

MATLAB® & SIMULINK®

- Computation
- Visualization
- Programming
- Modeling
- Simulation
- Implementation

How to Contact The MathWorks:



www.mathworks.com	Web
comp.soft-sys.matlab	Newsgroup



support@mathworks.com	Technical support
suggest@mathworks.com	Product enhancement suggestions
bugs@mathworks.com	Bug reports
doc@mathworks.com	Documentation error reports
service@mathworks.com	Order status, license renewals, passcodes
info@mathworks.com	Sales, pricing, and general information



508-647-7000	Phone
--------------	-------



508-647-7001	Fax
--------------	-----



The MathWorks, Inc. 3 Apple Hill Drive Natick, MA 01760-2098	Mail
--	------

For contact information about worldwide offices, see the MathWorks Web site.

Installation Guide for Mac OS X

© COPYRIGHT 2002 - 2004 by The MathWorks, Inc.

The software described in this document is furnished under a license agreement. The software may be used or copied only under the terms of the license agreement. No part of this manual may be photocopied or reproduced in any form without prior written consent from The MathWorks, Inc.

FEDERAL ACQUISITION: This provision applies to all acquisitions of the Program and Documentation by, for, or through the federal government of the United States. By accepting delivery of the Program or Documentation, the government hereby agrees that this software or documentation qualifies as commercial computer software or commercial computer software documentation as such terms are used or defined in FAR 12.212, DFARS Part 227.72, and DFARS 252.227-7014. Accordingly, the terms and conditions of this Agreement and only those rights specified in this Agreement, shall pertain to and govern the use, modification, reproduction, release, performance, display, and disclosure of the Program and Documentation by the federal government (or other entity acquiring for or through the federal government) and shall supersede any conflicting contractual terms or conditions. If this License fails to meet the government's needs or is inconsistent in any respect with federal procurement law, the government agrees to return the Program and Documentation, unused, to The MathWorks, Inc.

MATLAB, Simulink, Stateflow, Handle Graphics, and Real-Time Workshop are registered trademarks, and TargetBox is a trademark of The MathWorks, Inc.

Other product or brand names are trademarks or registered trademarks of their respective holders.

Printing History:	July 2002	First printing	New for MATLAB 6.5 (Release 13)
	January 2003	Second printing	Revised for MATLAB 6.5.1 (Release 13 SP1)
	June 2004	Third printing	Revised for MATLAB 7.0 (Release 14) (Renamed from <i>Installing and Using MATLAB on Mac OS X</i>)

Installing and Starting MATLAB

1

Introduction	1-2
About This Version	1-2
System Requirements	1-2
Supported Products	1-3
Documentation	1-3
Distribution	1-3
Where to Go from Here	1-3
Licensing	1-5
Product Licensing	1-5
Basic Installation	1-8
Starting MATLAB	1-18
Custom Installation Tasks	1-20
Installing MATLAB on a Client System	1-20
Creating Symbolic Links to MATLAB	1-20
Setting Up Network Named User Licensing	1-21
Using the License Manager	1-22
Starting MATLAB Manually	1-28
Printing	1-30
Removing (Uninstalling) a MATLAB Installation	1-31
Remove MATLAB	1-31
Remove the License Manager	1-31
Where to Go from Here	1-32

Upgrading from Previous Macintosh Versions

2

Upgrading from 5.2	2-2
MATLAB	2-2
Upgrading from Releases After 5.2	2-4

Differences Between Macintosh and UNIX

3

MATLAB	3-2
Desktop	3-2
Setting the Run-Time Library Path for Macintosh	3-3

Known Problems and Limitations

4

General Issues	4-2
Setting Help Preferences	4-2
Setting Pointer Location	4-2
No Support for the AltiVec Processor	4-2
Specific Product Issues	4-3
MATLAB	4-3
Simulink	4-3
Real-Time Workshop	4-4
License Manager Startup Problem	4-5

Index

Installing and Starting MATLAB

This chapter provides specific information for installing the MathWorks products on Macintosh systems running OS X.

Introduction (p. 1-2)	Describes MATLAB for the Macintosh
Licensing (p. 1-5)	Describes how to create a License File
Basic Installation (p. 1-8)	Describes how to install your MathWorks products on the Macintosh
Custom Installation Tasks (p. 1-20)	Describes specialized installation tasks that some users may need
Starting MATLAB Manually (p. 1-28)	Describes optional ways to start MATLAB
Printing (p. 1-30)	Describes how to set up a printer
Removing (Uninstalling) a MATLAB Installation (p. 1-31)	Describes how to remove the MATLAB family of products from your Macintosh
Where to Go from Here (p. 1-32)	Describes other installation tasks that you may need to perform

Introduction

About This Version

This version of MATLAB® for Macintosh runs on OS X Version 10.3 (or later) systems under the Apple X11 for Mac OS X window system as an X Windows application. It does not include special functionality associated with the Aqua user interface, but it looks like an Aqua application.

Note MATLAB 7 (Release 14) requires X11 for Mac OS X, which is freely available from Apple (see <http://www.apple.com/downloads/macosx/apple/x11formacosx.html> for more information). We recommend that you install X11 for Mac OS X before installing MATLAB.

Since OS X is based on UNIX, this version of MATLAB is also based on UNIX. Consequently, as you use MATLAB and its related products, you need to keep in mind that your base platform is UNIX. For example, if you use the `mex` command, you will be using the UNIX version, so the options file is `mexopts.sh`. You can find more information about `mex` on UNIX in the External Interfaces documentation, which is accessible from the Help browser.

System Requirements

- Power Macintosh G3, G4, or G5 running OS X (10.3 or later)
- X Windows. The only supported version is the Apple X11 for Mac OS X window system.
- 215 MB free disk space for MATLAB and the online help files
- 128 MB RAM minimum, 256 MB RAM recommended
- FLEXlm 9.2, installed by the MATLAB installer
- Netscape Navigator 6.2 or above, Microsoft Internet Explorer 5.1 or above, or Safari is required.
- Mac OS X supported printer

- gcc Version 3.3 compiler as provided on the Apple Development Tools CD to build C MEX-files, or Absoft Pro Fortran v8.2a for OSX to build Fortran MEX-files

Supported Products

This release supports many of the MathWorks products that are available on UNIX. For a complete list of supported products, see Platform/Version Availability in the Products section of www.mathworks.com.

Documentation

The documentation for MathWorks products is not specific for individual platforms unless the product is available only on a particular platform. When you access a product's documentation either in print or online through the Help browser, make sure you refer to the UNIX platform if there is different documentation for different platforms. To view the online documentation, select **Full Product Family Help** from the **MATLAB Help** menu.

Distribution

The MathWorks products are distributed on CDs or over the Internet. (Depending on your license option, you may also receive additional CDs containing the Windows version of the software.) For a detailed list of the files, see the "MATLAB Directory Structure" chapter in the Installation Guide for UNIX.

Where to Go from Here

The installation process requires a License File. You will need to copy and paste the necessary information from the e-mail sent to you by The MathWorks during the License File stage of the installation process. See "Licensing" on page 1-5 for additional information on License Files.

Basic Installation. If you are installing your MathWorks products on a single system, in either a stand-alone workstation or file server environment, you can follow the instructions in "Basic Installation" on page 1-8. The software is ordinarily installed on a single file system. This can be an individual user's computer, in the case of a stand-alone workstation, or a central file server, for networked installations.

Custom Installation Tasks. For other installation tasks, refer to “Custom Installation Tasks” on page 1-20.

Licensing

There are various licensing options available for the MathWorks family of products on the Macintosh. This section provides information about installing the different licensing options.

Product Licensing

When you purchase products, The MathWorks sends you license information by e-mail or fax. You use this licensing information to create a License File. If you did not receive your license information, see “Obtaining Your License File from The MathWorks” on page 1-6. The license information you received from The MathWorks contains a set of license passcodes. These license passcodes

- Identify the products you are licensed to install and use.
- Specify the number of users that may use each product (also known as the *keys* associated with a license).
- Specify the expiration date of each license.
- Specify whether it’s a user-based license.

The following is a sample set of license passcodes sent by The MathWorks. Lines that begin with a pound sign (#) are comments. The `TMW_Archive` INCREMENT line specifies the products you are licensed to install. The other INCREMENT lines identify products you are licensed to run. In this example, the `USER_BASED` keyword in the INCREMENT lines indicates it’s a user-based license.

```
# BEGIN-----cut here-----CUT HERE-----BEGIN
# MATLAB license passcode file for use with FLEXlm.
# LicenseNo: 12345          HostID: ID=12345
INCREMENT TMW_Archive MLM 14 01-mar-2004 0 9CC411EC7ACCB4A810 \
  VENDOR_STRING="f" HOSTID=DEMO SN=12345
INCREMENT MATLAB MLM 14 01-mar-2004 1 BCECD30AD121BBA7E9917 \
  USER_BASED DUP_GROUP=UH SN=12345
INCREMENT SIMULINK MLM 14 01-mar-2004 1 2C5C2C89EF83B8EAD8FD \
  USER_BASED DUP_GROUP=UH SN=12345
INCREMENT Control_Toolbox MLM 14 01-mar-2004 1 \
  7CACA7BA05CA5C5E38C1 USER_BASED DUP_GROUP=UH SN=12345
INCREMENT Identification_Toolbox MLM 14 01-mar-2004 1 \
  EC5C687AGD025B2AD73A USER_BASED DUP_GROUP=UH SN=12345
# END-----cut here-----CUT HERE-----END
```

License File

You will need your License File to install and run your MathWorks products. If you received your License File in an e-mail message from The MathWorks, you will need to access it during the installation process. If you received your license passcodes in a fax, you will need to type the License File into a text document and access it during the installation process.

To create the License File from a fax,

- Type in the license passcode information (the message marked by the BEGIN and END lines) exactly as it appears in the fax in the text file. Note that License Files are case sensitive.
- Make sure you remove any line breaks that might have been inserted between the start and end of an INCREMENT line by your e-mail program. If you need to continue an INCREMENT line onto more than one line, use the \ (backslash) character, as in the following:

```
INCREMENT Identification_Toolbox MLM 14 01-jan-0000 1 \  
9CDC648190C0F37C7C30 USER_BASED DUP_GROUP=U SN=12345
```

- Leave a space between each field in the INCREMENT line.
- Do not use tabs to separate the fields in an INCREMENT line.
- Save the License File on your desktop or note its location so you can locate it during the installation process.

Obtaining Your License File from The MathWorks

If you do not have your License File, you can obtain it by contacting The MathWorks via

- The Web at www.mathworks.com/mla. Log in to Access Login using your e-mail address and password. Access Login membership is free of charge and available to all customers. An Access Login is automatically created and sent to the primary contact on a new license if that person doesn't already have one. Additional users of that license create a login for themselves, and can then associate themselves with the license after purchase.
- 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

Have ready, or include in your e-mail or fax, the following items:

- Your e-mail address
- 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 may obtain this information from their local MathWorks representative.

You may also need the host ID for the machine on which you plan to run FLEXlm, the licensing software used by the MathWorks products. Two ways to determine your host ID are

- Open the Apple System Profiler application in /Applications/Utilities. Look in the **Network overview** of the **System Profile** to find your Macintosh's Ethernet Address, for example, 8.0.2b.e6.87.59.
- If you are familiar with the Terminal application, you can also use the command

```
netstat -I en0
```

assuming en0 is the Ethernet interface. Use the period-separated address such as 8.0.2b.e6.87.59. Note: To use this address as a host ID, you must remove all periods (.) and prefix any single-digit parts of the address with a zero (0). For example, the host ID for the address above would be 08002be68759. For more information, see "Determining your Host ID" in the Installation Guide for UNIX.

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.

Basic Installation

These instructions describe how to install the MathWorks products on a single system in either a stand-alone workstation or file server environment.

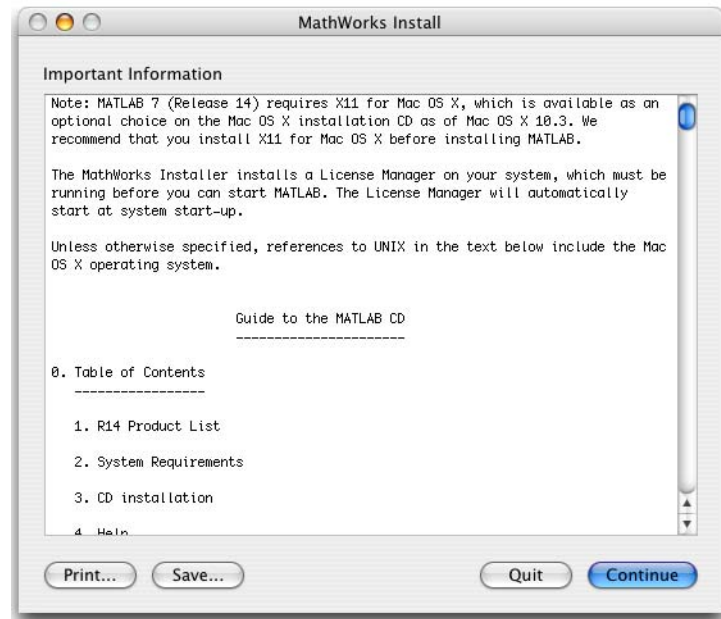
The `InstallForMacOSX` utility on the MathWorks UNIX CD will guide you through the installation process:

- 1 Place CD 1 in the CD-ROM drive. When the CD's icon appears on the desktop, double-click the icon to display the CD's contents.
- 2 Double-click the `InstallForMacOSX` icon to begin the installation.
- 3 To install the MathWorks products, you must enter a username and password for an administrator. Enter the username and password in the **Authenticate** dialog box and then click **OK**.



Note The user account you set up when you configured your Mac is an administrator account. If you don't know the username and password for an administrator, check with the person who administers your Macintosh.

- 4 When the **Important Information** dialog box appears, review its contents. Click **Continue** to proceed with the installation.



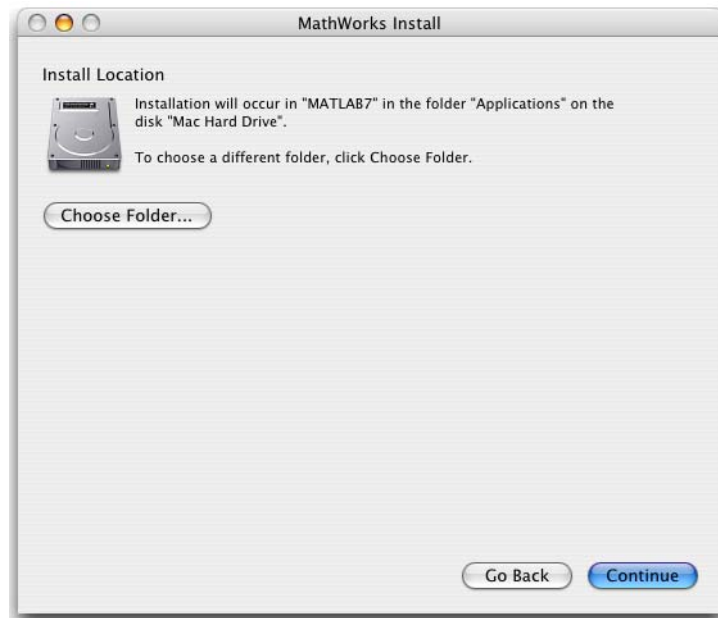
- 5 If you did not previously install X11 for Mac OS X, you will see this message. You can continue with the product installation by clicking **OK**.



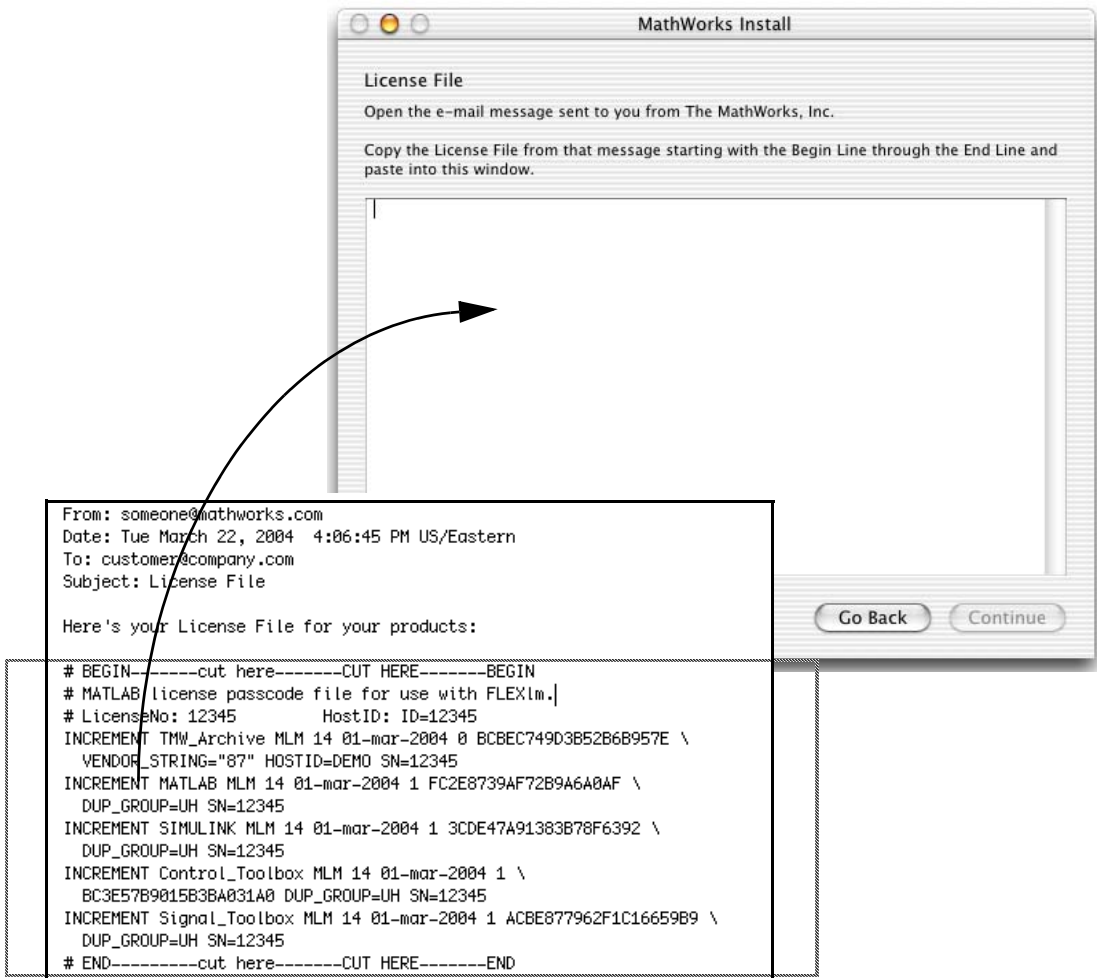
Note You will not be able to run the MathWorks Release 14 products until you install X11 for Mac OS X.

- 6 The Software License Agreement is displayed. If you agree to its terms, you can continue the installation.
- 7 The default installation location is MATLAB7 in the Applications folder on your system disk. To accept the default, click **Continue**. To change the location, click **Choose Folder** and then navigate to the desired location.

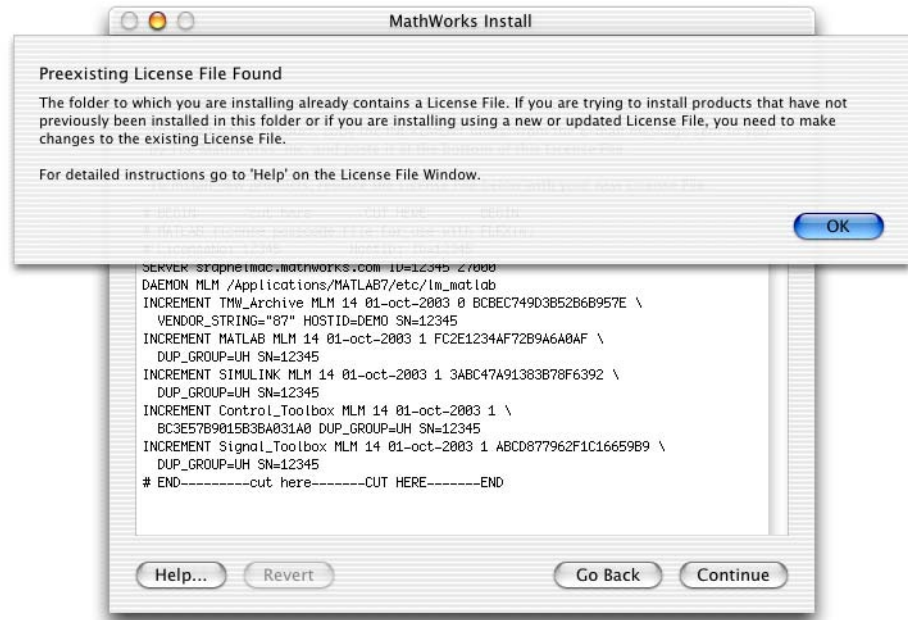
Note Your installation directory name cannot contain spaces, the @ character, or the \$ character. Also, you cannot have a directory named `private` as part of the installation path. To create this directory in this location on your system, you must have administrator privileges. For information on setting privileges, see Macintosh Help (**Command+?** from the desktop).



- When the **License File** window appears, copy the relevant contents of the License File from the e-mail sent to you by The MathWorks into the **License File** window.



If a License File is already in the installation folder, the License File is displayed in the window and this message appears.



Read the message and then click **OK** to dismiss it.

The two typical instances when you are informed of a preexisting License File are when you want to

- Install a trial (demo) product — You previously installed MathWorks products and now want to install a new, trial product.
- Install a newly purchased product — You previously installed MathWorks products and now want to install a newly purchased product.

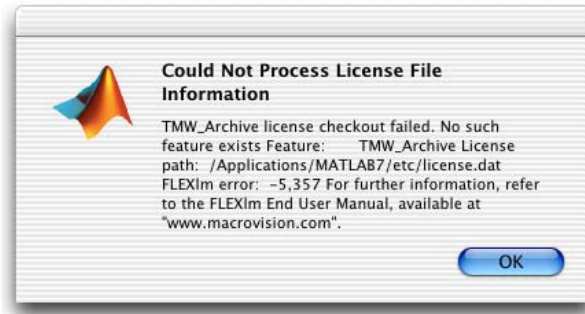
Trial Product. To install trial (demo) products, copy the INCREMENT line(s) from the e-mail and paste them at the end of the text in the **License File** window. Click **Continue** to proceed with the installation.

New Product. To install a newly purchased product, replace the old License File with the new License File in the **License File** window. Click **Continue** to proceed with the installation.

- 9 After you click **Continue** to proceed with the installation, there are several common scenarios.
- You made no change to your License File.
 - You modified your License File and there is a problem with it.
 - You modified your License File in order to install a trial or newly purchased product.
 - If you made no change to your License File, you see this message. Clicking **Proceed Without Changes** allows you to install products you did not install before or reinstall previously installed products. Clicking **Go Back** returns you to the **License File** window.



- b If there is a problem with your License File, you will see a message similar to the following. Click **OK** to return to the **License File** window and correct your License File.



- c If you modified your License File to install a trial or new product, continue with the next step.

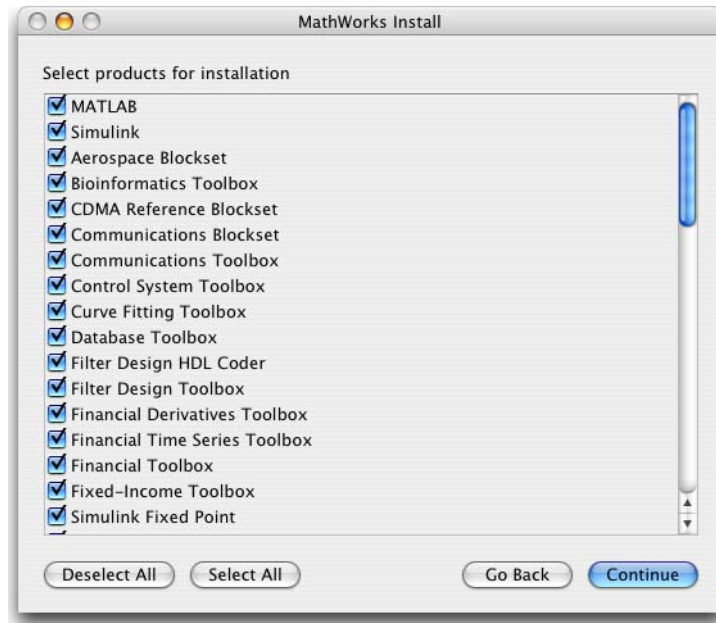
Note Before continuing, you should verify your License File.

Make sure the expiration date, number of keys, and passcode fields in each INCREMENT line match the license information you received from The MathWorks.

Delete INCREMENT lines for products with expired licenses. (This avoids the warning messages that appear in your log file when you start MATLAB.)

Once your License File is correct, you can proceed with the installation.

- 10** Select the products you want to install from the list of products available for installation and then click **Continue**.

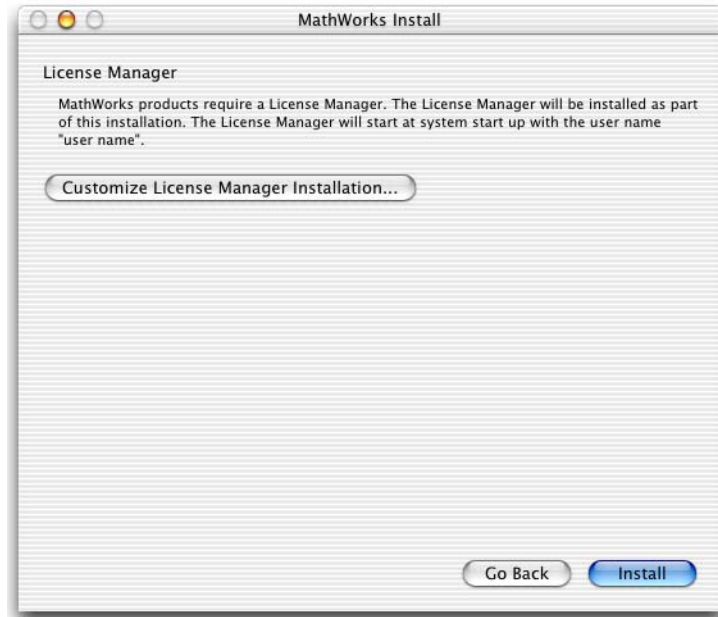


If you are installing products that are on a different CD, the installer will prompt you to insert the CD in your CD-ROM drive at the appropriate time.

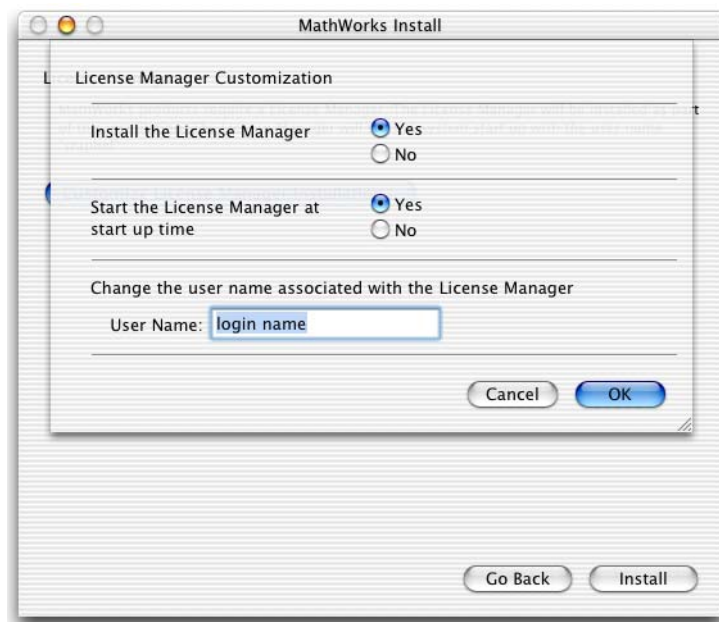
Note The Installer might display a message that states one or more of your licensed products are not available on this CD, but are available at the MathWorks Web site, www.mathworks.com. To obtain products that have been released since this installation CD was produced, visit the MathWorks Web site and download them.

11 The license manager must be running before you can start MATLAB. The installation process installs the license manager. The license manager will automatically start at system startup unless you change the default. To accept the defaults, click **Install**. To change the defaults, click **Customize License Manager Installation**.

Note You do not need the license manager running if everything you are installing is a demo. This is not the same as adding a demo product to an existing, nondemo license.

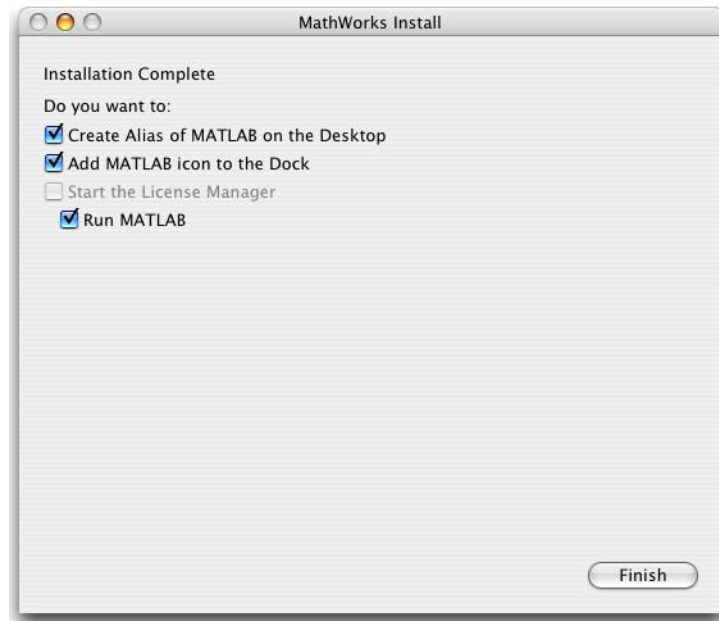


- 12** If you choose to customize the license manager, you can
- a** Choose whether or not to install the license manager. You might not want to install it if
 - Everything you are installing is a demo. This is not the same as adding a demo product to an existing, nondemo license.
 - This version of the license manager is already installed.
 - You have a concurrent license and you are configured as a client.
 - b** Choose whether to start the license manager at startup time. You might not want to start it if you prefer to start the license manager manually. See “Start the License Manager” on page 1-28 for more information.
 - c** Change the username associated with the license manager.



After you customize the license manager, click **OK** to return to the **License Manager** window and then click **Install** to continue the installation.

- 13** When the installation successfully completes, the installer displays the **Installation Complete** dialog box. This dialog box gives you options for accessing MATLAB. Check your desired options and click **Finish** to complete the installation.



- 14** Drag the CD icon to the trash and remove the CD from the CD-ROM drive.

Starting MATLAB

To start MATLAB 7 (Release 14), you need

- X11 for Mac OS X installed
- License manager running

If you installed your MathWorks products and accepted the defaults for the license manager, the license manager automatically starts at system startup. If you choose to run the license manager manually, see “Starting the License Manager at Startup” on page 1-23.

To start MATLAB, locate the MATLAB 7.0 icon on the desktop or Dock and double-click it.



Custom Installation Tasks

This section contains additional information for users who need to customize some of their installation tasks.

- “Installing MATLAB on a Client System”
- “Creating Symbolic Links to MATLAB”
- “Setting Up Network Named User Licensing”
- “Using the License Manager”

To perform many of these tasks, it is helpful to have an understanding of UNIX.

Installing MATLAB on a Client System

If you need to set up a MATLAB network installation, you can do it in several ways. Typically, you install MATLAB and the license manager on a server and users access MATLAB over the network. You can, however, also install MATLAB locally on users' systems. In this configuration, the local installations, or *clients*, need to access the server only to check out a license key when MATLAB starts. For more information on setting up MATLAB on a network, see “Installing MATLAB on a Client System” in the Installation Guide for UNIX.

Creating Symbolic Links to MATLAB

Root status is required to install symbolic links in the default location (`/usr/bin`) that effectively add MATLAB to your users' paths. The following section describes an alternate way to create symbolic links.

Putting MATLAB on the Path

You must have MATLAB on your path if you want to start MATLAB by just typing `matlab` at the UNIX prompt. If you do not have MATLAB on the path, you will need to type the full MATLAB pathname each time to run the program from the prompt.

To put MATLAB on the path, you can add a symbolic link to MATLAB in a directory that is already on your path. For example, on a stand-alone, single-user machine, you can use `/usr/bin`.

You can add the symbolic link at the UNIX prompt by entering

```
ln -s $MATLAB/bin/matlab
```

where `$MATLAB/bin/matlab` is the full path to the MATLAB program. You must execute this command in a directory that is currently on the path, for example, `/usr/bin`. (To add `mex` and `mbuild` to the path, you must repeat the process.)

For information on adding symbolic links on multiuser machines, see the Installation Guide for UNIX.

Note If you add symbolic links, you might need to rehash the UNIX path. When the MATLAB installation process is complete, type `rehash` at the prompt.

Setting Up Network Named User Licensing

Network Named User licensing is required if you need to control which users can access particular products.

If you have a network Named User license, you might 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=$MATLAB/etc/MLM.opt`, where `$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 Options File

The installer creates the options file `$MATLAB/etc/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 user names 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.

```
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
```

Using the License Manager

The installation process automatically configures the license manager to start when you start your machine. This section explains how to

- Manually install the script that starts the license manager automatically at startup
- Troubleshoot the license manager
- Disable the license manager at startup
- Reenable the license manager at startup
- Use the license manager with dynamic hostnames

Starting the License Manager at Startup

Note If you accepted the defaults when you installed your MathWorks products, the script that automatically starts the license manager was installed. This section is provided for those users who require additional information about the script.

The folder `MATLABmgr` in `$MATLAB/etc` automatically starts the license manager when you start your machine. By installing and configuring this folder, you do not have to manually start the license manager prior to starting MATLAB.

Note If you installed your MATLAB products using the installation defaults, `$MATLAB`, which represents the directory where your MATLAB products are installed, is `/Applications/MATLAB7`.

You must be an administrator to install this startup folder:

- 1 Navigate to the top-level `/Library` folder.
- 2 Create a folder within `/Library` called `StartupItems`, if it does not already exist.
- 3 Copy the `$MATLAB/etc/MATLABmgr` folder into the `StartupItems` folder.
- 4 Run the Terminal application (`/Applications/Utilities`) and in the **Terminal** window enter the commands

```
cd /Library/StartupItems/MATLABmgr
./config_lm.sh
```

- 5 The script runs and asks you to enter the directory where your MathWorks products are installed, that is, the MATLAB root directory. For example, if your MATLAB products are installed in `/Applications/MATLAB7`, you would enter

```
/Applications/MATLAB7
```

- 6 The script then asks for your username, and defaults to the results of the `whoami` command. Accept the default or enter a different username.
- 7 When the script finishes, reboot your machine.

During bootup, the message `Starting MATLAB License Manager` should appear on the screen. If you have difficulty starting the license manager, see the next section, “Troubleshooting the License Manager” for more information.

When you installed MATLAB, you had the opportunity to customize the license manager. Another method for starting the license manager at startup involves rerunning the installation process and customizing the license manager:

- 1 Double-click the `InstallForMacOSX` icon to begin the installation.
- 2 Proceed as usual through the installation steps.
- 3 When you get to the **Select Products for Installation** window, click **Deselect All**, and then click **Continue**.
- 4 On the next window, License Manager, click **Customize License Manager Installation** and then click **Yes** next to **Start the License Manager at start up time**.
- 5 Continue through the remainder of the installation as described earlier in this chapter.

Troubleshooting the License Manager

License Manager Startup Problem. If the license manager does not start during bootup, you should try to start it manually.

To start the license manager manually

- 1 Run the Terminal application (`/Applications/Utilities`).
- 2 At the command prompt in the **Terminal** window, enter
`cd /Applications/MATLAB7/etc`

3 To start the license manager, enter

```
./lmstart
```

If the license manager fails to start using the manual process, it might be because of a known problem concerning the license manager and dynamic hostnames. “Using the License Manager with Dynamic Hostnames” on page 1-26 provides more information on this issue.

License Manager Errors. If you receive one of the following errors when trying to start the license manager, you should apply the changes that are described in “Using the License Manager with Dynamic Hostnames” on page 1-26.

```
FATAL MATLAB Error:  
License Manager Error -95.
```

or

```
Checking license file for local hostname and local hostid . . .  
  
Taking down any existing license manager daemons . . .  
  
    No license manager daemons running . . .  
  
Starting license manager . . .  
  
    Debug logfile = /var/tmp/lm_TMW.log  
    Waiting 300 secs for MATLAB vendor daemon to come up . . .
```

or

```
Cannot find SERVER hostname in network database (-14,7)
```

Disabling the License Manager

If you do not want the license manager to start automatically at startup, you can disable it. To disable the MATLAB_{LM}mgr script,

1 From the **Finder**, choose **Go To Folder** from the **Go** menu.

- 2** In the **Go to the folder** field in the **Go To Folder** dialog, enter

`/Library/StartupItems/MATLABMgr`

and click **Go**. A window titled **MATLABMgr** appears, containing several files.

- 3** Rename the file `StartupParameters.plist` to `StartupParameters_disabled.plist`.

Reenabling the License Manager

You can reenble the license manager to start at startup by following steps 1 to 3 in “Disabling the License Manager” and renaming `StartupParameters_disabled.plist` back to `StartupParameters.plist` in step 3.

Using the License Manager with Dynamic Hostnames

OS X 10.3.x Systems. Typically, dynamic hostnames are used with computers that are used both on and off a network, such as a laptop. To get the license manager to start successfully on OS X 10.3.x systems with dynamic hostnames, you will need to use your Rendezvous hostname in the `license.dat` file. The Rendezvous hostname is the hostname that is given to the computer when it is off the network:

- 1** Reboot your computer while disconnected from the network.
- 2** Run the Terminal application (`/Applications/Utilities`) and enter

`hostname`

The output of the `hostname` command is your Rendezvous hostname. You will need it in the next step, so record it.

- 3** Open your `license.dat` file in `/Applications/MATLAB7/etc` using the TextEdit application and edit the `SERVER` line to read

```
SERVER <your_rendezvous_name> ID=<license_number> 27000
```

where

`<your_rendezvous_name>` is the Rendezvous hostname from step 2.

- 4** Save the `license.dat` file as plain text and exit TextEdit.

You should now be able to start the license manager on or off the network.

Starting MATLAB Manually

If necessary, you can manually execute the steps required to start MATLAB.

- Start X11 for Mac OS X
- Start the license manager
- Run MATLAB

Start X11 for Mac OS X

To start X11 for Mac OS X, locate the X11 for Mac OS X icon and double-click it.

Start the License Manager

The license manager must be running for you to start MATLAB. If the license manager daemons are not running, start them by executing the `lmstart` script (located in the `$MATLAB/etc` directory).

```
$MATLAB/etc/lmstart
```

Note Any time you make changes to the `license.dat` file, you must restart the license manager daemons by running `lmstart`. The `lmstart` script stops any currently running daemons and starts new ones.

Run MATLAB

Using Symbolic Links. If you set up symbolic links or you added MATLAB to the path, you can run MATLAB by entering at the command prompt

```
matlab
```

Using Full Pathname. If you did not set up symbolic links to MATLAB, you can run MATLAB from any directory by typing the full pathname to the executable program. For example, if the MATLAB executable (`matlab`) is located in `/Users/jsmith/MATLAB7/bin`, and you are in the `/Documents` directory, you can run MATLAB by entering

```
/Users/jsmith/MATLAB7/bin/matlab
```


Using Relative Pathname. You can also run MATLAB by entering the relative path to the MATLAB executable. For example, if you are in the MATLAB7 directory, you can enter

```
bin/matlab
```

If you are in the actual directory where the executable is located, you must enter

```
./matlab
```

Printing

Printers must be added to the Printer Setup Utility in the /Applications/Utilities directory for MATLAB to recognize them. The MATLAB print command uses lpr like other UNIX systems. MATLAB uses the Mac default printer as set in the Printer Setup Utility if you do not use -P<printer>. For example, to print the current figure to printer trinity, you can use

```
print -Ptrinity
```

To set up a printer, open the Printer Setup Utility in /Applications/Utilities. Click **Add Printer**. Refer to Macintosh Help (**Command+?**) for additional information.

Removing (Uninstalling) a MATLAB Installation

To remove a MATLAB installation, you need to remove MATLAB and its related products. Depending on where these components are located, you might need administrator privileges to remove them.

Remove MATLAB

Locate the folder that contains MATLAB and its related products. If you followed the installation process, the folder is named MATLAB7. Drag the MATLAB7 folder to the trash and then choose **Empty Trash** from the **Finder** menu.

Remove the License Manager

- 1 From the **Finder**, choose **Go To Folder** from the **Go** menu.
- 2 In the **Go to the folder** field in the **Go To Folder** dialog, enter
`/Library/StartupItems/MATLABMgr`
and click **Go**. A window titled **MATLABMgr** appears, containing several files.
- 3 Drag the MATLABMgr folder to the trash and then choose **Empty Trash** from the **Finder** menu.

Where to Go from Here

This chapter provided the basics for getting your MathWorks products installed and running on individual Macintosh systems. Other installation tasks include

- Specifying print options
- Specifying documentation viewing options
- Reducing startup time with toolbox path caching
- Specifying MATLAB startup options
- Configuring MATLAB products
- Installing additional products
- Managing your licenses

All of these are fully described in the Installation Guide for UNIX documentation.

Upgrading from Previous Macintosh Versions

This chapter describes considerations that you should be aware of if you are upgrading your version of MATLAB from a previous version.

Upgrading from 5.2 (p. 2-2)

Describes issues, features, and problems that are associated with upgrading from MATLAB 5.2

Upgrading from Releases After 5.2 (p. 2-4)

Describes issues, features, and problems that are associated with upgrading from releases after MATLAB 5.2

Upgrading from 5.2

MATLAB

- `isunix` now returns true on the Macintosh.
- The file separator is no longer a colon; it is a slash (/). The path separator is no longer a semicolon; it is a colon (:).
- You cannot use AppleScript to run external scripts. You can use the OS X `osascript` utility to call your AppleScripts. To use `osascript` from MATLAB, you must use `!`, the shell escape character, or the MATLAB unix command.
- Putting MATLAB into pause mode no longer changes the cursor to a “P” as it did in previous Macintosh releases.
- Some features that worked on previous versions of MATLAB on the Macintosh do not work in this version. These include
 - In the Editor/Debugger, **Command+E** used to save and run the file. In this version, **F5** saves and runs the file.
 - In this version, you cannot drag and drop selections between the Macintosh desktop and MATLAB.
 - In this version, you cannot copy figures from MATLAB to the clipboard.
 - In this version, there is no AppleEvent support.
- In MATLAB 5.2, the **Open File** dialog had the side effect of changing the current working directory. This no longer happens.

MEX-Files

Old Macintosh MEX-files (named `.mex`) do not work as is. They have to be (at least) recompiled. The new MEX-file extension is `.mexmac`.

Case Sensitivity

Hierarchical File System (HFS+) is the default file system included with Macintosh OS X. HFS+ is not case sensitive, so if you have an application named `Test.sh` and try to run it from the Terminal application, you could use either

```
Test.sh
```

or

```
test.sh
```

MATLAB is case sensitive. To run an M-file called `Compute.m`, you enter

```
Compute
```

Upgrading from Releases After 5.2

You can find detailed information about changes to MATLAB and its associated products in the Release Notes for each version of the product. You can access this information using the Help browser:

- 1** Display Help by selecting **Full Product Family Help** from the **Help** menu.
- 2** In the Help Navigator pane (left side of Help), click the diamond next to the product for which you want update information.
- 3** From the expanded list of items under the product name, click **Release Notes**.
- 4** Read the corresponding text in the contents pane (right side of Help) and click the desired link. Note that some of these documents are displayed in the Help browser and others are only available as PDF documents.

Differences Between Macintosh and UNIX

This chapter highlights differences in using MATLAB and its products on the Macintosh versus on other UNIX platforms. Specific product documentation may contain additional information.

MATLAB (p. 3-2)

Describes differences in using MATLAB

MATLAB

Desktop

General

MATLAB sometimes uses Macintosh dialog box button conventions, which might be different from those documented, but the intended action should be clear. For example, if you select **File -> Save** on the Macintosh, the **Save** dialog box that appears presents you with the options **Don't Save** and **Save**. On Windows and UNIX platforms, the **Save** dialog box presents the options **Yes**, **No**, and **Cancel**.

Mouse Buttons

The standard Macintosh mouse is a single-button device. Since other platforms use a mouse with more than one button and MATLAB takes advantage of these buttons, you should know how to access their functionality on the Macintosh:

- The Macintosh equivalent of right-clicking the mouse is **Control+click**.
- The Macintosh equivalent of middle-clicking the mouse is **Command+click**.

Preferences

In **Preferences** for the **Editor/Debugger, Keyboard and Indenting -> Key bindings**, there is an option for **Macintosh** in addition to the existing **Emacs** and **Windows** options.

Setting the Run-Time Library Path for Macintosh

When compiling and linking Engine or MAT-file programs on the Macintosh platform, use the library path `DYLD_LIBRARY_PATH` instead of `LD_LIBRARY_PATH`. The `DYLD_LIBRARY_PATH` must contain at least the following directories

```
$MATLAB/sys/os/mac  
$MATLAB/extern/lib/mac  
$MATLAB/bin/mac
```

where `$MATLAB` is the MATLAB root directory on your system.

3 Differences Between Macintosh and UNIX

Known Problems and Limitations

This chapter lists issues and workarounds, where available, that were identified during the development and testing of these products.

General Issues (p. 4-2)

Describes general problems and limitations

Specific Product Issues (p. 4-3)

Describes problems and limitations for specific toolboxes and blocksets

License Manager Startup Problem
(p. 4-5)

Describes a problem with the license manager and dynamic hostnames

General Issues

Setting Help Preferences

To use the online Help browser, you need to set the Help preferences to point to the location of your help files. To set your Help preferences to the `$MATLAB/help` directory,

- 1 Select **Preferences** from the **File** menu.
- 2 In the **Preferences** dialog list, click **Help**.
- 3 In the **Documentation location** field in the **Help Preferences**, browse to `$MATLAB/help`, where `$MATLAB` is the installation directory for MATLAB.
- 4 Click **OK**.

Setting Pointer Location

You cannot set the pointer location using the `set` command as in this example.

```
p = get(0, 'pointerlocation')
set(0, 'pointerlocation', [p(1) p(2)])
```

No Support for the AltiVec Processor

The AltiVec processor works with data types up to 32 bits, namely 32 bit or smaller integer and single-precision arithmetic. So, MATLAB double-precision computations cannot be performed on the AltiVec processor. MATLAB does not currently take advantage of the AltiVec capability when performing integer and single-precision computations.

The MATLAB double-precision, core numerical linear algebra computations use the BLAS functions in Apple's Accelerate framework, which are tuned to all of Apple's processors.

Specific Product Issues

MATLAB

Figure Menus

When a figure is the active window, the X11 for Mac OS X menus appear at the top of the desktop. The figure menus appear at the top of the figure window.

Help Browser

At times, horizontal gray lines may appear in the Help browser when you are scrolling.

MATLAB Editor

In the **Editor/Debugger Keyboard & Indenting Preferences** dialog in **Preferences**, there are three key binding options: **Emacs**, **Macintosh**, and **Windows**. If you select **Macintosh**, the menu accelerators (keyboard shortcuts) are displayed and work properly in the MATLAB Editor. If you select either **Emacs** or **Windows**, the accelerators work properly, but they do not show in the menus.

Property Editor

When using surface or patch objects, you cannot select Custom material... from the **Material** pull-down menu in the **Lighting** panel of the Property Editor. You must set the material properties from the command line.

Running MATLAB Remotely

You cannot run MATLAB remotely.

Simulink

Drag and Drop in Simulink Windows

In a Simulink® model, if you select and drag from one window to another, the selection will appear in the destination window but you will not see it while it is being dragged outside a Simulink window. This is also true in any other drag and drop situation between windows.

Simulink Model Menus

When you are working with Simulink models, the X11 for Mac OS X menus appear at the top of the desktop. The model menu appears at the top of the model window.

Real-Time Workshop

Setting the Environment Variable to Run Rapid Simulation Target Executables on Mac OS X

On the Mac OS X platform with Real-Time Workshop[®] you need to modify your `DYLD_LIBRARY_PATH` variable to include the following directories under the MATLAB installation directory: `bin/mac` and `sys/os/mac`. For example, if you have installed MATLAB under `/MATLAB`, you need to add `/MATLAB/bin/mac` and `/MATLAB/sys/os/mac` to `DYLD_LIBRARY_PATH`.

License Manager Startup Problem

There is a known problem concerning the license manager and dynamic hostnames.

If you receive one of the following errors when trying to start the license manager, you should apply the changes that are described in “Using the License Manager with Dynamic Hostnames” on page 1-26.

```
FATAL MATLAB Error:  
License Manager Error -95.
```

or

```
Checking license file for local hostname and local hostid . . .
```

```
Taking down any existing license manager daemons . . .
```

```
    No license manager daemons running . . .
```

```
Starting license manager . . .
```

```
    Debug logfile = /var/tmp/lm_TMW.log
```

```
    Waiting 300 secs for MATLAB vendor daemon to come up . . .
```

or

```
Cannot find SERVER hostname in network database (-14,7)
```


A

- Absoft Pro Fortran compiler 1-3
- Access Login 1-6
- adding a printer 1-30
- adding MATLAB to path 1-20
- AltiVec processor 4-2

C

- case sensitivity 2-2
- client system
 - installing on 1-20
- contacting The MathWorks 1-6

D

- daemons
 - starting 1-28
- differences
 - mouse buttons 3-2
- documentation 1-3
- dynamic hostnames
 - license manager 1-26
 - on OS X 10.3.x systems 1-26

E

- editor
 - MATLAB 4-3
 - Property 4-3
- engine programs
 - compiling and linking on Macintosh 3-3

F

- figure menus 4-3

G

- gcc compiler 1-3

H

- Help preferences
 - setting 4-2
- Hierarchical File System (HFS+) 2-2
- host ID
 - finding host ID on Macintosh 1-7
- hostnames
 - dynamic and license manager 1-26

I

- installation
 - additional tasks 1-32
 - basic 1-8
 - utility 1-8
- installing MATLAB 1-8

K

- keys
 - definition 1-5

L

- library path 3-3
- License File
 - creating 1-6
- License Files 1-5
 - creating 1-5
- license keys 1-5
- license manager
 - automating startup 1-23

- disabling 1-25
- error 1-25
- installing on server 1-20
- reenabling 1-26
- starting daemons 1-28
- startup problem 1-24
- using with dynamic hostnames 1-26

License Number 1-7

license passcodes 1-5

licenses

- network named user 1-21

M

Macintosh preference settings 3-2

MAT-file programs

- compiling and linking on Macintosh 3-3

MATLAB

- case sensitivity 2-2
- known problems 4-3
- starting 1-28
- uninstalling 1-31
- upgrading issues from release 5.2 2-2

MATLAB Editor 4-3

MATLABMgr script 1-23

MEX-files

- supported compilers 1-3
- upgrading 2-2

mouse button differences 3-2

N

network installation

- installing on 1-20

network named user licensing

- setting up 1-21

Number

License 1-7

O

OS X 1-2

P

passcodes 1-5

path

- adding MATLAB 1-20

pointer location 4-2

preference settings 3-2

printer

- setting up 1-30

Printer Setup Utility 1-30

printing 1-30

Property Editor 4-3

R

Real-Time Workshop

- known problems 4-4

rehash 1-21

removing MATLAB 1-31

root status 1-20

run-time library path 3-3

S

setting pointer location 4-2

Simulink

- known problems 4-3

starting MATLAB 1-28

status

- root 1-20

supported products 1-3

symbolic links 1-20
 rehash 1-21
system requirements 1-2

T

TMW_Archive line
 in License Files 1-5

U

uninstalling MATLAB 1-31
upgrading
 release 5.2 2-2
 releases after 5.2 2-4

W

Web site, The MathWorks
 obtaining License Files 1-6

X

X11 for Mac OS X 1-2

