KB-LCD17HD provides front end access to compatible KVM switches and utilizes space by closing flat and sliding into the rack. The rail design allows the LCD monitor, keyboard and touchpad to operate independently of each other. In addition, ports for an external USB keyboard and mouse as well as a monitor are provided on the rear panel.

The RM-KB-LCD17HD features DVI, HDMI, and VGA ports for the KVM switch and external console's video connection. This added convenience provides three video options for both the external console and KVM switch connection. The RM-KB-LCD17HD also includes two mini stereo ports for connecting audio speakers.

Server rooms already installed with compatible KVM switches will have the advantage of easy LCD access, an additional KVM console, and a built-in space saving sliding module, without having to purchase a new KVM switch.

The RM-KB-LCD17HD's firmware is upgradable, so you can stay current with the latest updates by downloading them from the Middle Atlantic Products website. Setup is fast and easy. Simply use the custom cables included with your device to connect the RM-KB-LCD17HD to the console ports of your KVM switch and you are ready to go!

## Features

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- ◆ Integrated KVM console with a 17.3" Widescreen DVI Full HD LCD monitor
- ◆ Supports an external console with DVI / VGA / HDMI video ports
- ◆ Superior video quality – up to 1920 x 1080 @60Hz; DDC, DDC2, DDC2B
- ◆ Adjustable depth to fit within the rack
- ◆ Audio support for connecting speakers
- ◆ Standard 105-key keyboard; Sun keyboard emulation
- ◆ Multiplatform support – Windows, Linux, Mac, and Sun
- ◆ Firmware upgradeable
- ◆ DDC emulation – video settings of attached computers are automatically adjusted for optimal output to the monitor

## Requirements

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### LCD Console

- ◆ The integrated LCD monitor's maximum resolution is 1920 x 1080 @60Hz. Make sure that none of the resolution settings of the connected computers exceed the LCD monitor's maximum resolution.

### External Console

- ◆ A VGA, SVGA, MultiSync, DVI, or HDMI monitor capable of displaying the highest resolution provided by any computer in the installation
- ◆ USB keyboard and mouse

## **Operating Systems**

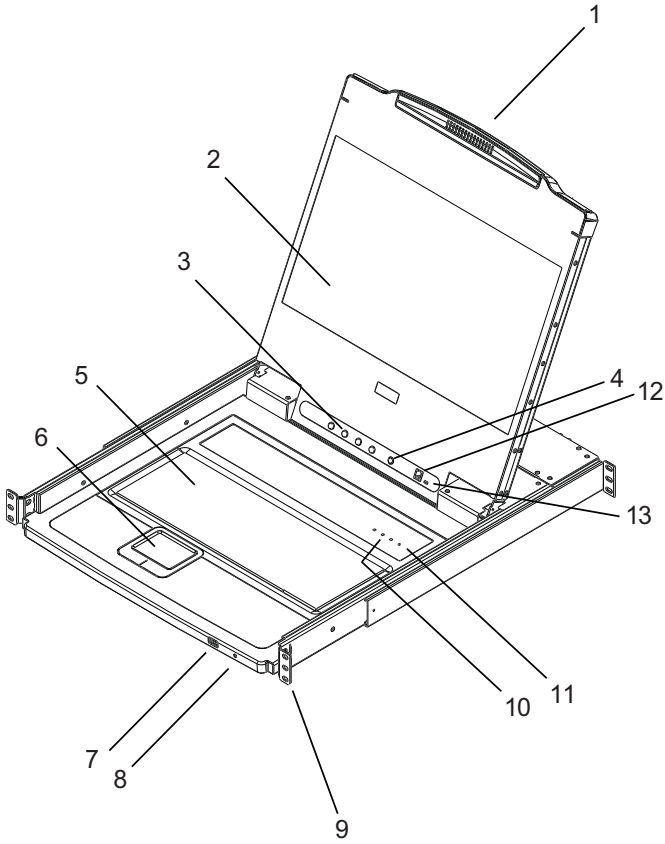
Supported operating systems are shown in the table, below.

<b>OS</b>		<b>Version</b>
Windows		NT and higher
Linux	RedHat	9.0 and higher
	SuSE	10 and higher
	Mandriva (Mandrake)	9.0 and higher
UNIX	AIX	4.3 and higher
	FreeBSD	5.5 and higher
	Sun	Solaris 8 and higher
Novell	Netware	5.0 and higher
Mac		9.0 and higher
DOS		6.2 and higher

# Components

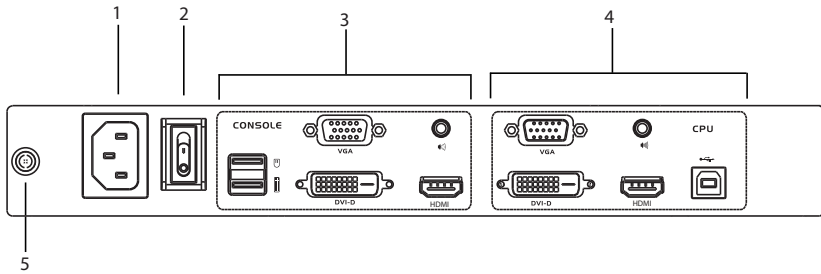
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## Front View



No.	Component	Description
1	Upper Handle	Pull to slide the LCD module out; push to slide it in. See <i>Operating Precautions</i> , page 13, for details on sliding the console in and out
2	LCD Module	After sliding the LCD module out, flip up the cover to access the LCD display.
3	LCD Controls	The buttons to control the position and picture settings of the LCD display are located here. See page 14, for details.
4	LCD On / Off Button	Push this button to turn the LCD monitor on and off. The button lights when the LCD monitor is off. <b>Note:</b> The light indicates that only the monitor is off, not the attached KVM switch.
5	Keyboard Module	Standard 105-key keyboard
6	Touchpad	Standard mouse touchpad
7	USB Port	The USB port is available to connect a USB peripheral device (flash drive, CD-ROM drive, etc.) to the console, or a USB mouse for users who prefer to use an external mouse.
8	Power LED	Lights (green) to indicate that the unit is receiving power.
9	Rack Mounting Tabs	Rack mounting tabs are located at each corner of the unit.
10	Lock LEDs	The Num Lock, Caps Lock, Scroll Lock LEDs are located here.
11	Reset Switch	Located to the right of the Lock LEDs. Press this recessed switch in with a thin object to perform a system reset.
12	Firmware Upgrade Port	The firmware upgrade cable that transfers the firmware upgrade data from the administrator's computer plugs into this RJ-11 connector.
13	Firmware Upgrade Switch	During normal operation and while performing a firmware upgrade, this switch should be in the NORMAL position. If a firmware upgrade operation does not complete successfully, this switch is used to perform a firmware upgrade recovery. See <i>Firmware Upgrade Recovery</i> , page 24, for details.

## Rear View



No.	Component	Description
1	Power Socket	This is a standard 3 prong AC power socket. The power cord from an AC source plugs in here.
2	Power Switch	This is a standard rocker switch that powers the RM-KB-LCD17HD on and off.
3	External Console Section	For flexibility and convenience, the RM-KB-LCD17HD supports an independent, external, KVM console. The external console's USB keyboard and mouse, DVI, VGA, or HDMI monitor, and audio cables plug in here.
4	KVM Port Section	The custom KVM cable supplied with the package for linking the RM-KB-LCD17HD to a computer or switch plugs in here. An additional HDMI and VGA port are provided.
5	Grounding Terminal	The grounding wire (used to ground the unit) attaches here.

## Chapter 2

# Hardware Setup

### Before you Begin

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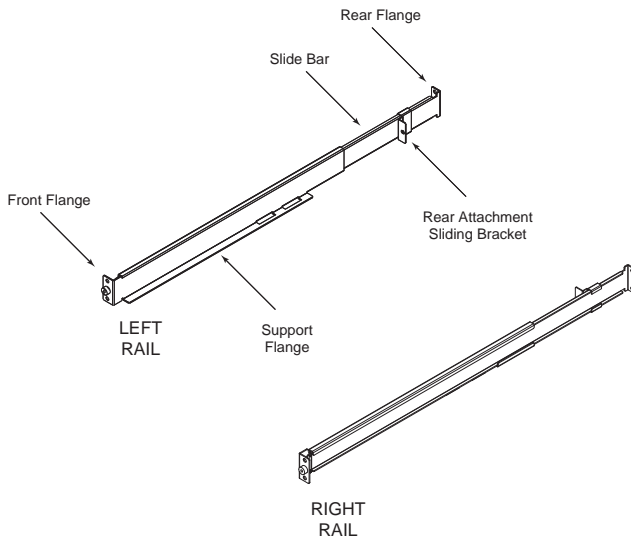


1. Important safety information regarding the placement of this device is provided on page 25. Please review it before proceeding.
2. Make sure that power to all the devices you will be connecting up has been turned off. You must unplug the power cords of any computers that have the Keyboard Power On function.

### Rack Mounting

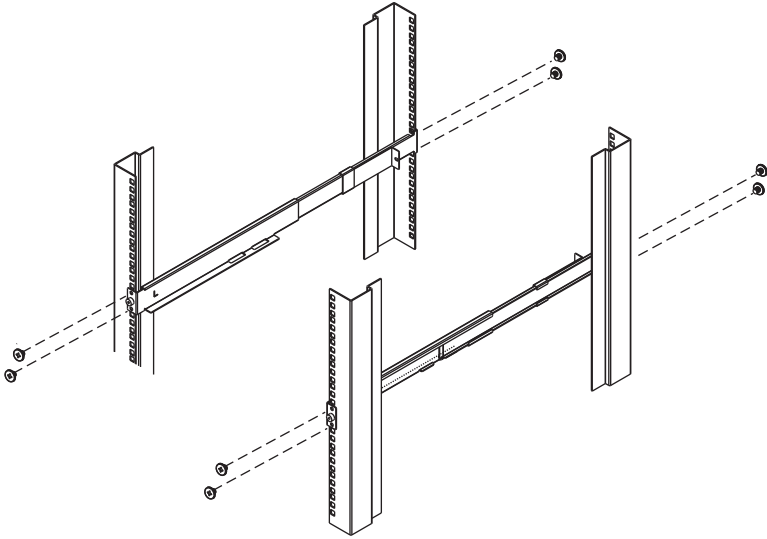
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1. Loosen ground screw prior to mounting. When unit is fully installed, tighten ground screw.
2. Attach the left and right mounting rails to the inside of the rack. The flange that supports the unit will be to the inside.

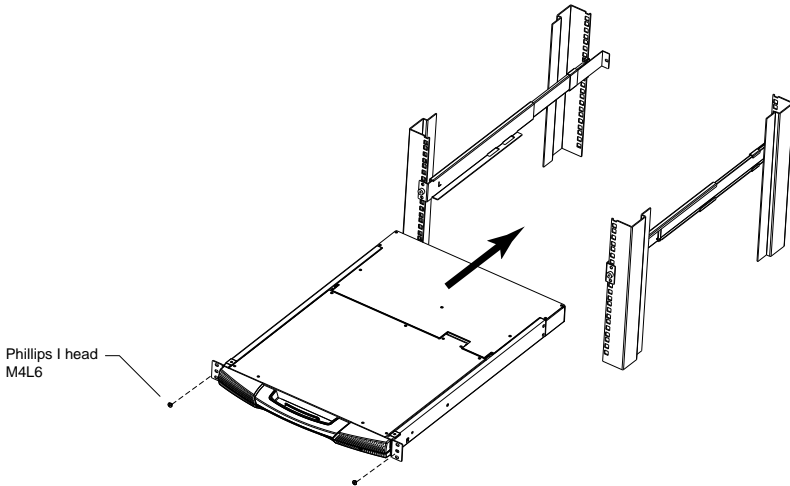


- a) Screw the front flanges to the rack first.

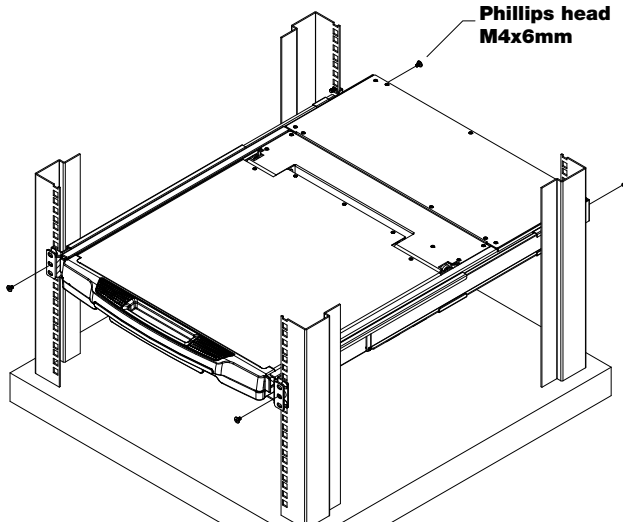
- b) Slide the bars with the rear flanges toward the rack until the flanges make contact with the rack, then screw the rear flanges to the rack.



3. Slide the RM-KB-LCD17HD onto the support flanges. Use the screws supplied with this package to loosely attach the front of the RM-KB-LCD17HD to the front of the rack (only tighten the screws part way).



- Slide the rear attachment sliding brackets along the slide bars until they contact the rear of the RM-KB-LCD17HD, then use the screws supplied with this package to attach the bars to the rear of the RM-KB-LCD17HD (tighten the screws all the way).



- Slide the RM-KB-LCD17HD open and closed a couple of times to be sure that it is properly aligned and operating smoothly.
- After determining that the RM-KB-LCD17HD is lined up and operating correctly, finish by fully tightening the front attachment screws inserted in Step 3.

## Connecting Up

---

Refer to the example installation diagram as you perform the following steps:

1. Plug the USB; then DVI, VGA, or HDMI, and audio connectors of a KVM cable (either supplied with the unit, or purchased separately, see *Operating Systems*, page 3) into the CPU port on the rear of the RM-KB-LCD17HD.

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**Note:** The RM-KB-LCD17HD supports speakers only. It does not support a microphone. Connect the KVM cable's speaker jack (green) to the RM-KB-LCD17HD's audio port.

---

2. Plug the keyboard, monitor, mouse and audio connectors of the KVM cable into their respective ports in the Console Section of a KVM switch or computer.
3. If you are installing an external console, plug your keyboard, monitor, mouse and speakers into their respective ports in the Console Section of the RM-KB-LCD17HD.

---

**Note:** The RM-KB-LCD17HD supports a DVI, VGA or HDMI external console monitor, but only one video signal (DVI-D, VGA, or HDMI) can be displayed at a time. The DVI monitor will display a DVI-D signal only.

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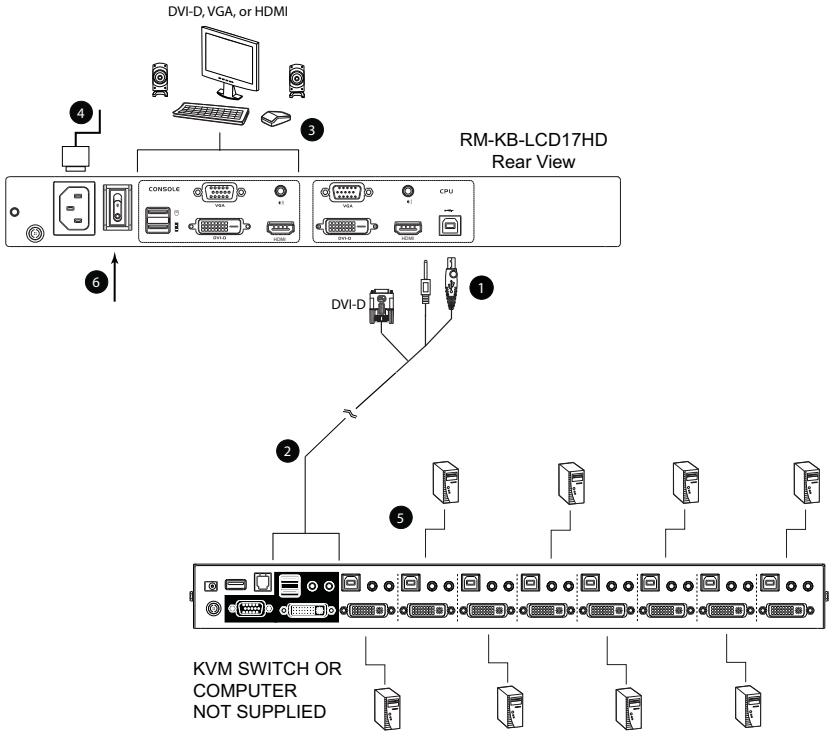
4. Plug the RM-KB-LCD17HD's power cord into the RM-KB-LCD17HD's power socket and into a power source.
5. Power up your KVM installation.
6. Turn on the power to LCD Console.

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**Note:** Input source must match output source.

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## Installation Diagram



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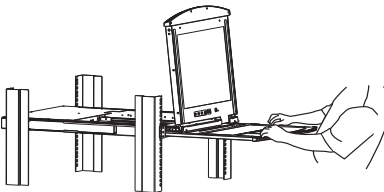
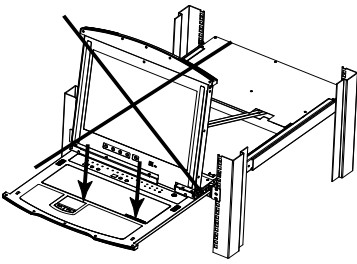
# Chapter 3

## Operation

### Operating Precautions





The maximum load bearing capacity of the keyboard module is 66 lbs. (30 kg) Failure to heed the information below can result in damage to the keyboard module.

	<p><b>Right!</b></p> <p>Rest your hands and arms lightly on the keyboard module as you work.</p>
	<p><b>Wrong!</b></p> <ul style="list-style-type: none"><li>◆ <b>DO NOT</b> lean your body weight on the keyboard module.</li><li>◆ <b>DO NOT</b> place heavy objects on the keyboard module.</li></ul>

## LCD OSD Configuration

### The LCD Buttons

The LCD OSD allows you to set up and configure the LCD display. Four buttons are used to perform the configuration, as described in the table, below:

Button	Function
MENU	<ul style="list-style-type: none"> <li>◆ When you have not entered the LCD OSD Menu function, pressing this button invokes the Menu function, and brings up the Main Menu.</li> <li>◆ When you have entered the LCD OSD Menu function, and have reached a setting choice with the navigation buttons, pressing this button brings up its adjustment screen.</li> </ul>
	When navigating through the menus, this button moves you Right or Up. When making an adjustment, it increases the value.
	When navigating through the menus, this button moves you Left or Down. When making an adjustment, it decreases the value.
EXIT	<ul style="list-style-type: none"> <li>◆ When you have not entered the LCD OSD Menu function, pressing this button performs an auto adjustment. An auto adjustment automatically configures all the settings for the LCD panel to what the OSD considers their optimum values to be.</li> <li>◆ When you have entered the LCD OSD Menu function, pressing this button exits the current menu and returns you to the previous menu. Use it to leave an adjustment menu when you are satisfied with the adjustment you made.</li> <li>◆ When you are at the Main Menu, pressing this button exits the LCD OSD.</li> </ul>

### The Adjustment Settings

An explanation of the LED OSD adjustment settings is given in the table below:

Setting	Explanation
Brightness	Adjusts the background black level of the screen image.
Contrast	Adjusts the foreground white level of the screen image.
Phase	If pixel jitter or horizontal line noise is visible on the display, your LED may have the wrong phase setting. Adjust the phase setting to eliminate these problems.
Clock	If vertical banding is visible on the display, your LED may have the wrong clock setting. Adjust the clock setting to eliminate vertical banding.
H-Position	Positions the display area on the LED panel horizontally (moves the display area left or right).

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Setting	Explanation
V-Position	Positions the display area on the LED panel vertically (moves the display area up or down).
Color Temperature	Adjusts the color quality of the display. You can adjust the warmth value, color balance, etc. The <i>Adjust Color</i> selection has a further submenu that lets you fine tune the RGB values.
Language	Selects the language that the OSD displays its menus in.
OSD Duration	Lets you set the amount of time the OSD displays on the screen. If there is no input for the amount of time you choose, the OSD display turns off.
Reset	Resets the adjustments on all menus and submenus to their factory default settings. <b>Note:</b> The <i>Language</i> setting does not return to the factory default, but remains at the one that you have set it to.

---

## Hot Plugging

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The RM-KB-LCD17HD supports *hot plugging* – components can be removed and added to the console by unplugging their cables from the ports without the need to shut down the RM-KB-LCD17HD.

## Powering Off and Restarting

---

If it becomes necessary to Power Off the RM-KB-LCD17HD (to upgrade the firmware, for example), simply turn off the power to the unit using the rear panel power switch. To restart the RM-KB-LCD17HD, turn the rear panel power switch back on.

## Port ID Numbering & Port Selection

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Port ID numbering and Port Selection follow the method used by the KVM switch connected to the RM-KB-LCD17HD. Consult your KVM switch's User Manual for details.

## Hotkeys

Console selection is accomplished with the following hotkey combinations:

Combination	Action	Beeps	LEDs
[Ctrl] [Alt] [Shift] [P] [C] [Enter]	To select normal mode (pc, etc.).	2	None
[Ctrl] [Alt] [Shift] [M] [A] [C] [Enter]	To select Mac	2	None
[Ctrl] [Alt] [Shift] [S] [U] [N] [Enter]	To select SUN	2	None
[Ctrl] [Alt] [Shift] [u] [p] [g] [r] [a] [d] [e] [Enter]	Activates the Firmware Upgrade Mode. <b>Note:</b> this Hotkey sequence only works when the Firmware Upgrade Recovery Switch (see page 20) is in the <b>Normal</b> position.	None	3 Flashing when upgrade is in process
[Ctrl] [Alt] [Shift] [L] [Enter]	Enable Local (LCD) console; Disable 2nd console or external console video.	2	None
[Ctrl] [Alt] [Shift] [R] [Enter]	Enable 2nd console, or external console video; Disable Local (LCD) console to enable second console audio.	2	None
[Ctrl] [Alt] [Shift] [L] [R] [Enter] or [Ctrl] [Alt] [Shift] [R] [L] [Enter]	Enable both consoles (default). No HDMI Audio on second console.	2	None
[Ctrl] [Alt] [Shift] [U] [M] [Enter]	Configures the front USB Port to mouse mode (Mouse functionality is immediate upon switching to USB mouse mode). (USB mouse mode [U] [M] is the default)	2	None
[Ctrl] [Alt] [Shift] [U] [P] [Enter]	Configures the front USB Port to peripheral mode.	2	None

- Note:**
1. Press the keys in sequence – one key at a time. First [Ctrl], then [Alt], then [Shift], etc.
  2. Console selections are not saved. If the RM-KB-LCD17HD is powered off, it reverts to the default setting of both consoles enabled when it is powered on again.
  3. Either side of the keyboard can be used to invoke [Shift] [Ctrl] [Alt] hotkeys.

4. If the KVM switch connected to the RM-KB-LCD17HD uses the **[Ctrl]** **[Alt]** **[Shift]** combination to invoke its hotkey mode, you won't be able to access any of its hotkey operations because the RM-KB-LCD17HD will capture the combination for console selection first.
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# Chapter 4

## Firmware Upgrade

### **The Firmware Upgrade Utility**

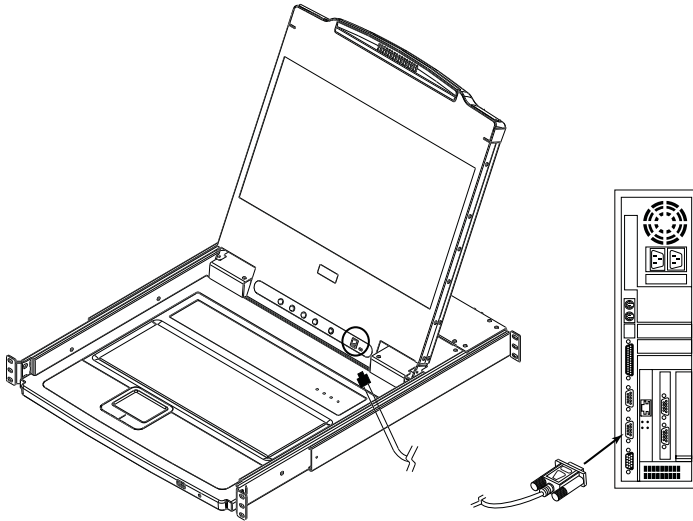
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As new firmware revisions become available for the RM-KB-LCD17HD, firmware upgrade packages are posted on the Middle Atlantic Products web site. The Windows-based Firmware Upgrade Utility (FWUpgrade.exe) provides a smooth, automated process for upgrading the RM-KB-LCD17HD's firmware. Check the web site regularly to find the latest firmware packages and information relating to them.

#### **Before You Begin**

To prepare for the firmware upgrade, do the following:

1. From a computer that is not part of your RM-KB-LCD17HD installation go to Middle Atlantic Products Internet support site and choose the model name that relates to your device to get a list of available Firmware Upgrade Packages.
2. Choose the Firmware Upgrade Package you want to install (usually the most recent), and download it to your computer.
3. Use the *Firmware Upgrade Cable* (provided with this unit), to connect a COM port on your computer to the *Firmware Upgrade Port* of the RM-KB-LCD17HD.



## **Firmware Upgrade Mode**

The RM-KB-LCD17HD's firmware upgrade mode can be accessed one of two ways: by entering a hotkey sequence (see *Hotkeys*, page 17), or by placing the RM-KB-LCD17HD in firmware upgrade recovery mode (see *Firmware Upgrade Recovery*, page 24).

---

**Note:** In order to activate the Firmware Upgrade Mode using a hotkey sequence, the Firmware Upgrade Recovery Switch (see page 5) must be set to the **Normal** position.

---

1. Turn off the power to the RM-KB-LCD17HD using the power switch located on the back side of the console.
2. Slide the firmware switch to RECOVER (see page 5).
3. Turn on the power to the RM-KB-LCD17HD using the power switch located on the back side of the console.

When the RM-KB-LCD17HD is in Firmware Upgrade Mode, the Num Lock, Caps Lock and Scroll Lock LEDs will continually flash on and off.

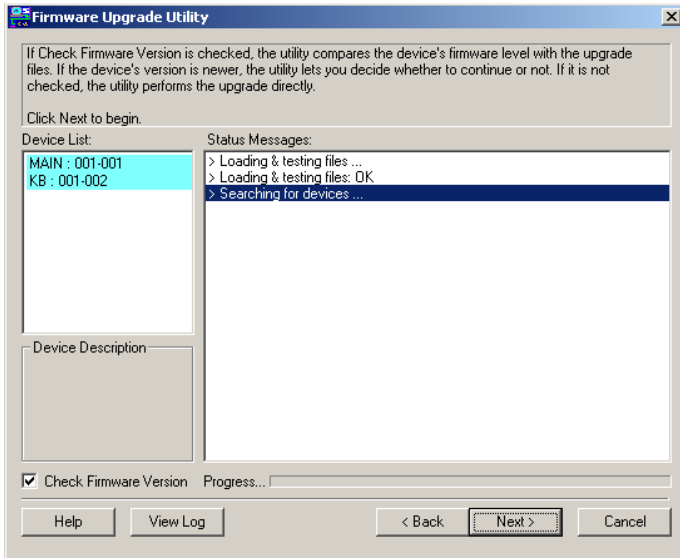
To exit the Firmware Upgrade Mode, see *Exiting Firmware Upgrade Mode*, page 24.

## Performing the Upgrade

### Starting the Upgrade:

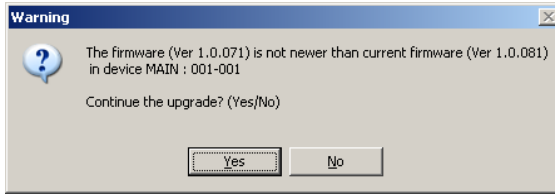
1. With the RM-KB-LCD17HD in Firmware Upgrade Mode, run the downloaded Firmware Upgrade Package file from your computer - either by double clicking the file icon, or by opening a command line and keying in the full path and filename.

The Firmware Upgrade Utility main screen appears:



The Utility inspects your installation. All the devices capable of being upgraded by the package are listed in the *Device List* panel.

2. Click **Next** to perform the upgrade.
  - ♦ If you enabled *Check Firmware Version*, the Utility compares the device's firmware level with that of the upgrade files. If it finds that the device's version is higher than the upgrade version, it brings up a dialog box informing you of the situation and gives you the option to continue the upgrade:

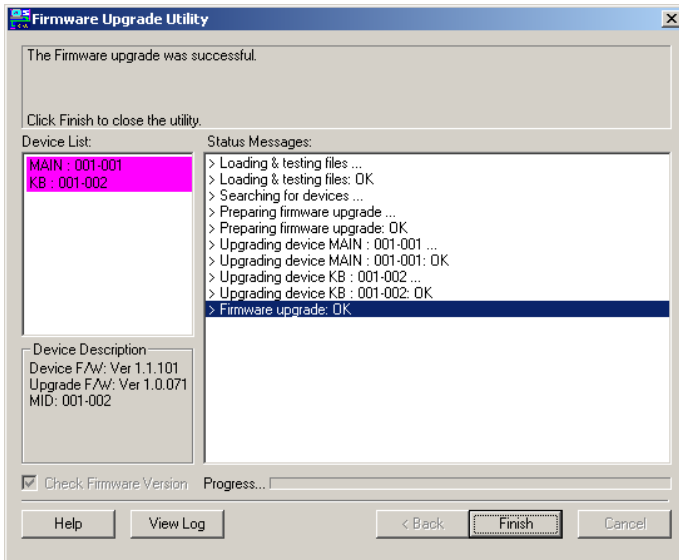


If you didn't enable *Check Firmware Version*, the Utility installs the upgrade files without checking whether they are a higher level, or not.

- ◆ As the Upgrade proceeds status messages appear in the Status Messages panel, and the progress toward completion is shown on the *Progress* bar.

### Upgrade Succeeded:

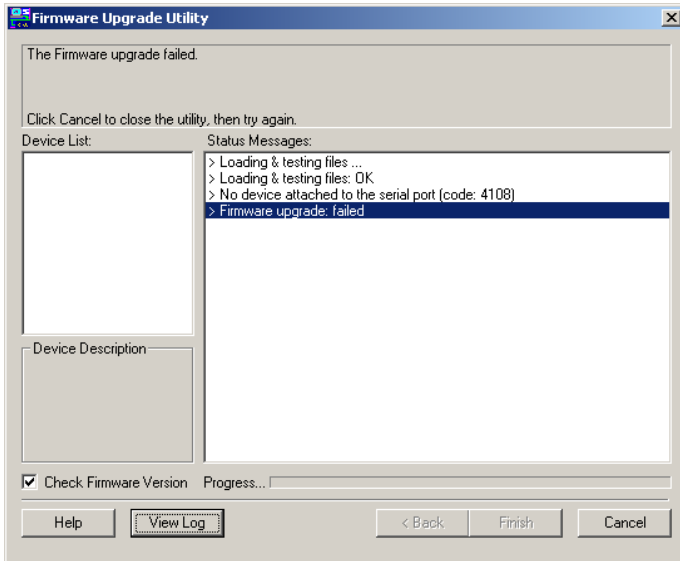
After the upgrade has completed, a screen appears to inform you that the procedure was successful:



Click **Finish** to close the Firmware Upgrade Utility.

## Upgrade Failed:

If the upgrade failed to complete successfully the *Upgrade Failed* screen appears:



Click **Cancel** to close the Firmware Upgrade Utility. See the next section, *Firmware Upgrade Recovery*, for how to proceed.

## **Firmware Upgrade Recovery**

There are three conditions that call for firmware upgrade recovery:

- ◆ When the unit's firmware becomes corrupted for some reason and you are unable to operate it.
- ◆ When a firmware upgrade procedure is interrupted.
- ◆ When a firmware upgrade procedure fails.

To perform a firmware upgrade recovery, do the following:

1. Power off the RM-KB-LCD17HD.
2. Connect the *Firmware Upgrade Cable* to its *Firmware Upgrade Port*.
3. Slide the *Firmware Upgrade Recovery Switch* to the **Recover** position.
4. Power the RM-KB-LCD17HD back on and repeat the upgrade procedure.
5. After the RM-KB-LCD17HD has been successfully upgraded, power it off, and slide the *Firmware Upgrade Recovery Switch* back to the **Normal** position.
6. Power the RM-KB-LCD17HD back on.

## **Exiting Firmware Upgrade Mode**

To exit the Firmware Upgrade Mode, do the following:

1. Slide the *Firmware Upgrade Recovery Switch* (see page 5) to the **Normal** position.
2. Power off and restart the RM-KB-LCD17HD according to the instructions given in the *Powering Off and Restarting* section (see page 16).

# Appendix

## Safety Instructions

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### General

- ◆ This product is for indoor use only.
- ◆ Read all of these instructions. Save them for future reference.
- ◆ Follow all warnings and instructions marked on the device.
- ◆ 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 over, radiators or heat registers.
- ◆ The device cabinet is provided with slots and openings to allow for adequate ventilation. To ensure reliable operation, and to protect against overheating, these openings must never be blocked or covered.
- ◆ The device should never 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. Do not use liquid or aerosol cleaners. Use a damp cloth for cleaning.
- ◆ 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 it is important 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 obsolete outlet. Do not attempt to defeat the purpose of the grounding-type plug. Always follow your local/national wiring codes.
- ◆ Do not allow anything to rest on the power cord or cables. 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 of the ampere ratings of all products used on this 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, use a surge suppressor, line conditioner, or uninterruptible power supply (UPS).
- ◆ Position system cables and power cables carefully; Be sure that nothing rests on any cables.
- ◆ 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.
- ◆ Do not attempt to service the device yourself. Refer all servicing to qualified service personnel.
- ◆ If the following conditions occur, unplug the device from the wall outlet and bring it to qualified service personnel for repair.
  - ◆ The power cord or plug has become damaged or frayed.
  - ◆ Liquid has been spilled into the device.
  - ◆ The device has been exposed to rain or water.
  - ◆ The device has been dropped, or the cabinet has been damaged.
  - ◆ The device exhibits a distinct change in performance, indicating a need for service.
  - ◆ The device does not operate normally when the operating instructions are followed.
- ◆ Only adjust those controls that are covered in the operating instructions. Improper adjustment of other controls may result in damage that will require extensive work by a qualified technician to repair.
- ◆ Do not connect the RJ-11 connector marked “UPGRADE” to a public telecommunication network.

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## **Rack Mounting**

- ◆ 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 to 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 a rack.
- ◆ **Caution:** Slide/rail (LCD KVM) mounted equipment is not to be used as a shelf or a work space.



## Technical Support

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When you contact us, please have the following information ready beforehand:

- ◆ Product model number, serial number, and date of purchase.
- ◆ Your computer configuration, including operating system, revision level, expansion cards, and software.
- ◆ Any error messages displayed at the time the error occurred.
- ◆ The sequence of operations that led up to the error.
- ◆ Any other information you feel may be of help.

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




# Specifications

Function		RM-KB-LCD17HD	
Computer Connections		1	
Console Selection		Hotkey	
Connectors	External Console Ports	Keyboard	1 x USB Type A Female
		Mouse	1 x USB Type A Female
		Monitor	1 x DVI-D Female (White) 1 x HDB-15 (VGA) Female (Blue) 1 x HDMI Female (Black)
		Speaker	1 x Mini Stereo Jack Female (Green)
	KVM Ports	KB / Mouse	1 x USB Type B Female (White)
		Monitor	1 x DVI-D Female (White) 1 x SPHD-15 (VGA) Male (Blue) 1 x HDMI Female (Black)
		Speaker	1 x Mini Stereo Jack Female (Green)
	External Mouse / Peripheral		1 x USB Type A Female (Black)
	Firmware Upgrade		1 x RJ-11 Female (Black)
	Power		1 x 3-prong AC Socket
Switches	Reset		1 x Semi-recessed Pushbutton
	Power		1 x Rocker
	F/W Upgrade		1 x Slide
	LCD Power		1 x Pushbutton
	LCD Adjustment		4 x Pushbutton
LEDs	Power		1 (Green)
	Lock	Num	1 (Green)
		Caps	1 (Green)
		Scroll	1 (Green)
Emulation	Keyboard / Mouse		USB
Video		1920 x 1080 @60Hz, DDC2B	
I/P Rating		100–240VAC; 50–60Hz; 1A	
Power Consumption		120V, 19.4W / 230V, 19.4W	
Environment	Operating Temp.		32–104° F (0–40° C)
	Storage Temp.		-4–140° F (-20–60° C)
	Humidity		0–80% RH Non-condensing

Function		RM-KB-LCD17HD
Physical Properties	Housing	Metal
	Weight	25.08 lbs.(11.38 kg)
	Dimensions (L x W x H)	23.2 in x 18.9 in x 1.73 in (58.92 cm x 48.00 cm x 4.40 cm)

## Sun Keyboard Emulation









The PC compatible (101/104 key) keyboard can emulate the functions of the Sun keyboard when the Control key [Ctrl] is used in conjunction with other keys. The corresponding functions are shown in the table below.

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
	

**Note:** When using key combinations, press and release the first key (Ctrl), then press and release the activation key.

## Mac Keyboard

The PC compatible (101/104 key) keyboard can emulate the functions of the Mac keyboard. The emulation mappings are listed in the table below.

PC Keyboard	Mac Keyboard
[Shift]	Shift
[Ctrl]	Ctrl
	
[Ctrl] [1]	
[Ctrl] [2]	
[Ctrl] [3]	
[Ctrl] [4]	
[Alt]	Alt
[Print Screen]	F13
[Scroll Lock]	F14
	=
[Enter]	Return
[Backspace]	Delete
[Insert]	Help
[Ctrl] 	F15

**Note:** When using key combinations, press and release the first key (Ctrl), then press and release the activation key.

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## Troubleshooting

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Symptom	Action
There are ghost images on the external monitor.	The distance between the external console and the RM-KB-LCD17HD is too great. The maximum DVI cable distance should not exceed 65.62ft (20m) and, in some cases, may need to be shorter. Replace the DVI cable with one of an appropriately short length.
Some characters I enter from the keyboard do not display correctly.	The keyboard layout setting for the port does not match the keyboard you are using. On your switch, change the keyboard layout setting for the port to match the layout of the keyboard you are using.
I can't use the special keys on the Sun external keyboard to control Sun computers.	Use Sun keyboard emulation keystrokes (page 31) to achieve all Sun keyboard functions.

## Limited Warranty

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Middle Atlantic Products (the "Company") warrants the RM-KB-LCD17HD to be free from defects in material or workmanship under normal use and conditions for a period of (1) year from date of shipment by the Company.

The Company's entire liability to the purchaser, and the purchaser's (or any other party's) sole and exclusive remedy, under this warranty shall be limited, at the Company's option, to either (a) return of and refund of the price paid for, or (b) repair or replacement at the Company's factory of the products purchased, or any part or parts thereof, which the Company has determined to be defective after inspection thereof at the Company's factory.

This warranty does not cover damage due to acts of God, accident, misuse, abuse or negligence by parties other than the Company, or any modification or alteration of the products. In addition, this warranty does not cover damage due to improper handling, assembly, installation or maintenance.

THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, IN NO EVENT SHALL THE COMPANY BE LIABLE FOR ANY SPECIAL, INCIDENTAL, INDIRECT, OR CONSEQUENTIAL DAMAGES WHATSOEVER (INCLUDING, WITHOUT LIMITATION, DAMAGES FOR LOSS OF BUSINESS PROFITS, BUSINESS INTERRUPTION OR ANY OTHER PECUNIARY LOSS) ARISING OUT OF THE USE OF THE PRODUCTS PURCHASED, EVEN IF THE COMPANY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. THE COMPANY'S LIABILITY TO THE PURCHASER (OR ANY OTHER PARTY) HEREUNDER, IF ANY, SHALL IN NO EVENT EXCEED THE PURCHASE PRICE OF THE PRODUCTS PAID TO THE COMPANY.

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At Middle Atlantic Products we are always listening. Your comments are welcome.

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