



# **RPD-1151 and RPD-1158 User's Guide**



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# **kontron**

[www.kontron.com](http://www.kontron.com)

### **Customer Service**

**Mailing Address:**

Kontron - United States  
6260 Sequence Drive  
San Diego, CA 92121 USA  
Tel: 858-677-0877  
Fax: 858-677-0895

**Technical Support:**

U.S. and Canadian Customers - 24 hours a day  
Tel: 800-480-0044, option 1  
Fax: 858-677-0898

International Customers - 9am to 4pm local time  
Tel: (+49) 8165-77 112  
Fax: (+49) 8165-77 110

**Visit our site at:**

[www.kontron.com](http://www.kontron.com)

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# ➤ Safety Instructions

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## ► *Before You Begin*

Before handling the RPD-1151 and RPD-1158, read the following instructions and safety guidelines to prevent damage to the product and to ensure your own personal safety. Refer to the "Advisories" section for advisory conventions used in this manual, including the distinction between Warnings, Cautions, and Notes.

- ◆ Do not remove any of the covers. Only qualified, experienced, authorized electronics service personnel should access the interior of the monitor/keyboard drawer. Opening or removing the cover may expose you to dangerous voltage that could cause fire or electric shock.
- ◆ Do not use the monitor/keyboard drawer near water. Do not place any liquids (even a wet or damp cloth) on or near the monitor/keyboard drawer. Liquids create an electrical hazard. Do not expose the monitor/keyboard drawer to rain or moisture.



### CAUTION



To avoid the risk of severe electric shock, do not remove the cover or back of the monitor. There are no user serviceable parts inside. Refer all servicing to Kontron Technical Support.

---

## **Installation Precautions**

In addition, take note of these installation precautions when appropriate:

- ◆ When you disconnect the power cable from the socket, pull on the plug not the cord.
- ◆ To help prevent electric shock, connect the power cable to a properly wired and grounded power source. Do not use adapter plugs or remove the grounding prong from the cable.
- ◆ Install the unit near an AC outlet that is easily accessible.
- ◆ Only use a power cord with a voltage and current rating greater than the voltage and current rating marked on the unit.
- ◆ Always connect any equipment used with the monitor/keyboard drawer to properly wired and grounded power sources. Be sure to tighten all connector screws.
- ◆ Reliable earthing of this equipment must be maintained. Particular attention should be given to supply connections when connecting to power strips, rather than direct connections to the branch circuit.
- ◆ Do not connect or disconnect this product during an electrical storm.
- ◆ Do not place any object on the cables that might cause the cables to make sharp bends or that affect the integrity of the cables. Be sure that cables are not located where they can be stepped on or tripped over.
- ◆ Route all wiring and cabling away from heat sources and sharp metal edges to avoid damage.
- ◆ Do not place any object on the power adapter. Be sure the power cable is not located where it can be stepped on or tripped over.
- ◆ Keep the monitor/keyboard drawer away from direct sunlight, heat sources, and humidity. Hot air may cause damage to the cabinet and other parts.

- ◆ Install the monitor/keyboard drawer in a well-ventilated area. Do not block ventilation slots and openings with objects. Never place the monitor/keyboard drawer near or over a radiator or heat register, or install in any enclosure that prevents proper ventilation.
- ◆ Do not allow metal pieces or objects of any kind to fall into the ventilation holes. Keep the ventilation holes and openings clean. Vacuum openings if you notice dirt accumulating on them.
- ◆ Do not allow liquid to spill into the vent openings as this could cause a fire or produce an electrical shock.
- ◆ Handle the monitor/keyboard drawer with care. The display contains glass parts. Dropping the monitor/keyboard drawer may cause the glass parts to break.
- ◆ To help protect the monitor/keyboard drawer from sudden, transient increases and decreases in electrical power, use a surge suppressor, line conditioner, or uninterruptible power supply (UPS).
- ◆ Consideration should be given to the connection of the equipment to the supply circuit and the effect that circuit overloading might have on overcurrent protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.
- ◆ The ambient temperature within the rack may be greater than room ambient. Installation should be such that the amount of air flow required for safe operation is not compromised. Consideration should be given to the maximum rated ambient.
- ◆ Installation in a rack should be such that a hazardous stability condition is not achieved due to uneven loading. A drop or fall could cause injury.
- ◆ Do not install this product in areas where extreme vibrations may be generated. Vibrations may cause the display to exhibit picture discoloration or poor video quality.

## ► *Cleaning Precautions*

Take note of these cleaning precautions:

- ◆ Unplug the product power cord from the wall outlet before cleaning. Make sure the monitor/keyboard drawer is in the power off mode.
- ◆ Do not use a mild liquid or sprayed detergent for cleaning. Wipe the screen with a moist sheet or soft lint-free cleaning cloth. If it is not clean, spray a small amount of non-ammonia, non-alcohol based glass cleaner onto a soft lint-free cloth, standing away from the LCD monitor. Wipe the screen without applying excess pressure.
- ◆ Do not place the product on an unstable cart or table. Doing so may cause the product to fall, which can damage it seriously.

## ► *Rack Mounting Precautions*

The following safety guidelines are provided for all rack-mountable equipment:

- ◆ Never restrict the airflow through the unit's fan(s) or vent(s).
- ◆ When installing equipment into a rack, distribute the units evenly. Otherwise, hazardous conditions may be created by an uneven weight distribution.
- ◆ Connect the unit only to a properly rated supply circuit.
- ◆ Reliable earthing (grounding) of rack mount equipment should be maintained.
- ◆ Use the supplied rail only to rack mount the unit.

## ▶ *Service and Repair Precautions*

Unplug the monitor/keyboard drawer from the power outlet and refer servicing to qualified service personnel in the event that:

- ◆ Liquid is spilled into the monitor/keyboard drawer or the monitor/keyboard drawer is exposed to rain or water.
- ◆ The monitor/keyboard drawer does not operate properly when the operating instructions are followed. Only adjust those controls that are covered by the operating instructions. Improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to normal operation.
- ◆ The monitor/keyboard drawer has been dropped or the frame has been damaged.
- ◆ The monitor/keyboard drawer exhibits a distinct change in performance, indicating a need for service.
- ◆ The power cable or plug is damaged or frayed.

## ▶ *Safety Standards*



The monitor/keyboard drawer(s) described in this manual has met the safety requirements of Underwriters Laboratories (UL) for the US and Canadian market based on UL's published Standards for Safety.

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# ► Preface

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# ► *How to Use This Guide*

This guide is designed to be used as step-by-step instructions for installation, and as a reference for operation, and troubleshooting.



**Note:** Additional technical information and drivers are available on our web site, [www.kontron.com](http://www.kontron.com), under Technical Support.

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The following is a summary of the chapter contents:

- ◆ **Chapter 1, Drawer Setup**, provides an overview of the RPD-1151 and RPD-1158 features, system requirements, and installation for setting up the monitor/keyboard drawer.
- ◆ **Chapter 2, Video Display Adjustment**, describes how to adjust the video display using the front panel and on-screen display (OSD) controls.
- ◆ **Chapter 3, KVM Switch**, describes the KVM switch features, installation, operation, PortID numbering, and OSD operation.
- ◆ **Chapter 4, Maintenance and Troubleshooting**, provides cleaning instructions and troubleshooting steps for the monitor/keyboard drawer.
- ◆ **Chapter 5, Specifications**, provides specifications, agency approvals, and connector pin assignments for the monitor/keyboard drawer.
- ◆ **Appendix A, Preset Modes**, provides the settings for the preset display modes.

## ▶ *Customer Comments*

If you have any difficulties using this user's guide, discover an error, or just want to provide some feedback, please send us a message using the online form under "Contact Us" on our web site ([www.kontron.com](http://www.kontron.com)) under "Technical Support." Detail any errors you find. We will correct the errors or problems as soon as possible and post the revised user's guide in our online Support Library. Thank you.



**Note:** You may also use the online form on our web site to submit comments or concerns about our products, or request technical support.

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# ► *Advisory Conventions*

Four types of advisories are used throughout the user's guides to provide helpful information or to alert you to the potential for hardware damage or personal injury. They are Notes, Cautions, and Warnings. The following is an example of each type of advisory. Use caution when servicing any electrical component.



**Note:** A note is used to make helpful information stand out.

---



**Important:** An important note indicates information that is important for you to know.

---



## CAUTION

A CAUTION indicates potential damage to hardware and tells you how to avoid the problem.



## WARNING

A WARNING indicates the potential for bodily harm and tells you how to avoid the problem.



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**Disclaimer:** We have tried to identify all situations that may pose a warning or caution condition in this user's guide. However, Kontron does not claim to have covered all situations that might require the use of a Caution or Warning.

## ***Unpacking***

When unpacking, follow these steps:

- 1) After opening the box, save it and the packing material for possible future shipment.
- 2) Remove all items from the box. If any items listed on the purchase order are missing, notify Kontron customer service immediately.
- 3) Inspect the product for damage. If there is damage, notify Kontron customer service immediately. Refer to “Guarantee and Warranty Policy” for the return procedure.

# ▶ *Regulatory Compliance Statements*

This chapter provides the FCC compliance statement for Class B digital devices and CE certification.

## ▶ **FCC Compliance Statement for Class B Devices**

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- ◆ Reorient or relocate the receiving antenna
- ◆ Increase the separation between the equipment and receiver
- ◆ Connect the equipment into an outlet on a circuit different from that to which the receiver is connected
- ◆ Consult the dealer or an experienced radio/TV technician for help

Changes or modifications not expressly approved by Kontron could void the user's authority to operate the equipment.



**Note:** This product was FCC certified under test conditions that included the use of shielded I/O cables and connectors between system components. To be in compliance with FCC regulations, the user must use shielded cables and connectors and install them properly.

---

## Declaration of Conformity

*We, the Responsible Party*

Kontron  
6260 Sequence Drive  
San Diego, CA 92121

*declare that the product*

Model # RPD-1151 and RPD-1158

*is in conformity with Part 15 of the FCC Rules. Operation of this product is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.*

## ► CE Certification

**CE** The product(s) described in this manual complies with all applicable European Union (CE) directives if it has a CE marking. A CE declaration of conformity sheet is provided at the end of this manual.

## ➤ **Guarantee and Warranty Policy**

### ➤ **Guarantee**

A thirty day money-back guarantee is provided on all standard products sold. Special order products are covered by our Limited Warranty, *however they may not be returned for refund or credit. EPROMs, RAM, Flash EPROMs or other forms of solid electronic media are not returnable for credit - but for replacement only.* An extended warranty is available. Consult the factory.

### ➤ **Refunds**

In order to receive a refund on a product for the purchase price, the product must not have been damaged by the customer or by the common carrier chosen by the customer to return the goods and the product must be returned complete (meaning all user's guides, software, cables, etc.) within 30 days of receipt and in an as-new and resalable condition. The "Return Procedure" must be followed to assure a prompt refund.

### ➤ **Restocking Charges**

Product returned *after 30 days, and before 60 days*, of the purchase will be subject to a minimum 20% restocking charge and charges for any damaged or missing parts. Products not returned within 60 days of purchase, or products which are not in an as-new and resaleable condition, are not eligible for a credit return and will be returned to the customer.

### ➤ **Limited Warranty**

Effective April 1, 1998, all products carry a 2-year limited warranty. Within 2 years of purchase, Kontron will repair or replace, at our option, any defective product. Kontron will service the warranty for all standard catalog products for the first two years from the date of shipment. Please note: The 2-year warranty may not apply to special promotion items. Please consult the factory for warranty verification.

The limited warranty is void if the product has been subjected to alteration, neglect, misuse, or abuse; if any repairs have been attempted by anyone other than Kontron or its authorized agent; or if the failure is caused by accident, acts of God, or other causes beyond the control of Kontron or the manufacturer. Neglect, misuse, and abuse shall include any installation, operation, or maintenance of the product other than in accordance with the user's guide.

No agent, dealer, distributor, service company, or other party is authorized to change, modify, or extend the terms of this Limited Warranty in any manner whatsoever. Kontron reserves the right to make changes or improvements in any product without incurring any obligation to similarly alter products previously purchased.

## Return Procedure

For any Guarantee or Limited Warranty return, please contact Kontron Customer Service at 800-480-0044 or 858-677-0877 and obtain a Return Material Authorization (RMA) Number. All product(s) returned to Kontron for service or credit **must** be accompanied by a Return Material Authorization (RMA) Number. Freight on all returned items **must** be prepaid by the customer who is responsible for any loss or damage caused by common carrier in transit. Returns for Warranty **must** include a Failure Report for each unit, by serial number(s), as well as a copy of the original invoice showing the date of purchase.

To reduce risk of damage, returns of product must be in an Kontron shipping container. If the original container has been lost or damaged, new shipping containers may be obtained from Kontron Customer Service at a nominal cost.

Kontron owns all parts removed from repaired products. Kontron uses new and reconditioned parts made by various manufacturers in performing warranty repairs and building replacement products. If Kontron repairs or replaces a product, its warranty term is not extended.

Kontron will normally return your replacement or repaired items via Second Day Air. Overnight delivery or delivery via other carriers is available at an additional charge.

Shipments not in compliance with this Guarantee and Limited Warranty Return Policy will not be accepted by Kontron.

## ► Limitation of Liability

In no event shall Kontron be liable for any defect in hardware, software, loss, or inadequacy of data of any kind, or for any direct, indirect, incidental, or consequential damages in connection with or arising out of the performance or use of any product furnished hereunder. Kontron's liability shall in no event exceed the purchase price of the product purchased hereunder. The foregoing limitation of liability shall be equally applicable to any service provided by Kontron or its authorized agent.

Some sales items and customized systems are **not** subject to the guarantee and limited warranty. However in these instances, any deviations will be disclosed prior to sales and noted in the original invoice. **Kontron reserves the right to refuse returns or credits on software or special order items.**

## Chapter 1

# Drawer Setup

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## ► Overview

The RPD-1151 and RPD-1158 are ideal solutions for network administration with multiple servers/platforms (Figure 1-1). Their 15-inch large size TFT LCD color display and ultra-low-profile compact industrial keyboard/trackball provide the user-friendliest and most reliable environment for network administrators. All these functions are integrated in a 19-inch 1U space with rugged construction design to achieve ultra space saving and high reliability for high quality industrial/network applications.

The built-in KVM switch of the RPD-1158 enables easy accessibility to 8 servers/platforms and supports PS/2 keyboard, PS/2 mouse, and DB15 VGA with eight DB25 connectors (see figure on page 3 - 5). By cascading function, it can connect up to 512 computers or servers.

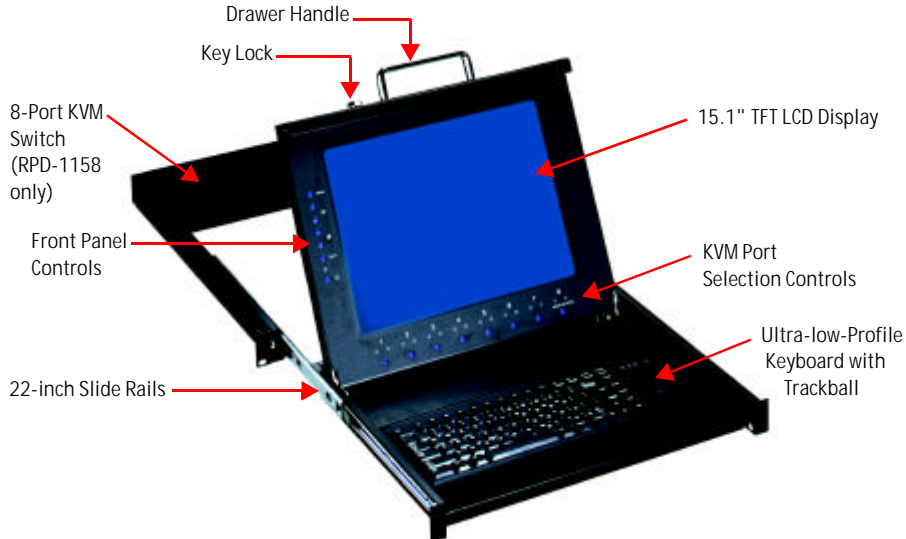


Figure 1-1. RPD-1151 and RPD-1158 Monitor/Keyboard Drawer

The RPD-1151 and RPD-1158 monitor/keyboard drawers provide superior picture quality and state-of-the-art features mounted in an industrial grade, rack mount drawer. The drawer forms a rugged enclosure that protects the monitor from industrial hazards and permits easy access to monitor controls.

The RPD-1151 and RPD-1158 monitors provides flicker-free color images at optimal resolutions. The monitors' 0.297mm pixel pitch ensures crisp images with clear definition, even at high resolutions. The RPD-1151 and RPD-1158 monitors are intelligent, microprocessor-based, and have an ergonomically designed display.

The RPD-1151 and RPD-1158 monitors employ the latest in active matrix thin film transistor (TFT) technology, providing crisp screen images and wide viewing angles. Unlike CRT monitors, LCD monitors are inherently immune to the magnetic fields commonly found on the plant floor or communications centers. LCDs are also typically brighter than conventional CRT technology, making them ideal for the high ambient lighting conditions found in many of today's factory environments.

On-screen menus allow for display adjustments. In addition, the monitors' Plug-n-Play+ features support Windows 95/98/2000 and NT, while a universal power supply ensures global applicability.

The RPD-1151 and RPD-1158 monitors are compatible with most analog RGB (red, green, blue) display standards, including PS/V, PS/2, optional for Apple Macintosh Centris, Quadra, and Macintosh II family signals. The LCD monitor is capable of displaying crisp and vibrant color graphics with VGA, SVGA, XGA (non-interlaced), and most Macintosh compatible color video cards.

## ▶ **System Requirements**

The RPD-1151 and RPD-1158 monitor/keyboard drawers require a personal computer (PC).

The requirements for your PC are as follows:

- ◆ Your PC must have a VGA, SVGA, or Multisync video card and video driver already installed for the monitor. If you need to install a video card or a video driver, refer to your computer documentation for instructions.
- ◆ Your Macintosh will require a “mac adapter” for video.
- ◆ Your video card must be capable of operating in the ranges indicated below.

<b>Rack Mount Monitor</b>	<b>Hsync</b>	<b>Vsync</b>	<b>Displayable Resolution</b>
RPD-1151 and RPD-1158	60 to 75Hz	48.36 to 60kHz	XGA 1024 x 768 maximum non-interlaced

- ◆ Your computer must have a 6-pin mini-DIN (PS/2 style), mouse port
- ◆ Your computer must have a 6-pin mini-DIN (PS/2 Style) keyboard port with +5V DC on pin 4 and Ground on pin 3

For optimum signal integrity and to simplify the layout, we strongly recommend that you use the following high quality custom cable sets:

<b>Cable Set</b>	<b>Part Numbers</b>
PS/2 (6 pin mini-DIN) keyboard and mouse, VGA (15 pin HDB)	2L-1601P, 2L-1603P, 2L-1605P
Daisy Chain RPD-1158 and other KVM switches	2L-1601P, 2L-1603P, 2L-1605P

## ▶ *Setting up the Drawer*

The RPD-1151 and RPD-1158 monitor/keyboard drawers are designed specifically for a rack mount enclosure or other types of industrial enclosures. This section describes how to set up the RPD-1151 and RPD-1158 drawers, which includes the following:

- ◆ Unpack the components
- ◆ Mounting the drawer in a rack
- ◆ Check that a video card and the video software driver are already installed in your system
- ◆ Connect the drawer to a computer
- ◆ Power on the drawer and test your setup

When choosing your workspace, select a sturdy, level surface. Also, make sure you can easily access the back, front, and bottom of the rack mount drawer and the back of the computer. Easy access helps ensure a smooth setup of the rack mount drawer.



### **WARNING**

Before setting up your rack mount drawer, refer to the "Safety Instructions" section at the beginning of this document for installation and rack mounting precautions.



## ► Unpacking

Carefully unpack the carton and inspect the contents. You should have received a:

- ◆ 1U 15-inch TFT monitor/keyboard drawer (RPD-1151 or RPD-1158)
- ◆ Two sets of L-brackets for rack mounting (screws included)
- ◆ RPD-1158: One 1.8-meter KVM cable( 3 in 1 cable, PS/2 mouse, PS/2 keyboard, DB15, VGA)
- ◆ AC power cord
- ◆ Keys for key lock
- ◆ CD-ROM containing this user's guide

Identify your monitor/keyboard drawer and verify you have received the correct model.

- ◆ RPD-1151 model has a monitor and keyboard.
- ◆ RPD-1158 model has a monitor, keyboard, and an 8-port KVM switch

Check to make sure the unit was not damaged during shipment. If there is damage, notify Kontron customer service immediately. Refer to "Guarantee and Warranty Policy" for the return procedure.

Please read this user's guide thoroughly. Follow the installation and operation procedures carefully to prevent any damage to the monitor/keyboard drawer, and/or any of the devices that connect to it.

## ▶ Rack Mounting

The unit is designed for mounting to a standard 23, 29, or 35-inch (60, 75, or 90cm) deep rack. To mount an RPD-1151 or RPD-1158 in a rack, follow these steps:

- 1) Mount the two L-brackets to the back of the rack loosely as shown below.



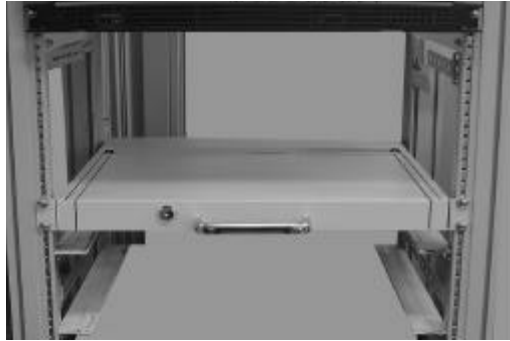
*Figure 1-2. Mounting of the L-Brackets*

- 2) Mount the monitor/keyboard drawer in the rack by fastening the L-brackets at the rear of the drawer as shown below.



*Figure 1-3. Mounting to the L-Bracket*

- 3) Fasten the four screws in the front to secure the unit in the rack as shown below.



*Figure 1-4. Mounting to Front of Rack*

## ▶ Installing the Video Card and Video Driver

Before connecting the RPD-1151 and RPD-1158, make sure your computer has a video card already installed for the monitor. After you connect the drawer, install the video software driver. The video driver is supplied by the video card manufacturer and may be found on the CDROM that came with your computer.

If you need information on installing a video card or video driver, refer to the manual that came with your video card.

## ▶ *Configuring the Display Settings*

After connecting the drawer and turning on your computer, you may need to configure one or more of the following display settings:

- ◆ Display mode (also called desktop area or video resolution)
- ◆ Refresh rate (also called vertical scan rate or vertical sync)
- ◆ Color depth (also called color palette or number of colors)

Each video card has several controls that let you adjust the display settings. However, the software and driver for each video card is unique. In most cases, you adjust these settings by using a program or utility provided by the manufacturer of the video card.

Most video cards use the Windows Display Properties control panel to configure the display. To open the Windows Display Properties, click the right mouse button in a blank area of the Windows desktop and then select **Properties**. The Settings tab usually lets you change the Color Palette and the Desktop Area (x by y pixel resolution).

Some video cards integrate additional features into the Windows Display Properties control panel to give you an exceptional setup that is flexible and easy to use. For example, the control panel may include an Advanced Properties button, an Adjustment tab, or a Refresh tab for changing other settings. Other video cards have a separate utility for setting display properties.

Whenever you change the resolution, color, or refresh rate, the image size, position, or shape may change. This behavior is normal. You can readjust the image using the monitor on-screen controls. For more information on the monitor on-screen controls, refer to Chapter 2. For more information on configuring the display settings, refer to the manual that came with your video card.

## ▶ Connecting the Drawer

To connect a RPD-1151 and RPD-1158 monitor/keyboard drawer to a computer, perform the following steps:

- 1) Turn off your computer. You should always turn off your computer before connecting or disconnecting a device.
- 2) Connect the KVM cable to the “System 1” connector on the monitor/keyboard drawer (Figure 1-5).
- 3) Connect the video (VGA) connector of the KVM cable to the video card connector on the rear panel of your computer.

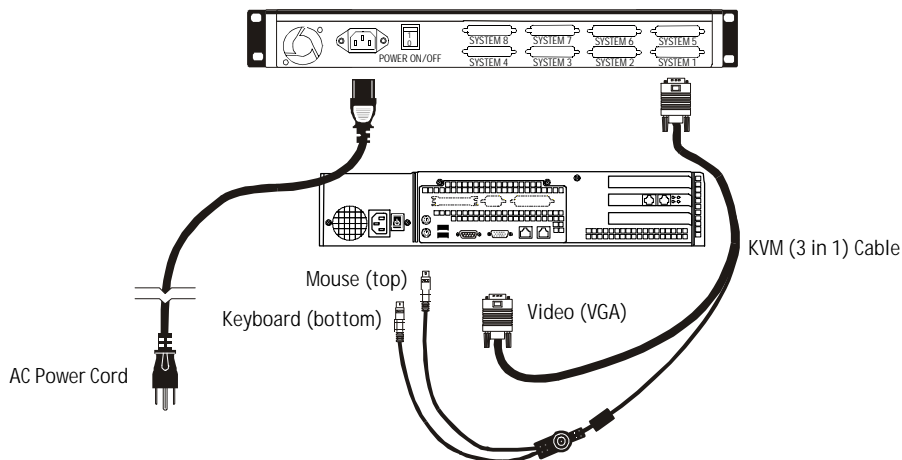


Figure 1-5. Cabling Diagram

- 4) Identify and connect the PS/2 mouse and PS/2 keyboard connector to the correct PS/2 ports on the rear panel of your computer.
- 5) Connect the AC power cord to the power inlet on the drawer and then to a power outlet.

## ▶ Turning On the Drawer

Make sure all cables and the power cord are connected properly. Be sure to tighten all connector screws. Using two hands, grasp the rear of the drawer, lift the tab and pull the panel up and forward. This will disengage the momentary on/off switch and the unit should power on. The LED on the left of the monitor panel should turn from orange to green, verifying that the unit is operational.



**Note:** If the unit does not power up when the panel is pulled up, try pushing the soft power on/off button on the left side of the monitor panel to power up the unit.

---

## ▶ Testing the Drawer

To test that the drawer is working properly, perform the following steps:

- 1) Power up the monitor/keyboard drawer, and then turn on your computer.
- 2) Make sure the video image is centered within the screen area. Use the OSD controls to adjust the image (see note below) or press the Auto button on the right hand side of the monitor.



**Note:** You can adjust the horizontal and vertical position, contrast, and brightness to better suit your video card and your personal preference. Refer to Chapter 2 for more information on using the on-screen menu to adjust the video display

---

## Chapter 2

# ▶ Video Display Adjustment

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## ► *Overview*

The RPD-1151 and RPD-1158 are equipped with front panel and on-screen display (OSD) controls that enable you to adjust the video display. The OSD controls are accessed using an on-screen menu.

For example:

- ◆ You can adjust the contrast and brightness to your ambient lighting conditions.
- ◆ You can adjust the horizontal and vertical position of the image.

This chapter presents guidelines for adjusting the video display and describes how to use the OSD controls to adjust the image to your liking.

## ► *Guidelines*

### ► **Before You Make Any Adjustments**

- ◆ Be sure to set the controls under the normal lighting conditions.
- ◆ Wait for the unit to warm up for 30 minutes before adjusting the video display. Most units will require at least 30 minutes to warm up, stabilize completely, and reach their optimal operating point. Some image characteristics, such as image centering and black-level, will vary until the unit warms up.

## ► Using the Standard Controls for the Video Card

In addition to the controls on the monitor, video cards have several controls that let you adjust the display settings. The software and driver for each video card is unique. In most cases, you adjust these settings using a program or utility provided by the manufacturer of the video card.

For example, the Windows Display Properties control panel can be used to adjust the desktop area (resolution), color depth, and refresh rate. Whenever you change these settings, the image size, position, or shape may change. This behavior is normal. You can readjust the image using the monitor controls described in this chapter.

For more information on adjusting the desktop area (resolution), color depth, or refresh rate, refer to the user's guide that came with your video card.

## ► *Plug and Play*

Our adoption of the new VESA<sup>®</sup> Plug and Play solution eliminates complicated and time consuming setup. It allows you to install your monitor in a Plug and Play compatible system without the usual hassles and confusion. Your PC system can easily identify and configure itself for use with your display. This monitor automatically tells the PC system its Extended Display Identification (EDID) data using Display Data Channel (DDC) protocols so the PC system can automatically configure itself to use the LCD.

## ▶ *Video Display Controls*

The front panel control buttons are located on the left side of the monitor (Figure 2-1). The first five buttons are used to adjust the video display and the last button is a soft power on/off button. Table 2-1 on the next page provides a description of each button. The monitor's power LED is located below the Auto button.

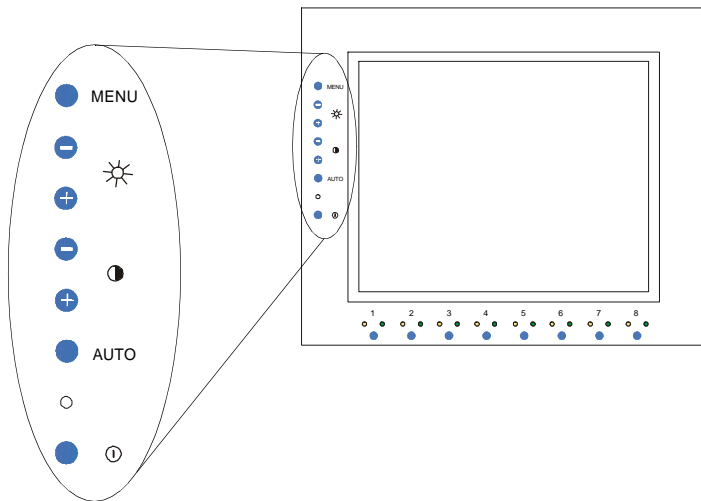





Figure 2-1. Front Panel Controls

Table 2-1. Video Display Controls

Name	Description
Menu	<p>Displays the OSD main menu shown below. This button is also activates the function on the OSD main menu that is highlighted. See “OSD Menu Options” for descriptions of the functions.</p> <p>Note: The OSD menu will disappear after 20 seconds if no activity is detected.</p> 
 (Brightness)	<p>Press the + or - button to the left of this icon to increase or decrease the brightness (video raster luminance).</p>
 (Contrast)	<p>Press the + or - button to the left of this icon to increase or decrease the contrast (backlight luminance).</p>
Auto	<p>Auto-adjusts the display to the fit full screen on its best clock, phase, and position. See “Auto Button Messages” for descriptions of the Auto button popup dialogue boxes.</p>

## ▶ *OSD Menu Options*

To display the OSD menu, press the MENU button on the front of the monitor.

To adjust a display setting, press the + or - button to the left of the ☀ icon until the desired function is highlighted. Then press the MENU button to activate the highlighted function. The OSD menu functions are described below.

### ▶ *Phase Function*

To adjust the Phase, follow these steps:

Note: Adjust the Pitch function before adjusting the Phase function.

- 1) Select the Phase function on the OSD menu and press the MENU button.
- 2) Press the + or - button to the left of the ● icon to reach the best possible display performance, eliminating noise and jitter from the display.


### ▶ *Pitch Function*

To adjust the Pitch, follow these steps:

- 1) Select the Pitch function on the OSD menu and press the MENU button.
- 2) Go to computer "Shut Down Windows".
- 3) Press the + or - button to the left of the ● icon to remove a moving vertical black bar.
- 4) Return to normal computer operation by selecting Cancel from the "Shut Down Windows" dialogue box.


### ▶ *H-Center Function*

To adjust the horizontal center, follow these steps:

- 1) Select the H-Center function on the OSD menu and press the MENU button.
- 2) Press the + or - button to the left of the  icon to move the display in the horizontal direction.


### ▶ *V-Center Function*

To adjust the vertical center, follow these steps:

- 1) Select the V-Center function on the OSD menu and press the MENU button.
- 2) Press the + or - button to the left of the  icon to move the display in the vertical direction.

### ▶ *Zoom Function*

To adjust the screen zoom, follow these steps:

- 1) Select the Zoom function on the OSD menu and press the MENU button.
- 2) Press the + or - button to the left of the  icon to highlight either "real" or "full" mode.
- 3) Press the MENU button to activate the highlighted mode.

## ► *Color Function*

To adjust the color, follow these steps:

- 1) Select the Color function on the OSD menu and press the MENU button.
- 2) Press the + or - button to the left of the ✨ icon to select a color temperature for the display. If you select User Mode, the individual R, G, B colors can be adjusted to create a desired color coordinate.
- 3) Press the MENU button to activate the highlighted color temperature.

## ► *Language Function*

To change the Language, follow these steps:

- 1) Select the Language function on the OSD menu and press the MENU button.
- 2) Press the + or - button to the left of the ✨ icon to select the desired language.
- 3) Press the MENU button to activate the highlighted language.

## ➤ *Option Function*

To access the Option function, follow these steps:

- 1) Select the Option function on the OSD menu and press the MENU button.
- 2) Press the + or - button to the left of the ☼ icon to select the desired function (see descriptions below). To close the Option menu, select Exit.
- 3) Press the MENU button to activate the highlighted function.

## ➤ **OSD Position Function**

To position the OSD menu on the screen, follow these steps:

- 1) Press the + or - button to the left of the ☼ icon to move the OSD menu position in the horizontal direction until the desired position is achieved.
- 2) Press the + or - button to the left of the ● icon to move the OSD menu position in the vertical direction until the desired position is achieved.

## ➤ **Back Light**

To adjust the back light of the display, press the + or - button to the left of the ● icon to increase or decrease the back light.

## ➤ **Factory Preset Function**

To reset all user settings back to the factory default values, press the + or - button to the left of the ☼ icon to select Factory Preset. Then press the MENU button.

## ▶ ***Auto Button Messages***

The different popup dialogue boxes for the Auto button are described below.

### ▶ **Auto Adjusting**

The Information dialogue box will pop up while the present timing is auto processing.

### ▶ **No Signal**

The “No Signal” dialogue box appears when the PC stops horizontal or vertical synchronization signals and the monitor is going into a power saving state.

### ▶ **Out of Range**

The “Out Of Range” dialogue box appears when the wrong range signal is detected. Refer to the Troubleshooting chapter in this manual.

## Chapter 3

# ► KVM Switch (RPD-1158 only)

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## ► *Overview*

The RPD-1158 can control up to eight computers. It can be cascaded to three levels with the combination of KVM switch box to control up to 512 computers - all from a single console.

Setup is fast and easy; plugging cables into their appropriate ports is all that is entailed. There is no software to configure, so there is no need to get involved in complex installation routines or be concerned with incompatibility problems. Because the RPD-1158 intercepts keyboard input directly, it works on any hardware platform and with all operating systems.

There are three convenient methods to access any computer connected to the system: (1) using the push button port selection switches located on each drawer's front panel; (2) entering *Hotkey* combinations from the keyboard; and (3) selecting from menus provided by the on-screen display (OSD) feature. A powerful *Quick View Scan* feature also permits auto scanning and monitoring the activities of all operating computers on the installation one by one.

## ► *Features*

- ◆ Cascadable to Three Levels - Controls up to 512 computers from a single console
- ◆ No Software Required - Computer selection via front panel buttons, hotkeys, or OSD (on-screen display)
- ◆ Quick View Scan feature for monitoring selected computers
- ◆ PS/2 and serial mouse emulation provided for system bootup
- ◆ Console's PS/2 mouse controls all connected computers - Even those with serial mice
- ◆ PS/2 Compatible Mouse Support - Microsoft Intellimouse Explorer and Logitech FirstMouse+ Support
- ◆ SVGA, VGA, and Multisync monitor support
- ◆ LED display for easy status monitoring

- ◆ Supports high quality CS series custom connector cables
- ◆ Hot-Swap Computers - Add or remove computers for maintenance without powering down the KVM switch



**Note:** PS/2 compatible mouse support is for three button (wheel) mice. The Logitech Mouse Ware program's *Change Device* procedure does not work on Microsoft NT systems.

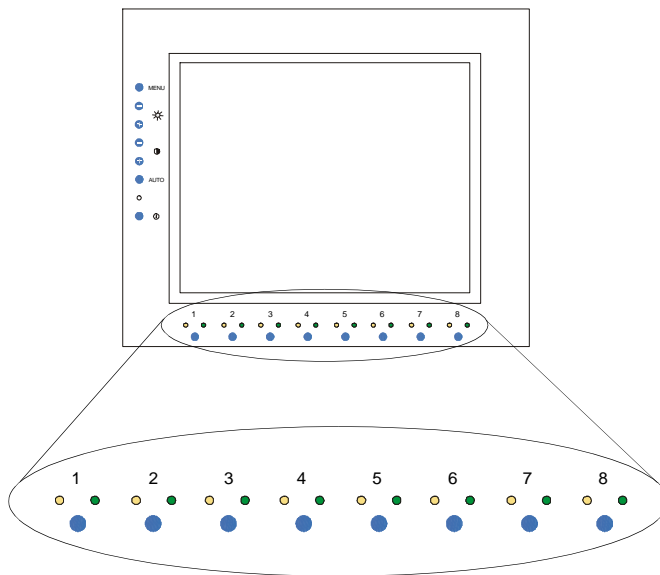


Figure 3-1. KVM Port Selection Controls and LEDs

### ► Port LEDs

**Orange LED (On-Line)** - Lights to indicate that the computer attached to the corresponding port is up and running. If the LED is flashing, it indicates that the Port is being used for Cascading to another Master View switch.

**Green LED (Selected)** - Lights to indicate the currently selected port. The LED is steady under normal conditions, but flashes when its port is accessed under *Auto Scan* mode.

## ➤ Port Selection Controls

- ◆ Access Computer - press a button (1 through 8) to access the computer attached to the corresponding port.
- ◆ Reset Keyboard and Mouse - press buttons 1 and 2 simultaneously for 3 seconds.
- ◆ Auto Scan Mode - press buttons 7 and 8 simultaneously.

## ➤ Rear Panel

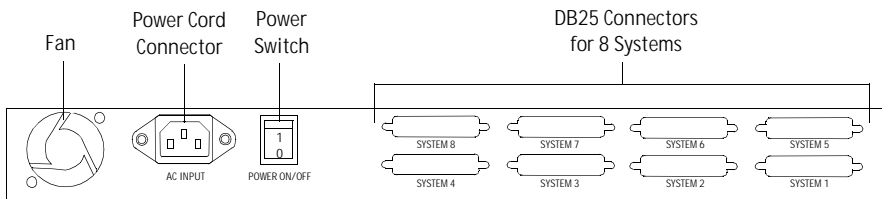


Figure 3-2. KVM Switch (rear panel)

## ► Installation

---



### CAUTION



Make sure that power to all the devices you are connecting has been turned off. Make sure that all devices on the installation are properly grounded to prevent damage to your installation due to ground potential difference.

---

## ► Single Station

In a single stage installation, there are no additional KVM switches daisy chained down from the RPD-1158. To set up a single stage installation, follow these steps:

- 1) Use connector cable sets (as described in the System Requirements section in Chapter 1) to connect to any available monitor, keyboard, and mouse ports on the computers being installed (see Figure 1-5 on page 1 - 11).
- 2) Plug the AC power cord into the power cord connector on the rear panel. Then plug the other end of the AC power cord into an AC power source.
- 3) Power on the computers.

## ► Two or Three Stations

You can cascade up to two or three levels. For two or three stage installation, please refer to the manuals in the KVM switch shipping box for installation instructions.



**Note:** We strongly recommend the use of the KVM switch box manufactured by ATEN International Co., LTD for the best compatibility.

---

## ➤ *Operation*

### ➤ Hot Swapping

The RPD-1158 supports hot swapping. Therefore, components can be removed and added back into the installation by unplugging their cables from the computer ports without the need to power the drawer down.



**Note:** In order for hot swapping to work properly, the cable must be plugged back into the same port it was removed from when hot swapping cables from the platform ports.

---

### ➤ Powering Off and Restarting

If it becomes necessary to power off one of the RPD-1158 drawers, before powering it back up follow these steps:

- 1) Shut down all the computers that are attached to the drawer.
- 2) Unplug the drawer's power adapter cable.
- 3) Wait 10 seconds, then plug the RPD-1158 drawer back in. If more than one drawer was powered down, plug the drawers in starting with the last station in the chain and working back to the station you originally shut down.
- 4) After the RPD-1158 station is powered up, power on the computers, starting with the ones attached to the last station in the chain and working back to the station first station shut down.

## ► Port Selection

The RPD-1158 provides three methods to obtain instant access to any computer in the installation. They are described below.

### ► *Manual*

Press the appropriate Port Selection button on the front panel. After the button is pressed, the green (selected) LED lights to indicate that the port is currently selected. The OSD automatically switches to highlight the computer selected.



**Note:** Simultaneously pressing Port Selection buttons 7 and 8 on the First Stage drawer initiates the Quick View Scan feature, in which all the ports that are selected for Quick View scanning are cycled through. The length of time spent on each port is determined with the OSD F6 (SET) function (see the OSD Menu Options section in Chapter 2 for details).

---

### ► *Hotkey*

*Hotkey* navigation allows the user to conveniently access any computer directly from the keyboard instead of having to manually select it with a *Port Selection* button. To select a port with the *Hotkey* method, follow these steps:

- 1) Press the Ctrl key, then the Alt key, and finally the Shift key to invoke the hotkey function.
- 2) Key in the Port ID number and then press Enter. Refer to “Port ID Numbering” on the following page.



**Note:** The keys must be pressed within 1 second of each keypress when entering the Port ID number.

---

### ► *OSD*

The on -screen display (OSD) provides a menu driven interface to handle the computer switching procedure (see page 3 - 10).

# ➤ Port ID Numbering

## ➤ Overview

Each CPU port on an RPD-1158 installation is assigned a unique Port ID. Any computer of the installation can be directly accessed by specifying the Port ID of the CPU port to which the computer is connected using either the hotkey port selection method or from the OSD menu.

For example: To access a computer attached to Port 3, key in 3 for the Port ID as follows:

- 1) Press the Ctrl key, then the Alt key, and finally the Shift key to invoke the hotkey function.
- 2) Press 3 and then Enter.

## ➤ Hotkey Summary Table

This Combination:	Does This:
[Ctrl] + [Ctrl]	Invokes the OSD (default)
[Scroll Lock] + [Scroll Lock]	Invokes the OSD (alternate method)
[Ctrl]+[Alt]+[Shift] <Port ID> [Enter]	Switches access to the computer that corresponds to the Port ID number. See Port Key In example above.
[Ctrl]+[Alt]+[Shift] [0] [Enter]	Invokes Auto Scan mode.

## ➤ *OSD Operation*

### ➤ Overview

The on-screen display (OSD), provides a menu driven interface to handle the computer switching procedure. Although *hotkey* switching still works, using OSD is a great deal more convenient – especially in large, daisy chained installations where it is difficult to keep track of which port is attached to a particular computer.

All operations start from the OSD main menu. To view the OSD menu, press the MENU button on the front panel. A display similar to the one below will appear.

PN	QV	PC	NAME
2-5	▶	+	ABC
2-6	◀		XYZ
2-7			
2-8			
3			
4			
5-1			
5-2			

F1    F2    F3    F4    F5    F6  
GOTO    SCAN    LIST    Q/    EDIT    SET



**Note:** The keys must be on the same side (both left, or both right) .

The hotkey can be optionally changed by a user to the Scroll Lock key (see F6 on page 3 - 16), in which case you would press Scroll Lock twice.

OSD always starts in List view, with the highlight bar at the same position it was in the last time it was closed.

The two sections on the next page explain how to navigate using the OSD and hotkey methods.

## ▶ OSD Navigation

- ◆ The Esc key cancels the current selection or dismisses the current menu and moves back to the menu one level above. If the screen is at the highest menu level, it deactivates the OSD.
- ◆ Use the up and down arrow keys or click on the up and down triangle symbols (▲ ▼) to move up or down through the list one line at a time.
- ◆ Use the PgUp and PgDn keys or click on the up and down arrow symbols (▲ ▼) to move up or down through the list one screen at a time.
- ◆ To activate a port, move the highlight bar to it and then press Enter.
- ◆ After executing any action, the OSD automatically returns to the menu one level above.

## ▶ Hotkey Navigation

*Hotkey* navigation can also be used under the OSD as follows:

- 1) From the OSD main menu, press the Ctrl key, then the Alt key, and finally the Shift key to invoke the hotkey function.
- 2) Key in the Port ID for the computer you wish to access and then press Enter.
- 3) The console now controls the computer you have selected, and the OSD automatically closes.

When using this method, note the following:

- ◆ Although the monitor access switches to the port you just specified, the highlight bar on the OSD screen does not move.
- ◆ The keys must be pressed within 1 second of each keypress when entering the PortID number and the keys must be pressed and released one at a time.

- ◆ Number keys must be pressed from the regular keyboard and not from the numeric keypad.
- ◆ If you submit an incorrect Port ID, an error message will be displayed and the screen returns to the OSD main menu.

## ▶ OSD Main Menu Headings

Heading	Description
PN	This column lists the Port ID numbers (Station Number - Port Number) for all the CPU ports on the installation. The simplest method to access a particular computer is move the highlight bar to it, and then press Enter.
QV	If a port has been selected for Quick View scanning (see F2 and F4 on page 3 - 14 and 3 - 15), an arrowhead displays in this column to indicate so.
PC	Lists all the computers that are powered on and are online.
NAME	If a port has been given a name (see F5 on page 3 - 15), its name appears in this column.

## ► Function Keys

Pressing a function key on the keyboard brings up a submenu that is used to configure and control the OSD.

For example, you can:

- ◆ Rapidly switch to any port,
- ◆ Scan selected ports only,
- ◆ Limit the list you wish to view,
- ◆ Designate a port for Quick View scanning,
- ◆ Create or edit a Port Name, and
- ◆ Make OSD setting adjustments.

### ► *F1 - GoTo*

Pressing the F1 function key on the keyboard (GoTo) allows you to switch directly to a port by either of the following two methods:

- ◆ Move the highlight bar to the port desired and then press Enter.
- ◆ Key in the Port ID or Name and then press Enter.



**Note:** GoTo has a special feature that narrows the list of available choices as you type the name. For example: If the first letter you type is *a*, the list only displays those ports whose names begin with *a*. If the next letter you type is *b*, the list only displays the ports whose names begin with *ab*, etc.

---

To return to the OSD main menu without making a choice, press Esc.

## ► F2 - Scan

Pressing the F2 function key on the keyboard (Scan) initiates *Quick View Scanning*, in which the OSD cycles through all the ports that are currently selected in the *List* view (see F3 below) and displays each one for the amount of time set with the *Set Scan Duration* function (see F6 on page 3 - 16). To stop at a particular location, press the Spacebar to stop scanning.

If the scanning stops on an empty port or one where the computer is attached but is powered off, the monitor screen will be blank and the mouse and keyboard will have no effect. To recover, key in the *Hotkey* sequence (see "Hotkey Navigation" on page 3 - 11) for any Port ID that has an active computer attached.



**Note:** As the OSD cycles through the selected ports, an "S" appears in front of the Port ID display for each computer to indicate that the computer is being accessed under *Quick View Scan Mode*.

## ► F3 - List

The F3 (List) function allows the user to broaden or narrow the scope of the ports the OSD lists. The choices and their meanings are given in the table below:

Choice	Meaning
ALL	Lists the Port ID numbers and Names (if names have been specified - see F5) of all the ports on the installation.
QVIEW	Lists only the ports that have been selected for Quick View scanning (see F4 on the next page).
POWERED ON + QVIEW	Lists only the ports that have been selected for Quick View scanning (see F4 on the next page) and that have their attached computers powered on.
QVIEW + NAME	Lists only the ports that have been selected for Quick View scanning (see F4 on the next page) and have been assigned names (see F5 on the next page).
NAME	Lists only the ports that have been assigned names (see F5 on the next page).
POWERED ON	Lists only the ports that have their attached computers powered on.

To make a choice, move the highlight bar to the choice you want and then press Enter. An icon appears before the choice to indicate that it is currently selected.



**Note:** You can access any port on any list using the navigation keys and then pressing Enter.

If you select a port that does not have a computer attached to it or if the attached computer is powered off, the OSD will still switch to it and will not show an error.

---

## ► *F4 - QV*

The F4 function key on the keyboard (QV) lets you select the ports you want to include on the automatic scanning under the Quick View Scanning function (see F2 on page 3 - 14).

The F4 function key is a toggle button:

- ◆ If a port is not selected, it selects it.
- ◆ If a port is selected, it deselects.

To select or deselect a port, move the highlight bar to it and then press F4.



**Note:** When a port has been selected, an arrowhead displays in the QV column. The arrowhead disappears when a port is deselected.

---

## ► *F5 - Edit*

To help remember which computer is attached to a particular port, every port can be given a name. The F5 function key on the keyboard (Edit) allows the user to create, modify, or delete Port Names.

To edit a Port Name, follow these steps:

- 1) Move the highlight bar to the port you want to edit.
- 2) Press F5.

- 3) Key in the new Port Name or modify/delete the old one. The maximum number of characters allowed for the Port Name is 15.

Legal characters include:

- ♦ All alpha characters: a - z; A - Z
- ♦ All numeric characters: 0 - 9
- ♦ +, -, /, :, ., and space

Case does not matter. The OSD displays the Port Name in all capitals no matter how they were keyed in.

- 4) When you have finished editing the Port Name, press Enter to implement the change or press Esc to abort the change.

## ► F6 - Set

The F6 function key on the keyboard (Set) brings up an OSD configuration menu.

To change a setting:

- 1) Move the highlight bar to the choice you want and then press Enter.
- 2) Move the highlight bar to the choice you want on the submenu and then press Enter.

An icon of a pointing finger indicates which choice is currently selected. An explanation of the choices is provided in the table below:

Setting	Function
Channel Display Mode	Selects how the Port ID is displayed: <ul style="list-style-type: none"><li>♦ the Port Number plus the Port Name (PN + NAME)</li><li>♦ the Port Number alone (PN), or</li><li>♦ the Port Name alone (NAME)</li></ul> The default setting is Port Number plus the Port Name.
Channel Display Duration	Determines how long a Port ID displays on the monitor after a port change has taken place (3 seconds or Always On). The default setting is Always On.

Setting	Function
Channel Display Position	Allows you to position where the Port ID appears on the screen. Use the arrow keys, PgUp, PgDn, Home, End, and 5 (on the numeric keypad with Num Lock off) to position the Port ID display. Then press Enter to lock the position and return to the Set submenu.
Scan Duration	Determines how long the display dwells on each port as it cycles through the selected ports in Quick View Scan Mode. The available options are 3, 5, 10, 15, 20, 30, 40, and 60 seconds. The default setting is 3 seconds.
OSD Activating Hotkey	Selects which hotkey activates the OSD function: Ctrl + Ctrl or Scroll Lock + Scroll Lock. The default is the Ctrl key combination, but this may conflict with programs running on the computers, in which case the Scroll Lock option should be used.
Set Password	Allows a user to set a password in order to control access to: <ul style="list-style-type: none"> <li>♦ Locking/Unlocking the console</li> <li>♦ Clearing the Name List, and</li> <li>♦ Restoring default values</li> </ul> See <i>OSD Security</i> features on page 3 - 20 for password setting details.
Clear the Name List	Clears all Port Names from the Name list. You are asked to confirm before the procedure goes on. Key in Y and then press Enter to confirm.  While the names are being cleared, a message appears on the display that indicates this. After the names have been cleared, another message appears to indicate that the procedure has completed successfully.

Setting	Function
Restore Default Values	<p>Clears all settings from memory and returns the drawer to the factory defaults. You are asked to confirm. Key in Y and then press Enter to confirm.</p> <p>While the settings are being cleared, a message appears on the display that indicates this. After the settings have been cleared, another message appears to indicate that the procedure has completed successfully.</p>
Lock Console	<p>Locks / Unlocks the console. When the console is locked, only the current monitor screen displays. Attempts to input information from the console have no effect. Attempts to switch to a different port, either from the console or by pressing the manual switches, have no effect either.</p> <p>The only way to regain access to the computers is by unlocking the console. If a password has been set, you must provide the password to lock / unlock the console. If no password has been set, pressing Enter will lock / unlock the console.</p> <p>Note: If a password has been set, these settings require you to supply a proper password in order to access them. See the <i>OSD Security</i> section on the next page for details.</p>

## ► OSD Security

In order to prevent unauthorized access to the computers, the OSD provides a password security feature. If a password has been set, the OSD will request that the user to key it in before allowing entry.

To set a password:

- 1) Press the F6 function key to bring up the Setup configuration menu.
- 2) Move the highlight bar to Set Password and then press Enter.
- 3) Key in the new password and then press Enter. The password may be up to 8 characters long and can consist of any combination of letters and numbers (A - Z, 0 - 9).
- 4) Key in the new password again to confirm and then press Enter.

If the two entries match, the new password is accepted and the screen displays the following message:

SET PASSWORD OK

If the entries do not match, the screen displays the message:

PASSWORD NOT MATCH

in which case you must start again from the beginning.



**Note:** To modify or delete a previous password, access the Password function as in Step 1 and then use the backspace or delete key to erase the individual characters.

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## Chapter 4

# ► Maintenance and Troubleshooting

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## **Maintenance**

To maintain your drawer and keep the unit operating at peak performance:

- ◆ Keep your display screen and keyboard clean. Refer to “Cleaning Precautions” in the Preface for cleaning instructions.
- ◆ Adjust the OSD controls. Refer to Chapter 2 for more information.
- ◆ Keep all ventilation holes and openings clean. Vacuum the openings if you notice dirt accumulating on them.
- ◆ Do not block ventilation holes and openings with objects or install the drawer in a place where ventilation may be hindered. Always maintain adequate ventilation to protect the drawer from overheating and to ensure reliable and continued operation.

## ➤ Troubleshooting

Problem	Description	Possible Causes and Solutions
No image displayed (blank screen)	After installing the power adapter and connecting the KVM cable to a PC, the monitor displays a blank screen.	<p>Press the soft power on/off button on the front panel. Then check to see if the LED on the front panel is lit.</p> <ul style="list-style-type: none"> <li>• If the LED is green, make sure the PC is powered on and all cables are connected. Make sure the computer's power cable is connected properly and securely into a grounded electrical outlet.</li> <li>• If the LED is orange, check to see if the PC is in power saving mode by pressing any key on the keyboard.</li> </ul> <p><b>Is the drawer receiving power?</b></p> <ol style="list-style-type: none"> <li>1) Make sure the monitor's power cable is connected properly and securely to an electrical outlet.</li> <li>2) Make sure the panel is in a raised position for the power switch to automatically activate.</li> <li>3) Try using another electrical outlet.</li> </ol> <p><b>Is the drawer receiving a valid video signal from the PC?</b></p> <ol style="list-style-type: none"> <li>1) Make sure the computer is powered on.</li> <li>2) Make sure the video cable is connected properly and securely to the computer.</li> <li>3) Make sure no pins are bent in the video cable connector.</li> <li>4) Make sure the video card is firmly seated in the card slot in your computer.</li> </ol> <p><b>Are the brightness and the contrast settings too low?</b></p> <p>Use the front panel controls to adjust the brightness and contrast settings.</p>
Abnormal image		<p>Follow these steps:</p> <ol style="list-style-type: none"> <li>1) Make sure the video signal is within specifications for the monitor.</li> <li>2) Make sure the video cable is connected properly and securely to the computer.</li> </ol>

Problem	Description	Possible Causes and Solutions
Colors of image are abnormal		Follow these steps: <ol style="list-style-type: none"> <li>1) Make sure the video cable is connected properly and securely to the computer.</li> <li>2) Make sure no pins are bent in the video cable connector.</li> <li>3) Make sure a magnetized object is not nearby.</li> <li>4) Check the settings under the Color function using the OSD controls.</li> </ol>
"Video Mode not supported" message		Follow these steps: <ol style="list-style-type: none"> <li>1) Check the maximum resolution and the frequency on the video port of your computer.</li> <li>2) Compare these values with the data in the Display Modes Timing Chart in Appendix A.</li> </ol>
The image is too dark or too light		Adjust the brightness and contrast using the front panel controls.
Image appears to flicker, jitter or shimmer on the image		Adjust the Phase function using the OSD controls.
Image is not stable and may appear to vibrate		Follow these steps: <ol style="list-style-type: none"> <li>1) Check to see if PC display resolution is not greater than 1024 x 768 at 85Hz. On your computer check: Control Panel &gt; Display &gt; Settings</li> <li>2) If the setting is not correct, use your computer utility program to change the display settings. Hsync: 60Hz to 75Hz Vsync: 48.36kHz to 60kHz Maximum Refresh Rate: 1024 x 768 @ 60Hz</li> <li>3) Recall the factory default settings using the Option function on the OSD menu.</li> <li>4) Press the Auto button.</li> </ol>

Problem	Description	Possible Causes and Solutions
Rolling Screen		Follow these steps: <ol style="list-style-type: none"> <li>1) Change the PC display resolution to 1024 x 768 @ 60 Hz. Refer to video card manual.</li> <li>2) Unplug the power adapter to the monitor and then plug it back in.</li> <li>3) Press the soft power on/off button again.</li> <li>4) Recall the factory settings using the Option function on the OSD menu.</li> <li>5) Press the Auto button.</li> </ol>
Image is not centered on the screen		Adjust the horizontal and vertical position of the screen using the OSD menu.

## Chapter 5

# ► Specifications

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## ➤ *Drawer Details*

### ➤ *Mounting*

Rack mounting, 19in (482.6mm)

Slide rails provided, 22in (609.6mm), fits cabinets with 18 to 30in rail depth

### ➤ *Display Type*

LCD, TFT, active matrix with built-in power saving and back light protection functions

### ➤ *Display Size*

15" (381mm) diagonal

Viewing area (H x W): 8.99 x 11.98in (228.1 x 304.1mm)

### ➤ *Dimensions (W x H x D)*

17.34 x 1.73 (1U) x 19.38-inch (440 x 44 x 492mm)

### ➤ *Security*

Key lock

### ➤ *Contrast Ratio*

300:1 (typical)

### ➤ *Viewing Angle*

Horizontal: 70/70 degrees from center

Vertical: 55/60 degrees from center

### ➤ *Display Colors*

16 million

▶ *Maximum Resolution*

XGA (1024 x 768) at 85Hz

▶ *Brightness*

200nits (cd/m<sup>2</sup>)

▶ *Response Time*

Tr: 10ms, Tf: 35ms (typical)

▶ *Interface*

Analog RGB

▶ *Scanning Frequencies*

Vsync: 60 to 75Hz

Hsync: 48.36 to 60kHz

Main: 65 to 80MHz

▶ *Backlight*

Backlight automatically shuts off when display is closed

▶ *Pixel Pitch (H x V)*

0.297 x 0.297mm

▶ *LCD panel protection*

Tempered glass to protect LCD panel (2 x 249 x 333mm)

▶ *Cable Connector*

Standard 15-pin SUB D-socket

➤ *Monitor Control Type*

Digital microprocessor OSD control

➤ *Memory Modes*

22 factory preset modes, 5 user settable

➤ *VESA Plug-n-Play Level*

DDC1 and DCC2B

➤ *Front Panel Controls*

OSD Menu, Contrast (+, -), Brightness (+, -), Auto adjustment, Power on/off, power LED

➤ *On-Screen Adjustment*

Brightness, Contrast, Phase, Auto adjustment, Pitch, H-center, V-center, Zoom, Color Temperature, Language (5 total), OSD position, Back light, Restore Factory Preset

➤ *Power Management*

VESA DPMS, EPA/Energy Star compliant

➤ *Keyboard*

Keys: 83 keys, tamper printed

Integrated Trackball: High-quality 2 button, 16mm trackball

Keyswitch Technology: ML mechanical keyswitch with gold crosspoint contacts

Interfaces: Y cable (PS/2 keyboard, PS/2 trackball)

Dimensions (L x W x H): 14.56 x 5.45 x 0.78-inches (369.8 x 138.4 x 19.8mm)

MTBF: > 134,000 hours for keyboard, > 20 million actuations (individual keys)

➤ *KVM Switch (RPD-1158 only)*

KVM Switch Control: Front panel switch, hot-key and OSD control

KVM Support: Supports up to 8 systems; cascade to 3 levels for a total of up to 512 systems

Interface: DB25 system port

➤ *Construction*

SPPC with Ni-coating

➤ *Housing*

Meets EIA RS-310C 1U 19-inch rack mount standard

➤ *Color*

Black

➤ *Weight Net*

37.6lb (17kg)

➤ *MTBF*

25,000 POH (power on hours)

➤ *Power Adapter*

Type: AC PSU auto-switching

Input: 115/230VAC, 50/60Hz, 2/1A

Output: 12VDC @ 3A, 2.5W per channel

Input Impedance: 10k

## ➤ *Environment Conditions*

### ➤ *Temperature*

Operating: 0 ° to 45 °C (0 ° to 113 °F)

Storage: -40 ° to 70 °C (-13 ° to 158 °F)

### ➤ *Relative Humidity*

Operating: 20 to 90% RH @ 40 °C , non-condensing

Storage: 5 to 95% RH @ 40 °C , non-condensing

### ➤ *Altitude*

Operating: 0 to 10,000-feet (3,048-meters)

Storage: 0 to 50,000-feet (15,240 -meters)

### ➤ *Shock*

Operating: 10g, 11ms duration, half sine / six axis

Storage: 15g, 11ms duration, half sine / six axis

### ➤ *Vibration*

Operating: 10 to 58Hz, +/- 0.075mm; 58 to 500Hz, 1.0g

Storage: 10 to 58Hz, +/- 0.15mm; 58 to 500Hz, 2.0g

### ➤ *Power Requirements*

115/230VAC, 50/60Hz, 2/1A

AC PSU auto-switching

## ➤ ***Agency Approvals***

### ➤ *FCC Conformity with*

Part 15B, Class B

### ➤ *CE Conformity with*

EU EMC Directive 89/336/EEC

EU Low Voltage Directive 72/23/EEC

### ➤ *UL/cUL Listed to*

UL1950 Third Edition

## ► Power Management

The RPD-1151 and RPD-1158 monitor conforms to the Video Electronics Standards Association (VESA) Display Power Management Signaling (DPMS) standard.

To benefit from power management, the monitor must be used in conjunction with a computer and video card that implements the VESA, DPMS standard. Table 5-1 lists the power management specifications for the RPD-1151 and RPD-1158.

The PC automatically invokes the power management feature if you do not use the touchscreen, mouse, or keyboard for a user-defined period of time. To restore the video image, simply press a key, touch the mouse, or touch the touchscreen.

*Table 5-1. Power Management Specifications*

Mode	H-sync	V-sync	Video	Power Consumption
On	Pulse	Pulse	Active	<36 watts (26.25 watts typical)
Standby	No pulse	Pulse	Blanked	<5 watts
Suspend	Pulse	No pulse	Blanked	<5 watts
Off	No pulse	No pulse	Blanked	<5 watts

## ► Connectors

Table 5-2. Keyboard or Mouse PS/2 Connector

Pin	Signal Name	6-Pin Mini-DIN Socket
1	Keyboard or Mouse data	
2	Not connected	
3	GND	
4	+5 V	
5	Keyboard or Mouse clock	
6	Not connected	

Table 5-3. VGA Connector

Pin	Signal Name	15-Pin SUB D-Socket
1	Red	
2	Green	
3	Blue	
4, 5	Not connected	
6-8	GND	
9	Not connected	
10	GND	
11, 12	Not connected	
13	HSYNC	
14	VSYNC	
15	Not connected	

Appendix A

# ► **Preset Modes**



# ▶ Monitor Setup

The RPD-1151 and RPD-1158 comes with many factory preset display modes. Refer to Table A-1 below for a description of the preset modes.

Table A-1. Preset Timing for Reference

Resolution	Horizontal Frequency (kHz)	Vertical Frequency (Hz)	Scan Type	Pixel Frequency (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

Resolution	Horizontal Frequency (kHz)	Vertical Frequency (Hz)	Scan Type	Pixel Frequency (MHz)
<b>1024* x 768</b>	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
<b>1024**x 768</b>	35.522	86.959	Interlaced	44.90
1024 x 768	68.677	85	Non-interlaced	94.50

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\* Panel factory recommended operation timing

\*\* Not recommended for normal operation

# *Declaration of Conformity*

## Information Technology Equipment

The product(s) covered by this declaration has a CE marking:

RPD-1151 and RPD-1158 – 15" monitor/keyboard drawers

The European Union directives covered by this declaration:

EMC Directive 89/336/EEC and Low Voltage Directive 73/23/EEC

The basis on which conformity is declared:

**EN 50081-1:1992 Emissions, Generic Requirements**

-EN 55022:1994 Limits and Methods of Measurement of Radio Disturbance  
Characteristics of Information Technology Equipment

**EN 50082-1:1992 Immunity, Generic Requirements**

- EN61000-4-2: 1995 Electrostatic Discharge (ESD) Immunity  
- EN61000-4-3: 1995 Radiated RF Field Immunity  
- EN61000-4-4: 1995 EFT Immunity for AC and I/O Lines

**EN 60950:1992 Safety of Information Technology Equipment**

The technical documentation required to demonstrate this product meets the requirements of the EMC Directive and the Low Voltage Directive has been compiled by Kontron and is available for inspection by the relevant enforcement authorities.

### Attention

The attention of the specifier, purchaser, installer, or user is drawn to special measures and limitations for use which must be observed when the product is taken into service to maintain compliance with the above directives. Details of these special measures and limitations are in the product manual.



Mr. Thomas Sparrvik

President/CEO Kontron America

Kontron - United States  
6260 Sequence Drive  
San Diego, CA 92121 USA  
Tel: 888-294-4558  
Fax: 858-677-0898

Kontron - Canada  
616 Curé-Boivin  
Boisbriand (Québec) Canada  
J7G 2A7  
Tel: 800-387-4222  
Fax: 450-437-8053

Kontron - Europe, Middle East, and Africa  
Oskar-von-Miller-Straße 1  
85386 Eching/München, Germany  
Tel: +49 81-65 77 0  
Fax: +49 81-65 77 219

