PROMISE® TECHNOLOGY, INC.

ULTRATRAK RM4000
QUICK START GUIDE

Version 1.3

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Contents

Step 1: Unpack your UltraTrak

Open the UltraTrak box and carefully remove the UltraTrak unit and accessories from the box. Be sure to remove the packing foam from within the UltraTrak door. The UltraTrak and accessories include the following items:

- UltraTrak RM4000 Unit
- Quick Start Guide
- Two drive-carrier keys
- Null Modem Cable
- SCSI Terminator
- External LVD SCSI cable
- Power cord
- Screw sets for hard drives
- CD with PAM Utility and User Manual, RM4000 User Manual

	Caution
⚠️	Packing foam was placed inside the front panel door to prevent damage during shipping. Remove this packing foam and retain it for future use.

	Note
📝	The Promise Array Management (PAM) utility provides monitoring and maintenance of your RAID through a graphic user interface (GUI) on your PC. Install PAM from the CD that comes with UltraTrak. You can also download it from the Promise website (www.promise.com). PAM will manage one UltraTrak system per PC.

Step 2: Placement of your UltraTrak

The UltraTrak may be installed in any convenient location within the LVD SCSI cable length distance of the next SCSI device. The UltraTrak RM4000 is designed specifically for rackmount installation but may also serve on a bench top as well.

The UltraTrak RM4000 installs directly to the rack with or without a shelf. Assemble the Mounting Brackets on each side of the RM4000 and set the unit into the rack.
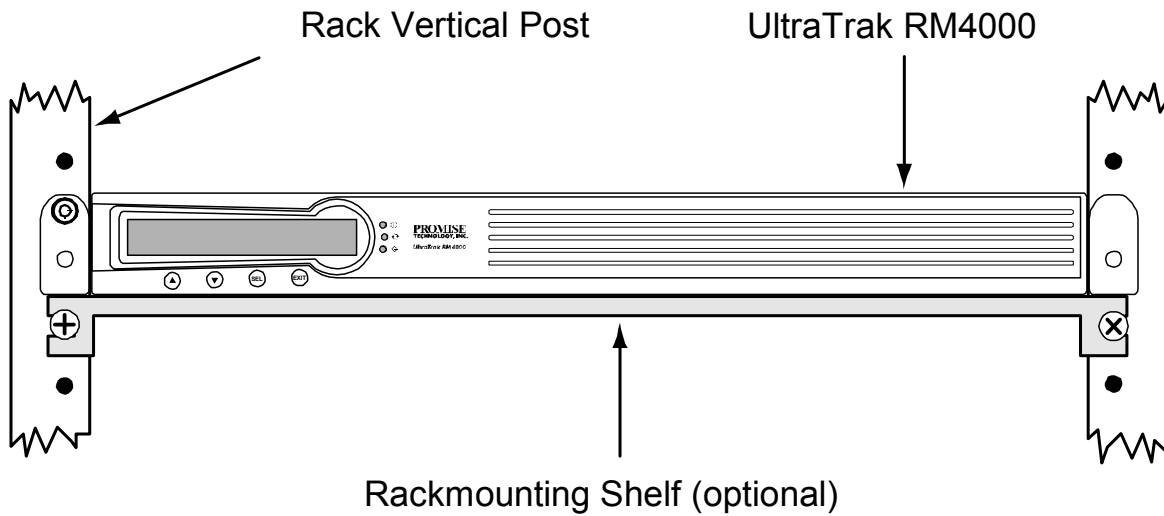
Rack Vertical Post   UltraTrak RM4000

Rackmounting Shelf (optional)

Figure 1.   Rackmounted RM4000

Step 3: Install Hard Drives

Before using, the UltraTrak must first be populated with ATA hard drives. Be sure to set the jumpers on the new hard drives for *single* or *master* operation. Consult the drive manual for the proper settings.
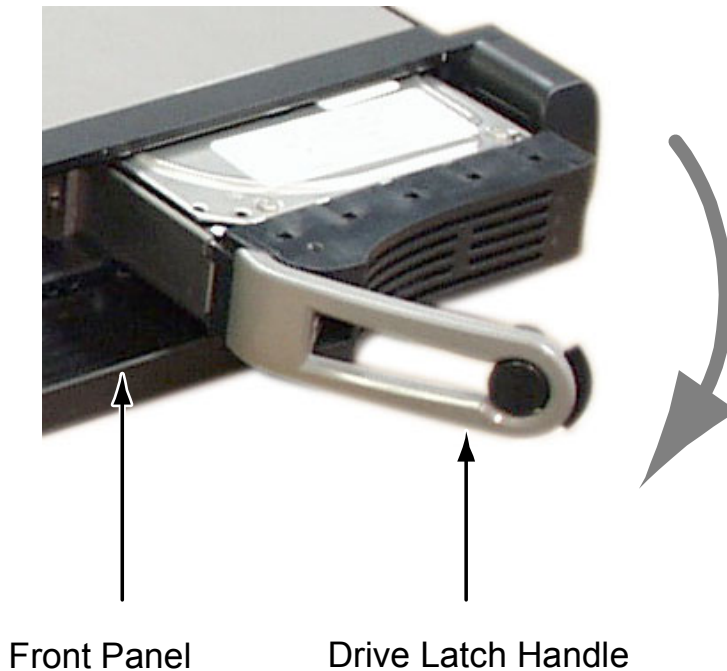

Front Panel   Drive Latch Handle

Figure 2.   UltraTrak Disk Drive Access

Install new hard drives into the UltraTrak by doing the following:

1. Unlock and open the Front Panel Door on the UltraTrak.
2. Pull the Drive Carrier Latch Handle and remove an unused Drive Carrier (see Figure 2) from the UltraTrak. Begin at the right and work left.
3. Carefully lay the hard drive into the drive carrier, with the drive's connectors facing the carrier's connectors.
4. Slide the hard drive so the drive's ATA connector fits into the carrier's ATA connector.
5. Attach the Drive Carrier power cable to the hard drive (see Figure 3).
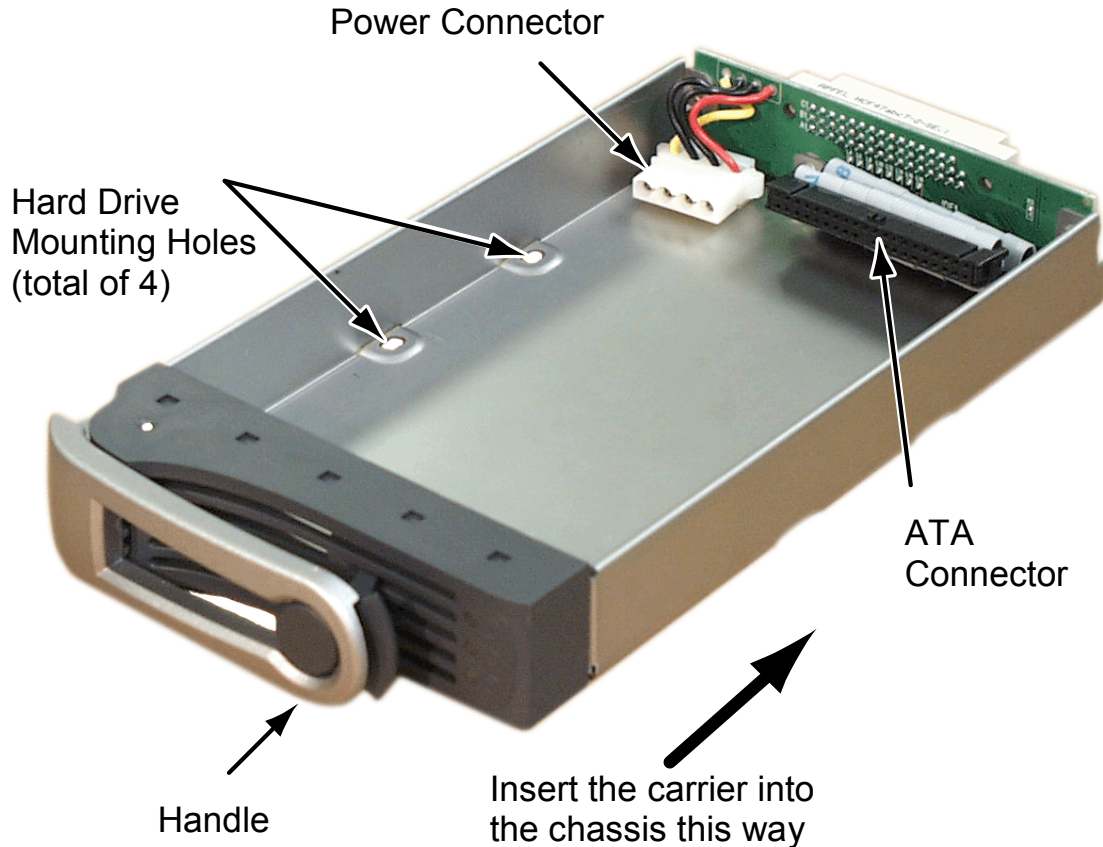6. Lower the hard drive into the Drive Carrier so that the screw holes on the bottom line up.

Power Connector

Hard Drive
Mounting Holes
(total of 4)

ATA
Connector

Insert the carrier into
the chassis this way

Handle

Figure 3. ***UltraTrak Drive Carrier***

7. Insert screws through the holes in the Drive Carrier and into the bottom of the hard drive. Snug each screw. Be careful not to over tighten.
8. Slide the assembled Drive Carrier back into the UltraTrak and press the handle forward to lock the Drive Carrier.
9. Repeat steps 2 through 7 until all of your hard drives are installed.

Caution

If you plan to operate your UltraTrak with less than four hard disk drives, install all four Drive Carriers into the Chassis, even if they are not holding a drive.

Important

The Drive Carrier Handle must be locked or the disk drive will not power up.

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Step 4: Connect the SCSI Cable

Installation of the UltraTrak disk array is very similar to the installation of a standard SCSI drive. The SCSI connector accepts the standard 68-pin LVD SCSI connector used on most LVD SCSI devices. Refer to your system and/or SCSI host adapter manual for additional installation procedures that may apply to your system or host adapter.
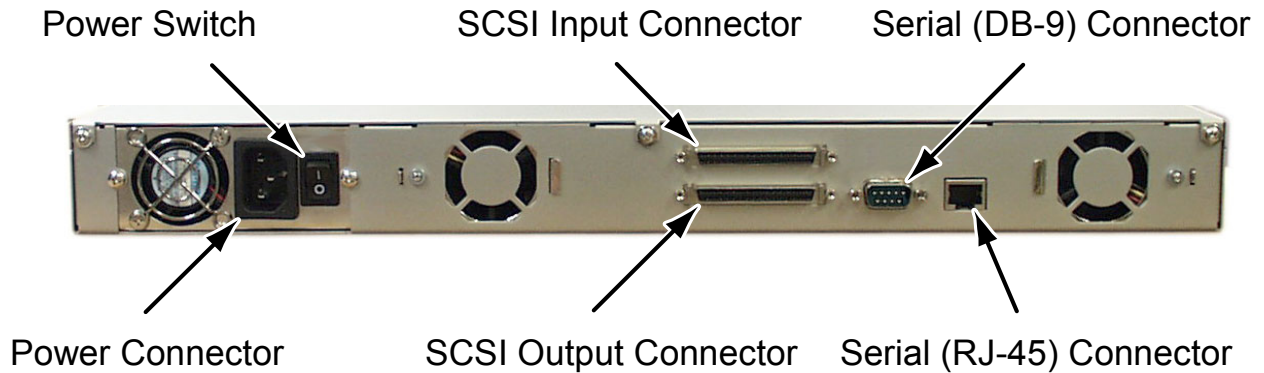

Figure 4.   Back of UltraTrak RM4000

	Caution
⚠	To prevent possible damage to the array or system, ensure that system power is OFF before connecting the cables.

Step 5: SCSI Termination

Correct SCSI termination procedures require that the first and last devices on the SCSI bus be terminated. If the first or last device is not terminated, or if devices other than the first and last are terminated, erratic SCSI bus performance may occur. Typically, the system or host adapter (SCSI card inside the PC) is the first device and is already terminated. When installing the RM4000 on a SCSI bus with other devices, be sure to observe the above rules with all devices on the SCSI bus. Consult your system and/or host adapter manual for additional information on correct termination procedure.

Caution

Proper termination and SCSI-3 compliant cables are required for the system to operate correctly. An external SCSI terminator and a SCSI-3 compliant cable are included with the UltraTrak.

SCSI Terminator

When the UltraTrak is the last SCSI device in the chain you must install the Promise-supplied (or equivalent) external SCSI terminator on the SCSI Output Connector. See Figure 5.
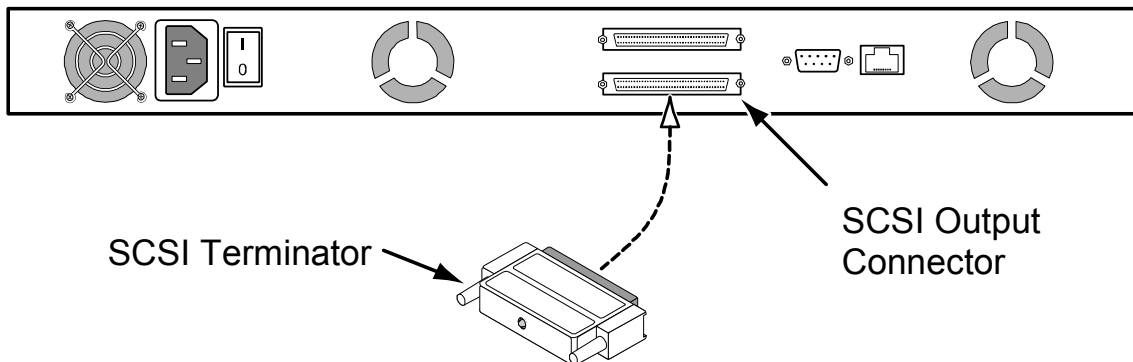

SCSI Terminator

SCSI Output Connector

Figure 5.   SCSI Terminator Installation

Step 6: Connect the Power

UltraTrak systems will operate on either 115 volts AC or 230 volts AC. The RM4000 includes a replaceable power supply modules with autosense voltage selection and Power Factor Correction (PFC).
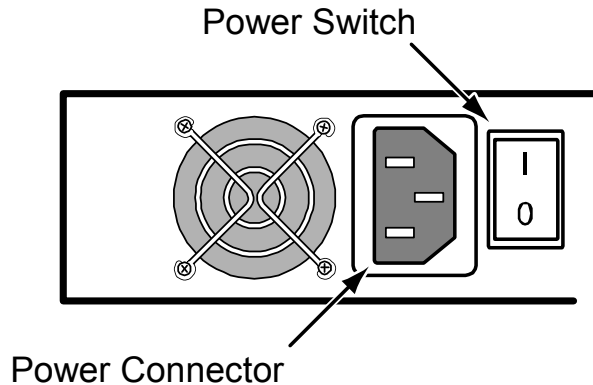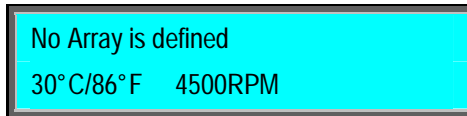

Figure 6.   UltraTrak RM4000 power connector and switch

Plug the UltraTrak and switch the power on. The power switch is located on the back of cabinet. After a few moments the LCD should display the following message:

No Array is defined

30°C/86°F   4500RPM

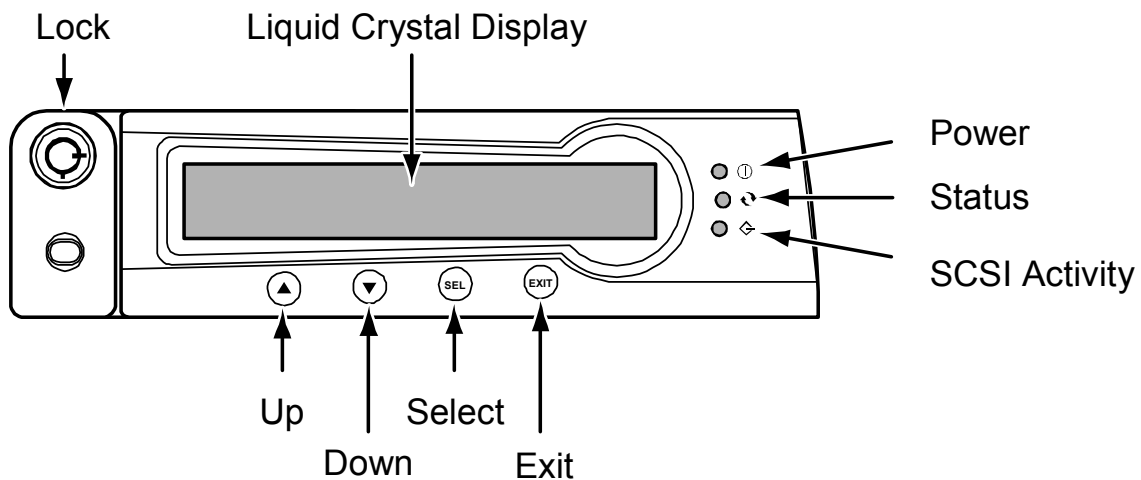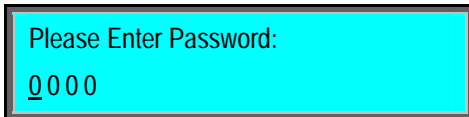The front panel interface for the UltraTrak consist of following items:

Figure 7.   RM4000 Front Panel Display and Controls

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Step 7: Enter the Password

You are prompted for a password each time you access the UltraTrak Configuration Mode. A password consists of four digits. The default password is 0000.

```
Please Enter Password:
0 0 0 0
```

The active password digit is marked by an underscore.

Password entry begins with the left-most digit. You must enter the proper value before proceeding to the next digit. Change the value of the active password digit by pressing either the ▼ button or the ▲ button. The ▼ button increments the digit downward (as, 0, 9, 8, 7 …). The ▲ button increments the digit upward (as, 0, 1, 2, 3 …).

Press the SEL button to proceed to the next digit or to submit the password if you have just entered the last digit. You are given access to the Configuration menu if you entered the password correctly.

Step 8: Assign a SCSI ID

Each device on a SCSI chain must have a unique ID. The default SCSI ID setting of the UltraTrak is 0. If you need to change the SCSI IDE setting of the UltraTrak, do the following:

1. At the Configuration menu, press the ▼ button to select *Configure SCSI*. Then press the SEL button.

2. At the Configure SCSI menu, press the ▼ button to select *SCSI ID*. Then press the SEL button.

3. At the SCSI ID menu, press the ▲ and ▼ buttons to select the SCSI ID number. Then press the SEL button.

4. Press the EXIT button until you return to the Idle mode.

Step 9: Configure the UltraTrak

Following are the steps needed to create an array and get your UltraTrak running quickly. We're using the automatic setup feature here, but you may also set the array up manually if you wish. Refer to the User's Manual for details regarding the manual setup procedure.

1. From the Idle mode display, press the SEL button on the front panel.
2. Press the ▼ button once to select *Configuration*, then press SEL button.
3. Enter the password at the prompt. (The default password is 0000.)
4. At Configure Array, press SEL.
5. Array Setup should be selected, press SEL.
6. With RAID Level selected, press SEL.
7. Press the ▼ and ▲ buttons to select the proper RAID level for your array. Press SEL to choose the selected RAID level.
8. Press SEL to create the array or press EXIT to cancel.
9. If you elected to create the array then you should see the message "Array has been created."
10. Switch off the UltraTrak's power. Wait five seconds then switch the power back on.

Note

Depending on the size of your array, RAID levels 3 and 5 may take a while to initialize.

Step 10: Format the Array

Like any other type of fixed disk media in your system, a RAID array must also be partitioned and formatted before use. Use the same method of partitioning and formatting on an array as you would any other fixed disk.

Frequently Asked Questions

How do I enter the password?

You are prompted to enter the correct password each time you access the UltraTrak Configuration mode. Password entry begins with the left-most digit. You must enter the proper value before proceeding to the next digit. Change the value of the active password digit by pressing either the ▼ button or the ▲ button. The ▼ button increments the digit downward (as, 0, 9, 8, 7 …). The ▲ button increments the digit upward (as, 0, 1, 2, 3 …). Press the SEL button to proceed to the next digit or to submit the password if you have just entered the last digit. You are given access to the Configuration menu when the password is entered correctly.

What kind of hard drives can I use for an UltraTrak array?

You can use any Ultra ATA/133/100/66 hard drive(s) to create arrays on the UltraTrak. You should use matching drives for multiple-drive arrays to maximize capacity usage as well as performance.

How do I learn more about configuring the UltraTrak?

Refer to the *UltraTrak RM4000 User Manual*. That manual contains detailed information regarding configuration, troubleshooting and maintenance for your UltraTrak.

I installed a new hard drive. Why doesn't it power up?

The drive carrier handle must be locked in order for the hard drive to receive power. Be sure to slide the drive carrier all the way into the UltraTrak, then gently press handle toward the carrier to be sure it locks.

Do I have to use the LCD panel and buttons on the UltraTrak to create my RAID array?

No. You can also use the Promise Array Management (PAM) utility. PAM allows you to create, monitor and maintain your RAID on your PC though a graphic user interface (GUI). A copy of PAM is on the software CD that came with your UltraTrak and it is also downloadable from the Promise website at www.promise.com.