



# ***ULTRATRAK RM15000***

## ***QUICK START GUIDE***

Version 1.0

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## Step 1: Unpack the UltraTrak

Open the UltraTrak box and carefully remove the UltraTrak unit and accessories from the box. The UltraTrak and accessories include the following items:

- UltraTrak RM15000 Unit
- Quick Start Guide
- (2) Enclosure keys
- Null Modem Cable
- SCSI Terminator
- Set of rackmount ears (brackets) and screws
- External LVD SCSI cable
- (15) Screw sets for hard drives
- (2) 1.5m power cords
- (4) Rubber feet
- CD with WebPAM Software, WebPAM User Manual, UltraTrak RM15000 User Manual, RAID Console Driver and Product Catalog



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### Note

The Web-Based Promise Array Management (WebPAM) software provides monitoring and maintenance of your RAID through a graphic user interface (GUI) on your PC.

Install WebPAM from the CD that comes with UltraTrak. You can also download it from the Promise website ([www.promise.com](http://www.promise.com)).

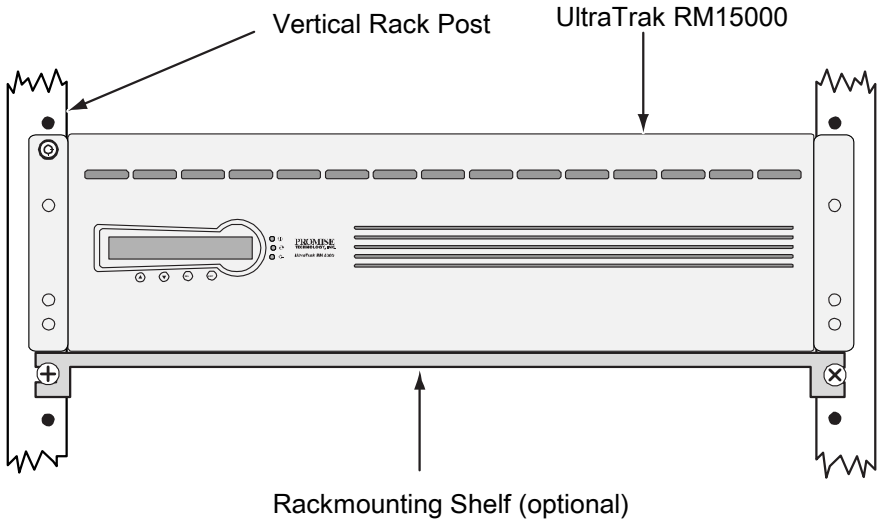
WebPAM will manage one UltraTrak system per PC via RS232 serial port or multiple UltraTrak systems via SCSI bus.

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## Step 2: Placement of your UltraTrak

The UltraTrak may be installed in any convenient location within the LVD SCSI cable length distance of the host system. The UltraTrak RM15000 is designed specifically for rackmount installation but may also serve on a bench top as well.

The UltraTrak RM15000 installs directly to the rack with or without a shelf. Assemble the Mounting Brackets on each side of the RM15000 and set the unit into the rack.



**Figure 1. Rackmounted RM15000**

## Step 3: Install Hard Drives

Before using the UltraTrak you must first populate it with ATA hard drives. The UltraTrak RM15000 can support up to fifteen disk drives and provide the configurations listed below.

RAID Configuration	Number of Hard Drives	
	Minimum	Maximum
JBOD (Single Drive)	1	15
RAID 0	2	15
RAID 1	2	2
RAID 3	3	15
RAID 5	3	15
RAID 0+1	4	14
RAID 30	6	15*
RAID 50	6	15*

\* When a RAID 30 or 50 array has an odd-number of disks, it cannot be converted to another RAID level.



### Caution

You may mix manufacturer type and drive size – however, best performance is achieved when you populate the array with identical models. For different drive sizes, the arrays will use the common disk size.



### Warning

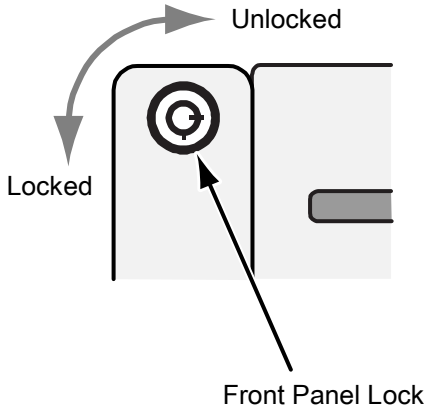
The electronic components within the UltraTrak disk array are sensitive to damage from Electro-Static Discharge (ESD). Appropriate precautions should be observed at all times when handling the array or its subassemblies.



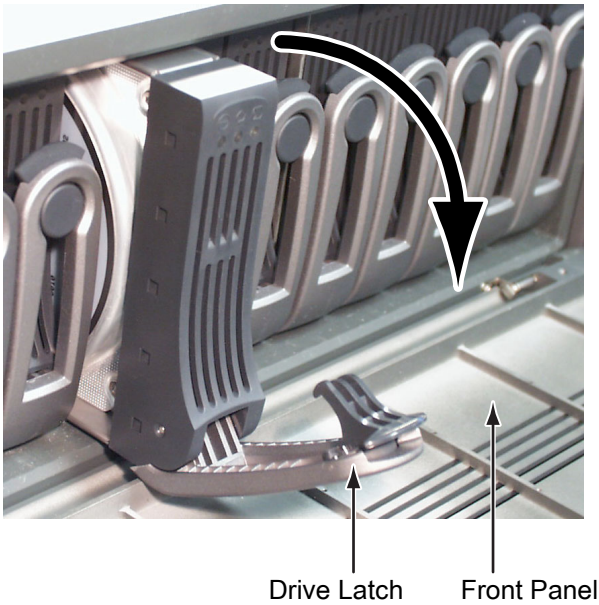
### Caution

Before installing a new hard drive, be sure the jumpers on the new hard drives are set for *single*, *cable-select* or *master* operation. Consult the drive manual for the proper settings.





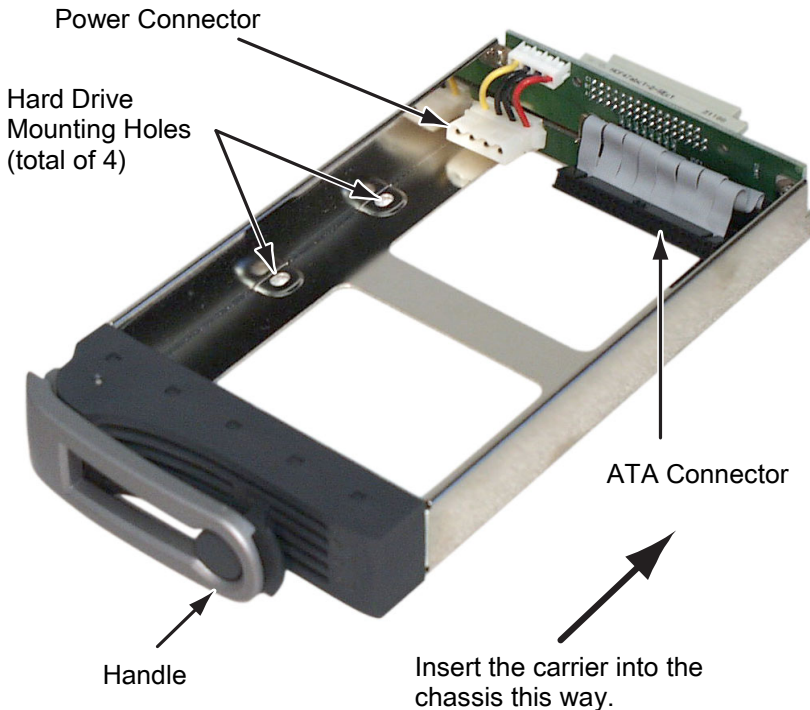
**Figure 2. UltraTrak Front Panel Access**



**Figure 3. UltraTrak RM15000 Disk Drive Access**

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

1. Unlock and open the Front Panel Door (see Figure 2) on the UltraTrak.
2. Pull the Drive Carrier Latch Handle and remove an unused Drive Carrier (see Figure 3) from the UltraTrak. Begin at the left (Drive 1) and work toward the right (Drive 15).
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 4).
6. Lower the hard drive into the Drive Carrier so that the screw holes on the bottom line up.
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.



**Figure 4. Drive Carrier**



**Important**

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Be sure each drive is securely fastened to its carrier. Proper installation ensures adequate grounding and minimizes vibration. Do not install drives with fewer than four screws.

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8. Slide the assembled Drive Carrier back into the chassis and press the handle forward to lock the Drive Carrier.
9. Repeat steps 2 through 8 until all of your hard drives are installed.



**Figure 5. Drive Channel Numbers**



**Caution**

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If you plan to operate your UltraTrak with fewer than 15 hard disk drives, install all 15 Drive Carriers into the enclosure, even if they are not holding a drive.

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**Important**

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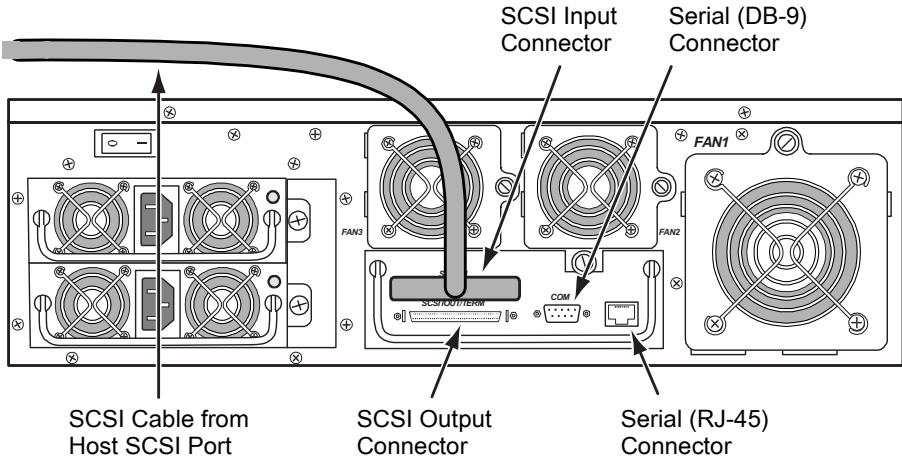
The Drive Carrier Handle must be locked or the disk drive will not power up.

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## Step 4: Connect the SCSI Cables

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 High Density 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 6. Back of UltraTrak RM15000**

### Caution



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

### Caution



Use only externally shielded LVD SCSI cables.  
Do not use internal flat ribbon cables for an external SCSI application.

## Step 5: SCSI Termination

Correct SCSI termination procedures require that the last device on the SCSI bus be terminated. If the last device is not terminated, or if a device other than the last is terminated, erratic SCSI bus timeouts may occur. When installing the UltraTrak RM15000 on a SCSI bus with other devices, be sure to observe this rule with all devices on the SCSI bus. Consult your system and/or host adapter manual for additional information on correct termination procedure.

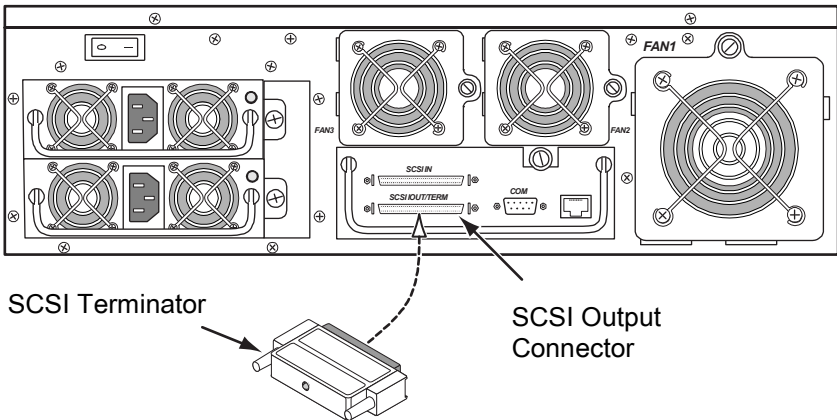
### Caution



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 RM15000.

## SCSI Terminator

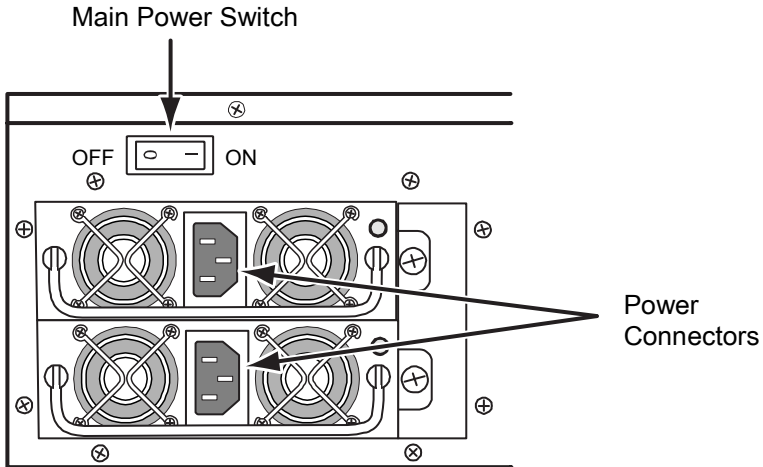
When the UltraTrak is the last SCSI device in the chain you must install the Promise-supplied (or equivalent) external SCSI terminator on the SCSI Output Connector. See Figure 7.



**Figure 7. SCSI Terminator Installation**

## Step 6: Connect the Power

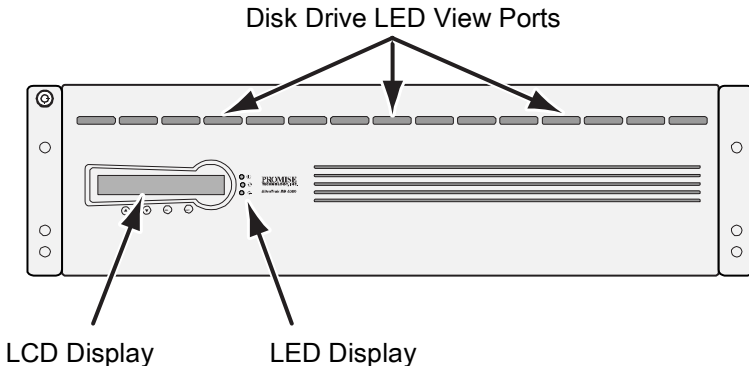
UltraTrak systems will operate on either 115 volts AC or 230 volts AC. The RM15000 includes two replaceable power supply modules with autosense voltage selection and Power Factor Correction (PFC).



**Figure 8. Power Connections and Switch**

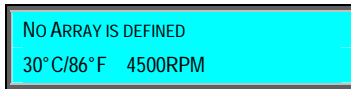
Plug the UltraTrak and switch the power on. The main power switch is located on the back of cabinet.

When the power is switched on, the LEDs and LCD screen on the front of the UltraTrak will light up.

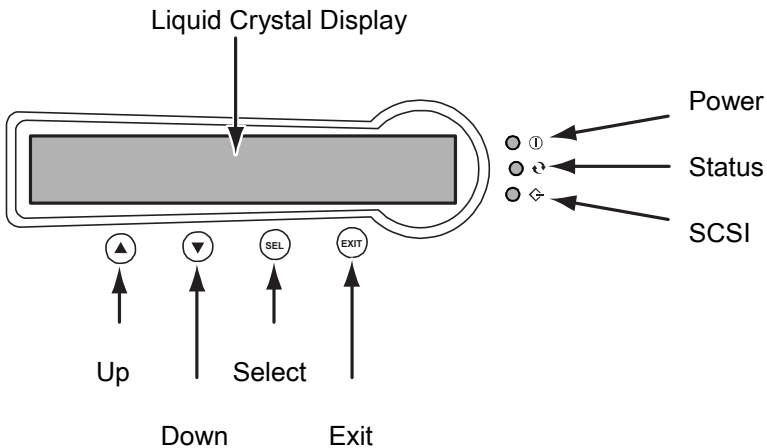


**Figure 9. UltraTrak Displays**

The UltraTrak spins up the disk drives sequentially in order to equalize power draw during start-up. After a few moments the LCD should display the following message:



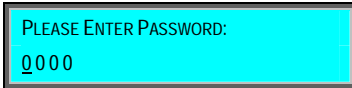
The front panel interface for the UltraTrak consist of following items:



**Figure 10. UltraTrak Front Panel Display and Controls**

## Step 7: Enter the Password

You are prompted to enter the correct password each time you access the UltraTrak Configuration mode. A password consists of four digits. The default password is 0000.



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. You 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 ID setting of the UltraTrak, do the following:

1. From the Idle mode display, press the SEL button on the front panel.
2. Press ▼ button once to select Configuration, then press SEL button.
3. Enter the password at the prompt.
4. At the Configuration menu, use the ▼ button to select Configure SCSI, and then press the SEL button. (See page 64 in the *UltraTrak User Manual* for more details.)
5. At the Configure SCSI menu, use the ▼ button to select the SCSI ID, and then press the SEL button.
6. At the SCSI ID menu, use the ▲ and ▼ button to select the SCSI ID number, and then press the SEL button.
7. 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 *UltraTrak User Manual* for details regarding the manual setup procedure.

1. From the Idle mode display, press the SEL button on the front panel.
2. Press ▼ button once to select Configuration, then press SEL button.
3. Enter the password at the prompt (see "How do I Enter a Password" on page 15 of the *UltraTrak User Manual*).
4. At Configure Array, press SEL.
5. Auto Array Setup should be selected, press SEL.  
If the message "\*No Free Disk" appears, it means that an array has already been configured. If you wish to re-create a new array, then you need to first delete the existing array before you can proceed. See Delete Array on page 53 of the *UltraTrak User Manual* for more details.
6. Use the ▲ and ▼ button to select the proper RAID level for your array, press SEL to choose the selected RAID level. See page 21 of the *UltraTrak User Manual* for help in choosing the proper RAID level.
7. Press SEL to create the array or press EXIT to cancel.
8. If you elected to create the array then you should see the message "Array has been created."

You have successfully created an array.



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### Note

Depending on the size of your array, RAID levels 1, 3, 5, 0+1, 30 and 50 may take a while to initialize.

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## Step 10: Partition and 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.

Depending on the operating system you use, there may or may not be various capacity limitations applicable for the different types of partitions.

## 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 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 Web-Based Promise Array Management (WebPAM) software. WebPAM allows you to create, monitor and maintain your RAID on your PC though a web browser. A copy of WebPAM is on the software CD that came with your UltraTrak and it is also downloadable from the Promise website at [www.promise.com](http://www.promise.com).

