



Release Document

Alliance Series 1.4 Install and Release Document

December 1997

Read This Before Installation



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Chapter 1

Introduction

This manual explains how to install Xilinx Alliance Series 1.4 software products and how to configure your system for use with the Xilinx Design Implementation Tools. This software offers the industry's most advanced and flexible timing-driven design system. This release is compatible with third-party products available from Cadence, Mentor Graphics, Synopsys, and Viewlogic.

This document describes how to install the software on either a PC or UNIX platform. This document provides tips and workarounds that will help you to use the Xilinx Design Implementation Tools with any of the third-party products listed in the "Versions and Compatibility" chapter. It also describes how to use the Xilinx online documentation, which is implemented in SGML (Standard Generalized Markup Language). Furthermore, this document provides information on customer support, technical support, troubleshooting, and known issues.

Operating System Compatibility

The UNIX version of this Xilinx software is available for the Sun, Solaris, and Hewlett-Packard platforms. The following table shows the specific version numbers of the UNIX operating systems with which this release has been thoroughly tested.

Table 1-1 Operating System Compatibility

Sun 4	Solaris	HP Series 9000
SunOS 4.1.4	Solaris 2.5	HP-UX 10.2

The PC version of the software operates on Windows NT 4.0 and Windows 95.

GNU License Agreement

Xilinx distributes the Perl program with the Alliance software. Perl, which is used for the installation of software, is copyright (c) 1989, 1991 Free Software Foundation, Inc., and is distributed without warranty of any kind pursuant to the GNU General Public License Agreement, a copy of which is available from Xilinx upon your request. For three years following your acquisition of the Perl program along with Xilinx's Alliance software, Xilinx will supply a copy of the Perl source code upon your request to Xilinx Customer Support.

Contents

The Xilinx Development System software and online documentation is provided on three CD-ROMs. It consists of the following.

Software Component	UNIX	PC
Installation program	●	●
Design Implementation Tools	●	●
CAE interface libraries for Workview Office/Version 7.4		●
CAE interface libraries for Powerview/Version 6.0	●	
CAE interface libraries for Mentor Graphics/Version C.1	●	
CAE interface libraries for Synopsys/FPGA Express Version 1.2		●
CAE interface libraries for Synopsys/FPGA Compiler Version 3.4b	●	
CAE interface libraries for Synopsys/Design Compiler Version 3.4b	●	
CAE interface libraries for Cadence/Concept Version 97A	●	
CAE interface libraries for Cadence/Verilog-XL Version 97A	●	
Version 3.1 DynaText browser	●	●
Xilinx online documentation	●	●

Online Help

Context-sensitive online help is available for all Xilinx programs that are available with a GUI (graphical user interface). Each GUI has its own help file that is invoked by that particular program.

Note: Each help file contains two topics, "How to Use Help," and "Obtaining Help," that you can refer to if you need detailed information about how to use the online help system.

Documentation

One CD-ROM contains Xilinx online documentation, DynaText online documentation, and the DynaText browser.

The following Xilinx online documentation titles are available for the Xilinx Alliance Series 1.4 software.

- *Answers Guide*
- *Cadence Interface/Tutorial Guide*
- *CPLD Schematic Design Guide*
- *CPLD Synthesis Design Guide*
- *Design Manager/Flow Engine Reference/User Guide*
- *Development System Reference Guide*
- *Development System User Guide*
- *EPIC Design Editor Reference/User Guide*
- *Hardware Debugger Reference/User Guide*
- *Hardware User Guide*
- *JTAG Programmer Guide*
- *Libraries Guide*
- *LogiBLOX Reference/User Guide*
- *Mentor Graphics Interface/Tutorial Guide*
- *PROM File Formatter Reference/User Guide*
- *Quick Start Guide for Xilinx Alliance Series 1.4*
- *Synopsys (XSI) Interface/Tutorial Guide*
- *Timing Analyzer Reference/User Guide*
- *Viewlogic Interface/Tutorial Guide*

You also have access to DynaText's own online documentation. These titles explain how to use the DynaText browser to view online documents.

- *DynaText Reader's Guide for Windows*
- *DynaText Features Book*
- *Shuttle Press Kit*

Guidelines

The following is a summary of the steps to follow for getting ready to use your software.

- Fill out the enclosed registration card.
Fax or mail the card to Xilinx to receive future updates and product information.
- Read the release document.
- Install your Alliance software.

Follow the instructions for your platform in these release notes to install your software.

If you do not want to install the software, you can execute it directly from the CD-ROM, as explained in the “Installing Alliance on Workstations” chapter or the “Installing Alliance on PCs” chapter.

- Install online documentation.

You can access Xilinx documentation online on a PC running Windows 95 or Windows NT, Sun, and HP workstations.

You must use the DynaText browser to read Xilinx online documentation.

The browser can be installed from the Alliance Design Implementation Tools CD-ROM. The browser can also be installed from the Alliance Series Documentation CD-ROM. You can also read online documents from the browser on the CD-ROM.

In addition, context-sensitive help is available for all Windows-based programs. Context-sensitive help is available from the Help menu of each program. It is also available from selection dialog boxes that include a Help button. Refer to the manual for each of these programs for more information.

- License your Alliance software.

After installing your software, you must authorize it. To authorize software, refer to the “Setting Up Security” chapter. Also refer to the License and Registration Instructions located in your package.

- Address your questions and comments to the numbers shown in the “Xilinx Customer Support Information” chapter.

Chapter 2

Versions and Compatibility

This software is compatible with Xilinx schematic and simulation interfaces for Powerview, Mentor Graphics, Synopsys, Viewlogic, and Cadence; however, before you install this software, verify that you have the appropriate version of your CAE tool interface program

The following table shows tool interface program names with the supported vendor version numbers.

Table 2-1 CAE Tool Compatibility

Vendor Name	Tool Interface Name	Vendor Version
Mentor Graphics	Mentor Graphics Interface	C.1 or above
Synopsys	FPGA Express	1.2 or above
	FPGA Compiler	3.4b or above
	Design Compiler	3.4b or above
Viewlogic	Workview Office	7.4 or above
	Powerview	6.0 or above
Cadence	Concept	97A or above
	Verilog-XL	97A or above

Xilinx Design with Viewlogic's Workview Office

Xilinx software is compatible with the schematic and simulation interface within Viewlogic's Workview Office product, but the actual Viewlogic EDA/schematic tools are not provided with this software. Consequently, before you install the Xilinx Design Implementation Tools software, verify that you have Viewlogic's Workview Office, version 7.4 (or better) installed. The Viewlogic tools can be used for either CPLD or FPGA designs.

Chapter 3

Features in This Release

This chapter describes the supported and unsupported features of this release, including details of the Xilinx Synopsys Interface.

Features Supported For Alliance Series 1.4

These are the major features, including new devices and architectures, that are supported for this release.

- The XC3x00A/L, XC4000E/L/EL/XL/XV, XC5200, XC9500, and Spartan device families.
- Turns Engine
- Synopsys Support (see the “Xilinx Synopsys Interface” section of this chapter for more details)

New Program Behavior For 1.4

The following section describes program behavior changes for this release.

1. PAR: Significant changes in the default PAR behavior have been made with the primary goal of improving runtime in the “out-of-box” mode of operation. As a result, you may observe significantly different behavior from PAR on designs which were run using default switch settings in prior versions of the tools (including the 1.3 production release).

There are also improved messaging and report file functions, as well as better resource utilization reporting. The program also offers “next step” suggestions in the .par file to help improve routing and timing results. New switches have been added to the PAR command line:

-ol Overall PAR effort level range 1-5

-pl Placer effort level (same as “-l” in prior releases)

-rl Router effort level, range 1-5

The Overall PAR effort level control has been added to provide a *simple* means to control the behavior of PAR. The overall effort level corresponds directly to the “PAR Effort Level” slider bar in the Flow Engine GUI. Each of the five different settings of the -ol switch map to specific settings of -pl and -rl, which are dependent on the architecture and specific device being used.

When you want to specify a finer level of control over the individual placer and router effort levels, you will need to specify the individual -pl and -rl. (In previous versions of M1 software, the default behavior was to run at placer effort level “-l 4”, and there was no way to control the Router effort level.)

In addition to adding the Overall and Router effort level switches, the default behavior is now set to be “-ol 2”. The effect of this behavior change is to obtain significantly faster runtimes on most designs. However, using the default effort levels may not produce optimum results. Similar levels can be achieved by setting the PAR level to “4”.

Note: In order to return to the behavior found in the default settings in M1.3 and earlier releases, set the -ol switch to “4” (or set the PAR effort level slider bar to the 4th setting from the left).

2. MAP: Most of the changes for the Alliance Series 1.4 release are in the report file. This file has been re-organized to have the Summary at the beginning, and a table of contents has been added. All errors and warnings have been grouped into sections at the beginning of the report.

Substantial disk space is now saved in large designs, due to changes in the EXPANDED LOGIC, SIGNAL CROSS-REFERENCE, AND SYMBOL CROSS-REFERENCE sections. These sections, primarily used for debugging, are no longer generated by default.

3. TIMING: There is now net fanout reporting included in the TRCE report.

Items Not Supported In This Release

- XC7300 device family

Xilinx Synopsys Interface (XSI)

The following sections describe the latest support for the XSI.

The current software directly reads the SXNF and SEDIF files from the Synopsys interface. The Synopsys software needs to be version 3.4b or later in order to work with Alliance Series 1.4.

DesignWare components are pre-compiled for Synopsys version 3.4b, and are automatically used when your design is compiled. You can now translate some Synopsys timing constraints directly from the Synopsys script file into Xilinx constraint syntax.

Features Included in this XSI Release

The following subsections describe basic XSI features/issues.

- XC4000E/L/EX/XL/XV synthesis libraries, including the Xilinx DesignWare Library.
- A UNISIM functional simulation library to support behavioral simulation of designs containing instantiated cells that use GSR/GTS in back-end simulation.
- XC5200 synthesis library, including Xilinx DesignWare Library.
- Simprim VITAL-compliant back annotation simulation library and netlister.
- CLB/IOB synthesis for XC4000E/L/EX/XL/XV.
- XC9000 synthesis library
- Translation of some Synopsys timing constraints directly from the Synopsys script file into Xilinx constraint syntax.

Xilinx DesignWare Library

The Xilinx DesignWare library (XDW) shipped with the XACT 5.2.1 software is unchanged in the current release of the XC4000 software. In the current software release, XDW modules are provided in an expanded form so the X-BLOX program is no longer required.

Therefore, the XDW modules that result from synthesizing designs with this library are no longer expanded using the X-BLOX module compiler (an XACT 5.2.1 executable that is invoked as part of the design implementation process.) The Xilinx Design Implementation

Tools automatically incorporate these expanded netlists, which considerably reduces processing times.

Note: The Xilinx DesignWare library was formerly known as the X-BLOX DesignWare library.

Simulation

VSS V3.4b is available in two different versions: V3.4b and V3.4b-VITAL. V3.4b is a maintenance update to V3.4a, and is compatible with the various simulation library formats that have traditionally been supported by VSS in the past (such as FTGS). V3.4b-VITAL incorporates many new features, such as support for IEEE 1076.4 (also known as VITAL). Support for the traditional library formats is not available in V3.4b-VITAL. Synopsys V3.5x, V1997.01, and V1997.08 combine VITAL support and support for other library formats in the same simulator package.

Currently, you must install VSS V3.4b and V3.4b-VITAL in different areas; you can select (with environment settings) only one version at a time. Therefore, any simulation performed with VSS using FTGS libraries requires one environment setup, while simulation using VITAL libraries requires another.

In the current Xilinx release, back-annotated simulation is performed using VITAL-compliant SIMPRIM libraries, which requires VSS V3.4b-VITAL. However, behavioral simulation of designs containing instantiated primitive cells, where the models for those cells are provided from an FTGS library, requires VSS V3.4b. You may have to change your environment settings to point to the appropriate simulator at different stages in the design flow.

Note: Behavioral simulation of designs that do not contain instantiated primitive cells can be simulated with either tool.

Features Not Included in this XSI Release

- Synthesis of complex IOB functions, including clock-enabled flip-flops and output logic-gates/mux. Instead, these functions are available through instantiation.

Major Features From M1.3

This section lists some of the major features that were added or supported for the last software release.

- Viewlogic interface
- Mentor Graphics interface
- XNF netlist interface
- Bitstream generation
- RAM initialization
- EDIF, VITAL-compliant VHDL, and Verilog back annotation
- Netlister Launcher
- TIMESPEC support in EPIC
- Japanese Install Program

The Xilinx installation program has been localized using Kanji characters.

- Cadence Support

Cadence EDA design tools can be used to implement Xilinx FPGA and CPLD designs.

- LogiBLOX Support

LogiBLOX is a graphical interactive design tool that you can use for creating high-level modules such as counters, shift registers, and multiplexers. LogiBLOX includes both a library of generic modules and a set of tools for customizing these modules. Using the LogiBLOX graphical user interface (GUI), you can create and process high-level LogiBLOX modules that will fit into your schematic-based design or HDL synthesis-based design.

- Updated Documentation

Complete online help and online documentation is provided with this software. The online help follows the Windows look-and-feel on both UNIX and PC platforms, and is provided on a program-by-program basis. The online documentation is organized into books, implemented in SGML, and presented to you using the DynaText browser from EBT (Electronic Book Technologies).

Chapter 4

Device and Package Support

The following is a master table of Xilinx devices for this release. For more information on architectural families and specific device parameters, see *The Programmable Logic Data Book*.

Device	Packages	Speed Grades
XC3020A	PC68, PC84, PG84, CB100, PQ100	-6 -7
XC3030A	PC44, VQ64, PC68, PC84, PG84, PQ100, VQ100	-6 -7
XC3042A	PC84, PG84, PP132, PG132, CB100, PQ100, VQ100, TQ144	-6 -7
XC3064A	PC84, PP132, PG132, TQ144, PQ160	-6 -7
XC3090A	PC84, PQ160, TQ144, CB164, PP175, PG175, TQ176, PQ208	-6 -7
XC3120A	PC68, PC84, PG84, PQ100, CB100	-09 -1 -2 -3 -4 -5
XC3130A	PC44, PC68, PC84, PG84, PQ100, VQ100, VQ64	-09 -1 -2 -3 -4 -5
XC3142A	PC84, PG84, PP132, PG132, CB100, PQ100, VQ100, TQ144	-09 -1 -2 -3 -4 -5
XC3164A	PC84, PP132, PG132, PQ160, TQ144	-09 -1 -2 -3 -4 -5
XC3190A	PC84, PQ160, TQ144, CB164, PP175, PG175, TQ176, PQ208	-09 -1 -2 -3 -4 -5
XC3195A	PC84, PQ160, CB164, PP175, PG175, PQ208, PG223	-09 -1 -2 -3 -4 -5
XC3020L	PC84	-8
XC3030L	VQ64, PC84, VQ100	-8
XC3042L	PC84, VQ100, TQ144	-8
XC3064L	PC84, TQ144	-8
XC3090L	PC84, TQ144, TQ176	-8

Device	Packages	Speed Grades
XC3142L	PC84, VQ100, TQ144	-2 -3
XC3190L	PC84, TQ144, TQ176	-2 -3
XC4003E	PC84, PQ100, VQ100, PG120	-1* -2 -3 -4
XC4005E	PC84, PG156, PQ100, PQ160, PQ208, TQ144, CB164	-1* -2 -3 -4
XC4006E	PC84, TQ144, PG156, PQ160, PQ208	-1* -2 -3 -4
XC4008E	PC84, PQ160, PG191, PQ208	-1* -2 -3 -4
XC4010E	PC84, PQ160, PG191, PQ208, HQ208, BG225, CB196	-1* -2 -3 -4
XC4013E	PQ160, PQ208, HQ208, PG223, BG225, PQ240, HQ240, CB228	-1* -2 -3 -4
XC4020E	PG223, HQ208, HQ240	-1* -2 -3 -4
XC4025E	PG223, HQ240, PG299, HQ304, CB228	-2 -3 -4
XC4028EX	HQ208, HQ240, HQ304, PG299, BG352	-2 -3 -4*
XC4036EX	HQ304, BG432, PG411, BG352, HQ240	-2 -3 -4*
XC4005L	PC84, PQ100, PQ208	-5*
XC4010L	PC84, TQ176, PQ208	-5*
XC4013L	PQ208, BG225, PQ240	-5*
XC4002XL	PC84, PQ100, VQ100	-09 -1 -2 -3*
XC4005XL	PC84, PQ100, PQ160, PQ208, TQ144, VQ100	-09 -1 -2 -3*
XC4010XL	BG256, PC84, PQ100, PQ160, PQ208, TQ144, TQ176	-09 -1 -2 -3*
XC4013XL	BG256, HT144, HT176, PQ160, PQ208, PQ240	-09 -1 -2 -3*
XC4020XL	BG256, HT144, HT176, PQ160, PQ208, PQ240	-09 -1 -2 -3*
XC4028XL	BG256, BG352, HQ160, HQ208, HQ240, HQ304, PG299	-09 -1 -2 -3*
XC4036XL	BG352, BG432, HQ160, HQ208, HQ240, HQ304, PG411	-09 -1 -2 -3*
XC4044XL	BG352, BG432, HQ160, HQ208, HQ240, HQ304, PG411	-09 -1 -2 -3*
XC4052XL	BG560, BG432, HQ240, HQ304, PG411	-09 -1 -2 -3*
XC4062XL	BG432, HQ240, HQ304, BG560, PG475	-09 -1 -2 -3*
XC4085XL	BG560, PG559	-09 -1 -2 -3*
XC40125XV	BG560, PG559	-1 -2**

Device	Packages	Speed Grades
XC5202	PC44, VQ64, PC84, PG156, PQ100, TQ144, VQ100	-3 -4 -5 -6
XC5204	PC84, PG156, PQ100, PQ160, TQ144, VQ100	-3 -4 -5 -6
XC5206	PC84, PG191, PQ100, PQ160, PQ208, TQ144, VQ100, TQ176	-3 -4 -5 -6
XC5210	PC84, PG223, BG225, PQ160, PQ208, PQ240, TQ144, TQ176	-3 -4 -5 -6
XC5215	HQ304, PG299, HQ208, HQ240, BG352, BG225, PQ160	-3 -4 -5 -6
XC9536	PC44, VQ44	-5 -7 -10 -15
XC9572	PC44, PC84, PQ100, TQ100	-7 -10 -15
XC95108	PC84, PQ100, TQ100, PQ160	-7 -10 -15 -20
XC95144 ¹	PQ100, PQ160	-7 -10 -15 -20
XC95216	HQ208, PQ160, BG352	-10 -15 -20
XC95288	HQ208, BG352	-10 -15 -20
XCS05	PC84, VQ100	-3 -4*
XCS10	PC84, VQ100, TQ144	-3 -4*
XCS20	VQ100, TQ144	-3 -4*
XCS30	VQ100, TQ144, PQ240, BG256	-3 -4*
XCS40	PQ240, BG256	-3 -4*

* preliminary

** advanced

¹Not yet supported for JEDEC map creation.

Installing Alliance on Workstations

This chapter describes how to install the Alliance software on workstations.

The Alliance software can be used on a single standalone system or on a number of systems sharing a network. In a networked environment, the software is installed on one server on the network. If you have purchased the network license option, users on the network can access this software to perform Alliance applications. If you have not purchased the network license option, the software may be installed on any workstation or server, but can only be run on a single workstation at a time.

To control access to the Alliance software, the Xilinx security system software must also be installed when you install the software. This security system must be installed on networked installations or standalone installations.

Upgrading From Earlier Xilinx Software

You cannot upgrade the new release, Alliance Series 1.4, from an earlier release of Xilinx software. You must fully install the new software; however, you can migrate existing design files for use with the Alliance software. For details, refer to the *XACT Conversion Guide*.

Note: Xilinx strongly recommends that you install this release of the software in a completely separate directory from any earlier Xilinx releases.

Workstation Requirements

Hardware and software requirements for a UNIX workstation are:

Type of Workstations: Sun SPARCstation, HP/UX.

Operating Systems:

SunOS Version 4.1.3 and 4.1.4

Solaris 2.5 (5.5/5.5.1)

HP 10.1 and 10.2

Windowing System:

X Window System Version X11R4 (or compatible)

Window Manager: OSF/Motif 1.1

System Memory (RAM): UNIX Memory Requirements

Xilinx Device	RAM	Swap Space
XC3000A/L XC3100A/L XC4000E/L XC4028EX through XC4036EX XC4002XL through XC4028XL XC5200 XC9500 (small devices)	64 MB	64 MB-128 MB
XC4036XL through XC4062XL XC9500 (large devices)	128 MB	128 MB-256 MB
XC4085XL XC40125XV	256 MB	256 MB-512 MB

Note: The values in the previous table are for typical designs, and include the loading of the operating system. Additional memory may be required for certain “boundary-case” or “pathological” designs, as well as for concurrent operation of other applications.

Xilinx recommends that 4000EX designs be compiled using an Ultra Sparc, HP715, or equivalent machine type. 64 MB of RAM as well as 64 MB of swap space is required to compile 4000EX designs, but Xilinx recommends that 128 MB of RAM, plus corresponding swap space, be used.

Required Disk Space For Design Implementation Tools CD:

	Data	Sun	Sol	HP
Xilinx Core Technology ¹	~12 MB	~96 MB	~98 MB	~108 MB
XC3000 ²	~3.4 MB	~1.3 MB	~1.2 MB	~2 MB
XC3000A ³	~4 MB	N/A	N/A	N/A
XC3000L ³	~1.3 MB	N/A	N/A	N/A
XC3100 ⁴	~2 MB	N/A	N/A	N/A
XC3100A ⁵	~4 MB	N/A	N/A	N/A
XC3100L ⁶	~1.2 MB	N/A	N/A	N/A
XC4000 ⁷	~1.2 MB	~2 MB	~2 MB	~3 MB
XC4000E ⁸ 4003E, 4005E, 40006E, 4008E, 4010E 4013E 4020E, 4025E	~30 MB total ~15 MB ~4 MB ~8 MB	~.5 MB ~.5 MB ~.5 MB ~.5 MB	~.25 MB ~.25 MB ~.25 MB ~.25 MB	~.5 MB ~.5 MB ~.5 MB ~.5 MB
XC4000L ⁹ 4005L, 4010L 4013L	~2 MB total ~1.1 MB ~.6 MB	N/A N/A N/A	N/A N/A N/A	N/A N/A N/A
XC4000EX ¹⁰ 4028EX 4036EX	~17 MB total ~7 MB ~8 MB	~.25 MB ~.25 MB ~.25 MB	~.25 MB ~.25 MB ~.25 MB	~.25 MB ~.25 MB ~.25 MB
XC4000XL ¹¹ 4002XL, 4005XL, 4010XL, 4013XL 4020XL, 4028XL, 4036XL, 4044XL 4052XL, 4062XL, 4085XL	~86 MB total ~24 MB ~25 MB ~35 MB	~1 MB ~1 MB ~1 MB ~1 MB	~1 MB ~1 MB ~1 MB ~1 MB	~2 MB ~2 MB ~2 MB ~2 MB
XC4000XV ¹²	~18 MB	~.25 MB	~.25 MB	~.25 MB
XC5200 5202, 5204, 5206, 5210 5215	~11 MB ~6 MB ~3 MB	~2 MB ~2 MB ~2 MB	~2 MB ~2 MB ~2 MB	~3 MB ~3 MB ~3 MB
CPLDs ¹³	N/A	~20 MB	~20 MB	~20 MB
XC9500 ¹³	~.25 MB	N/A	N/A	N/A
Spartan ¹⁴ XCS05, XCS10 XCS20, XCS30, XCS40	~6 MB ~2 MB ~3 MB	N/A N/A N/A	N/A N/A N/A	N/A N/A N/A
Non-numeric XC4000E	~3 MB	~.5 MB	~.25 MB	~.5 MB
Non-numeric XC4000EX	~3 MB	~.25 MB	~.25 MB	~.25 MB

	Data	Sun	Sol	HP
Documentation	~22 MB total			
Online Help		~10 MB	~10 MB	~10 MB
Documentation Browser	~17 MB			
Xilinx Tutorial Files	~1 MB			
Xilinx Userware	~4 MB			

¹ The DynaText browser and its online books are not included. If you install more than one platform, the data directory is only installed once. For example, if you install both SunOS and Solaris, the total disk space for the core technology is:

$$\text{data (12 MB) + SunOS (96 MB) + Solaris (98 MB) = ~206 MB}$$

² Installed once when any number of XC30* or XC31* software components are installed. For example, if you install the XC3100A, then all files in the xc3000/data and the xc3000/bin/platform directories are also automatically installed.

³ If you install the XC3000A or XC3000L, then all files in the xc3000/data and the xc3000/bin/platform directories are also automatically installed.

⁴ Installed once when any number of XC31* software components are installed. For example, if you install the XC3100A, then all files in the xc3100/data directory are also automatically installed.

⁵ If you install the XC3100A, then all files in the xc3000/data, xc3000/bin/platform, xc3100/data, and xc3000a directories are also automatically installed.

⁶ If you install the XC3100L, then all files in the xc3000/data, xc3000/bin/platform, xc3100/data, and xc3000l directories are also automatically installed.

⁷ Installed once when any number of XC4* software components are installed. For example, if you install the XC4000EX, then all files in the xc4000/data and the xc4000/bin/platform directories are also automatically installed.

⁸ If you install any of the XC4000E software components, then all files in the xc4000/data and the xc4000/bin/platform directories are also automatically installed.

- ⁹The files not beginning with a numeral in the xc4000e/data directory and the xc4000e/bin/*platform* directory are also installed when the xc4000l is installed.
- ¹⁰ The files not beginning with a numeral in the xc4000e/data directory and the xc4000e/bin/*platform* directory are also installed when the xc4000ex is installed.
- ¹¹The files not beginning with a numeral in the xc4000e/data and the xc4000e/bin/*platform* directories are installed when the xc4000xl is installed. In addition, the files not beginning with a numeral in the xc4000ex/data and the xc4000ex/bin/*platform* directories are also installed when the xc4000xl is installed.
- ¹²The files not beginning with a numeral in the xc4000e/data and the xc4000e/bin/*platform* directories are installed when the xc4000xv is installed. In addition, the files not beginning with a numeral in the xc4000ex/data and the xc4000ex/bin/*platform* directories are also installed when the xc4000xv is installed.
- ¹³Platform-specific files are installed for XC9500 devices.
- ¹⁴ The files not beginning with a numeral in the xc4000e/data directory and the xc4000e/bin/*platform* directory are also installed when any of the spartan software components are installed.

Example 1: Basic Technology Installation -- Single Sun Platform

Assume that you have installed the Sun platform, all the subcomponents for the XC4000XL, and the online help and documentation browser subcomponents.

Disk space requirements are as follows:

Core technology = 12 MB (Data) + 96 MB (Sun) = 108MB

xc4000xl = 87 MB (Data + Sun files)

non-numeric xc4000e/data files + Sun = 3 MB + .5 MB

non-numeric xc4000ex/data files + Sun = 3 MB + .25 MB

xc4000 = 1.2 MB (Data) + 2 MB (Sun) = 3.2 MB

Online Help (10 MB) + browser (17 MB) = 27 MB

Total = 232 MB

Example 2: Basic Technology Installation -- Multiple Platforms

Assume that you have installed the Sun and HP platforms, all the subcomponents for the XC4000EX, the XC4013E, and the entire documentation software component.

Note: You must run the installation program twice to install two platforms.

Disk space requirements are as follows:

Core technology = 12 MB (Data) + 96 MB (Sun) + 108 MB (HP)
= 216 MB

xc4000ex = 17.25 MB (Data + Sun files)

non-numeric xc4000e/data + Sun + HP = 3 MB + .5 MB +
.5 MB

xc4013e = 4 MB (Data) + 1 MB (Sun, HP files) = 5 MB

xc4000 = 1.2 MB (Data) + 2 MB (Sun) + 3 MB (HP) = 6.2 MB

Documentation = 22 MB

Total = 216 MB + 17.25 MB + 4 MB + 5 MB + 6.2MB +
22 MB = 271 MB

Example 3: Basic Technology Installation -- Single Solaris Platform CPLDS

Assume that you have installed the Solaris platform, the XC9500, the online help, documentation browser, and Tutorial files.

Disk space requirements are as follows:

Core = 12 MB (Data) + 98 MB (Solaris) = 110 MB

xc9500 = .25 MB

CPLD = 20 MB (Solaris)

10 MB (Help) + 17 MB (browser) + 1 MB (tutorial) = 28 MB

Total = 110 MB + .25 MB + 20 MB + 28 MB = 158.25 MB

Required Disk Space for Alliance Series CAE Interfaces CD: ~276 MB

Mentor: ~75 MB

Synopsys: ~99 MB

Viewlogic: ~25 MB

Cadence: ~77 MB

Required Disk Space For Alliance Series Documentation CD: ~187 MB total

DynaText Browser: ~17 MB

Core Online book files: ~6 MB

Xilinx Online Documentation: ~ 164 MB total

Cadence Graphics Interface/Tutorial Guide: ~18 MB

CPLD Schematic Design Guide: ~2 MB

CPLD Synthesis Design Guide: ~2 MB

Design Manager/Flow Engine Reference/User Guide: ~19 MB

Development System Reference Guide: ~3 MB

Development System User Guide: ~2 MB

EPIC Design Editor Reference/User Guide: ~7 MB

Hardware Debugger Reference/User Guide: ~7 MB

Hardware User Guide: ~1 MB

JTAG Programmer Guide: ~2.5 MB

Libraries Guide: ~12 MB

LogiBLOX Reference/User Guide: ~4 MB

Mentor Graphics Interface/Tutorial Guide: ~47 MB

PROM File Formatter Reference/User Guide: ~4 MB

Quick Start Guide for Xilinx Alliance Series 1.4: ~4 MB

Synopsys (XSI) Interface/Tutorial Guide: ~2 MB

Timing Analyzer Reference/User Guide: ~7 MB

Viewlogic Interface/Tutorial Guide: ~21 MB

Directory Permissions:

Write permission must exist for all directories containing design files to be edited.

Mouse: 3-button

Network Compatibility:

The Xilinx installation program supports TCP-IP networks.

Installing Alliance on Workstations

This section explains how to install the software from the three CD-ROMs.

- Design Implementation Tools CD -- the Xilinx software tools and the DynaText browser
- Alliance Series CAE Interfaces CD -- Xilinx CAE interface libraries
- Alliance Series Documentation CD -- Xilinx online documentation, the DynaText browser with online help, the DynaText online documentation, and core online book files.

If you are performing an initial install and plan to install the Xilinx design implementation tools, CAE interface libraries, and Xilinx online documentation on your system, begin by performing the procedures described in the “Installing the Design Implementation Tools Software” section. Then continue with the “Installing CAE Interface Libraries” section and end with the “Installing Online Documentation” section.

If you are only going to perform a partial install during initial installation, use the procedures outlined in the “Installing CAE Interface Libraries (Standalone)” section and the “Installing Online Documentation (Standalone)” section to add software. You may also access the CAE libraries and online documentation from a CD-ROM.

Installing the Design Implementation Tools Software

This section describes how to install the design implementation tools software on a workstation.

1. Check that your system meets the system requirements described in the “Workstation Requirements” section.
2. Log in as root on the workstation connected to the CD-ROM drive.

If you are performing the installation from a different workstation, use the **rlogin** command to log in to the workstation connected to the CD-ROM drive.

3. Place the Design Implementation Tools CD-ROM for your system in a caddy and insert the caddy into the drive.

4. If necessary, create a mount point for the CD-ROM drive by entering this command:

```
mkdir /cdrom
```

5. Mount the CD-ROM. On Solaris systems with the Volume Manager, the CD-ROM is automatically mounted. If you have the Volume Manager, proceed to Step 6. Otherwise, perform the following steps:

- a) Find out which platform you are mounted on with the following command:

```
uname -a
```

- b) Enter one of these commands to mount the CD-ROM drive.

For SunOS 4.1.3 and 4.1.4:

```
/etc/mount -r -t hsfs /dev/device_name /cdrom
```

where *device_name* indicates the name of the CD-ROM device. Ask your System Administrator for the *device_name*.

For Solaris 5.4 and 5.5:

You do not need to mount the CD-ROM drive for these versions of the Solaris platform. The drive is automounted after CD-ROM insertion.

For HP/UX:

```
pfs_mount -t rrip -x unix /dev/dsk/device_name /cdrom
```

where *device_name* indicates the name of the CD-ROM device. Ask your System Administrator for the *device_name*.

To use `pfs_mount`, you must be running the PFS daemons. See the "Setting Up the Portable File System (HP Systems)" section in the "Considerations for Various Hardware Platforms" appendix for details.

6. Verify that the CD-ROM drive is mounted.

```
ls /cdrom
```

The installation screens are designed to fit into an 80 column width window. Use an xterm or command window that is 80 characters wide for optimal displays.

Note: Do *not* change to the CD-ROM directory. If you do, you will not be able to unmount.

7. At the UNIX prompt, type `/cdrom/install1`. The Xilinx Alliance Installation Program screen displays.

Note: For the Solaris platform, type `/cdrom/cdrom0/install1`.

Press Enter to continue.

8. The three options that display on the Software License Agreement are [1] Accept, [2] Decline, and [3] Review.
 - If you are familiar with the licensing agreement and decide to accept the terms of the Agreement and want to install the software, press Enter for the Accept option and proceed to Step 9.
 - If you do not accept the terms of the agreement and do not wish to install the software, enter the Decline menu option (2) and press Enter. Then press Enter again.
 - If you are not familiar with the licensing agreement, review the Agreement before deciding to accept or decline by entering the Review menu option (3) and press Enter. Then press Enter again. At the end of the licensing agreement, press Enter to display the Accept, Decline, and Review options again.
9. After you have accepted the terms of the agreement, the Enter Alliance Source Directory screen appears. Enter the source directory from which you will be copying the files or the CD or network from which you will be running.
10. Press Enter to install from the default source directory, the CD-ROM directory. The Enter Alliance Destination Directory screen displays.
11. Enter a destination directory in which to install the Xilinx design implementation tools. The destination directory displays. Press Enter.

Note: If the destination directory does not exist, a prompt displays asking if you want to create the new directory. If you entered the incorrect directory, enter M and then reenter the correct name. (Xilinx recommends that you install the software in the `/xilinx` directory.)

You can use the tilde (~) to represent your home directory. That is, ~ represents /home/username.

12. After you select the destination directory, a prompt displays asking you to enter your platform type.

If the platform you want to install is already selected, press Enter. Otherwise, enter the menu number option for the platform you want to install at the colon (:) prompt. The screen reappears with your selection. Press Enter.

13. Depending on whether or not your LM_LICENSE_FILE variable is set, one of two screens will display.

- If you do not have the LM_LICENSE_FILE variable set, the following screen displays:

```
Enter License File
```

```
-----
```

```
Install will define the LM_LICENSE_FILE environment variable to point to the license file entered below. You may need to edit the license file before running this software. Please read the written documentation for further assistance.
```

```
License File:
```

```
Enter the full path name of the license file. For details regarding licensing, refer to the "Setting Up Security" chapter.
```

- If you have previously defined the LM_LICENSE_FILE variable, the following screen displays:

```
Enter License File
```

```
-----
```

```
The environment variable LM_LICENSE_FILE is already defined on this system. You may need to edit the license file before running this software. Please read the written documentation for further assistance.
```

```
License File: full_path_to_license_file /license.dat
```

M)odify B)ack [N])ext C)ancel ?

If you wish to point to a different license.dat file, select M and then enter a new license name. The name can have the format *1234@machine* or *full_path_to_license_file/filename*. Press Next.

For details regarding licensing, refer to the "Setting Up Security" chapter.

14. When the Select Type of Installation menu displays, you have four options:

- Base (CPLD, FPGA devices up to 10,000 gates)

Allows you to choose from the following list of software and devices for install:

Core Executables

Network Installation Files

XC3000A

XC3000L

XC3100A

XC3100L

XC4000E (XC4003E, XC4005E, XC4006E, XC4008E, XC4010E)

XC4000L (XC4005L, XC4010L)

XC4000XL (XC4002XL, XC4005XL, XC4010XL)

XC5200 (XC5202, XC5204, XC5206, XC5210)

XC9500

Spartan (XCS05, XCS10)

Online documentation (4 sub-components)

Online help

Documentation browser (DynaText)

Xilinx tutorial files

Xilinx userware

- Standard (all CPLD, FPGA devices)

Allows you to choose from a list of software and devices for install:

Core Executables

Network Installation Files

XC3000A

XC3000L

XC3100A

XC3100L

XC4000E (3 sub-components)

Less than or equal to 10,000 gates (XC4003E, XC4005E,
XC4006E, XC4008E, XC4010E)

More than 10,000 gates, less than 20,000 (XC4013E)

More than or equal to 20,000 gates (XC4020E, XC4025E)

XC4000L (2 sub-components)

Less than 10,000 gates (XC4005L, XC4010L)

More than 10,000 gates (XC4013L)

XC4000EX (2 sub-components)

Less than or equal to 28,000 gates (XC4028EX)

More than 28,000 gates (XC4036EX)

XC4000XL (3 sub-components)

Less than or equal to 13,000 gates (XC4002XL, XC4005XL,
XC4010XL, XC4013XL)

More than 13,000, less than or equal to 44,000 gates
(XC4020XL, XC4028XL, XC4036XL, XC4044XL)

More than 44,000 gates (XC4052XL, XC4062XL, XC4085XL)

XC4000XV

XC5200 (2 sub-components)

Less than or equal to 10,000 gates (XC5202, XC5204,
XC5206, XC5210)

More than 10,000 gates (XC5215)

XC9500

Spartan (2 sub-components)

Less than or equal to 10,000 gates (XCS05, XCS10)

More than 10,000 gates (XCS20, XCS30, XCS40)

Online documentation (4 sub-components)

Online help

Documentation browser (DynaText)

Xilinx tutorial files
Xilinx userware

- Lab Machine Installation

Select this option if you are planning only to use your system to download software to a device. If you select this option, a screen displays allowing you to choose the PROM File Formatter, Hardware Debugger, and EZTag CPLD Programmer for install.

- Run from CD or Network

Select this option if you plan to access the Alliance software from the CD or from the network. Set up the Xilinx variables as indicated. Use the setup file to set up environment variables and paths. Run from CD or Network is then complete.

The Network Installation Files option allows you to initially install the software to a network drive as a Base or Standard install if that option is selected. This will copy the install files to that network location. Other users can then run the CD or Network install directly from their network installation.

Follow the instructions for your selection.

Note: For Cadence, the VAN compiler does not run if you are running from the CD ROM. Xilinx recommends that you not run Cadence from the CD.

15. When you install the Alliance Series 1.4 software, you automatically receive a BAS license to help you get started (unless you already have a license installed). This base license supports all devices of 10,000 gates or less. The license expires on September 1, 1998.

When installation is complete for Base, Standard, or Lab Machine Installation, the install program looks at the value of the LM_LICENSE_FILE environment variable. If the value is a valid path/file combination and the file it points to does not exist, then the license.dat file in the root directory of the CD is copied to the location specified, with the name specified.

If LM_LICENSE_FILE already points to a valid file or if the value of LM_LICENSE_FILE is not a valid path/file combination, then the license.dat file is not copied.

16. When all of the design implementation files are installed, the Run CAE Installation screen displays.
 - To install the CAE interface libraries, with Yes selected, press Enter and then proceed to the “Installing CAE Interface Libraries” section.
 - To install online documentation without installing the CAE interface libraries, enter number 2 at the prompt and then press Enter. A screen displays prompting you to install online documentation.

Proceed to the “Installing Online Documentation” section.
 - If you are not installing online documentation or CAE interface libraries, enter number 2 at the prompt and then press Enter. When the screen display appears asking if you want to install online documentation, enter 2 at the colon prompt and press enter to end installation. Messages display indicating environment variables and paths that have been set up in a file named “setup”. Use this file to set up your environment variables. Environment variables are also described in the “Setting Up the Xilinx Environment on Workstations” section.

Installing CAE Interface Libraries

This section explains how to install the CAE interface libraries onto your system. The section also describes how to access these libraries from CD-ROM or the network.

This section assumes that you have just installed the Xilinx software from the Design Implementation Tools CD as described in the “Installing the Design Implementation Tools Software” section and have chosen to install the CAE interface libraries. The following screen should display:

```
Please unmount and eject the current CD.  
Insert the XILINX CAE Vendors Libraries CD  
into the drive and mount it onto the same path.  
  
Press Enter to continue
```

1. Open another shell and unmount the current CD using the umount command. Here is an example if you are mounted to /cdrom:

```
/etc/umount /cdrom
```

Note: You do not need to use the `umount` command for the Solaris platform.

If the above command does not work, use the following command.

```
/etc/umount /dev/dsk/device_name /cdrom
```

where *device_name* indicates the name of the CD-ROM device.

2. Eject the CD using the `eject` command.

```
eject
```

3. Remove the current CD from the CD-ROM drive.
4. Insert the Alliance Series CAE Interfaces CD into the caddy and mount the CD-ROM drive onto the same path that the Design Implementation Tools CD was mounted. See Step 5b in the "Installing the Design Implementation Tools Software" section for details.

Note: For the Solaris platform, you do not need to use the `mount` command.

5. Press Enter. When the CAE interface libraries display, follow the instructions to deselect or select libraries from the list. After you have finished, type N and press Enter.
6. After you have selected the libraries, you are prompted to select device families for installation.

Follow the instructions to deselect or select the device family. After you have finished, type N and press Enter.

7. After you have selected the families that you want to install, a screen appears that summarizes the choices that you have made. Following is a sample:

```
Setup has enough information to start copying XILINX
files. If you want to review or change any settings,
enter 'B'. If you are satisfied with the settings,
enter 'N' to begin copying files.
```

```
Products
```

```
  Mentor
```

```
  Synopsys
```

```
  Viewlogic
```

```
Cadence
Families
  xc4000E
B)ack [N])ext C)ancel :
```

Press Enter to begin installing the libraries and families. Press Enter to continue. A message displays indicating that the libraries are installed

8. Press Enter to continue. A screen displays (Run Documentation Installation) prompting you to install online documentation.
 - If you would like to install any online documentation, press Enter and proceed to the “Installing Online Documentation” section.
 - If you do not want to install online documentation, enter the number 2 at the colon and press Enter. A screen displays indicating that documentation install is complete. Press Enter. You are prompted to examine the README file. Xilinx recommends that you read this file. Press Enter again.

After you look at the README file, press Enter. Set up your Xilinx environment variables and paths as indicated.

Installing Online Documentation

This section explains how to install the online documentation onto your system.

Note: If you have installed the Xilinx design implementation tools at some earlier time and did not install the online documentation, see the “Installing Online Documentation (Standalone)” section for instructions on how to install online documentation.

This section assumes one of the following:

- You have just installed the Xilinx software from the Design Implementation Tools CD as described in the “Installing the Design Implementation Tools Software” section and have not chosen to install the CAE interface libraries.
- You have just installed the Xilinx software from the Design Implementation Tools CD as described in the “Installing the

Design Implementation Tools Software” section and have also installed the CAE interface libraries.

The following screen should display:

```
Please unmount and eject the current CD.  
Insert the XILINX Documentation CD  
into the drive and mount it onto the same path.  
  
Press Enter to continue
```

1. Open another shell and unmount the current CD using the `umount` command. Here is an example for a CD-ROM mounted at `/cdrom`:

Note: You do not need to use the `umount` command for the Solaris platform.

```
/etc/umount /cdrom
```

If the above command does not work, use the following command.

```
/etc/umount /dev/dsk/device_name /cdrom
```

where *device_name* indicates the name of the CD-ROM device.

2. Eject the CD using the `eject` command:

```
eject
```
3. Remove the current CD from the CD-ROM drive.
4. Insert the online documentation CD into the caddy and mount the CD-ROM drive onto the same path that the Design Implementation Tools CD was mounted. See Step 5b in the “Installing the Design Implementation Tools Software” section for details.
5. Press Enter. When the online books display, follow the instructions to deselect or select books from the list. If you install any online books onto your drive, you must also install the core online book files.

Note: When you install the design implementation tools, you have the option of installing the DynaText browser. The browser that resides on the Documentation CD is provided so that you can view online documents from the CD.

You do not have to install the DynaText browser on your system if you are planning to use the browser on the CD-ROM to read

online documentation or if you have installed the design implementation tools. For more information, see the "Installing Online Documentation (Standalone)" section.

6. After you have finished, type N and press Enter.

When you have selected the online documents that you want installed, the core online book files, and the browser, a screen appears that summarizes the choices that you have made.

Following is a sample:

```
Install has enough information to start copying online
books. If you want to review or change any settings,
enter 'B'. If you are satisfied with the settings,
enter 'N' to begin copying files.
```

```
Products
```

```
  Dynatext Browser
```

```
  Core online book files
```

```
  Development System Reference Guide
```

```
B)ack [N])ext C)ancel :
```

7. When you have finished selecting books, press Enter to begin installing the Xilinx online documentation. After installation is complete, press Enter to continue. The following screen displays:

```
The installation is complete. For a complete
installation log, look at install.log in the directory
where the products were installed.
```

```
The README file contains important information about
changes to the software that are not in the
documentation.
```

```
[X] 1. Yes, let me view the README file now
```

```
[N])ext C)ancel or list of number:
```

Xilinx recommends that you read the README file. Press Enter.

After you read the README file, press Enter. The following messages display.

```
Finished XILINX install at Mon 8/11/97, 13:5:36
```

```
The following environment variables need to be set:
```

```
setenv XILINX full_path_to_Xilinx_core_software_tools
```

```
setenv XILINX_CD full_path_to_CDROM
```

```
setenv LM_LICENSE_FILE location_of_license.dat_file
setenv XKEYSYMDB $XILINX/bin/platform/XKeysymDB
setenv LD_LIBRARY_PATH ${LD_LIBRARY_PATH}:$XILINX/
bin/platform;$XILINX_CD/bin/platform
setenv EBTRC $XILINX/bin/platform/ebtrc_cd
set path = ($XILINX/bin/platform $XILINX_CD/bin/
platform $path)
# Viewlogic environment variables
setenv WDIR $XILINX/viewlog/data/logiblox/standard:
# Mentor Graphics environment variables
setenv LCA $XILINX/mentor/data
set path = ($XILINX/mentor/bin/platform $path)
# Synopsys environment variables
set path = ($XILINX/synopsys/bin/platform $path)
```

For your convenience the file "setup" has been created for you that contains these settings. This file can be found in the destination directory.

For a complete installation log, look at `prerelinstall.log` in the destination directory.

where *platform* is **sol** (Solaris), **sun** (SunOS), or **hp** (Hewlett-Packard)

The XKEYSYMDB and EBTRC variables may display differently depending on whether the design implementation tools software or DynaText browser is installed. If either of these software packages have been installed, the variables display as follows:

```
setenv XKEYSYMDB $XILINX/bin/platform /XKeysymDB
setenv EBTRC $XILINX/bin/platform /ebtrc_cd
```

If these packages have not been installed, the variables display thusly:

```
setenv XKEYSYMDB $XILINX_CD/bin/platform /XKeysymDB
setenv EBTRC $XILINX_CD/bin/platform /ebtrc_cd
```

8. Set up the environment variables and paths as indicated.

The SHLIB_PATH environment variable is set up for the HP platform instead of LD_LIBRARY_PATH.

9. After the installation is complete for this CD-ROM, remove it from the caddy.

Standalone Installations

The following subsections explain how to perform standalone installations for CAE Interface Libraries and online documentation.

Installing CAE Interface Libraries (Standalone)

This section explains how to install the CAE interface libraries if you have installed the Xilinx design implementation tools software but did not install the libraries. This procedure may also be used if you wish to add libraries that you did not install previously.

1. Place the Alliance Series CAE Interfaces CD-ROM in a caddy and insert the caddy into the drive.
2. If necessary, create a mount point for the CD-ROM drive and mount the drive as described in the “Installing the Design Implementation Tools Software” section.
3. At the UNIX prompt, enter `/cdrom/install`. The Welcome screen displays.

Note: For the Solaris platform, enter `/cdrom/cdrom0/install`.

4. Press Enter to continue the installation. A screen displays prompting you choose a Typical Installation or Run from CD or Network.
 - If you want to perform a typical installation, press Enter and proceed to the “Typical Installation (CAE Libraries)” section. This installation choice installs the Xilinx CAE interface libraries from your local CD-ROM drive onto your system.
 - If do not want to install the CAE interface libraries but want to access them from the CD-ROM or network, proceed to the “Run from CD-ROM or Network (CAE Libraries)” section.

Typical Installation (CAE Libraries)

After you select Typical Installation, a screen displays indicating from which directory the CAE interface libraries are installed.

Install will copy files from the directory entered below.

Source Directory: *CDROM_directory*

M)odify B)ack [N])ext C)ancel ?

1. Press Enter to install from the default source directory, the CD-ROM directory. The following screen displays:

Install will copy files to the directory entered below.

Destination Directory:

2. Enter a destination directory in which to install the CAE interface libraries. This directory must be the same directory in which you installed the Xilinx design implementation tools.

Note: If the destination directory does not exist, a prompt displays asking if you want to create the new directory. If you enter the incorrect directory, select M and then enter the correct one.

You can use the tilde (~) to represent your home directory. That is, ~ represents */home/username*.

3. After you enter the destination directory, a prompt displays asking you to enter your platform type. The default should display your platform. If not, type the correct number and press Enter. Then press Enter again.
4. When the CAE interface libraries display, follow the instructions to deselect or select libraries from the list. After you have finished, type N and press Enter.
5. After you have selected the libraries, you are prompted to select device families for installation.

Follow the instructions to deselect or select device families. After you have finished, type N and press Enter.

6. After you have selected the families that you want to install, a screen appears that summarizes the choices that you have made. Following is a sample:

```
Setup has enough information to start copying XILINX
files. If you want to review or change any settings,
enter 'B'. If you are satisfied with the settings,
enter 'N' to begin copying files.
```

```
Products
```

```
Mentor
Synopsys
Viewlogic
Families
  xc4000E
Source Directory
  CDROM_directory
Destination Directory
  full_path_to_Xilinx_core_tools_software
Platform
  platform_name
B)ack [N])ext C)ancel :
```

Press Enter to begin installing the libraries and families.
Messages display indicating that the libraries are being installed.

7. Press Enter. A screen displays prompting you to read the README file. Xilinx recommends that you look at this file before continuing. Press Enter and read the file.
8. When you have finished reading the file, press Enter. Messages display indicating that you need to set up environment variables and set your path. Set up your environment using the file named setup. Environment variables are also described in the “Setting Up the Xilinx Environment on Workstations” section.

Run from CD-ROM or Network (CAE Libraries)

This subsection assumes that you have completed Steps 1 through 4 in the “Installing CAE Interface Libraries (Standalone)” section. The following screen should be displayed:

```
Select the type of installation you would like
performed by entering the number next to the menu
option.

[X]  1. Typical Installation
[ ]  2. Run from CD or Network
B)ack [N])ext C)ancel or number:
```

Note: For Cadence, the VAN compiler does not run if you are running from the CD-ROM. Xilinx recommends to not run Cadence from the CD.

1. Type the number 2 at the prompt and press Enter. The second choice will be selected. Then press Enter again.
2. After you select Run from CD or Network, a screen displays indicating from which directory the CAE interface libraries are accessed.

Set up to run from the CD or network directory entered below.

Source Directory: *CDROM_or_Network_directory*

M)odify B)ack [N])ext C)ancel ?

3. Press Enter to run from the default source directory, the CD-ROM directory. This directory should be the location of the CD-ROM or a network. To run from a different CD-ROM drive or a network, select M and press Enter. The following screen displays:

Set up to run from the CD or network directory entered below.

Source Directory: *CDROM_Directory*

4. Type the full path name of the CD-ROM or network directory and press Enter.
5. Press Enter to install from the default source directory, the CD-ROM directory. The following screen displays:

The installation log and setup file will be written to the directory entered below.

Destination Directory:

6. Enter a destination directory in which to install the Xilinx design implementation tools. The destination directory displays. Press Enter.

Note: If the destination directory does not exist, a prompt displays asking if you want to create the new directory. Also if you entered the incorrect directory, enter M and then reenter the correct name. You can use the tilde (~) to represent your home directory. That is, ~ represents */home/username*.

7. After you select the destination directory, a prompt displays asking you to enter your platform type.

If your platform is already selected, press Enter. Otherwise, enter the menu number option for your platform at the colon (:) prompt. The screen reappears with your selection. Press Enter.

8. When you have selected your platform, a screen appears that summarizes the choices that you have made. Following is a sample:

```
Setup has enough information to start copying XILINX
files. If you want to review or change any settings,
enter 'B'. If you are satisfied with the settings,
enter 'N' to begin copying files.
```

```
Products
```

```
    Run from CD or Network
```

```
Families
```

```
Source Directory
```

```
    CDROM_directory
```

```
Destination Directory
```

```
    full_path_to_Xilinx_core_tools_software
```

```
Platform
```

```
    platform_name
```

```
B)ack [N]ext C)ancel :
```

9. Press Enter. You are prompted to read the README file. Xilinx recommends that you read this file. Press Enter.
10. After you read the README file, press Enter to continue. The following message displays:

```
The following environment variables need to be set:
```

```
setenv XILINX full_path_to_Xilinx_core_tools_software
```

```
setenv XILINX_CD CDROM_directory
```

```
setenv XKEYSYMDB $XILINX/bin/platform/XKeysymDB
```

```
setenv LD_LIBRARY_PATH ${LD_LIBRARY_PATH} :$XILINX/
bin/platform:$XILINX_CD/bin/platform
```

```
setenv EBTRC $XILINX/bin/platform/ebtrc_cd
```

```
set path = ($XILINX/bin/platform $XILINX_CD/bin/
platform $path)
```

```
# Viewlogic environment variables
setenv WDIR $XILINX/viewlog/data/logiblox/standard:
# Mentor Graphics environment variables
setenv LCA $XILINX/mentor/data
set path = ($XILINX/mentor/bin/platform $path)
# Synopsys environment variables
set path = ($XILINX/synopsys/bin/platform $path)
For your convenience the file "setup" has been created
for you that contains these settings. This file can be
found in the destination directory.
For a complete installation log, look at
caeinstall.log in the destination directory.
```

where *platform* is **sun** for SunOS, **sol** for Solaris, or **hp** for Hewlett-Packard.

The XKEYSYMDB and EBTRC variables may display differently depending on whether the design implementation tools software or DynaText browser is installed. If either of these software packages have been installed, the variables display as follows:

```
setenv XKEYSYMDB $XILINX/bin/platform /XKeysymDB
setenv EBTRC $XILINX/bin/platform /ebtrc_cd
```

If these packages have not been installed, the variables display thusly:

```
setenv XKEYSYMDB $XILINX_CD/bin/platform /XKeysymDB
setenv EBTRC $XILINX_CD/bin/platform /ebtrc_cd
```

11. Set up the Xilinx variables as indicated. Use the setup file to set up environment variables and paths.

Note: The SHLIB_PATH environment variable is set up for the HP platform instead of LD_LIBRARY_PATH.

Installing Online Documentation (Standalone)

This section explains how to install the Xilinx online documentation and core online book files. The section also describes how to access the online documentation from a CD-ROM or network.

1. Place the Alliance Series Documentation CD-ROM in a caddy and insert the caddy into the drive.
2. If necessary, create a mount point for the CD-ROM drive and mount the drive as described in the “Installing the Design Implementation Tools Software” section.
3. At the UNIX prompt, enter `/cdrom/install`. The Welcome screen displays.

Note: For the Solaris platform, enter `/cdrom/cdrom0/install`.

4. Press Enter to continue the installation. A screen displays prompting you to select a Typical Installation or Run from CD or Network.
 - If you want to perform a typical installation, press Enter and proceed to the “Typical Installation (Online Documentation)” section. This installation choice installs the Xilinx online documentation from your local CD-ROM drive onto your system.
 - If do not want to install the online documentation but want to read the documentation from the CD-ROM or network, proceed to the “Run from CD-ROM or Network (Online Documentation)” section.

Typical Installation (Online Documentation)

After you select Typical Installation, a screen displays indicating from which directory the online documentation is installed.

```
Install will copy files from the directory entered
below.
```

```
Source Directory: CDROM_directory
```

```
M)odify B)ack [N])ext C)ancel ?
```

1. Press Enter to install from the default source directory, the CD-ROM directory. The following screen displays:

```
Install will copy files to the directory entered
below. This must be the same directory that you
installed the Xilinx software in.
```

```
Destination Directory:
```

2. Enter a destination directory in which to install the online documentation. This directory must be the same directory in which you installed the Xilinx design implementation tools.

Note: If the destination directory does not exist, a prompt displays asking if you want to create the new directory. If you enter the incorrect directory, select M and then enter the correct one. You can use the tilde (~) to represent your home directory. That is, ~ represents /home/*username*.

3. After you select the destination directory, a prompt displays asking you to enter your platform type. The default should display your platform. If your platform is already selected, press Enter. Otherwise, enter the menu number option for your platform at the colon (:) prompt. The screen reappears with your selection. Press Enter.
4. When the online books display, follow the instructions to deselect or select books from the list. Note that two screens are required to show all the books. If you install any online books onto your drive, you must also install the core online book files.

Note: If you have installed the design implementation tools, the DynaText browser has already been installed. The browser that resides on the Alliance Series Documentation CD is provided so that you can also view online documents from the CD.

Note: Even if you have installed the DynaText browser from a previous software release, you must install the new full-text browser. If you do not install the new browser, you may not be able to read the latest versions of the Xilinx online documents.

After you have finished, type N and press Enter.

When you have selected the online documents that you want installed, the core online book files, and the browser, a screen appears that summarizes the choices that you have made. Following is a sample:

```
Start Installation
```

```
-----
```

```
Install has enough information to start copying the  
online books. If you want to review or change any  
settings, enter 'B'.
```

```
Source Directory
```



```
/build/baus1/cd_images/x1_4/docs
```

Destination Directory

```
/home/kcase/xilinx
```

Platform

```
SunOS
```

Listed below is the set of books which you have currently selected to install. Type 'N' to continue.

B)ack [N])ext C)ancel:

5. Press Enter to view the list of books you selected. You can review or change any settings, or you can begin the installation.
6. Press Enter to begin installing the Xilinx online documentation. The install procedure tells you when each document you selected is installed. When the installation is complete, press Enter again.
7. A message displays asking you to read the README file. Xilinx recommends that you read the README file. Press Enter.
8. When you have finished the README file, press Enter. Messages display instructing you to set up Xilinx environment variables and paths. Following is a sample display.

The following environment variables need to be set:

```
setenv XILINX full_path_to_Xilinx_core_tools_software
setenv XILINX_CD CDROM_directory
setenv XKEYSYMDB $XILINX/bin/platform/XKeysymDB
setenv LD_LIBRARY_PATH ${LD_LIBRARY_PATH}:$XILINX/
bin/platform:$XILINX_CD/bin/platform
setenv EBTRC $XILINX/bin/platform/ebtrc_cd
set path = ($XILINX/bin/platform $XILINX_CD/bin/
platform $path)
# Viewlogic environment variables
setenv WDIR $XILINX/viewlog/data/logiblox/standard:
# Mentor Graphics environment variables
setenv LCA $XILINX/mentor/data
set path = ($XILINX/mentor/bin/platform $path)
# Synopsys environment variables
```

```
set path = ($XILINX/synopsys/bin/platform $path)
```

For your convenience the file "setup" has been created for you that contains these settings. This file can be found in the destination directory.

For a complete installation log, look at docinstall.log in the destination directory.

where *platform* is **sun** for SunOS, **sol** for Solaris, or **hp** for Hewlett-Packard.

The XKEYSYMDB and EBTRC variables may display differently depending on whether the design implementation tools software or DynaText browser is installed. If either of these software packages have been installed, the variables display as follows:

```
setenv XKEYSYMDB $XILINX/bin/platform /XKeysymDB
```

```
setenv EBTRC $XILINX/bin/platform /ebtrc_cd
```

If these packages have not been installed, the variables display thusly:

```
setenv XKEYSYMDB $XILINX_CD/bin/platform /XKeysymDB
```

```
setenv EBTRC $XILINX_CD/bin/platform /ebtrc_cd
```

9. Set up your environment variables as indicated. These variables are also discussed in the "Setting Up the DynaText Browser" section.

Run from CD-ROM or Network (Online Documentation)

This subsection assumes that you have completed Steps 1 through 4 in the "Installing Online Documentation (Standalone)" section, which access the following screen display:

```
Select the type of installation you would like
performed by entering the number next to the menu
option.
```

```
[X] 1. Typical Installation
```

```
[ ] 2. Run from CD or Network
```

```
Back [N]ext C)ancel or number:
```

1. Type the number 2 at the prompt and press Enter.

After you select Run from CD or Network, a screen displays indicating from which directory the online documentation is accessed.

```
Set up to run from the CD or network directory entered below.
```

```
Source Directory: CDRom_directory
```

```
M)odify B)ack [N]ext C)ancel ?
```

2. Press Enter to run from the default source directory, which is the CD-ROM directory. To run from a different directory, select M and press Enter. The following screen displays:

```
Set up to run from the CD or network directory entered below.
```

```
Source Directory:
```

3. Type the full path name of the CD-ROM or network directory and press Enter.
4. Press Enter to install from the default source directory, the CD-ROM directory. The following screen displays:

```
Enter Documentation Destination Directory
```

```
-----
```

```
The installation log and setup file will be written to the directory entered below. This must be the same directory that you installed the Xilinx software in.
```

```
Destination Directory:
```

5. Enter a destination directory in which to install the Xilinx software core tools. The destination directory displays. Press Enter.

Note: If the destination directory does not exist, a prompt displays asking if you want to create the new directory. Also if you entered the incorrect directory, enter M and then reenter the correct name. You can use the tilde (~) to represent your home directory. That is, ~ represents /home/*username*.

6. After you select the destination directory, a prompt displays asking you to enter your platform type.

If your platform is already selected, press Enter. Otherwise, enter the menu number option for your platform at the colon (:) prompt. The screen reappears with your selection. Press Enter.

7. When you have selected your platform, a screen appears that summarizes the choices that you have made. Following is a sample:

```
Install has enough information to start copying XILINX
files. If you want to review or change any settings,
enter 'B'.
```

```
Source Directory
```

```
    CDROM_directory
```

```
Destination Directory
```

```
    full_path_to_Xilinx_core_tools_software
```

```
Platform
```

```
    platform_name
```

```
Listed below is the set of books which you have
currently selected to install. Type 'N' to continue.
```

```
B)ack [N]ext C)ancel :
```

8. Press Enter. A message displays asking if you want to review or change any settings, or if you are satisfied with the settings.
9. Press Enter to start the installation. When the installation is complete, a message displays requesting that you read the README file. Xilinx recommends that you read this file. Press Enter.
10. After you have finished reading the file, press Enter. Messages display indicating environment variables and paths that need to be set up.

The XKEYSYMDB and EBTRC variables may display differently depending on whether the design implementation tools software or DynaText browser is installed. If either of these software packages have been installed, the variables display as follows:

```
setenv XKEYSYMDB $XILINX/bin/platform /XKeysymDB
```

```
setenv EBTRC $XILINX/bin/platform /ebtrc_cd
```

If these packages have not been installed, the variables display thusly:

```
setenv XKEYSYMDB $XILINX_CD/bin/platform /XKeysymDB
```

```
setenv EBTRC $XILINX_CD/bin/platform /ebtrc_cd
```

11. Set up the Xilinx variables as indicated. You can also access the online documentation by sourcing the setup file and then entering the dtext command.

Setting Up the Xilinx Environment on Workstations

The following explains how to set up your system to run the software.

1. Define the XILINX environment variable and set it to the name of the directory into which you installed the software. For example, if you installed the software in /xilinx, you would enter:

```
setenv XILINX /xilinx
```

2. Add the \$XILINX/bin/platform directory to your path.

The *platform* is **sun** for SunOS 4.1.3 or SunOS 4.1.4, **sol** for Solaris 2.5, **hp** for HP.

To set your path for SunOS or Solaris, use the following command.

```
set path = ( $XILINX/bin/platform $path )
```

3. If you want to access software from the CD-ROM, set up the your system as follows:

```
setenv XILINX_CD Path_to_CDROM
```

```
set path = ($XILINX/bin/platform $XILINX_CD/bin/platform $path
```

4. If you are using the Motif version of DynaText or the EPIC editor, you must set an environment variable to access the set of Key bindings used by a Motif application.

You will find a XKeysymDB file has been installed into your \$XILINX/bin/platform directory by the Xilinx install. You must do the following to access this file:

For csh:

```
setenv XKEYSYMDB $XILINX/bin/platform/XKeysymDB
```

For sh:

```
set XKEYSYMDB=$XILINX/bin/platform/XKeysymDB
```

Failure to set up this environment variable will result in the following types of messages being displayed when you attempt to start up the DynaText viewer. The listed keys are not usable:

```
Warning: translation table syntax error: Unknown  
keySYM name: osfActivate
```

```
Warning: ... found while parsing '  
<Key>osfActivate:ManagerParentActivate() fDown
```

5. To use the Design Manager and Design Editor, you must also run an X Windows display manager (that is, not a SunView display), and you must include a DISPLAY environment variable. Define DISPLAY as the name of your display. DISPLAY is “unix:0.0” normally.

Note: Various X servers have slightly different requirements, but usually you can use either of the following settings if you are running software on the machine whose monitor you are using:

```
setenv DISPLAY :0.0  
setenv DISPLAY unix:0.0
```

6. If you are logged onto a remote machine, use this DISPLAY setting:

```
setenv DISPLAY mynode:0.0
```

where *mynode* is the name of the system whose monitor you use.

You will also need to execute the following command to allow a remote machine to display graphics on your screen:

```
xhost + hostname
```

The *hostname* is the name of the remote machine you are allowing to write to your display. If you do not specify the host name and you type only `xhost +`, any host on your network can write to your display screen.

For example, the following syntax allows you to run the software on the host named *bigben* and to display the graphics on the local monitor of the machine called *mynode*.

```
setenv DISPLAY mynode:0.0  
xhost + bigben
```

7. Proceed as follows:
 - If you are running SunOS or Solaris, then you need to set up the LD_LIBRARY_PATH variable. Proceed to Step 8.
 - If you are running software on an HP workstation, then you need to set up the SHLIB_PATH variable. Proceed to Step 9.

8. Set the LD_LIBRARY_PATH for SunOS or Solaris.
 - If LD_LIBRARY_PATH has already been set, enter the following command.

```
setenv LD_LIBRARY_PATH ${XILINX}/bin/platform:${LD_LIBRARY_PATH}
```

- If LD_LIBRARY_PATH has not been previously set, enter the following command.

```
setenv LD_LIBRARY_PATH ${XILINX}/bin/platform
```

9. Proceed as follows to set up the SHLIB_PATH variable.
Set the SHLIB_PATH variable for HP workstations.

```
setenv SHLIB_PATH ${XILINX}/bin/hp:lib:/usr/lib
```

Viewlogic Interface

Update your .cshrc or .login file by modifying the WDIR environment variable. You should already have a WDIR environment variable defined for the Powerview software; you only need to add a path to that variable.

1. Ensure you have set up your XILINX environment variable and path according to Steps 1 and 2 as described previously at the beginning of the "Setting Up the Xilinx Environment on Workstations" section.
2. To integrate LogiBLOX with Powerview, a directory must be added to your existing WDIR environment variable, as follows:

```
setenv WDIR $XILINX/viewlog/data/logiblox/standard:usual_WDIR_paths
```

where *usual_WDIR_paths* are the paths you have already set up for Viewlogic.

The Xilinx directory \$XILINX/viewlog/data/logiblox/standard is added to the WDIR variable so Viewdraw can locate the Viewscript customizations for LogiBLOX.

This directory can be anywhere in the WDIR search path, provided that the Xilinx directory is the first (or only) one that contains the file "vdrawus.vs".

The vdrawus.vs file contains user customizations to Viewdraw.

If you have other customizations in a vdrawus.vs file elsewhere in your WDIR search path, you can merge the Xilinx customiza-

tions into your existing vdrawus.vs file. Simply add the following line to the end of that file:

```
load( "logiblox.vs" );
```

3. To find out how to set up your project libraries, refer to the "Powerview" section of the "Getting Started" chapter in the *Viewlogic Interface/Tutorial Guide*.

Mentor Graphics Interface

Configure your .cshrc or .login file by updating them with the XILINX, LCA, and other environment variables specific to Mentor Graphics.

1. Add the following line to set the LCA environment variable:

```
setenv LCA $XILINX/mentor/data
```

where \$XILINX points to xilinx_dir_path.

2. Set up the SIMPRIMS variable as follows:

```
setenv SIMPRIMS $LCA/simprims
```

3. Set the MGLS_LICENSE_FILE environment variable to point to the directory where your license is located.

```
setenv MGLS_LICENSE_FILE /mentor_license_path/mentor_license_file
```

4. Ensure that your Mentor Graphics variables are set up.
 - The optional MGC_GENLIB variable that points to the Mentor generic library.
 - The MGC_HOME environment variable that points to where you installed the Mentor Graphics software.
 - The MGC_LOCATION_MAP environment variable that points to the location of your mgc_location_map file.

Note: The MGC_WD environment variables are ignored. Reset this variable every time you change design directories

5. Add the Mentor libraries to the LD_LIBRARY_PATH as follows:

```
setenv LD_LIBRARY_PATH mentor_path /lib:mentor_path /shared/lib:openwin_path / \
lib:${LD_LIBRARY_PATH}
```


Note: The previous two lines are actually a single command. The backslash (\) at the end of the first line is a continuation character indicating that the command wraps to a second line.

where *mentor_path* is \$MGC_HOME and *openwin_path* is the location of Openwin.

6. Add \$XILINX/mentor/bin/*platform* to your path definition.

```
et path = ($XILINX/bin/platform $XILINX/mentor/bin/platform $path)
```

The following example illustrates how to configure your .login or .cshrc file for use with the Mentor Graphics interface. This example assumes you installed the design implementation tools software in /xilinx and the Mentor Graphics interface software under \$XILINX/mentor/data and \$XILINX/mentor/bin/sol.

```
etenv XILINX /xilinx
etenv LCA $XILINX/mentor/data
etenv SIMPRIMS $LCA/simprims
etenv MGC_GENLIB mentor_path /gen_lib
etenv MGC_HOME /tools/mentor/idea8.4
etenv LD_LIBRARY_PATH ${MGC_HOME}/lib:${MGC_HOME}/shared/lib: \
openwin_path lib:$XILINX/bin/sol:${LD_LIBRARY_PATH}
etenv MGLS_LICENSE_FILE mentor_license_path /mentor_license_file
etenv MGC_LOCATION_MAP /xilinx/project/mgc_location_map
et path = ($XILINX/mentor/bin/cpu_type ${MGC_HOME}/bin/xilinx/bin \
'sol $path)
```

Synopsys Interface

Verify that your .cshrc or setup file contains the following.

Note: \$XILINX is the directory for all Xilinx software. \$SYNOPSYS is the directory for the Synopsys software.

```
setenv XILINX location_of_Xilinx_software
setenv SYNOPSYS location_of_Synopsys_software
set path=($SYNOPSYS/sparc/syn/bin \
$SYNOPSYS/sparc/sim/bin \
```

```
$XILINX/bin/platform \
$XILINX/synopsys/bin/platform $path)
```

If you use VSS, you may need to maintain two installation directories. One directory includes the FPGA Compiler and VSS 3.4b; the other directory includes VSS 3.4b-VITAL. If you want to use both versions of VSS, you must switch your environment settings between these two directories.

Dual environment settings are not necessary when using Synopsys V3.5. VSS V3.5 combines VITAL support and support for other library formats in the same simulator package.

Cadence Interface

For details about setting up your Cadence environment, refer to the “Getting Started” chapter in the *Cadence Interface/Tutorial Guide*.

DynaText Interface

See the “Setting Up the DynaText Browser” section for details.

Compiling Verilog/VHDL Libraries for Mentor QuickHDL

A System Administrator should perform the following procedure when 1) a new release of Xilinx software is installed for Mentor Graphics users, or 2) Mentor software requires recompilation by another version of QuickHDL patch to remain compatible.

The procedure can be performed either manually or by executing the script files, `compile_vhdl_libs.sh` and `compile_verilog_libs.sh`.

These scripts are located under `$XILINX/mentor/data/vhdl` and `$XILINX/mentor/data/verilog` respectively. Please refer to the README files under these directories.

To perform the procedure manually:

1. Ensure that you have set up the `$XILINX` environment variable as described in the “Setting Up the Xilinx Environment on Workstations” section and the `$MGC_HOME` variable as described in the “Mentor Graphics Interface” section. Also ensure that you add `$MGC_HOME` to your path (`set path=(${MGC_HOME} /bin $path)`).

2. Change directories into a customer-selected QuickHDL VHDL library setup area. (It is recommended that this area be `$XILINX/mentor/data/vhdl`)
3. Enter the following commands to set up the Xilinx LogiBLOX VHDL library.

```
ghlib logiblox
ghmap logiblox logiblox
rvhcom -work logiblox $XILINX/vhdl/src/logiblox/mvlutil.vhd
rvhcom -work logiblox $XILINX/vhdl/src/logiblox/mvlarith.vhd
rvhcom -work logiblox $XILINX/vhdl/src/logiblox/logiblox.vhd
```

4. Enter the following commands to set up the Xilinx SIMPRIM VHDL library.

```
ghlib simprim
ghmap simprim simprim
rvhcom -work simprim $XILINX/vhdl/src/simprims/simprim_vpackage.vhd
rvhcom -work simprim $XILINX/vhdl/src/simprims/simprim_vcomponents.vhd
rvhcom -work simprim $XILINX/vhdl/src/simprims/simprim_VITAL.vhd
```

5. Change directories into a customer-selected QuickHDL Verilog library setup area. (It is recommended that this area be `$XILINX/mentor/data/verilog`)
6. Enter the following commands to set up the Xilinx SIMPRIM Verilog library.

```
cat $XILINX/verilog/data/*.vmd >> simprims.vmd
ghlib simprim
ghmap simprim simprim
qvlcom -work simprim simprims.vmd
```

Setting Up the DynaText Browser

When you install the Xilinx design implementation tools from the CD-ROM, the DynaText browser, an Electronic Book Technologies, Inc. product, is automatically installed on your system. You must use this browser to display any Xilinx online document. The DynaText online documentation is installed in the `$XILINX/data/dtext` direc-

tory. The browser for each platform is also installed in the sun, sol, and hp directories in \$XILINX/bin.

Note: Even if you have installed the DynaText browser from a previous software release, you must install the new full-text browser. If you do not install the new browser, you may not be able to read the latest versions of the Xilinx online documents.

If you are operating the browser from a workstation, read the following files before using it.

copyright.txt	The copyright protection notice
relnotes.txt	The release notes describe new DynaText features and enhancements. The notes also describe the system requirements for various platforms.

These files are located in the \$XILINX/data/dtext directory.

System Requirements

Ensure that your system meets the following requirements.

- ICCM-compliant windows manager (for example, twm, mwm, olwm)
- Release 4.0 or later of an X server for optimal performance
- X11R5-compatible versions of Motif or OLIT, XT, and X11

Refer to the relnotes.txt file for detailed information on X library requirements.

Setting Up the DynaText Environment

The ebtrc file sets up the DynaText environment. The HP platform requires different entries in the ebtrc file than the SunOS and Solaris platforms. Xilinx has created the required ebtrc file for the platforms. These three ebtrc files are located in \$XILINX/bin/sun, \$XILINX/bin/sol, and \$XILINX/bin/hp.

If you did not set up your system to use one of these files during installation, you need to do so. There are two methods for setting up your environment to use the appropriate file:

- Copy the ebtrc file for your platform to \$HOME from \$XILINX/bin/*platform* for each user. Rename the file as .ebtrc. Following is an example using the EBTRC file for Solaris.

```
cd $HOME
cp $XILINX/bin/sol/ebtrc ./ebtrc
```

OR

- Set up the environment variable EBTRC in the .cshrc file to point to the ebtrc file for your platform for each user. Following is an example for setting up the environment for Solaris.

```
setenv EBTRC $XILINX/bin/sol/ebtrc
```

Source the new .cshrc file (**source .cshrc**).

Customizing the ebtrc File

You can customize several DynaText variables by altering the ebtrc file. Following is an example file for SunOS or Solaris:

```
# .ebtrc configuration file
#####
COLLECTION      $XILINX/doc/usenglish=Xilinx Books
COLLECTION      $XILINX_CD/doc/usenglish=Xilinx Books on CD
COLLECTION      $XILINX/userware/utilities=Answers
COLLECTION      $XILINX_CD/userware/utilities=Answers on CD
COLLECTION      $XILINX/data/dtext/ebsd docs/ebrowse=DynaText 3.1 Browser
Documentation
COLLECTION      $XILINX/data/dtext/ebsd docs/sampdoc=DynaText 3.1 Sample
Books

DATA_DIR        $XILINX/data/dtext/data
X_DIR           $XILINX/data/dtext/data/X11
REGISTRY        $XILINX/data/dtext/data/ebscom.txt
LIBRARY_PATH    $XILINX/bin/sun
DTEXT_AUTH      $XILINX/data/dtext/data/security/full_bro
PUBLIC_DIR      ~/tmp/ebspub
PRIVATE_DIR     ~/tmp/ebspriv
BACKGROUND_ANNOTS 1

PLUGIN_DIRS     $XILINX/bin/sun/plugin
#DTEXT_PLUGINS
```

Following is a description of required variables.

COLLECTION	Set to the directory or directories where the Xilinx and DynaText books are located. The name as it appears in the DynaText Library window is set by using the equal sign followed by the book name.
DATA_DIR	Set to the location of the EBT data files (\$XILINX/data/dtext/data).
X_DIR	Set to the directory where the DynaText X defaults and fonts are located. (\$XILINX/data/dtext/data/X11).
REGISTRY	Set to the directory where the ebtcom.txt file is located
LIBRARY_PATH	Set to the directory where the library DLL files are located.
DTEXT_AUTH	This variable is set to the authorization key.
PUBLIC_DIR	Sets up public annotations. The default is ~tmp/ebtpub.
PRIVATE_DIR	Sets up private annotations. The default is ~tmp/ebtpriv.
PLUGIN_DIRS	Set to the directory where the plugin files are located.

If you just want to view the Xilinx online documentation on the CD, set the EBTRC environment variable to the following path:

```
setenv EBTRC $XILINX_CD/bin/platform/ebtrc_cd
```

The variable \$XILINX_CD defines the path to the CD-ROM or network where the Xilinx online documents are located.

Using the XKeysymDB file

You must set an environment variable, XKEYSYMDB, if you are using a Motif version of DynaText. If you have not already set up this variable, see Step 4 of the "Setting Up the Xilinx Environment on Workstations" section for details.

Adding a Printer

To select a printer, click **File** → **Preferences** → **Printers** from the DynaText Library window. A list of printers displays.

To add a printer to the list, add the following line to the \$XILINX/data/dtext/data/ps/config.dat file

```
:SPOOLER name=newprinter width=width height=height command="lpr -Pnewprinter">
```

The *newprinter* is the name of the printer you want to display in the **File** → **Preferences** → **Printer** pull-down menu.

The *width* is the number of points that fit on the width of a page, for example, 612.

The *height* is the number of points that fit on the length of a page, for example, 792.

The command **lpr -Pnewprinter** is the UNIX command line required to print to the printer.

Installing Alliance on PCs

This chapter describes how to install the Alliance software on PCs.

To control access to the Alliance software, the Xilinx security system software must also be installed. This security system can be installed on networked installations or standalone installations. After completing installation, refer to the “Setting Up Security” chapter for details.

System Requirements

Following are the system requirements for the Alliance software.

Type of PC:

IBM-compatible Pentium class-machine recommended. 486 PC acceptable

Operating System: Windows NT 4.0 and Windows 95

System Memory (RAM) and Swap Space:

While the following table indicates the system requirements for typical designs, the unique characteristics of each individual design will affect the actual system resources required. Using memory, processor and disk monitoring utilities provides designers with an understanding of the exact system resources being utilized during each phase of the design cycle. The operating system adds additional memory overhead, as do any active applications. Some designs can be implemented using less than the specified memory while other complicated or large designs may require additional memory. It is recommended that each designer monitor the system resources being utilized and adjust the systems resources if necessary.

The following table describes the memory needed for Windows NT 4.0 and Windows 95 systems.

Table 6-1 Device Memory Requirements

Xilinx Device	RAM	Swap Space
XC3000A/L XC3100A/L XC4000E/L XC4028EX through XC4036EX XC4002XL through XC4028XL XC5200 XC9500 (small devices)	64 MB	64 MB-128 MB
XC4036XL through XC4062XL XC9500 (large devices)	128 MB	128 MB-256 MB
XC4085XL XC40125XV	256 MB	256 MB-512 MB

Note: When virtual memory is running out, the following message displays:

System Process - Out of Virtual memory. Your system is running low on virtual memory. Please Close some applications. You can then start the system option in the Control Panel and choose the Virtual Memory button to create an additional paging file or to increase the size of your current paging file.

If you are using Windows NT, you must have Administrator permissions to alter the paging file.

The following table details the disk space needed for installation of the various parts of the Alliance Series Design Implementation Tools.

Table 6-2 Required Disk Space for Design Implementation Tools

Device Name	Data	95/NT
Xilinx Core Technology ¹	~12 MB	~25 KB
XC3000 ²	~4 MB	~1 MB
XC3000A ³	~4 MB	N/A
XC3000L ³	~2 MB	N/A
XC3100 ⁴	~2 MB	N/A
XC3100A ⁵	~4 MB	N/A
XC3100L ⁶	~2 MB	N/A
XC4000 ⁷	~3 MB	~2 MB
XC4000E ⁸ (4003E, 4005E, 40006E, 4008E, 4010E 4013E, 4020E, 4025E)	~29 MB total	< 1 MB
XC4000L ⁹ (4005L, 4010L, 4013L)	~3 MB total	N/A
XC4000EX ¹⁰ (4028EX, 4036EX)	~17 MB total	< 1 MB
XC4000XL ¹¹ (4002XL, 4005XL, 4010XL, 4013XL 4020XL, 4028XL, 4036XL, 4044XL 4052XL, 4062XL, 4085XL)	~87 MB total	< 1 MB
XC4000XV ¹²	~39 MB	< 1 MB
XC5200 (5202, 5204, 5206, 5210, 5215)	~31 MB	~1 MB
CPLDs ¹³	N/A	N/A
XC9500 ¹³	< 1 MB	N/A
Spartan ¹⁴ (XCS05, XCS10, XCS20, XCS30, XCS40)	~6 MB	N/A
Non-numeric XC4000E	~3 MB	< 1 MB
Non-numeric XC4000EX	~3 MB	< 1 MB

Table 6-2 Required Disk Space for Design Implementation Tools

Device Name	Data	95/NT
Documentation	~18 MB total	
Online Help	~3 MB	N/A
Documentation Browser	~11 MB	N/A
Xilinx Tutorial Files	< 1 MB	N/A
Xilinx Userware	~4 MB	N/A

¹ The DynaText browser and its online books are not included. If you install more than one platform, the data directory is only installed once. For example, if you install both SunOS and Solaris, the total disk space for the core technology is:

$$\text{data (12 MB) + SunOS (96 MB) + Solaris (98 MB) = ~206 MB}$$

² Installed once when any number of XC30* or XC31* software components are installed. For example, if you install the XC3100A, then all files in the xc3000/data and the xc3000/bin/platform directories are also automatically installed.

³ If you install the XC3000A or XC3000L, then all files in the xc3000/data and the xc3000/bin/platform directories are also automatically installed.

⁴ Installed once when any number of XC31* software components are installed. For example, if you install the XC3100A, then all files in the xc3100/data directory are also automatically installed.

⁵ If you install the XC3100A, then all files in the xc3000/data, xc3000/bin/platform, xc3100/data, and xc3000a directories are also automatically installed.

⁶ If you install the XC3100L, then all files in the xc3000/data, xc3000/bin/platform, xc3100/data, and xc3000l directories are also automatically installed.

⁷ Installed once when any number of XC4* software components are installed. For example, if you install the XC4000EX, then all files in the xc4000/data and the xc4000/bin/platform directories are also automatically installed.

- ⁸ If you install any of the XC4000E software components, then all files in the xc4000/data and the xc4000/bin/*platform* directories are also automatically installed.
- ⁹ The files not beginning with a numeral in the xc4000e/data directory and the xc4000e/bin/*platform* directory are also installed when the xc4000l is installed.
- ¹⁰ The files not beginning with a numeral in the xc4000e/data directory and the xc4000e/bin/*platform* directory are also installed when the xc4000ex is installed.
- ¹¹ The files not beginning with a numeral in the xc4000e/data and the xc4000e/bin/*platform* directories are installed when the xc4000xl is installed. In addition, the files not beginning with a numeral in the xc4000ex/data and the xc4000ex/bin/*platform* directories are also installed when the xc4000xl is installed.
- ¹² The files not beginning with a numeral in the xc4000e/data and the xc4000e/bin/*platform* directories are installed when the xc4000xv is installed. In addition, the files not beginning with a numeral in the xc4000ex/data and the xc4000ex/bin/*platform* directories are also installed when the xc4000xv is installed.
- ¹³ Platform-specific files are installed for XC9500 devices.
- ¹⁴ The files not beginning with a numeral in the xc4000e/data directory and the xc4000e/bin/*platform* directory are also installed when any of the spartan software components are installed.

Required Disk Space For Documentation CD: ~182 MB total

DynaText Browser: ~11 MB

Online book files: ~6 MB

Xilinx Online Documentation: ~165 MB total

Cadence Graphics Interface/Tutorial Guide: ~18 MB

CPLD Schematic Design Guide: ~2 MB

CPLD Synthesis Design Guide: ~2 MB

Design Manager/Flow Engine Reference/User Guide: ~19 MB

Development System Reference Guide: ~3 MB

Development System User Guide: ~2 MB

EPIC Design Editor Reference/User Guide: ~7 MB

Hardware Debugger Reference/User Guide: ~7 MB

Hardware User Guide: ~1 MB
JTAG Programmer Guide: ~2.5 MB
Libraries Guide: ~12 MB
LogiBLOX Reference/User Guide: ~4 MB
Mentor Graphics Interface/Tutorial Guide: ~47 MB
PROM File Formatter Reference/User Guide: ~4 MB
Quick Start Guide for Xilinx Alliance Series 1.4: ~4 MB
Synopsys (XSI) Interface/Tutorial Guide: ~2 MB
Timing Analyzer Reference/User Guide: ~7 MB
Viewlogic Interface/Tutorial Guide: ~21 MB

Directory Permissions:

Write permissions must exist for all directories containing design files to be edited.

Monitor:

Color VGA operating at one of these modes:

Minimum Resolution -- 640 x 480

Minimum Recommended -- 1024 x 768

Mouse:

2-button (Microsoft Windows compatible) or 3-button (Microsoft Windows compatible). On a 3-button mouse, the middle button is not used.

CD-ROM Drive:

ISO9660 drive needed if installing the Alliance Release software from CD-ROM.

Ports:

Two ports (one for a pointing device and one parallel port for the parallel download cable, if needed)

Network Compatibility:

The Xilinx installation program supports TCP-IP networks. If you are using an NT operating system, then the TCP-IP protocol needs to be installed first. For more information, see the "Xilinx Answers" book, number #2510.

Installation Examples

This section has two examples of the space required to install various combinations of the Alliance Design Implementation Tools. All figures have been rounded up to the nearest MB.

Example 1: Design Implementation Tools Installation -- Single 95/NT Platform

Assume that you have installed the 95/NT platform, all the subcomponents for the XC4000XL, and the online help and documentation browser subcomponents.

Disk space requirements are as follows:

Xilinx Core technology = 12 MB (Data) + 33MB (NT) = 45MB

XC4000XL = 88MB (Data + 95/NT files)

non-numeric XC4000E/data files + 95/NT = 4MB

non-numeric XC4000EX/data files + 95/NT = 4MB

Online Help (3 MB) + Documentation browser (11 MB) = 14 MB

Total = 45 MB + 88MB + 4MB + 4MB + 14MB = 115 MB

Example 2: Design Implementation Tools Installation -- Single NT Platform, CPLDS

Assume that you have installed the NT platform, the XC3000, XC9500, the online help, documentation browser, and Tutorial files.

Disk space requirements are as follows:

Core = 12 MB (Data) + 33 MB (NT) = 45 MB

XC3000 = 5 MB (Data + NT files)

XC9500 = 1 MB (Data + NT files)

3 MB (Help) + 11 MB (browser) + 9 MB (tutorial) = 23MB

Total = 45 MB + 5 MB + 1 MB + 23MB = 74 MB

Installing Design Implementation Tools

This section explains how to install the design implementation software on a Windows NT 4.0 and Windows 95. The Design Implementation Tools CD contains Base and Standard installation tools. You must run the installation program once for each platform you wish to install.

During installation, changes are made to the Registry. Refer to the “Registry Entries” appendix for details. You can also choose whether you want to set up the XILINX, XILINX_CD, and LM_LICENSE_FILE variables. For Windows NT, these variables are set up in the Registry. For Windows 95, these variables are set up in the autoexec.bat file.

Note: If you have a dual boot system, that is, you can boot either Windows 95 or Windows NT, registry changes are made only for the Window system from which you are installing the Xilinx software.

No items are uninstalled when installing software.

If you are running an NT system, you must have System Administrator permissions to make changes to the Registry when you install the software.

1. Ensure that your system meets the requirements described in the “System Requirements” section.
2. Insert the Design Implementation Tools CD into your CD-ROM drive. Determine the source drive letter, *drive*, for example, d. Select **Start** → **Run**. Type *drive*:**setup.exe** in the Open field of the Run window and click OK.

Note: The install program allows you to choose Japanese or English as your install language.

3. Follow the instructions in each of the windows.

Some basic information that you need to install the software is described in the following paragraphs.

- Your serial number is printed in the lower right hand corner of the barcode label attached to the outside of the shipping package. The serial number is also printed on the registration card in your package.
- Typical Installation

If you select this option, you will be able to choose from one of four install scenarios: Base Product, Base Product with Viewlogic, Standard Product, and Standard Product with Viewlogic.

Base Product (CPLD, FPGA devices up to 10,000 gates)

Allows you to choose from the following list of software and devices for install:

- Core Executables
- Network Installation Files
- Shared DLLs

The shared DLLs are:

MSVCRT40.DLL

MFC40.DLL

MFC40U.DLL

OLEPRO32.DLL

MFC40JPN.DLL

CTL3D32.DLL

There are two versions of CTL3032.DLL, CTL3D95.DLL for Windows 95 and CTL3DNT.DLL for Windows NT. When copied to the System32 directory (Windows NT) or the System directory (Windows 95) from the CD, the file is renamed as CTL3D32.DLL.

If there are versions of these DLLs already installed on your system, the Xilinx versions are not installed (no overwrite). If you do not have these installed, the Xilinx versions are installed in the System32 or System directory if the Shared DLLs option is selected. These DLLs are also copied to %XILINX%\bin\nt if Core Executables is selected. The two versions of CTL3D32.DLL (CTL3D95.DLL and CTL3DNT.DLL) are also copied to %XILINX%\bin\nt.

The shared DLLs are used for Unicode support, a 2-byte method of representing characters.

- Viewlogic

- XC3000A/L,
- XC 3100A/L
- XC4003E/5E/6E/8E/10E
- XC4005L/10L
- XC4002XL/5XL/10XL
- XC40125XV
- XC5202, XC5204, XC5206, XC5210
- XC9500
- Spartan XCS05, XCS10
- Online documentation (5 sub-components)
 - Online help
 - Documentation browser (DynaText)
 - Xilinx tutorial files
 - Xilinx design files
 - Xilinx userware

Base Product with ViewLogic

Installs the Base Product as described earlier and the Xilinx Viewlogic software component from the CD. The Viewlogic component contains only the CAE Interface and Libraries. The Viewlogic EDA/schematic tools are not provided. After the Xilinx software is installed, a message displays requesting that you install the Viewlogic software.

Standard (all CPLD, FPGA devices)

Allows you to choose from a list of software and devices for install:

- Core Executables
- Shared DLLs. See the "Base Product" section for details.
- Network Installation Devices
- Viewlogic
- XC400E (three sub-components)
- XC400L (two sub-components)

- XC400EX (two sub-components)
- XC4000XL (three sub-components)
- XC40125XV
- XC5200 (two sub-components)
- XC9500
- Spartan (two sub-components)
- Online documentation (5 sub-components)
 - Online help
 - Documentation browser (DynaText)
 - Xilinx tutorial files
 - Xilinx design files
 - Xilinx userware

Standard Product with Viewlogic

Installs the Standard Product and the Xilinx Viewlogic software component from the CD.

The Viewlogic component contains only the CAE Interface and Libraries. The Viewlogic EDA/schematic tools are not provided. After the Xilinx software is installed, a message displays requesting that you install the Viewlogic software.

The "Getting Started" chapter in the *Viewlogic Interface/Tutorial Guide* (located on the Xilinx Documentation CD) describes how you configure Workview Office to work with the Xilinx software.

- Lab Machine Installation

Select this option if you are planning only to use your system to download software to a device. If you select this option, a screen displays allowing you to choose the PROM File Formatter, Hardware Debugger, and JTAG CPLD Programmer for install.
- Run from CD or Network

Select this option if you plan to access the Alliance software from the CD or from the network. The option does not copy any files to your system; it makes changes to your Registry and adds icons to a selected Start menu folder.
- In the Select Software Components to Install window, you must click *on* the check mark to deselect the component. You can re-

lect a component by clicking the blank space to the left of the document name.

- The LM_LICENSE_FILE environment variable is used by the FLEXlm 5.12 software to control security for the Alliance software release. If you are not currently running FLEXlm software, the installation program will define the variable. Xilinx recommends you accept the default destination directory in the variable, C:\FLEXLM. If your PC already has the LM_LICENSE_FILE variable defined, the installation program will not modify the variable. After completing installation, you need to read the "Setting Up Security" chapter. When you install the Alliance Series 1.4 software, you automatically receive a BAS license to help you get started (unless you already have a license installed). This base license supports all devices of 10,000 gates or less. The license expires on September 1, 1998.

When installation of the design implementation files is complete, the install program looks at the value of the LM_LICENSE_FILE environment variable. If the value is a valid path/file combination and the file it points to does not exist, then the license.dat file in the root directory of the CD is copied to the location specified, with the name specified.

If LM_LICENSE_FILE already points to a valid file or if the value of LM_LICENSE_FILE is not a valid path/file combination, then the license.dat file is not copied.

- The Environment Settings Options dialog box (Windows 95) or Registry Settings Options dialog box (Windows NT) lets you select default option settings for environment variables, your path, and the Registry. Following is a description of each option.

a) Set/Update XILINX

If this option is selected, the XILINX variable is set to point to C:\Xilinx as the default or the directory you selected from the Select Alliance Destination Directory screen display. For Windows NT, the XILINX variable is set in the Registry. For Windows 95, this variable is set in the autoexec.bat file.

If you selected Run From CD or Network from the Select Type of Installation screen display, then the value of the XILINX variable is set to your selection from the Select Alliance Source Directory screen display.

You must set the XILINX variable to run the Alliance software.

b) Set/Update XILINX_CD

If this option is selected, the XILINX_CD variable is set to point to the directory from which the installation is being run as the default. If you selected Run from CD or Network, the XILINX_CD variable is set to the directory that you choose from the Select Alliance Source Directory screen display. For Windows NT, the XILINX_CD variable is set in the Registry. For Windows 95, this variable is set in the autoexec.bat file.

Currently, the XILINX_CD variable is used to locate the DynaText online documentation on the CD.

c) Set/Update PATH

If this option is selected, the location of the Xilinx software and the DLLs are added to your PATH. For Windows NT, the PATH variable is set in the Registry. For Windows 95, the PATH is set in the autoexec.bat file.

You must set the XILINX variable to run the Alliance software.

d) Set/Update LM_LICENSE_FILE

If this option is selected, the LM_LICENSE_FILE variable is set to point to C:\FLEXLM\license.dat as the default or set to the value you choose from the Select Location of License Manager screen display. For Windows NT, the LM_LICENSE_FILE variable is set in the Registry. For Windows 95, this variable is set in the autoexec.bat file.

You must have a license.dat file to run the Xilinx software. If you do not set the LM_LICENSE_FILE variable, the license manager looks in the current directory for the license.dat file.

e) Initialize OLE Registry settings

OLE (Object Linking and Embedding) software enhances the transfer of data between programs (for example, between the Design Manager and EPIC editor). Xilinx recommends that

you select this option. You can also initialize OLE settings by running the command, **reengine /REGISTER**, at a command line prompt from the `$XILINX\bin\nt` directory.

f) Initialize Browser Registry settings

These settings must be loaded in the Registry to execute the DynaText browser. See the "Online Documentation" section of the Registry Entries appendix for a list of the registry settings. You can also initialize the browser registry settings by double-clicking the file `ebtcom.reg`. This file is located in `$XILINX\bin\nt`.

g) Initialize CPLD driver Registry settings (Windows NT only)

This selection adds registry values to activate the driver so that you can use the download cable for CPLDs. Make sure this option is selected if you are designing with CPLDs.

h) Create environment settings file

The `xilinx.cmd` file, which is created during installation, contains the settings for the `XILINX`, `XILINX_CD`, `PATH`, and `LM_LICENSE_FILE` variables. The file is located in `$XILINX`. If necessary, you can double-click on this file to set these variables.

- The install program uses the accessory `WORDPAD.EXE` to call up the `README` files that are created on both the Alliance Release and the Documentation CD. This is a program that is installed by default (like `NOTEPAD`) when the Windows operating system is installed.
- A Xilinx folder containing several icons is added to the Programs folder when installation is complete. If you selected the Typical Installation option or the Run From CD or Network installation option, these icons include Design Manager, DynaText browser, LogiBLOX, and the Readme file. You can access the Alliance Design Implementation Tools via the Design Manager.

If you selected the Lab Machine Installation, the Xilinx folder will contain an icon for each of the tools selected, along with a Readme icon.

Setting Up the Xilinx Environment on PCs

Verify that the following variables are set in your autoexec.bat file for Windows 95 or the Environment tab of System Properties dialog box for Windows NT 4.0. Look under “environment variables” in the Index tab of Window NT Help to access the System Properties dialog box.

The following settings explain how to set up your environment if you have also installed Viewlogic’s Workview Office in addition to the Alliance software. It is assumed that you have loaded the software in the c:\wvoffice and c:\xilinx directories on your PC.

If the software has been installed in different areas, modify the following statements accordingly.

- The PATH variable sets the overall executable search path. It must include the directories where the Workview Office and Xilinx Development System software have been installed. The following command illustrates how to set your path in the autoexec.bat file for Windows 95.

```
PATH=C:\XILINX\BIN\NT;C:\WVOFFICE;other_paths
```

For Windows NT 4.0, in the System Properties dialog box, enter the specified text in the Variables and Values fields:

Variables: **PATH**

Value: **C:\XILINX\BIN\NT;C:\WVOFFICE;other_paths**

Click Set in the System Properties dialog box and then click OK.

Note: The PATH variable cannot include any previous version of either the Xilinx or Viewlogic software. Be sure to remove all paths to older software.

- The XILINX variable is used by the Alliance and Workview Office software to locate data files. It must specify the directory where the Alliance software resides. This variable is automatically set up during installation.
- The WDIR variable sets the data file search path for the Workview Office software.

For Windows 95, enter the command in the autoexec.bat as follows:

SET WDIR=C:\WVOFFICE\STANDARD

For Windows NT 4.0, in the System Properties dialog box, enter the specified text in the Variables and Values fields:

Variables: **WDIR**

Value: **C:\WVOFFICE\STANDARD**

Click Set in the System Properties dialog box and then click OK.

- The **LM_LICENSE_FILE** variable directs the software to the license files. These files may be placed anywhere as long as this variable points to the license files themselves, not just the directory in which they reside. The first license file authorizes the Workview Office tools; the other authorizes the Xilinx software tools.

For Windows 95, enter the command in the autoexec.bat as follows:

SET LM_LICENSE_FILE=C:\WVOFFICE\STANDARD\LICENSE.DAT,;C:\FLEX1m\LICENSE.DAT

Note: The above lines are for users of Workview Office version 7.3.1. For users with WVO 7.4 and above, the lines should be entered as follows:

SET LM_LICENSE_FILE=C:\WVOFFICE\STANDARD\LICENSE.DAT;C:\FLEX1m\LICENSE.DAT

For Windows NT 4.0, in the System Properties dialog box, enter the specified text in the Variables and Values fields:

Variables: **LM_LICENSE_FILE**

Value: **C:\WVOFFICE\STANDARD\LICENSE.DAT,;C:\FLEX1m\LICENSE.DAT**

Click Set in the System Properties dialog box and then click OK

Note: The above lines are for users of Workview Office version 7.3.1. For users with WVO 7.4 and above, the lines should be entered as follows:

Value: **C:\WVOFFICE\STANDARD\LICENSE.DAT;C:\FLEX1m\LICENSE.DAT**

- The **VANTAGE_VSS** and **VANTAGE_CC** variables are used by Speedwave for functional VHDL simulation. These variables are

only required for systems with Extended licenses. Open Windows 95, and make sure that the software installer has set to following commands. If the commands do not match, you will need to add them manually in the autoexec.bat file.

```
SET VANTAGE_VSS=C:\WVOFFICE\V
```

```
SET VANTAGE_CC=C:\WVOFFICE\MSVCNT\BIN\CL
```

For Windows NT 4.0, in the System Properties dialog box, enter the specified text in the Variables and Values fields:

Variables: **VANTAGE_VSS**

Value: **C:\WVOFFICE\V**

Click Apply in the System Properties dialog box.

Variables: **VANTAGE_CC**

Value: **C:\WVOFFICE\MSVCNT\BIN\CL**

Click Set in the System Properties dialog box and then click OK.

Installing Online Documentation and the DynaText Browser

This section describes how to install the Xilinx online documentation, and the DynaText browser. This section also explains how to access the online documentation from a CD-ROM or network.

The CD contains the following software:

- Xilinx online manuals
- EBT books
- DynaText browser

During installation, changes are made to the Registry. Refer to the "Registry Entries" appendix for details. You must have System Administrator permissions to make changes to the Registry when you install the software.

Note: Even if you have installed the DynaText browser from a software release prior to M1.3, you must install the new full-text browser.

If you do not install the new browser, you may not be able to read the latest versions of the Xilinx online documents.

Note: If you have a dual boot system, that is, you can boot either Windows 95 or Windows NT, registry changes are made only for the Window system from which you are installing the Xilinx software.

1. Ensure that your system meets the requirements described in the "System Requirements" section.
2. Insert the online documents CD-ROM into your CD-ROM drive. Determine the source drive letter, *drive*, for example, d. Select **Start** → **Run**. Type *drive*:**setup.exe** in the Open field of the Run window and click OK.

Note: The install program allows you to use choose Japanese or English as your install language.

3. Follow the instructions in each of the windows. Some basic information that you need to install the online documentation is described in the following paragraphs.

- Typical Installation

Select this option to install the Xilinx online documents, the EBT books, the DynaText browser, and the online book files onto your hard disk drive. You must install the documents in the same directory that you installed the Design Implementation Tools software.

If you installed the browser when installing Alliance Design Implementation Tools software, you do not have to reinstall the browser now.

If you are performing a Typical Installation of the online documentation or the DynaText browser after you have installed the Design Implementation Tools software, accept the default Destination Directory appearing during installation. This selection will install the documents or browser in the Destination Directory in which you installed the Design Implementation Tools software.

If you are performing a Typical Installation of the online documentation or the DynaText browser before installing the Design Implementation Tools software, select the same Destination Directory that you will use for the Design Implementation Tools.

In the Select Documents to Install window, you must click *on* the check mark to deselect the document. You can reselect a component by clicking the blank space to the left of the document name.

- Run from CD or Network

Select this option if you plan to access documentation from the CD or from the network.

If you are performing a Run from CD or Network installation and you select a Destination Directory on your network, the documents will not be installed on the disk drive; they will only be accessible through the network.

Setting Up the DynaText Browser

The browser support files and the EBT online documentation are installed in %xilinx%\data\ntdtext unless specified otherwise. The Xilinx online documentation is installed in the %xilinx%\doc\user-english\ books directory unless specified otherwise.

DynaText Browser System Requirements

The system requirements for the DynaText browser are as follows:

- IBM PC or compatible PC with an 80486 25 Megahertz processor or greater
- Windows 95 or NT 4.0
- Minimum of 12 MB of RAM, 16 MB recommended
- Disk Space Requirements
9 MB minimum, 17 MB Full (English)
15 MB minimum 29 MB Full (Japanese)
- VGA Monitor, SVGA recommended

Note: Your system must have the Dynamic-Link Library (DLL) file CTL3D32.DLL to run the DynaText browser. This file is usually found in the System32 subdirectory for NT or System subdirectory for Windows 95 under your Windows NT directory. There are two versions of the CTL3D32.DLL (CTL3D95.DLL for Windows 95 and CTL3DNT.DLL for Windows NT).

Setting Up the DynaText Environment

The following subsections discuss the XILINX environment variables and the dynatext.ini file.

Setting Up the Xilinx Environment Variables

When you install the Xilinx Design Implementation Tools software, you can automatically set up various environment variables. The Registry for NT 4.0 can be set up with XILINX and XILINX_CD, and Windows 95 uses autoexec.bat. See the "Registry Entries" appendix for details. The XILINX variable is set to point to the path where the software is installed. The XILINX_CD variable points to the CD-ROM path, which is usually d: or to a directory on the network. The specific value of each of these variables is referenced in the dynatext.ini file. Following is an example of a dynatext.ini file. Environment variable substitution in the dynatext.ini file adheres to the UNIX convention of using the \$ symbol, for example, \$XILINX\data.

```
; dynatext.ini configuration file
; *****
COLLECTION=$XILINX\data\ntdtext\ebtdocs\ebrowse=EBT Books
COLLECTION=$XILINX\doc\usenglish=Xilinx books
COLLECTION=$XILINX_CD\doc\usenglish=Xilinx books (CD)
COLLECTION=$XILINX/xbbs/userware/answers=Answers
COLLECTION=$XILINX_CD/xbbs/userware/answers=Answers on CD
DATA_DIR=$XILINX\data\ntdtext\data
```

If you have not installed the Design Implementation Tools software or decided not to set up the XILINX and XILINX_CD variables during install, then these variables have not been set up. In that case, the XILINX variable will be set to the directory in which you installed the software and the XILINX_CD variable will be set to the CD_ROM path, which is usually d: or to a directory on the network. The settings in the dynatext.ini file are shown below.

```
COLLECTION=C:$Xilinx\doc\data\ntdtext\ebtdocs\ebrowse=EBT Books
COLLECTION=C:$Xilinx\doc\data\doc\usenglish=Xilinx books
COLLECTION=$XILINX_CD\doc\usenglish=Xilinx books on CD
COLLECTION=$XILINX/xbbs/userware/answers=Answers
DATA_DIR=C:$Xilinx\doc\data\ntdtext\data
```

```
PUBLIC_DIR=C:$Xilinx\doc\data\ntdtext\tmp\public  
PRIVATE_DIR=C:$Xilinx\doc\data\ntdtext\tmp\public
```

Note: If DynaText is being run from the CD-ROM, the PUBLIC_DIR and PRIVATE_DIR variables need to be set to a writable location. Those variable settings are needed for the annotation functionality.

Customizing the dynatext.ini File

The dynatext.ini file, which is located in %XILINX%\bin\nt, sets up the DynaText environment. Normally, you do not need to alter any of your settings in the dynatext.ini file; however, you can customize several DynaText variables by altering this file. Following is a description of required variables.

COLLECTION	Set to the directory or directories where the Xilinx and DynaText books are located. The name as it appears in the DynaText Library window is set by using the equal sign to point to the collection directory path followed by another equal sign to point to the user-defined collection name.
DATA_DIR	Set to the location of the EBT data files (\$XILINX\data\ntdtext\data).
PUBLIC_DIR	Sets up public annotations. Must be a writable location.
PRIVATE_DIR	Sets up private annotations. Must be a writable location.

When you have completed software installation and setup, proceed to the "Setting Up Security" chapter.

Uninstalling Xilinx Software

To uninstall Xilinx software, perform the following steps.

1. Double-click the My Computer icon.
2. Double-click the Control Panel icon.
3. Double-click the Add/Remove Programs icon.

4. Ensure that the Install/Uninstall tab is selected in the Add/Remove Program Properties window.
5. From the list, select the programs you want to remove and click Add/Remove.

Setting Up Security

Security for the Alliance software release is implemented using the FLEXlm™ 5.12 license manager. (In the past, FLEXlm was known as the Highland License Manager.) For more information about FLEXlm, see the website, <http://www.globetrotter.com>.

This chapter explains how to set up FLEXlm on your PC or UNIX workstation.

To implement Xilinx security, you can use either of these licensing methods:

- **Node-locked license**—Allows unlimited use of the product on a single system and is only valid for a specific 'HOSTID'. Because there is no server program to run and no competition for licenses, node-locked licensing is easier to administer than floating licenses. Access to the software is controlled by the settings in a licensing file called `license.dat`. Node-locked licensing is the default licensing method for PCs.
- **Floating license**—Allows multiple workstations or PCs on a network to access the Alliance software. Any computer on the network can use the software, up to a limit which is set in a licensing file called `license.dat`. Floating license security is implemented using a license manager daemon called `lmgrd` running on a server in conjunction with a Xilinx-specific license daemon called `xilinxd`. A UNIX license can support both a workstation and a PC. Floating license security is the default for UNIX workstations.

The following sections describe how to set up these two licensing methods. The last section provides some basic security tips.

Setting Up Security Using Node-Locked Licenses

A node-locked license allows unlimited use of the product on a single PC or workstation. To set up security using node-locked licenses, you must:

1. Set up an LM_LICENSE_FILE environment variable pointing to the license.dat file.
2. Obtain license codes from Xilinx.
3. Set up a license.dat file as specified by the LM_LICENSE_FILE variable and place the license codes into this file. If you are a current user of FLEXlm 5.12 of Xilinx software, you can add the Xilinx license codes to the existing license.dat file.

The following sections describe how to perform these steps.

Setting Up the LM_LICENSE_FILE Variable

The LM_LICENSE_FILE environment variable points to the FLEXlm licensing file, usually named license.dat. You can set this variable when you install the Alliance software. The default (and recommended) LM_LICENSE_FILE setting is C:\flexlm\license.dat.

If you already had an LM_LICENSE_FILE variable defined when you ran the Alliance installation, the installation program will not modify the variable.

Note: Do not have the LM_LICENSE_FILE variable set in both the System Variables area and the User Variables area. If you do, the one in the User Variables area has precedence.

If you must set the LM_LICENSE_FILE variable *after* the Alliance installation, set it up as follows:

Windows NT 4.0

1. From the Start Menu, select the Settings folder and click on the Control Panel icon.
2. In the Control Panel, double click the System icon.
3. Select the Environment tab from the System Properties window.
4. In the Variable field, type LM_LICENSE_FILE.

- In the Value field, type in the drive letter or network letter and full path of the license.dat file. For example, for a license.dat file on the C drive located in \flexlm, you would type the following:

```
c:\flexlm\license.dat
```

Note: If you are already running FLEXlm security as part of another vendor's software, you can set up the LM_LICENSE_FILE variable to point to the Xilinx license.dat file and the vendor's license file. You can specify multiple license files in the LM_LICENSE_FILE Value and separate each with a semicolon (;), as in the following example.

```
c:\flexlm\license.dat;c:\other_vendor \license.dat
```

- Select Set and Apply to set the variable.
- Select OK. Log out and log in again to insure that the current value of the environment variable LM_LICENSE_FILE is being used.
- To verify that you set the variable, select **Start** → **Programs** → **Command Prompt**. In the Command Prompt window, enter the following command:

```
echo %LM_LICENSE_FILE%
```

The full path that you set as the value of the variable should display.

Note: If you do not set the LM_LICENSE_FILE variable, FLEXlm looks for the license.dat file in the standard place, which is c:\flexlm\license.dat. If the file cannot be found in that location, the LM_LICENSE_FILE environment variable must be set as described previously.

Note: If you are using Workview Office, you will also need to include the path to the Viewlogic license file in the LM_LICENSE_FILE variable. See the "Getting Started" chapter of the *Viewlogic Interface/Tutorial Guide* for details on setting up LM_LICENSE_FILE for both Xilinx and Viewlogic.

Note: Do not have the LM_LICENSE_FILE variable set in both the System Variables area and the User Variables area. If you do, the one in the User Variables area has precedence.

Windows 95

- Add the following line to your autoexec.bat file:

```
set LM_LICENSE_FILE=c:\flexlm\license.dat
```

Note: If you are already running FLEXlm security as part of another vendor's software, you can set up the LM_LICENSE_FILE variable to point to the Xilinx license.dat file and the vendor's license file. You can specify multiple license files in the LM_LICENSE_FILE Value and separate each with a semicolon (;), as in the following example.

```
set LM_LICENSE_FILE=c:\flexlm\license.dat;c:\other_vendor\license.dat
```

2. Reboot your system so that the autoexec.bat file is reread. Otherwise, the change has no effect.
3. To verify that you set the variable, select **Start** → **Programs** → **MS-DOS Prompt**. In the DOS window, enter the following command:

```
echo %LM_LICENSE_FILE%
```

The full path that you set as the value of the variable should display.

Note: If you do not set the LM_LICENSE_FILE variable, FLEXlm looks for the license.dat file in the standard place, which is c:\flexlm\license.dat. If the file cannot be found in that location, the LM_LICENSE_FILE environment variable must be set as described previously.

Note: If you are using Workview Office, you will also need to include the path to the Viewlogic license file in the LM_LICENSE_FILE variable. See the "Getting Started" chapter of the *Viewlogic Interface/Tutorial Guide* for details on setting up LM_LICENSE_FILE for both Xilinx and Viewlogic.

Obtaining Authorization Codes

You must obtain authorization codes to operate the Alliance software. You write these codes into your license.dat file.

To obtain your authorization codes:

1. Be prepared to supply Xilinx Customer Service the product name and serial number, the Ethernet address or C drive serial number, your end-user ID number, and the network name of your PC.

When you install the Xilinx software, all of this information with the exception of the nine digit end-user ID number is automati-

cally entered into the license.inp file. For a Run from CD or Network based installation, the license.inp is located in the Windows directory (c:\windows, c:\winnt, etc.). Otherwise, the file is in the root directory of the installation.

For existing customers, the end-user ID number is located on the shipping box label (example 1234-01-01-A). New customers will receive their end-user ID after registering the product.

Use the license.inp file to obtain the information you need to submit to Customer Service. Following is a sample license.inp file.

```
Name:Joe Smythe
Company: Acme
Serial Number: PAS0105
Product:Alliance M1
Version:M1.3
Platform:PC
Computer Name:chekhov
License Input:00609758ec89
```

where "Computer Name" is the network name of your PC and "License Input" is either your Ethernet hardware address or C: drive Volume Serial Number.

If for some reason you did not generate a license.inp file, you can obtain the required information as follows:

- The product name and serial number are located in the lower right hand corner of the barcode label located on the package or on the registration card inside the package.
- You can obtain the Ethernet address by logging onto the PC and running the lmtools.exe application located in %XILINX%\bin\nt. When the lmtools window appears, click on Hostid.

You can obtain the C: drive Volume Serial Number for your PC by logging onto the PC, accessing a Command Prompt, and entering the following command at the C: prompt:

```
vol C:
```

Xilinx recommends that you use the Ethernet address instead of the C: drive serial number.

- To obtain the network name of your PC, proceed as follows:

- a) From the Start Menu, select the Settings folder and click on the Control Panel icon.
 - b) In the Control Panel, double click the Network icon.
 - c) Select the Identification tab to see the Computer name. This is the network name required for the license.
2. Contact Xilinx Customer Service in any of the following ways:

- Call Xilinx Customer Service to obtain the authorization codes. International customers may also contact their local distributor or sales representative.

US and Canada 1-800-624-4782
(Monday through Friday, from 8:00 a.m. to 5:00 p.m. Pacific Time)

United Kingdom 01932-333550

Belgium 0800-73738

France 0800-918333

Germany 0130-816027

Italy 1677-90403

Netherlands 0800-918333

Other European Countries (44) 1932-333550

Japan 81-3-3297-9153

Southeast Asia/ROW and international countries not listed:
Contact your local Xilinx distributor

- Complete the M1 License Request Form enclosed in your package and FAX to:

United States and Canada 408-559-0115

United Kingdom 01932-828521

Other European Countries (44) 1932-828521

Japan 81-3-3297-9189

Southeast Asia/ROW and international countries not listed:
Contact your local Xilinx distributor

- Obtain authorization codes from the World Wide Web. Go to the Xilinx home page (<http://www.xilinx.com>), click on the Support hyperlink and then click on the Software Licensing and Registration hyperlink.
- If you are a European customer, you may provide the required information via email to m1license@xilinx.com

Your Xilinx Customer Service Representative will email or fax you a file with your authorization codes.

Setting Up the license.dat File

The file your Xilinx Customer Service Representative will email or fax to you includes information similar to the following file.

License Information With Ethernet Address

```
#-----
# Serial Number 860689725   10-APR-97 9:28
#
# This license is node-locked to host lefthand, id = 0020afea417a
#
INCREMENT ALI-STD-PC xilinxd 1.000 10-JUL-97 0 1C9276EA70EC14BF6B9F \
"XSJ_davet" 0020afea417a
#
#-----
#
# Package Definitions Follow:
#
#-----
PACKAGE ALI-STD-PC xilinxd 1.000 C0901041EBE4CB132AC6 \
COMPONENTS="system-PC bit-PC xc3000D-PC xc4000X-PC xc5200X-PC \
ngd2vhdl-PC verilog-PC " \
OPTIONS=SUITE
#
```

```
#-----  
# Web-generated license.  
#-----+
```

If you supply a disk drive serial number, the INCREMENT will have the text "DISK_SERIAL_NUM". For the previous sample file, the INCREMENT line looks like the following:

```
INCREMENT ALI-STD-PC xilinxd 1.000 10-JUL-97 0 1C9276EA70EC14BF6B9F \  
"XSJ_davet" DISK_SERIAL_NUM=1DA33FF5
```

The information in this file must appear in your license.dat file.

Xilinx recommends that you use the Ethernet address as your host id instead of the C: drive serial number.

During the installation of the Alliance software, a default license.dat file was copied to the location defined by the LM_LICENSE_FILE environment variable, if a valid license.dat file was not already there. You can replace or edit this file to contain the information you receive.

You can use the information you receive in this way:

- If the Customer Service Representative sent the information by email, you can remove the email header from the file and copy the file to the correct location (usually C:\flexlm\license.dat).
- If the Customer Service Representative sent the information in a fax, you can use a text editor to create a file containing the information and place the file in the correct location (usually C:\flexlm\license.dat).

The default license file contains PACKAGE definitions for all the base packages Xilinx supports (devices with 10,000 or fewer gates). Most will not be relevant to your installation, but they may be left in the license file. You *must* include a package definition which corresponds to any products mentioned in INCREMENT lines. For example, the PACKAGE ALI-STD-PC line in the sample file, License Information With Ethernet Address, must be matched by an INCREMENT ALI-STD-PC line.

Each INCREMENT line must be a single line. If the text overflows to another line, use the backslash character as a continuation character at the end of the line.

If you use the backslash, make sure that it is the last character on the line. No tabs or spaces may follow the backslash.

- If you are adding the information to an existing license.dat file, place the new Xilinx information *before* any existing information pertaining to floating licensing. This information usually begins with a SERVER line.

When the license.dat file contains the proper information and is in the proper directory, you can run the Alliance software.

Setting Up Security Using Floating Licenses

This section describes how to implement security using floating licenses. Floating licenses allow multiple systems on a network to access the Alliance software. Any systems on the network can use the software, up to a limit which is set in a licensing file called license.dat.

Please note that this release includes FLEXlm version 5.12. If you are running an older version, including the FLEXlm versions 4.1 and 5.0 that were included in the earlier releases, you must restart your license manager and daemon using the new FLEXlm version 5.12 software.

Workstation Setup—Floating Licenses

The following sections describe how to set up security using floating licenses on a UNIX workstation.

Selecting a License.dat File—Workstation

If you do not already have a license.dat file, contact Xilinx Customer Service to obtain a license.dat file. Refer to the “Preparing the License.dat File—Workstation” section for information about contacting Customer Service.

If you are a current user of FLEXlm 5.12 of Xilinx software, then your current license will work with this new software, and you do not have to change it. However, you may need to stop the license daemon and restart it. If you are using FLEXlm 5.0, you will have to restart the license daemon.

If you are running in a networked environment, the license.dat file should be copied to a flexlm directory on one of the servers accessible

by your workstation. Multiple users can then use the same copy of the license manager.

Setting Up the LM_LICENSE_FILE Variable— Workstation

The LM_LICENSE_FILE environment variable points to the Xilinx licensing file, named license.dat. The license file is typically in \$XILINX/data/license.dat. Another common location on the license server is /usr/local/flexlm/licenses/license.dat (the default for FLEXlm).

Before using the Xilinx software, each user who will access the software must set up an LM_LICENSE_FILE environment variable. One way is as follows:

1. Ensure that the XILINX variable is set up to point to the Xilinx software.

```
setenv XILINX full_path_to_Xilinx_core_software_tools
```

2. Set an environment variable in your .cshrc file that points to the license.dat file. For example, if the license.dat file is installed in \$XILINX/data, you would enter the following command:

```
setenv m1_license = $XILINX/data/license.dat
```

3. Set the LM_LICENSE_FILE variable in your .cshrc file to point to the m1_license variable. Use an If statement to consider two conditions:

- Users who have not yet set the LM_LICENSE_FILE variable during the install process
- Users who have LM_LICENSE_FILE set

Following is an example statement:

```
if ( ! $?LM_LICENSE_FILE ) then  
  setenv LM_LICENSE_FILE $m1_license  
else  
  setenv LM_LICENSE_FILE ${LM_LICENSE_FILE}:$m1_license  
endif
```

4. Source the .cshrc file.

License Management—Workstation

You will need to contact your Xilinx customer support to obtain authorization codes for your new Xilinx products. Refer to the “Preparing the License.dat File—Workstation” section for information about contacting Customer Service.

To use the Xilinx software, you will need the following:

- FLEXlm license manager, Version 5.12 or greater
- Xilinx license.dat file
- Appropriate authorization codes to add to license.dat

The FLEXlm license manager is included on the media shipped to you by Xilinx, and is copied with the software into your installation directory by the Install program.

You must obtain your template license.dat file from Xilinx customer support. For information about how to contact Customer Service, refer to the “Preparing the License.dat File—Workstation” section.

Adding New Products—Workstation

If you are installing for the first time or are adding new products to your Xilinx installation, you must call Xilinx to obtain the authorization codes for the components you have purchased. For information about how to contact Customer Service, refer to the “Preparing the License.dat File—Workstation” section.

To enable an installation, you must update the license.dat with the authorization codes and start the license manager as described in the following sections.

If you plan to add the Xilinx license information to an existing license file, you must ensure that you obtained authorization codes for the same server as the existing license and then you must ensure that the license.dat file contains the new DAEMON and INCREMENT lines, and that this file includes the PACKAGE section for each INCREMENT line. Please note that this release requires a new vendor daemon, xilinxd.

Preparing the License.dat File—Workstation

The license file is typically in `$XILINX/data/license.dat`. Another common location is `/usr/local/flexlm/licenses/license.dat`. (This is the default for FLEXlm.)

The default license.dat file illustrates the structure of a typical license file. This file is loaded during installation if you do not already have a valid license.dat file. Remember to modify the DAEMON line so that the path to xilind is correct.

To obtain your authorization codes:

1. Be prepared to supply Xilinx Customer Service the following information:
 - The product name and serial number from the lower right hand corner of the barcode label located on the package or on the registration card inside the package.

Note: Save the information so that you will have the product name and serial number for future reference.

- The host name and host id of the computer that will be your license server.
- The nine digit end-user ID number. For existing customers, the end-user ID number is located on the shipping box label (example 1234-01-01-A). New customers will receive their end-user ID after registering the product.

You can obtain the host id for your license server by logging in to it, and running the following command:

```
$XILINX/bin/platform/lmutil lmhostid
```

where *platform* is the type of computer, for example, sun.

This is the most reliable way to obtain the host id for use in the license file. This information must be obtained on the machine which will be your license server.

If you plan to add the new Xilinx information to an existing license file, you should use the hostname and host id from the SERVER line(s) in the existing file. You *must* use the same information if you plan to use the same computer for your license server.

2. Contact Xilinx Customer Service in any of the following ways:

- Call Xilinx Customer Service to obtain the authorization codes. International customers may also contact their local distributor or sales representative.

US and Canada 1-800-624-4782
(Monday through Friday, from 8:00 a.m. to 5:00 p.m. Pacific Time)

United Kingdom 01932-333550

Belgium 0800-73738

France 0800-918333

Germany 0130-816027

Italy 1677-90403

Netherlands 0800-918333

Other European Countries (44) 1932-333550

Japan 81-3-3297-9153

Southeast Asia/ROW and international countries not listed:
Contact your local Xilinx distributor

- Complete the M1 License Request Form enclosed in your package and FAX to:

United States and Canada 408-559-0115

United Kingdom 01932-828521

Other European Countries (44) 1932-828521

Japan 81-3-3297-9189

Southeast Asia/ROW and international countries not listed:
Contact your local Xilinx distributor

- Obtain authorization codes from the World Wide Web. Go to the Xilinx home page (<http://www.xilinx.com>), click on the Support hyperlink and then click on the Software Licensing and Registration hyperlink.
- If you are a European customer, you may provide the required information via email to m1license@xilinx.com

Your Xilinx Customer Service Representative will email or fax you a file with your authorization codes.

Understanding License Codes—Workstation

The file your Xilinx Customer Service Representative will email or fax to you includes information similar to the following.

```
SERVER gene 80361d08 2200
DAEMON xilinxd /usr/xilinx/bin/sun/xilinxd
INCREMENT ALI-BAS-WS xilinxd 1.000 26-JUN-97 10 CAB23519BC74B5B3B0B8 \
"XSJ_davet"
```

Note: You must use the full path name for the location in the DAEMON line. Also you cannot use variable names such as \$XILINX in your path description. The INCREMENT line must be a single line. If the text overflows to another line, use the backslash character as a continuation character at the end of the line. If you use the backslash, make sure that it is the last character on the line. No tabs or spaces may follow the backslash.

You *must* retain the package definition which corresponds to any products mentioned in INCREMENT lines. For example, the INCREMENT above won't work without a package definition:

```
PACKAGE ALI-BAS-WS xilinxd 1.000 90D0F0B1B2A4EE31553C \
COMPONENTS="system bit xc3000D xc4000E xc5200E \
system-PC bit-PC xc3000D-PC xc4000E-PC xc5200E-PC \
ngd2vhdl verilog \
ngd2vhdl-PC verilog-PC " \
OPTIONS=SUITE
```

Note: The previous four lines are actually a single line. The backslash (\) at the end of the first three lines is a continuation character indicating that each line wraps to the next line. If you use the backslash character, it must be the last character on the line, and no tabs or spaces may follow the backslash. This package definition is only an example.

Starting the License Server—Workstation

Once the license file has been updated, you must start (or restart) the license server. If you were not already running FLEXlm 5.12 or a higher version, you must use the new `lmgrd`, delivered with your Xilinx software. The command, `lmgrd -v`, will cause `lmgrd` to display its version number.

Note: The license server will not start automatically when you run the Xilinx software. You must start up the lmgrd daemon explicitly to allow the software to run.

Before starting lmgrd (FLEXlm license manager), you must meet the following requirements.

- You must have a license file for a floating license.
- The DAEMON line in the license file must point to a valid path for the xilinxd daemon.

The recommended way to start the license server is this:

```
$XILINX/bin/platform/lmgrd -c $XILINX/data/license.dat -l /tmp/lmgrd.log
```

where *platform* is the type of computer, for example, sun

The lmgrd program will run as a batch job, logging its activity to the lmgrd.log file. The log file stores information about checking out and checking in licenses. If a security error occurs, read the log file to determine the cause of the error.

The recommended way to stop the license server is this:

```
$XILINX/bin/platform/lmutil lmdown -c $XILINX/data/license.dat
```

PC Setup—Floating Licenses

The following sections describe how to set up security using floating licenses on a PC running Windows NT 4.0 or Windows 95.

Selecting a License.dat File—PC

If you do not already have a license.dat file, contact Xilinx Customer Service to obtain a license.dat file. Refer to the “Setting Up Security Using Floating Licenses” section for information about contacting Customer Service.

If you are a current user of FLEXlm 5.12 of Xilinx software, then your current license will work with this new software, and you do not have to change it. However, you may need to stop the license daemon and restart it.

If you are running in a networked environment, the license.dat file should be copied to a flexlm directory on one of the servers accessible by your PC. Multiple users can then use the same copy of the license manager.

Setting Up the LM_LICENSE_FILE Variable—PC

The LM_LICENSE_FILE environment variable points to the FLEXlm licensing file, named license.dat. You can set this variable when you install the Alliance software. The default (and recommended) LM_LICENSE_FILE setting is C:\flexlm\license.dat.

If you already had an LM_LICENSE_FILE variable defined when you ran the Alliance installation, the installation program will not modify the variable.

If you must set the LM_LICENSE_FILE variable *after* the Alliance installation, set it up as follows:

Windows NT 4.0

1. From the Start Menu, Select the Settings folder and click on the Control Panel icon.
2. In the Control Panel, double click the System icon.
3. Select the Environment tab from the System Properties window.
4. In the Variable field, type LM_LICENSE_FILE.
5. In the Value field, type in the drive letter or network letter and full path of the license.dat file. For example, for a license.dat file on the C drive located in \flexlm, you would type the following;

```
c:\flexlm\license.dat
```

Note: If you are already running FLEXlm security as part of another vendor's software, you can set up the LM_LICENSE_FILE variable to point to the Xilinx license.dat file and the vendor's license file. You can specify multiple license files in the LM_LICENSE_FILE Value and separate each with a semicolon (;), as in the following example.

```
c:\flexlm\license.dat;c:\other_vendor\license.dat
```

6. Select Set to set the variable.
7. Select OK.
8. Log out and log in again to insure that the current value of the environment variable LM_LICENSE_FILE is being used.
9. To verify that you set the variable, select **Start** → **Programs** → **Command Prompt**. In the Command Prompt window, enter the following command:

```
echo %LM_LICENSE_FILE%
```

The full path that you set as the value of the variable should display.

Note: If you do not set the LM_LICENSE_FILE variable, FLEXlm looks for the license.dat file in the standard place, which is c:\flexlm\license.dat. If the file cannot be found in that location, the LM_LICENSE_FILE environment variable must be set as described previously.

Note: If you are using Workview Office, you will also need to include the path to the Viewlogic license file in the LM_LICENSE_FILE variable. See the “Getting Started” chapter of the *Viewlogic Interface/Tutorial Guide* for details on setting up LM_LICENSE_FILE for both Xilinx and Viewlogic.

Windows 95

1. Add the following line to your autoexec.bat file.

```
set LM_LICENSE_FILE=c:\flexlm\license.dat
```

Note: If you are already running FLEXlm security as part of another vendor’s software, you can set up the LM_LICENSE_FILE variable to point to the Xilinx license.dat file and the vendor’s license file. You can specify multiple license files in the LM_LICENSE_FILE Value and separate each with a semicolon (;), as in the following example.

```
set LM_LICENSE_FILE=c:\flexlm\license.dat;c:\other_vendor \license.dat
```

2. Reboot your system so that the autoexec.bat file is reread. Otherwise, the change has no effect.
3. To verify that you set the variable, select **Start** → **Programs** → **MS-DOS Prompt**. In the DOS window, enter the following command:

```
echo %LM_LICENSE_FILE%
```

The full path that you set as the value of the variable should display.

Note: If you do not set the LM_LICENSE_FILE variable, FLEXlm looks for the license.dat file in the standard place, which is c:\flexlm\license.dat. If the file cannot be found in that location, the LM_LICENSE_FILE environment variable must be set as described previously.

Note: If you are using Workview Office, you will also need to include the path to the Viewlogic license file in the LM_LICENSE_FILE variable. See the “Getting Started” chapter of the *Viewlogic Interface/Tutorial Guide* for details on setting up LM_LICENSE_FILE for both Xilinx and Viewlogic.

License Management—PC

You will need to contact your Xilinx customer support to obtain authorization codes for your new Xilinx products.

To use the Xilinx software, you will need the following:

- FLEXlm license manager, Version 5.12 or greater
- Xilinx license.dat file
- Appropriate authorization codes to add to license.dat

The FLEXlm license manager is included on the media shipped to you by Xilinx, and is copied with the software into your installation directory by the Install program.

You must obtain your template license.dat file from Xilinx customer support. For information about how to contact Customer Service, refer to the “Preparing the License.dat File—PC” section.

Adding New Products—PC

If you are installing for the first time or are adding new products to your Xilinx installation, you must call Xilinx to obtain the authorization codes for the components you have purchased. Refer to the “Preparing the License.dat File—PC” section for information about contacting Customer Service.

To enable an installation, you must update the template license.dat with the authorization codes and start the license manager as described in the following sections.

If you plan to add the Xilinx license information to an existing license file, you must ensure that you obtained authorization codes for the same server as the existing license and then you must ensure that the license.dat file contains the new DAEMON and INCREMENT lines, and that this file includes the PACKAGE section for each INCREMENT line. Please note that this release requires a new vendor daemon, xilinxd.

Preparing the License.dat File—PC

The license.dat file is commonly located in c:\flexlm. (This is the default for FLEXlm.) The template license file has PACKAGE definitions for the Xilinx products. You will need to add the INCREMENT lines containing your authorization codes. You will also need to modify the DAEMON line so that it contains the correct path to your copy of xilinxd.

To obtain your authorization codes:

Be prepared to supply Xilinx Customer Service the nine digit end-user ID number, product name and serial number, the Ethernet address or C drive serial number, and the network name of your PC.

When you install the Xilinx software, all of this information with the exception of the end-user ID number is automatically entered into the license.inp file. For existing customers, the end-user ID number is located on the shipping box label (example 1234-01-01-A). New customers will receive their end-user ID after registering the product.

Use this file to obtain the information you need to submit to Customer Service. For an example of a license.inp file, see the “Obtaining Authorization Codes” section in this chapter.

If for some reason you did not generate a license.inp file, you can obtain the required information as follows:

- The product name and serial number are located in the lower right hand corner of the barcode label located on the package or on the registration card inside the package.
- You can obtain the Ethernet address by logging onto the PC and running the lmttools.exe application located in %XILINX%\bin\nt. When the lmttools window appears, click on Hostid.

You can obtain the C: drive Volume Serial Number for your PC by logging onto the PC, accessing a Command Prompt, and entering the following command at the C: prompt:

vol C:

Xilinx recommends that you use the Ethernet address instead of the C: drive serial number.

- To obtain the network name of your PC, proceed as follows:

- a) From the Start Menu, select the Settings folder and click on the Control Panel icon.
- b) In the Control Panel, double click the Network icon.
- c) Select the Identification tab to see the Computer name. This is the network name required for the license.

If you plan to add the new Xilinx information to an existing license file, you should use the network name from the SERVER line(s) in the existing file. You *must* use the same information if you plan to use the same computer for your license server.

Contact Xilinx Customer Service in any of the following ways:

- Call Xilinx Customer Service to obtain the authorization codes. International customers may also contact their local distributor or sales representative.

US and Canada 1-800-624-4782
(Monday through Friday, from 8:00 a.m. to 5:00 p.m. Pacific Time)

United Kingdom 01932-333550

Belgium 0800-73738

France 0800-918333

Germany 0130-816027

Italy 1677-90403

Netherlands 0800-918333

Other European Countries (44) 1932-333550

Japan 81-3-3297-9153

Southeast Asia/ROW and international countries not listed:
Contact your local Xilinx distributor

- Complete the M1 License Request Form enclosed in your package and FAX to:

United States and Canada 408-559-0115

United Kingdom 01932-828521

Other European Countries (44) 1932-828521

Japan 81-3-3297-9189

Southeast Asia/ROW and international countries not listed:
Contact your local Xilinx distributor

- Obtain authorization codes from the World Wide Web. Go to the Xilinx home page (<http://www.xilinx.com>), click on the Support hyperlink and then click on the Software Licensing and Registration hyperlink.
- If you are a European customer, you may provide the required information via email to m1license@xilinx.com

Your Xilinx Customer Service Representative will email or fax you a file with your authorization codes.

Understanding License Codes—PC

The file your Xilinx Customer Service Representative will email or fax to you includes information similar to the following.

```
SERVER edapc89          DISK_SERIAL_NUM=C031946D 2200
DAEMON xilinxd C:\XILINX\BIN\NT\XILINXD.EXE
INCREMENT PR-4EX-PC xilinxd 1.000 28-MAY-97 1 0B242B17C9F07F15EA92 \
"XSJ_dan"
```

Note: You must use the full path name for the location in the DAEMON line. Also you cannot use variable names such as %XILINX% in your path description. The INCREMENT line must be a single line. If the text overflows to another line, use the backslash character as a continuation character at the end of the line. If you use the backslash, make sure that it is the last character on the line. No tabs or spaces may follow the backslash.

You *must* retain the package definition which corresponds to any products mentioned in INCREMENT lines. For example, the INCREMENT above won't work without a package definition:

```
PACKAGE PR-4EX-PC xilinxd 1.000 0070A051667FD9D49EA8 \
COMPONENTS="system-PC bit-PC xc3000D-PC xc4000X-PC \
mentor-PC synopsys-PC viewlog-PC ngd2vhdl-PC verilog-PC " \
OPTIONS=SUITE
```

Note: The previous four lines are actually a single line. The backslash (\) at the end of the first three lines is a continuation character indicating that each line wraps to the next line. If you use the backslash character, it must be the last character on the line, and no tabs or

spaces may follow the backslash This package definition is only an example.

Starting the License Server—PC

Once the license file has been updated, you must start (or restart) the license server. If you were not already running FLEXlm 5.12 or a higher version, you must use the new `lmgrd`, delivered with your Xilinx software. The command, `lmgrd -v`, will cause `lmgrd` to display its version number.

Note: The license server will not start automatically when you run the Xilinx software. You must start up the `lmgrd` daemon explicitly to allow the software to run.

Before starting `lmgrd` (FLEXlm license manager), you must meet the following requirements.

- You must have a license file for a floating license.
- The DAEMON line in the license file must point to a valid path for the `xilinxd` daemon.

You can run `lmgrd` from either a GUI window or from the DOS command line.

Using the GUI Window on Windows NT 4.0

To invoke the `lmgrd` from a GUI window:

1. The FLEXlm control panel, `flexlm.cpl`, is an applet that you install into the Windows NT Control Panel. You use it to control the execution of the FLEXlm license manager.

Copy the following files from the CD-ROM into the Windows `system32` directory:

```
copy flexlm.cpl system-drive:\winnt\system32
```

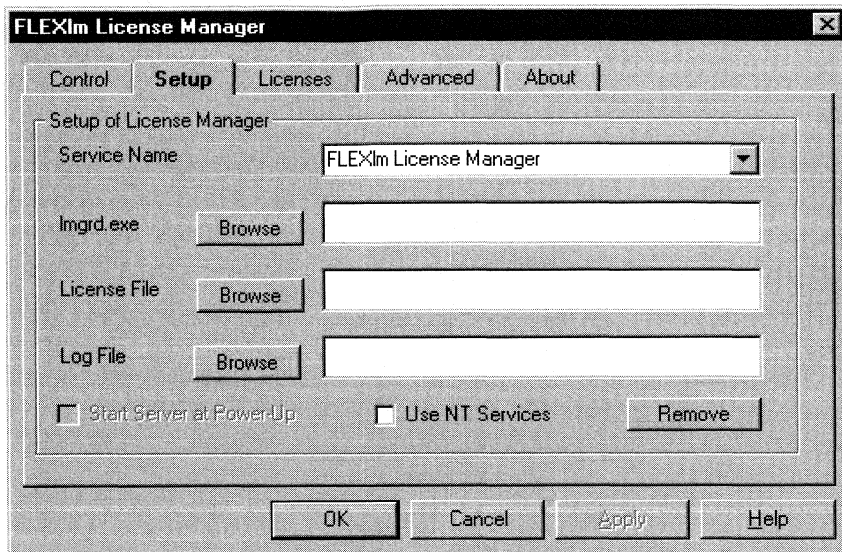
```
copy lmgr325c.dll system-drive:\winnt\system32
```

Note: The library `lmgr325c.dll` is placed in the same directory as `flexlm.cpl` in this example, but it could be placed anywhere in the system search path.

Note: You can test FLEXlm by running `lmgrd` from a DOS prompt. This allows you to see diagnostic output and errors as they occur.

2. After placing `flexlm.cpl` into the `system32` directory, open the Control Panel and launch the “Flexible License Manager”.

From the Control tab you can start, stop, and check the status of your license server. Select the Setup tab to enter information about your license server.



3. You can change the default service name of “FLEXlm License Manager” to something else. Fill out the rest of the form to configure Imgrd to serve licenses for your use.
4. The information you enter is stored in the registry under the service name you created:

```
HKEY_LOCAL_MACHINE\SOFTWARE\FLEXlm License Manager\Service-Name\...
```

Select the Control tab and press the Start button to turn on your license server. Imgrd.exe will be launched as a background application with the license file and log file locations passed as parameters.

5. If you want Imgrd.exe to start automatically, select the “Use NT Services” box. This will install Imgrd.exe as an NT service. You can then use the NT’s Services control panel to adjust the start/stop behavior of Imgrd.exe.

Because NT services do not have command line parameters, Imgrd.exe, when started as a service, locates its service name under “FLEXlm License Manager” in the registry. From there it recovers the license file and log file locations. Multiple instances

of `lmgrd.exe` can be run as services as long as each has a different service name.

You can switch back and forth between different instances of `lmgrd.exe` by going to the Setup tab and changing the selection in the Service Name field (this is only necessary if you have more than one product that is licensed with FLEXlm).

6. Use the remaining tabs in the control panel to perform functions similar to those available with the command line `lmutil` program. The Licenses tab provides information about the license file. The Advanced tab allows you to perform diagnostics and check versions.

Using the GUI Window on Windows 95

The procedure for using the FLEXlm control panel on Windows 95 is the same as for Windows NT 4.0, with the following exceptions:

1. Copy the following files from the CD-ROM into the Windows `system32` directory:

```
copy flexlm.cpl system-drive:\windows\system
copy lmgr325c.dll system-drive:\windows\system
```
2. Because services are not available on Windows 95, the "Use NT Services" check box is not available. Instead, a "Start Server at Power-Up" check box gives you the option to start the server when the system is booted.
3. On Windows 95 FLEXlm uses a registry feature that launches programs automatically. The "Microsoft\Windows\CurrentVersion\RunServices" registry is used to launch the program `lmgrd95.exe` at power-on. This program scans the "FLEXlm License Manager" are of the registry and launches an instance of `lmgrd.exe` for each service name it finds.

Using the Command Line

To invoke the `lmgrd` from a command prompt:

1. Select **Start** → **Programs** → **Command Prompt**.
2. In the Command Prompt window, enter the following command:

```
lmgrd -app -c licensefile -l logfile
```

where *licensefile* is the actual name of your license file and *logfile* specifies the name you want for the log file. The log file stores information about checking out and checking in licenses. If a security error occurs, read the log file to determine the cause of the error.

Note: You must have the %XILINX%\bin\nt directory in your path, so that the license manager can find the required .DLL files.

If you attempt to close the Command Prompt window while lmgrd is running, the End Task windows will display. If you choose to terminate lmgrd, you will not be able to access the Xilinx software. You must be running lmgrd to use the Xilinx software.

Security Tips

Following are several security tips:

- For a PC floating license, determine the correct server name by selecting **Start** → **Settings** → **Control Panel** → **Network** → **Identification**.
- Check that the PATH, XILINX, and LM_LICENSE_FILE variables are pointing to valid paths.
- Make sure the checksum in the license.dat file is correct. On the PC run the lmttools.exe application located in %XILINX%\bin\nt. When the lmttools window appears, click on Checksum. On workstations use the following command to give a checksum:

```
lmutil lmcksum /full_path_name/license.dat
```

Compare the checksum with the checksum in the license.dat file.

- If you have multiple tools that use FLEXlm, then use the newest versions of lmgrd, lmttools, and lmutil to run the license manager software.
- Xilinx currently uses v5.12 of the FLEXlm software.
- To determine the version of the FLEXlm software on your system, run the following command on the workstation:

```
full_path_name/lmutil lmver lmgrd
```

On the PC open the lmttools window and click on Version.

- To start a license server on a PC, after setting up the PATH, XILINX, and LM_LICENSE_FILE variables, go to a DOS shell and run the following command:

```
full_path_name\lmgrd -app -c licensefile
```

where *licensefile* is the full path name to your license file

To start a license server on a UNIX workstation, after setting up the PATH, XILINX, and LM_LICENSE_FILE variables, from the command line prompt, run the following command:

```
$XILINX/bin/platform /lmgrd -c $XILINX/data/license.dat -l /tmp/lmgrd.log
```

where *platform* is the type of computer, for example, sun. The lmgrd program will run as a batch job, logging its activity to the named log file.

- If the license manager has trouble starting, or a licensed executable like NGDBuild or MAP gives a security error, run the following command to obtain additional information on your license manager:

```
lmutil lmdiag
```

On the PC open the lmttools window and click on Diagnostics.

- On a PC, confirm your license file name. It should be C:\FLEXLM\LICENSE.DAT if using default values. Some PC applications such as Microsoft Word may append suffixes to the file name and cause licensing to fail. If the LM_LICENSE_FILE variable is not set, the file MUST be C:\FLEXLM\LICENSE.DAT
- To obtain a software license security code, please call Customer Service at 1-800-624-4782, fax information to 1-408-559-0115, or select the Support hyperlink from the Xilinx Web site, <http://www.xilinx.com>. Please provide the following information: end-user ID number, product type (for example, PR-ALI-STD-PC), serial number from the registration card and your ethernet hardware address (12 hex digits) or your C: Drive serial number (PCs).

Chapter 8

Getting Started

This chapter explains how to start the Alliance software on PCs and workstations and how to open and use the DynaText browser.

Starting the Software on PCs

When you have installed the Design Implementation Tools and set up the license file, you are ready to use the software. If you fully installed the software, four icons are created in the Xilinx folder: Design Manager, DynaText browser, LogiBLOX and the Readme file. You can access the software via the Design Manager, which is the Graphical User Interface (GUI). To start up the Design Manager, select **Start** → **Programs** → **Xilinx** → **Design Manager**. For a complete description of the Design Manager, see the online document, *Design Manager/Flow Engine Reference/User Guide*.

You can also access specific core technology tools, such as NGDBuild, PAR, and MAP via the Command Line prompt. To display a Command Line Prompt, select **Start** → **Programs** → **Command Prompt** and enter a specific command and its options at the prompt. The online document, *Development System Reference Guide*, describes all commands and options in detail.

LogiBLOX is a graphical interactive tool for creating high-level modules, such as counters, shift registers, and multiplexers. LogiBLOX includes both a library of generic modules and a set of tools for customizing these modules. To use LogiBLOX as a stand-alone utility, double click on the LogiBLOX icon. LogiBLOX is also integrated into some third-party schematic entry tools (such as Workview Office), and can generate schematic symbols and appropriate simulation models.

The documentation for your schematic entry interface (for example, the *Viewlogic Interface/Tutorial Guide*) explains how to use LogiBLOX from the schematic editor.

Starting the Software on Workstations

When you have installed the Design Implementation Tools and set up the license file, you are ready to use the software. You can access the software via the Design Manager, which is the Graphical User Interface (GUI). To start up Design Manager, enter the command **dsgrnmgr** at your command line prompt. For a complete description of the Design Manager, see the online document, *Design Manager/Flow Engine Reference/User Guide*.

You can also access specific core technology tools, such as NGDBuild, PAR, and MAP via the Command Line prompt. The online document, *Development System Reference Guide*, describes all of the specific commands and their options in detail.

LogiBLOX is a graphical interactive tool for creating high-level modules, such as counters, shift registers, and multiplexers. LogiBLOX includes both a library of generic modules and a set of tools for customizing these modules. To use LogiBLOX as a stand-alone utility enter the command **lbgui** at the command line prompt. LogiBLOX is also integrated into some third-party schematic entry tools (such as Viewlogic and Mentor), and can generate schematic symbols and appropriate simulation models.

The documentation for your schematic entry interface (for example, the *Viewlogic Interface/Tutorial Guide* or *Mentor Graphic Interface/Tutorial Guide*) explains how to use LogiBLOX from the schematic editor.

Opening and Using the DynaText Browser

The following subsections explain how to open documents and use the browser.

Opening Documents on PCs

To open Xilinx documents on a PC, follow these instructions:

1. With your browser installed on your hard disk drive, select **Start** → **Programs** → **Xilinx** → **DynaText 3.1**.

- Once the DynaText Library window displays, click “Xilinx books” in the Collections window pane. The following figure, “DynaText Library Window (PC Version)” shows the window view.

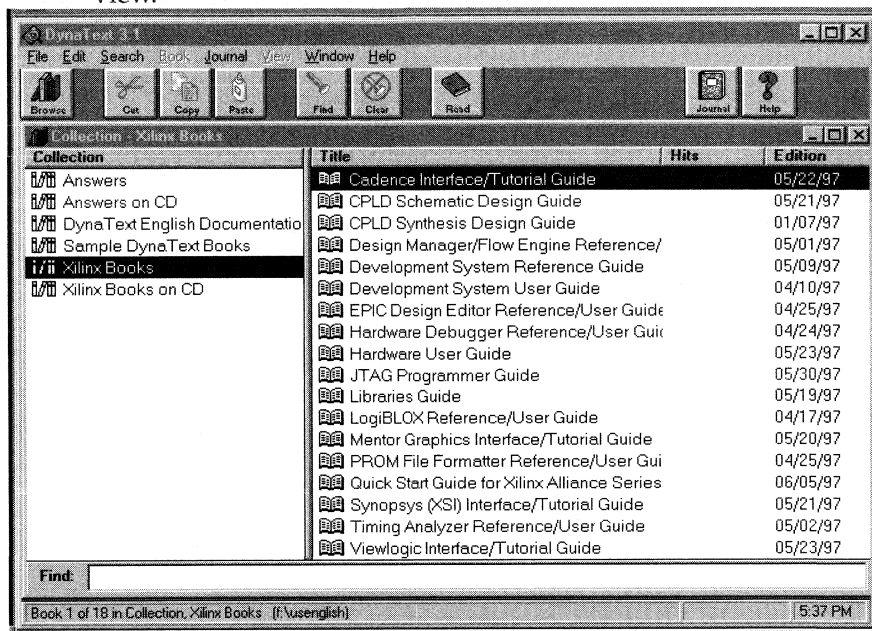


Figure 8-1 DynaText Library Window (PC Version)

A complete list of the Xilinx online documents displays in the Books window pane. Double click on the book you wish to open. The Table of Contents for the document displays in the left portion of the window. The first page of the document displays in the right side of the window. See the “Typical Book Display” figure for an example.

Using the DynaText Browser on PCs

To find out how to use the features of the DynaText browser, access the online help within the browser. You can also open online manuals for the browser by selecting “DynaText English Documentation” from the Collection window.

To maximize the quality of text and figures, you may have to adjust your monitor display settings. For a 15-inch monitor, Xilinx recommends that you set your display characteristics to small fonts with 1024 x 768 resolution.

These properties can be set in the Settings tab of the Display Properties window which you can access by double-clicking the Display icon from the Control Panel window.

If the browser text still displays poorly, from the DynaText Preferences window, select the Book Window icon. In the Zoom field, enter 125%.

Opening Documents on Workstations

To open Xilinx documents, follow these instructions:

1. Proceed as follows:
 - If your browser is installed on your hard disk drive, enter the command, **dttext**, at the command line prompt.
 - If you want to read the documents from the CD-ROM, enter **/cdrom/dttext** at the UNIX prompt.
2. Once the DynaText Library window displays, proceed as follows:
 - If you installed the online documentation and browser on your system, click "Xilinx books" in the Collections window
 - If you want to open a document from the CD-ROM, make sure that your CD-ROM is mounted and inserted into the caddy. Select "Xilinx books (CD)" from the Collections window pane.

A complete list of the Xilinx online documents displays in the Books window pane. See the following figure, "DynaText Library Window (Workstation Version)".

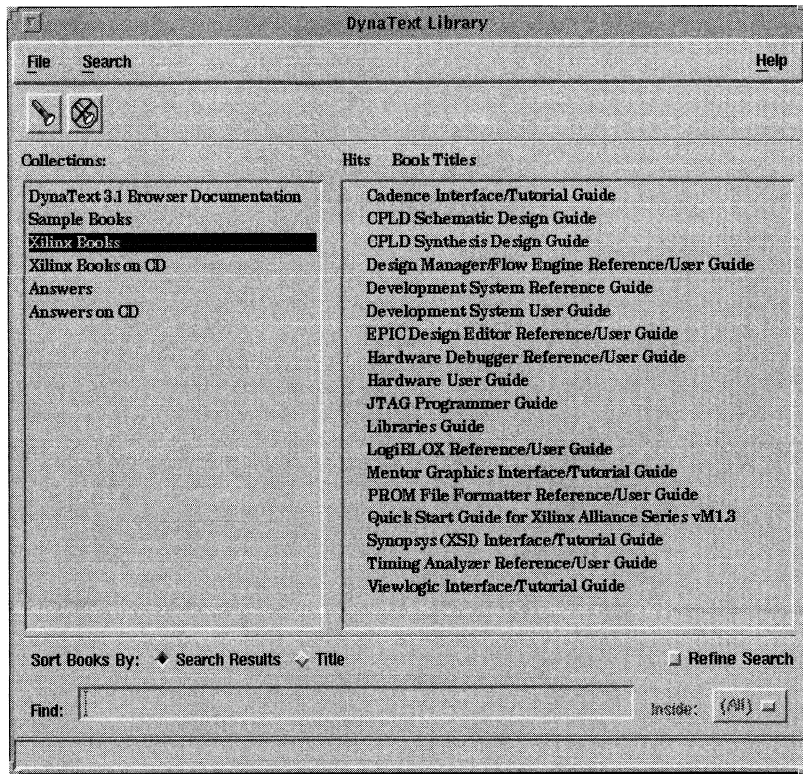


Figure 8-2 DynaText Library Window (Workstation Version)

3. Double click a document in the Books window pane of the DynaText Library window to open it. (You can also highlight a document and then click Open.)

The Table of Contents for the document displays in the left portion of the window. The first page of the document displays in the right side of the window. See the “Typical Book Display” figure for an example.

The “Xilinx books” collection represents the online documentation on the disk drive. The “Xilinx books (CD)” collection represents the books on CD-ROM.

The collections titled “Answers” and “Answers on CD” contain the Known Issues for this release.

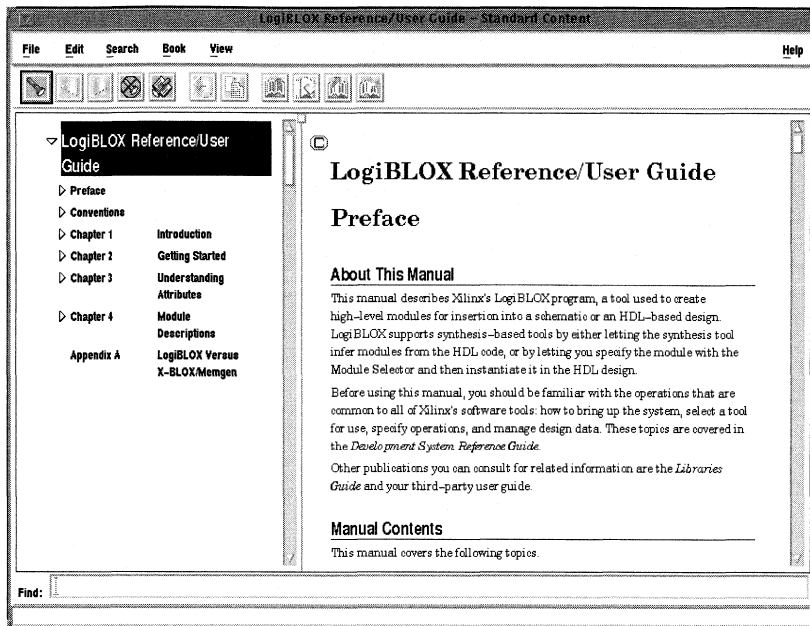


Figure 8-3 Typical Book Display

Note: You can also open a book at the UNIX prompt by entering the following command:

```
dttext -col collection_path bookname
```

where *collection_path* is the path to the book you want to open.

Using the DynaText Browser on Workstations

DynaText online documentation, the *Reader Guide* and *Tutorial*, explains how to use the browser. To access these documents, follow these steps:

1. With the DynaText Library window displayed, click "XILINX Books" in the Collections field. The documents are displayed in the Books field.
2. Double click a document in the Books field to open it.

DynaText also provides online help. You can access online help by selecting the Help button in the upper right corner of any window.

To maximize the quality of text and figure displays, you may have to adjust your monitor display settings. For a 15-inch monitor, Xilinx recommends that you set your display characteristics to small fonts with 1024 x 768 resolution.

These properties can be set in the Settings tab of the Display Properties window which you can access by double-clicking the Display icon from the Control Panel window.

If the browser text still displays poorly, from the DynaText Preferences window, select the Book Window icon. In the Zoom field, enter 125%.

Documentation Categories

This section describes the types of documents available for use with Xilinx products.

Xilinx Online Documentation

This category refers to documents available in online format. The four subcategories are as follows:

- Windows tools documentation
- Xilinx Tools documentation
- CAE Tool interface guides
- CPLD software documentation

Table 8-1 Windows Tools Documentation

Reference/User Guides
<p><i>Design Manager/Flow Engine Reference/User Guide</i></p> <p>This manual describes the Design Manager, a tool for managing multiple implementations of the same design. This manual also explains the Flow Engine, which implements designs, and explains how to interact with other programs that run in the Design Manager environment; namely, the Design Editor, the Timing Analyzer, the Hardware Debugger, the PROM File Formatter, and the PROM Programmer.</p>
<p><i>EPIC Design Editor Reference/User Guide</i></p> <p>EPIC is a graphical editor used to display and configure FPGAs. EPIC enables you to place and route critical components before running automatic place and route tools on an entire design, modify placement and routing manually, interact with the physical constraints file (PCF) to create and modify constraints, and verify timing against constraints.</p>
<p><i>Hardware Debugger Reference/User Guide</i></p> <p>This manual describes how to program, verify, and debug FPGA devices. It describes the XChecker cable and explains how to connect the cable pins to your target device for various functions: downloading, verification, and debugging. It also includes a tutorial for debugging a design using the demonstration boards as target devices.</p>
<p><i>PROM File Formatter Reference/User Guide</i></p> <p>This manual explains how to use a Windows-based tool to format bitstream files into HEX format files compatible with Xilinx and third-party PROM programmers. You use the PROM files to program a PROM device, which is then used to configure daisy chains of one or more FPGAs for one application (configuration) or several applications (reconfiguration).</p>
<p><i>Quick Start Guide for Alliance Series 1.4</i></p> <p>This manual provides an overview of the features and additions to Xilinx's Alliance Series 1.4 software. The primary focus of the guide is the core technology used to implement a design.</p>
<p><i>Timing Analyzer Reference/User Guide</i></p> <p>This manual describes Xilinx's Timing Analyzer program, a graphical user interface tool that performs static analysis of a mapped FPGA or CPLD design. The mapped design can be partially or completely placed, routed, or both.</p>

Table 8-2 Xilinx Tools Documentation

Reference/User Guides
<p><i>Development System Reference Guide</i></p> <p>This book describes the Xilinx Development System software, which includes programs to generate EDIF files, LCA files, and BIT files, primarily for FPGA architectures. The book covers all the program options and files that are generated by these programs.</p>
<p><i>Development System User Guide</i></p> <p>This guide describes the Xilinx design flow, including design entry, implementation, and verification. It also addresses design entry methodology selection, configuration modes as well as readback and verification, primarily for FPGA architectures.</p>
<p><i>Hardware User Guide</i></p> <p>This manual describes the Xilinx Demonstration hardware and its associated software interfaces. The hardware includes the FPGA and CPLD demonstration boards, which are used for design verification.</p>
<p><i>Libraries Guide</i></p> <p>This book describes the components or macros that you use to create your designs as well as the attributes and constraints used to process the design during logic implementation. It also discusses relationally placed macros (RPMs), which are macros that contain relative location constraints (RLOC) information. The Xilinx unified libraries enable you to convert designs easily from one family to another.</p>
<p><i>LogiBLOX Reference/User Guide</i></p> <p>This guide describes the high-level modules you can use to speed up design entry and the attributes that support logic synthesis, primarily for FPGA architectures. It also explains how to use the LogiBLOX program to create designs and the different types of logic synthesis completed by the LogiBLOX program.</p>

Table 8-3 CAE Tool Interface/Tutorial Guides

Interface/Tutorial Guides
<p><i>Cadence Interface/Tutorial Guide</i> This guide explains how to use the Cadence Concept schematic editor with the Xilinx software. The guide also explains how to generate a symbol/body for LogiBLOX modules within Concept, how to convert Concept Verilog output files to EDIF files with CONCEPT2XIL, and how to conduct functional and timing simulations.</p>
<p><i>Mentor Graphics Interface/Tutorial Guide</i> This guide explains how to use the Mentor Graphics interface software with Mentor Graphics software. Included in this book is information on using the Mentor Graphics Design Manager interface configured for the design, simulation, and implementation of Xilinx Programmable Logic Devices (PLDs).</p>
<p><i>Synopsys (XSI) Interface/Tutorial Guide</i> This manual describes the Xilinx Synopsys Interface (XSI™) program as used to implement FPGA designs using either the Synopsys FPGA Compiler or Design Compiler synthesis tools.</p>
<p><i>Viewlogic Interface/Tutorial Guide</i> This interface guide explains how to use the Viewlogic interface software to translate your FPGA or CPLD designs from Viewlogic schematics to implemented design and simulation files. The tutorial guides you through a typical FPGA and CPLD design procedure from schematic entry to completion of a functioning device.</p>

Table 8-4 CPLD Software Documentation

Design Guides
<p><i>CPLD Schematic Design Guide</i> This guide covers design techniques for schematic entry tools. It also includes information to embed behavioral modules and migrate designs between different families.</p>
<p><i>CPLD Synthesis Design Guide</i> This guide describes CPLD synthesis design techniques when using the Xilinx Synopsys Interface (XSI).</p>
<p><i>JTag Programmer Guide</i> This guide documents the graphical interface used for in-system programming and verification of XC9500 parts. The guide also describes how to set up and use JTAG download cables.</p>

Xilinx also provides the Answers book as an online document. This book contains a comprehensive list and complete description of Known Issues for the 1.4 software.

Xilinx Application Information

The *XACT Conversion Guide* is available in hardcopy format only. This guide explains how to migrate existing design files for use with Xilinx software.

Known Issues

This chapter describes the most critical known issues in the Alliance Series 1.4 release. For a complete, up-to-date listing of Known Issues, click Answers from the Xilinx Web home page (<http://www.xilinx.com>). If you cannot access the Web, the CD Answers DynaText online document, which is located on the Design Implementation Tools CD, also contains the 1.4 Known Issues.

Software

This section describes known issues for design entry, translation, implementation, and downloading and configuration.

Design Entry

lbgui crashes when trying to execute non-executable editor

Platform(s): All

Architecture(s): All

Design step(s): Design Entry

Reference Number(s): 101004

In the User Preferences window, if you select a file as your editor that does not have the execute permissions turned on, LogiBLOX will crash when you attempt to edit a file, such as a memory file.

Workaround: Verify that the path to the editor file is correct and that the file has the execute permissions turned on.

Translation

Some XNF files created before version 1.3 software cannot be read by 1.4 software

Platform(s): All
Architecture(s): XC9500, XC7300
Design Step(s): Design Translation
Reference Number(s): NA

The following XNF netlists cannot be read by 1.4 for CPLD families:

- generated from a PLUSASM equation file (.pld) or XABEL's PLUSASM flow
- containing any XC7300 arithmetic
- containing any DFF symbols with CE input pins

Workaround: For XNF files derived from PLUSASM, use the PLUSASM .pld file as the design input instead of the XNF file. For XC7300 arithmetic designs, you must create a new netlist based on the 1.4 schematic macro library.

XACTstep WIR2XNF 5.2.1 does not work with WIR files created by Powerview 6.1

Platform(s): All
Architecture(s): All
Design Step(s): Translation
Reference Number(s): Solution Record 2874

Viewlogic has made a change in the WIR file format with Powerview 6.1. Long lines are truncated into multiple lines by the use of a continuation character. When WIR2XNF 5.x attempts to translate this file, it complains that it does not understand the continuation character.

Workaround: XACTstep 5.x does not support Powerview 6.1. To avoid this problem, the user has a few options:

- Do not upgrade to Powerview 6.1; stay with Powerview 6.0.
- Upgrade to M1.x, which does not use the WIR2XNF translation program.
- Manually remove the continuation characters from the WIR files to recreate the long lines seen with Powerview 6.0.

M1.3, 1.4: Viewlogic Navigator and LogiBLOX conflict due to module type

Platform(s): All

Architecture(s): All

Design Step(s): Translation

Reference Number(s): Solution Record 3079

When LogiBLOX modules are generated for Viewlogic schematics, they are given a module type of 'Composite'. This is done to allow functional simulations to be done without having to compile the LogiBLOX elements through NGDBuild; the simulation can use descriptions that are created when the module is created.

However, by using this symbol type, bogus error messages will be reported by two tools. (The LogiBLOX module is called "LOGI" in the following errors.)

- When the Check program is run on the design ('Tools->Check Project' in Workview Office's Viewdraw, or 'check -p <design>' from a command prompt), the following error will occur for each LogiBLOX component:

Error: Could not load schematic sheet - LOGI.1

But the final summary will give:

Total Errors - 0 and warnings - 0

(assuming all the errors are the bogus LogiBLOX errors).

- The Viewlogic Navigator gives the following error for each pin on each LogiBLOX module when opening the design:
viewbase-E-413: Error - Schematic Pin Q_OUT on LOGI.1 is not on its symbol.

Workarounds:

- These errors occur because 'composite' means that Viewlogic expects a lower level schematic for this symbol, but with LogiBLOX there is no schematic.

These errors can be safely ignored.

The EDIF written by EDIFNETO will refer to the LogiBLOX name and pins, and NGDBuild will properly merge the .NGO file produced when the LogiBLOX module was created. The Navi-

gator will still be able to probe the design even though it cannot see the non-existent LogiBLOX schematic.

- These bogus error messages can be avoided by changing the LogiBLOX component type to Module. Push into the symbol and right-click on the background. Change the 'Symbol Type' from 'Composite' to 'Module'.

IMPORTANT: This solution must only be used if you do not plan to do functional simulations without compiling the design through NGDBuild. If you do not compile the design, all LogiBLOX modules set to Block Type 'Module' will produce X's. This is why the default setting is 'Composite'.

If you are only performing timing simulations, or if you use the Xilinx Functional Simulation tool (see Solution 1985) for your functional simulations, then LogiBLOX symbols can be safely changed to 'Module'.

Implementation

CPLD fitter core dump may result from properties applied to wrong type objects

Platform(s): All

Architecture(s): XC9500

Design step(s): Implementation

Reference Number(s): 101712

If the CPLD fitter program hitop halts with a core dump, check to see if there is any I/O buffer, pad, or pad-net in your design that has a property attached to it that is intended only for macrocell-type objects. The macrocell-only type properties are COLLAPSE, INIT, KEEP, NOREDUCE, PWR_MODE, and WIREAND. Using any of these properties on an I/O object should normally produce an error or warning message.

Workaround: Remove any such properties from the I/O objects and attach them to the applicable macrocell objects (logic or flip-flop components), and then rerun the fitter.

Automatic feedback optimization not yet supported for XC9500

Platform(s): All
Architecture(s): XC9500
Design step(s): Documentation
Reference Number: 101596

The Automatic Feedback Optimization feature described in the CPLD Schematic Design Guide and the CPLD Synthesis Design Guide is not yet supported.

Workaround: XC9500 Local Feedback still requires logic to be explicitly mapped to the same function block using properties of the form "LOC=FBnn".

Some designs that fit in M1.3 do not fit as well in 1.4

Platform(s): All
Architecture(s): XC9500
Design Step(s): Implementation
Reference Number(s): 100457, 101350, Solution Record 2910

If you have difficulty using 1.4 to fit a design that successfully fit using M1.3, it may be due to two new default implementation options that are different than in M1.3:

- The default Collapsing Pterm Limit has been increased from 15 to 20 in 1.4 to allow more thorough collapsing and typically higher performance.
- The new Multi-level Logic Optimization algorithm (enabled by default in 1.4) typically performs more efficient logic reduction to meet timespecs and optimizes for speed or density.

Workaround: If you need the fitter to perform logic optimization in a manner more consistent with M1.3, you should turn off Multi-level Logic Optimization and change the Collapsing Pterm Limit back to the value you originally used (default was 15) in the Advanced Optimization tab of the XC9500 Implementation Options template.

New multi-level logic optimization feature of CPLD fitter may resolve excessive run-time or bus error

Platform(s): All
Architecture(s): XC9500
Design Step(s): Implementation
Reference Number(s): 101503

The CPLD fitter program hitop may run for too long (more than an hour) or it may terminate with a bus error.

Workaround: You may be able to get results more quickly by turning on the new Multi-level Logic Optimization option in the XC9500 Implementation Options template (or in the CPLD command line).

XC7300 and XC9500F CPLD families no longer supported

Platform(s): All
Architecture(s): XC7300, XC9500F
Design Step(s): All
Reference Number(s): 100721, Solution Record 2956

Support for the XC7300 CPLD family has been discontinued beginning with the 1.4 software release. The XC9500 In-System Programmable CPLDs offer faster speeds, wider range of densities, and superior pin-locking compared to the XC7300 family.

The XC9500F CPLD family has also been discontinued and is not supported in 1.4 software because the XC9500 family addresses all of the intended goals of the XC9500F family. The XC9500 family should be used for all new CPLD designs.

The software tools contained in this 1.4 release (including the Timing Analyzer, bitstream generator, and simulation model generator) cannot be used to process design database files produced by the M1.3 (or earlier) software that targeted XC7300 or XC9500F devices.

Workaround: Designs that have been implemented targeting XC7300 or XC9500F devices should be retargeted for the appropriate XC9500 device.

FAST, SLOW, and LOC properties on pad instances may be ignored

Platform(s): All
Architecture(s): XC9500
Design Step(s): Implementation
Reference Number(s): 102044

The fitter sometimes ignores some or all FAST, SLOW, or LOC properties if they are attached to instances of PAD components in your design.

Workaround: If the properties are attached to the pad nets or I/O buffer instances instead, they will work. Either move the properties to the pad nets connected to the pads, or use a UCF file to assign the properties to the pad nets. For example, "NET pad_name LOC=P12;".

PAR may not optimally place global clock buffers driven by input buffer (IBUF)

Platform(s): All
Architecture(s): All
Design Step(s): PAR
Reference Number(s): 18586

If a global buffer is driven by an IBUF instead of directly by an IPAD, PAR may not place the PAD and global buffer close together. This can cause longer clock delays than desired.

Workaround: A global buffer driven directly by an IPAD will always be placed correctly. Either remove the IBUF or use placement constraints on both the global buffer and IPAD.

PAR message not clear enough about impossible timing constraints

Platform(s): All
Architecture(s): All
Design Step(s): PAR
Reference Number(s): 100971

Before PAR begins to place and route a design, it evaluates the timing constraints in a design against the number of logic levels in each path. If it finds a path in which the logic delays by themselves exceed the requested timing constraint, PAR will issue error 97, stating: "Not all

timing preferences could be satisfied." PAR should be more explicit in stating that the timing constraint is impossible to meet.

Workaround: Either loosen the constraint or reduce the number of logic levels.

1.4, Powerview 6: vanlibcreate gives linker error compiling LogiBLOX VHDL library

Platform(s): All

Architecture(s): All

Design Step(s): Compiling

Reference Number(s): Solution Record 3078

If the following steps are taken while creating an M1 design with Powerview:

1. From Viewdraw, select 'Add->Logiblox'. The LogiBLOX GUI 'Setup' window opens.
2. In the 'Options' tab in the 'Setup' window, select only 'Behavioral VHDL netlist'. Click on "OK".
3. In the LogiBLOX GUI main window, select any valid module configuration and start the generation of a VHDL model by clicking on "OK".

Viewdraw returns with a linker error during the running of 'vanlibcreate' on the LogiBLOX library.

On Solaris, it says:

```
ld.so.1: vanlibcreate: fatal: libucb.so.1: can't open file: errno=2 Killed
```

On HP-UX 10.2, it says:

```
/bin/ld: DP relative code in file <path_to_project>/logiblox.lib/  
mvlarith.pdr/vantage.o - shared library must be position independent.
```

Use +z or +Z to recompile.

Workarounds:

- When analyzing LogiBLOX VHDL models using Viewlogic on the Solaris platform, add /usr/ucplib to your LD_LIBRARY_PATH environment variable.

- The reason for the HP failure is that the Powerview VHDL analyzer requires the "unbundled" version of the HP-UX C compiler. HP machines with the "unbundled" version usually have `/bin/cc` linked to `/usr/ccs/bin/cc` which is the "bundled" version.

The Turns Engine will not work unless the -pl and -rl switches are defined in template or on command line

Platform(s): Workstation

Architecture(s): All

Design Step(s): PAR

Reference Number(s): 101667

The Turns Engine will not work unless the `-pl` and `-rl` switches are both explicitly defined on the command line. Alternatively, from the Design Manager, the template manager can be used to apply these switches to the `par` command. These switches are new for 1.4 and specify the placement effort level and routing effort level. Valid values range from 1 (low) to 5 (high).

See solution record 1227 for more information about using the template manager.

Too many timespec paths can cause out-of-memory failure

Platform(s): All

Architecture(s): XC9500, XC7300

Design Step(s): Design Implementation

Reference Number(s): 18405, Solution Record 2243

If your timespecs are too general, you may create too many timespec paths.

Workaround: If the software aborts due to an out-of-memory error, try making your timespecs more specific, naming only the I/O pads and flip-flops that have critical timing requirements in your design.

Downloading and Configuration

Long JEDEC file names obscured in JTAG programmer

Platform(s): Workstation
Architecture(s): XC9500
Design Step(s): Downloading
Reference Number(s): 100937

Long JEDEC file names may be obscured in the boundary-scan chain-display.

Workaround: To see the full name, select the Device Properties menu.

JTAG programmer context-sensitive help does not work

Platform(s): All
Architecture(s): XC9500
Design Step(s): Downloading
Reference Number(s): 102067

The context-sensitive help feature does not work in the JTAG Programmer tool.

Workaround: Use the on-line help from the pull-down menu instead to access information directly.

Chapter 10

Xilinx Customer Support Information

For registration, authorization codes, update information, warranty status, shipping, product issues, and technical support, call Monday through Friday, 8 a.m. to 5 p.m. Pacific time.

Registration, Authorization, and Customer Service

- United States and Canada (1-800-624-4782)
- Europe (Contact your local Distributor)
- Japan (81-33-297-9912)
- Hong Kong (852-2424-5200)
- Korea (82-2-761-4277)
- Facsimile Transmission (1-408-559-0115)

Technical Support

The following section details how to reach technical support personnel, as well as giving training information.

Hotline Access and Hours

Location	Telephone	Electronic Mail	Hours
U.S. and Canada	1-800-255-7778	hotline@xilinx.com	Mon, Tues, Wed, Fri: 6:30 a.m. – 5:00 p.m Thurs: 6:30 a.m. – 4:00 p.m Pacific Standard Time

Location	Telephone	Electronic Mail	Hours
Japan	81-33-297-9163	jhotline@xilinx.com	Mon, Tues, Thurs, Fri: 9:00 a.m. – 5:00 p.m Wed: 9:00 a.m. – 4:00 p.m
France	33-1-3463-0100	frhelp@xilinx.com	Mon – Fri: 9:30 a.m. – 12:30 p.m 2:00 p.m. – 5:30 p.m
Germany	49-89-9915-4930	dlhelp@xilinx.com	Mon – Thurs: 8:00 a.m. – 12:00 p.m 1:00 p.m. – 5:00 p.m Fri: 8:00 a.m. – 12:00 p.m 1:00 p.m. – 3:00 p.m
United Kingdom	44-1-932-820821	ukhelp@xilinx.com	Mon – Thurs: 9:00 a.m. – 12:00 p.m 1:00 p.m. – 5:30 p.m Fri: 9:00 a.m. – 12:00 p.m 1:00 p.m. – 3:30 p.m

- Technical Support FAX (24 hours/7 days) (1-408-879-4442)
- Technical Support BBS (24 hours/7 days) (1-408-559-9327)
- Internet E-mail Address (24 hours/7 days) (hotline@xilinx.com)
- Xilinx Worldwide Web Site (<http://www.xilinx.com>)

Training

- Xilinx Training Administrator (1-408-879-5090)
- International customers, contact your local sales representative or distributor.

Appendix A

Registry Entries

This appendix describes entries that are made to the Registry during Alliance Series 1.4 installation for Windows NT 4.0 on PCs.

Core Technology

The following sections describe the environment variables and paths that are added to the Registry for various installation options. Four keys to HKEY_LOCAL_MACHINE\SOFTWARE are added.

Xilinx\Alliance M1\vM1.4\user

Xilinx\Alliance M1\vM1.4\company

Xilinx\Alliance M1\vM1.4\serial

Xilinx\Alliance M1\vM1.4\setup

The setup is created with values based on what type of install you performed.

For Windows NT 4.0, the global environment variables, XILINX and XILINX_CD, and the path to the bin\nt directory are added to the following environment:

```
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\SessionManager  
\Environment.
```

For Windows 95, the global environment variables, XILINX and XILINX_CD, and the path to the bin\nt directory are added to the autoexec.bat file instead of the Registry.

Typical or Lab Install

All of the updates are made to the System area of the environment, not to the User area. If you install the DynaText browser, 64 keys are also added. Refer to the "Online Documentation" section for details.

Windows NT 4.0

If during installation you decided to have your environment variables and path updated, the XILINX variable is set to the destination directory that you specify. The XILINX_CD variable is set to the source directory from which the software is being installed.

The value %XILINX%\bin\nt is prepended to the existing path variable if it is not already there; for example,

```
%XILINX%\bin\nt +%PATH%
```

If there is no value,%XILINX% in\nt is added.

Windows 95

In the autoexec.bat file, the path%XILINX%\bin\nt is inserted before the existing path variable to the PATH statement (if there is an existing path statement). An example of this follows:

```
PATH=%XILINX%\bin\nt +%PATH%
```

If there is no PATH statement,%XILINX%\bin\nt is set up as the PATH:

```
PATH=%XILINX%\bin\nt
```

Run From CD or Network

The XILINX variable is set to the destination directory that you specify. The default is the source directory.

Windows NT 4.0

The value %XILINX_CD%\bin\nt is inserted before the existing path variable if it is not already there; for example:

```
%XILINX_CD%\bin\nt + %PATH%
```

If there is no path, %XILINX_CD%\bin\nt will be added.

Note: Make sure there is a CD drive in the path.

Windows 95

In the autoexec.bat file, the path %XILINX_CD%\bin\nt is prepended to the PATH, if there is an existing path statement:

```
PATH=%XILINX_CD%\bin\nt + %PATH%
```

If there is no PATH statement, %XILINX%\bin\nt is set up as the PATH:

```
PATH=%XILINX_CD%\bin\nt
```

Online Documentation

The following subsections describe the environment variables and paths that are added to the Registry for various installation options.

Typical

Keys for the DynaText browser are added to HKEY_CLASSES_ROOT. These keys are listed in the %xilinx%\bin\nt\ebtcom.reg file.

The XILINX variable is set to the destination directory that you specify. The default is the current value of XILINX.

The XILINX_CD variable is set to the source directory from which the software is being installed.

The value %XILINX_CD%\bin\nt is prepended to the existing path variable if it is not already there; for example:

```
%XILINX_CD%\bin\nt + %PATH%
```

If there is no path, %XILINX_CD%\bin\nt will be added.

Note: Make sure there is a CD drive in the path.

Run From CD or Network

The XILINX variable is set to the destination directory that you specify. The default is the source directory.

Windows NT 4.0

The value %XILINX_CD%\bin\nt is prepended to the existing path variable if it is not already there; for example:

```
%XILINX_CD%\bin\nt + %PATH%
```

If there is no path, %XILINX_CD%\bin\nt will be added.

Note: Make sure there is a CD drive in the path.

Windows 95

In the autoexec.bat file, the path %XILINX_CD%\bin\nt is prepended to the PATH, if there is an existing path statement:

```
PATH=%XILINX_CD%\bin\nt + %PATH%
```

If there is no PATH statement, %XILINX%\bin\nt is set up as the PATH:

```
PATH=%XILINX_CD%\bin\nt
```

Note: Make sure there is a CD drive in the path.

Windows 95 Registry Entries For the Download Cable Driver

This section describes the Registry entries that are created when loading or using the driver for the download cable. For users of Alliance Series 1.4, a new driver must be installed. If you answer Yes to the question "Do you want to load the CPLD driver needed to use the download facility?", the following keys must be added.

HKEY_LOCAL_MACHINE:

```
System\CurrentControlSet\Services\VxD\WinDriver\Start
```

(value= 0)

```
System\CurrentControlSet\Services\VxD\WinDriver\StaticVxD
```

(value=*windrvr)

NT Registry Entries For the Download Cable Driver

This section describes the NT Registry entries that are created when loading or using the driver for the download cable. For users of Alliance Series 1.4, a new driver must be installed. If you answer Yes to the question "Do you want to load the CPLD driver needed to use the download facility?", the following registry keys must be added.

```
System\System\CurrentControlSet\Services\WinDriver\Start
```

(value=2)

```
System\System\CurrentControlSet\Services\WinDriver\Type
```

(value=1)

System\System\CurrentControlSet\Services\WinDriver\ErrorControl

(value=1)

System\System\CurrentControlSet\Services\WinDriver\Group

(value=Extended Base)

System\System\CurrentControlSet\Services\WinDriver\Image-Path

(value=\\SystemRoot\\System32\\dr)

System\System\CurrentControlSet\Services\WinDriver\DisplayName

(value=WinDriver)

Note: For NT users, Xilinx also installs the windrvr.sys as a Service.

Appendix B

Troubleshooting

This appendix describes possible errors or problems you might have when installing the software on PC and workstations.

All Systems

This section addresses errors that might happen on all systems.

Insufficient Space for the Installation

The Setup program gives an indication if sufficient space is not available. If this error occurs, then you need to increase your disk space or install the core executables and a limited set of the remaining software.

Data is Removed from the Installation Directory

Xilinx strongly recommends that you install this release of the software in a completely separate directory from any earlier Xilinx releases.

Mouse Is Incompatible

If your mouse is incompatible with the installation program, use the keyboard commands listed in the following table to navigate and select objects on the screen.

Table 10-1 List of Keyboard Commands

Key	Action
Tab	Traverse objects forward and highlight them
Shift-Tab	Traverse objects backward
Enter	Activate selection button or highlighted list item, including menu items Highlight list item
Arrow keys	Scroll up or down inside selection boxes, including menus
Alt-Character	Select menu
Esc	Unselect menu Exit Help window

PC Installations

This section addresses errors that might happen only on a PC.

Mouse Fails

The following covers possible solutions for failures you might have with your mouse.

- Your installation program does not have a built-in mouse driver. Make sure the mouse driver that you are using is compatible with Windows 95 or Windows NT.
- If you do not have a Windows-compatible mouse, refer to the “List of Keyboard Commands” table for information on how to enter commands from the keyboard.

Program Icons Were Not Created By Setup

If the Xilinx Setup program did not create a program group for your Windows tools and program icons for each individual tool, use the following instructions to create program groups and icons for products you have installed. The following procedure applies to both Windows 95 and Windows NT 4.0.

1. To create a new program folder, click the right mouse button on **Start**. Select **Open**.
2. After the Start Menu window displays, select **File** → **New** → **Folder**. A new folder displays in the window.
3. Type a name for the new folder and press Return.
4. With the new folder selected, click **File** → **New** → **Shortcut**. The Create Shortcut window displays.
5. From the “Program Paths” table, enter the path in the Command line list box corresponding to the shortcut you want to create. The table assumes the software is installed in c:\xilinx.

Table 10-2 Program Paths

Program Description	Path
Design Manager	c:\xilinx\dsgnmgr.exe
Timing Analyzer	c:\xilinx\timingan.exe
Hardware Debugger	c:\xilinx\hwdebugr.exe
PROM File Formatter	c:\xilinx\promfmtr.exe

6. Click Next. When the Select a Title for the Program window displays, enter a name for the shortcut and click Finish.
7. When the Select an Icon window displays, select one of the icons and click Finish.
8. In the Start Menu, drag the new shortcut icon into the new program folder.
9. Move the new folder containing the shortcut into the main Program folder.

Workstation Installations

This sections describes basic problems that you may encounter during workstation installation.

Errors When Installing Files on HP Systems

If some files are not being installed on HP systems, make sure that you are using Portable File System mount as described in the “Setting Up the Portable File System (HP Systems)” section of the “Considerations for Various Hardware Platforms” appendix.

Software Installation Is Taking a Long Time

Software installation may take a considerable amount of time especially if you are installing the CAE libraries CD. The Mentor and Cadence library installs can be quite lengthy.

Appendix C

Considerations for Various Hardware Platforms

This chapter explains special considerations for various platforms. This chapter also describes how to reconfigure an HP system to meet system memory and swap requirements.

Setting Up the Portable File System (HP Systems)

The Portable File System (PFS) allows you to access a variety of CD-ROM file systems including the Xilinx CD-ROM, which is a Rock-Ridge Interchange format. Use PFS if you are installing Xilinx software onto an HP/UX system. You must have root access to perform the following commands.

1. When running PFS on HP-UX, the network loopback must be configured. Enter the `netstat -rn` command to show the network routing tables and the `lo0` entry for the loopback interface.

netstat -rn

Following is a sample display:

Destination	Gateway	Flags	Refs	Use	Interface	Pmtu	PmtuTime
15.37.113.94	127.0.0.1	UH	1	12	lo0	4608	
127.0.0.1	127.0.0.1	UH	0	106	lo0	4608	
default	15.37.112.1	UG	0	32	lan0	1500	
15.37.112.0	15.37.113.94	U	0	342	lan0	1500	

For 10.xx versions, make sure the following entry displays in the `/etc/rc.config.d/netconf` file:

`LOOPBACK_ADDRESS=127.0.0.1`

2. Use the `pfs_mountd` to start the PFS daemons. These daemons must be running to allow network access on the server and client.

```
/usr/sbin/pfs_mountd &
```

This command maintains local and remote mounts and spawns pfs_mountd.rpc.

3. Run the pfsd command.

```
/usr/sbin/pfsd 4 &
```

This command spawns pfsd.rpc. This daemon must be running on all systems designated as PFS servers.

4. Use the ps command to find out what is running on the system.

```
ps -ef | grep pfs
```

The following should be running:

```
root 1168 1167 2 17:30:30 tty1 0:00 pfs_mountd.rpc
root 1173 1169 2 17:30:48 tty1 0:00 pfsd.rpc
root 1172 1169 1 17:30:46 tty1 0:00 pfsd.rpc
root 1171 1169 0 17:30:45 tty1 0:00 pfsd.rpc
root 1169 1068 3 17:30:44 tty1 0:00 /usr/sbin/pfsd 4
root 1170 1169 0 17:30:44 tty1 0:00 pfsd.rpc
root 1167 1068 0 17:30:30 tty1 0:00 /usr/sbin/pfs_mountd
root 1175 1068 2 17:30:52 tty1 0:00 grep pfs
```

If all of the daemons are running, you can use the pfs_mount command to mount the Xilinx CD-ROM:

```
pfs_mount -t rrip -x unix /dev/dsk/device_name /cdrom
```

where *device_name* indicates the name of the CD-ROM device. Ask your System Administrator for the device name.

Setting Up Memory and Swap Space (HP Systems)

Out of memory problems on the HP platform may be caused by kernel limitations. The default HP kernel is configured to allow only 64 MB maximum allocated swap space per process. This size might not be sufficient when working with some of the larger Xilinx devices.

The System Administrator may need to reconfigure the UNIX kernel to use more than the default values. Some recommended sizes for specific parameters are as follows:

```
maxdsiz = default 64MB changed to ---->640 MB
maxtsiz = default 64MB changed to ---->640 MB
```

maxssiz = 8 MB ----> 64 MB
maxupr = 75 ---->100

These parameters indicate the maximum amount of memory for any one process.

The parameter maxdsiz is the data partition (allocated data space).
The parameter maxtsiz is the text partition (actual program size).
The parameter maxssiz is the stack partition (recursive calls).
The parameter maxupr is the maximum number of user processes.

To reconfigure the kernel, perform the following steps:

1. /usr/sbin/sam
2. Choose kernel configuration.
3. Choose configurable Parameters
4. Double click and change to the indicated values for the following parameters.

maxdsiz = default 0x4000000 changed to 0x28000000
maxtsiz = default 0x4000000 changed to 0x28000000
maxssiz = 0x00800000 changed to 0x4000000
maxupr = 75 ---->100

The "0x" in the previous parameters indicates that the values are hexadecimal. The decimal equivalents for these parameters are as follows:

maxdsiz = default 64 MB changed to ---->640 MB
maxtsiz = default 64 MB changed to ---->640 MB
maxssiz = 8 MN ----> 64 MB
maxupr = 75 ---->100

maxdsiz is maximum data size
maxtsiz is maximum text size
maxssiz is the swap space
maxupr is the maximum number of user processes

5. Choose create a new kernel. Use default from the menu and a new kernel will be created to reflect the changes and then system will be rebooted.

As an example, assume you want to assign 64 MB as the maximum amount of memory that one process can utilize. Take $64 \text{ bytes} \times 1024 \times 1024 = 67,108,864$ bytes. Converting the result to hexadecimal gives a result of 4,000,000. This is the default value of the "maxdsiz." Step 4 increases the value from 64 MB to 640 MB and therefore, the value is $640 \times 1024 \times 1024 = 671088640$. This converts to hex value 28,000,000. Therefore, maximum user process was increased from 75 to 100 processes.

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