



# Sun™ Quad GigaSwift Ethernet UTP Adapter Product Notes

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# Sun Quad GigaSwift Ethernet UTP Adapter Product Notes

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This product note provides important information that was not available at the time the *Sun Quad GigaSwift Ethernet UTP Adapter Installation and User's Guide* was written.

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## Errors in the *Sun Quad GigaSwift Ethernet UTP User's Guide*

The following errors in the *Sun Quad GigaSwift Ethernet UTP Adapter Installation and User's Guide* were discovered after the product CD was produced.

## Hardware Requirements

Table 1-1 on page 2 lists a number platforms that are not currently supported. The table should read as follows:

TABLE 1 Hardware and Software Requirements

Requirements	Hardware or Software
Hardware	Sun Enterprise™ E220, E420, E450, Netra™ 1150, Netra T20, Sun Blade™ 150, Sun Blade 1000, Sun Blade 2000, Sun Fire™ V210, Sun Fire V240, Sun Fire V440, Sun Fire V280, Sun Fire V480, Sun Fire V880
Software	Solaris™ 7, 8, and 9 operating environment

# To Enable Jumbo Frames

Pages 27 and 28 provide examples for enabling jumbo frames. The following example at the top of page 28 is incorrect:

- **To set jumbo frames for a specific instance of ce, add a line into ce.conf file for that particular instance to be set to accept-jumbo:**

```
# grep ce /etc/path_to_inst
"/pci@1f,0/network@a" 0 "ce"
"/pci@1f,0/network@a" 0 "ce" accept-jumbo=1;
```

The correct example for enabling jumbo frames for a specific instance using the ce.conf file is as follows:

## 1. Obtain the hardware path names for the ce devices in the device tree.

- a. **Check the /etc/driver\_aliases file to identify the name associated with a particular device:**

```
# grep ce /etc/driver_aliases
ce "pci108e,abba"
ce "pci100b,35"
```

---

**Note** – ce "pci100b,35" is used by the Sun Quad GigaSwift Ethernet device.

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- b. **Locate the path names and the associated instance numbers are in the /etc/path\_to\_inst file.**

```
# grep ce /etc/path_to_inst
"/pci@9,600000/pci@1/pci@0/network@0" 0 "ce"
"/pci@9,600000/pci@1/pci@0/network@1" 1 "ce"
"/pci@9,600000/pci@1/pci@4/network@2" 2 "ce"
"/pci@9,600000/pci@1/pci@4/network@3" 3 "ce"
```

2. Add the appropriate lines into the `ce.conf` file for the particular instances to be set to `accept-jumbo`:

```
# cd /platform/sun4u/kernel/drv
# vi ce.conf
name="pci100b,35" parent="/pci@9,600000/pci@1/pci@0"
unit-address="0" accept-jumbo=1;
name="pci100b,35" parent="/pci@9,600000/pci@1/pci@4"
unit-address="3" accept-jumbo=1;
```

In this example, jumbo frames is enabled on interfaces 0 and 3.

3. Save the `ce.conf` file.

## ▼ To Set Driver Parameters Using a `ce.conf` File

On page 52 the parent is incorrect:

To identify a PCI device unambiguously in the `ce.conf` file, use the name, parent name, and the unit-address for the device. Refer to the `pci(4)` man page for more information about the PCI device specification.

In the first line in the previous example:

- `parent = "pci@9,600000"`

In the second line in the previous example:

- `parent = "pci@9,600000"`
- `unit-address = "1"`

In the third line in the previous example:

- `parent = "pci@9,600000"`
- `unit-address = "2"`

In the fourth line in the previous example:

- `parent = "pci@9,600000"`
- `unit-address = "3"`

The correct parent in all four lines should be changed to the following:

- `parent = "/pci@9,600000/pci@1"`

On page 53, in the second code example, the parent and unit are incorrect:

In the following example, the `adv-autoneg-cap` and `adv-1000fdx-cap` parameters are set for a single instance of the Sun Quad GigaSwift Ethernet device.

```
name="pci100b,35" parent="pci@9,600000" unit-address="2"
adv-autoneg-cap=0 adv-100hdx-cap=0 adv-100fdx-cap=1 adv-1000fdx-cap=0 adv-
10hdx-cap=0 adv-10fdx-cap=0 adv-1000hdx-cap=0 adv-100T4-cap=0;
```

The parent and unit address in the code example should be changed to the following:

```
name="pci100b,35" parent="/pci@9,600000/pci@1" unit-address="0"
adv-autoneg-cap=0 adv-100hdx-cap=0 adv-100fdx-cap=1 adv-1000fdx-cap=0 adv-
10hdx-cap=0 adv-10fdx-cap=0 adv-1000hdx-cap=0 adv-100T4-cap=0;
```

## Usability Enhancements to the Driver

On page 53, the second code example is wrong:

Then you had to get the link status:

```
# ndd -get /dev/ce adv_autoneg_cap
1
```

It should contain the following:

```
# ndd -get /dev/ce link_status
1
```

---

## Changes in Supported Features

- Full hot plug and IO Dynamic Reconfiguration of the Sun Quad GigaSwift Ethernet adapter is not supported pending release of the following patches:
  - Solaris 8 110900-09 and 112838-08 (not released yet)
  - Solaris 9 113068-04 and 110824-05 (not released yet)

The system must be powered off before you install the adapter.

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# Known Issues With the QGE Adapter

Table lists and describes the current problems with the QGE adapter and offers work arounds where applicable.

**TABLE 2** Problems and Work Arounds

Problem	Work Around
The bus speed detection may not occur in the correct sequence on power up.	For Solaris 9, install Patch ID 113068-04 For Solaris 8, install Patch ID 110842-11
Dynamic Reconfiguration DR of the Quad GigaSwift Ethernet on Sun Fire™ V880/Sun Fire 15000 servers may occasionally cause a system panic. This problem occurs during the connect phase of DR. In addition, sometimes the board may be identified as unknown. Both 33 MHz and 66 MHz slots are affected.	For Solaris 9, install Patch ID 113068-04. For Solaris 8, install Patch ID 110842-11.
System panics when the adapter is configured with hot plug I/O space, memory space, and the bus master is enabled even if all of the registers in the PCI configuration space are not initialized.	For Solaris 9, install Patches ID 110824-04 and 110900-09 For Solaris 8, install Patch ID 112838-07.
The device tree isn't built correctly after a series hot plug commands. The ethernet interfaces of the QGE card are not detected after hot plug/DR.	For Solaris 9, install Patch ID 110824-05 For Solaris 8, install Patch ID 112838-08
<code>reboot -r</code> hangs when using old <code>ce</code> drivers. The CD contains the minimum required driver/patches for the QGE product.	If your system does not have the latest patches, install the patches before you physically installing the card. If installing an OS from the network, you must also add the patch to the OS image on the Install Server.
Sun Fire V880R systems experience fatal resets under heavy load. Some systems might experience "FATAL RESET" crash under heavy stress on the PCI bus. The QGE card is a high bandwidth card and <i>might</i> bring out this crash if running at high loads.	Contact your Sun Service Representative.
Sun Fire V480R systems experience 'FATAL RESET' from DAR/DCS/CDX. Some systems might experience "FATAL RESET" crash under heavy stress on the PCI bus. The QGE card is a high bandwidth card and <i>might</i> bring out this crash if running at high loads.	Contact your Sun Service Representative.

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**Note** – For all Patch IDs listed in TABLE 2, install the latest version. Patches are updated routinely. Each update has a higher number following the dash. For the Patch IDs listed here, the Patch ID number you would install would be the listed number or one with a higher number following the dash.

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## Installing the Adapter to Avoid Cable Problems

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**Note** – While the RJ-45 connector specifications meet the PCI mechanical specifications, the cable release tab may be pinched due to the tightness of the slots in some systems.

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1. **Align the adapter edge connector with the PCI slot and slide its face plate into the small slot at the end of the PCI opening.**
2. **Apply even pressure at both corners of the adapter and push the adapter until it is firmly seated in the slot.**
3. **Plug the cable into an RJ-45 connector.**
4. **Adjust the adapter to ensure that you can lock the cable in the connector before you fasten the screw into the top notch of the face plate.**

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## Jumbo Frames Support

Although Jumbo Frames is configurable in 10/100 mode, Jumbo Frames is only supported in the Gigabit (1000Mbps) mode. Configuring Jumbo Frames allows the QGE interfaces to send/receive packets of up to 9216 bytes. However, the actual transfer size depends on the switch capability.

Refer to the documentation that came with your switch's for exact commands to configure Jumbo Frames support.

## Jumbo Frames with Trunking 1.3

When using Jumbo Frames with Trunking 1.3, you must explicitly enable Jumbo Frames on each link participating in the Trunk.

### ▼ To Configure Jumbo Frames Using `ndd`

1. Bring down and unplumb the interface before using `ndd` to set Jumbo Frame.
2. Set the instance number:

```
% ndd -set /dev/ce instance 0
```

In this example, the instance number set is 0.

3. Set the instance to accept jumbo frames:

```
% ndd -set /dev/ce accept-jumbo 1
```

4. Plumb the interface up:

```
% ifconfig ce0 plumb xx.xx.xx.xx up
```

Where `xx.xx.xx.xx` = the IP address of the interface.

5. Repeat steps 1 through 4 to set all the interfaces using jumbo frames.

### ▼ To Configure Jumbo Frames Using `ce.conf`

- Add the following line to the `ce.conf` file to set all the `ce` interfaces to use jumbo frames:

```
accept_jumbo=1;
```

