KVM Drawer

User Manual

T1500

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Drawer

KVM

User Manual

T1500

CE c(UL)US 1F61
LISTED I.T.E.

Raritan.

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FCC Information

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 in a commercial installation. This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. Operation of this equipment in a residential environment may cause harmful interference.

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Japanese Approvals

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Table of Contents

Safety Instructions

1. Please read these safety instructions carefully.
2. Keep this User Manual for later reference.
3. Disconnect this equipment from the electrical outlet before cleaning. Do not use liquid or spray detergent for cleaning. Use moisture sheet or cloth for cleaning.
4. For plug-in equipment, the outlet should be located near the equipment and should be easily accessible.
5. Keep this equipment from humidity.
6. Rest this equipment on a reliable surface when installing. A drop or a fall could cause injury.
7. Do not leave this equipment in an unconditioned environment where storage temperatures rise above 40º C; it may damage the equipment.
8. The ventilation openings on the equipment are for air convection to keep it from overheating. DO NOT COVER THE OPENINGS.
9. Make sure the voltage of the power source connecting to the equipment is appropriate.
10. Place the power cord in such a way that people cannot step on it. Do not place anything over the power cord. The power cord must be rated for the voltage and current marked on the product's electrical ratings label. The voltage and current rating of the cord should be greater than the voltage and the current rating marked on the product.
11. Please note all cautions and warnings on the equipment.
12. If the equipment is not in use for an extended time period, disconnect the equipment to avoid being damaged by transient over-voltage.
13. Never pour any liquid into ventilation openings. This could cause fire or electrical shock.
14. If one of the following situations arises, get the equipment checked by service personnel.
    -   The power cord or plug is damaged.
    -   Liquid has gotten into the equipment.
    -   The equipment has been exposed to moisture.
    -   The equipment is not working well, or you cannot get it to work according to this User Manual.
    -   The equipment has dropped and is damaged.
    -   The equipment has obvious signs of breakage.

15. Never open the equipment. Only qualified service personnel should open the equipment.

Chapter 1: Introduction

KVM Drawer Overview

Raritan's KVM Drawer Model T1500 is the first in the industry to offer the convenience of using standard UTP cabling to connect servers up to 1,000 feet away. The KVM Drawer T1500 is a 1U 19" rack mount KVM console that can control a computer by an integration of a keyboard, a touchpad, and an LCD monitor, and can save up to 10 U of height space in your mounting rack.

The KVM Drawer T1500 enables quick and efficient access to servers and other network devices, as well as allowing you to manage the setup, administration, and maintenance of rackmount servers in data centers, server rooms, and other space-critical industrial environments.

Product Photos

Product Features

- 1U 19" rack mount KVM drawer that meets EIA RS-310C standard
- 15" Active-Matrix LCD Flat Panel Display Color Monitor
- Tempered glass protecting the LCD panel
- Compact design enabling the unit to be mounted in most cabinets
- Industrial grade ultra-low-profile compact keyboard with integrated touchpad

Package Contents

The complete KVM Drawer T1500 package consists of:
- (1) 1U 19" Rack Mount KVM Drawer console
- (1) Mounting Kit (includes short and long brackets for customized fit)
- (1) CSW18 Cable
- (1) User Manual
- (1) Warranty Card

Check to make sure that the unit was not damaged in shipping. If you encounter a problem, contact your dealer.

Please read this manual thoroughly and follow the installation and operation procedures carefully to prevent any damage to the KVM Drawer, and/or any of the devices that connect to it.

Chapter 2: Installation

Before you begin, make sure that power to all devices you will be connecting has been turned off. To prevent damage to your KVM Drawer due to ground potential difference, make sure that all devices on the installation are properly grounded. Please consult your vendor for any technical issues if necessary or contact Raritan Technical Support at (732) 764-8886 or via email at support@raritan.com, Monday through Friday, 8:00am to 8:00pm, EST.

KVM Drawer Rack Mount Instructions

Before attaching pieces to your KVM Drawer, determine whether you will be using the short brackets with the two-grid sliders or the longer brackets with the four-grid sliders. Select the pieces according to the depth of the rack in which the unit will be mounted.

1. With the rear of the KVM Drawer facing you, secure each small bracket to the left and right corners of the unit, as illustrated below.
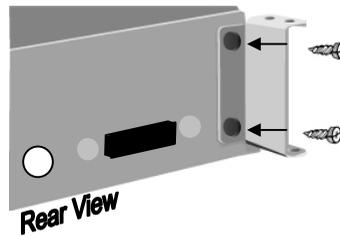
2. Select the appropriate bracket arms and attach them to the sides of the KVM Drawer as shown below. . This bracket will fit over the small bracket piece attached in Step 1, and must be secured with two screws from above and two screws from below.
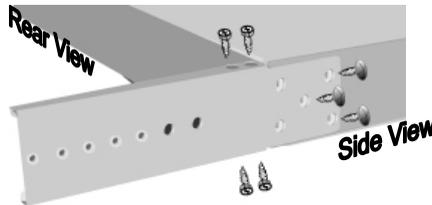
Note: Notice that there are five openings (in the form of an "X") at one end of the bracket arm and there are two screws already in the KVM Drawer at two points of the "X"; you can remove the two screws in the KVM drawer and attach the bracket arm using five screws to fill all five holes.

3.   With the rear of the KVM Drawer facing you, insert the slider into the bracket arm so that the rack mount openings are aimed away from the unit. Attach the slider to the bracket arm using the larger-head screws included in the kit.
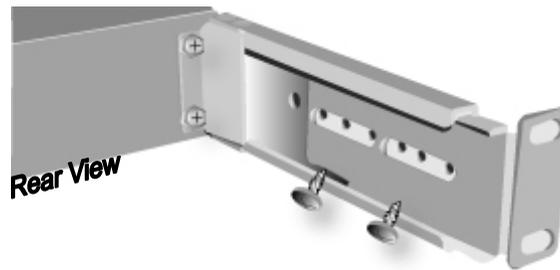

Note: Leave the screws loose so that you can adjust the slider to the depth of the rack when mounting the unit.

4.   Secure the entire assembly to a rack using eight large rack screws (not included). Remember to support the KVM Drawer until the assembly is securely fastened to the rack.

Power Connections

Important: All components and the KVM Drawer unit must be powered OFF prior to installation

1. Connect the CSW18 Cable to the KVM Drawer's mouse, keyboard, and VGA ports.
2. Connect the other end of the CSW18 Cable to the mouse, keyboard, and VGA ports on the component to which you are connecting the KVM Drawer. The component must have female PS2 keyboard and mouse ports and a female HD15 video port.
3. Plug a power cord into the KVM Drawer's power jack and plug the other end into an AC power source.
4. Power ON the KVM Drawer.

Rear view of KVM Drawer T1500

CSW18 Cable
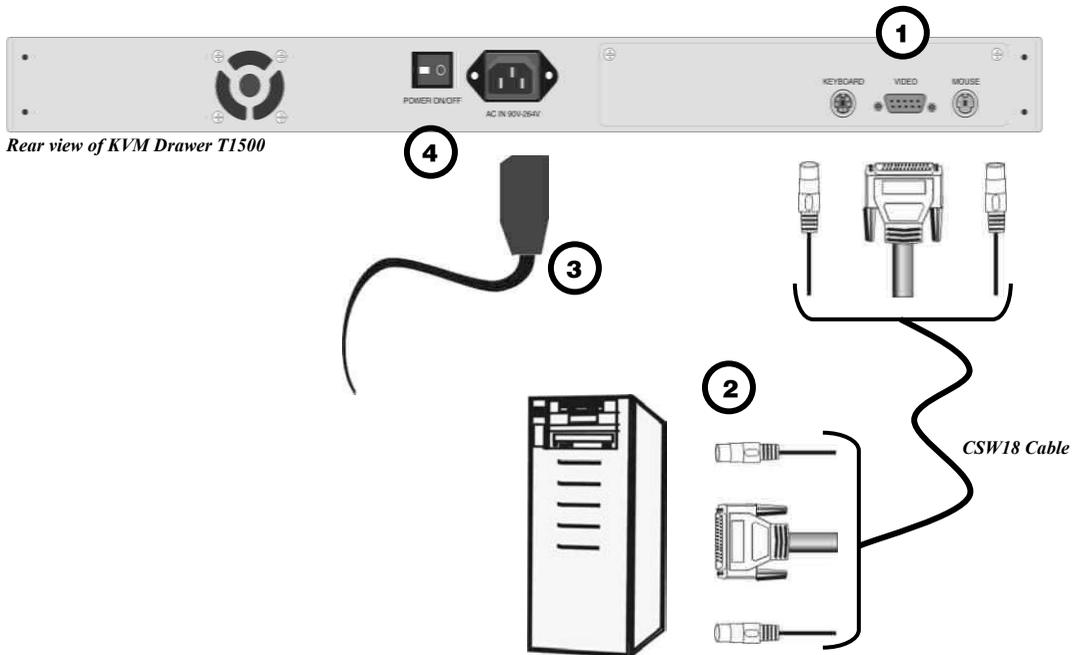
Setup for LCD

Factory Preset Timing for Reference

RESOLUTION	H. FREQ. (KHZ)	V. FREQ. (HZ)	SCAN TYPE	PIXEL FREQ. (MHz)
640 x 350	31.469	70	Non-interlaced	25.175
640 x 350	37.861	85	Non-interlaced	31.50
640 x 400	37.861	85	Non-interlaced	31.50
720 x 400	31.469	70	Non-interlaced	28.322
720 x 400	37.927	85	Non-interlaced	35.50
640 x 400	24.83	56	Non-interlaced	21.053
640 x 480	31.469	60	Non-interlaced	25.175
640 x 480	35.000	66.67	Non-interlaced	30.24
640 x 480	37.861	72	Non-interlaced	31.50
640 x 480	37.500	75	Non-interlaced	31.50
640 x 480	43.269	85	Non-interlaced	36.00
800 x 600	37.879	60	Non-interlaced	40.00
800 x 600	48.077	72	Non-interlaced	50.00
800 x 600	46.875	75	Non-interlaced	49.50
800 x 600	53.674	85	Non-interlaced	56.25
836 x 624	49.715	74.536	Non-interlaced	57.272
960 x 720	44.80	60	Non-interlaced	56.00
*1024 x 768	48.363	60	Non-interlaced	65.00
1024 x 768	56.476	70	Non-interlaced	75.00
1024 x 768	60.023	75	Non-interlaced	78.75
**1024 x 768	35.522	86.959	Interlaced	44.90
1024 x 768	68.677	85	Non-interlaced	94.50

* Panel factory recommended operation timing.
** Not recommended for normal operation.

> *Note: When your KVM Drawer is shipped, the LCD Panel is covered with sheet of clear plastic. You may leave this plastic in place or remove it when you set up and start to operate the KVM Drawer.*

Power Indicator

- Green   =   On
- Orange   =   Off

Chapter 3: Operating Instructions

LCD Panel and OSD Controls

Buttons on the T1500 front LCD panel:

CONTROLS	DESCRIPTION
Power On/Off button	Soft power on/off button on front of the KVM Drawer (there is also an on/off switch on the rear panel of the KVM Drawer). Adjacent LED is lit green when unit is turned on and orange when unit is turned off via the on/off button.
Menu button	Press to access to On-Screen Main Menu and to save settings (if any).
Up Arrow button	Press to move upward in an On-Screen Display menu list.
Down Arrow button	Press to move downward in an On-Screen Display menu list.
Auto button	Press to Auto-synchronize and scale down display to any valid factory preset timings.

Use the buttons located below the LCD panel to view the **On Screen Display** (OSD). The menu functions on the OSD allow you to optimize working with and viewing screen images on the KVM Drawer.

MENU	UP ARROW	DOWN ARROW	AUTO
MENU	▼	▲	*AUTO*

- Press the **MENU** button to display the **OSD Main Menu**. Options on the OSD Main Menu allow you to adjust visual functions of the LCD panel including Brightness, Contrast, Color, Quality, and Position.

- Press the **UP ARROW** (▲) or **DOWN ARROW** (▼) buttons to highlight an OSD Menu option, and then press the **MENU** button to execute the highlighted option.

- Press the **AUTO** button to allow the KVM Drawer to automatically configure all aspects of visual display. The message **AUTO CONFIGURE!** appears and the LCD panel will flicker momentarily until the KVM Drawer finds the ideal profile.

- To close the OSD Main Menu, highlight the **EXIT** function on the Main Menu using the ▲ or ▼ buttons, and then press the **MENU** button.

- To manually close the OSD Main Menu, press the **MENU** button **twice**.

> *Note: The OSD Menu disappears after 20 seconds if no activity is registered on the keyboard or touchpad.*

> *Note: When using the KVM Drawer keyboard, be aware that the numeric keypad is integrated into the alphabet keys; if the <**Num Lock**> key is activated, you will type numbers instead of letters. If you have trouble typing letters, check that the Num Lock key is not activated. The LEDs for <**Num Lock**>, <**Scroll Lock**>, and <**Caps Lock**> are located above and to the right of the keyboard.*

OSD Main Menu Functions

- Press the **MENU** button to display the **OSD Main Menu**.
- Press the **UP ARROW** (▲) or **DOWN ARROW** (▼) button to highlight an OSD Menu option, and then press the **MENU** button to execute the highlighted option.

MAIN MENU

AUTO TUNE
BRIGHTNESS
CONTRAST
COLOR
QUALITY
POSITION
LANGUAGE
RECALL
EXIT
800X600
H37.8KHZ V:59.8HZ

OSD Main Menu

Auto Tune

Select the **Auto Tune** function to allow the KVM Drawer to automatically adjust all aspects of LCD panel display. When you select **Auto Tune,** the LCD panel will flicker momentarily until the KVM Drawer finds the ideal profile for on-screen display.

AUTO TUNE

DOING

Auto Tune Display

Brightness

Select the **Brightness** function to dim or brighten the backlighting of the LCD panel.

1. Press the **MENU** button to activate the OSD Main Menu.
2. Press the ▲ or the ▼ button to highlight **Brightness** and then press the **MENU** button to view the Brightness control panel.
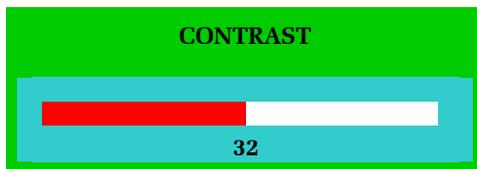
BRIGHTNESS

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Brightness Control Panel

3. Press the ▲ or the ▼ button again to increase or decrease the video raster luminance.
4. Press the **MENU** button to return to the OSD Main Menu.

Contrast

Select the **Contrast** function to change the difference in brightness between the light and dark areas of the LCD panel.

1. Press the **MENU** button to activate the OSD Main Menu.
2. Press the ▲ or the ▼ button to highlight **Contrast** and then press the **MENU** button to view the Contrast control panel.

CONTRAST

32

Contrast Control Panel

3. Press the ▲ or the ▼ button again to increase or decrease the back light luminance.
4. Press the **MENU** button to return to the OSD Main Menu.

Color

Select the **Color** function to adjust the amount of Red, Green, and Blue in the LCD panel in the same way you would adjust the RGB values on a television set.

1. Press the **MENU** button to activate the OSD Main Menu.

2. Press the ▲ or the ▼ button to highlight **Color** and then press the **MENU** button to view the Color Main Menu.

MAIN MENU

9300
7500
6550
USER
AUTO COLOR
RETURN
800X600
H37.8KHZ V:59.8HZ

Color Main Menu

3. Press the ▲ or the ▼ button to select the desired color temperature for the LCD panel display.

   a. Highlight the **User** function and then press the **MENU** button to adjust color levels manually.

MAIN MENU

RED
GREEN
BLUE
RETURN
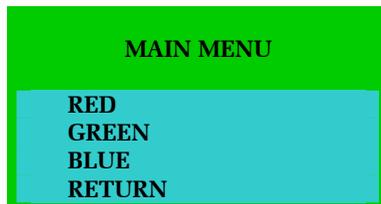
User Main Menu

   i. On the User Main Menu, use the ▲ or the ▼ button to highlight the color you wish to adjust and press the **MENU** button.

ii.   Use the ▲ and ▼ buttons to increase or decrease the color in the selected color's control panel.

'Red' Control Panel

iii. Press the **MENU** button to return to the Color Main Menu.
iv.   Select the **Return** option and press the **MENU** button to return to the Color Main Menu.

b. Select the **Auto Color** function on the Color Main Menu to allow the KVM Drawer to automatically adjust the amount of Red, Green, and Blue on the LCD panel. When you select Auto Color, the LCD panel will flicker momentarily until the KVM Drawer finds the ideal color profile for on-screen display.

Auto Color Panel

c. On the Color Main Menu, select **Return** and press the **MENU** button to return to the OSD Main Menu.
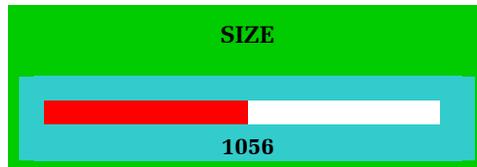
Quality

Select the **Quality** function on the OSD Main Menu to adjust the size and clarity of the appearance of text and graphics displayed on the LCD panel. **Quality** options include Size, Phase, Noise, Text/Graphics, and Sharpness.

1. Press the **MENU** button to activate the OSD Main Menu.
2. Press the ▲ or the ▼ button to highlight **Quality** and then press the **MENU** button to view the Quality Main Menu.

<div align="center">

MAIN MENU

SIZE
PHASE
NOISE
TEXT/GFX
SHARPNESS
RETURN
800X600
H37.8KHZ V:59.8HZ

</div>

Quality Main Menu

3. Press the ▲ or the ▼ button to highlight the option you wish to change and then press the **MENU** button to view the sub-menu for that option.

   a. **Size:** On the Size control panel, use the ▲ and ▼ buttons to adjust the size of images or text on the LCD panel. Press the **MENU** button to return to the Quality Main Menu.

<div align="center">

SIZE

1056

</div>

Size Control Panel

b. **Phase:** On the Phase control panel, use the ▲ and ▼ buttons to adjust the vertical timing of images on the LCD panel. Press the **MENU** button to return to the Quality Main Menu.

Phase Control Panel

c. **Noise:** On the Noise control panel, use the ▲ and ▼ buttons to adjust electrical interference or "snow" that appears on the LCD Panel. Press the **MENU** button to return to the Quality Main Menu.
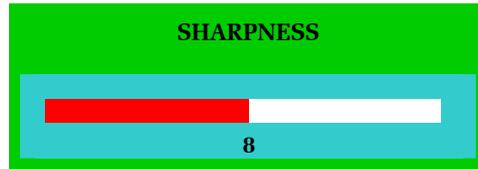

Noise Control Panel

d. **Text:** This function is not enabled at this time.

Text Panel

e.   **Sharpness:** On the Sharpness control panel, use the ▲ and ▼ buttons to increase or decrease the crispness of the image edges on the LCD panel. Press the **MENU** button to return to the Quality Main Menu.


Sharpness Control Panel

4.   On the Quality Main Menu, select **Return** and press the **MENU** button to return to the OSD Main Menu.

Position

Select the **Position** function to change the location of graphics displayed on the LCD panel.

1.   Press the **MENU** button to activate the OSD Main Menu.

2.   Press the ▲ or the ▼ button to highlight **Position** and then press the **MENU** button to view the Position Main Menu.
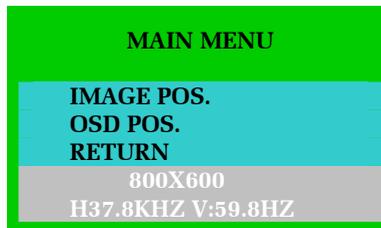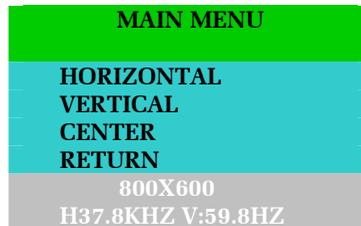

Position Main Menu

3.   Press the ▲ or the ▼ button to highlight the option you wish to change and then press the **MENU** button to view the sub-menu for that option.

a.   Select **Image Pos.** to adjust the position of the images on the LCD Panel.

MAIN MENU

HORIZONTAL
VERTICAL
CENTER
RETURN

800X600
H37.8KHZ V:59.8HZ

Image Position Main Menu

b.   Select **OSD Pos.** to adjust the position of the On Screen Display panel on the LCD panel.

MAIN MENU

HORIZONTAL
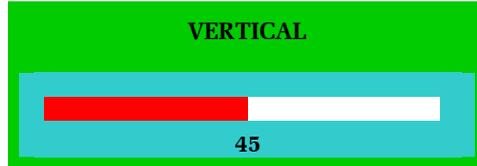VERTICAL
CENTER
RETURN

800X600
H37.8KHZ V:59.8HZ

OSD Position Main Menu

i.   Select the **Horizontal** function to move images left or right. When the Horizontal control panel appears, use the ▲ or the ▼ buttons adjust the image(s) and then press the **MENU** button to return to the Image Position or OSD Position Main Menu.

HORIZONTAL

45
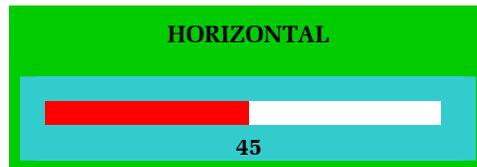
Horizontal Control Panel

ii. Select **Vertical** to move the entire contents of the LCD panel up or down. When the Vertical control panel appears, use the ▲ or the ▼ button adjust the image(s) and then press the **MENU** button to return to the Image Position or OSD Position Main Menu.
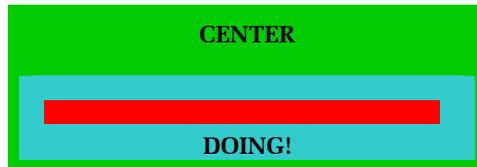

Vertical Control Panel

iii. Select the **Center** function if you want the KVM Drawer to center the image(s) on the LCD panel automatically.

Centering Panel

iv. On the Image Position or OSD Position Main Menu, select the **Return** option and press the **MENU** button to return to the Position Main Menu.

4. On the Position Main Menu, select **Return** and press the **MENU** button to return to the OSD Main Menu.

Language

Select the **Language** function to display all OSD menus in your preferred language. Options on the KVM Drawer include English, German, French, Italian, and Spanish.

1.   Press the **MENU** button to activate the OSD Main Menu.

2.   Press the ▲ or the ▼ button to highlight **Language** and then press the **MENU** button to view the Language Main Menu.

3.   Press the ▲ or the ▼ button to highlight your language of choice and then press the **MENU** button. The chosen language will be reflected immediately.

MAIN MENU

ENGLISH
GERMAN
FRENCH
ITALIAN
SPANISH
800X600
H37.8KHZ V:59.8HZ

Language Main Menu

Recall

Select the **Recall** function to revert any changed LCD panel settings to the original factory settings set by Raritan before shipment.

1.   Press the **MENU** button to activate the OSD Main Menu.

2.   Press the ▲ or the ▼ button to highlight **Recall** and press the **MENU** button to view the Recall Control Panel.

RECALL

YES   NO
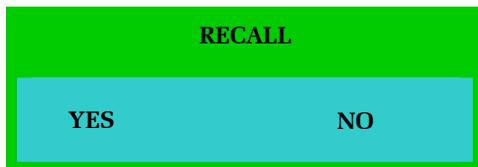
Recall Control Panel

3.   Press the ▲ or the ▼ button to highlight **YES** or **NO** and press the **MENU** button to execute the recall.

Exit

Select the **Exit** function to close the OSD Main Menu.

1. Press the **MENU** button to activate the OSD Main Menu.
2. Press the ▲ or the ▼ button to highlight **Exit** and press the **MENU** button to close the OSD Main Menu.

Note: The OSD Menu disappears after 20 seconds if no activity is registered on the keyboard or touchpad.

Appendix A: Specifications

KVM Drawer T1500

Standard	Meets EIA RS-310C 1U 19" rack mount standard
Dimension (W x H x D)	17.34" x 1.73" x 19.5" (440mm x 44mm x 495 mm)
Display Type	LCD, TFT panel display, 15" (381mm) diagonal
Tempered Glass for LCD	.08" x 9.8" x 13.1" (2mm x 249mm x 333 mm)
Maximum Resolution	XGA (1024 x 768)
Input signal format	RGB Analog Video
Keyboard	PS/2 notebook style with touchpad
Touchpad	Integrated touchpad with two-button control
Gross Weight	37.5 lb. (17 kg)
Power	90~264VAC 47~63Hz, auto-switching
Warranty	2 Years
Certification	CE, UL

LCD Panel

- LCD Panel: 15.1" AM TFT
- Input Signal Format: RGB analog video
- Frequency: FH 30Khz – 70Khz, FV 50hz – 85hz
- Maximum Resolution: 1024 (H) x 768 (V)
- Input Power: 88VAC – 264VAC, 50 – 60hz

Model Differentiation

Raritan offers three KVM Drawer models: the T1500, the TZ1500, and the TP1500.

- The T1500 allows management of data center and server room servers directly from the racks in which they are installed while maximizing rack space for the servers.
- The TZ1500 integrates Raritan's Z-Series switchless KVM switch and enables selection and control of up to 42 servers. It is ideal for server management where space is at a premium or where access distance is up to 1,000 feet in areas such as corporate data centers, ISPs, co-location, web hosting facilities, computer test labs, call centers, help desks and training room.
- The TP1500 offers another way to access the power of Paragon, Raritan's all Category 5 UTP cable-based KVM switch, which is built for small to mid-sized data centers, server rooms, call centers and hardware/software test labs.

Appendix B: Troubleshooting

PROBLEM /DESCRIPTION	SUGGESTION
Blank Screen	• Press soft power button. Check if power LED is lit. • If LED turns green, check if PC has been powered on. Confirm that all cables are connected. • If LED turns orange, check if PC is in the power saving mode by pressing any key on the keyboard.
Rolling Screen	• Change PC display resolution to 1024x768 at 60hz. (Refer to video card manual.) • Unplug power adapter to monitor and plug it back in. • Press monitor power button. • Recall factory setting (see **Chapter 3: Operating Instructions;** *Recall* for more information). • Press the **AUTO** button.
Unstable Screen	• Check if PC display resolution is no greater than 1024 x 768 at 85hz. • Check if PC display resolution matches the factory preset timings. • Change PC display resolution to 1024x768 at 60hz. (Refer to video card manual.) • Recall factory setting (see **Chapter 3: Operating Instructions;** *Recall* for more information). • Press the **AUTO** button.
Screen is not perfect	• Check if PC display resolution matches the factory preset timings. • Recall factory setting (see **Chapter 3: Operating Instructions;** *Recall* for more information). • Fine-tune the screen by first adjusting Pitch, then Phase, and finally, Position. • Refer to **Chapter 3: Operating Instructions** and review all OSD functions to see which adjustment will help LCD panel appearance.

255-37-0040