

About This Manual

Audience	5
Using This Manual	5
Conventions Used in This Manual	5
Special Terms	7
Where to Find Additional Information	8
How to Get Help	8
Your Comments About This Manual	9

Installing SPECCTRA

What's Included	10
Hardware and Software System Requirements	11
What's New	12
Installing SPECCTRA	13
What's Installed	13
Configuring for Standalone PCs	15
Configuring on Windows 95/98	15
Check Network Connectivity on Windows 95/98	15
Check Hostname on Windows 95/98	16
Install Networking Components on Windows 95/98	17
Configuring on Windows NT/2000	18
Check Network Connectivity on Windows NT/2000	18
Check Hostname on Windows NT	18
Install Networking Components on Windows NT/2000	19
To Install SPECCTRA on Windows	22
Installing SPECCTRA on UNIX Platforms	26
Install New Release	27

Setting Up Licenses

License Overview	31
Types of Licenses	31
License Setup Checklist	32
Installing the License Server on Windows	33
Installing SoftShare with an Existing FLEXIm Server	33
To Install SoftShare on Windows	34
Starting the License Server on Windows	40

SPECCTRA Installation and Configuration Guide

Installing the License Server on UNIX Platforms	44
Installing the SoftShare License Server	44
Starting the SoftShare License Server	44
About the License File	44
Using SPECCTRA Versions 7.1 and 10.0	49
Features	49
Troubleshooting Installation and Licensing Problems	51

SPECCTRA[®] Installation and Configuration Guide

Product Version 10.0
May 2000

© 1996-2000 Cadence Design Systems, Inc. All rights reserved.
Printed in the United States of America.

Cadence Design Systems, Inc., 555 River Oaks Parkway, San Jose, CA 95134, USA

Trademarks: Trademarks and service marks of Cadence Design Systems, Inc. (Cadence) contained in this document are attributed to Cadence with the appropriate symbol. For queries regarding Cadence's trademarks, contact the corporate legal department at the address shown above or call 1-800-462-4522.

All other trademarks are the property of their respective holders.

SPECCTRA is a registered trademark, and SourceLink is a trademark of Cadence Design Systems, Inc.

Restricted Print Permission: This publication is protected by copyright and any unauthorized use of this publication may violate copyright, trademark, and other laws. Except as specified in this permission statement, this publication may not be copied, reproduced, modified, published, uploaded, posted, transmitted, or distributed in any way, without prior written permission from Cadence. This statement grants you permission to print one (1) hard copy of this publication subject to the following conditions:

1. The publication may be used solely for personal, informational, and noncommercial purposes;
2. The publication may not be modified in any way;
3. Any copy of the publication or portion thereof must include all original copyright, trademark, and other proprietary notices and this permission statement; and
4. Cadence reserves the right to revoke this authorization at any time, and any such use shall be discontinued immediately upon written notice from Cadence.

SPECCTRA Installation and Configuration Guide

Disclaimer: Information in this publication is subject to change without notice and does not represent a commitment on the part of Cadence. The information contained herein is the proprietary and confidential information of Cadence or its licensors, and is supplied subject to, and may be used only by Cadence's customer in accordance with, a written agreement between Cadence and its customer. Except as may be explicitly set forth in such agreement, Cadence does not make, and expressly disclaims, any representations or warranties as to the completeness, accuracy or usefulness of the information contained in this document. Cadence does not warrant that use of such information will not infringe any third party rights, nor does Cadence assume any liability for damages or costs of any kind that may result from use of such information.

Restricted Rights: Use, duplication, or disclosure by the Government is subject to restrictions as set forth in FAR52.227-14 and DFAR252.227-7013 et seq. or its successor.

About This Manual

This manual describes how to install and configure SPECCTRA[®] software products from Cadence Design Systems, Inc.

Audience

This manual is written for system administrators or SPECCTRA users who want to install the software, set up licenses, or configure computer systems to run SPECCTRA.

Using This Manual

This manual contains the following chapters.

- Chapter 1 describes the SPECCTRA software package, lists minimum and preferred system requirements, summarizes changes in installation and licensing for this release, describes the SPECCTRA directory structure, and explains how to install the software and configure system resources.
- Chapter 2 explains how to install the SoftShare license server and provides information on the license file.

Conventions Used in This Manual

The following fonts, characters, and styles have specific meaning throughout this manual.

- **Boldface** type identifies text that you type exactly as shown, such as SPECCTRA command names, keywords, and other syntax elements. In the following example, **specctra** is a command name.

Enter **specctra** to start SPECCTRA.

- Syntax examples and command examples that are not entered by you from the keyboard are not bold. For example,

(boundary (rect signal 0 0 9000 4000))

- *Italic* type identifies titles of books and emphasizes portions of text. For example,

See the *SPECCTRA Design Language Reference* for information on descriptor syntax.

- Italicized words enclosed in angle brackets (<>) are placeholders for keywords, values, filenames, or other information that you must supply.

<directory_path_name>::= <id>

- The carriage return key is labeled Enter on some keyboards and Return on others. This manual uses [Enter]. Mouse buttons are identified by two uppercase letters enclosed in brackets.

[LB]left button

[MB]middle button

[RB]right button

Note that you can use Alt-RB for the middle action if you have a two-button mouse.

Special Terms

The following special terms are used in this manual.

- The word *enter*, when used with commands means type the command and press [Enter].

“Enter **grid wire 1**” means

1. Type **grid wire 1**.
2. Press [Enter].

- *Click* means press and release the left mouse button.
- *Click-middle* means press and release the middle mouse button.
- *Click-right* means press and release the right mouse button.
- *Drag* means press and hold the left mouse button while you move the pointer.
- *Drag [MB]* means press and hold the middle mouse button while you move the pointer.
- *Double-click* means press and release the left mouse button twice in rapid succession.
- *Switch* refers to one or more characters preceded by a dash (-). You can use a switch when you start SPECCTRA.

Where to Find Additional Information

Refer to the *Cadence Installation Guide* for more information on the SoftLoad installation program. A version of this manual in HTML format is located at the root level of the CD-ROM with the name of `install.html`.

Refer to the *Cadence Softshare Licensing Reference* for more information on configuring SoftShare, the Cadence Licensing Manager. A version of this manual in HTML format is installed to the `help/license` directory.

Globetrotter FLEXIm documentation is available on the web at <http://www.globetrotter.com>.

A more recent version of this document might be available for customers on maintenance at the Cadence SourceLink web site. To check, go to

<http://sourcelink.cadence.com>

and view the SPECCTRA Product Home Page.

How to Get Help

For help with installation and licensing, contact the Cadence Customer Response Center at

<http://sourcelink.cadence.com/supportcontacts.html>

Your Comments About This Manual

We are interested in your comments and opinions about this manual. Consider the following questions when you form your comments.

- Is the information organized logically? If your answer is no, how could we better organize the information?
- Did you find any inaccuracies or omissions? If your answer is yes, what are the inaccuracies or omissions?
- What suggestions do you have for improving this manual?

Send your comments by email to **cct_pubs@cadence.com**. Remember to include the document title with your comments.

Installing SPECCTRA

Before You Begin

The *SPECCTRA Installation and Configuration Guide* contains information to help you install and configure your software.

This section describes what's included in the SPECCTRA package, lists minimum and preferred system requirements, and summarizes changes in installation and licensing for this release.

What's Included

The SPECCTRA product includes the following.

- A *Software Shipment Report* received as an e-mail message (containing a copy of the license file) or on a CD.
- One or more installation control e-mail files (UNIX only) received as an e-mail message or on a CD.

These files include the software installation control file as well as an installable copy of the license file.

- One or more sets of CDs for Cadence products or, if you have purchased the electronic distribution option, FTP scripts (Bourne shell) that let you download CD images from Cadence.

SPECCTRA includes user documentation which is copied to your system during installation. Some of the documentation uses the Adobe Acrobat Reader which is also included on the media and automatically installed.

Hardware and Software System Requirements

The following table lists supported UNIX platforms.

Manufacturer Model	Supported Operating Systems
HP 9000 Series 700	HP-UX 11.00
IBM POWER/PowerPC	AIX 4.3.2 and later
Sun SPARC and UltraSPARC	Solaris 7.0 and later

The following table lists the minimum and preferred configurations for UNIX platforms.

Minimum Workstation Configuration	Preferred Workstation Configuration
50 MIPS	100 MIPS
128 MB RAM	256 MB RAM ¹
1 GB disk space (< 50 MB required for single binary installation)	2 GB disk space
128 MB swap space per user	300 MB swap space per user

1. Larger designs require more physical memory to avoid using virtual memory. If you observe frequent hard drive activity during autorouting, additional RAM might be needed.

The supported Windows platform is an Intel Pentium with Windows NT 4.0/2000 (service pack 4 or higher) or Windows 95/98. The following table lists the minimum and preferred configurations.

Minimum Configuration	Preferred Configuration
Pentium 166 Mhz CPU	Pentium II 300 Mhz CPU
64 MB RAM	128 MB RAM ¹
30 MB disk space	50 MB disk space
128 MB swap space per user	300 MB swap space
1024 x 768 Screen Resolution	1280 x 1024 Screen Resolution
SVGA, 256 color display	XVGA 1024 x 768 resolution or higher

1. Larger designs require more physical memory to avoid using virtual memory. If you observe frequent hard drive activity during autorouting, additional RAM might be needed.

What's New

This section summarizes licensing and installation changes for customers upgrading from SPECCTRA 9.0 to 10.0.

There were no new licensing and installation changes for this release.

Installing SPECCTRA

When you install SPECCTRA, a standard directory structure is created and system resources are configured. In addition, you may need to install and configure the SoftShare license server for your new or updated licenses.

Before you can install SPECCTRA, you need write permissions to create new directories, add files, and overwrite existing files in the target file system.

What's Installed

The setup program used on Windows, or the SoftLoad program used on UNIX platforms, builds the SPECCTRA directory tree, copies files from the media to directories in the tree, and uncompresses them.

For Windows platforms, the default installation location is C:\cct_cds\tools\specctra.

For UNIX platforms, the default installation location is *<install_dir>/tools.<xxx>/specctra*. For example, for Solaris the default location is */cds/tools.sun4v/specctra*.

Within this directory, the subdirectories that are created are described in the following table.

Directory name	Contents
bin	Executable files for SPECCTRA and online help, including specctra.exe (Windows) specctra (UNIX) specctra.com (Windows) <i>hyperhelp</i> (UNIX)
cfg	Files for customizing the interface
common	A small sample design file
help	Online help (.hlp, .cnt), documentation (.pdf) files, and help system subdirectories on UNIX platforms
README	Release notes for SPECCTRA and translators (specctra.html)

In addition to the specctra directory, the following subdirectories are created in the tools (Windows) or tools.<xxx> (UNIX) directory.

Directory name	Contents
SKILL04.x0	SKILL programming language
dfll	Design Framework II
bin	Common Cadence binaries
lib	Common Cadence libraries (UNIX)

Configuring for Standalone PCs

If you are using node-lock licensing on PCs without a network (Ethernet) card, you may need to configure Windows to support networking for the licensing software.

Before you follow this procedure, note the following.

- If you are connected to a network or use an ISP to connect to one, have your system administrator read this section and decide what steps, if any, to take.

This process consists of three procedures.

- Checking network connectivity
- Checking hostname
- Installing networking components

Configuring on Windows 95/98

Check Network Connectivity on Windows 95/98

1. From a DOS command prompt, type

`ping`

2. If this command works, you'll get a listing of command options. Proceed to the [Check Hostname on Windows 95/98](#) procedure.

If this command is not found, proceed to the [Install Networking Components on Windows 95/98](#) procedure on page 18.

Check Hostname on Windows 95/98

1. From a DOS command prompt, navigate to the Windows system root directory (default is C:\windows) and type

```
type hosts.sam
```

2. This displays the IP address and hostname of your PC. For example,

```
127.0.0.1      localhost
```

3. By default, the hostname is *localhost*. Make a note of this information.
4. Double-click on Control Panel, and then on Network. In the Identification tab, make sure that your Computer Name matches the hostname in the hosts.sam file.
5. If you choose a computer name other than *localhost*, then
 - a. copy the hosts.sam file to hosts
 - b. edit the hosts file with a text editor so that the name matches the computer name
6. Once these names match, use the **ping** command on your computer name. For example, from a DOS command prompt type

```
ping localhost
```

7. If you get a reply, proceed to install SPECCTRA as described in [To Install SPECCTRA on Windows](#) on page 23. Make a note of your computer name,

which you will use when configuring licensing (for example, CDS_LIC_FILE might be set to 5280@localhost).

Install Networking Components on Windows 95/98

Before you follow this procedure, you'll need a Windows 95/98 CD-ROM.

1. Click on **Start > Settings > Control Panel**, and then on Network. In the Configuration tab, click on *Add*.
2. Double-click on Protocol.
3. In the Select Network Protocol dialog box, click on Microsoft, and under Network Protocols, click on TCP/IP. Then click on *OK*.
4. In the Select Device dialog box, under Manufacturers click on Microsoft, and under Models click on Dial-up Adapter. Then click on *OK*.
5. Click on the Identification tab, and then specify a Name for your computer. Using *localhost* as the name is the easiest. If you want to use a different name, you'll need to create and edit a hosts file, as described in the [Check Hostname on Windows 95/98](#) procedure on page 17.
6. Enter a value for Workgroup name.
7. When you OK the dialog box, you're prompted for the Windows 95/98 CD-ROM.
8. Once the networking components are installed, click on *Yes* to restart Windows.
9. Proceed to the [Check Hostname on Windows 95/98](#) procedure on page 17.

Configuring on Windows NT/2000

Check Network Connectivity on Windows NT/2000

1. From a DOS command prompt, type

```
ping
```

2. If this command works, you'll get a listing of command options. Proceed to the [Check Hostname on Windows NT/2000](#) procedure on page 19.

If this command is not found, proceed to the [Install Networking Components on Windows NT/2000](#) procedure on page 20.

Check Hostname on Windows NT/2000

1. If you're unsure of your computer name, click on **Start > Settings > Control Panel**, and then double-click on Network. In the Identification tab, your computer name is shown.
2. Use the ping command on your computer name. For example, from a DOS command prompt type

```
ping <my-computer>
```

where *<my-computer>* is your computer name. If you get a reply, proceed to install SPECCTRA as described in the [To Install SPECCTRA on Windows](#) procedure on page 23. Make a note of your computer name, which you will use when configuring licensing (for example, CDS_LIC_FILE might be set to 5280@my-computer).

Install Networking Components on Windows NT/2000

Before you follow this procedure, you'll need a Windows NT 4.0/2000 CD-ROM.

1. Click on **Start > Settings > Control Panel**, and then double-click on Network. A message tells you that "Windows NT Network is not Installed" and asks if you want to install it. Click on *Yes*.
2. The Network Setup Wizard opens. Click on the *Wired to the network* option, and then on *Next*.
3. In the next dialog box, click on *Select from list*.
4. Under Select Network Adapter, double-click on MS Loopback Adapter, and then click on *OK*.
5. In the next dialog box, click on *Next*.
6. In the Network Protocols dialog box, click to place a checkmark next to TCP/IP Protocol, and then on *Next*.
7. In the Network Services dialog box, accept the defaults and click on *Next*.
8. In the next dialog box, click on *Next*.
9. You're prompted for the location of the Windows files. Enter the path to the Windows NT CD-ROM, and click *Next*.
10. In the MS Loopback Adapter Card Setup dialog box, accept the default (Frame Type 802.3) and click on *Continue*.
11. When asked if you want to use DHCP, click on *No*.
12. In the MS TCP/IP Properties dialog box, under the IP address tab, click on *Specify an IP address*. Specify an IP address and subnet mask for the

adapter. The recommended values are 1 .1 .1 .1 for the IP address, and 255.255.0.0 (default) for the subnet mask. Click on *OK*.

13. In the Show bindings for dialog box, click on *Server*, and then on *Next*.

14. In the next dialog box, click on *Next*.

15. When asked to specify computer name, specify a name (up to 15 characters, without spaces). Note your computer name.

Click on the Workgroup option, and enter a value for Workgroup name. Click on *Next*.

16. In the next dialog box, click on *Finish*.

17. In the Network Setting Changes dialog box, click on *Yes* to restart your computer.

18. Proceed to the [Check Hostname on Windows NT/2000](#) procedure on page 19.

Installing SPECCTRA on Windows

Before you install SPECCTRA, consider the following.

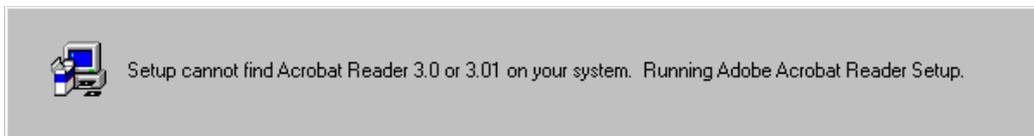
- Decide where you want SPECCTRA installed on your file system. Cadence recommends that you install your new products and/or product updates in a directory that is not in your production hierarchy.
- If you are configuring a network license server, install the SoftShare license server software *before* you install SPECCTRA.

- If you are using node-lock licensing without a network (Ethernet) card, please see the [Configuring for Standalone PCs](#) procedure on page 16 before installing SPECCTRA.
- If you are using node-lock licensing, you must run a SoftShare license server on the same PC to which the license is locked. Refer to [License Overview](#) on page 33 for more information.
- If you are using floating licensing and a SoftShare server is already installed and configured, you need to know the location of the license server.
- Make sure that your PC can communicate with a SoftShare license server. The easiest way to verify this is to open a DOS command prompt and use the **ping** command. For example, if your SoftShare license server is running on a machine with the domain name of *cctpc2.cadence.com*, type

```
ping cctpc2.cadence.com
```
- Close all other applications to avoid possible conflicts with system resources that are shared by SPECCTRA and other applications. If you already have a SoftShare or FLEXIm server installed on your system, make sure you stop the license server (Imgrd) before installing SPECCTRA. If you're running a license server as a service, stop the service before installing SPECCTRA. The most reliable method of stopping Imgrd is with the FLEXIm License Manager Control Panel. You can access the control panel with **Start > Programs > Cadence License Manager > FLEXIm Control Panel**.

To Install SPECCTRA on Windows

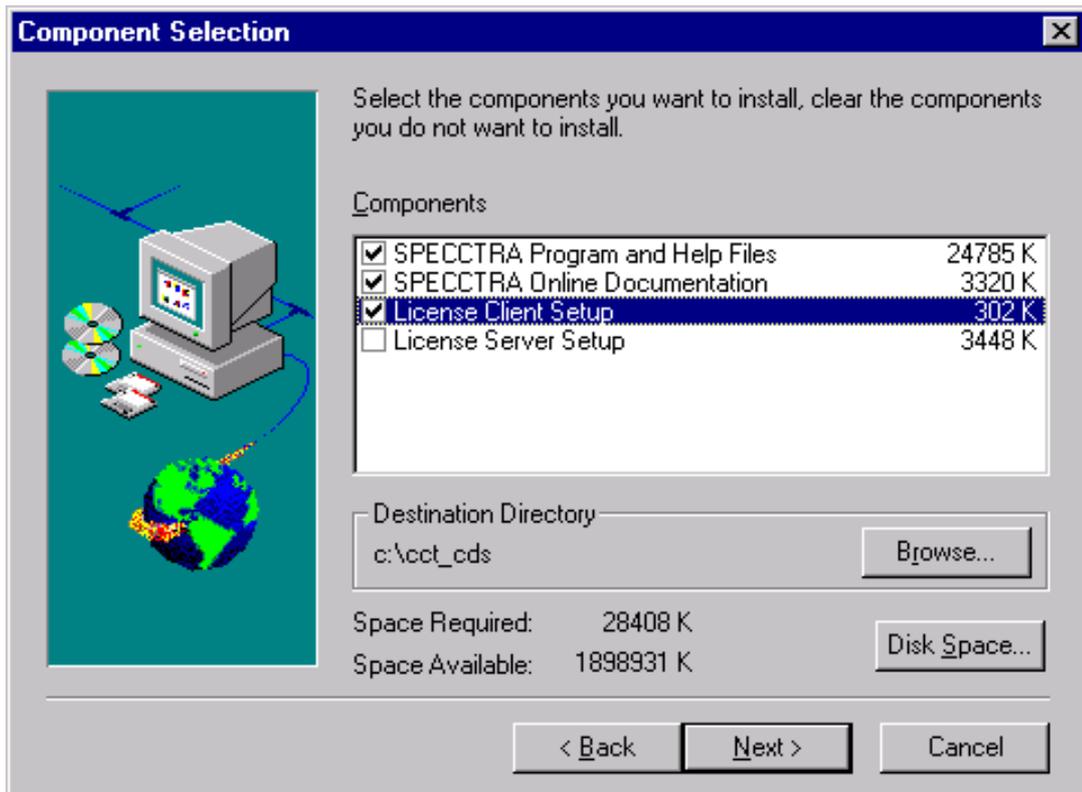
1. Make sure that a SoftShare server is installed. If a SoftShare/FLEXIm server is running on the target PC, stop the server before proceeding.
2. Click *Start* on the task bar.
3. Click *Run*.
4. Click *Browse* and select the CD-ROM drive.
5. Select Setup from the files list.
6. Click *OK*.
7. Setup.exe appears in the Run dialog box.
8. Adobe Acrobat Reader 3.0.1 is required to view portions of the online documentation. If this program is not already installed, the Acrobat Reader Setup program is launched, as shown in the next figure.



9. The Welcome to Acrobat Reader 3.01 Setup dialog box appears. To install Acrobat Reader, click on *Next* and follow the instructions. Otherwise, you can cancel the Acrobat installation by clicking on *Cancel*.

If Acrobat Reader is not installed on your system, you will not be able to access portions of the documentation.

After the Acrobat setup program is finished, the SPECCTRA Component Selection dialog box appears, as shown in the following figure.



10. In addition to the SPECCTRA Program and Help Files, make sure you select the License Client Setup. The license client must be installed on each PC running SPECCTRA.

You can choose whether online documentation files are installed. If you don't install these files now, you can run Setup and install them later.

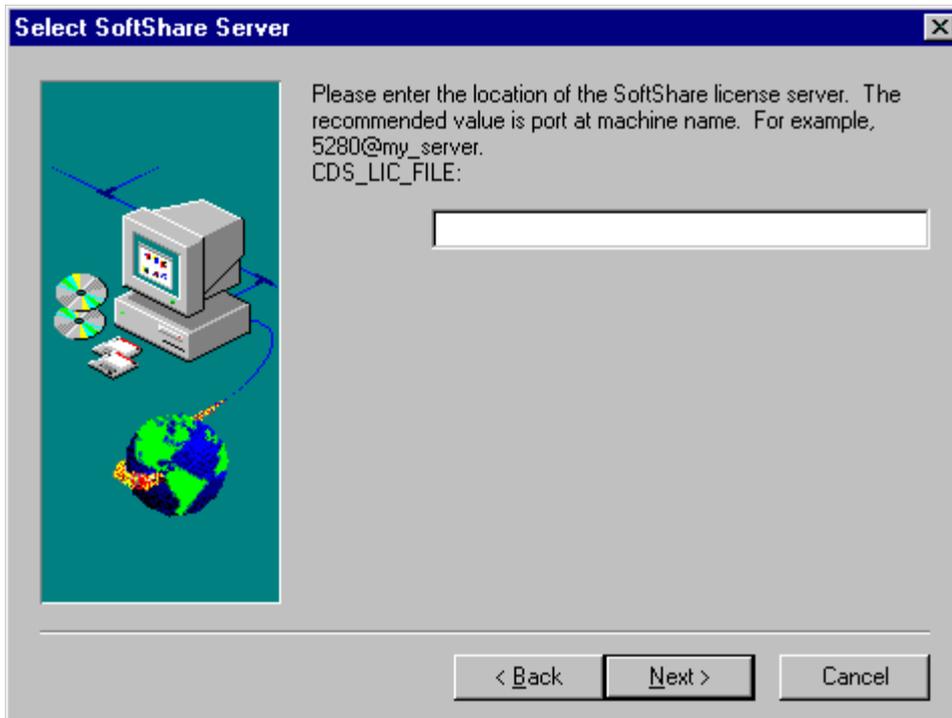
11. Confirm the default installation directory (C:\cct_cds) or enter a different directory path.

The setup program creates or updates your CDS_INST_DIR environment variable to include the pathname to the destination directory that you specify.

12. Click *Next* when you finish choosing components.

For information on installing the License Server Setup (SoftShare) see [Installing the License Server on Windows](#) on page 35.

13. If you choose to install the License Client Setup in Step 10, the Select SoftShare Server dialog box appears. You must provide a location to the license server or license file, usually in the form of port at machine.



14. If you are using node-lock licensing, specify the SoftShare server on your PC. The default port is 5280 (for example, specify 5280@localhost). You can find the port number and machine name on the SERVER line in the license file. An example license file is shown in [About the License File](#) on page 47. You can alternatively specify a pathname to a license file, for example C:\Program Files\Cadence Design Systems\Cadence License Manager\license.dat.
15. If you are using floating licensing and accessing a network license server, enter the location.

The setup program creates or updates your CDS_LIC_FILE environment variable to include the location of the license server, or pathname to the license file, that you specify.

16. Click *Next* and follow the prompts to complete the installation. If you are prompted to restart your computer, make sure to do so before running SPECCTRA.

Before running SPECCTRA, see the [License Overview](#) procedure on page 33. You might need to update your license file or configure the SoftShare license server.

Installing SPECCTRA on UNIX Platforms

The SoftLoad program installs SPECCTRA on all UNIX platforms.

The *Cadence Installation Guide* provides detailed information on using SoftLoad. A version of this manual in HTML format is located at the root level of the CD-ROM with the name of `install.html`.

For more detailed information on configuring SoftShare, the Cadence Licensing Manager, refer to the *Cadence Softshare Licensing Reference*. A version of this manual in HTML format is installed to the `help/license` directory.

For your convenience, a summary of the SoftLoad installation process is described next.

Before you install SPECCTRA, decide where you want SPECCTRA installed on your file system. Cadence recommends that you install your new products and/or product updates in a directory that is not in your production hierarchy. Because SPECCTRA has shared components with other Cadence products, if

you have existing Cadence software please install SPECCTRA to a *different* location.

Install New Release

When completing these instructions, always

- Replace *<install_dir>* with the top-level directory in which the Cadence products are to be installed, such as /cds.
- Replace *<xxx>* with the name of the operating system (sun4, sun4v, hppa, ibmrs) on which you are running SoftLoad.

1. Mount CD-ROM #1 to *<cdrom_mount_point>*, usually /cdrom.
2. Log in to the proper account, such as cdsmgr.
3. Type

```
<cdrom_mount_point>/SETUP.SH
```

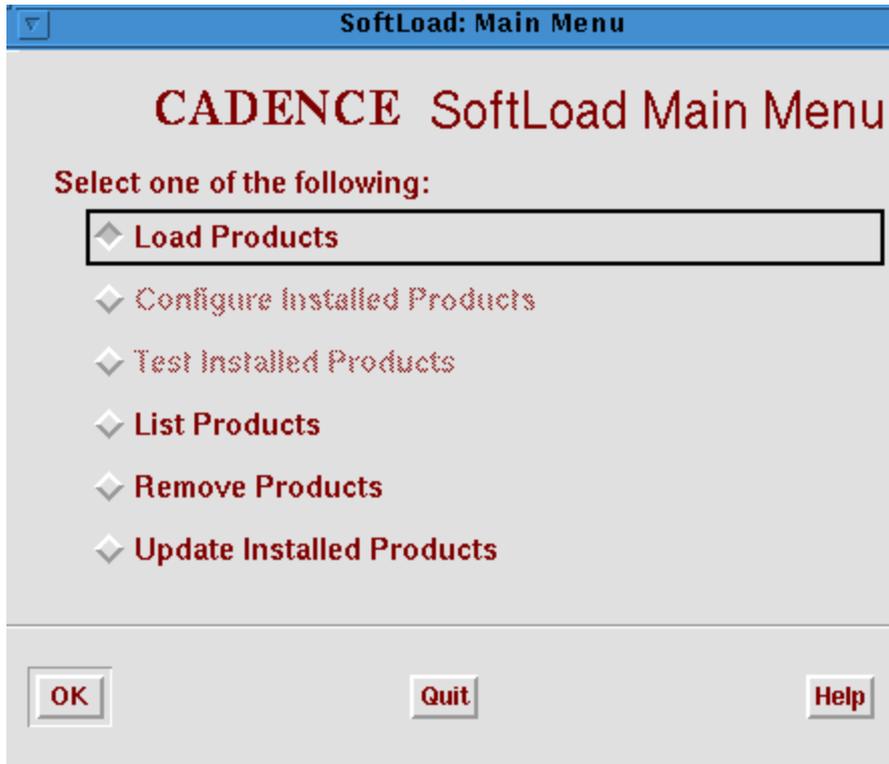
4. Change to *<install_dir>*.
5. Copy your e-mail work order to *<install_dir>*.
6. Start the installation utility.

```
./install/bin.<xxx>/softload &
```

For example, for Solaris

```
./install/bin.sun4v/softload &
```

Note: Do not lock your screen because the installation utility must be able to write to the screen to proceed. The Main Menu appears, as shown in the following figure.



1. From the Main Menu, select *Load Products*, and load the work order and Cadence products.
2. If a SoftShare Licensing Server is not already installed at your site, you should install one. For more information, see [Installing the License Server on UNIX Platforms](#) on page 46.

3. At the beginning of the SPECCTRA installation, the Adobe Acrobat Reader installation program starts. To install Acrobat Reader, type

accept

which indicates that you accept the licensing agreement. To not install Acrobat Reader, type

decline

This continues the SPECCTRA installation without installing Acrobat Reader. If Acrobat Reader is not installed, you will not be able to access portions of the documentation.

4. After installation is complete, click on *Quit* to exit SoftLoad.
5. Add `<install_dir>/tools.<xxx>/specctra/bin` to your search path.
6. Set environment variables for HyperHelp, the online help system.

Set HHHOME to `<install_dir>/tools.<xxx>/specctra/help/`

and

set XAPPLRESDIR to

`<install_dir>/tools.<xxx>/specctra/help/app-defaults/`

After installing SPECCTRA for Solaris, you may need to edit the HyperHelp file in the app-defaults directory. The HyperHelp viewer will not display italic text on some versions of the Solaris (including version 5.6) unless you make this change. See the SPECCTRA release notes (README/specctra.html) for details.

7. Add the Acrobat installation directory to your search path.

Before you use SPECCTRA, see the [License Overview](#) procedure on page 33. You might need to update your license file or configure a SoftShare license server.

Setting Up Licenses

License Overview

SPECCTRA uses SoftShare, the Cadence License Manger, and supports floating and node-lock licenses. Licenses include a count or quantity. An accurate count is required for the number of licenses you use concurrently.

Licenses are supplied in a work order via email or included in printed form with your software package. Before you use your software, add the new licenses to your existing license file. If your installation is new, you can create the license file with a text editor. On UNIX platforms, you can use the SoftLoad installation utility to configure licensing from a work order.

Types of Licenses

SPECCTRA supports two types of licenses.

- Floating for UNIX and Windows
- Node-lock (Windows only)

Floating licenses for UNIX and Windows can be shared by both platforms (identified with an `_ALL` suffix in feature names).

Node-lock licenses are available on Windows only and are restricted to a single hostname that must be served by a license server on the same host. Node-lock licenses for Windows require the use of a FLEXid hardware key.

License Setup Checklist

The following checklist shows a typical series of steps for installing and configuring your licenses.

To install and configure licenses

1. Provide Cadence with the hostid of the computer on which you plan to run the SoftShare license server. This can be a Windows or UNIX platform.
2. If you have node-lock licenses, provide the Globetrotter FLEXid number for those licenses (the FLEXid number is printed on each green FLEXid key).
3. Obtain a work order, which includes a license file if you ordered licensed products. This data is usually provided via email.
4. Merge the data with existing license files if necessary.
5. Install and start the SoftShare license server. If you are using node-lock licenses on Windows, you must run a SoftShare server on each PC that has a node-lock license. For more information, see [Installing the License Server on Windows](#) on page 33 or [Installing the License Server on UNIX Platforms](#) on page 44.
6. For Windows, as part of the installation process, make sure that each SPECCTRA user has the SoftShare client software installed on their PC. This software is identified as the *License Client Setup* in the Component Selection dialog box during installation. See [To Install SPECCTRA on Windows](#) on page 22.
7. Start the license server.

Installing the License Server on Windows

The SoftShare license server software manages and allocates floating licenses on a network. SoftShare is based on FLEXlm and is included on the SPECCTRA CD-ROM. For node-lock licenses, you must install a SoftShare server on the same PC to which the license is locked.

Before installing the Cadence License Server, close all other applications to avoid possible conflicts with system resources that are shared by SPECCTRA and other applications.

If you want the license server to automatically run at startup for Windows NT/2000, you need Administrator privileges.

Installing SoftShare with an Existing FLEXlm Server

SoftShare is not compatible with any previously installed version of a FLEXlm license server. We recommend that you do **not** install FLEXlm servers (lmgrd.exe) from different vendors onto the same PC. SPECCTRA versions 7.1 and 10.0 use different vendor daemons.

Instead, use the installation program from a single vendor, and manually copy the daemon for any subsequent vendors to the license server root. For example, if you already have a FLEXlm server installed on the target PC and want to manually configure SoftShare for SPECCTRA, follow these steps.

1. Install the SoftShare server as described in the next procedure, but **don't** start it or configure it to start as a service.

2. Copy the cdslmd.exe file (C:\Program Files\Cadence Design Systems\Cadence License Manager\license.dat) to your existing license server root.
3. Merge your new licenses into your existing license file. Make sure to include the DAEMON line with the path to the cdslmd.exe file. See [About the License File](#) on page 44 for more information.

To Install SoftShare on Windows

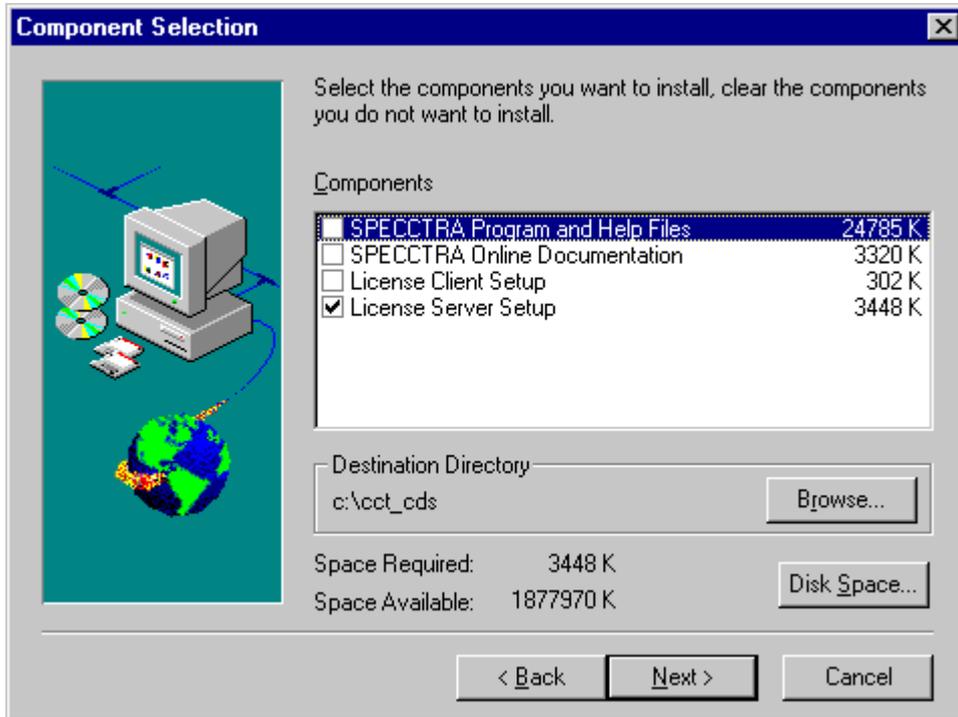
Note: If you are using node-lock licensing, attach the FLEXid hardware key to your PC's parallel port before you install SoftShare.

1. Click Start on the task bar.
2. Click **Run**.
3. Click *Browse* and select the CD-ROM drive.
4. Select Setup from the files list.
5. Click *OK*.

Setup.exe appears in the Run dialog box.

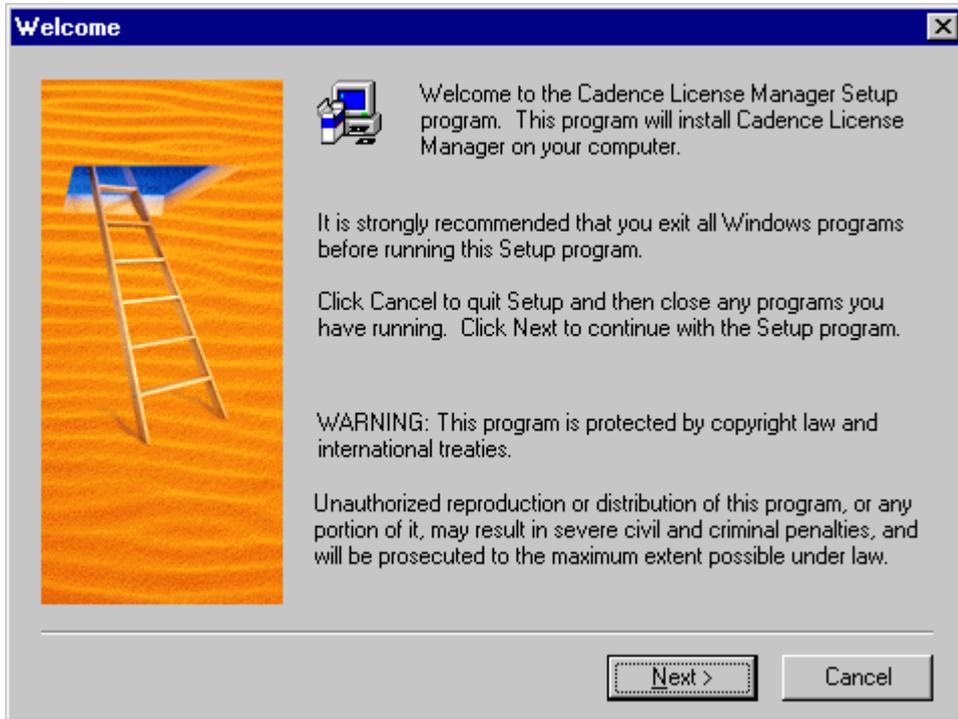
6. Click *OK*.

7. The Component Selection dialog box appears, as shown in the following figure.



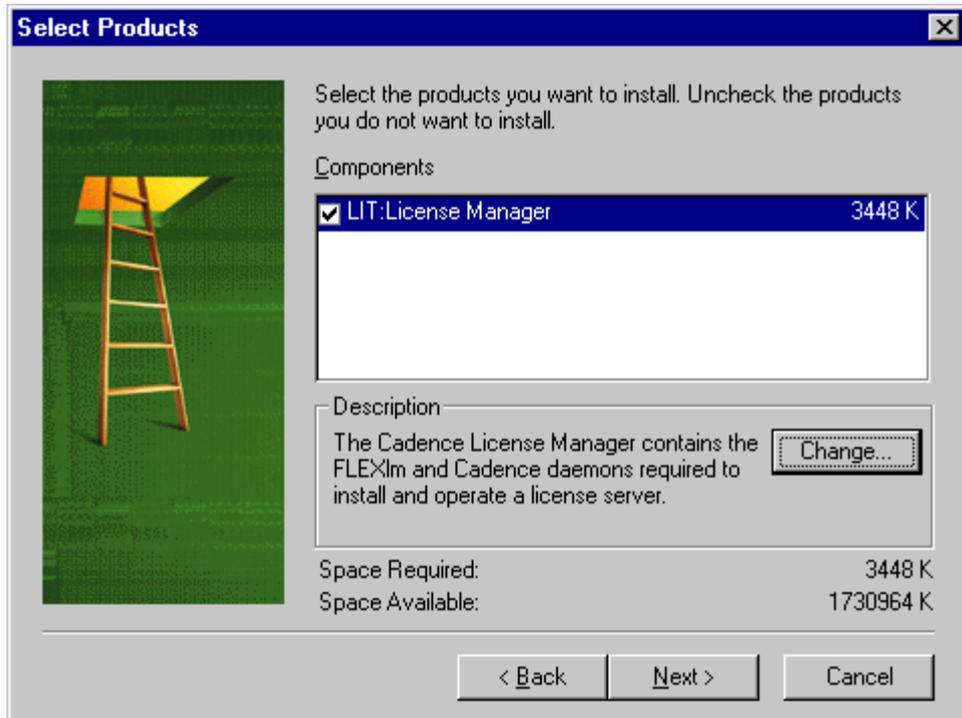
Select the License Server Setup component and click *Next*.

8. The Cadence Licensing Manager Setup Program starts, as shown in the following figure.



9. Accept the license and enter your user information, as requested in the next dialog boxes.
10. In the Choose Destination dialog box, you can accept the default location or use the *Browse* button to change the destination directory.

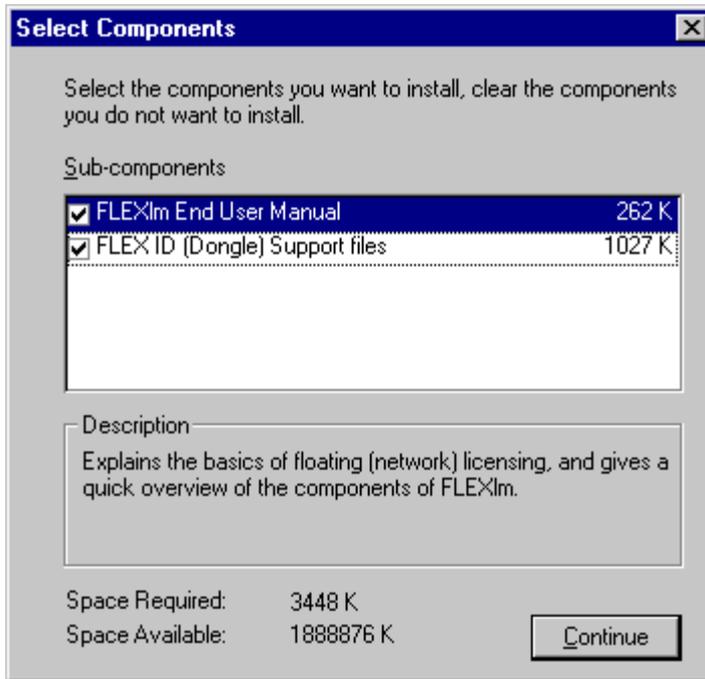
11. The Select Products dialog box appears, as shown in the following figure.



Make sure that the LIT:License Manager component is selected.

12. Select the *Change* button.

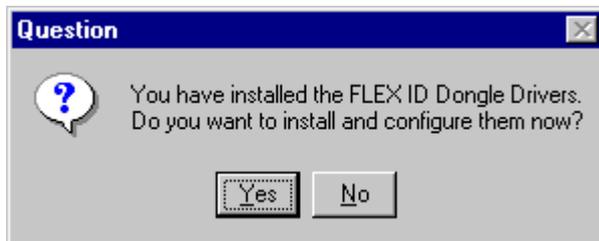
13. The Select Components dialog box appears, as shown in the following figure.



Make sure that the FLEXID (Dongle) Support files check box is selected, and then click *Continue*. Then click *Next*.

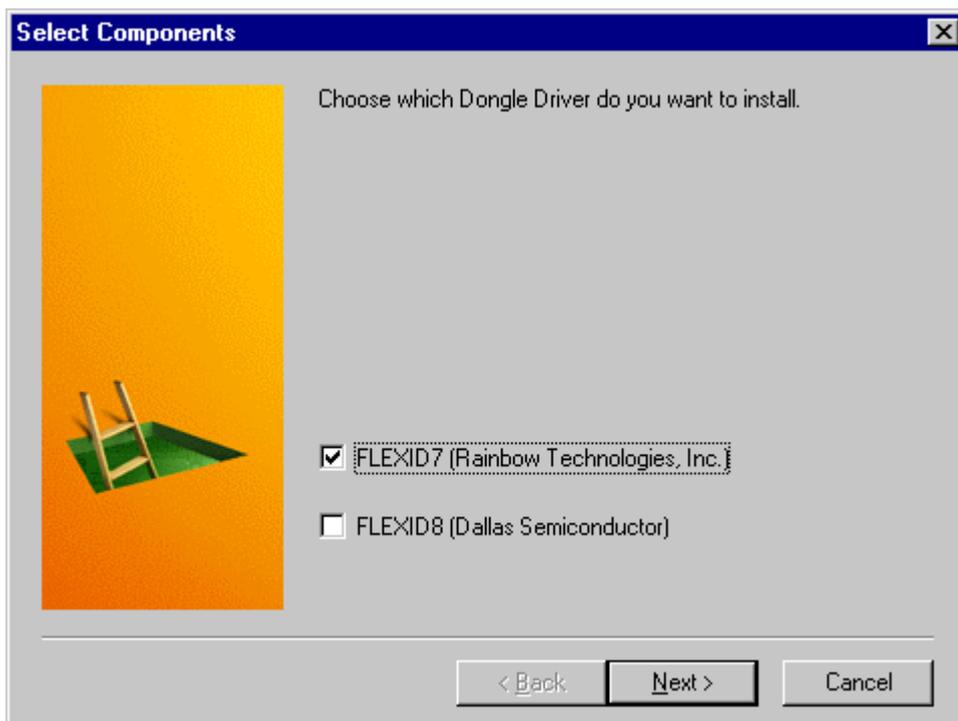
14. Click on *Next* to start the installation, and then again to create the Program Folder and icons.

15. The following confirmation box appears.



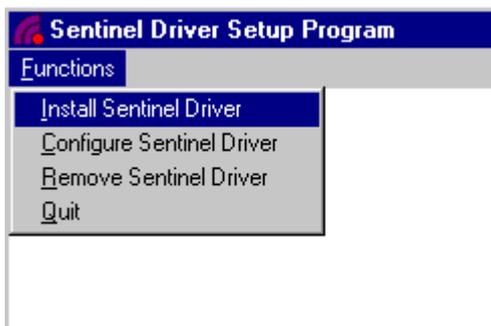
Click Yes.

16. The Select Components dialog box appears, as shown in the following figure.



Select the FLEXID7 (Rainbow Technologies, Inc.) check box, and then click *Next*.

17. The Sentinel Driver Setup Program starts, as shown in the following figure.



Select **Functions > Install Sentinel Driver**.

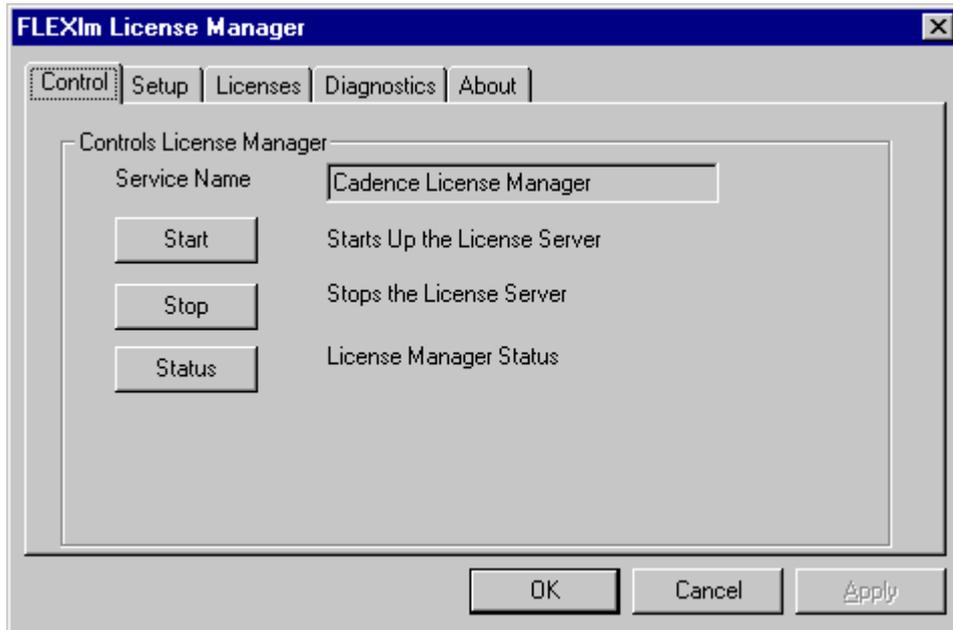
18. When the setup program completes, restart your computer.

Starting the License Server on Windows

Detailed information on starting and administrating FLEXIm servers is available at the Globetrotter web site at <http://www.globetrotter.com>. In addition, FLEXIm documentation in HTML format is installed in the C:\Program Files\Cadence Design Systems\Cadence License Manager\flexuser directory as part of the SoftShare installation.

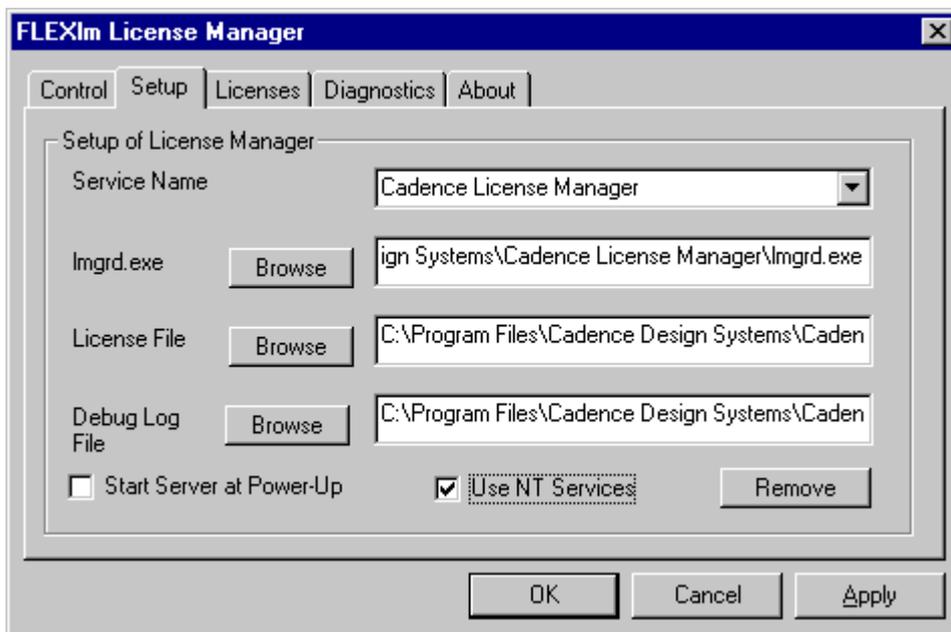
The FLEXIm License Manager Control Panel (shown in the following figure) is a convenient method of starting servers and getting diagnostic and status

information. You can access the control panel with **Start > Programs > Cadence License Manager > FLEXIm Control Panel**.



Starting the License Server as a Service on Windows NT/2000

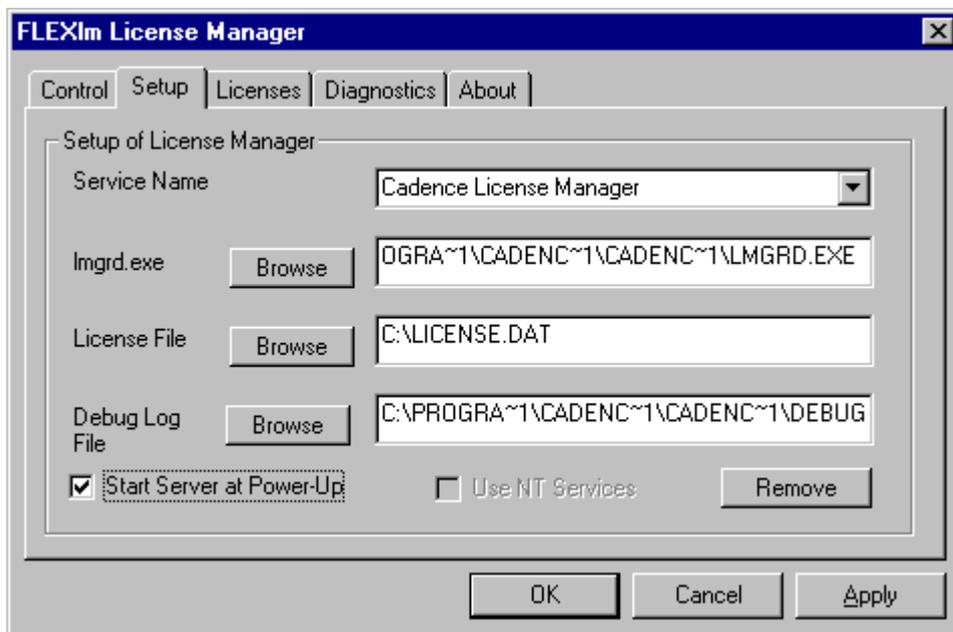
In FLEXlm License Manager Control Panel, select the Setup tab, and then the Use NT Services check box, as shown in the following figure.



Note: This requires Administrator privileges.

Starting the License Server at Startup on Windows 95/98

In FLEXlm License Manager Control Panel, select the Setup tab, and then the Start Server at Power-Up check box, as shown in the following figure.



Because the default pathnames to `lmgrd.exe`, the license file, and the log file use long file names, use the *Browse* button to navigate to the file locations.

See [About the License File](#) on page 44 for more information about the SoftShare license file.

Installing the License Server on UNIX Platforms

The SoftShare license server software is used to manage and allocate licenses on a network.

Installing the SoftShare License Server

SoftShare is loaded by the SoftLoad program. Start the SoftLoad program, as described in [Installing SPECCTRA on UNIX Platforms](#) on page 24. Select the Load Products option, and then SoftShare Licensing Server.

Starting the SoftShare License Server

By default, when you install a SoftShare license server, lmgrd is installed at `<install_dir>/tools.<xxx>/bin/lmgrd`.

For more detailed information on configuring SoftShare, the Cadence Licensing Manager, refer to the *Cadence Softshare Licensing Reference*. A version of this manual in HTML format is installed to the help/license directory.

About the License File

The license file is a text file. This section explains how to set an environment variable to a license server or a license file, and provides information on the license file format.

Setting the CDS_LIC_FILE Environment Variable

The usual location to a license server uses a port at machine convention. The port number and machine name are located in the SERVER line of your license

file. In following example, the port is 5280, the machine name is cctpc1, and the full port at machine designation is 5280@cctpc1.

The CDS_LIC_FILE environment variable must be set on each machine that uses SPECCTRA.

You can alternatively specify a pathname to the license file. If you specify a pathname to the license file, the usual location on Windows is

```
C:\Program Files\Cadence Design Systems\  
Cadence License Manager\license.dat
```

For UNIX, the default location for the license file is

```
<install_dir>/share/license/license.dat
```

You can specify alternate license files by separating each path and filename with a semicolon.

For Windows NT/2000, you can check the current setting of this variable by clicking **My Computer > Control Panel > System** (use the Environment Tab). For Windows 95/98, use the **set** command from a DOS command prompt to see your variable settings.

For UNIX, use the **env** command to check the value of this variable.

License File Format

This section summarizes important information about licensed SPECCTRA features. For more detailed information on the license file format, see the *Cadence SoftShare Licensing Reference* manual.

SPECCTRA Installation and Configuration Guide

Setting Up Licenses

The SPECCTRA license file contains a SERVER line, a vendor DAEMON line, and one or more FEATURE lines that license the SPECCTRA features you purchased. An example of a two feature license file follows.

```
#-> Begin license.hjs_24358 contents(138 lines)
# NOTE: for cdslmd.exe paths with spaces, quotes
#(") are REQUIRED as below

SERVER cctpc1 FLEXID=7-b285a24e 5280
DAEMON cdslmd "C:\Program Files\Cadence Design
Systems\Cadence License Manager\cdslmd.exe"
FEATURE RouteBase_ALL cdslmd 10.000 1-may-2000 \
 1 2C3437142C51C6FF26F0 "J"
FEATURE ViewBase_ALL cdslmd 10.000 1-may-2000 \
 1 CC6407643B1DB426D9E5 "J"
```

In this example, the backslash (“\”) at the end of a line indicates that the line wraps. In an actual license file, each FEATURE line must be on a single line.

Note that the DAEMON used by version 7.1 and earlier releases of SPECCTRA, PCBDA, has been replaced by cdslmd. If you are only using SPECCTRA version 10.0, you should delete your old license file and create a new one that uses the cdslmd daemon.

Feature names can also appear in an alternate pin layer format, as shown below.

```
FEATURE VB_4S40PUC cdslmd 10.000 \
30-jan-2000 23C6527603A6CDCD52BC2 "J" \
FLEXID=7-b2859b79

FEATURE RB_4S40PUC_ALL cdslmd 10.000 \
30-jan-2000 1 DC65474029A2B054C360 "J" \
```

If you are using version 7.1 or earlier of SPECCTRA AND version 10.0, you must combine these licenses in a single license file that contains both PCBDA and cdsImd daemons. On Windows, you cannot have two separate license files, one using PCBDA and the other using cdsImd, shared by a single SoftShare/FLEXIm server.

The SERVER, DAEMON, and FEATURE lines must be entered in your license file exactly as supplied, with three exceptions. You can

- Change the second field (server name) in the SERVER line, but the field can't be empty
- Change the last field (server port number) in the SERVER line, but it can't be a port used by another process on the license server
- Use a different path for the cdsImd vendor DAEMON on the DAEMON line

Note: If you use a different path when you install the SoftShare software, change the path on the DAEMON line in your license file to match. The cdsImd daemon is installed when you install SoftShare.

The eight fields on a FEATURE or INCREMENT line are explained in the following table.

Example	What it's used for
FEATURE	Indicates that the line contains a license.
RouteBase_ALL	Identifies a license feature. In this example, the line identifies an RB license, and the _ALL suffix allows the license to float between UNIX and Windows. If _ALL is not present, the feature is UNIX only.
cdslmd	Identifies the vendor daemon required to use the licensed feature. Cadence software uses the cdslmd daemon.
10.000	Identifies the SPECCTRA version of the license.
1-may-2000	Identifies the license expiration in day, month, and year format.
1	Identifies the number of licenses that can be checked out and used concurrently on the network.
2C3437142C51C6FF26F0	The encrypted license for the feature.
“J”	Indicates that the feature uses a new license each time it starts.

FLEXID=7-b285a24e	Indicates that the feature is node-locked to a PC with a FLEXid hardware key with this ID. If this field is not present, the feature is floating.
-------------------	---

Using SPECCTRA Versions 7.1 and 10.0

If you need to use both SPECCTRA version 7.1 and 10.0, follow this procedure.

1. If you are using floating licensing, combine your 7.1 and 10.0 licenses into a single license file that contains both PCBDA and cdsImd daemons. On Windows, you cannot have two separate license files, one using PCBDA and the other using cdsImd, shared by a single SoftShare/FLEXIm server.
2. If you are using node-locked licenses, you can daisy-chain both hardware keys (FLEXid and the previous key) onto to a single parallel port. Make sure to keep you version 7.1 password file (sp.pas). That way, you can continue to use the -p switch and your 7.1 node-lock licenses when using version 7.1.

Features

SPECCTRA consists of the following licensed features. Any of these features can also appear with the `_ALL` suffix, which indicates that the feature can float between UNIX and Windows.

VB is the base license and all other licensed features require this license.

The mapping of products to features is described in the following table.

SPECCTRA Installation and Configuration Guide

Setting Up Licenses

License or Product Name	Feature Name (Standard format)	Feature Name (Pin layer format)
AR ^a	RouteBase	RB_xSxPUC_ALL
AD	RouteADV	ADV_xSxPxC
DF	RouteDFM	DFM_xSxPxC
HP ^b	RouteFST	FST_xSxPxC
EH ^c	EditFST	EF_xSxPxC
HYB ^d	RouteHYB	HYB_xSxPxC
ER ^e	EditBase	EB_xSxPxC
EP ^e	IPlaceBase	IPB_xSxPxC
AP	PlaceBase	PB_xSxPxC
MV	RouteMVIA	MV_XSxPUC

- a. For version 10.0 licences, AutoRoute (AR) includes the EditRoute (ER) and EditPlace (EP) license functionality.
- b. Formerly FST.
- c. Formerly EditFST.
- d. Obsolete license. Supported for backwards compatibility as part of the AD license.
- e. For version 10.0 licences, this functionality is also included in the AR (Route-Base) feature.

Troubleshooting Installation and Licensing Problems

This section lists some common installation and license failures and solutions.

Laptop licensing failure

If you are installing SPECCTRA on a laptop computer, be aware that certain laptops turn off the Ethernet card to save power. Because the license server cannot establish a hostid without the Ethernet card, this prevents licensing from working. Your laptop may have a setting, such as “Use Network” which you can use to prevent this problem.

Slow installation

If you are installing SPECCTRA on a PC that already has SoftShare or FLEXIm running, the installation is much slower. Stop the license manager (Imgrd) before installing SPECCTRA.

Incorrect topics from Find tab in HyperHelp

If you used the Find tab in HyperHelp in a prior release of the SPECCTRA help system, you must re-generate the Find index files. See the SPECCTRA release notes (README/specctra.html) for details.

Missing text between angle brackets (< >) in HyperHelp

On some Solaris systems you need to uncomment a line in the help/app-defaults/HyperHelp file before HyperHelp can display italic text.

See the SPECCTRA release notes for details.

License error - 24

You have lost the connection to the license server. Check to see if the server is still running, and that you can communicate with it.

Retrying socket bind (address in use: port: xxx)

A license server is already running on the specified port.

C

CDS_INST_DIR variable
setting on Windows 24

CDS_LIC_FILE variable
described 44
setting on Windows 26

cdslmd DAEMON 46

Component Selection dialog box 35

conventions in manual 5

customer support, contacting 5, 9, 13

D

DAEMON, line in license file 46, 47

dialog boxes

Component Selection 35

Dongle Driver installation 39

FLEXIm Control Panel 41

Select Components for FLEXID files
38

Select Products for LIT 37

Select SoftShare Server 25

dongle, installing software for 37

E

environment variables

CDS_INST_DIR 24

CDS_LIC_FILE 26, 45

HHHOME 29

XAPPLRESDIR 29

F

FEATURE, line in license file 46, 47

features, list of 49

files

installed for SPECCTRA 13

floating licensing

creating or updating 45

example license file 46

installing the license server 33, 44

license file fields 47

location of cdsImd DAEMON 47

H

hardware key

installing 34

installing software for 37

Sentinel driver setup program 40

I

INCREMENT, line in license file 46, 47

installing

SoftShare license server on Windows
34

SPECCTRA on UNIX 26

SPECCTRA on Windows 22

L

license file 31

license server

installing for Windows 34

running as service on NT 42

running at power-up on Windows 95/
98 43

license.dat 45

licensing

features 49

installing client on Windows 23

overview and checklist 31

N

network licensing 31

node-lock licensing

on standalone PCs 15

- overview 21

- password file support 49

P

- port@machine

- for CDS_LIC_FILE 45

- product names, list of 49

R

- Rainbow Technologies, dongle driver installation 39

S

- Select SoftShare Server dialog box 25

- Sentinel driver setup program 40

- SERVER, line in license file 46, 47

- SoftShare license server

- installing 33

- installing for UNIX 44

- SPECCTRA

- installing for Windows 22

- installing on UNIX 26

- using multiple versions 49

- standalone PCs

- configuring licensing for 15

- system hardware requirements 10

T

- troubleshooting 51

U

- UNIX

- hardware requirements 11

- supported platforms 11

W

- Windows

- hardware requirements 12