ALTUSCN™
Enterprise KVM Solutions by ATEN

Dual Rail LCD PS/2 - USB Console
KL1100
User Manual

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FCC Information

This is an FCC 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.

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.

RoHS

This product is RoHS compliant.

SJ/T 11364-2006

The following contains information that relates to China.

部件名称	有毒有害物质或元素					
	铅	汞	镉	六价铬	多溴联苯	多溴二苯醚
电器部件	●	○	○	○	○	○
机构部件	○	○	○	○	○	○

○: 表示该有毒有害物质在该部件所有均质材料中的含量均在SJ/T 11363-2006规定的限量要求之下。

●: 表示符合欧盟的豁免条款，但该有毒有害物质至少在该部件的某一均质材料中的含量超出SJ/T 11363-2006的限量要求。

×: 表示该有毒有害物质至少在该部件的某一均质材料中的含量超出SJ/T 11363-2006的限量要求。

User Information

Online Registration

Be sure to register your product at our online support center:

International	http://support.aten.com
North America	http://www.aten-usa.com/product_registration

Telephone Support

For telephone support, call this number:

International	886-2-8692-6959
China	86-10-5255-0110
Japan	81-3-5323-7178
Korea	82-2-467-6789
North America	1-888-999-ATEN ext 4988
United Kingdom	44-8-4481-58923

User Notice

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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.

Package Contents

The KL1100 package consists of:

1 KL1100 Dual Rail LCD PS/2 - USB Console with Standard Rack Mount Kit

1 Custom KVM Cable

1 Power Cord (AC power models only)

1 Firmware Upgrade Cable

1 User Manual*

1 Quick Start Guide

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 KL1100 installation.

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

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Manual Date:2010-10-29

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About This Manual

This User Manual is provided to help you get the most from your KL1100 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 KL1100 KVM Console. 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 KL1100.

Chapter 4, Firmware Upgrade, explains how to upgrade the KL1100's firmware with the latest available versions.

An Appendix, provides specifications and other technical information regarding the KL1100.

Conventions

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.

Product Information

For information about all ALTUSEN products and how they can help you connect without limits, visit ALTUSEN on the Web or contact an ALTUSEN Authorized Reseller. Visit ALTUSEN on the Web for a list of locations and telephone numbers

- International – **http://www.aten.com**
- North America – **http://www.aten-usa.com**

Chapter 1
Introduction

Overview

The KL1100 is a series of KVM Console modules featuring an integrated 17" or 19" LCD panel, a full keyboard, and a touch pad in a 1U rack-mountable sliding housing with AC or DC based input power sources.

The KL1100 KVM Console modules serve as the front end sliding console for compatible KVM switches. This means users who already have a compatible KVM switch can take advantage of the space saving and efficiency benefits of the sliding console module without having to purchase a KVM switch module.

The KL1100's LCD and keyboard/touch pad modules slide independently of each other. To maximize space in your data center, the keyboard/touch pad module slides back to "hide away" when not in use, while the thin profile LCD monitor rotates back – flush against the rack – allowing convenient monitoring of computer activity.

For added convenience, ports for an external PS/2 or USB keyboard and mouse as well as a monitor are provided on the rear panel – permitting you to manage the switch from a local console up to 20 meters away.

Setup is fast and easy. Simply use the included custom KVM cable set to link the LCD Console's KVM port to the console ports of your KVM switch and you are ready to go.

Since the KL1100's firmware is upgradable, you can stay current with the latest functionality improvements simply by downloading firmware updates from ATEN's web site as they become available.

Features

- Integrated KVM console with 17"or 19” LCD monitor in a dual rail housing with top and bottom clearance for smooth operation in a 1U high system rack
- Select either AC or DC power input models
- Standard rack mount kit included – optional Easy Rack Mounting (single person installation) rack mount kit available (requires separate purchase)
- Supports an external console with either PS/2 or USB connectors
- Dual interface – Supports computers and KVM switches with PS/2 or USB keyboards and mice
- Additional hot-pluggable USB mouse port on front panel
- Internal power supply
- High video resolution:
  - Up to 1280 x 1024 @75Hz (17" and 19" LCD)
  - Supports DDC, DDC2, DDC2B
  - DDC emulation of the LCD monitor
  - Video settings of attached computers are automatically adjusted for optimal output to the LCD monitor
- Standard 105-key keyboard; Sun keyboard emulation
- Dual rail design allows LCD monitor and keyboard/touch pad modules to operate independently
- Compatible with all ATEN KVM Switches and most other KVM switches
- Adjustable depth to fit within the rack
- Firmware upgradeable
- Supports Microsoft Intellimouse (5 keys)
- Supports Logitech and Microsoft wireless mice
- Console lock – enables the console drawer to remain securely locked away in position when not in use
- DDC emulation – video settings of each computer are automatically adjusted for optimal output to the monitor

Requirements

LCD Console

- The LCD console supports most KVM switches that have PS/2 console port connectors. If you are unsure whether your switch is supported or not, check with your dealer.
- The integrated LCD monitor's maximum resolution is 1280 x 1024 @75Hz. Make sure that none of the resolution settings of the connected computers exceed the LCD monitor's maximum resolution.

External Console

- A VGA, SVGA, or MultiSync monitor capable of displaying the highest resolution provided by any computer in the installation
- USB or PS/2 keyboard and mouse

If you install an external console and wish to extend the distance between it and the KL1100, CS Custom extender cables are available in various lengths. Contact your dealer for details.

Cables

For optimum signal integrity and to simplify the layout, we strongly recommend that you use high quality custom cable sets available in varying lengths, described in the table below, which can be purchased from your dealer.

Length (m)	Part Number
1.20	2L-5201P
1.80	2L-5202P
3.00	2L-5203P
6.00	2L-5206P
1.80	2L-5702P
1.20	2L-5201U
1.80	2L-5202U
3.00	2L-5203U
5.00	2L-5205U

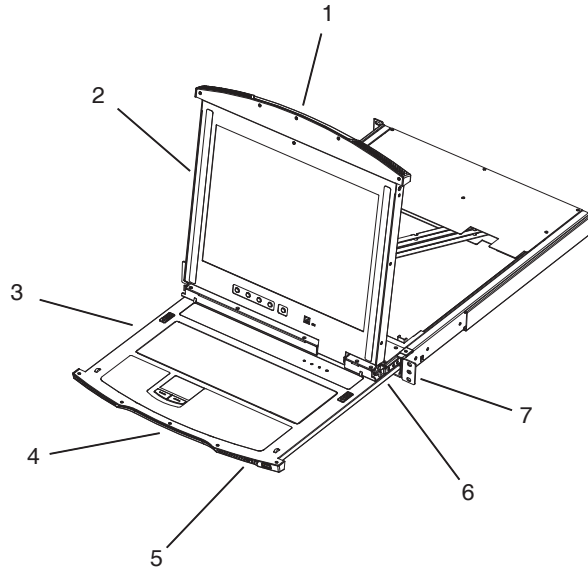
Operating Systems

Supported operating systems are shown in the table, below.

OS		Version
Windows		NT and higher
Linux	RedHat	7.1 and higher
	SuSE	9.0 and higher
	Mandriva (Mandrake)	9.0 and higher
UNIX	AIX	4.3 and higher
	FreeBSD	4.2 and higher
	Sun	Solaris 8 and higher
Novell	Netware	5.0 and higher
DOS		6.2 and higher

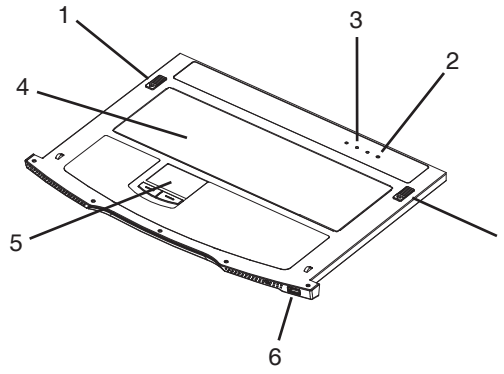
Components

Front View



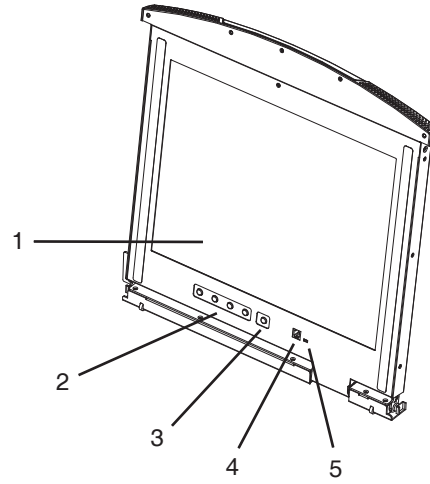
No.	Component	Description
1	Upper Handle	Pull to slide the LCD module out; push to slide the module in. See *Opening the Console*, page 15, for details on sliding the console in and out.
2	LCD Module	See *LCD Module*, page 7.
3	Keyboard Module	See *Keyboard Module*, page 6.
4	Lower Handle	Pull to slide the keyboard module out. See *Opening the Console*, page 15, for more details on sliding the console in and out.
5	Power LED	Lights (blue) to indicate that the unit is receiving power.
6	LCD Release Catch	These catches (one on each side) release the LCD module so you can slide it away.
7	Rack Mounting Tabs	The rack mounting tabs located at each corner of the unit secure the chassis to a system rack. See *Standard Rack Mounting*, page 12, for details.

Keyboard Module



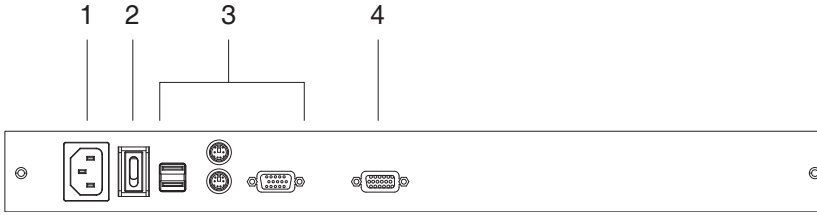
No.	Component	Description
1	Keyboard Release Catch	These catches (one on each side) release the keyboard module so you can slide it away.
2	Reset Button	◆ Pressing and holding this button while powering on the unit causes the KL1100 to revert to the original factory installed firmware version – allowing you to recover from a failed firmware upgrade. ◆ Pressing and holding this button for more than three seconds performs a system reset. **Note:** The button is recessed and must be pushed with a thin object - such as the end of a paper clip or a ballpoint pen.
3	Lock LEDs	The Num Lock, Caps Lock, Scroll Lock LEDs are located here.
4	Keyboard	Standard 105-key keyboard
5	Touch pad	Standard mouse touch pad
6	External Mouse Port	This USB mouse port is provided for users who prefer to use an external mouse.

LCD Module



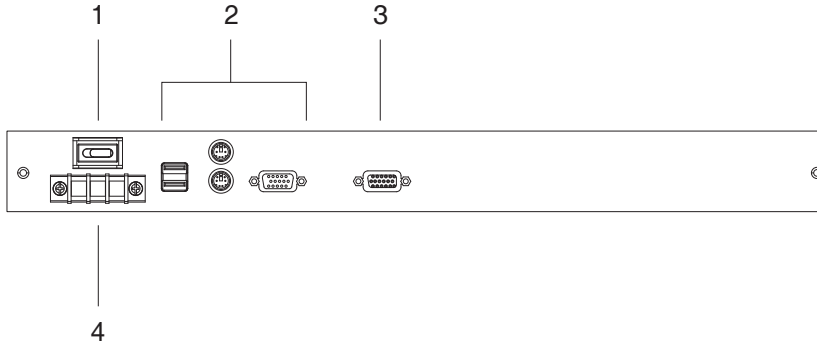
No.	Component	Description
1	LCD Display	To access the LCD monitor, slide the LCD module out and flip up the cover. See *Opening the Console*, page 15, for details on sliding the LCD module out.
2	LCD Controls	These buttons control the position and picture settings of the LCD display. See *LCD OSD Configuration*, page 22, for details.
3	LCD On/Off Button	Push this button to turn the LCD monitor on and off. The button lights when the LCD monitor is off to indicate that only the monitor is off – not the KVM switch itself.)
4	Firmware Upgrade Port	The Firmware Upgrade Cable that transfers the firmware upgrade data from the administrator's computer to the KL1100 plugs into this RJ-11 connector.
5	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 *Firmware Upgrade Recovery*, page 31, for details.

Rear View (AC Power)



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 KL1100 on and off.
3	External Console Section	For flexibility and convenience, the KL1100 supports an independent, external, KVM console. The external console's keyboard, monitor, and mouse cables plug in here.
4	KVM Port Section	The cable linking the KL1100 to a computer or switch plugs in here. **Note:** The shape of this SPHD connector has been specifically modified so that only KVM cables designed to work with this console can plug in (see *External Console*, page 3 for details). Do **NOT** attempt to use ordinary 15 pin VGA connector cable to link this port to a computer or switch.

Rear View (DC Power)



No.	Component	Description
1	Power Switch	This is a standard rocker switch that powers the KL1100 on and off.
2	External Console Section	For flexibility and convenience, the KL1100 supports an independent, external, KVM console. The external console's keyboard, monitor, and mouse cables plug in here.
3	KVM Port Section	The cable linking the KL1100 to a computer or switch plugs in here. **Note:** The shape of this SPHD connector has been specifically modified so that only KVM cables designed to work with this console can plug in (see *External Console*, page 3 for details). Do **NOT** attempt to use ordinary 15 pin VGA connector cable to link this port to a computer or switch.
4	DC Terminal Block	The electric leads from a DC power supply connect here.

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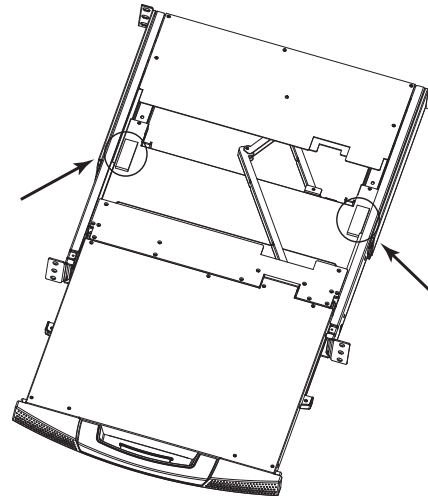
Chapter 2
Hardware Setup

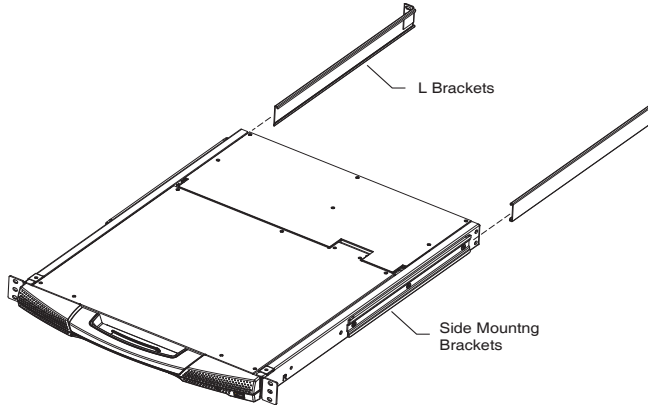
Before you Begin

1. Important safety information regarding the placement of this device is provided on page 33. 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.
3. Packing material has been inserted to protect the KL1100 during shipping. Slide the LCD module out (see *Opening the Console*, page 15), until the packing material is visible. Remove the packing material before installing the unit, as shown in the diagram below.



Standard Rack Mounting

A standard rack mounting kit can be purchased separately for your KL1100. The kit enables the KL1100 to be mounted in rack with a depth of 42–77 cm.



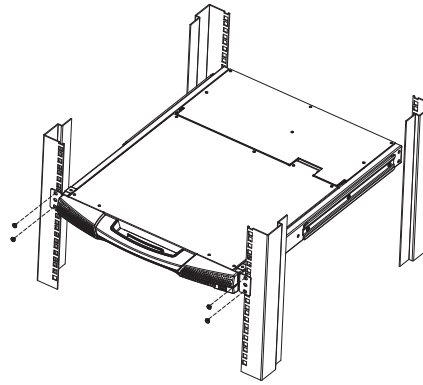
Note: 1. It takes two people to mount the switch: one to hold it in place, the other to screw it in.

2. The standard rack mounting kit does not include screws or cage nuts. If you need additional screws or cage nuts, contact your rack dealer.

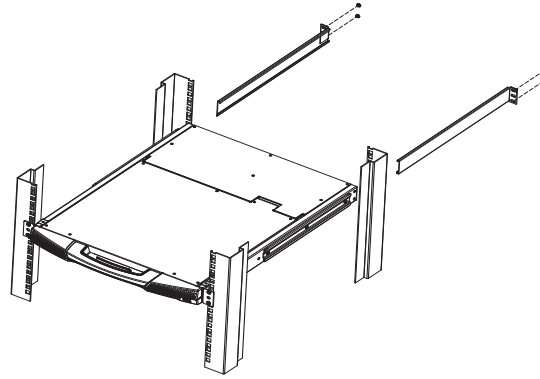
3. Optional mounting kits - including single person *Easy Installation* kits - are available with a separate purchase. See *Optional Rack Mounting*, page 40 in the Appendix for details.

To rack mount the KL1100, do the following:

1. While one person positions the KL1100 in the rack and holds it in place, the second person loosely screws the front brackets to the rack.



2. While the first person still holds the KL1100 in place, the second person slides the L brackets into the KL1100's side mounting brackets from the rear until the bracket flanges contact the rack, then screws the L brackets to the rack.



3. After the L brackets have been secured, tighten the front bracket screws.

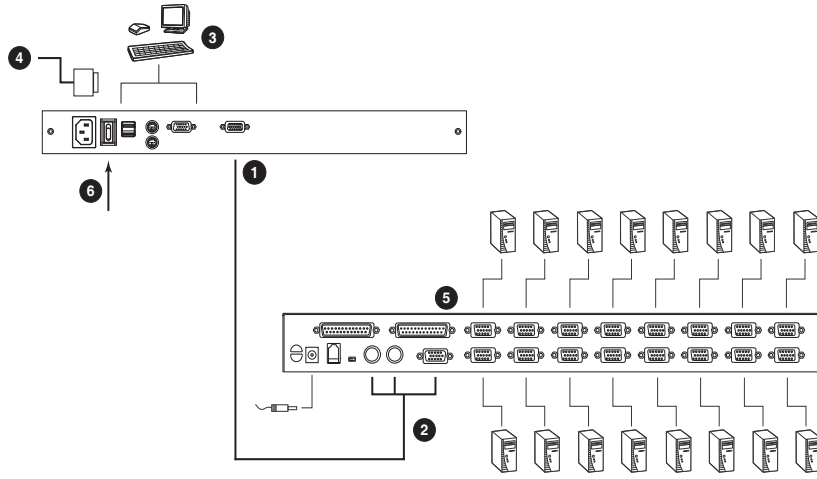
Note: Allow at least 5.1 cm on each side for proper ventilation, and at least 12.7 cm at the back for the power cord and cable clearance.

Connecting Up

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

1. Plug the SPHD connector end of a KVM cable (either supplied with the unit, or purchased separately, see *External Console*, page 3) into the LCD Console's KVM port.
2. Plug the keyboard, monitor, and mouse connectors of the KVM cable into their respective ports on the Console Section of a KVM switch.
3. If you are installing an external console, plug your keyboard, monitor, and mouse into their respective ports on the Console Section of the LCD Console. The ports are color coded and marked with an icon for easy identification.
4. Connect the KL1100 to a power source.
   - For AC power models, plug the power cord into the LCD Console's power socket and into a power source.
   - For DC power models, properly connect the wires from a DC power source into the DC terminal block.
5. Power up your KVM installation.
6. Turn on the power to LCD Console.

Installation Diagram



Chapter 3
Operation

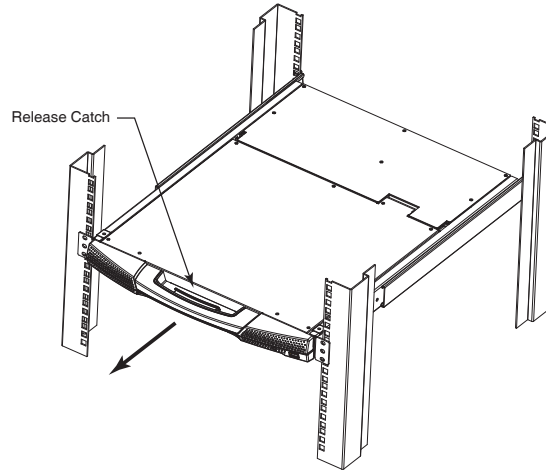
Opening the Console

The KL1100's console consists of two modules: an LCD display module located under the top cover; and a keyboard / touch pad module below the LCD module.

The modules can either slide together, or independently. This allows you to have the LCD display available for viewing while the keyboard / touch pad module is conveniently out of the way when not in use.

Opening Separately

1. Pull the release catch to release the console, and pull the top panel a few centimeters toward you. Once the console has been released, you can let go of the catch.



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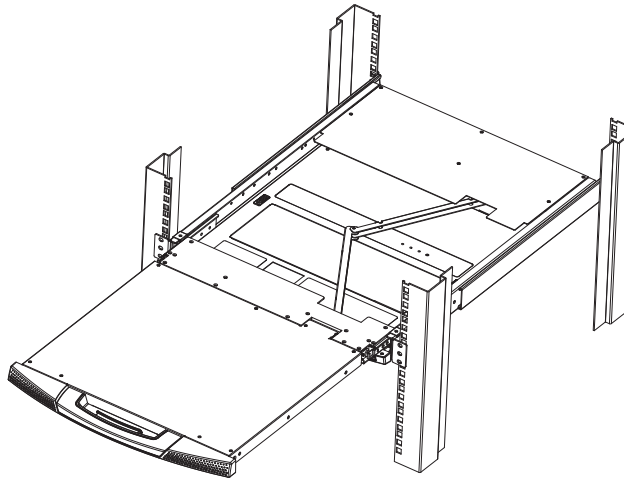
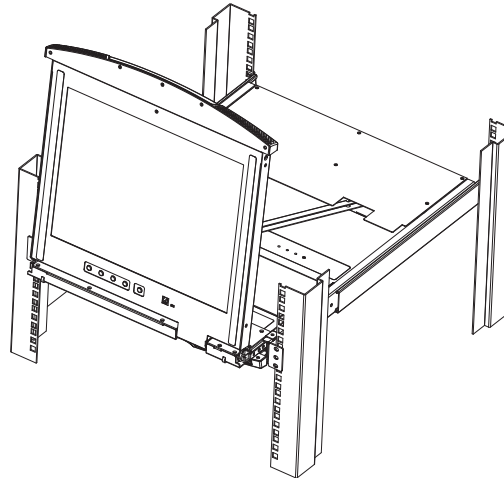
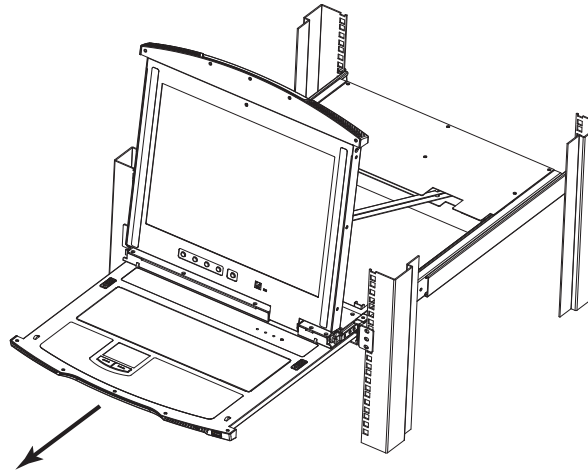
2. Pull the top panel all the way out until it clicks into place.



3. Rotate the top panel all the way back to expose the LCD screen.



4. Reach underneath and pull the keyboard module all the way out until it clicks into place.



Opening Together

Refer to the diagrams in the *Opening Separately* section as you do the following:

1. Pull the release catch and pull the top and bottom panels out until the keyboard module clicks into place.

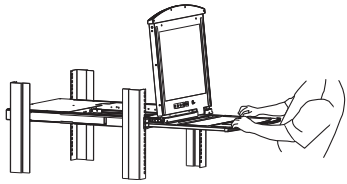
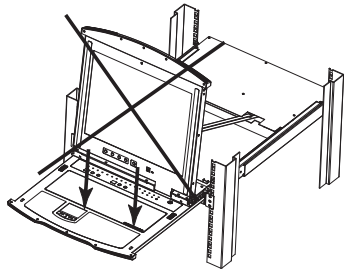
Note: Once the console has been released, you can let go of the catch.

2. Pull the top panel the rest of the way out until it clicks into place.
3. Rotate the top panel all the way back to expose the LCD screen.

Note: Refer to the warning regarding placing excessive weight on the keyboard module on the following page.

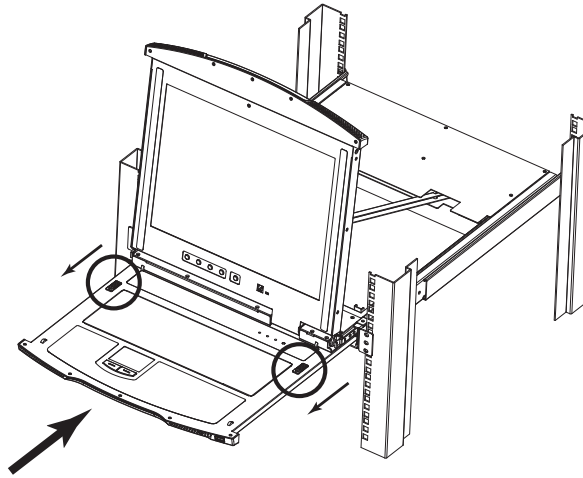
Operating Precautions

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

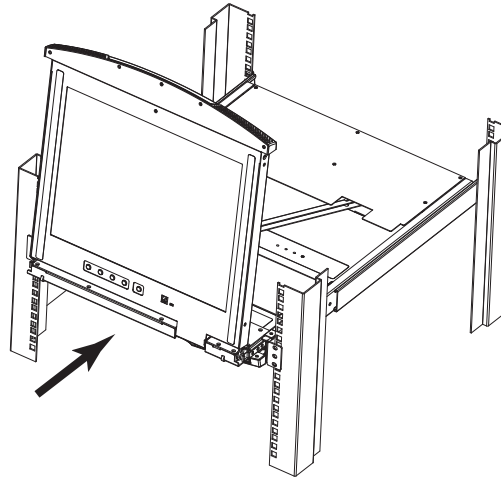
	RIGHT Rest your hands and arms lightly on the keyboard module as you work.
	WRONG! ◆ **DO NOT** lean your body weight on the keyboard module. ◆ **DO NOT** place heavy objects on the keyboard module.

Closing the Console

1. Pull the release catches located on either side of the keyboard toward you to release the keyboard module, then slide the module slightly in.



2. Let go of the catches. Using the front handle, push the keyboard module all the way in.



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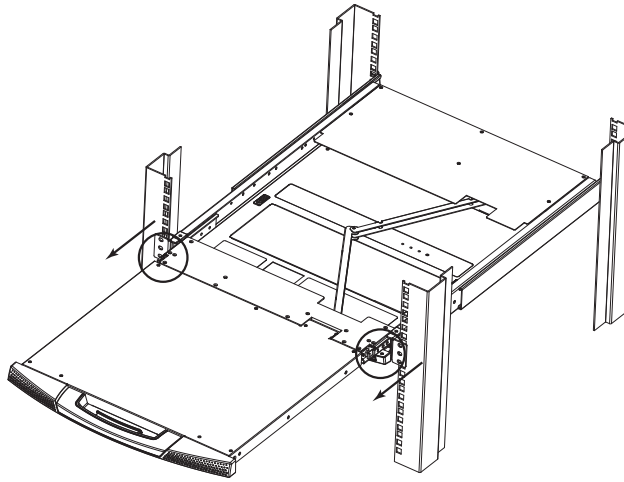
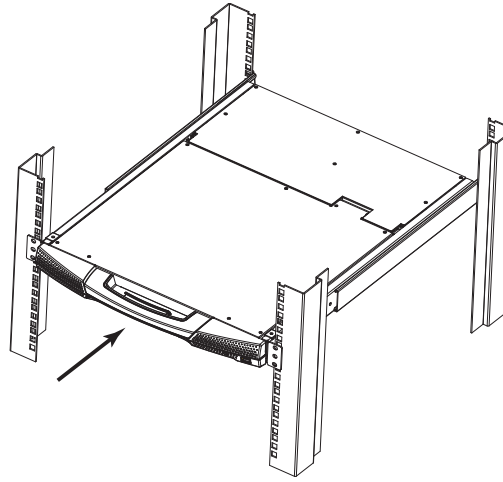
3. Rotate the LCD module all the way down, then pull the rear catches to release the LCD module.



4. Using the front handle, push the module all the way in.



Hot Plugging

The KL1100 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 KL1100.

Powering Off and Restarting

If it becomes necessary to Power Off the KL1100 (to upgrade the firmware, for example), simply turn off the power to the unit using the rear panel power switch.

Restarting the KL1100 is as easy as turning the rear panel power switch back on.

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	◆ When you have not entered the LCD OSD Menu function, pressing this button invokes the Menu function, and brings up the Main Menu. ◆ 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.
▶|▲	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	◆ 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. ◆ 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. ◆ When you are at the Main Menu, pressing this button exits the LCD OSD.

LCD Adjustment Settings

An explanation of the LCD 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 LCD may have the wrong phase setting. Adjust the phase setting to eliminate these problems.
Clock	If vertical banding is visible on the display, your LCD may have the wrong clock setting. Adjust the clock setting to eliminate vertical banding.
H-Position	Positions the display area on the LCD panel horizontally (moves the display area left or right).
V-Position	Positions the display area on the LCD 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 *Adjust Color* 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. **Note:** The *Language* setting does not return to the factory default, but remains at the one that you have set it to.

Console Selection

Console selection on the KL1100 is accomplished with hotkey combinations, as described in the following table:

Combination	Action
[Ctrl] [Alt] [Shift] [P] [C] [Enter]	to select normal mode (pc, etc.).
[Ctrl] [Alt] [Shift] [S] [U] [N] [Enter]	to select SUN
[Ctrl] [Alt] [Shift] [u] [p] [g] [r] [a] [d] [e] [Enter]	Activates the Firmware Upgrade Mode. **Note:** this Hotkey sequence only works when the Firmware Upgrade Recovery Switch (see page 26) is in the **Normal** position.
[Ctrl] [Alt] [Shift] [L] [Enter]	Enable Local (LCD) console; Disable Remote (external) console.
[Ctrl] [Alt] [Shift] [R] [Enter]	Enable Remote (external) console Disable Local (LCD) console.
[Ctrl] [Alt] [Shift] [L] [R] [Enter] or [Ctrl] [Alt] [Shift] [R] [L] [Enter]	Enable both consoles (default).

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 KL1100 is powered off, it reverts to the default setting of both consoles enabled when it is powered on again.

3. If the KVM switch connected to the KL1100 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 KL1100 will capture the combination for console selection first.

Port ID Numbering & Port Selection

Port ID numbering and Port Selection follow the method used by the KVM switch connected to the KL1100. Consult your KVM switch's User Manual for details.

Chapter 4
Firmware Upgrade

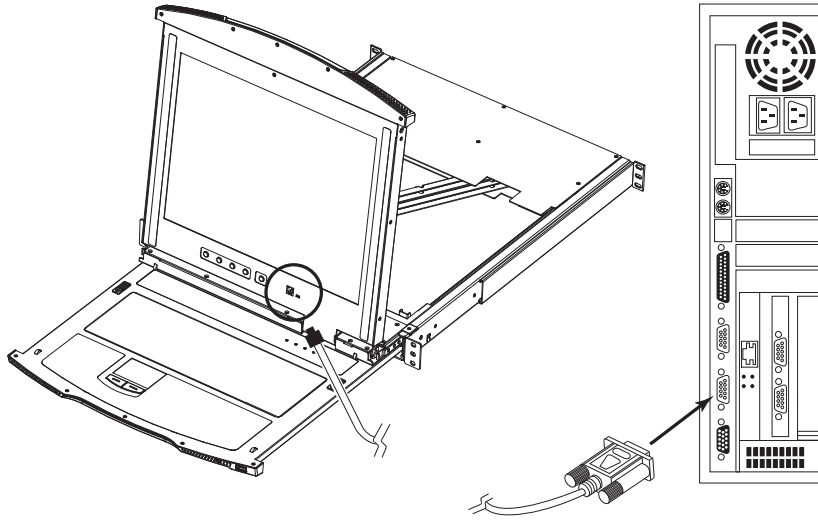
The Firmware Upgrade Utility

As new firmware revisions become available for the KL1100, firmware upgrade packages are posted on the ATEN web site. The Windows-based Firmware Upgrade Utility (FWUpgrade.exe) provides a smooth, automated process for upgrading the KL1100'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 KL1100 installation go to ATEN's 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 KL1100.



Firmware Upgrade Mode

The KL1100's firmware upgrade mode can be accessed one of two ways: by entering a hotkey sequence (see *Console Selection*, page 24), or by placing the KL1100 in firmware upgrade recovery mode (see *Firmware Upgrade Recovery*, page 31).

Note: In order to activate the Firmware Upgrade Mode using a hotkey sequence, the Firmware Upgrade Recovery Switch (see page 7) must be set to the **Normal** position.

1. Turn off the power to the KL1100 using the power switch located on the back side of the console.
2. Slide the firmware switch to RECOVER (see page 7).
3. Turn on the power to the KL1100 using the power switch located on the back side of the console.

When the KL1100 is in Firmware Upgrade Mode, the Num Lock, Caps Lock and Scroll Lock LEDs will continually flash on and off.

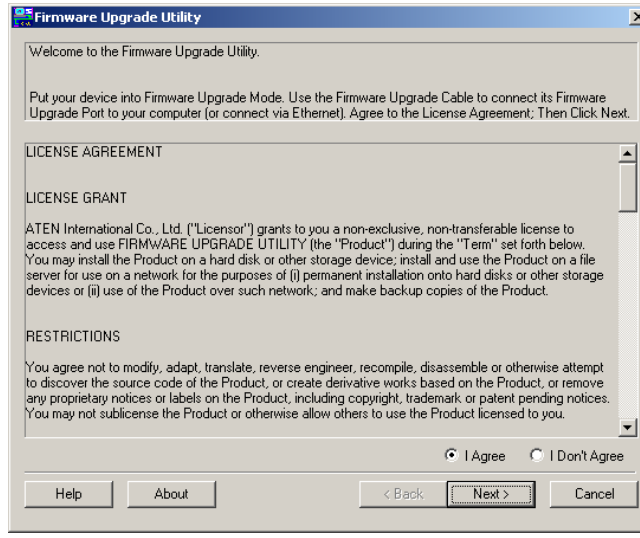
To exit the Firmware Upgrade Mode, see *Exiting Firmware Upgrade Mode*, page 31.

Performing the Upgrade

Starting the Upgrade:

1. With the KL1100 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 *Welcome* screen appears:



2. Read and *Agree* to the License Agreement (enable the I Agree radio button).

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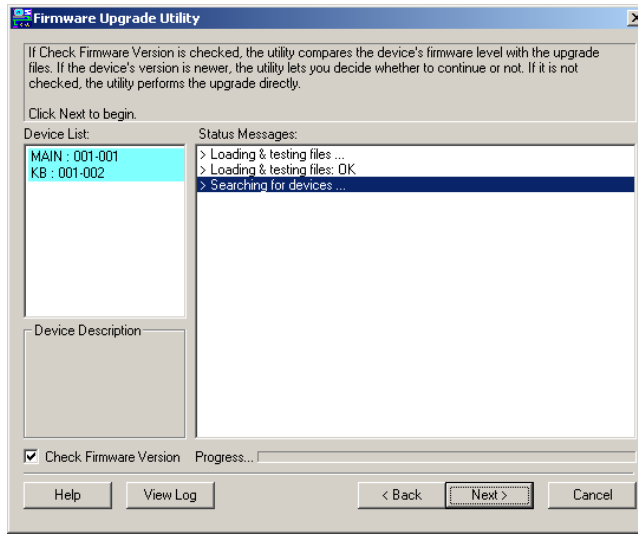
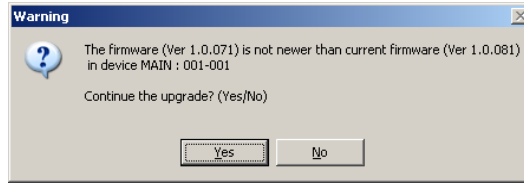
3. Click **Next**. The Firmware Upgrade Utility main screen appears:



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

4. 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:

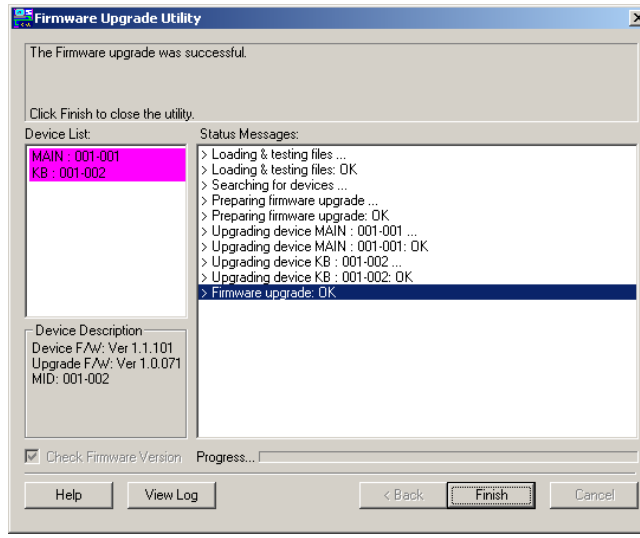


   If you didn't enable *Check Firmware Version*, the Utility installs the upgrade files without checking whether they are a higher level, or not.

   - 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:

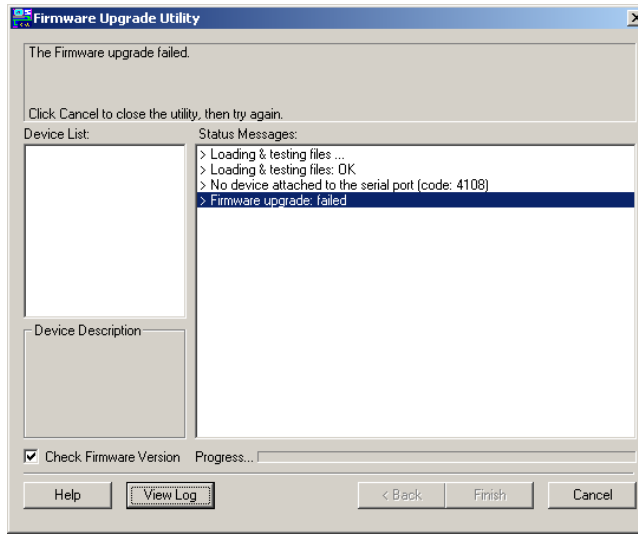
After the upgrade has completed, a screen appears to inform you that the procedure was successful:



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 basically 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. Slide the *Firmware Upgrade Recovery Switch* (see page 7) to the **Recover** position.
2. Power off and restart the KL1100 according to the instructions given in the *Powering Off and Restarting* section (see page 21).
3. Slide the *Firmware Upgrade Recovery Switch* back to the **Normal** position.
4. Repeat Step 2.

Exiting Firmware Upgrade Mode

To exit the Firmware Upgrade Mode, do the following:

1. Slide the *Firmware Upgrade Recovery Switch* (see page 7) to the **Normal** position.
2. Power off and restart the KL1100 according to the instructions given in the *Powering Off and Restarting* section (see page 21).

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Appendix

Safety Instructions

General

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

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- 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.

DC Power

- The system relies on the protective devices in the building installation for protection against short-circuit, overcurrent, and earth (grounding) fault. Ensure that the protective devices in the building installation are properly rated to protect the system, and that they comply with national and local codes.
- Ensure that there is a readily accessible disconnect device incorporated in the building's installation wiring.
- A separate protective earthing terminal is provided on this product and shall be permanently connected to earth.
- For the DC supply circuit, select a DC supply cable that is certified by UL, AWM VW-1 Style 1015, minimum 16 AWG, minimum 105º C, minimum 300 V.
- ⚠ **CAUTION**: This equipment is designed to permit the connection of the earthed conductor of the DC supply circuit to the earthing conductor at the equipment. If this connection is made, all of the following conditions must be met:
  - This equipment shall be connected directly to the DC supply system earthing electrode conductor or to a bonding jumper from an earthing terminal bar or bus to which the DC supply system earthing electrode conductor is connected.
  - This equipment shall be located in the same immediate area (such as adjacent cabinets) as any other equipment that has a connection between the earthed conductor of the same DC supply circuit and the earthing conductor, and also the point of earthing of the DC system. The DC system shall not be earthed elsewhere.
  - The DC supply source is to be located within the same premises as this equipment.
  - Switching or disconnecting devices shall not be in the earthed circuit conductor between the DC source and the point of connection of the earthing electrode conductor.
- **WARNING**: This unit is intended for installation in restricted access areas. A restricted access area (server room, data center, etc.) is where access can only be gained by service personnel through the use of a special tool, lock and key, or other means of security, and is controlled by the authority responsible for the location.

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

International

- For online technical support – including troubleshooting, documentation, and software updates: **http://support.aten.com**
- For telephone support, see *Telephone Support*, page iii.

North America

Email Support		support@aten-usa.com
Online Technical Support	Troubleshooting Documentation Software Updates	http://www.aten-usa.com/support
Telephone Support		1-888-999-ATEN ext 4988

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.

Specifications

AC Power Models

Function			17” LCD	19” LCD
Computer Connections			1	
Console Selection			Hotkey	
Connectors	External Console Ports	Keyboard	1 x 6-pin Mini-DIN Female (Purple) 1 x USB Type A Female (Black)	
		Video	1 x HDB-15 Female (Blue)	
		Mouse	1 x 6-pin Mini-DIN Female (Green) 1 x USB Type A Female (Black)	
	KVM Ports		1 x SPHD-18 Female (Yellow)	
	External Mouse		1 x USB Type A Female (Black)	
	FW Upgrade		1 x RJ-11	
	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 (Blue)	
	LCD Power		1 (Orange)	
	Lock	Num	1 (Green)	
		Caps	1 (Green)	
		Scroll	1 (Green)	
Emulation	Keyboard / Mouse		PS/2; USB	
Video			1280 x 1024@75Hz, DDC2B	
I/P Rating			100–240VAC; 50–60Hz; 1A	
Power Consumption			29.6W	32.2W
Environment	Operating Temp.		0–40^{o} C	
	Storage Temp.		-20–60^{o} C	
	Humidity		0–90% RH NC	
Physical Properties	Housing		Metal & Plastic	
	Weight		15.90 kg	17.40 kg
	Dimensions (L x W x H)		61.4 x 48.2 x 4.4 cm	66.5 x 48.2 x 4.4 cm

DC Power Models

Function			17" LCD	19" LCD
Computer Connections			1	
Console Selection			Hotkey	
Connectors	External Console Ports	Keyboard	1 x 6-pin Mini-DIN Female (Purple) 1 x USB Type A Female (Black)	
		Video	1 x HDB-15 Female (Blue)	
		Mouse	1 x 6-pin Mini-DIN Female (Green) 1 x USB Type A Female (Black)	
	KVM Ports		1 x SPHD-18 Female (Yellow)	
	External Mouse		1 x USB Type A Female (Black)	
	FW Upgrade		1 x RJ-11	
	Power		1 x 3W3 or DC Terminal	
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 (Blue)	
	LCD Power		1 (Orange)	
	Lock	Num	1 (Green)	
		Caps	1 (Green)	
		Scroll	1 (Green)	
Emulation	Keyboard / Mouse		PS/2; USB	
Video			1280 x 1024@75Hz, DDC2B	
I/P Rating			36–75VDC; 1A	
Power Consumption			29.6W	32.2W
Environment	Operating Temp.		0–40^{o} C	
	Storage Temp.		-20–60^{o} C	
	Humidity		0–80% RH NC	
Physical Properties	Housing		Metal & Plastic	
	Weight		15.90 kg	17.40 kg
	Dimensions (L x W x H)		61.4 x 48.2 x 4.4 cm	66.5 x 48.2 x 4.4 cm

Optional Rack Mounting

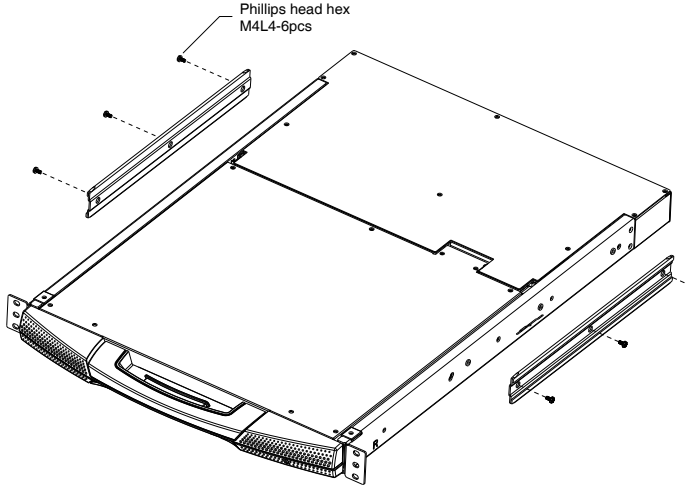
For convenience and flexibility, three optional rack mounting kits are available as shown in the following table:

Bracket Type	Size (cm)
Standard Installation – Long	68.0—105.0
Easy Installation – Short	57.0—70.0
Easy Installation – Long	68.0—105.0

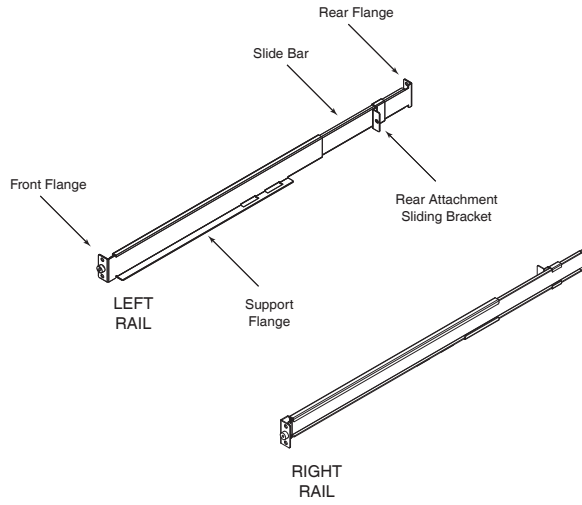
To install the long bracket standard rack mount kit, simply replace the short L brackets on the standard rack mount kit with the long ones, and mount the KL1100 according to the instructions given for *Standard Rack Mounting*, page 12.

While it takes two people to perform a standard installation, with an *Easy-Installation*, kit, one person can mount the KL1100. To install the *Easy-Installation* kit, do the following:

1. Remove the standard sliding L brackets (not shown) and the side mounting brackets from both sides of the KL1100.

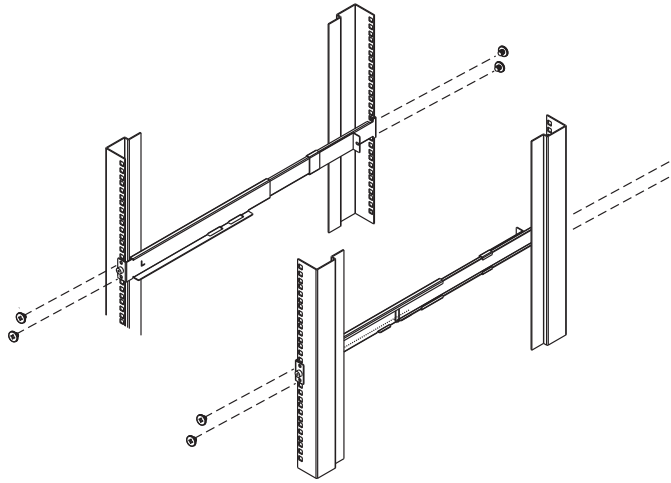


2. Attach the left and right *easy-installation* mounting rails to the inside of the rack. The flange that supports the KL1100 will be to the inside.



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.



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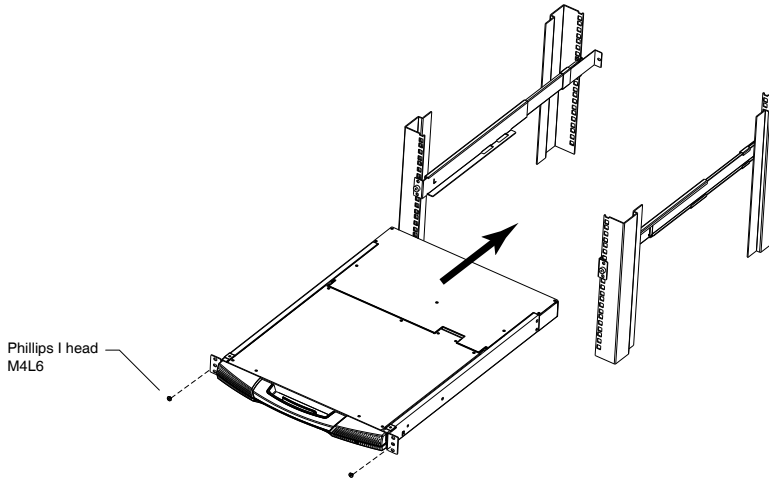
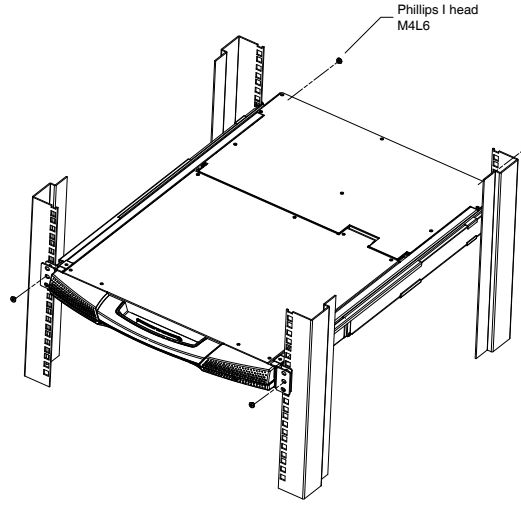
3. Slide the KL1100 onto the support flanges. Use the screws supplied with this package to loosely attach the front of the KL1100 to the front of the rack (only tighten the screws part way).



4. Slide the rear attachment sliding brackets along the slide bars until they contact the rear of the KL1100, then use the screws supplied with this package to attach the bars to the rear of the KL1100 (tighten the screws all the way).



5. Slide the KL1100 open and closed a couple of times to be sure that it is properly aligned and operating smoothly. (See *Opening the Console*, page 15, for opening and closing procedures.)
6. After determining that the KL1100 is lined up and operating correctly, finish by fully tightening the front attachment screws inserted in Step 3.

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.

Troubleshooting

Symptom	Action
There are ghost images on the external monitor.	The distance between the external console and the KL1100 is too great. The maximum VGA cable distance should not exceed 20m and, in some cases, may need to be shorter. Replace the VGA 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 44) to acheive all Sun keyboard functions.

About SPHD Connectors

This product uses SPHD connectors for its KVM and/or Console ports. We have specifically modified the shape of these connectors so that only KVM cables that we have designed to work with this product can be connected.

KL1100 Models

There are four models in the KL1100 series. Options include integrated 17" or 19" LCD panels and AC or DC based input power sources.

Model	LCD Panel	Power
KL1100M	17"	AC
KL1100N	19"	AC
KL1100D	17"	DC
KL1100E	19"	DC

Limited Warranty

ALTUSEN warrants this product against defects in material or workmanship for a period of one (1) year from the date of purchase. If this product proves to be defective, contact ALTUSEN's support department for repair or replacement of your unit. ALTUSEN will not issue a refund. Return requests can not be processed without the original proof of purchase.

When returning the product, you must ship the product in its original packaging or packaging that gives an equal degree of protection. Include your proof of purchase in the packaging and the RMA number clearly marked on the outside of the package.

This warranty becomes invalid if the factory-supplied serial number has been removed or altered on the product.

This warranty does not cover cosmetic damage or damage due to acts of God, accident, misuse, abuse, negligence or modification of any part of the product. This warranty does not cover damage due to improper operation or maintenance, connection to improper equipment, or attempted repair by anyone other than ALTUSEN. This warranty does not cover products sold AS IS or WITH FAULTS.

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