Installation Guide

Eclipse 3 / Eclipse 2

Solaris ddx Version 2.2

for

Solaris 2.6, 2.7 (7) and 2.8 (8)

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Peritek

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1 Overview

This software package is intended for users who are 1) installing the Eclipse 3 or Eclipse 2 product for the first time, 2) upgrading from Eclipse 2 to the Eclipse 3 product or 3) upgrading only Eclipse 2 software. This software package provides a loadable X server ddx module, 32 and 64 bit drivers and associated configuration files.

Peritek's Eclipse-3 board provides single channel display output via Peritek's Borealis graphics chip set. Peritek's Eclipse-2 board provides single channel display output via Number Nine's I128 graphics chip set.

Multiple Eclipse-2 and Eclipse-3 boards may be installed per cpu supporting single display, multiple screen applications including Sun's Xinerama.

Both Eclipse-2 and Eclipse-3 provide full screen console emulation along with a 128 bit accelerated graphics engine supporting Sun's X-Window server with OpenWindows and CDE.

1.1 Platform Support

Eclipse 3 provides a migration path for users of the original Eclipse and Eclipse-2 products while also providing enhanced platform support, performance and functionality. Table 1 provides an architectural and functional comparison of the three products.

	OS Support	64 bit support	CPU Support	Graphics Chipset	Video Type/ Resolution	Keyboard support
Eclipse	Solaris 2.5.1, 2.6, 2.7, 2.8	Yes	Force CPU-50, 54 Themis 1v,2v,3v Sun CP1400, CP1500	Alliance Semiconductor AT3D/AT25	640x480,800x600,1152x864, 1280x1024 Composite, Separate Sync	Local - Sun type 4/5 CPU based - Sun type 4/5, PS/2
Eclipse 2	Solaris 2.6, 2.7, 2.8	Yes	Force CPU-50, 54 Themis 1v,2v,3v Sun CP1400, CP1500	Number 9 I128	640x480,800x600,1024x768, 1152x864, 1152x900, 1280x1024 Composite, SOG, Separate Sync	CPU based - Sun type 4/5, PS/2
Eclipse 3	Solaris 2.6, 2.7, 2.8	Yes	Force CPU-50, 54 Themis 1v,2v,3v Sun CP1400, CP1500, CP2XXX Momentum Leopard series	**Peritek's Borealis**	640x480,800x600, 1024x768, 1152x864, 1152x900, 1280x1024, 1600x1200, 1920x1200 Composite, SOG, Separate Sync	CPU based - Sun type 4/5, PS/2, USB

Table 1 - Eclipse/Eclipse-2/Eclipse-3 Comparison

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1.2   Getting help

This installation manual gives specific steps to install Eclipse software. There are, however, variables specific to your computer's configuration that this manual does not address. Normally, the default values given in this manual will work. If you have trouble installing or configuring your system, contact Peritek technical support at

Main Number: **(858) 689-7150** Fax Number: **(858) 689-7156**
E-mail: **support@peritek.com**

1.3   Using this manual

This manual is designed to be read in order. The majority of users who are installing a the Eclipse-2/3, hereafter referred to Eclipse, will simply need to follow **Chapters 1 through 6**. Common problems you may encounter are outlined in **Chapter 7**. The detailed **Table of Contents** should allow you to find the information relevant to your system quickly, and a **Bibliography** contains references both to books and to documents on web-sites that contain more information about the X Window system and about Peritek hardware and software.

Different fonts are used throughout this manual as follows:

Bold face type (like this) indicates a special name within running text, such as a command name, file name or company name.

```
Plain  fixed  width  text  (like  this)  indicates  a  text  in  an  ASCII
configuration file or script, or text as it is typed or displayed on a
command line.
```

Italic type (like this) is used in the usual way, for documents titles and for emphasis.

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2 Hardware Installation

Installation of the Eclipse may occur either before or after the loading of the Solaris operating system. The Eclipse performs the function of a console boot device and may therefore be used to install the Solaris Operating System even though the Eclipse Solaris software has not been installed. Eclipse software must be installed to activate the X-Windows feature.

Although we recommend installing the Eclipse board into the first PMC, CPCI or PCI slot, you may install it into any available slot. Follow basic grounding and anti-static precautions during the installation of the hardware. Please refer to section 2.1, 2.2 or 2.3 below depending on which Peritek product you are installing.

Important !

Prior to installing the Eclipse board, please insure that a system keyboard is plugged into the cpu board. Should a keyboard not be installed, Eclipse cannot function as a console device.

2.1 Installing the Eclipse PMC

Place the EMI gasket provided around the front panel of the Eclipse.

With the Eclipse connectors facing the CPU, insert the Eclipse front panel into the CPU's front panel PMC opening.

Align the Eclipse connectors with the connectors on the CPU.

Important ! Press down gently **only** directly above the connectors which plug into the cpu. If it is ever necessary to remove the Eclipse, pull the board off by applying pressure to the connector area **only**, not in the middle of the board. These precautions are necessary in order to avoid undue mechanical stress on the board.

Attach the Eclipse to the CPU with the four screws provided.

For Eclipse-2 users, attach the video adapter cable provided to the Eclipse-2. Secure the cable via the jack screws. Attach the monitor cable to the Eclipse-2 adapter cable.

For Eclipse-3 users, attach the cable directly to the Eclipse-3 front panel connector.

Power on the CPU. You will have a blank screen for about one minute. As soon as the CPU finds the Eclipse, console messages will begin appearing.

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2.2   Installing Eclipse CPCI

Important! For Eclipse-2 users: the board should always be handled by the carrier board, not the smaller PMC module. When applying pressure to insert the board into the chassis, always apply pressure by using the ejector ears, not on the board itself. These precautions are necessary in order to avoid undue mechanical stress on the board**.**

Align the Eclipse board with the chassis card guides.

Slowly push the Eclipse into the chassis, insuring that the CPCI connector properly mates with the chassis backplane.

Using the Eclipse CPCI ejector ears, seat the board firmly into the chassis.

Attach the Eclipse to the chassis with the two screws located on the ejector ears.

For Eclipse-2 users, attach the video adapter cable provided to the Eclipse-2. Secure the cable via the jack screws. Attach the monitor cable to the Eclipse-2 adapter cable.

For Eclipse-3 users, attach the cable directly to the Eclipse-3 front panel connector

Power on the CPU. You will have a blank screen for about one minute. As soon as the CPU finds the Eclipse, console messages will begin appearing.

Important ! For Eclipse-2 users: if it is ever necessary to remove the Eclipse-2 from the CPCI carrier board, pull the board off by applying pressure to the connector area **only**, not in the middle of the board. When re-installing, press down gently **only** directly above the connectors which plug into the cpu. These precautions are necessary in order to avoid undue mechanical stress on the board**.**

2.3   Installing Eclipse PCI

Align the Eclipse board with the motherboard PCI connector

Slowly push the Eclipse into the chassis, insuring that the PCI connector properly mates with the motherboard connector

Attach the Eclipse to the chassis with the screw located on the top of the front panel.

Attach the cable directly to the Eclipse front panel connector

Power on the CPU. You will have a blank screen for about one minute. As soon as the CPU finds the Eclipse, console messages will begin appearing.

Should console messages not appear, the most likely cause is that console input and output is being directed through the cpu's serial port (ttya). Should this be the case, connect a serial terminal and proceed to section **3   Configuring the Eclipse as a Console Device.** If you continue to have problems, please refer to **Chapter 7, Installation Problems and Solutions.**

3   Configuring the Eclipse as a Console Device

Eclipse has the capability to function as a console device via embedded OpenBoot Fcode firmware which resides in each Eclipse board. Eclipse defaults to 1152x864@60hz, 8 bits per pixel with separate horizontal and vertical sync signals.

The default console screen for Eclipse-3 is black text on a white background. The default console screen for Eclipse-2 is a white text on a black background. Both products support reverse video options from the default.

Should you wish to use default setting for Eclipse, you may skip this section. If you wish to use features other than the default, please proceed as follows:

Halt the cpu until the OpenBoot prompt (**ok**) appears.

Disable the cpu from automatically booting until the configuration process is completed

```
ok setenv auto-boot? false
```

Set the OpenBoot input and output devices to recognize Eclipse.

```
ok setenv  input-device  keyboard
ok setenv  output-device  screen
```

3.1   Using nvedit to select Console Resolution

Section 3.2 below, makes use of the OpenBoot nvedit utility. After invoking nvedit, the following key sequence will be needed to successfully complete this section:

```
Ctrl-N      Go to the next line
Ctrl-P      Go to the previous line
Ctrl-A      Go to the beginning of a line
Ctrl-L      List the entire contents
Ctrl-K      Deletes a line
Ctrl-C      Exits the editor
```

Hitting the <Enter> key while in nvedit causes a new empty line to be inserted in the nvramrc.

Some processor boards (e.g., the Themis UltraSparcII) may require the following to be added as the *last* line of the nvramrc.

```
probe-all install-console banner
```

in order for any changes that have been made in nvram to take effect.

3.2   Setting the Console Resolution

The default console resolution of the Eclipse is 1152x864@ 60hz. The Eclipse is capable of supporting additional console mode resolutions as shown in Table 2 below:

Index	Resolution
0	1024x768 @60 Hz
1	1024x768 @75 Hz
2*	1152x864 @60 Hz
3	1152x864 @75 Hz
4	1280x1024 @60 Hz
5	1280x1024 @75 Hz
6	800x600 @60 Hz
7	800x600 @75 Hz
8	640x480@60 Hz
9	640x480@75 Hz
a	1152x900@60 Hz
b	1152x900 @75 Hz
c**	1600x1200@60 Hz
d**	1920x1200 @60 Hz

Table 2 - Eclipse Console Resolutions

* - default   ** - Not supported by Eclipse-2

To select a console resolution other than the default, 1152x864@60hz, please perform the following sequence. If the default is desired, you may proceed to the next section.

Important!
Use the desired index value from Table 2 (e.g, 6 as the index value for 800x600@60hz) in place of the word *index* in the second line below:

```
ok nvedit
0: index constant eclipse3-console-mode
1: ^C
ok nvstore
```

Important! For backward compatibility with the Eclipse-2 product, the syntax of **eclipse2-console-mode** will be recognized by the Eclipse-3 product. Eclipse-2 users **must** use **eclipse2-console-mode**.

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3.3 Setting the Sync Output Signal

The default sync signal output type of Eclipse is separate, positive polarity. Eclipse is capable of generating additional sync output signals as shown in Table 3 below:

Index	Sync Type
0*	Separate, H pos, V pos
1	Separate, H pos, V neg
2	Separate, H neg, V pos
3	Separate, H neg, V neg
4	Composite, negative
5	Reserved
6	Sync on Green
7	Sync on Green, no pedestal

Table 3 - Eclipse Sync Output Types

*- default

To select a sync output type other than the default, separate positive H and V, please perform the following sequence. If the default is desired, you may proceed to the next section.

Important!
Use the desired index value from Table 3 (e.g, 4 as the index value for composite, negative) in place of the word *index* in the second line below

```
ok nvedit
0: 6 constant eclipse3-console-mode
1: index constant eclipse3-console-sync
2: ^C
ok nvstore
```

Important! For backward compatibility with the Eclipse-2 product, the syntax of **eclipse2-console-sync** will be recognized by the Eclipse-3 product. Eclipse-2 users **must** use **eclipse2-console-sync**.

3.4   Selecting Console background and text color

By default, the Eclipse-3 console mode supports black text on a white background. Eclipse-3 also supports reverse video and may be selected as follows:

```
ok nvedit
0: 6 constant eclipse3-console-mode
1: 4 constant eclipse3-console-sync
2: 1 constant eclipse3-console-background
2: ^C
ok nvstore
```

Should you wish to use the default of black text on a white background, then no entry is necessary.

Important! Eclipse-2 defaults to white text on a black background. The nvram entry of **"1 constant eclipse2-console-background"** selects reverse video. This is opposite from the Eclipse-3 product.

3.5   Activating Eclipse Console Mode Features

To display the nvramrc contents, type:

```
ok printenv nvramrc

0: 6 constant eclipse3-console-mode
1: 4 constant eclipse3-console-sync
```

Remember, your index selections could be different from the example above.

Direct OpenBoot to use the information contained within nvram

```
ok setenv use-nvramrc? true
```

Reset the cpu for the changes to take effect:

```
ok reset
```

If the Solaris operating system has already been installed, boot the system in preparation for installation of the Eclipse software. **Note:** Solaris 2.6 is only a 32 bit kernel. Solaris 2.7 and 2.8 provide both 32 and 64 bit kernels.

To boot 32 bit kernels, enter:

```
ok boot kernel/unix
```

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To boot 64 bit kernels, enter:

```
ok boot
```

If you need to install the Solaris operating system, insert the Solaris cdrom and boot the system

```
ok boot cdrom
```

Complete the Solaris installation by following the instructions provided by the SunInstall utility.

4 Software Installation

This software package is compatible with Solaris 2.6, Solaris 7 and Solaris 8 and supports both the Eclipse‐2 and Eclipse‐3 products simultaneously.

4.1 Preparation

Important !

For those users replacing their Eclipse‐2 board with an Eclipse‐3, you must complete the following before proceeding with this installation.   Those simply upgrading their software or installing an Eclipse product for the first time may skip this section and proceed to section 4.2.

If using the Eclipse‐2 Xvgp server version:

```
# pkgrm MEGKecl2
```

If using the Eclipse‐2 ddx server version:

```
# pkgrm PRTKecl2
```

Remove all occurrences of devices vfx* from /dev/fbs and /dev

```
# cd /dev/fbs
# rm -i vfx*
# cd /dev
# rm -i vfx*
```

Edit the file /etc/path_to_inst and remove all lines which contain the string vfx.

Reboot and reconfigure the system

```
# sync
# halt
ok boot -r
```

4.2 Installation

Installation of this software requires the user be logged in as the root user.

Software may be installed off of CDROM or from a tar file.

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If installing from a CDROM, insert the CDROM labeled Eclipse Solaris ddx Release 2.2 into the CDROM drive, and perform the following:

```
# pkgadd -d /cdrom/eclipse3_ddx
```

If installing from a tar file, insure that the tar file (ecl3ddx.tar) resides in /var/spool/pkg then perform the following:

```
# tar xvf ecl3ddx.tar
# pkgadd PRTKecl3
```

The System will respond with the following:

```
Processing package instance <PRTKecl3> from </var/spool/pkg>

ddx module and driver for Peritek Eclipse3/Eclipse2 PMC graphics card(sparc) 2.2
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This package will install
a 32-bit driver for 32-bit kernel Solaris systems
a 64-bit driver for 64-bit kernel Solaris systems
Using </opt/PRTKecl3> as the package base directory.
Processing package information.
Processing system information.
Verifying disk space requirements.
Checking for conflicts with packages already installed.
 The following files are already installed on the system and are being
used by another package:
  /usr/dt/config/Xservers

Do you want to install these conflicting files [y,n,?,q] **y**
Checking for setuid/setgid programs.

This package contains scripts which will be executed with super-user
permission during the process of installing this package.

Do you want to continue with the installation of <PRTKecl3> [y,n,?] **y**

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```
Installing ddx module and driver for Peritek Eclipse2 PMC graphics card as
<PRTKecl3>
## Executing preinstall script.
Saving previous Xservers file to /usr/dt/config/Xservers.before_Peritek
## Installing part 1 of 1.
/opt/PRTKecl3/2.2b15
/opt/PRTKecl3/doc/ecl3ddx_pkg.doc
/opt/PRTKecl3/drv/solaris-sparc/pk_vfxm/Makefile
/opt/PRTKecl3/drv/solaris-sparc/pk_vfxm/README
/opt/PRTKecl3/drv/solaris-sparc/pk_vfxm/add_vfxm
/opt/PRTKecl3/drv/solaris-sparc/pk_vfxm/megatek.h
/opt/PRTKecl3/drv/solaris-sparc/pk_vfxm/pciio.h
/opt/PRTKecl3/drv/solaris-sparc/pk_vfxm/vfxm.2.6
/opt/PRTKecl3/drv/solaris-sparc/pk_vfxm/vfxm.2.8
/opt/PRTKecl3/drv/solaris-sparc/pk_vfxm/vfxm.c
/opt/PRTKecl3/drv/solaris-sparc/pk_vfxm/vfxm.conf
/opt/PRTKecl3/drv/solaris-sparc/pk_vfxm/vfxmio.h
/opt/PRTKecl3/drv/solaris-sparc/pk_vfxm/vfxmreg.h
/usr/dt/config/Xservers
/usr/openwin/server/etc/OWconfig.ecl3
/usr/openwin/server/modules/ddxPRTKecl3.so.1
[ verifying class <none> ]
## Executing postinstall script.

REBOOT SYSTEM to start X server on Eclipse 3/Eclipse 2 PMC graphics card

Installation of <PRTKecl3> was successful.
```

5 Configuring the X server

5.1 Configuration of X Displays and Screens

The Solaris **pkgadd** utility has already configured **/usr/dt/config/Xservers** and **/usr/openwin/server/etc/OWconfig** for a single display, single screen installation. Should this be the configuration of your installation then nothing else needs to be done.

For single display - multiple screen configurations, both the **/usr/dt/config/Xservers** and **/usr/openwin/server/etc/OWconfig** files must be edited to choose the appropriate configuration.

Choices are activated or disabled by editing and removing or inserting, respectively, the comment (#) symbol from the appropriate line(s) contained with the **Xservers** and **OWconfig** files . For proper operation, only one choice within a file may be activated at a time.

The **Xservers** file contains three choices. Edit and remove the comment symbol (#) from the appropriate line. Please note that the third choice allows you to configure two Eclipse board so that the cursor moves vertically between displays.

Edit the **OWconfig** file and remove the comment symbol (**#**) for all of the lines that correspond to the "choice" number selected in the **Xservers** file.

If you are using other graphics boards besides the Eclipse in the system, or wish to set up several X server "displays" (a display consists of one or more screens under the control of a single keyboard and mouse), please contact Peritek for assistance.

5.2 Executing the Server in 16, 24 and 32 Bit Per Pixel Mode

Eclipse is capable of supporting 8, 16, 24 and 32 bits per pixel. Eclipse uses a default mode of 8 bits

Should you wish to execute in 16, 24 or 32 bit mode, change the option, **defdepth bpp,** to the entry which is selected in /usr/dt/config/Xservers as shown below:

Note that **bpp** may be 8, 16, 24 or 32

```
:0 Local local /usr/openwin/lib/xdm/StartOW :0 -dev /dev/vfx0 defdepth 16
```

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5.3   Selecting X-Window Screen Resolutions and Sync Output Signal

Each X-Window Screen, or physical display, must have a frequency and resolution along with a sync output signal specified. This selection is contained within the file **/kernel/drv/vfxm.conf**.

X-screens 0 and 1 are specified via indices from Table 2 entered from left to right, respectively, with the first one being the console device as follows:

```
defaultres=2,2;
defaultsync=0,0;
```

Note: The console device frequency, resolution and sync output signal type **used during the boot process** are selected by entries in nvram. If these entries are omitted from nvram, then the defaults are used. Please refer to **Chapter 3, Configuring the Eclipse as a Console Device**.

Should you wish to retain the settings used by the boot process throughout your windows session, then enter a "-1" for the appropriate X-screen as follows:

```
defaultres=-1,-1;
defaultsync=-1,-1;
```

Should you wish to select a resolution for your windows session which differs from console mode, then enter the appropriate index for the desired X-screen as follows:

```
defaultres=5,2;
defaultsync=4,2;
```

The above example will set the resolution and frequency of X-screen 0 to 1280x1024@75 Hz (index 5 from Table 2) and a composite sync output signal (index 4 from Table 3) regardless of the console mode settings.

Important! **/kernel/drv/vfxm.conf** entries of a, b and c must be entered as 0xa, 0xb and 0xc, respectively.

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6   Running the X server

The **Xsun** server can either be started by individual users or started by the operating system at boot-up and controlled by the login process via CDE (Common Desktop Environment) or OpenWindows. *Important!* We recommend that you use the Common Desktop Environment because our installation, for single board Eclipse configurations, will automatically setup CDE for you.

To determine if CDE and/or OpenWindows are installed on your system, please check for the following directory structures:

>   CDE - `/usr/dt/bin, /usr/dt/config`
>   OpenWindows - `/usr/openwin/lib, /usr/openwin/bin`

If the sections that follow, combined with your system documentation, are not enough to get you started, please contact Peritek for assistance.

6.1   Common Desktop Environment (CDE) configuration

You can have your workstation start the X server through the Common Desktop Environment, **CDE,** to provide a login prompt on the graphics display after the workstation boots.

As part of the Eclipse software installation process, a file to control the CDE startup configuration, **Xservers**, has already been placed in **/usr/dt/config**.

To enable CDE to start as part of the boot process, enter:

>   `# /usr/dt/bin/dtconfig -e`

To disable CDE from starting automatically as part of the boot process, enter:

>   `# /usr/dt/bin/dtconfig -d`

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6.2   Command line start-up

Although you may start the server directly from the command line as shown below, CDE is the preferable method as described in the next section.

The **Xsun** server may be started from the command line via OpenWindows as follows:

```
# /usr/openwin/bin/openwin &
```

Should you wish to start **Xsun** during system bootup, you must create a script file, e.g. S99Peritek.sh and place it in /etc/rc3.d. The following is a basic example of this script

```
#!/bin/sh
#/etc/rc3.d/S99Peritek example to start server, xterm and
#OpenLook window manager

DISPLAY=system_name:0
export DISPLAY
/usr/openwin/bin/Xsun :0 -dev /dev/vfx0 &
/usr/openwin/bin/xterm &
/usr/openwin/bin/olwm &
```

where system_name is the name of the system where this script will be executed.

If another X display is already started, use :1 to start the server as display number 1.

The above command will cause the server to start, display a X cursor, start one xterm and the OpenLook window manager.

6.3   Starting CDE and the Xsun server

The system is now fully configured and ready to reboot. CDE and the Xsun server will start as part of the boot process. To start this process enter the following command sequence:

Halt the system:

```
# sync
# halt
```

Configure the system to automatically boot:

```
ok setenv auto-boot? true
```

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If you are booting Solaris 2.6 or a 32 bit Solaris 2.7 kernel:

```
ok boot kernel/unix -r
```

If you are booting a 64 bit Solaris 2.7 or 2.8 kernel:

```
ok boot -r
```

Important !
You must reboot with the '-r' option. This forces the system to reconfigure all devices and will create all of the necessary device links. Should you forget this option, the X server will attempt to start but then abort because it cannot find the Eclipse board.

The system will now boot and a CDE login window appear. If CDE does not start, please examine the error log file located in **/var/dt/Xerrors.**

7 Installation Problems & Solutions

Should you encounter problems during the installation and configuration of your Eclipse board, carefully review this section for solutions to the most common problems.

7.1 No display on monitor

Check for the obvious, good connection via the cable between the Eclipse and the monitor. Insure that the monitor and cpu have power.

Check to insure that a keyboard/mouse is plugged into the cpu. Systems without a keyboard will always send console boot information to the cpu's serial port, not the graphics board.

Connect a serial cable to the cpu. From another system establish a tip connection to the cpu. Halt the system to the OpenBoot prompt ('ok'). Check the following environment variables and set if required:

```
ok printenv input-device
keyboard

ok printenv output-device
screen
```

If input-device and output-device are not set to keyboard and screen, respectively, you must set them using the setenv command as follows:

```
ok setenv input-device keyboard
ok setenv output-device screen
```

The most common cause of problems is that these variables are set to 'ttya' and all console input and output are directed to the cpu's serial port.

Check to see if your monitor supports Eclipse default resolution of 1152x864 @ 60Hz with separate horizontal and vertical sync as input. If it does not, then the resolution must be set in nvram by connecting a serial cable to the cpu and establishing a tip connection. **Refer to section 3, Configuring Eclipse as a console device**.

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7.2   Display does not synchronize

By default, Eclipse generates separate horizontal and vertical sync output signals. Eclipse also has the capability to generate sync-on-green and composite sync. The same Eclipse adapter cable may be used for all formats. Check which format your monitor supports and select the appropriate sync type as outlined in **Section 3.3, Setting the Sync Output Signal.**

7.3   CDE Desktop won't start

Should the CDE desktop report that it can't start, please examine the contents of **/var/dt/Xerrors**. If Xerrors reports that it can't probe the Eclipse device, the most likely cause is that the device link **/dev/vfx*** does not exist. List this link as follows. It should look something like this:

```
# ls -l /dev/vfx*

/dev/vfx0 -> ../devices/pci@1f,0/pci@2,1/PERITEK,ecl3@vfxm_0
```

Should the device links not exist, reboot the kernel with the '-r' option.

7.4   System boots but CDE won't start

You must tell Solaris that you want CDE to start as part of the boot process. Do this with the following command:

```
# /usr/dt/bin/dtconfig -e
```

Please refer to **Section 6, Running the X server**.

8 Testing the server with xdpyinfo

To see if your Eclipse board is working, you can query it from another machine which is capable of running X clients(where **Target-machine-IP** is the IP address or name of the system with the Eclipse-2 board):

```
% xdpyinfo  -display Target-machine-IP:0
```

If the server is running you will get several screens of output such as.

```
% xdpyinfo -display idaho:0
name of display:    idaho:0.0
version number:     11.0
vendor string:     Peritek Corporation
vendor release number:     5000
maximum request size:  262140 bytes
motion buffer size:  256
bitmap unit, bit order, padding:    32, LSBFirst, 32
image byte order:     LSBFirst
number of supported pixmap formats:     14
supported pixmap formats:
    depth 1, bits_per_pixel 1, scanline_pad 32
    depth 2, bits_per_pixel 4, scanline_pad 32
    depth 3, bits_per_pixel 4, scanline_pad 32
....
    depth 30, bits_per_pixel 32, scanline_pad 32
    depth 32, bits_per_pixel 32, scanline_pad 32
keycode range:     minimum 86, maximum 251
focus:  PointerRoot
number of extensions:     3
    SHAPE
    Multi-Buffering
    MIT-SUNDRY-NONSTANDARD
default screen number:     0
number of screens:     1
screen #0:
  dimensions:     1280x1024 pixels (325x260 millimeters)
  resolution:     100x100 dots per inch
  depths (14):    1, 2, 3, 4, 6, 8, 9, 12, 15, 16, 18, 24, 30, 32
  root window id:     0x28
  depth of root window:     8 planes
  number of colormaps:     minimum 1, maximum 1
  default colormap:     0x26
  default number of colormap cells:     256
  preallocated pixels:     black 0, white 1
  options:     backing-store YES, save-unders YES
  current input event mask:     0x0
  number of visuals:     6
  default visual id:  0x23
```

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```
       visual:
         visual id:    0x20
         class:    StaticGray
         depth:    8 planes
         size of colormap:    256 entries
         red, green, blue masks:    0x0, 0x0, 0x0
         significant bits in color specification:    8 bits
     .....
       visual:
         visual id:    0x25
         class:    DirectColor
         depth:    8 planes
         size of colormap:    8 entries
         red, green, blue masks:    0x7, 0x38, 0xc0
         significant bits in color specification:    8 bits
       number of mono multibuffer types:    6
         visual id, max buffers, depth:    0x20, 0, 8
         visual id, max buffers, depth:    0x21, 0, 8
         visual id, max buffers, depth:    0x22, 0, 8
         visual id, max buffers, depth:    0x23, 0, 8
         visual id, max buffers, depth:    0x24, 0, 8
         visual id, max buffers, depth:    0x25, 0, 8
       number of stereo multibuffer types:    0
```

If running **xdpyinfo** does not produce output similar to this, you are not talking to the board or the server is not properly loaded and running. If **xdpyinfo** works, try running an X client such as **xterm**:

```
    % xterm  -display Target-machine-IP:0
```

This should put up an **xterm** window on the display which is connected to the Eclipse board, and the keyboard and mouse connected to the board should be active.

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9 Bibliography

X Window System References

Be sure to read the **X** and **Xsun** manual pages on your Solaris system.

Books published by O'Reilly & Associates:
URL: http://www.ora.com/
X Window System Series
by various authors:
This authoritative, multi-volume set covers virtually every aspect of X Windows.

X Window System : Core and Extension Protocols : X Version 11, Releases 6 and 6.1
by Robert W. Scheifler, James Gettys (Contributor), Al Mento (Editor), Donna Converse
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Technical X Window System and Motif WWW Sites (Kenton Lee)
URL: http://www.rahul.net/kenton/xsites.html

Peritek Eclipse-3 Hardware Manual

URL: http://www.peritek.com
Select documents
Eclipse-3 H/W manual - Peritek_B3_Manual.pdf