

MATLAB[®]

The Language of Technical Computing

Computation

Visualization

Programming

Installation Guide for Windows

Release 13 (MATLAB 6.5 Product Family)



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Installation Guide for Windows

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Standard Installation Procedure

1

Product Licensing	1-2
Obtaining Your Personal License Password	1-2
System Requirements	1-4
Standard Installation Procedure for Windows Systems ...	1-6
Before You Install	1-6
Upgrade Installations	1-7
Standard Installation Checklist	1-7
Installation Instructions	1-8
After You Install	1-15
Starting MATLAB	1-15
Setting Your Initial Current Directory	1-15
Setting Up MATLAB Environment Options	1-16
Configuring Certain Products	1-16
Finding Information About MATLAB	1-17
Installing Additional Products	1-18
Upgrading a Demo License Installation	1-18
Removing (Uninstalling) a MATLAB Installation	1-20
Starting the Uninstaller	1-20
Running the Uninstaller	1-21
Running the Uninstaller Noninteractively	1-22
Saving Your MATLAB Preferences	1-23
Removing Installations That Use Dongles	1-23

Network License Installation Procedure

2

Network Licensing Options	2-2
Personal License Password	2-2
License File	2-2
Obtaining or Changing Your Licenses	2-4
Setting Up a Network Installation	2-6
Remote Client Access Configuration	2-6
Local Client Access Configuration	2-7
Network Installation Procedure	2-8
Before You Install	2-8
Upgrade Installations	2-9
Network Installation Procedure Summary	2-10
Installation Instructions	2-10
Installing MATLAB on a Client System	2-19
Specifying the License File Location on Client Installations ..	2-20
After You Install	2-21
Setting Up Network Named User Licensing	2-21
Installing MATLAB Help Files in a Separate Directory	2-22
Running the Installer Noninteractively	2-23
Using an Installer Initialization File	2-23
Verifying a Noninteractive Installation	2-24

License Management

3

Licensing Architecture	3-2
License Management Daemons	3-2
License File	3-3
Important License Management Files	3-6

Performing Common License Management Tasks	3-7
Viewing License Manager Status	3-7
Starting and Stopping the License Manager	3-10
Installing the License Manager as a Service	3-11
Running Multiple Versions of MATLAB	3-12
Running MATLAB with Other FLEXlm Applications	3-13
Configuring Redundant License Servers	3-14

Troubleshooting

4

Problems During Installation	4-2
License Manager Error Messages	4-4
Troubleshooting an Installation That Uses Dongles	4-15

MATLAB Directory Structure

5

MATLAB Installation Directory Structure	5-2
MATLAB Subdirectories	5-3
MATLAB\BIN\WIN32	5-3
MATLAB\EXTERN	5-3
MATLAB\SYS\GHOSTSCRIPT	5-3
MATLAB\SYS\PERL\WIN32	5-3
MATLAB\TOOLBOX\LOCAL	5-3
MATLAB\TOOLBOX\MATLAB	5-4

Standard Installation Procedure

This section describes how to install the MATLAB 6.5 family of products for Release 13, on a computer running Microsoft Windows. (See “System Requirements” for specific versions of Windows that are supported.) Use this standard installation procedure if you have an Individual license. With an Individual license, you can install MATLAB on any system to which you have access, such as your office, home, and lab systems, or your laptop. For information about setting up a Group, Enterprise Suite, Open or Concurrent installation, see Chapter 2, “Network License Installation Procedure.”

Topics covered in this section include

Product Licensing (p. 1-2)	Describes the licensing information you need to install MathWorks products
System Requirements (p. 1-4)	Details the system requirements to run MATLAB
Standard Installation Procedure for Windows Systems (p. 1-6)	Describes the step-by-step procedure for installing MATLAB on your system.
After You Install (p. 1-15)	Describes post-installation tasks
Installing Additional Products (p. 1-18)	Describes how to run the installation procedure to install additional products
Removing (Uninstalling) a MATLAB Installation (p. 1-20)	Describes how to remove a MATLAB installation from your system

Product Licensing

When you purchase products with an individual license, The MathWorks sends you a *Personal License Password* (PLP) by e-mail or fax. Your PLP identifies the products that you are licensed to install. A PLP is a series of five-digit numbers, prefixed with a two-digit release code, such as,

13-12345-12345-12345-12345-12345...

Obtaining Your Personal License Password

If you did not receive your PLP, you can obtain one during the installation procedure by clicking on the **Get my PLP** button on the **Personal License Password** dialog box. To get your PLP this way, you must have an Internet connection and your MATLAB Access number.

You can also obtain your PLP by contacting The MathWorks via:

- The Web at www.mathworks.com/mla. Log in to MATLAB Access using your last name and Access number. MATLAB Access membership is free of charge and available to all customers. The MathWorks enrolls the primary contact on each license automatically in MATLAB Access and sends the contact an Access number via e-mail.
- E-mail at service@mathworks.com.
- Telephone at 508-647-7000; ask for Customer Service. To find the phone number of one of our international offices, go to the MathWorks Web site at www.mathworks.com and click **Contact Us** at the top of the page.
- Fax at 508-647-7001.

Customers outside North America should contact their local office.

When you request a PLP, please have ready, or include in your e-mail or fax, these items:

- Your License Number.

If you have not previously installed MATLAB at your site, you can find your License Number on the upper right corner of the packing slip.

If you have a previous version of MATLAB running at your site, you can obtain your License Number by entering the `license` command or the `ver` command at the MATLAB command prompt.

- Your e-mail address.

System Requirements

Note For the most up-to-date information about system requirements, see the support area at the MathWorks Web site (www.mathworks.com).

- Pentium, Pentium Pro, Pentium II, Pentium III, Pentium IV, Intel Xeon, AMD Athlon or Athlon XP based personal computer
- Microsoft Windows 98 (original and Second Edition), Windows Millennium Edition (ME), Windows NT 4.0 (with Service Pack 5 for Y2K compliancy or Service Pack 6a), Windows 2000, or Windows XP.
- CD-ROM drive (for installation from CD)
- 128 MB RAM minimum, 256 MB RAM recommended
- Disk space varies depending on size of partition and installation of online help files. The MathWorks Installer will inform you of the hard disk space requirement for your particular partition. For example, a partition with a 4K byte cluster size requires 120 MB for MATLAB only and 260 MB for MATLAB with online help files.
- 8-bit graphics adapter and display (for 256 simultaneous colors). A 16, 24 or 32-bit OpenGL capable graphics adapter is strongly recommended.

Other recommended items include

- Microsoft Windows supported graphics accelerator card, printer, and sound card
- Microsoft Word 8.0 (Office 97), Office 2000, or Office XP is required to run the MATLAB Notebook. Note: Office 95 is no longer supported.
- TCP/IP is required on all platforms when using a license server.
- Some license types require a license server running FLEXlm 8.0d, which is provided by the MathWorks installer

One of the following is required to build your own MEX-files:

- Compaq Visual Fortran 5.0, 6.1, or 6.5
- Microsoft Visual C/C++ version 5.0, 6.0, or 7.0
- Borland C/C++ version 5.0 or 5.02

- Borland C++Builder version 3.0, 4.0, 5.0, or 6.0
- WATCOM version 10.6 or 11
- Lcc 2.4 (bundled with MATLAB)

Netscape Navigator 4.0 and above or Microsoft Internet Explorer 4.0 and above is required. Adobe Acrobat Reader is required to view and print the MATLAB online documentation in PDF format.

Standard Installation Procedure for Windows Systems

During the installation process, you answer three basic questions:

- **Who:** Specify your name, your company name, and your license information (PLP)
- **What:** Select the products and documentation you want to install
- **Where:** Choose the directory in which you want to install the MathWorks products

The MathWorks Installer program (`setup.exe`) steps you through the process. This section provides information about

- Preinstallation tasks
- Notes for upgrade installations
- A brief summary of the installation procedure
- A detailed, step-by-step procedure

Before You Install

Before you run the MathWorks Installer program:

- Exit any programs you may have running, especially existing copies of MATLAB.
- Make sure you have the Personal License Password (PLP) that you received from The MathWorks via e-mail when you purchased your software. If you don't have your PLP, see "Product Licensing" on page 1-2 for more information.
- Make sure your system satisfies the requirements of the software you intend to install. For more information, see "System Requirements" on page 1-4.
- Get administrator privileges if you are installing MATLAB on Microsoft Windows NT, Windows 2000, or Windows XP systems.

Upgrade Installations

When upgrading an existing installation, note the following:

- Always install MATLAB in a new installation directory, even for upgrade installations. By default, the installer creates a new installation directory for each release, for example, MATLAB6p5.
- You do not need to delete an existing MATLAB installation before installing Release 13. You can run multiple versions of MATLAB on the same system.
- The installer does not overwrite existing MATLAB preference files on your system. Multiple MATLAB installations on the same system use the same preference files.

Note Before Release 12.1, the uninstaller provided with MATLAB automatically deleted MATLAB preferences files. If you plan to remove an installation of one of these earlier MATLAB releases, you might want to first save your MATLAB preference files. See “Saving Your MATLAB Preferences” on page 1-23 for more information.

Standard Installation Checklist

This checklist summarizes the steps in the standard installation procedure. For a more detailed information about any of the steps, see its description in “Installation Instructions” on page 1-8.

Standard Installation Checklist

Perform the preinstallation tasks described in “Before You Install” on page 1-6

Step 1: Start the Installer

Step 2: Enter Your Personal License Password (PLP)

Step 3: Review the Software Licensing Agreement

Step 4: Enter Your Name and Company Name

Step 5: Select the Products You Want to Install

Standard Installation Checklist

Step 6: Get Configuration Information (Optional)

Step 7: Complete the Installation

Perform the post-installation tasks described in “After You Install” on page 1-15

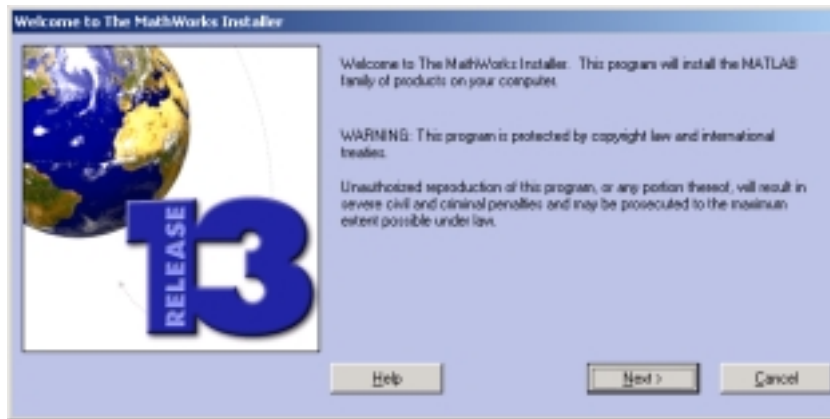
Installation Instructions

This section describes each step of the installation process. If you encounter any trouble during installation, see Chapter 4, “Troubleshooting” for answers to some common installation problems.

Note You can run the installer noninteractively. In this mode, all the information that you would normally provide using the installer dialog boxes you put in an initialization file. For more information, see “Running the Installer Noninteractively” on page 2-23.

Step 1: Start the Installer

Insert the MathWorks product CD into the CD-ROM drive or double-click on the installer file you downloaded from the MathWorks Web site. The MathWorks Installer starts automatically, displaying the **Welcome to The MathWorks Installer** dialog box.



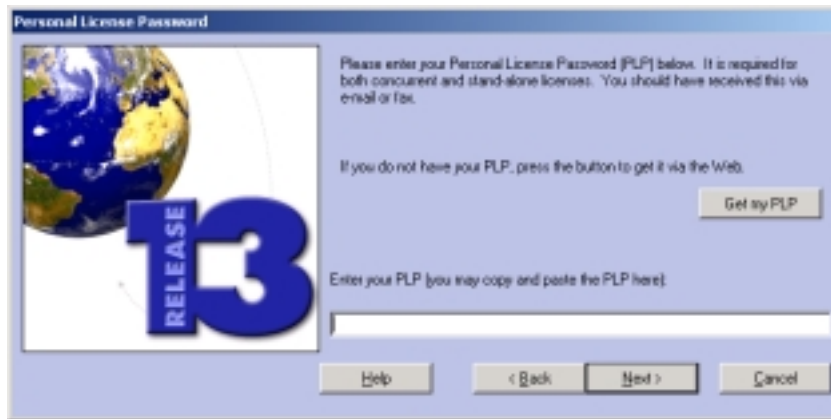
If the installer does not start, open a Windows Explorer window, click on your CD-ROM drive, and double-click the `setup.exe` program in the top-level directory.

Note The MathWorks Installer requires the Microsoft Java Virtual Machine (JVM). If your system does not have the required version of the JVM, the installer prompts you to install it. When the JVM installation is complete, you must reboot your system. If you leave the MathWorks product CD in your CD-ROM drive during the JVM installation, the MATLAB installation resumes automatically.

Step 2: Enter Your Personal License Password (PLP)

Enter your Personal License Password (PLP) in the **Personal License Password** dialog box and click **Next**. To avoid typing errors, copy the PLP from the license e-mail and paste it into this dialog box, using **Ctrl+V**. Take care to copy the entire PLP if your e-mail program has caused it to wrap onto two lines.

Note Do not confuse your PLP with your License Number. A PLP is a series of five-digit numbers prefixed with a two-digit release code. For more information, see “Product Licensing” on page 1-2.



Step 3: Review the Software Licensing Agreement

Review the software licensing agreement and, if you agree with the terms, click **Yes**. After installation, you can view the license agreement in the file `license.txt` located in the top-level of your MATLAB installation directory.

Step 4: Enter Your Name and Company Name

Enter your name and your company name in the **Customer Information** dialog box and click **Next**.

Step 5: Select the Products You Want to Install

If you click **Next**, the installer installs all the products and documentation you are licensed to install into the default directory (`C:\MATLAB6p5`). You can also use this dialog box to customize many aspects of your MATLAB installation, including

- Specifying a different installation directory
- Selecting the products you want to install
- Specifying whether you want to install the documentation

If you want to upgrade a demo license to a regular license, without reinstalling MATLAB, click on the **More Options** button and select the **Update license** option. See “Upgrading a Demo License Installation” on page 1-18 for more information. The other option on the **More Options** dialog box sets the permissions of all installed files to read only. This option is typically used by

system administrators doing network installations. See “Creating a Read-Only Installation” on page 2-15 for more information.

Before you select products, the installer asks if you want to connect to the MathWorks Web site, www.mathworks.com, to make sure you have the latest versions of the products you are installing. Sometimes, newer versions of products are made available on the MathWorks Web site after the CD was produced.

Note The installer does not automatically download any new or updated products it finds at the MathWorks Web site. It lists these products at the end of the installation. You must go to the Web site after the installation is complete to download the new or updated products.

The screenshot shows the 'Product List' dialog box for MATLAB R13. It is divided into four numbered sections:

- 1. Select directory where products will be installed.** A text box contains 'C:\MATLAB\p5' with an 'Browse...' button.
- 2. Select installation options.** Three radio buttons: 'Install products and documentation' (selected), 'Install products only', and 'Install documentation only'. A 'More Options...' button is to the right.
- 3. Select language of documentation.** Two radio buttons: 'English only' (selected) and 'English and Japanese, if available'.
- 4. Select products and/or documentation.** A list of products with checkboxes:

Product	Version
<input checked="" type="checkbox"/> MATLAB	6.5
<input checked="" type="checkbox"/> Simulink	5.0
<input checked="" type="checkbox"/> Control System Toolbox	5.2
<input checked="" type="checkbox"/> SB2SL (converts models to Simulink)	2.5
<input checked="" type="checkbox"/> Signal Processing Toolbox	6.0

On the right side, there are three space-related indicators:

- 'Space available: 2572 M'
- 'Space required for product(s), if any: 324 M'
- 'Space required for documentation, if any: 117 M'
- 'Total space required: 441 M' (indicated by a downward arrow)

Annotations with arrows point to various elements:

- 'Specify the name of the installation directory.' points to the directory text box.
- 'Access additional installation options.' points to the 'More Options...' button.
- 'Make sure the total space required value is less than the space available value.' points to the 'Total space required' and 'Space available' values.
- 'Specify whether or not you want to install product documentation.' points to the radio buttons in section 2.
- 'If you are installing documentation, specify the language.' points to the radio buttons in section 3.
- 'Select the products you want to install.' points to the product list in section 4.

Buttons at the bottom include 'Help', '< Back', 'Next >', and 'Cancel'.

Specifying the Installation Directory. You can specify the name of the installation directory. Do not specify a directory name that contains spaces, an at (@) sign, or a dollar (\$) sign. Also, do not include a directory named `private` as part of the installation path. If the directory that you specify does not exist, the installer creates it.

Note Always install MATLAB in a new directory, even if you are performing an upgrade installation.

Selecting Products to Install. If you do not want to install a particular product, click in the checkbox next to its name to clear the selection. You can always install a product later. See “Installing Additional Products” on page 1-18 for more information.

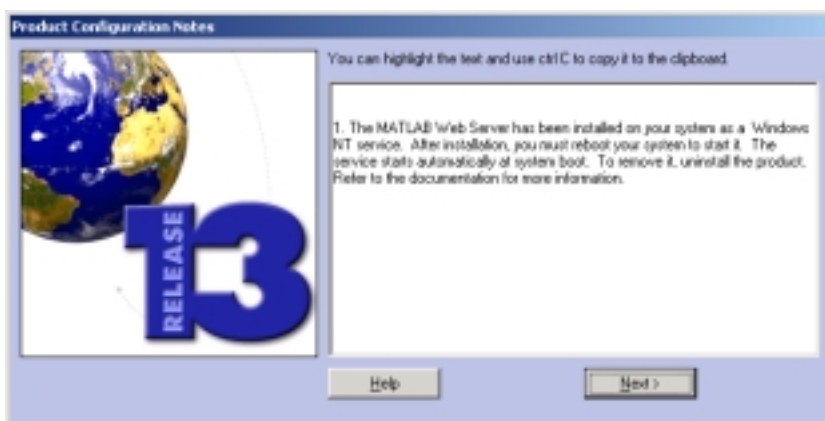
Installing Documentation. If you are installing the documentation, the installer prompts you to insert the documentation CD into your CD-ROM drive to complete the installation. If you plan to view the documentation from the documentation CD or install the documentation in a directory other than the MATLAB installation directory, choose the **Install products only** option. If you change your mind, you can always install the documentation later.

Note The installer does not install the PDF version of the documentation, only the HTML version. The PDF documentation is available on a separate CD or at the MathWorks Web site and is accessible through the Help browser.

When you finish specifying installation options, click **Next**. The installer begins copying files onto your hard disk. The installer indicates the progress of the installation in the **Install Status** window.

Step 6: Get Configuration Information (Optional)

After it finishes the installation, the installer may display a dialog box containing product-specific configuration information, depending on which products you selected.



You can copy information from this dialog box, such as configuration commands, for use later when you start MATLAB. See “Configuring Certain Products” on page 1-16 for more information.

Step 7: Complete the Installation

When the installer finishes, it displays the **Installation Complete** dialog box.



In this dialog box, you can choose to start MATLAB as you exit the installer. This dialog box may also offer an option to register as a MATLAB user. If you

select the register option, the installer starts an Internet browser and opens the MATLAB Access page at the MathWorks Web site.

If you have installed products that require you to restart your system before you can run them, the installer displays this alternate **Installation Complete** dialog box.



After You Install

This section describes tasks you can perform after a successful installation, including

- “Starting MATLAB”
- “Setting Your Initial Current Directory”
- “Setting Up MATLAB Environment Options” on page 1-16
- “Configuring Certain Products” on page 1-16
- “Finding Information About MATLAB” on page 1-17

Starting MATLAB

To start MATLAB, you can use any of these methods.

- Double-click on the MATLAB icon (called a “shortcut”) that the installer creates on your desktop.



- Click on the **Start** button, select **Programs**, and click on the **MATLAB 6.5** entry. Select **MATLAB 6.5** from this menu.
- Using Windows Explorer, open your top-level MATLAB installation directory and double-click on the shortcut to the MATLAB executable, MATLAB 6.5.

Setting Your Initial Current Directory

By default, when you start MATLAB using the shortcut the installer puts on your desktop, the initial current directory is the $\$MATLAB\work$ directory, where $\$MATLAB$ represents the name of your installation directory. The \backslashwork directory is a good place to store the M-files you modify and create because the MATLAB uninstaller does not delete the \backslashwork directory if it contains files.

You can, however, use any directory as your MATLAB initial current directory. To specify another directory as your initial current directory, right-click on the MATLAB shortcut that the installer creates on your desktop and select the **Properties** option. Specify the name of the directory in the **Start in** field.

Setting Up MATLAB Environment Options

To include welcome messages, default definitions, or any MATLAB expressions that you want executed every time MATLAB is invoked, create a file named `startup.m` in the `$MATLAB\toolbox\local` directory. MATLAB executes this file each time it is invoked.

Configuring Certain Products

Certain products require additional configuration. The following table lists these products and the commands used to configure them. If you installed any of these products, see the documentation for that product for detailed configuration information.

Product	Command
MATLAB Notebook	<code>notebook -setup</code>
MATLAB Runtime Server	<code>rtsetup</code>
Real-Time Windows Target	<code>rtwintgt -setup</code>

Excel Link Versions

By default, Excel Link (a separately orderable product) supports two versions of Excel. This table lists which Excel Link files to use with each Excel version. Use the appropriate files for your version of Excel. You can find these files in the `$MATLAB\toolbox\exlink` subdirectory.

Excel Version	Excel Link File
Excel 97 (Default)	<code>excllink.xla</code> <code>ExliSamp.xls</code>
Excel 7	<code>excllink95.xla</code> <code>ExliSamp95.xls</code>

Finding Information About MATLAB

After successfully installing MATLAB, you are probably eager to get started using it. This list provides pointers to sources of information and other features you may find helpful in getting started with MATLAB.

Task	Description
To get an overview of MATLAB and its capabilities	Read the MATLAB Getting Started documentation.
To find out what's new in this release	Read the Release Notes documentation.
To start a product or run one of the demonstration programs	Use the Launch Pad in the MATLAB desktop.
To get information about specific MATLAB features	Choose the Help item in the MATLAB menu bar to view reference and tutorial information in hyperlinked HTML form.
To get help with specific questions you can't find answered in the documentation	Go to the MathWorks Web site (www.mathworks.com), click on Support , and use the Technical Support solution search area to find more information.

Installing Additional Products

When you order additional products, The MathWorks sends you a new Personal License Password (PLP). Your PLP identifies all the products you are licensed to install.

To install additional products:

- 1** Shut down MATLAB.
- 2** Insert the product CD into your CD-ROM drive, or double-click on the file you downloaded from the MathWorks Web site. The installer starts automatically.
- 3** Follow the instructions on the installer dialog boxes, detailed in “Standard Installation Procedure for Windows Systems” on page 1-6. (For network installations, follow the instructions in “Network Installation Procedure” on page 2-8.)
- 4** When you select the products to install in the **Product List** dialog box, described in “Step 5: Select the Products You Want to Install” on page 1-10, note the following:
 - a** Specify your current MATLAB installation directory as the installation directory.
 - b** Select only the new products for installation. By default, the installer lists *all* the products you are licensed to install and preselects them for installation. To only install the new products, click in the checkboxes next to the names of the products that you do not want to install to clear their selection.
- 5** When the installation program is finished, perform any configuration required by the new products. See “Configuring Certain Products” on page 1-16 for more information.

Upgrading a Demo License Installation

To upgrade a demo license to a standard license, without having to reinstall any products or documentation, follow this procedure:

- 1** Get your new PLP.

- 2** Run the installation procedure, described in “Installation Instructions” on page 1-8.
- 3** At “Step 5: Select the Products You Want to Install”, click the **More Options...** button on the **Product List** dialog box.
- 4** In the dialog box displayed, select the **Update license without installing anything** option. Click **Next** and complete the installation.

You can use this option to

- Extend the expiration date of a demo license.
- Convert a demo license to a standard license, without reinstalling MATLAB.
- Move your installation onto a new system.

When you choose the **Update license** option, *no products or documentation are installed*. The installer disables items 2 and 3 in the **Product List** dialog box.

Removing (Uninstalling) a MATLAB Installation

To remove a MATLAB installation from your system, use the MATLAB uninstaller program (uninstall.exe).

This section describes how to

- Start the uninstaller
- Use it to remove MATLAB software from your computer
- Use the uninstaller noninteractively
- Save your MATLAB preferences
- Removing installations that use dongles

Note Make sure to shut down MATLAB before trying to uninstall it.

Starting the Uninstaller

To start the MATLAB uninstaller, use either of these methods.

- Click on the **Start** button, choose the **Programs** option, and select the **MATLAB 6.5** entry. Click the **Uninstall MATLAB 6.5** option on the MATLAB menu.



- Click on the **Start** button, select the **Settings** option, and click **Control Panel**. In the Control Panel, double-click the **Add/Remove Programs** option. Select the **MATLAB 6.5** from the list of products.

When you start the uninstaller, it displays the **Uninstall Product List** dialog box. See “Running the Uninstaller” on page 1-21 for more information.

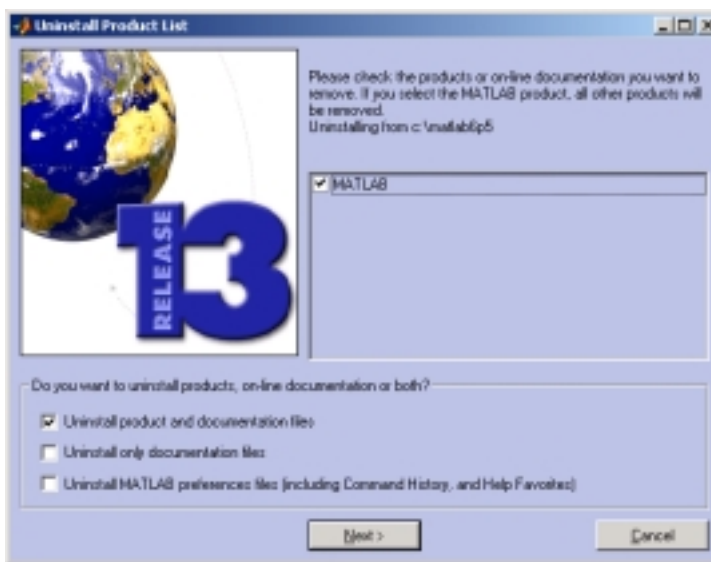
Running the Uninstaller

In the **Uninstall Product List** dialog box, select the products you want to remove by clicking the check box next to their names.

Note If you remove MATLAB, you automatically remove all other MathWorks products.

By default, the uninstaller does not remove your MATLAB preference files. If you want to remove these files, click the **Uninstall MATLAB preferences** check box. For more information about preference files, see “Saving Your MATLAB Preferences” on page 1-23.

The uninstaller leaves the MATLAB installation directory on your system, empty except for the \uninstall subdirectory and the \work subdirectory, if it contains files. To completely remove a MATLAB installation, you must delete these directories. You may want to move any M-files you created in the \work directory to another directory before deleting it.



When you run the uninstaller, it may display a dialog box, asking if you want to remove the `mwsamp.ocx` file. This file is an ActiveX control that is registered as a shared file during the MATLAB installation. You can remove this file.

Running the Uninstaller Noninteractively

You can run the uninstaller noninteractively. In this mode, you create an uninstaller initialization file, specifying the root directory of the installation you want to remove and the specific products you want to remove.

To run the uninstaller noninteractively, perform these steps:

- 1 Create an uninstaller initialization file.

The MathWorks provides a template for this file, named `uninstaller.ini`, located in the `uninstall` subdirectory of your MATLAB installation directory. Make a copy of this template file, giving it any name you want.

```
copy $MATLAB\uninstall\uninstaller.ini C:\temp\my_uninstall.ini
```

- 2 Edit your copy of the uninstaller initialization file, providing information for all the requested fields, using this syntax:

```
parameter=value
```

For example, enter the installation directory as follows:

```
directory=D:\matlab6p5
```

The uninstaller initialization file template includes all the parameters you can enter, with examples.

Note You must enter information for all required parameters. If your initialization file is missing a required field, the uninstaller displays the dialog box that queries for the needed information as in a typical interactive installation and waits for a response. After you enter this information, the uninstaller will continue running noninteractively.

- 3 Save your changes to the file.

- 4 Run the uninstaller (`uninstall.exe`), using the `-if` flag to specify the initialization file as a command line argument. For example, at the MS-DOS command prompt, enter

```
uninstall.exe -if C:\temp\my_uninstall.ini
```

You must specify the full pathname of the initialization file.

Saving Your MATLAB Preferences

MATLAB stores your environment preferences, such as command history and Help favorites, in a set of preference files.

By default, the Release 13 uninstaller does not delete these preference files. However, the uninstaller included with MATLAB releases before Release 12.1 deletes these MATLAB preference files. Before removing one of these earlier MATLAB releases, you might want to preserve your preference files.

To find the location of your preferences files, run the `prefdir` function at the MATLAB prompt. For example, on Windows 2000 systems, `prefdir` returns

```
prefdir
ans =
C:\WINNT\Profiles\username.MATHWORKS\Application Data\MathWorks
\MATLAB\R13
```

where `username` identifies a particular user. Because preferences are associated with particular users, the uninstaller only deletes the preferences for the user performing the uninstall.

Removing Installations That Use Dongles

In some installations, MATLAB requires a *dongle*. A dongle is a hardware-based security device that attaches to the serial or parallel printer port of a desktop computer. It uses embedded codes and passwords to control access to software applications.

If your system uses dongles, the uninstaller asks if you want to delete the dongle drivers. If other applications you run on your system use dongles, do not delete these drivers. For more information, see “Troubleshooting an Installation That Uses Dongles” on page 4-15.

Network License Installation Procedure

This section describes how to set up network installations of the MATLAB 6.5 family of products for Release 13. Follow this procedure for license options that can be installed in network configurations: Group, Enterprise Suite, Open or Concurrent installation. For network installations, The MathWorks uses a license manager program called FLEXlm to control access to its products. (FLEXlm is a product of GLOBETrotter Software, Inc.) To set up these installations, you must install the license manager as well as the MathWorks products you purchased. You use the MathWorks Installer to perform both installations.

Topics covered in this section include

Network Licensing Options (p. 2-2)	Describes the licensing information you need to install MathWorks products in network configurations
Setting Up a Network Installation (p. 2-6)	Describes the different types of configurations you can set up with network licenses. This section can help you determine on which systems you will install the license manager and on which systems you will install the MathWorks products.
Network Installation Procedure (p. 2-8)	Provides a step-by-step procedure for installing MATLAB on your system
Installing MATLAB on a Client System (p. 2-19)	Highlights the differences between installing MATLAB on a client system and on a server
After You Install (p. 2-21)	Describes post-installation tasks
Running the Installer Noninteractively (p. 2-23)	Describes how to use the installer initialization file to run the installer noninteractively

Network Licensing Options

When you purchase one of the network license options, The MathWorks sends you licensing information in an e-mail or fax. This licensing information varies depending on the type of license option but includes

- Personal License Password (PLP) for network installations
- License File for network installations

Your PLP identifies the products you are licensed to *install*. Your License File identifies the products you are licensed to *run*.

Personal License Password

A PLP is a series of five-digit numbers preceded by a two-digit product release code.

13-12345-12345-12345-12345...

If you did not receive your PLP, you can obtain one during the installation procedure by clicking the **Get my PLP** button on the **Personal License Password** dialog box. For information about other options, see “Network Installation Procedure” on page 2-8.

License File

A License File is a specially formatted ASCII text file that contains encrypted product passcodes for each product you are licensed to run. Each product passcode identifies the number of *keys* available for each product. The license manager grants or denies access to a product depending on the availability of the license keys associated with each product.

The MathWorks includes information in your License File that identifies the system on which you intend to run the license manager. You had to identify this system, your license server, when you made your purchase. The MathWorks needs the host ID of your license server when it creates your License File. See “Finding the Host ID on a Windows System” on page 2-5 for more information.

Figure 2-1 is a sample of a License File sent by The MathWorks. Each line in the License File that begins with the keyword **INCREMENT** identifies a product you purchased. The lines that begin with a pound sign (**#**) are comments. The

license server identification information (host ID or Internet address) is included as a comment in the License File. A backslash character at the end of a line indicates that the line continues onto the next line. (For more detailed information about License Files, see Chapter 3, “License Management.”)

```

License server host ID —————
# BEGIN-----cut here-----CUT HERE-----BEGIN
# MATLAB license passcode file for use with FLEXlm.
# LicenseNo: 12345          HostID: INTERNET=144.212.101.43
INCREMENT TMW_Archive MLM 13 01-jan-0000 0 6CED6A6E25FC7B0A410 \
  VENDOR_STRING="f" HOSTID=DEMO SN=12345
Licensed Products ——— INCREMENT MATLAB MLM 13 01-jan-0000 5 9C7C2A6AE9409FCED91AA \
  USER_BASED DUP_GROUP=UH SN=12345
INCREMENT SIMULINK MLM 13 01-jan-0000 5 4C9C9B9EFD565A7BE548 \
  USER_BASED DUP_GROUP=UH SN=12345
INCREMENT Control_Toolbox MLM 13 01-jan-0000 5 \
  FC7C9ADCEF4F6E6CDA3A USER_BASED DUP_GROUP=UH SN=12345
INCREMENT Identification_Toolbox MLM 13 01-jan-0000 5 \
  4C8E1AB7E3F111E08982 USER_BASED DUP_GROUP=UH SN=12345
# END-----cut here-----CUT HERE-----END

```

Figure 2-1: Sample License File

Creating Your License File

You must create a License File from the license e-mail you received from The MathWorks. Open a text file using a text editor, such as Notepad, and copy the section of the message marked by the BEGIN and END lines into a text file. Name the file `license.dat` and store it in a temporary directory, such as `C:\TEMP`. Make sure you save the file as a plain text file and that the text editor does not add a `.txt` file extension to the filename.

If you received your license information in a fax, you must create a License File. Open a text file, using a text editor, and type in the license information exactly as it appears in the fax. Take care to preserve all spaces and line breaks.

Note The MathWorks recommends that you do not edit your licensing information. Any changes you make can invalidate your License File.

Obtaining or Changing Your Licenses

If you need to

- Obtain a License File
- Transfer a license to another CPU
- Combine licenses
- Move toolboxes from one license to another
- Change a license registration
- Update your contact information

go to the MathWorks Web site at www.mathworks.com and click **Contact Us**. Under **Support and Service**, select **Customer Service Request** and click the Web icon.

If you do not have Web access, you can contact The MathWorks via:

- E-mail at service@mathworks.com.
- Telephone at 508-647-7000, ask for Customer Service. To find the phone number of one of our international offices, go to the MathWorks Web site at www.mathworks.com and click **Contact Us** at the top of the page.
- Fax at 508-647-7001.

Depending on what you want to do, please have ready, or include in your e-mail or fax, the following items:

- Your e-mail address (if you have one).
- Your MATLAB Access number. MATLAB Access membership is free of charge and available to all customers. The primary contact on each license is automatically enrolled in MATLAB Access. The contacts receive their Access number via e-mail.
- Your License Number:

- If you have not previously installed MATLAB at your site, you can find your License Number on the upper right corner of the packing slip. Customers outside North America can obtain this information from their local MathWorks representative.
- If you are updating an existing MATLAB installation and MATLAB is running, type `license` or `ver` at the MATLAB prompt, or look in your existing `license.dat` file.
- The host ID of the server on which you will run the license manager.

Finding the Host ID on a Windows System

On Windows systems, you use the Ethernet address or IP address as the host ID. To get this information, open a command prompt window and run this command.

```
C:\WINNT\system32\ipconfig /all
```

Note Be sure to provide the host ID of the system on which you plan to run FLEXlm, not the host ID of a client workstation.

Setting Up a Network Installation

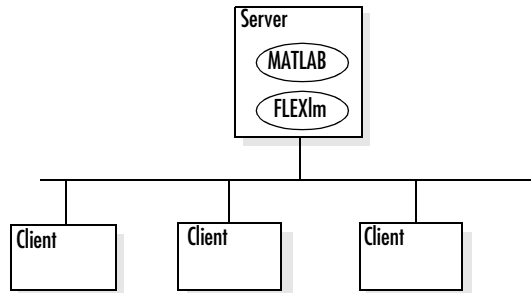
This section describes two ways you can set up a MATLAB network installation on your network:

- “Remote Client Access Configuration”
- “Local Client Access Configuration” on page 2-7

Using the installer you can set up a network installation with little knowledge of license management software. However, if you want to integrate the MathWorks products into an already established license management scheme, you may need a more thorough understanding of product licensing. For an overview of how The MathWorks uses FLEXlm, see Chapter 3, “License Management.”

Remote Client Access Configuration

In a *remote client access* configuration, you install MATLAB and the license manager on a central file server. (These instructions refer to this system as your *license server*.) Users on client systems access MATLAB over the network. This figure shows one possible configuration. The license manager (FLEXlm) and MATLAB can be installed on the same server or on separate servers.



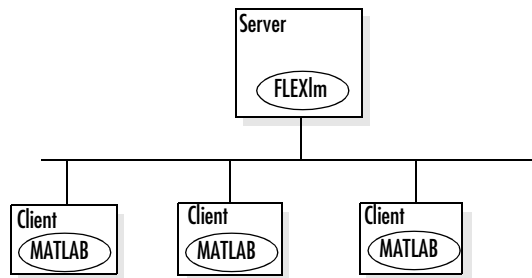
If your license server is a PC, follow the instructions in “Network Installation Procedure” on page 2-8. If your license server is a UNIX system, follow the instructions in the installation documentation for UNIX systems. A UNIX license server can serve PC clients and a PC server can serve UNIX clients.

In remote client access configurations, it can be helpful to give clients a script that sets up a shortcut to the network copy of MATLAB and specifies a default

startup directory for MATLAB. See “After You Install” on page 2-21 for more setup suggestions.

Local Client Access Configuration

In a *local client access* configuration, you install the license manager on a server and you install MATLAB on each client system. When users on client systems start MATLAB, it contacts the license manager over the network to check out a license key. This figure shows one possible configuration.



You perform the same procedure, described in “Network Installation Procedure” on page 2-8, to install the license manager and each MATLAB client installation. However, there are some differences. See “Installing MATLAB on a Client System” on page 2-19 for complete information.

Network Installation Procedure

This section describes how to use The MathWorks Installer program (setup.exe) to install MATLAB in a network installation. You can use this procedure to install MATLAB and the license manager on a PC server running Windows.

If your network installation uses a UNIX system as a license server, see the *Installation Guide for UNIX* for instructions on installing the license manager on a UNIX system.

If you are setting up a local client access configuration, you use this same procedure to install MATLAB on each client system; however, there are some differences. See “Installing MATLAB on a Client System” on page 2-19 for details.

This chapter includes information about

- Preinstallation tasks
- A brief summary of the installation procedure
- Notes for upgrade installations
- A detailed step-by-step procedure

Note If you are performing multiple installations, you can run the installer noninteractively. In this mode, you enter all the information you would normally provide using the installer dialog boxes in an initialization file. For more information, see “Running the Installer Noninteractively” on page 2-23.

Before You Install

Before you run the installation program:

- Have your PLP and your License File handy. See “Network Licensing Options” on page 2-2 for more information.
- Exit any programs you have running, especially existing copies of MATLAB.
- Make sure your system satisfies the requirements of the software you intend to install. For more information, see “System Requirements” on page 1-4.

- Shut down the FLEXlm license manager, if it is running. (See “Starting and Stopping the License Manager” on page 3-10 for instructions.)

Note To install MATLAB on a Microsoft Windows NT, Windows 2000, or Windows XP system, you must have administrator privileges.

Upgrade Installations

When upgrading an existing installation, note the following:

- Always install MATLAB in a new installation directory, even for upgrade installations. By default, the installer creates a new installation directory for each release, for example, MATLAB6p5.
- You do not need to delete an existing MATLAB installation before installing Release 13. You can run multiple versions of MATLAB on the same system.
- The installer does not overwrite existing MATLAB preference files on your system. Multiple MATLAB installations on the same system use the same preference files.

Note Before Release 12.1, the uninstaller provided with MATLAB automatically deleted MATLAB preferences files. If you plan to remove an installation of one of these earlier MATLAB releases, you might want to first save your MATLAB preference files. See “Saving Your MATLAB Preferences” on page 1-23 for more information.

Network Installation Procedure Summary

This list summarizes the steps in the network installation procedure. For more detailed information about any of the steps, see the description of each step that follows. For information about client installations, see “Installing MATLAB on a Client System” on page 2-19.

Network Installation Procedure

Perform the preinstallation tasks described in “Before You Install” on page 2-8

Step 1: Start the Installer

Step 2: Enter Your Personal License Password (PLP)

Step 3: Review the Software Licensing Agreement

Step 4: Enter Your Name and Company Name

Step 5: Select the Products You Want to Install

Step 6: Specify the Location of Your License File

Step 7: Install the License Manager as a Service

Step 8: Get Product Configuration Information (Optional)

Step 9: Complete the Installation

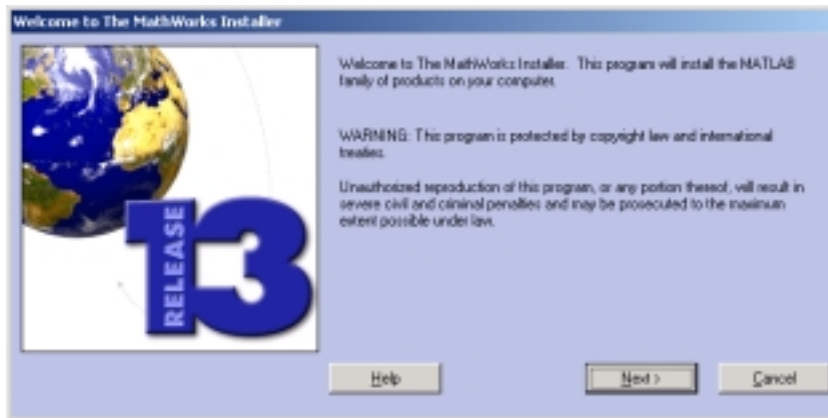
Perform the post-installation tasks described in “After You Install” on page 2-21

Installation Instructions

To install MATLAB and the license manager on a PC running Microsoft Windows, follow these instructions. If you encounter any trouble during installation, see Chapter 4, “Troubleshooting” for answers to some common installation problems.

Step 1: Start the Installer

Insert the MathWorks product CD into the CD-ROM drive or double-click the installer file you downloaded from the MathWorks Web site. The MathWorks installer starts automatically, displaying the **Welcome to The MathWorks Installer** dialog box.



If the installer does not start, open a Windows Explorer window, click your CD-ROM drive, and double-click the `setup.exe` program in the top-level directory.

Note The MathWorks Installer requires the Microsoft Java Virtual Machine (JVM). If your system does not have the required version of the JVM, the installer prompts you to install it. When the JVM installation is complete, you must reboot your system. If you leave the MathWorks product CD in your CD-ROM drive during the JVM installation, the MATLAB installation resumes automatically.

Step 2: Enter Your Personal License Password (PLP)

Enter your Personal License Password (PLP) in the **Personal License Password** dialog box and click **Next**. To avoid typing errors, copy the PLP from the license e-mail and paste it into this dialog box, using **Ctrl+V**. Take care to copy the entire PLP if your e-mail program has caused it to wrap onto two lines.

Note Do not confuse your PLP with your License Number. A PLP is a series of five-digit numbers prefixed with a two-digit release code.



Step 3: Review the Software Licensing Agreement

Review the software licensing agreement and, if you agree with the terms, click **Yes**. After installation, you can view the license agreement in the file `license.txt` located in the top-level of your MATLAB installation directory.

Step 4: Enter Your Name and Company Name

Enter your name and your company name in the **Customer Information** dialog box and click **Next**.

Step 5: Select the Products You Want to Install

If you are only installing the license manager, select it in the **Product List** dialog box and clear all the other products. When you click **Next**, the installer starts installing the license manager in the default directory

`C:\MATLAB6p5\flex1m.`

If you are installing MATLAB and the license manager on your license server, select the license manager and leave the other products selected in the

Product List dialog box. When you click **Next**, the installer starts installing all the products you are licensed to install in the default directory, C:\MATLAB6p5.

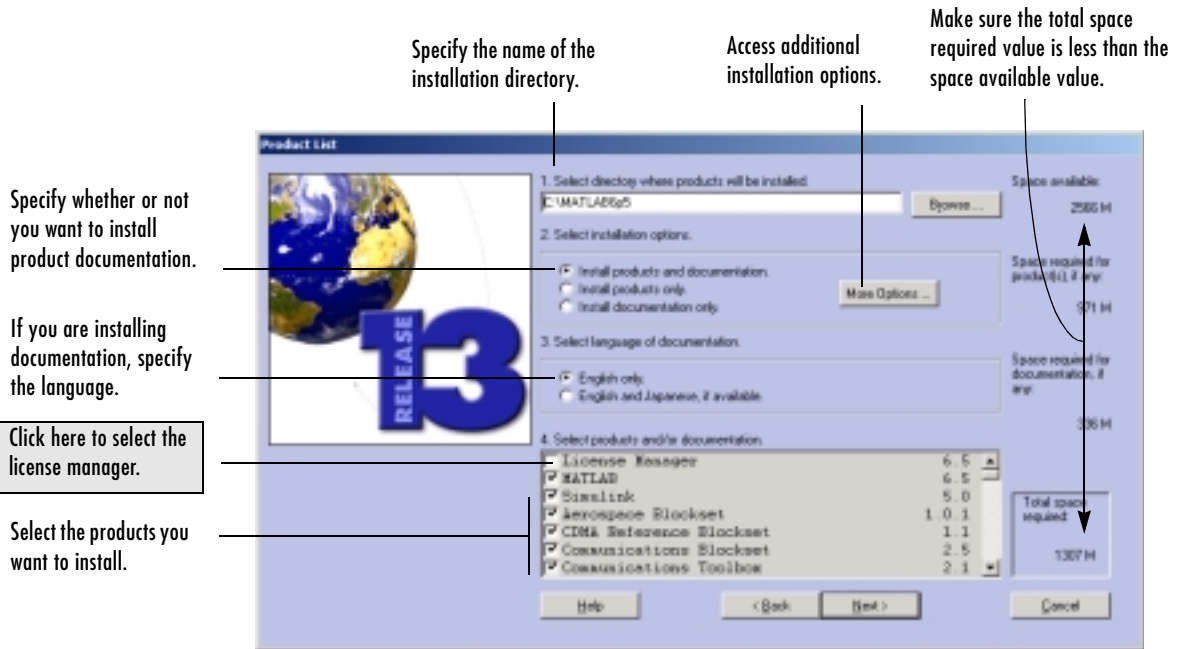
You do not have to install the license manager on client systems in local client access configurations. See “Installing MATLAB on a Client System” on page 2-19 for more information.

You can also use the **Product List** dialog box to customize many aspects of the installation, including

- “Specifying the Installation Directory” on page 2-14
- “Selecting Products to Install” on page 2-14
- “Installing Documentation” on page 2-15
- “Creating a Read-Only Installation” on page 2-15

Before you select products, the installer asks if you want to connect to the MathWorks Web site, www.mathworks.com, to make sure you have the latest versions of the products you are installing. Sometimes, newer versions of products are made available on the MathWorks Web site after the CD was produced.

Note The installer does not automatically download any new or updated products it finds at the MathWorks Web site. It lists these products at the end of the installation. You must go to the Web site after the installation is complete to download the new or updated products.



Specifying the Installation Directory. You can specify the name of the installation directory. Do not specify a directory name that contains spaces, an at (@) sign, or a dollar (\$) sign. Also, do not include a directory named private as part of the installation path. If the directory that you specify does not exist, the installer creates it.

Note Always install MATLAB in a new directory, even if you are performing an upgrade installation.

Selecting Products to Install. If you do not want to install a particular product, click in the check box next to its name to clear the selection. You can always install a product later. See “Installing Additional Products” on page 1-18 for more information.

Installing Documentation. If you are installing the documentation, the installer prompts you to insert the documentation CD into your CD-ROM drive to complete the installation. If you plan to view the documentation from the documentation CD or install the documentation in a directory other than the MATLAB installation directory, choose the product-only option. See “Installing MATLAB Help Files in a Separate Directory” on page 2-22 for more information.

Note The installer does not install the PDF version of the documentation, only the HTML version. The PDF documentation is available on a separate CD or at the MathWorks Web site and is accessible through the Help browser.

Creating a Read-Only Installation. To set the file permission of all the installed files to read-only, click the **More Options** button on the **Product List** dialog box. In the dialog box displayed, select the **Set installed files permissions to read-only** option. This option can be useful if you are installing MATLAB on a shared drive and want to protect the files from write access.

Step 6: Specify the Location of Your License File

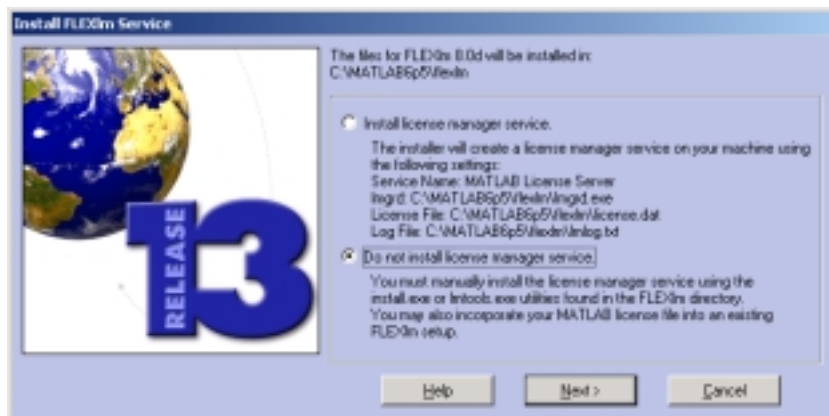
In the **License File Path** dialog box, specify the location of your License File. If you are installing the license manager, use the License File you created from the license e-mail. See “Creating Your License File” on page 2-3 for more information.

If you are installing MATLAB on a client system, see “Installing MATLAB on a Client System” on page 2-19 for instructions.



Step 7: Install the License Manager as a Service

On Windows NT, Windows 2000, and Windows XP systems, the installer displays the **Install FLEXlm Service** dialog box. (On Windows 98 and ME systems, the top option is disabled because these platforms do not support services.)



Installing the license manager as a service provides automatic startup at system boot time and centralizes administration of the license manager through the Windows **Services** control panel. If you choose not to install the

license as a service, you can do it later. See “Installing the License Manager as a Service” on page 3-11 for more information.

When you make your choice and click **Next**, the installer starts copying files into your installation directory. The installer indicates the progress of the installation in the **Install Status** window.

Step 8: Get Product Configuration Information (Optional)

Depending on which products you selected, the installer might display a dialog box containing product-specific configuration information such as the following.



You can copy information from this dialog box, such as configuration commands, for use later when you start MATLAB. See “Configuring Certain Products” on page 1-16 for more information.

Step 9: Complete the Installation

When the installer finishes, it displays the **Installation Complete** dialog box.



If you installed the license manager as a service, The MathWorks recommends that you restart your computer now. Restarting your computer starts the license manager, which must be running to start MATLAB. For more information, see “Starting and Stopping the License Manager” on page 3-10.

Note On Windows 2000 and Windows XP systems, if you do not start MATLAB while you have administrator privileges, users without administrator privileges will get a warning message each time they start MATLAB.

For information about setting up MATLAB after an installation, see “After You Install” on page 2-21.

Installing MATLAB on a Client System

This section describes how to install MATLAB on a client system running Windows in a local client access configuration. See “Local Client Access Configuration” on page 2-7 for information about this type of installation. The installation procedure on a client system is almost identical to the procedure on a server; however, there are some important differences. This table lists all the steps in the network installation procedure and notes where they are different on client systems. For more detailed information about any of the steps, go to the description of the step in “Installation Instructions” on page 2-10.

Network Installation Procedure	Client Installation Notes
Perform the preinstallation tasks described in “Before You Install” on page 2-8	Same on client, except that you do not have to stop the license manager
Step 1: Start the Installer	Same on client
Step 2: Enter Your Personal License Password (PLP)	Same on client. Use the same PLP for each client installation.
Step 3: Review the Software Licensing Agreement	Same on client
Step 4: Enter Your Name and Company Name	Same on client
Step 5: Select the Products You Want to Install	Do not select the license manager in the Product List dialog box. You do not need to install the license manager on client systems.
Step 6: Specify the Location of Your License File	Specify the location of the <i>processed</i> license file that was created during the license manager installation on the license server. See “Specifying the License File Location on Client Installations” on page 2-20 for more information.
Step 7: Install the License Manager as a Service	Not applicable on client systems

Network Installation Procedure	Client Installation Notes
Step 8: Get Product Configuration Information (Optional)	Same on client
Step 9: Complete the Installation	Start MATLAB and run a demo to verify your installation. Note that the license manager must be running on your license server before you can run MATLAB on a client.
Perform the post-installation tasks described in “After You Install” on page 2-21	Same on client

Specifying the License File Location on Client Installations

For MATLAB client installations, you must specify the location of the *processed* License File created by the installer during the license manager installation on the license server. (Processed license files contain the SERVER and DAEMON lines. See “License File” on page 3-3 for more information.) This table lists the location of the processed License File on PC and UNIX license servers.

License Server Platform	Location of Processed License File on Server
PC	\$MATLAB\flexlm\license.dat
UNIX	\$MATLAB/etc/license.dat

In a client installation, the installer replaces the DAEMON line with the line USE_SERVER. The installer puts this version of the License File in the \$MATLAB\bin\win32 directory.

If your license server is a UNIX system, you must remove the UNIX line-ending characters from the license.dat file before using it on a PC. For example, on Sun systems, use the unix2dos utility to perform this function.

After You Install

This section describes some post-installation tasks that are specific to network installations. For information on general post-installation tasks, such as starting MATLAB, see “After You Install” in Chapter 1. Topics covered in this section include

- “Setting Up Network Named User Licensing”
- “Installing MATLAB Help Files in a Separate Directory” on page 2-22

Setting Up Network Named User Licensing

Note This is only required for Network Named User licenses. Concurrent licenses do not require this task.

If you have a network named user license, you may need to

- Check the FLEXlm license options file after your installation is complete, to make sure all licensed users are included.
- Check that the DAEMON line in your License File includes the options file specification, `options=$MATLAB\flexlm\MLM.opt`, where \$MATLAB is your MATLAB installation directory.

Note Do not confuse your License File with your options file. The License File contains the encrypted passcodes for each product you are licensed to install and run. The options file is a text file that contains license manager options statements, such as INCLUDE, EXCLUDE, and GROUP lines.

The installer creates the options file, `$MATLAB\flexlm\MLM.opt`, as part of the installation process. The installer puts in the options file an INCLUDE line for each product you are licensed to install and run. By default, the installer puts the username of the person who performed the install in these INCLUDE lines. If you performed your own installation, the options file might not need editing. However, if you performed the installation for another user, or if you had root privileges when you performed the installation, you will need to edit this options file.

For example, if your username is sysadmin, the options file would look like this:

```
INCLUDE MATLAB USER sysadmin
INCLUDE Signal_Toolbox USER sysadmin
INCLUDE Optimization_Toolbox USER sysadmin
```

You must replace sysadmin in these INCLUDE statements with the usernames of the licensed users. If multiple users are licensed for the same product, you must create a separate INCLUDE line for each user or use the FLEXlm GROUP syntax. The number of users must not exceed the number of license keys available for that product. This example shows both methods. (Make sure there are no extra space characters at the end of any of the lines.)

```
GROUP matlab_users tom judy mike jean brad
GROUP signal_users tom mike brad
INCLUDE MATLAB GROUP matlab_users
INCLUDE Signal_Toolbox GROUP signal_users
INCLUDE Optimization_Toolbox USER mike
INCLUDE Optimization_Toolbox USER jean
```

Installing MATLAB Help Files in a Separate Directory

In a network installation, you might prefer to install MATLAB Help files in a central location and make them available, over the network, to client systems. This significantly reduces the amount of disk space required on each client system in local client access configurations.

To install MATLAB Help on a central file server:

- 1 Run the installation procedure. At “Step 5: Select the Products You Want to Install” on page 2-12, select the **Install documentation only** option.

Instead of running the installation procedure, you can also just copy the \help directory and all of its contents from the MathWorks documentation CD to a directory on your central file server. Copy the \jhelp directory if you need the Japanese language version of the help files.

- 2 Change the MATLAB Help preferences to specify the location of the Help files. Select **Preferences** from the MATLAB **File** menu and click **Help** to view the **Help Preferences** panel.

Running the Installer Noninteractively

If you have many MATLAB installations to perform, and the information you need to enter for each installation is the same, you can put this information in an installer initialization file and run the installer non-interactively. In this mode, the installer still displays the dialog boxes that query you for information but you do not have to enter data in response. The initialization file provides the installer with the information. Noninteractive installs (also called *silent* installs) can save time and prevent errors.

The following sections describe how to use an installer initialization file and how to verify this type of installation.

Using an Installer Initialization File

To run the installer noninteractively, perform these steps:

- 1 Create your installer initialization file.

The MathWorks provides an initialization file template, named `installer.ini`, located in the top-level directory on The MathWorks product CD. Copy this template file, giving it any name you want. For example, open an MS-DOS command prompt window and enter this command, where Z: is the drive letter for your CD-ROM drive:

```
copy Z:\installer.ini C:\temp\my_install.ini
```

- 2 Enter your installation information into the initialization file, using this syntax:

```
parameter=value
```

For example, to enter the installation directory you would enter

```
destination=D:\matlab6p5
```

The initialization file template includes all the parameters you can enter, with examples.

Note You must enter information for all required parameters. If your initialization file is missing a required field, the installer displays the dialog box that queries for the needed information as in a typical interactive installation. After the information is entered, the installer continues noninteractively.

- 3 Save your changes to the file.
- 4 Run the installer (`setup.exe`), using the `-if` flag to specify the initialization file as a command-line argument. For example, at the MS-DOS command prompt, enter

```
setup.exe -if C:\temp\my_install.ini
```

You must specify the full path name of the initialization file.

Verifying a Noninteractive Installation

To verify a noninteractive installation, you may want the installer to create an output log that lists the products that were installed and reports any error that may have occurred. To create this log, specify the path of the file in the installer initialization file as the value of the `outlog` parameter. For example:

```
# SPECIFY OUTPUT LOG NAME; Optional
# This file records the results of the installation.
# For example: output=myinstalllog.out
outlog=C:\temp\my_install.out
```

License Management

Using the MathWorks Installer, you can set up a network installation with little knowledge of license management by following the instructions in Chapter 2, “Network License Installation Procedure.” However, if you want to integrate MATLAB into an existing FLEXlm licensing scheme, read this section to get a more thorough understanding of license management. This section describes the licensing architecture used by MATLAB and some common licensing tasks.

Topics covered include

Licensing Architecture (p. 3-2)

Describes the primary licensing components, such as the License File and the daemons that are used by FLEXlm

Performing Common License Management Tasks (p. 3-7)

Describes the license management tools provided with MATLAB and describes how to use them to monitor license activity

Licensing Architecture

Note The information in this section pertains to concurrent installations only. You do not need to read this section if you are performing a standard installation.

In a concurrent installation, The MathWorks uses a license manager program, called FLEXlm (a product of GLOBETrotter Software, Inc.), to control access to its software. This section describes

- License management daemons
- License File format and its processing by the installer
- Important license management files

Throughout this section, \$MATLAB refers to your MATLAB installation directory.

Note For more detailed information about FLEXlm and license management, see the *FLEXlm End User Manual*, available in PDF format in \$MATLAB\flexlm\enduser.pdf, where \$MATLAB is your installation directory.

License Management Daemons

FLEXlm uses a group of processes, called daemons, to control access to software applications. These daemons run on a central server in your network. In this section, this server is referred to as your license server.

License Manager Daemon

The main daemon is the license manager daemon (lmgrd.exe). This daemon is responsible for managing the initial communication between the licensed application and the vendor daemons associated with each application.

Vendor Daemon

Every vendor that uses FLEXlm to manage the licensing of its products must supply a vendor daemon. The vendor daemon is responsible for keeping track of how many license keys are available for a particular application and for granting or denying access to the application, depending on the current usage of these license keys. The MathWorks vendor daemon is named `mlm.exe`.

When users start applications that use FLEXlm license management, the applications contact the license manager daemon running on the license server, requesting permission to run the application. The license manager daemon forwards this request to the vendor daemon associated with the application that grants or denies the request.

License File

The MathWorks sends you, by e-mail or fax, the licensing information you need to be able to run the products in a concurrent configuration. You must create a License File, named `license.dat`, on your hard disk that contains this licensing information. You can create this file in any directory on your system. For more information about creating a License File, see “Creating Your License File” on page 2-3.

The license manager uses the License File to determine how many keys are available for each licensed product. MATLAB client installations use the License File to determine how to connect to the license server.

The following is a sample License File sent by The MathWorks.

```
# BEGIN-----cut here-----CUT HERE-----BEGIN
# MATLAB license passcode file for use with FLEXlm.
# LicenseNo: 12345          HostID: INTERNET=144.212.101.43
INCREMENT TMW_Archive MLM 13 01-jan-0000 0 6CEC6A6E25GGC7B0A410 \
  VENDOR_STRING="f" HOSTID=DEMO SN=12345
INCREMENT MATLAB MLM 13 01-jan-0000 5 9C7C2DABE9409CEF91AA \
  USER_BASED DUP_GROUP=UH SN=12345
INCREMENT SIMULINK MLM 13 01-jan-0000 5 4C9DC9C9EF56527BE548 \
  USER_BASED DUP_GROUP=UH SN=12345
INCREMENT Control_Toolbox MLM 13 01-jan-0000 5 \
  FC7C9BADEF4F6E6CDA3A USER_BASED DUP_GROUP=UH SN=12345
INCREMENT Identification_Toolbox MLM 13 01-jan-0000 5 \
  4C8C1AB7E3F111D08982 USER_BASED DUP_GROUP=UH SN=12345
# END-----cut here-----CUT HERE-----END
```

License Files contain one or more INCREMENT lines that itemize the products you are licensed to use. Each INCREMENT line has this format. (The INCREMENT lines in your License File may not include every element.)

	Product	Vendor Daemon	Release	Expiration Date	Number of Users	Encrypted Passcode	
INCREMENT	MATLAB	MLM	13	01-jan-0000	5	9C7B2ADE9409CEF91AA	\
		USER_BASED		DUP_GROUP=UH	SN=12345		
		Identifies Named User licenses		Group Identifier	License Number		

License File Processing on a License Server

When you install the license manager as part of a concurrent installation, the installer processes your License File, adding information about the location of the license server and daemon. After processing the file, the installer puts a copy of the License File in the \$MATLAB\flexlm directory.

In this sample processed License File, note the addition of the SERVER and DAEMON lines.

```

SERVER yourserver INTERNET=144.212.101.43 27000
DAEMON MLM C:\matlab6p5\flexlm\mlm.exe \
options=C:\matlab6p5\flexlm\MLM.opt
# BEGIN-----cut here-----CUT HERE-----BEGIN
# MATLAB license passcode file for use with FLEXlm.
# LicenseNo: 12345          HostID: INTERNET=144.212.101.43
INCREMENT TMW_Archive MLM 13 01-jan-0000 0 6CEC6AD6E25FC7B0A410 \
  VENDOR_STRING="f" HOSTID=DEMO SN=12345
INCREMENT MATLAB MLM 13 01-jan-0000 5 9C7C2A6ED409CEF91AA \
  USER_BASED DUP_GROUP=UH SN=12345
INCREMENT SIMULINK MLM 13 01-jan-0000 5 4C9CDA9EF565B7BE548 \
  USER_BASED DUP_GROUP=UH SN=12345
INCREMENT Control_Toolbox MLM 13 01-jan-0000 5 \
  FC7C9BDEF4F6E6CDA3A USER_BASED DUP_GROUP=UH SN=12345
INCREMENT Identification_Toolbox MLM 13 01-jan-0000 5 \
  4C8B1AD7E3F111E08982 USER_BASED DUP_GROUP=UH SN=12345
# END-----cut here-----CUT HERE-----END#

```

SERVER line. The SERVER line identifies the system on which the license manager is running, using the format

```
SERVER hostname HostID TCP_PortNumber
```

Note The host ID in the SERVER line must match the host ID in the commented section of the License File.

The TCP port number identifies the port to use for communication with the daemons. Do not change this number unless you know it conflicts with other software.

DAEMON Line. The DAEMON line identifies the MathWorks vendor daemon, MLM, the fully specified path to the daemon executable, and the full path of the options file, for Named User licenses.

```
DAEMON MLM C:\matlab6p5\flexlm\mlm.exe \  
options=C:\matlab6p5\flexlm\MLM.opt
```

License File Processing on Client Systems

In client installations in concurrent configurations, you specify the name of the processed License File in the **License File Path** dialog box during the installation procedure. The installer deletes all the INCREMENT lines and the DAEMON line in the License File and replaces them with a single line: USE_SERVER.

On client systems, the installer puts the processed License File (license.dat) in the \$MATLAB\bin\win32 directory.

If you use your original License File instead of the processed License File, the installer proceeds with the installation, creating a template License File in \$MATLAB\bin\win32. You cannot run MATLAB until you edit this License File, adding the SERVER line from the processed License File.

Important License Management Files

This table summarizes all the important filenames involved in license management.

Component	Name and Location
FLEXlm documentation	\$MATLAB\flexlm\enduser.pdf
License File	On servers, after installation: \$MATLAB\flexlm\license.dat On clients, after installation: \$MATLAB\bin\win32\license.dat
License management tools	\$MATLAB\flexlm\lmutil.exe
License manager daemon	\$MATLAB\flexlm\lmgrd.exe
License manager log file	\$MATLAB\flexlm\lmlog.txt
Vendor daemon	\$MATLAB\flexlm\mlm.exe

Performing Common License Management Tasks

This section describes common license management tasks that you may need to perform, including:

- Viewing the current status of the license manager
- Starting and stopping the license manager or other license management daemon
- Installing the license manager as a Windows service
- Running multiple versions of MATLAB at the same time
- Running MATLAB with other applications that use FLEXlm license management
- Setting up a redundant license server configuration
- Upgrading a demo license to a perpetual license without having to reinstall MATLAB (Individual licenses only)

Note If you want to make changes to your licenses, such as combining several licenses or moving an existing toolbox license, you must contact The MathWorks. See “Obtaining or Changing Your Licenses” on page 2-4 for more information.

Viewing License Manager Status

To view the current status of the license manager, use the `lmutil` command in a DOS command prompt window or use the `lmtools.exe` graphical user interface.

Note You must run these tools on the system on which the license manager is running.

Using the `lmutil` Command

The `lmutil` command performs many different license management functions. You invoke each function by specify `lmutil` command line flags.

To use the `lmutil` command to obtain a status report, open up a DOS command prompt window and enter this command:

```
lmutil lmstat -a -c C:\matlab6p5\flexlm\license.dat

lmutil - Copyright (C) 1989-2001 Globetrotter Software, Inc.
Flexible License Manager status on Friday 11/1/2002 15:17

License server status: 27000@smithj
  License File(s) on smithj: C:\matlab6p5\flexlm\license.dat:

  smithj: license server UP (MASTER) v.8.0

Vendor daemon status (on smithj):

  MLM: UP v8.0

Feature usage info:

Users of MATLAB: (Total of 5 licenses available)

Users of SIMULINK: (Total of 5 licenses available)

Users of Control_Toolbox: (Total of 5 licenses available)

Users of Identification_Toolbox: (Total of 5 licenses available)
```

Note the following:

- The example specifies the `lmstat` command line argument to obtain a status report. The `lmutil` command can perform many different license management functions. See “Performing Other License Management Tasks with `lmutil`” for a complete list.
- The example uses the `-a` argument to get a verbose listing of available licenses.
- The example use the `-c` flag to specify the location of the License File. You must specify this flag with every tool invoked through `lmutil.exe`.

Performing Other License Management Tasks with `lmutil`. To view a list of all the capabilities of the `lmutil.exe` utility, open a **Command Prompt** window, go to the `$MATLAB\flexlm` directory and type

lmutil

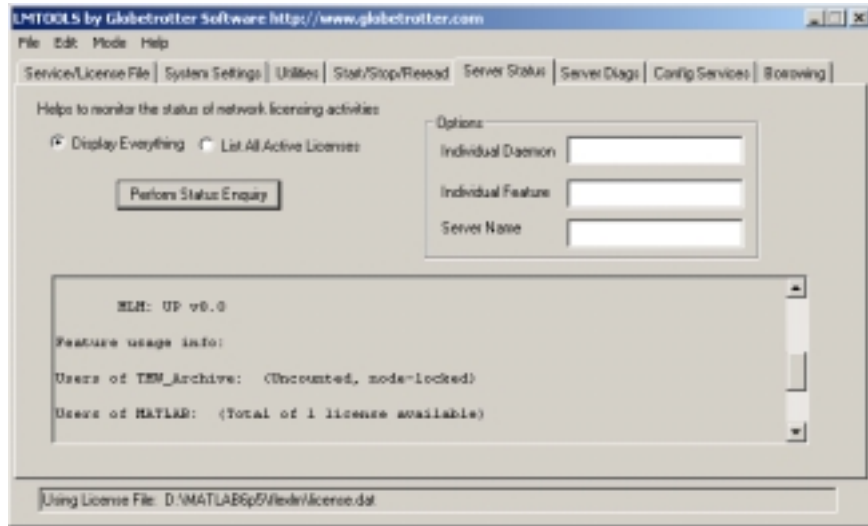
The following table lists the names of the most useful tools available through `lmutil`. For more detailed information, see the *FLEXlm End User Manual*, included in PDF format in your MATLAB installation (`$MATLAB\flexlm\enduser.pdf`).

Utility	Description
<code>lmdiag</code>	Diagnose license checkout problems
<code>lmdown</code>	Shut down all license daemons (both <code>lmgrd</code> and all vendor daemons) on the license server node.
<code>lmhostid</code>	Report the host ID of a system
<code>lmreread</code>	Make the license manager daemon reread the License File and start any new vendor daemons
<code>lmstat</code>	Display the status of all network licensing activities
<code>lmswitchr</code>	Switch the report log file
<code>lmver</code>	Determine the FLEXlm version of a library or binary file

Using the `lmtools.exe` GUI

FLEXlm provides a graphical user interface (GUI) to its license management tools. To invoke this GUI, double-click on the `lmtools.exe` file in the `$MATLAB\flexlm` directory. The GUI uses buttons to provide access to the same set of tools as `lmutil.exe` and displays the results returned in an integrated display window.

For example, to use the `lmtools` GUI to monitor the status of network license activity, click the **Server Status** tab and click the **Perform Status Enquiry** button. By default, `lmtools` displays the same information as if you had entered the command `lmutil lmstat -a`.



Starting and Stopping the License Manager

On Windows NT, Windows 2000, and Windows XP systems, if you installed the license manager as a service, you can start it by rebooting your system. As a service, it gets started automatically at system boot time.

You can also start or stop the license manager using the Windows **Services** control panel.

Using the Services Control Panel

To start or stop the license manager using the **Services** control panel:

- 1 Click the **Start** menu.
- 2 Select the **Settings** option.
- 3 On the **Settings** menu, select the **Control Panel** option.
 - a On Windows NT systems, select **Services**.
 - b On Windows 2000 systems, select **Administrative Tools** on the Control Panel menu and then select **Services**.

- c On Windows XP systems, select **Performance and Maintenance** and then select **Administrative Tools**. Select **Services** off this menu.

On NT systems, in the **Control Panel** dialog box, double-click on the **Services** control panel icon.

On Windows 2000 and XP systems, in the **Services** control panel, scroll through the list of services and right-click on the **MATLAB License Server** entry. Select **Start** or **Stop** from the menu.

Installing the License Manager as a Service

The installer gives you the option of installing the license manager as a service. (See “Step 7: Install the License Manager as a Service” on page 2-16.) Installing the license manager as a service provides for automatic startup at system boot time and centralizes administration of the license manager through the Windows **Services** control panel.

If you choose not to install the license manager as a service during installation, you can do it later using the `install.exe` program, available in the `$MATLAB\flexlm` directory. However, if you do not install the license manager as a service you will have to start the license manager manually each time you want to run MATLAB. See “Starting and Stopping the License Manager” on page 3-10 for more information.

Using `install.exe`

To use `install.exe` to install the license manager as a service, follow this procedure:

- 1 Open a **DOS Command Prompt** window.
- 2 Move to the `$MATLAB\flexlm` directory, where `$MATLAB` represents your MATLAB installation directory.
- 3 Enter the command

```
install -c $MATLAB\flexlm\license.dat -e $MATLAB\flexlm\lmgrd.exe
```

where the `-c` flag specifies name of your processed license file and the `-e` flag specifies the name of the license manager daemon.

You can also use `install.exe` to perform other license manager administration tasks, such as:

- Specifying the name of the service as it will appear in the Windows **Services** control panel. By default, the license manager service is called the **MATLAB License Server** in the Windows **Services** control panel. To specify a different name, use `install.exe` with the `-n` flag
- Removing the license manager service, using the `-r` flag

Note You must specify the `-e` flag with all other `install.exe` options.

To get more information about the syntax of the `install.exe` program, enter `install` at the command prompt.

Running Multiple Versions of MATLAB

If you want to continue running a previously installed version of MATLAB after you install MATLAB 6.5, note the following:

- The previously installed version of MATLAB must be 5.2.x or higher.
- Both versions of MATLAB must use the latest version of the license manager (FLEXlm). MATLAB 6.5 requires FLEXlm 8.0d.
- Replace the processed License File that your previous MATLAB installation uses with the processed License File created during the installation of MATLAB 6.5.

To set up this configuration, follow these instructions:

- 1 Shut down your previously installed version of MATLAB.
- 2 Stop the license manager. (See “Starting and Stopping the License Manager” on page 3-10.)
- 3 Remove the license manager service. (See “Installing the License Manager as a Service” on page 3-11.)
- 4 Install MATLAB 6.5 on your client systems. (See “Installing MATLAB on a Client System” on page 2-19.)
- 5 Replace the License File used by your existing MATLAB installation with the License File created by the installer during the new installation. This

table lists the location of the License File on client systems for different MATLAB releases.

MATLAB Version	Location of License File on Client Systems
MATLAB 6.x	\$MATLAB\bin\win32\license.dat
MATLAB 5.2.x or 5.3.x	\$MATLAB\bin\license.dat

If your existing installation is MATLAB 6.x, replace the `license.dat` file in the `$MATLAB\bin\win32` directory with the file from the same directory in your new installation. If your existing installation is MATLAB 5.2.x, replace the `license.dat` file in the `$MATLAB\bin` directory.

Running MATLAB with Other FLEXlm Applications

If you have another application that uses FLEXlm for license management, you can share a single license manager, or run separate license managers either on the same or different hosts. (For more information, go to the Support page at the MathWorks Web site and see Technical Support solution 20746.)

Sharing a Single License Manager

To share a license manager, combine the `DAEMON` and `INCREMENT` lines from both License Files into a single License File. Use only one of the `SERVER` lines and install the license manager on that host. If MATLAB and the other application are using different versions of the FLEXlm software, run the newer version of the license server.

For further information, see the *GLOBEtrrotter* Web page at www.globetrotter.com or the *FLEXlm End User Manual*, available in PDF form in `$MATLAB\flexlm\enduser.pdf`.

Running Separate License Managers

To run separate license managers, use separate License Files. If you are running the license managers on the same host, be sure to use a different TCP port number on the `SERVER` line in each License File.

Configuring Redundant License Servers

If a large number of licenses are governed by a single license server, failure of the server becomes a major event. To prevent problems, you may want to set up redundant servers so that, if one server goes down, the license manager can still function.

In the redundant server configuration, three systems are designated to be license servers. All three systems must be running at the time the license manager is started. However, once the license manager is running, only two systems need to be running at any time; this is called a *quorum*. As long as a quorum exists, the license manager can continue to run.

Selecting Servers

The first step in configuring the license manager is choosing the servers. When choosing servers, keep in mind:

- The servers should be able to handle the network traffic associated with license management. A primary server must be chosen. This is the system to which clients connect first and which receives the majority of the network traffic. The primary server is the first server listed in the License File. If this system fails, the next server listed in the License File becomes primary.
- The servers should be running supported versions of their operating systems.

License Files in Redundant Configurations

Once you have chosen the servers, determine the host IDs of each server and provide them to The MathWorks when you request your License File. The MathWorks will generate an appropriate License File.

The following example shows a License File that supports redundant servers. Note that the License File has three SERVER lines that identify each of the three redundant servers.

```
# MATLAB license passcode file for use with FLEXlm
# LicenseNo: 12345           HostID: 08002be68759
#                           HostID: 08003be68653
#                           HostID: 080024e68857
SERVER pooh 08002be68759 27000
SERVER piglet 08003be68653 27000
SERVER rabbit 080024e68857 27000
```

```
DAEMON MLM C:\matlab6p5\flexlm\mlm.exe
INCREMENT TMW_Archive MLM 13 01-jan-0000 0 BC7CC831F0F7B7C8D488 \
  VENDOR_STRING="b" HOSTID=DEMO SN=12345
INCREMENT MATLAB MLM 13 01-jan-0000 1 2C0CF621EF8554F42D11 \
  DUP_GROUP=UH SN=12345
INCREMENT SIMULINK MLM 13 01-jan-0000 1 7C2CD651802358FAB571 \
  DUP_GROUP=UH SN=12345
INCREMENT Identification_Toolbox MLM 13 01-jan-0000 1 \
  9CDC162D90C0FF7C7C30 DUP_GROUP=UH SN=12345
```

After you install the license manager on all the server systems in the redundant configuration, you must edit the processed License File, `$MATLAB\flexlm\license.dat`, created during these installations. The installer only adds the first SERVER line to the License File during the installation. You must add the additional SERVER lines. Make sure to include the names, host IDs, and IP addresses of the other systems in the redundant configuration in these additional SERVER lines, as shown in the example. Put a copy of this edited License File in the `$MATLAB\flexlm` directory on all of the systems in the redundant configuration.

Starting License Manager Daemons in Redundant Configurations

You must start the license manager on each system in the redundant configuration and wait for the license manager daemons on the three systems to synchronize with each other. This may take a few minutes. If, for some reason, the license manager daemons do not connect, take the daemons down on each machine, and rerun the procedure. Network traffic may affect the synchronization, so it may require several attempts to establish a proper connection. Again, all three machines must connect for the license manager to begin serving keys. Once the daemons are up and connected on all three machines, only two machines are needed for a quorum; the loss of any one machine will not cause any licenses to be revoked.

Troubleshooting

This section provides information that can help you solve common problems that you encounter installing MATLAB on a PC running Microsoft Windows. Topics covered include

Problems During Installation (p. 4-2)	Provides answers to some common problems encountered during a MATLAB installation
License Manager Error Messages (p. 4-4)	Provides answers to some common problems encountered after a successful installation. In particular, this section provides information about common license manager errors.
Troubleshooting an Installation That Uses Dongles (p. 4-15)	Describes how to use the MATLAB utility program <code>dongleutil.exe</code> to diagnose problems with a MATLAB installation that uses dongles.

If you cannot find a description here that matches your problem, check the MATLAB Release Notes documentation that you received with your MATLAB products. This document contains the most up-to-date information available about products and installation procedures. Installation troubleshooting information is also available at the MathWorks Web site on the Support page, www.mathworks.com.

Problems During Installation

This section provides answers to some problems commonly encountered during installation.

Note If the installer appears to hang, you may want to turn off any virus checking software you are running on your system and restart the installer.

Unable to Start the Installer: Missing Java Class File

The installer requires the Microsoft Java Virtual Machine (JVM). When the installer starts, it checks to make sure you have the version of the JVM that it requires. If it detects that you do not have the version it needs, it prompts you to install it and exits.

Sometimes, your system may have some of the correct JVM files but not all of them. In this case, the installer starts but displays this error message.

```
Unable to start the application - the class file could not be loaded.
```

To solve this problem, run the Microsoft JVM installer (`msjavx86.exe`) that is included with the MATLAB package in the `\MSutils` subdirectory of the top-level CD directory. If you are running the Japanese version of Microsoft Windows, run `jmsjavx86.exe`.

Invalid Personal License Password

During installation, you must enter your PLP. If your PLP is invalid, you cannot continue with the installation. Check that:

- You entered your PLP in the **Personal License Password** dialog box. Do not confuse your License Number with your PLP. A PLP is a series of five-digit numbers, prefixed by a 2-digit release code, such as:
13-12345-12345-12345-12345
- You have a current PLP. PLPs are version-specific. Do not use an old PLP with a new version of MATLAB.

For information about troubleshooting License File issues, see “License File” on page 3-3.

License File Could Not Be Updated

You can receive this error message when you are using the installer to update your licenses. (This installer option is available on the **More Options...** dialog box.)

There are two reasons why you received this message:

- The license file (`license.dat`) in the `$MATLAB\bin\win32` directory is invalid.
- You have multiple valid license files in the specified directory (e.g., `demo.lic` and `license.dat`).

Failure Overwriting an Existing Toolbox

Stop any versions of MATLAB or a toolbox that may be running before attempting to run the installation procedure.

License Manager Error Messages

After a successful installation, you may encounter problems starting MATLAB. Many of these problems have their root in the license manager used by the MathWorks products, FLEXlm. This section provides information about some of the more common license manager errors, listed in this table by error number.

License Manager Error
“License Manager Error -2: Invalid License File Syntax” on page 4-5
“License Manager Error -3: Cannot Connect to a License Server” on page 4-6
“License Manager Error -5: License Checkout Failed. No Such Feature Exists.” on page 4-6
“License Manager Error -8: Invalid (Inconsistent) License Key” on page 4-7
“License Manager Error -9: Invalid Host. License Checkout Failed.” on page 4-7
“License Manager Error -10: Feature Has Expired” on page 4-8
“License Manager Error -11: License Checkout Failed. Invalid Date Format in License File.” on page 4-8
“License Manager Error -12: License Checkout Failed. Invalid Return Data from License Server.” on page 4-9
“License Manager Error -13: No SERVER Line in License File” on page 4-9
“License Manager Error -14: Cannot Find SERVER Hostname in Network Database” on page 4-10
“License Manager Error -15: Cannot Connect to License Server” on page 4-10
“License Manager Error -16” on page 4-10
“License Manager Error -18: License Checkout Failed. License Server Does Not Support This Feature.” on page 4-10

License Manager Error

“License Manager Error -21: License File Does Not Support This Version” on page 4-11

“License Manager Error -25: License Server Does Not Support This Version of This Feature” on page 4-12

“License Manager Error -39: No License for Feature” on page 4-12

“License Manager Error -83: FLEXlm Version of Client Newer Than Server” on page 4-12

“License Manager Error -84: Missing Options File” on page 4-13

“License Manager Error -88: License Checkout Failed” on page 4-13

“License Manager Error -96: Server Node is Down or Not Responding” on page 4-13

“License Manager Error -97: License Checkout Failed” on page 4-14

It can also be helpful to view the FLEXlm log file, `lmlog.txt`, in the `$MATLAB\flexlm` directory. To get more information about a FLEXlm license manager problem, see the *FLEXlm End User Manual*, available in PDF format in `$MATLAB\flexlm\enduser.pdf` or go to the GLOBETrotter Software, Inc. Web site, www.globetrotter.com.

Note You can also go to the support page on the MathWorks Web site, www.mathworks.com, and find information about a particular license manager error by searching the solution database by error number. For example, to find information about License Manager Error -15, enter “License Manager Error -15” in the search engine.

License Manager Error -2: Invalid License File Syntax

This error message typically indicates that there is a problem in your License File. On client systems, make sure your License File (`$MATLAB\bin\win32\license.dat`) has the following format.

```
SERVER host hostID port_num  
USE_SERVER
```

Note that there should be a carriage return immediately following the USE_SERVER line.

License Manager Error -3: Cannot Connect to a License Server

This error can occur if the SERVER line in your License File is incorrect or missing.

To remedy this error, try the following:

- Make sure that the SERVER line in your License File matches the SERVER line in the License File on your license server. On client systems, the License File is \$MATLAB\bin\win32\license.dat; on your license server, the License File is \$MATLAB\flexlm\license.dat, where \$MATLAB is the root MATLAB installation directory.

Note You must restart the license manager after making any changes to the License File on the license server.

- Make sure the TCP port number at the end of the SERVER line in your License File is not already being used by another application. On NT systems, run the netstat -p tcp command from C:\WINNT\system32. If the local system appears on the Foreign Address list, then the port number listed is being used. Change the port number on the SERVER line to a port that is not being used. FLEXlm has reserved ports in the range 27000 to 27009. Restart the license manager after making this change.
- Make sure that you do not have multiple vendor daemons (mlm.exe) running. Check your FLEXlm log file (\$MATLAB\flexlm\lmlog.txt) for the error “Multiple MLM Servers Running”.

License Manager Error -5: License Checkout Failed. No Such Feature Exists.

This message usually indicates that you are trying to use a product for which you are not licensed. Check your License File to see if you are licensed to use this product.

If you are licensed for this product, this error may be the result of having extra carriage returns in your License File. To avoid this, make sure that each line begins with either #, SERVER, DAEMON, or INCREMENT.

Note You must restart the license manager after making any changes to the License File on the license server.

This error can also be caused by tab characters in the License File. Remove these tabs and replace with them spaces.

This error may also be the result of an incorrect system date. If your system date is set before the date that your license was made, you will get this error. See “License Manager Error -10: Feature Has Expired” on page 4-8 to learn how to reset the system date.

License Manager Error -8: Invalid (Inconsistent) License Key

This error message typically indicates that your License File, `$MATLAB\flexlm\license.dat`, has been corrupted. This can happen if the License File was edited or if an e-mail program inserted extraneous tabs or carriage returns in the INCREMENT lines.

One way to check for extraneous tabs and carriage returns is to open your License File in a text editor and view all nonprinting characters. Remove all the tab characters and all carriage returns that are not at the end of a line.

Check that the contents of your License File matches the license data sent you by The MathWorks.

License Manager Error -9: Invalid Host. License Checkout Failed.

If you get this error on a system running an individually licensed MATLAB, make sure you are running MATLAB on the same system it was installed on. The MathWorks locks a license to a particular system.

You can also get this error if you replaced your hard drive or changed the partition on an existing hard drive. To remedy this situation, rerun the installer. At “Step 5: Select the Products You Want to Install” on page 1-10, click on the **More Options...** button on the **Product List** dialog box and select the **Update license** option. This option updates your license without requiring that you reinstall MATLAB.

You can also get this error if you try to clone a Release 13 installation from one system to another.

License Manager Error -10: Feature Has Expired

This error indicates that one or more of your license keys has expired.

Check the expiration date on each of the INCREMENT lines in your License File. If the dates in the license file have already passed, contact the Customer Service department at The MathWorks (through the Web or through e-mail at service@mathworks.com). When contacting The Mathworks, include your License Number and the Host ID of your license server.

If none of your product licenses has expired, check that your system date and time are correct:

- 1 Click on the **Start** menu.
- 2 Choose **Settings**.
- 3 Click on **Control Panel**.
- 4 Choose **Date/Time**.

License Manager Error -11: License Checkout Failed. Invalid Date Format in License File.

This error indicates that the start date or the expiration date in the License File is invalid. This can happen if the expiration dates in the License File have been changed.

You can also get this error if the space character between the number of users field and the 20 digit encryption code in the INCREMENT line is missing. Compare the INCREMENT lines in your license file with the INCREMENT lines in your original license e-mail. They must be exactly the same.

This error can also occur if the SERVER and DAEMON lines are missing from the license.dat file. The installer adds these lines to the License File as part of the installation process.

License Manager Error -12: License Checkout Failed. Invalid Return Data from License Server.

This error can be caused by your network setup. When the license manager tries to connect to the server, the DNS Server does not find it because it does not add the domain name suffix into the search.

If *all* of your client systems are having this problem, change the name of the server in the SERVER line to the fully qualified name:

- 1 Change the SERVER line in all `license.dat` files on your network, which are located in `$MATLAB\bin\win32`, to have the fully qualified name of the server.
- 2 Restart the license manager on the server. (See “Starting and Stopping the License Manager” on page 3-10.)

If only *some* of the clients in your network installation are having this problem, edit the TCP/IP Hosts file on your client systems:

- 1 Open the file, `C:\WinNT\system32\drivers\etc\hosts`
- 2 Add the hostname of your license server to this file. You can find your license server information in the SERVER line of your `license.dat` file.

For example, if your SERVER line looks like this,

```
SERVER hostname INTERNET=128.36.2.12 27000
```

Add the following line to your TCP/IP Hosts file.

```
128.36.2.12 hostname
```

- 3 Save the changes to the TCP/IP Hosts file.

License Manager Error -13: No SERVER Line in License File

This indicates that there is no SERVER line in the License File. This line should be added by the installer during the installation process.

To remedy this problem, run the installer again or manually edit the License File, `$MATLAB\flexlm\license.dat`, adding the SERVER line. See “License File” on page 3-3 for information about the format and contents of the SERVER line.

License Manager Error -14: Cannot Find SERVER Hostname in Network Database

If this error occurs on a client system, check to make sure that the hostname on the SERVER line in the `license.dat` file on your client system matches the hostname on the SERVER line in your `license.dat` file on your license server. Edit the SERVER line in the client `license.dat` file, if necessary.

Also, make sure that the server's hostname, included in the SERVER line, is listed in the `C:\WINNT\system32\drivers\etc\hosts` file for Windows NT.

License Manager Error -15: Cannot Connect to License Server

This error message can have several causes but the most common cause is that the license manager isn't running on your license server.

Verify that both the license manager daemon and the vendor daemon processes, `lmgrd` and `m1m`, are running. You can check this via the Task Manager, which can be accessed by pressing the **Ctrl+Alt+Delete** key sequence. Run these commands on the system on which your license manager is running.

If the license manager isn't running, see "Starting and Stopping the License Manager" on page 3-10 for information about starting it.

License Manager Error -16

This error indicates that the path to the MATLAB vendor daemon, `m1m.exe`, is incorrect in your License File DAEMON line. See "License File" on page 3-3 for an example of a DAEMON line.

License Manager Error -18: License Checkout Failed. License Server Does Not Support This Feature.

The most common cause of this error is updating your License File without restarting your license manager. Restart your license manager and then try to start MATLAB. See "Starting and Stopping the License Manager" on page 3-10.

If you get this error on a client system, but not your license server, the License File on the client probably needs to be updated. Copy the License File from the server onto the your client system (`$MATLAB\bin\win32`).

Here are some other possible solutions to this error:

- Make sure the INCREMENT lines in your `license.dat` file are exactly as they appeared in the original license e-mail you received from The MathWorks.
- Make sure the DAEMON line in your `license.dat` file identifies the correct license manager daemons, especially if you have multiple MATLAB installations on your system.
- Make sure the TCP port number at the end of the SERVER line in your `license.dat` file is not already being used by another application. Use the command `netstat` to show the status of all ports that are in use.
On NT systems, run the `netstat -p tcp` command from `C:\WINNT\system32`. If the local system appears on the Foreign Address list, then the port number listed is being used. Change the port number on the SERVER line to a port that is not being used. FLEXlm has reserved ports in the range 27000 to 27009. Restart the license manager after making this change.
- Make sure the Host ID or IP Address listed in the commented section in the `license.dat` file matches the Host ID or IP Address in the SERVER line. If you are trying to run the license manager on a different system than the one that the license was generated for, you will need to get a new License File from The MathWorks.

License Manager Error -21: License File Does Not Support This Version

If you are getting this error on your license server, make sure you have installed the version of FLEXlm included with Release 13. Release 13 License Files will not work with the older FLEXlm versions.

If you have updated an existing `license.dat` file with new Release 13 passcodes, you still need to install FLEXlm 8.0d from the MATLAB CD.

If you are getting this error on one of your client systems and not on the server, make sure the License File on the client is in the following format.

```
SERVER host hostname port_num  
USE_SERVER
```

The SERVER line in the client system License File should be the same as the SERVER line found in the License File on the license server.

Also, make sure you are using your Release 13 license and not a license from a previous release.

License Manager Error -25: License Server Does Not Support This Version of This Feature

This error indicates that you are trying to run MATLAB 6.5 with an old license. You must update your `license.dat` file with your new license passcodes.

If you do not have your MATLAB Release 13 license, contact Customer Service at The MathWorks.

License Manager Error -39: No License for Feature

You may encounter the following license manager error:

```
License Manager Error -39
User/host not on INCLUDE list for feature
Feature: MATLAB
```

This table lists a typical cause of this error with possible solutions.

Possible Problem	Resolution
You are not listed as a user in your options file.	Check your options file and make sure your username is on the INCLUDE line for the product you are trying to use. On UNIX computers, the installer creates the options file, named <code>\$MATLAB\flexlm\MLM.opt</code> .

License Manager Error -83: FLEXlm Version of Client Newer Than Server

This error message usually indicates that the version of the license manager on the client system is newer than the license manager on the server system. When MATLAB starts, the license file is pointing to the wrong version of the license manager.

To correct the problem, change the path of the DAEMON line in your `license.dat` file. For a UNIX server, the DAEMON line for all license files should resemble this sample (the pathname of your daemon will be different).

```
DAEMON MLM $MATLAB/etc/lm_matlab
```

For a PC server, the DAEMON line for all license files should read

```
DAEMON MLM $MATLAB\flexlm\mlm.exe
```

where \$MATLAB is your MATLAB installation directory. After changing your License File, be sure to restart the license manager.

License Manager Error -84: Missing Options File

License manager cannot find your options file.

Possible resolutions:

- Make sure the installer created an options file during the installation procedure. The full path of the options file is \$MATLAB\flexlm\MLM.opt, where \$MATLAB is your MATLAB installation directory. See “Setting Up Network Named User Licensing” on page 2-21 for more information.
- Make sure that the DAEMON line in your License File includes the full pathname of your options file. Check the processed License File, \$MATLAB\flexlm\license.dat. If the DAEMON line wraps onto a second line, make sure there is a line continuation character (\) at the end of the first line.
- Make sure you are listed as a valid user of the product you are trying to use.

License Manager Error -88: License Checkout Failed

This error indicates that your system clock has been set incorrectly. Check that your system date and time are correct. To learn how to change the system date, see “License Manager Error -10: Feature Has Expired” on page 4-8.

License Manager Error -96: Server Node is Down or Not Responding

This error can occur if you are running DHCP (to obtain a dynamically assigned IP address) on your license server. MATLAB cannot connect with the License Manager because it uses TCP/IP protocols for communication and your IP address is changing.

To fix this problem, follow this procedure.

- 1** Obtain the current IP address for your server. If you are on UNIX or Linux, use the `ifconfig` command. On a PC running Windows, you can use the `ipconfig` command at a DOS prompt.
- 2** Edit your hosts file and change the IP address for your server's entry to be the correct IP address. On UNIX or Linux systems, edit the `/etc/hosts` file.

On Windows NT and Windows 2000 systems, edit the
C:\Winnt\system32\drivers\etc\hosts file.

License Manager Error -97: License Checkout Failed

This error is often caused by trying to run both MATLAB 5.3 and MATLAB 6.5 on the same system with different license managers. If this is the case, run both copies of MATLAB with the same License File. See “Performing Common License Management Tasks” on page 3-7 for more information.

If you are not trying to run MATLAB 5.3 but only want to run MATLAB 6.5, make sure you have installed FLEXlm version 8.0d from the Release 13 CD. MATLAB 6.5 will not run with an older version of the license manager.

Troubleshooting an Installation That Uses Dongles

If your MATLAB installation requires the use of dongles, it can potentially run into conflicts with other applications you may be running that also use dongles. A dongle is a hardware-based security device that attaches to the serial or parallel printer port of a desktop computer.

MATLAB requires a certain set of dongle drivers. If you remove other applications from your computer, these applications may delete the MATLAB dongle drivers as well as their own.

To help troubleshoot problems with dongles, MATLAB includes a utility program called `dongleutil.exe`. The dongle utility program can be used to:

- Determine the version of the currently installed dongle drivers. This information is useful to the MathWorks Technical Support.
- Specify the minimum version of the dongle drivers required by MATLAB.
- Install the dongle drivers required by MATLAB.

If an installation uses dongles, the installer includes the `dongleutil.exe` utility in the `$MATLAB\bin\win32` directory, where `$MATLAB` represents your MATLAB installation directory.

MATLAB Directory Structure

This section describes the directory structure of a MATLAB installation with detailed information about the types of files stored in each subdirectory.

MATLAB Installation Directory
Structure (p. 5-2)

Lists the top-level directories that can be created during a MATLAB installation. (Your installation may not include all of the directories.)

MATLAB Subdirectories (p. 5-3)

Describes the contents of the primary MATLAB subdirectories.

MATLAB Installation Directory Structure

After installation, your MATLAB installation directory contains

- A text file, named `license.txt`, which contains the MATLAB software license agreement
- A shortcut to the MATLAB executable
- The subdirectories listed below

Note Your installation may not include all the subdirectories listed and may include subdirectories not included in this list.

<code>\BIN\WIN32</code>	The MATLAB binary and associated files
<code>\DEMOS</code>	MATLAB demonstration programs
<code>\EXTERN</code>	Tools for building external interfaces to MATLAB
<code>\FLEXLM</code>	The FLEXlm license manager, license management utilities
<code>\HELP</code>	Help system
<code>\JA</code>	MATLAB internationalization files
<code>\JAVA</code>	MATLAB Java Jar files
<code>\NOTEBOOK</code>	MATLAB Notebook
<code>\SYS</code>	Tools and operating system libraries that MATLAB depends on
<code>\TOOLBOX</code>	The MATLAB toolboxes
<code>\UNINSTALL</code>	The MATLAB Uninstaller program
<code>\WORK</code>	Default initial current directory

MATLAB Subdirectories

The section provides information about some of the subdirectories and their contents.

MATLAB\BIN\WIN32

LICENSE.DAT	Processed License File on client systems
MATLAB.EXE	The MATLAB executable file
*.DLL, *.EXE, *.BAT	Miscellaneous files

MATLAB\EXTERN

\EXAMPLES	Examples of using the C and Fortran application program interface
\INCLUDE	Header files for the External Interface library
\LIB	Libraries required for compilers
\SRC	C source files for inclusion in MEX building

MATLAB\SYS\GHOSTSCRIPT

\BIN	The GhostScript binary
\FONTS	GhostScript versions of PostScript fonts
\PS_FILES	PostScript initialization and configuration files

MATLAB\SYS\PERL\WIN32

The full ActiveState Perl distribution

MATLAB\TOOLBOX\LOCAL

Local environment M-files

MATLAB\TOOLBOX\MATLAB

\AUDIO	Sound I/O commands
\DATAFUN	Data analysis and Fourier transform functions
\DATATYPES	Data types and structures
\DEMOS	Demonstrations and samples
\ELFUN	Elementary math functions
\ELMAT	Elementary matrices and matrix manipulation
\FUNFUN	Function functions – nonlinear numerical methods
\GENERAL	General purpose commands
\GRAPH2D	Two-dimensional graphs
\GRAPH3D	Three-dimensional graphs
\GRAPHICS	General-purpose graphics commands
\IOFUN	Low-level file I/O functions
\LANG	Language constructs and debugging
\MATFUN	Matrix functions – numerical linear algebra
\OPS	Operators and special characters
\POLYFUN	Polynomial and interpolation functions
\SPARFUN	Sparse matrix functions
\SPECFUN	Specialized math functions
\SPECGRAPH	Specialized graphs
\STRFUN	Character string functions
\TIMEFUN	Time, date, and calendar functions
\UITOOLS	User interface utilities
\VERCTRL	Version control functions
\WINFUN	Window functions

A

- Access members 2-4
- Access program
 - MATLAB 1-2
- adding new licences 2-4
- adding products 1-18
- administrator privileges
 - concurrent installations 2-9
 - standard installations 1-6

C

- client systems
 - accessing MATLAB 2-7
 - location of processed License File 3-5
- combining licenses 2-4
- concurrent access configurations 2-6
- concurrent installations
 - procedure 2-8
 - on client systems 2-19
- configuration
 - after installation 1-16
- contacting The MathWorks 2-4
- converting single-user licenses 2-4
- current directory
 - initial 1-15

D

- DAEMON line
 - in License Files 3-4, 3-5
- deleting a MATLAB installation 1-20
- demo license
 - converting to standard license 1-19
- demo licenses
 - converting to standard licenses 1-18
- directories

- specifying name of installation directory
 - concurrent installations 2-14
 - standard installations 1-12, 2-14
- directory structure
 - after installation 5-2
- documentation
 - installation options
 - concurrent installations 2-15
 - standard installations 1-12
- dongles
 - troubleshooting 4-15
 - uninstalling 1-23
- dongleutil.exe 4-15

E

- Enterprise suite license
 - installing on Windows 2-1
- error messages
 - license manager 4-4
- Excel Link
 - installed versions 1-16
- expiration date
 - extending 1-18

F

- FLEXlm
 - installation directory 3-2
 - troubleshooting 4-4

G

- Group licenses
 - installing on Windows 2-1

H

Host ID

- determining on license server 2-5
- in License File 2-2
- in SERVER line 3-5

hosts file 4-13

I

INCREMENT line

- in License Files 3-4

individual licenses 1-2

- installation procedure 1-6

initial current directory 1-15

initialization file

- using with installer 2-23

installation directory

- moving 1-18
- specifying name of
 - concurrent installations 2-14
 - standard installations 1-12, 2-14

installation procedure

- checking for new and updated products 1-11, 2-13
- concurrent 2-8, 2-19
- non-interactive 2-23
- prerequisites
 - concurrent licenses 2-8
 - individual licenses 1-6
- selecting products
 - concurrent installations 2-12
 - standard installations 1-10
- standard 1-6
- turning off virus checking software 4-2

installer

- running non-interactively 2-23
- starting

- concurrent installations 2-11

- standard installations 1-8

installing additional products 1-18

ipconfig 2-5

J

Java Virtual Machine (JVM)

- installing 1-9
- troubleshooting 4-2

L

License Files

- combining licenses 2-4
- creating 2-3
- encryption code inconsistency 4-7
- location on client system 3-5
- processing by installer 2-15
- running separate license servers 3-13
- sharing with other applications 3-13
- specifying path 2-15
- understanding 3-3

license management

- overview 3-2

license manager

- administration 3-2
- daemons 3-2
- error messages 4-4
- installation directory 3-2
- installing as a service
 - using FLEXlm tools 3-11
 - using The MathWorks Installer 2-16
- sharing with other applications 3-13
- starting 3-10
- troubleshooting 4-4

License Number 1-3, 2-4

- License Password 1-9
- license servers
 - defined 2-6
 - redundant 3-14
- license.dat 2-3
- license.txt
 - software license agreement text 1-10
- licenses
 - administration tools 3-7
 - converting demo to standard 1-19
 - extending expiration date 1-18
 - individual 1-2
 - managing 2-4
 - types of 1-1
 - user-based 2-21
- licensing
 - important files 3-6
 - troubleshooting 4-4
 - viewing the log file 4-5
- lmgrd.exe 3-2
- lmlog.txt
 - license manager log file 4-5
- local client access 2-7
- log files
 - license manager 4-5
 - with non-interactive installations 2-24
- M**
- MATLAB
 - directory structure 5-2
 - getting started 1-17
 - installing in concurrent configurations 2-7
 - moving an installation 1-18
 - removing an installation 1-20
 - removing preference files 1-23
 - running multiple versions 1-7, 2-9
 - troubleshooting 4-14
 - starting 1-15
- MATLAB Access 1-2, 2-4
- mwsamp.ocx 1-22
- N**
- network installation
 - procedure 2-8
 - on client systems 2-19
- network installations
 - overview 2-1
- Notebook
 - configuration 1-16
- Number
 - License 2-4
- O**
- Open license
 - installing on Windows 2-1
- output logs
 - in non-interactive installations 2-24
- P**
- passcode
 - encrypted in license file 3-4
- password
 - Personal License Password (PLP) 1-2
- Perl
 - installation directory on PCs 5-3
- Personal License Password (PLP)
 - compared to License Number 1-9
 - concurrent installations 2-2
 - specifying
 - concurrent installations 2-11

- standard installations 1-9
- standard installations 1-2
- port number
 - used for license manager 3-4
- preferences
 - location of MATLAB preference files 1-23
- privileges
 - administrator
 - concurrent installations 2-9
 - standard installations 1-6
- products
 - adding 1-18
 - selecting
 - concurrent installations 2-12
 - standard installations 1-10

R

- Real-Time Windows Target
 - configuration 1-16
- redundant license servers 3-14
- remote client access
 - setting up 2-6
- removing a MATLAB installation 1-20
- requirements, system 1-4
- Runtime Server
 - configuration 1-16

S

- server installation
 - procedure 2-8
- SERVER line
 - in License Files 3-4
 - troubleshooting 4-9
- service
 - installing license manager as

- using FLEXlm tools 3-11
- using The MathWorks Installer 2-16
- setup.exe
 - concurrent installations 2-11
 - in non-interactive installations 1-23, 2-24
 - standard installations 1-9
- short cut
 - MATLAB short cut on desktop 1-15
- silent.ini 2-23
- software license agreement 1-10
- standard installation
 - procedure 1-6
- starting MATLAB 1-15
 - troubleshooting 4-4
- starting the license manager 3-10
- start-up directory 1-15
- system requirements 1-4
- system time
 - setting on Windows 4-13

T

- time
 - setting system time on Windows 4-13
- toolbox licenses
 - changing 2-4
- toolboxes
 - adding 1-18
 - transferring licenses 2-4
- troubleshooting
 - during installation 4-2
 - FLEXlm 4-4
 - starting MATLAB 4-4

U

- uninstall.exe

- starting 1-20
- uninstalling MATLAB 1-20
- upgrade installations
 - standard installations 1-7, 2-9
- USE_SERVER
 - client License File 3-5
- user-based licensing
 - setting up 2-21

V

- virus checking software
 - troubleshooting installations 4-2

W

- Web site, The MathWorks
 - obtaining License Files 2-4
- Web updating
 - checking for new and updated products 1-11,
2-13
- Windows NT service
 - installing license manager as
 - using FLEXlm tools 3-11
 - using The MathWorks Installer 2-16
- work directory 1-15

