MATLAB®

The Language of Technical Computing

■ Computation

■ Visualization

■ Programming

Installing and Using
MATLAB on Mac OS X

Release 13 with Service Pack 2
(MATLAB 6.5.1 Product Family)

The MathWorks

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.

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Contents

Installing and Starting MATLAB

1

Upgrading from Previous Macintosh Versions

2

Differences Between Macintosh and UNIX

3

Known Problems and Limitations

4

Troubleshooting

5

1

Installing and Starting MATLAB

This chapter provides specific information for installing and starting MATLAB® on Macintosh systems running OS X.

Introduction

About This Version

This version of MATLAB for Macintosh runs on OS X version 10.1.4 (or later) systems as an X Windows application; it does not include special functionality associated with the Aqua user interface, but it looks like an Aqua application through the use of OroborOSX, which is included on the CD. OroborOSX provides functionality that is more consistent with the Macintosh.

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/API documentation, which is accessible from Help.

System Requirements

- Power Macintosh G3 or G4 running OS X (10.1.4 or later)
- X Windows. The only supported version is the XFree86 X server (XDarwin) with the OroborOSX window manager; both are included with MATLAB. (Note: XFree86 requires approximately 100MB after it is uncompressed and installed onto your disk. To uncompress and install it onto your disk, you need an additional 40MB for the uncompressed file and 40MB for the actual installer. This space (80MB) is not needed after XFree86 is installed.)
- 90 MB free disk space for MATLAB only (215 MB to include MATLAB online help files)
- 128 MB RAM minimum, 256 MB RAM recommended
- FLEXlm 8.0, installed by the MATLAB installer
- Netscape Navigator 6.2 or above or Microsoft Internet Explorer 5.1 or above is required.
- PostScript or Ghostscript supported printer
- `gcc` compiler as provided on Apple's Development Tools CD to build C MEX-files, or Absoft Pro Fortran v7.0 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`.

Unsupported Products

These products are not supported on the Macintosh.

Data Acquisition Toolbox	MATLAB Link for Code Composer Studio®
Datafeed Toolbox	MATLAB Runtime Server
Embedded Target for TI C6000™ DSP	MATLAB Web Server
Gauges Blockset	Model-Based Calibration Toolbox
Excel Link	Motorola DSP Developer's Kit
Instrument Control Toolbox	Real-Time Windows Target
MATLAB COM Builder	xPC Target
MATLAB Excel Builder	xPC Target Embedded Option

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.

Licensing

Overview

There are various licensing options available for the MathWorks family of products on the Macintosh. This chapter 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 indicate 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 13 01-jan-0000 0 9CC411EC7ACCB4A810 \
  VENDOR_STRING="f" HOSTID=DEMO SN=12345
INCREMENT MATLAB MLM 13 01-jan-0000 1 BCECD30AD121BBA7E9917 \
  USER_BASED DUP_GROUP=UH SN=12345
INCREMENT SIMULINK MLM 13 01-jan-0000 1 2C5C2C89EF83B8EAD8FD \
  USER_BASED DUP_GROUP=UH SN=12345
INCREMENT Control_Toolbox MLM 13 01-jan-0000 1 \
  7CACA7BA05CA5C5E38C1 USER_BASED DUP_GROUP=UH SN=12345
```

```
INCREMENT Identification_Toolbox MLM 13 01-jan-0000 1 \
  EC5C687AGD025B2AD73A USER_BASED DUP_GROUP=UH SN=12345
# END---------cut here-------CUT HERE-------END
```

Creating a License File

When you receive your license e-mail message from The Mathworks, open a
text file using the `TextEdit` application located in your `Applications` folder,
and copy the section of the message marked by the `BEGIN` and `END` lines into
that text file. Name the file `license.dat` and store it on your desktop or in any
convenient directory.

Note We recommend you save the `license.dat` file on your desktop because
the Installer will automatically find it and use it for the installation. If you
save it in a different location, you will have to locate it for the Installer.

For more detailed information about License Files and licensing, see the
"License Management" chapter in the Installation Guide for UNIX.

When creating a License File, note the following:

- Make sure you remove any line breaks that may 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 13 01-jan-0000 1 \
  9CDC648190C0F37C7C30 USER_BASED DUP_GROUP=UH 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.

Note If your text editor gives you the option of using Macintosh or UNIX line endings, you *must* select UNIX. We suggest that you use the Macintosh `TextEdit` application as your editor to create your `license.dat` file. If you use `TextEdit`, save your file using the **Save As** option, name the file `license.dat`, and select **Western (Mac OS Roman)** under **Plain Text Encoding**. If the option for **Western (Mac OS Roman)** is not available, choose **Make Plain Text** from the **Format** menu before you save your file.

If you received your license passcodes in a fax, create the License File in the same way, typing in the license passcode information exactly as it appears in the fax. Note that License Files are case sensitive.

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 MATLAB Access using your last name and 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.
- 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.

Please 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`.

- 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 on determining your host ID, see 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.

Installation

The typical MATLAB installation installs the following:

- X Windows (XFree86/XDarwin)
- X Window Manager (OroborOSX)
- MATLAB and associated products

Although a complete installation can take some time, there is an installation utility that simplifies the process greatly. The installation utility installs all three components necessary for a complete installation. The following sections fully describe the steps you must follow to install the products.

Getting Ready to Install

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

Distribution

The MathWorks products are distributed on a set of 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.

Before You Install

Before you run the Installer utility:

- Make sure you have the licensing information that you received from The MathWorks via e-mail when you purchased your software. See "Product Licensing" on page 1-4 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 1-2.

Starting the Installation Process

Log in to your system.

It is important to note that if you want to install MATLAB in a particular directory, you must have the appropriate permissions. For example, to install MATLAB in the `Applications` directory, you must have Administrator status. To create symbolic links in a particular directory, you must have the appropriate permissions. For information on setting permissions (privileges), see Macintosh Help (**Command+?** from the desktop).

Root status is required to install the symbolic links in the default location (`/usr/local/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. An alternate way to start MATLAB is by using the `LaunchMATLAB` application. For more information about `LaunchMATLAB`, see "Using the LaunchMATLAB Application" on page 1-26.

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 `/Users/`*username*`/bin`, where *username* is your username. You will have the opportunity to add the symbolic link during the MATLAB installation process. Adding the symbolic links during the installation process also adds links for `mex` and `mbuild`.

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

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

which is the full path to the MATLAB program. You must execute this command in a directory that is currently on the path. (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 may need to rehash the UNIX path. When the MATLAB installation process is complete, type `rehash` at the prompt.

Running the Installer

There is a utility, `Install for Mac OS X`, that will guide you through the installation process:

1 Place CD 1 in the CD-ROM drive.

2 Double-click `Install_for_Mac_OS_X.dmg` to prepare for installation. A window opens containing the `Install for Mac OS X` installation utility and an `Install for Mac OS X` icon appears on the desktop.

3 Double-click the `Install for Mac OS X` icon in the window to begin the installation.

> **Note** Use the `Install for Mac OS X` icon in the window, not on the desktop.

4 A welcome message appears. Click **Yes** to continue the installation.

5 If you are not an Administrator, you will see this dialog.

You have two choices.

- If you continue the installation process as a non-Administrator, you will not be able to install MATLAB in the Applications directory. You will be able to install MATLAB in your Home directory.
- You can stop the installation, log out, and log in as an Administrator and then restart the installation.

6 If you are an Administrator, you will see this dialog.

Select **Install XDarwin**.

7 To start the XDarwin installation, click **OK** in this dialog.
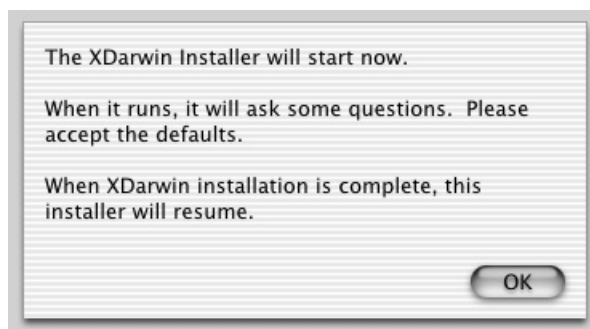
The XDarwin installation can take several minutes. As the XDarwin Installer runs, you will be asked for some information. The requested information includes these choices:

- Enter an Administrator password to authenticate.
- Select **English** as the language.
- Select **Full Install**.
- Do not create aliases.

At the conclusion of the XDarwin installation, this Install for Mac OS X utility will continue.

8 This dialog prompts you for a License File called license.dat.
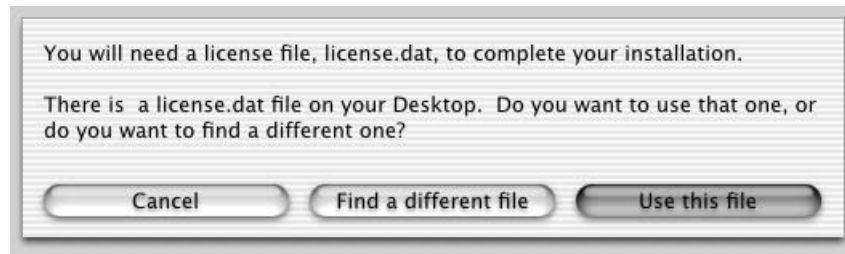
If the Installer finds a license.dat file on your desktop, you are given the opportunity to use it for your installation. To use the License File on your desktop, click **Use this file**.

To specify a different License File, click **Find a different file**, and then locate it.

9 This dialog lets you select where you want to install your MathWorks products and X Windows software.

- If you are an Administrator, the Installer suggests you install the products in the Applications directory.

- If you are not an Administrator, the Installer suggests you install the products in your Home directory.

In either case, clicking **Do it for me** creates the new directory. You also have the option of choosing your own directory. In either case, if you choose a directory name that already exists, the installer will overwrite the files with the new ones. To install this version of your MathWorks products in a separate directory, make sure you choose a different directory name.

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 administrative privileges. For information on setting privileges, see Macintosh Help (**Command+?** from the desktop).

10 This dialog lets you install and start the X Window Manager, called OroborOSX.

Click **OK**. This will install OroborOSX on your system and then start it.

11 When the OroborOSX installation is complete, OroborOSX starts and opens a window. When this dialog displays, click **OK** to start the MATLAB installation.

Click OK to run the MATLAB Installer.

Cancel   OK
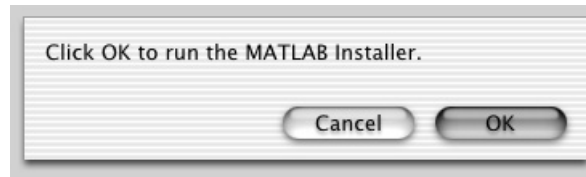
12 When the installation script displays a welcome screen similar to this, click
OK.

○ ○ ○   Installation - CD 1 of 3

MATLAB Installation

Welcome to the MATLAB R13 installer.
(c) Copyright 1984-2002 by The MathWorks, Inc.
(508) 647-7000

The MathWorks products and documentation are distributed
on three CDs. This is CD 1 of 3.

OK   Cancel   Help
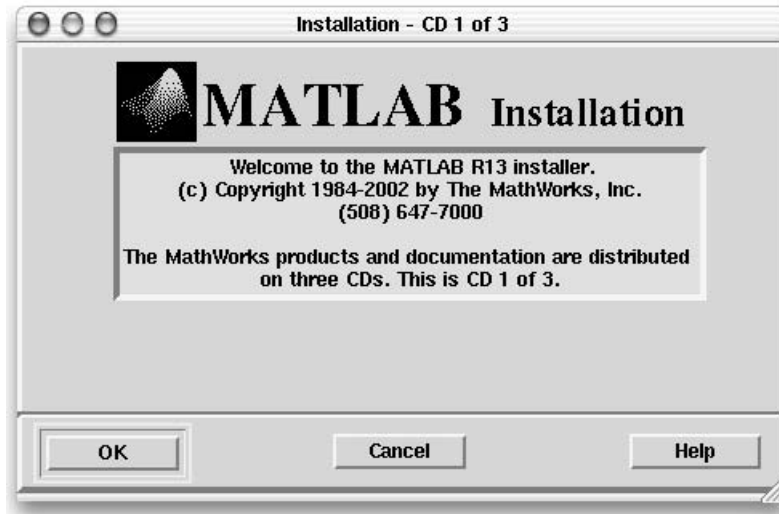
13 Accept or reject the software licensing agreement displayed. If you accept
the terms of the agreement, you may proceed with the installation.

14 Verify the name of the installation directory in the **MATLAB Root
Directory** dialog box and then click **OK** to continue. If you specify a
directory that does not exist, the installer creates it. This book refers to this
MATLAB installation directory as $MATLAB.
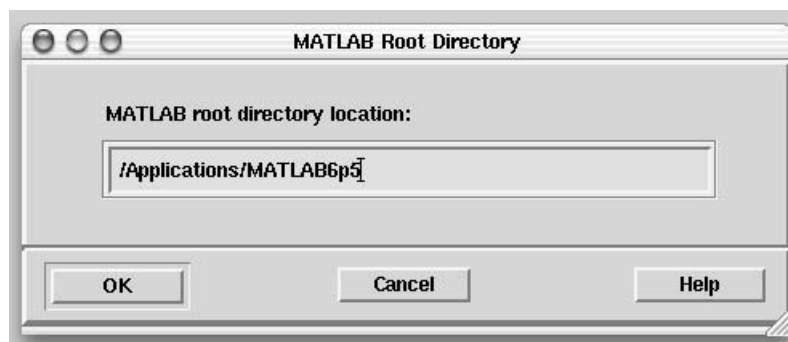
15 Verify your License File in the **License File** dialog box and click **OK**. You
can edit the License File in the text window displayed. If you prefer to use
another text editor to edit your License File, click **Cancel** and use another
editor. Make sure you edit the version of the license.dat file in
$MATLAB/etc.

Note If your text editor gives you the option of using Macintosh or UNIX line
endings, you *must* select UNIX. We suggest that you use the Macintosh
TextEdit application as your editor to create your license.dat file. If you use
TextEdit, save your file using the **Save As** option, name the file license.dat,
and select **Western (Mac OS Roman)** under **Plain Text Encoding**. If the
option for **Western (Mac OS Roman)** is not available, choose **Make Plain
Text** from the **Format** menu before you save your file.

```
 ⊖ ○ ⊖                              License File
Edit or verify the License File and press OK to continue.
Press the Help button for information on what to change.

 ┌─────────────────────────────────────────────────────────────────┐
 │ # BEGIN------cut here------CUT HERE-----BEGIN                     │▲
 │ # MATLAB license passcode file for use with FLEXlm.              │
 │ # LicenseNo: 12345   HostID: ID=12345                           │
 │ SERVER Mac-Computer.local. ID=12345 27000                       │
 │ DAEMON MLM /Applications/MATLAB6p5/etc/lm_matlab options=/Applications/MATLAB6p5/etc/MLM. │
 │ INCREMENT TMW_Archive MLM 13 01-jan-0000 0 8BDF7A7205A942D6876 \ │
 │         VENDOR_STRING=40081 HOSTID=DEMO SN=12345                 │
 │ INCREMENT MATLAB MLM 13 01-jan-0000 1 2C33376792BCF14279CD USER_BASED \ │
 │         DUP_GROUP=UH SN=12345                                    │
 │ INCREMENT Signal_Toolbox MLM 13 01-jan-0000 1 AA7D9767A5213BAED00 \ │
 │         USER_BASED DUP_GROUP=UH SN=12345                         │
 │ I                                                                │
 │                                                                  │▼
 │ ◄|                                                            |► │
 └─────────────────────────────────────────────────────────────────┘

 ┌──────────┐              ┌──────────┐              ┌──────────┐
 │   OK     │              │  Cancel  │              │   Help   │
 └──────────┘              └──────────┘              └──────────┘
```
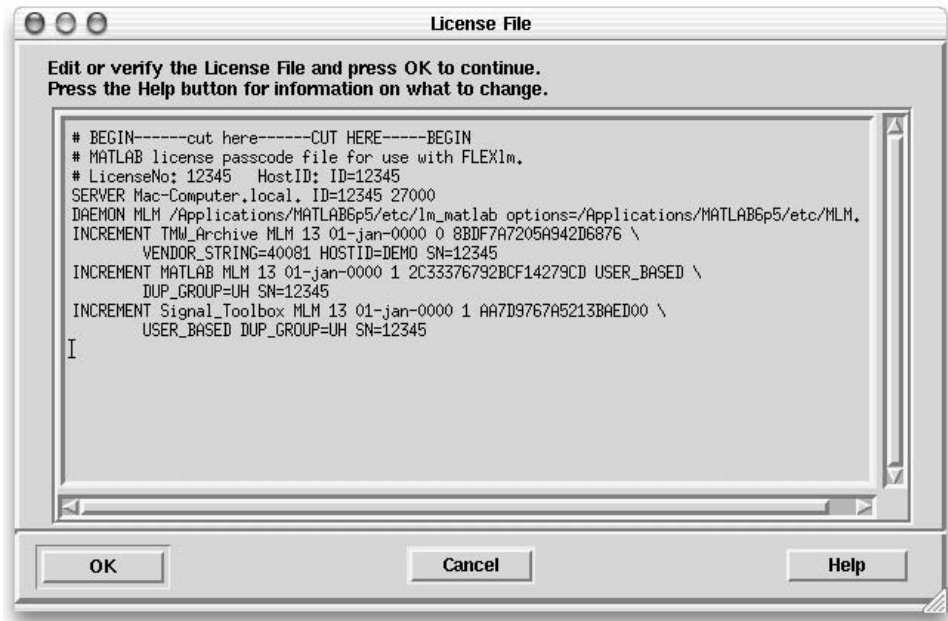
When verifying your License File:

- Make sure that 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.)

- Make sure that your e-mail program did not cause INCREMENT lines to
  wrap. You must use the continuation character (\) if INCREMENT lines get
  too long to fit on one line. Do not use tabs to separate the fields in an
  INCREMENT line.

16 Select the products and documentation you want to install in the
Installation Options dialog box and then click **OK** to continue.

Note The Installer may display a message box that states that one or more of your licensed products are not available on this CD. These products are either on one of the other installation CDs in the set or available at the MathWorks Web site, `www.mathworks.com`. In either case, click **Close** to continue with this installation and, when it completes, insert the proper CD and repeat the installation procedure to install the additional products. To obtain products that have been released since this set of installation CDs was produced, visit the MathWorks Web site, `www.mathworks.com`, and download them.
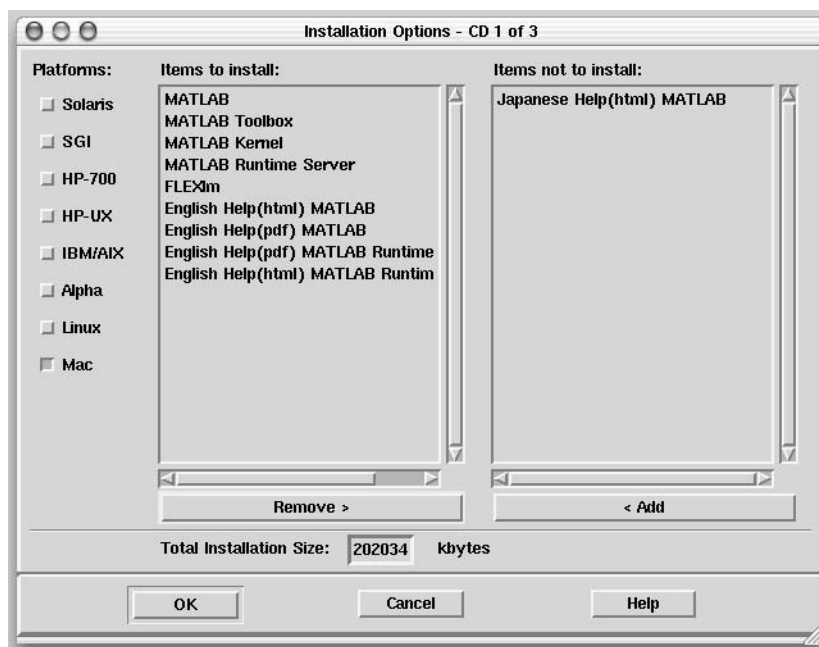
This dialog box lists all the products and documentation you are licensed to install in the **Items to Install** box. To remove an item from the **Items to**

Install list, select it and click the **Remove** button. (A MATLAB installation includes MATLAB, the MATLAB Kernel, and the MATLAB Toolbox.)

Select any additional platforms needed at your site from the column of check boxes. For information about which HP platform option to choose, HP-700 or HP-UX, see the Installation Guide for UNIX.

17 Click **OK** to begin the installation.

18 After the installation is complete, the installer displays the **Installation Complete** dialog box, assuming your installation is successful. This dialog box informs you of some optional post-installation setup and configuration steps you may want to perform. See "After You Install" on page 1-19 for more information. Click **Exit** to dismiss the installer.

19 When the installation is complete, you can remove the CD. To do so:

- Drag the Install for Mac OS X icon from the desktop to the Trash.
- Then, drag the CD icon to the Trash.

Installing MATLAB on a Client System

If you need to set up a MATLAB network installation, there are several ways this can be done. 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 installs, 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.

After You Install

This section describes tasks you can perform after a successful installation. Some of these tasks are required, depending on your type of installation.

License Type	Post-Installation Tasks
All user-based licenses (Individual, Group, or Enterprise Suite)	• "Setting Up User-Based Licensing" on page 1-20 • "Starting the License Manager at Startup" on page 1-22 • "Starting MATLAB" on page 1-26
Concurrent license	• "Starting the License Manager at Startup" on page 1-22 • "Starting MATLAB" on page 1-26
License Type	**Post-Installation Tasks**
Any type of installation	Note: These are optional tasks. • Specifying print options • Specifying documentation viewing options • Specifying MATLAB startup options • Configuring MATLAB products All of these tasks are described in the Installation Guide for UNIX.

Setting Up User-Based Licensing

Note If you are using an individual license and you are the only licensed user of your MathWorks products, you can proceed to the next section, "Starting the License Manager at Startup" on page 1-22.

If you have a user-based 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/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 may 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.

```
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
```

Starting the License Manager at Startup

There is a folder, MATLABLmgr, in $MATLAB/etc that automatically starts the license manager when you start your machine. By installing and configuring this folder, you will 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/MATLAB6p5.

Installing the Script

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/MATLABLmgr folder into the StartupItems folder.

4 Run the Terminal application (/Applications/Utilities/) and in the Terminal window enter the commands

```
cd /Library/StartupItems/MATLABLmgr
./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/MATLAB6p5, you would enter

```
/Applications/MATLAB6p5
```

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 following section.

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/MATLAB6p5/etc
```

3 To start the license manager, enter

```
./lmstart
```

If the license manager fails to start using the manual process, it may be due to a known problem concerning the license manager and dynamic hostnames. "Using the License Manager with Dynamic Hostnames" on page 1-24 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 1-24.

```
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)
```

Using the License Manager with Dynamic Hostnames

OS X 10.2.x Systems

To get the license manager to start successfully on OS X 10.2.x systems with dynamic hostnames, you must alias localhost to the Rendezvous hostname using the NetInfo Manager. The Rendezvous hostname is the hostname that is given to the computer when it is off the network:

1 Reboot the computer while disconnected from the network.

2 Run the Terminal application (/Applications/Utilities/) and enter the following.

   hostname

Note This hostname that is off the network will end in .local.

The output of the hostname command is your Rendezvous hostname and you will need it later in the process.

3 Run NetInfo Manager (/Applications/Utilities/) and select **machines** in the Directory Browser window.

4 Click the lock icon at the bottom of the window to make changes, and provide the administrator password.

5 Choose `localhost` from the **machines** list and duplicate it by clicking the **Duplicate** button (the second icon from the left in the toolbar at the top of the window.)

6 Select `localhost copy`, which should now appear.

7 Double-click on the **name** field (`localhost copy`) and change it to the output of the `hostname` command from step 2 above.

8 Save changes and quit `NetInfo Manager`.

9 Open your `license.dat` file in `/Applications/MATLAB6p5/` 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 and `<license_number>` is your license number.

10 Save the file as plain text and exit `TextEdit`.

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

OS X 10.1.x Systems

To get the license manager to start successfully on OS X 10.1.x systems with dynamic hostnames, you must edit the `license.dat` file in `/Applications/MATLAB6p5/etc/` (or wherever you installed MATLAB). We suggest that you use the Macintosh `TextEdit` application to edit this file. Edit the `SERVER` line to read as follows:

```
SERVER this_host ID=<license#> 27000
```

where `<license#>` is your license number.

Note When you save the file, keep it as plain text and save it with no appended file endings.

1-25

Starting MATLAB

Using the LaunchMATLAB Application

To start MATLAB, you can use the `LaunchMATLAB` application. The installation process puts the `LaunchMATLAB` application in the `$MATLAB/bin` directory. You can drag the icon to your Dock or make an alias to it on your desktop for easy access.

Note Do not drag the `LaunchMATLAB` application to your desktop. The application must remain in the `$MATLAB/bin` directory.

LaunchMATLAB

Double-click `LaunchMATLAB` to start MATLAB.

The `LaunchMATLAB` application performs these steps:

1 Starts X Windows.

2 Runs MATLAB.

Note The LaunchMATLAB application assumes the license manager is running. "Starting the License Manager at Startup" on page 1-22 describes how to automate the process of starting the license manager.

Performing the Steps Manually

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

Start X Windows

To start X Windows, locate the OroborOSX icon and double-click it.

Start the License Manager

The license manager must be running 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 during the MATLAB installation procedure 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/matlab6p5/bin, and you are in the /Documents directory, you can run MATLAB by entering

```
/Users/jsmith/matlab6p5/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 matlab6p5 directory, you can enter

```
bin/matlab
```

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

```
./matlab
```

1-27

Printing

Printers must be added to the Print Center in the `/Applications/Utilities/` directory for MATLAB to recognize them. The MATLAB `print` command uses the Macintosh `print` command. There is a default and it is used if you do not use `-P<printer>`. For example, to print the current figure to printer `trinity`, you can use

```
print -Ptrinity
```

Note In this command, `print` is a MATLAB command and uses the lowercase p. The Macintosh `print` command, `-P<printer>`, uses an uppercase P.

To set up a printer, open the Print Center 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
- OroborOSX
- XDarwin

Depending on where these components are located, you may 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 MATLAB6p5. Drag the MATLAB6p5 folder to the Trash and then choose **Empty Trash** from the **Finder** menu.

Remove OroborOSX

Use the Macintosh find function (**Command+f**) to locate the OroborOSX application. To remove OroborOSX from your system, drag the **OroborOSX** icon to the Trash and then choose **Empty Trash** from the **Finder** menu.

Remove XDarwin

To delete XDarwin (XFree86) from your system, you must have Administrator privileges. Remove the following directories and their contents:

- /Applications/XDarwin.app
- /usr/X11R6
- /etc/X11

To remove the three directories at one time, you can use the command

```
sudo /bin/rm -rf /Applications/XDarwin.app /usr/X11R6 /etc/X11
```

To run sudo you must be an Administrator. The sudo command will prompt you for your password before executing the rm (remove) command.

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.

2

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

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.

MEX-Files

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

Case Sensitivity

HFS+ (Hierarchical File System) 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 will display in the Help browser and others are only available as PDF documents.

Differences Between Macintosh and UNIX

This chapter summarizes differences in using MATLAB and its products on the Macintosh versus on other UNIX platforms.

MATLAB

Desktop

General

MATLAB sometimes uses Macintosh dialog box button conventions, which might be different than 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**.

OroborOSX uses a different right-click key combination. Its default right-click is **Option+click** rather than the Macintosh standard, **Control+click**. To right-click in a figure window or Simulink window, you would use **Option+click** because it is controlled by OroborOSX, but you would use **Control+click** to right-click in a MATLAB window such as the Help browser. You may want to change this preference in OroborOSX so that it matches the Macintosh key combination. To do so:

1 Select **XDarwin Preferences** from the OroborOSX **Options** menu.

2 This displays the **Preferences** dialog with its defaults.
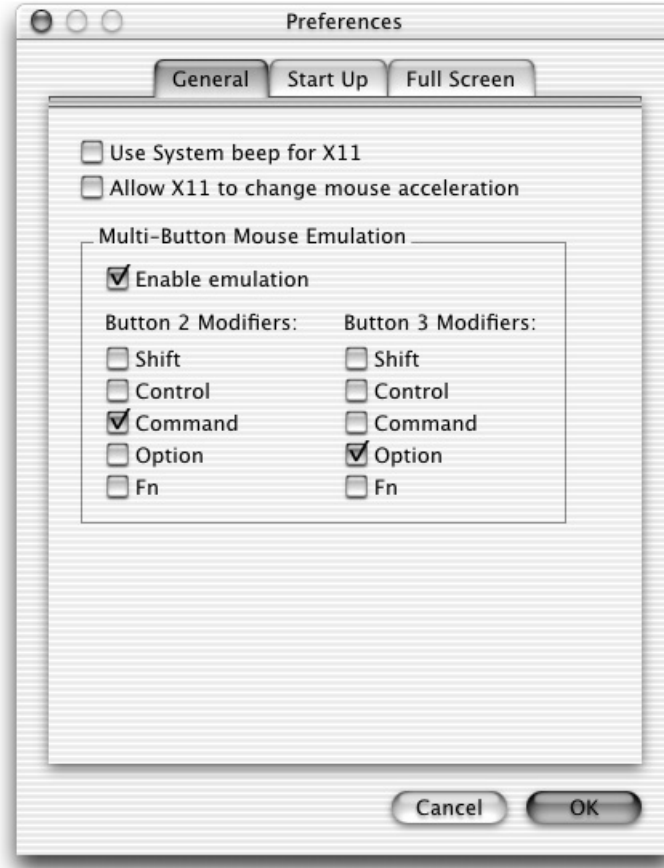
To change the key combination for right-clicking:

- Clear the **Option** in the **Button 3 Modifiers** column by clicking its check box.
- Select **Control** in the **Button 3 Modifiers** column by clicking its check box.

3 Click **OK**.

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.

Use the New Profiler to View Profile Results

The profile report and profreport functions are not supported on the Macintosh. Instead, use the new Profiler to view profiling results. To access the new Profiler, select **View -> Profiler** from the desktop, launch it from the **Start** menu, or type profile viewer.

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.

Image Processing Toolbox

When using the Image Processing Control Point Selection Tool (`cpselect`) on UNIX, the cursor changes to a fleur shape when you click the panning tool, which lets you drag the detail rectangle around the image. On the Macintosh, the cursor changes to a hand icon, not a fleur.

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. 4-6)   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. Since MATLAB does not support integer or single-precision arithmetic, MATLAB cannot take advantage of the AltiVec capability.

The MATLAB double-precision, core numerical linear algebra computations use ATLAS BLAS tuned to the G4 processor. If MATLAB supports integer or single-precision computations in the future, it is likely that MATLAB will support the AltiVec processor.

Viewlet Demos

Viewlets (demos that play like a video) do not run.

Specific Product Issues

MATLAB

LaunchMATLAB Application

When you run the LaunchMATLAB application (double-clicking `LaunchMATLAB`)

the utility starts up, but then in some situations (see below), it appears to hang, not starting OroborOSX or MATLAB.

This is because `LaunchMATLAB` uses AppleScript to start OroborOSX before starting MATLAB. If, on the system in question, OroborOSX has never been started by double-clicking on its icon, it will not have been registered as an application that AppleScript knows how to start.

The workaround is to start OroborOSX manually once by double-clicking on the OroborOSX icon. (Use the Finder's **File -> Find** menu item and search for "OroborOSX" if you cannot locate the icon.) This registers it with the operating system and allows AppleScript to find it. From then on, double-clicking on `LaunchMATLAB` should start OroborOSX automatically. (Note that if OroborOSX is already running, the LaunchMATLAB application will detect this and simply start MATLAB.)

Editors

This version of MATLAB supports UNIX editors such as Emacs and vi for editing M-files from within MATLAB. If you try to run a Macintosh-type editor in these cases, unexpected results may occur.

As with other UNIX platforms, if you incorrectly type in an application name and the system cannot find it, the `edit` command will silently fail with no error message.

Figure Menus

When a figure is the active window, the OroborOSX 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 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) display and work properly in the Editor. If you select either **Emacs** or **Windows**, the accelerators work properly, but they do not display 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 working with Simulink models, the OroborOSX menus appear at the top of the desktop.

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 1-24.

```
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)
```

5

Troubleshooting

This chapter contains troubleshooting information specifically for the Macintosh version of MATLAB and its associated products. For general troubleshooting information involving installation problems, starting MATLAB, or the license manager, see the "Troubleshooting" chapter in the Installation Guide for UNIX documentation.

X Windows Issues (p. 5-2)   Describes workarounds for X Windows-related issues.

For more information on installing and starting MATLAB on Mac OS X systems, see

```
http://www.mathworks.com/support/tech-notes/1300/1317.shtml
```

X Windows Issues

OroborOSX

You must use OroborOSX Version 0.8 preview 3 or later with this release of MATLAB for the Macintosh. Preview 3 is included on the CD. Earlier releases of OroborOSX are not supported.

Index