In-Band SCSI for UltraTrak SX and RM Subsystems

This document discusses the procedure to enable the In-Band SCSI feature on Promise UltraTrak RAID subsystems. Use this document in conjunction with your UltraTrak and WebPAM *Quick Start Guides* and *User Manuals*. Copies of the *Guides* and *Manuals* are available on your UltraTrak software CD and the Promise website.

In-Band SCSI enables a single PC to manage multiple UltraTraks in a SCSI chain by passing management commands though the SCSI bus, rather than the traditional serial cable.

Currently, one PC can manage up to seven (7) UltraTraks using In-Band SCSI. The previous serial control connection allowed one PC to manage only one UltraTrak at a time.

There are four requirements to enable In-Band SCSI on UltraTrak:

- Run UltraTrak Firmware build number 16 or higher (Build 7 or higher on RM15000)
- Enable the *SCSI Base Mgt* option on UltraTrak
- Install the Promise RAID Console INF file on the RAID/Host PC
- Select the SCSI Management Port during WebPAM installation

UltraTrak Firmware

Verify the firmware revision (build) number on your UltraTrak subsystem with the following procedure. Be sure to check all of your UltraTraks.

1. Press the SEL button on the front of the UltraTrak cabinet to access the system information in the LCD screen.
2. Press the SEL button again to select View Stats and again to select View Controller Info.

Figure 1. UltraTrak Firmware Revision Number in the LCD Screen.

3. Press the down arrow twice to see the Firmware revision (build) number.
4. Press the Exit button three times to return to the normal LCD screen.
5. Compare your findings:

   For UltraTrak RM15000, the Firmware build number must be 7 or higher.

   For other UltraTrak models, the Firmware build number must be 16 or higher.

   If your UltraTrak(s) have a lower build number than those indicated, download the latest Firmware release from the Promise website and install it according to the instructions in your *UltraTrak User Manual*.

Enable the SCSI Base Management Option

The SCSI Base Management Option must be enabled on your UltraTrak subsystem for In-Band SCSI to function. In-Band SCSI appears as **SCSI Base Mgt.** on the UltraTrak LCD screen. Be sure to check all of your UltraTraks.

1. Press the SEL button on the front of the UltraTrak cabinet to access the system information in the LCD screen.
2. Press the down button to Configure then press SEL to select it.
3. Input your password.
4. Press the down button twice to Configure SCSI then press SEL to select it.
5. Press the down button twice to SCSI Base Mgt. and observe the setting.

Figure 2. UltraTrak's SCSI Base Mgt. must be Enabled for In-Band SCSI.

6. Press SEL to toggle between Enabled and Disabled. Be sure the setting is *Enabled*.
7. Do one of the following:
   - If you changed the setting, press the Exit button once. Press SEL to save the new setting. Then press SEL again to restart the UltraTrak.
   - If you did not change the setting, press the Exit button three times to return to the normal LCD screen

   Note: For UltraTrak RM15000, the default setting is Enabled.
   For other UltraTrak models, the default setting is Disabled.

Install the Promise RAID Console INF File

In-Band SCSI requires an Information (INF) file to install the Promise RAID Console into the Device Manager. Follow the procedure below to install the INF file on your RAID/Host PC.

1. Obtain the Promise RAID Console INF file.
   - The Win2000driver folder on the UltraTrak software CD.
   - Download it from the Promise website and expand it onto a floppy diskette.
2. Shut down the RAID/Host PC.
3. Connect the UltraTrak(s) to the RAID/Host PC via the SCSI cable. Boot the UltraTrak(s) and be sure SCSI Base Mgt. is *Enabled*.
4. Boot the RAID/Host PC. After Windows starts, the Found New Hardware Wizard will appear.
5. In the Hardware Wizard dialog box, select *Install from a list of specific location* and click *Next.*
6. In Search and Install Options dialog box, select *Don't search. I will choose the driver to install* and click *Next*.
7. In the Hardware Type dialog box, select *System Devices* from the list and click *Next*.
8. In the Select the Device Driver dialog box, click *Have Disk...*
9. In the Install From Disk dialog box, click the *Browse...* button and navigate to the **fastcon** INF file file on your CD or diskette. Select **fastcon** and click *Open*.
10. In the Install From Disk dialog box, click *OK*.
11. In the Select the Device Driver dialog box, click *Next*.
12. In the Completing dialog box, click *Finish*.

    A successful result will match the figure below.

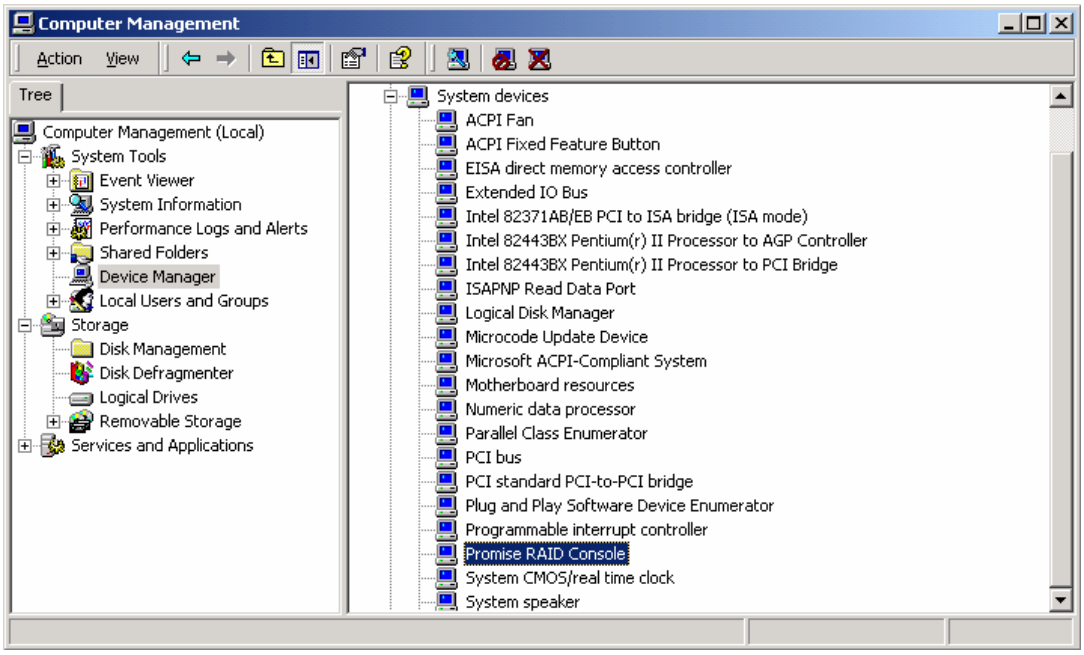

Figure 3. With the INF file correctly installed,* Promise RAID Console *appears under System devices in the Device Manager.

WebPAM

The Promise Technology's Web-Based Promise Array Management (WebPAM) software is required for In-Band SCSI monitoring and operation. WebPAM ships on the software CD with the current line of UltraTraks. You can download it from the Promise website.

The earlier (Windows-based) PAM does not support In-Band SCSI.

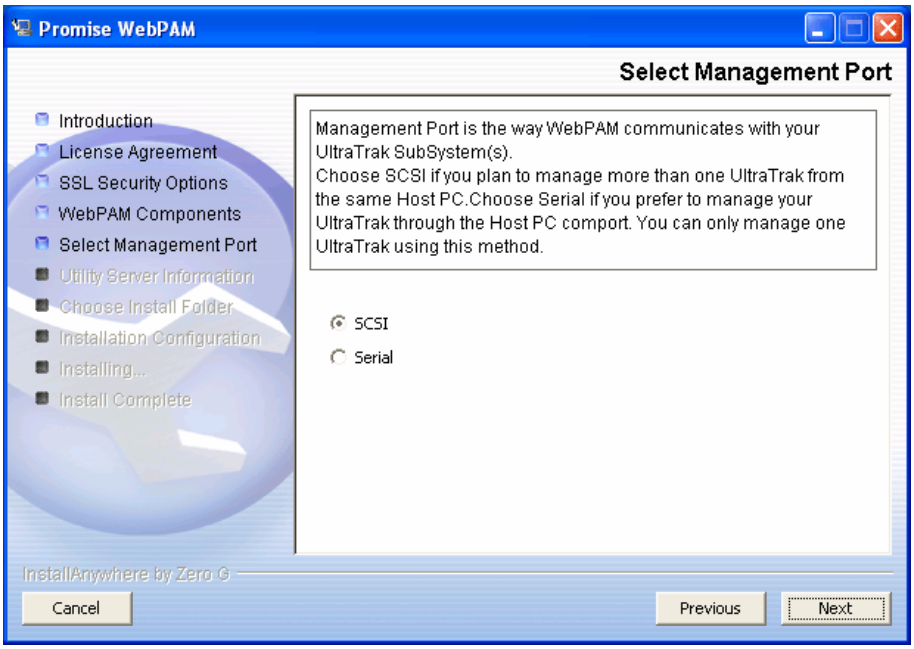

Figure 4. Select Management Port Screen.

During installation of WebPAM on the RAID/Host PC (the PC that controls the UltraTrak systems), you have the option of selecting SCSI or Serial for your Management Port connection (see the Figure above).

For In-Band SCSI to work, select *SCSI*.

If you have already installed WebPAM and you use a null-modem cable to control your UltraTrak, reinstall WebPAM on the RAID/Host PC and select *SCSI* when the choice is presented.

Verify In-Band SCSI Function

After meeting the four requirements to enable In-Band SCSI on UltraTrak as described above, verify that the In-Band SCSI feature is working properly.

1. Connect your UltraTrak and RAID/Host PC with the SCSI cable only.
2. Disconnect the Serial (null-modem cable), if present.
3. Boot your RAID/Host PC and UltraTrak.
4. On your RAID/Host PC, log into WebPAM through your browser window.

   If you are able to log into WebPAM and create or access an array, the In-Band SCSI feature is working.

   If you are not able to log into WebPAM and create or access an array, check your cable connections and recheck each of the four requirements described above.

SCSI ID Modes

UltraTrak has two SCSI ID modes, ID and LUN (Logical Unit Number).

- ID mode assigns a separate SCSI ID number to each array.
- LUN mode assigns one SCSI ID to the UltraTrak. The arrays are then numbered LUN 0, LUN 1, and so on. Your SCSI host adapter must support LUN in order to use this feature.

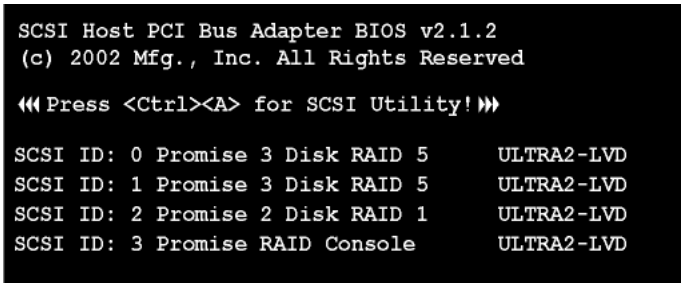

Figure 5. SCSI BIOS screen with UltraTrak set to ID mode.

When UltraTrak is running in ID mode, UltraTrak takes a SCSI address for each Array and another for the Promise RAID Console, as shown above.

If your system includes several UltraTraks on the same SCSI chain, with multiple arrays on them, you can easily run out of SCSI addresses. In that case, set your UltraTrak SCSI ID to LUN mode.

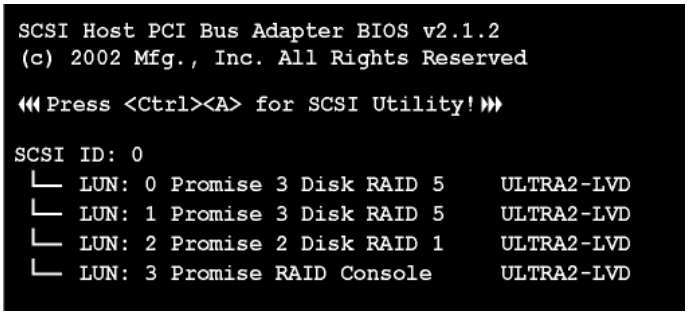

Figure 6. SCSI BIOS screen with UltraTrak set to LUN mode.

When UltraTrak is running in LUN mode, UltraTrak takes one SCSI address, as shown above. The arrays and the Promise RAID Console take LUN numbers.

For more information on how to set the SCSI ID mode and SCSI address on your UltraTrak, refer to the UltraTrak *User Manual* on the software CD or downloadable from the Promise Website.