

Ultra™ Enterprise™ PCI I/O Board Product Note

For Ultra Enterprise 6000/5000/4000/3000 Servers



THE NETWORK IS THE COMPUTER™

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Product Notes

These product notes apply to Ultra™ Enterprise™ 6000/5000/4000/3000 server systems.

CD-ROM Drive Support

At this time the Ultra Enterprise PCI I/O board does not support audio volume control for the 4X CD-ROM drives connected to the on-board SCSI interface.

UltraSCSI Bus Support

Currently only two configurations are capable of supporting UltraSCSI transfers:

- Two SPARCstorage™ UniPacks
- One SPARCstorage MultiPack 2

If your system does not have one of the above configurations, you must disable UltraSCSI. You can disable UltraSCSI either for the entire system or for specific controllers or individual drives.

To disable UltraSCSI for the entire system, add this entry to the `/etc/system` file:

```
set scsi_options=0x3f8
```

To disable or enable UltraSCSI for specific controllers or drives, see the following sections.

Note – The Ultra Enterprise PCI I/O board does not support UltraSCSI devices connected to the on-board SCSI interface at this time. If there are any UltraSCSI drives connected to the on-board SCSI interface, refer to the following section to force the drive to run at FastSCSI speed.

Disabling UltraSCSI on PCI ISP Devices

By default the SCSI options are turned on (0x7f8). To disable UltraSCSI, turn the SCSI options off (0x3f8).

Note – The system must be rebooted for the SCSI options to take effect.

The following sections describe procedures for specific conditions.

Disabling All UltraSCSI Devices in the System

- To disable all UltraSCSI devices in the server system, add the following line to the `/etc/system` file:

```
set scsi_options=0x3f8
```

Disabling All UltraSCSI Devices on a Controller

- To disable only one controller, add an entry similar to this to the `/kernel/drv/isp.conf` file :

```
name="isp" parent="/pci@1f,4000/pci@4"
unit-address="4"
scsi-options=0x3f8;
```

Note – Entries in the `/kernel/drv/isp.conf` file override entries in the `/etc/system` file.

Use this method for standard system configurations. For non-standard configurations, use the method described in “Disabling All SCSI Devices in the System” on page 1.

Disabling Selected UltraSCSI Devices on a Controller

It is possible to disable only some UltraSCSI devices on a controller. The general method is to add an entry similar to the following to the `/kernel/drv/isp.conf` file.

```
name="isp" parent="/pci@1f,4000/pci@4"
  unit-address="4"
  target2-scsi-options=0x3f8
  targetc-scsi-options=0x3f8
  targete-scsi-options=0x3f8;
```

Note – The target must be specified using a hexadecimal value.

Simple Example

To enable UltraSCSI for all devices on the system, except target 0 and 1 on `/pci@1f,2000/pci@1/SUNW,isp@4:`

1. **Add this entry to the `/etc/system` file:**

```
set scsi_options=0x7f8
```

2. **Turn off UltraSCSI on targets 0 and 1 by adding this entry to the `/kernel/drv/isp.conf` file:**

```
name="isp" parent="/pci@1f,2000/pci@1"
  unit-address="4"
  target0-scsi-options=0x3f8
  target1-scsi-options=0x3f8;
```

Example 2

To disable UltraSCSI for the entire system, and then enable one controller with the exception of target 0 on that controller:

1. Add this entry to the `/etc/system` file to disable UltraSCSI for the system:

```
set scsi_options=0x3f8
```

2. Add this entry to the `/kernel/drv/isp.conf` file:

```
name="isp" parent="/pci@1f,2000/pci@1"
unit-address="4"
scsi-options=0x7f8
target0-scsi-options=0x3f8;
```

The line `scsi-options=0x7f8` enables the controller.

The line `target0-scsi-options=0x3f8;` disables target 0.

ISP Man Page

The `isp` man page provides help on getting the physical pathname and using `prtconf` to verify what speed is allowed on the disks. The section on pathnames includes this information:

PCI Bus

The above example is more specific to the ISP controller on SBus. To achieve the same setting of `scsi-options` on a PCI machine, create a file called `/kernel/drv/isp.conf` and add the following entries.

```
name="isp" parent="/pci@1f,2000/pci@1"
unit-address="4"
scsi-options=0x178
target3-scsi-options=0x58 scsi-initiator-id=6;
```

The physical pathname of the parent can be determined using the /devices tree or following the link of the logical device name:

```
example# ls -l /dev/rdisk/c4t3d0s0
lrwxrwxrwx 1 root  root   58 Jun 20 23:48 /dev/rdisk/c4t3d0s0 ->
../../devices/pci@1f,2000/pci@1/SUNW,isp@4/sd@3,0:a,raw
```

To set scsi-options more specifically per device type, add the following line in the /kernel/drv/isp.conf file:

```
device-type-scsi-options-list =
    "SEAGATE ST32550W", "seagate-scsi-options" ;

seagate-scsi-options = 0x58;
```

All device which are of this specific disk type will have scsi-options set to 0x58.

scsi-options specified per target ID has the highest precedence, followed by scsi-options per device type. Global (for all isp instances) scsi-options per bus has the lowest precedence.

The system needs to be rebooted before the specified scsi-options take effect.

