

# Precision™ Synthesis Installation Guide



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# Chapter 1

## Installation

This chapter provides the installation steps for installing Precision™ RTL Synthesis and Precision™ Physical Synthesis on your Windows, UNIX and Linux platforms.

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# PC Windows 98/NT/2000/XP

## Installing from a CD-ROM

Use these steps for installing Precision Synthesis from a CD:

1. Insert the CD-ROM in your local drive or your network drive.

The installation should automatically start.

2. If the installation does not automatically start, run the `install_win.exe` program.  
Type the following:

`<cdrom drive>:\install_win.exe`



If during the Precision Synthesis installation you get Java error messages, make sure that your machine has Java installed.

## PC Platforms - Color Flashing

The Precision RTL Synthesis schematic viewer works best with at least 16-bit color settings. Setting the color to less than 16 bits may result in color flashing when you move between windows.

To change the color setting, do the following:

1. Go to: Control Panel -> Display -> Settings
2. Set your Display Color Palette to minimum 16 bit (High Colors or True Color, not 256 Colors or less).

## Invoking the Graphical User Interface

You invoke the Precision RTL Synthesis GUI with the ***precision*** command. Optional command switches allow you to customize the invocation. The ***precision -physical*** command invokes Precision Physical Synthesis GUI if you have the proper license features installed. The ***precision*** command usage is fully documented in the [Precision Synthesis Reference Manual](#).

## Invoking Precision Synthesis from a Shell

You can invoke Precision RTL Synthesis in non-GUI mode by using the command ***precision -shell***. You can invoke Precision Physical Synthesis in non-GUI mode by using the command ***precision -shell -physical***. In this shell mode you can source Tcl scripts or you can interactively enter commands from the shell prompt. The details about using the ***precision*** command are documented in the [Precision Synthesis Reference Manual](#).

# UNIX/Linux Workstations

## Installation Procedure

**Note**

Your system may also require one or more operating system patches which can be installed before or after you install Precision Synthesis. Refer to [Sun Microsystems Patches](#) or [HP-UX 11.00 Patches](#) in this section for details.

**Note**

Before you install Precision Synthesis make sure that the Mentor Graphics environment variable MGLS\_HOME is not set.

**Note**

If during the Precision Synthesis installation you get Java error messages, make sure that your machine has Java installed.

Use the following steps to install Precision Synthesis in these operating environments: Solaris 8, and HP-UX 11.00, and Linux Red Hat 7.2.

1. On the CDhost, log in as **root**, if required.
2. Create a `/cdrom` directory, if the directory is not already existing. For example:  

```
% mkdir /cdrom
```
3. Insert the Precision Synthesis CD-ROM.
4. Mount the CD-ROM drive on the directory you just created. Refer to the following table for the mount command for your workstation.

OS	Mount Command for Local Drive (example)
Solaris 8	automount
HP-UX 11.00	<code>/etc/mount -o cdcase /dev/dsk/&lt;device of the CDROM name&gt; /cdrom</code>
Linux Red Hat 7.2	automount

5. Verify that the CD-ROM was mounted correctly. For example:

```
% ls /cdrom
```



6. If necessary, create a directory to install Precision Synthesis. For example:

```
% mkdir /precision
```

7. Change the working directory to the installation directory. For example:

```
% cd /precision
```

8. Install the Precision Synthesis software from the CD-ROM by executing the executable file.

Operating System	Command to Install Software (example)
Solaris 8	/cdrom/cdrom0/install_sun.bin
HP-UX 11.00	/cdrom/install_hp.bin
Linux Red Hat 7.2	/mnt/cdrom/install_linux.bin

## Invoking the Precision Synthesis GUI from UNIX/Linux

When you invoke Precision Synthesis with the *precision* command, the tool comes up with the Graphical User Interface (GUI). Type the following from a UNIX/Linux shell:

```
% <precision install directory>Mgc_home/bin/precision
```

When you invoke Precision Physical Synthesis with the *precision -physical* command, the tool comes up with the Physical Synthesis Graphical User Interface. Type the following from a UNIX/Linux shell:

```
% <precision install directory>Mgc_home/bin/precision -physical
```

## Running Precision Synthesis from a Shell

You can invoke Precision Synthesis in non-GUI mode by using the **-shell** command switch.

```
% <precision install directory>Mgc_home/bin/precision -shell  
or  
% <precision install directory>Mgc_home/bin/precision -shell -physical
```

In this mode you can source Tcl scripts or you can interactively enter commands from the shell prompt. The details about using the **precision** command are documented in the [Precision Synthesis Reference Manual](#).

Precision Synthesis supports MainWin 4.02 software running on the Solaris 8 and HP-UX 11.00 operating systems. MainWin 4.02 requires certain patches in order to run properly. You may install operating system patches before or after you install Precision Synthesis.

The paragraphs that follow outline the required patches for each operating system.

**Note**

Precision Synthesis is experiencing very long invoke times and very long run times on Sun machines with kernel version: SunOS 5.8 Generic 108528-13 December 2001 and later. This problem will be resolved in a future release of Precision. You can check the version of the Solaris Operating System by using the 'showrev' command.

## Sun Microsystems Patches

### Detecting the Graphics Card

On Solaris systems, a patch is sometimes required that is specific for the installed graphics card. Use the instructions that follow to determine which graphics card is installed on your system.

**To verify that an FFB accelerator is installed on the system (Creator 3D), enter**

```
% dmesg | grep ffb
```

The output should be:

```
SUNW,ffb0 at root: UPA 0x1e 0x0
SUNW,ffb0 is /SUNW,ffb@1e,0
stdout is (/SUNW,ffb@1e,0) major (53) minor (0)
```

**To verify that an AFB accelerator is installed on the system (Elite 3D), enter**

```
% dmesg | grep afb
```

The output should be:

```
SUNW,afb0 at root: UPA 0x1e 0x0
SUNW,afb0 is /SUNW,afb@1e,0
stdout is major <79> minor <0>
```

**To detect graphics cards (alternate method), enter**

```
% ls /dev/fbs/*
```

You can tell which graphic card is present by the output from the command; refer to [Table 1-1](#).

**Table 1-1. Detecting a Graphics Card**

Output	Graphics Card
/dev/fbs/afb*	Elite3D graphics card
/dev/fbs/cgsix*	GX graphics card
/dev/fbs/ffb*	Creator/Creator3D graphics card
/dev/fbs/gfxp*	PGX32 (Raptor GFX) graphics card
/dev/fbs/leo*	ZX graphics card
/dev/fbs/m64*	M64 (PGX) graphics card
/dev/fbs/sx*	SX graphics card
/dev/fbs/tcx*	TCX graphics card

## Solaris 8 Patches

The following tables describe the required patches for Solaris 8 operating systems. Patches are available for download at the following Sun web site: <http://sunsolve.sun.com>

**Table 1-2. Patches for All Solaris 8 systems**

Patch	Description	Notes
108434-01	Shared library fix for C++ run-time.	Shared library fix for C++ run-time.

## HP-UX 11.00 Patches

The following patches are required on the HP-UX 11.00 operating system to allow Precision Synthesis with MainWin 4.02 to run appropriately.

Patches are available on the following HP WEB sites:

<http://us-support.external.hp.com>  
<http://europe-support.external.hp.com>

**Table 1-3. Patches for All HP-UX 11.00 systems**

Bundle	Verion	Description
XSWGRI10 (preferred bundle)	B.11.00.52.2	HP-UX General Release Patches, March 2002
or		
QPK1100	B.11.00.51.01	Quality Pack for HP-UX 11.00 December 2000

## UNIX Environments

The most common UNIX environments are supported:

- Common Desktop Environment (CDE)
- OpenWindows
- HP View

## UNIX - Color Flashing

If you have several color intensive applications running, you may experience color flashing. You should avoid invoking multiple color intensive applications simultaneously. You can also help reduce color flashing by invoking Precision Synthesis before invoking other multiple color intensive applications.

# Hardware and Software Requirements - Window, UNIX and Linux

## Basic Requirements

### Type of PC:

An IBM compatible PC with a Pentium or Pentium-Pro CPU is recommended.

### Operating System:

**PC:** Precision Synthesis requires Windows 98/2000/NT/XP.

**UNIX:** Solaris 8; HP-UX 11.00

**Linux:** Red Hat Linux 7.2

### Disk Space:

Precision Synthesis requires approximately **160 MBytes** of disk space for programs and data files. Plan for an additional **50 MBytes** for your design and intermediate files.

## System Memory (RAM) Requirements

Table 1-4 shows the recommended memory for the proper operation of Precision Synthesis. The actual requirements may vary, depending on your design and coding style. A system with less than the recommended memory may run slower due to memory swapping.

**Table 1-4. System Memory Requirements**

Design Size			RAM (MB)
Number of Gates	Look Up Tables (LUTs)	Flip-Flops	
15,000 to 75,000	1100 to 5000	3000	128
75,000 and up	5000 and up	5000	256

## Setting Recommendation for an 800x600 Display:

Optimum productivity will be achieved on displays greater than 800x600. However, if you require an 800x600 setting, you should make the following changes:

1. Set the Windows display to enable 800x600 displays:

```
StartMenu -> Settings -> Control Panel
```

2. Click on Display icon and choose the **Settings** tab. Change the font size to **Small Fonts** and click OK.

## Licensing Precision Synthesis - PC and UNIX

Precision RTL Synthesis and Precision Physical Synthesis requires an authorization code (license). Precision Synthesis supports Mentor Graphics (MGLS) licensing for node locked and floating licensing styles.

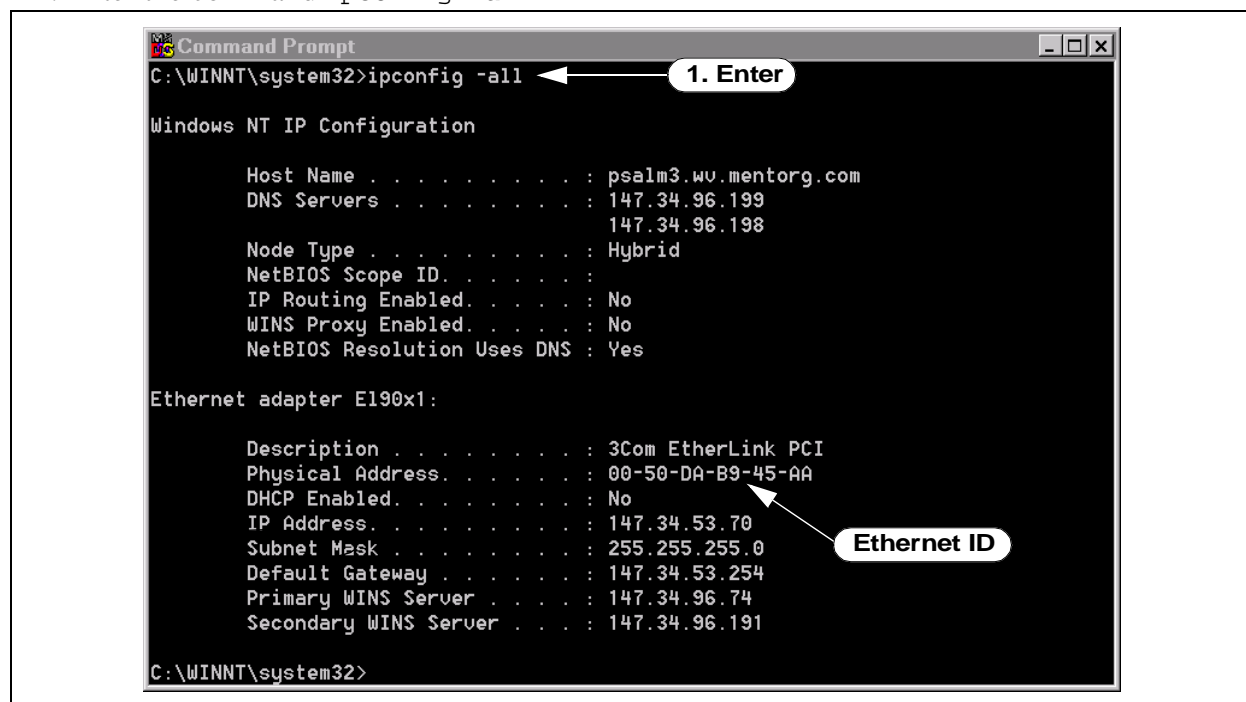
## Step 1: Determine Your hostid

### Finding Your hostid on a PC

Your PC hostid can be a dongle ID number (usually printed on the outside of the dongle) or an Ethernet ID number. The Ethernet ID is a 12 digit hexadecimal number. The following are methods for finding the Ethernet ID on various platforms:

#### From the Windows NT/XP Command Prompt

1. Open a Command Prompt and move to the directory `C:\winnt\system32`
2. Enter the command `ipconfig -all`



An example of a 12 digit hexadecimal Ethernet ID is shown above.

#### From the Windows 98/2000 Command Prompt

1. Run `C:\windows\winipcfg.exe`
2. Select the Ethernet Card Adapter (or other suitable adapter such as Firewire Adapter)
3. Read the address. The 12 digit hexadecimal number for “Adapter Address” is the Ethernet ID.

## Finding Your hostid on a UNIX/Linux platform

Type the following command:

```
% $MGC_HOME/bin/lmhostid
```

## Step 2: Contact Mentor Graphics to Obtain Your Authorization Codes:

**Email**            synthesis\_license@mentor.com

Please provide your hostid, name, address, email, and phone. In addition, please provide your type of platform, fax number, and if a floating or node-locked license is required.

## Step 3: Install Your License File

The Mentor Graphics License Software searches for the license file in the following locations:

1. MGLS\_LICENSE\_FILE environment variable
2. MGLS\_LICENSE\_FILE registry value (Windows only)
3. LM\_LICENSE\_FILE environment variable
4. LM\_LICENSE\_FILE registry value (Windows only)
5. <precision install directory/etc/cust/mgls/mgc.licenses (UNIX/Linux only)
6. C:\flexlm\license.dat (Windows only)

If you install the license anywhere except the PC default location, then you must set the MGCL\_LICENSE\_FILE or LM\_LICENSE\_FILE environment variable to point to the license file.

If you install the license file on your PC in the default location (C:\flexlm\license.dat), for example, and the license software can't find it, check to make sure that the MGCL\_LICENSE\_FILE or LM\_LICENSE\_FILE variables or registry values are not pointing to a different location.

## License Daemons

Precision Synthesis supports the Mentor Graphics License daemon (**mgcld**).



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Updated 10/19/01

