MATLAB®

The Language of Technical Computing

- Computation
- Visualization
- Programming

Release Notes for Release 13 with Service Pack 2

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Release Notes for Release 13 with Service Pack 2

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MATLAB Software Acknowledgments

MATLAB and/or its associated products include software developed by the following third parties.

ARnoldi PACKage (ARPACK)

Rich Lehoucq, Kristi Maschhoff, Danny Sorensen, and Chao Yang
`http://www.caam.rice.edu/software/ARPACK`

Assertion blocks were developed in cooperation with

Helmut Keller, Andreas Rau, and Joachim Boensch, members of the Control System Design (CSD) group at DaimlerChrysler Germany.

Automatically Tuned Linear Algebra Software (ATLAS)

R. Clint Whaley and Jack Dongarra
`http://www.netlib.org/atlas`

FDLIBM C math library for machines that support IEEE 754 floating-point

Developed at SunSoft, a Sun Microsystems, Inc. business, by Kwok C. Ng and others. FDLIBM is freely redistributable and is available through NetLib. For information about FDLIBM, see `http://www.netlib.org`.

`fft` and related MATLAB functions are based on the FFTW library

Developed by Matteo Frigo and Steven G. Johnson
Copyright © 1997-1999 Massachusetts Institute of Technology. All rights reserved.
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`http://www.fftw.org`

HDF capability in the functions `imread`, `imwrite`, `imfinfo`, and `hdf` is based on code of which portions were developed at

The National Center for Supercomputing Applications at the University of Illinois at Urbana-Champaign.

JPEG capability in the functions `imread`, `imwrite`, `imfinfo`, `print`, and `saveas`

This software is based in part on the work of the Independent JPEG Group.

Linear Algebra PACKage (LAPACK)

`http://www.netlib.org/lapack` (for general information about LAPACK)
For details, see the *LAPACK User's Guide*.
E. Anderson, Z. Bai, C. Bischof, L. S. Blackford, J. Demmel, J. Dongarra, J. Du Croz, A. Greenbaum, S. Hammarling, A. McKenney, and D. Sorensen
For a printed version of the *LAPACK User's Guide*, go to `http://www.siam.org`.
For an online version of the *LAPACK User's Guide,* go to
`http://www.netlib.org/lapack/lug/lapack_lug.html`.

Qhull based computational geometry capability in MATLAB

Qhull copyright (c) 1993 The National Science and Technology Research Center for Computation and Visualization of Geometric Structures, The Geometry Center, University of Minnesota
E-mail: `software@geom.umn.edu`
For complete copyright information, issue the MATLAB command `help qhull`.

Sparse matrix minimum degree permutation functions `colamd` and `symamd`

Copyright © 1998-2000 by the University of Florida. All rights reserved.
Authors of the code are Stefan I. Larimore and Timothy A. Davis (`davis@cise.ufl.edu`), University of Florida. The algorithm was developed in collaboration with John Gilbert, Xerox PARC, and Esmond Ng, Oak Ridge National Laboratory.
This work was supported by the National Science Foundation, under grants DMS-9504974 and DMS-9803599.
For complete copyright information, issue the MATLAB command `edit colamd` or `edit symamd`.

TIFF capability in the functions `imread`, `imwrite`, `imfinfo`, `print`, and `saveas`:

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Unsymmetric MultiFrontal PACKage (UMFPACK) for solving unsymmetric sparse linear systems.

UMFPACK Version 4.0, April 11, 2002. Copyright (c) 2002 by Timothy A. Davis, University of Florida, `davis@cise.ufl.edu`. All Rights Reserved.

See `http://www.cise.ufl.edu/research/sparse/umfpack` for general information about UMFPACK. For details, the *UMFPACK Version 4.0 User Guide* is available at `http://www.cise.ufl.edu/research/sparse/umfpack/v4.0/UserGuide.pdf`.

Revision: 1.1.2.1

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Contributors: National Center for Supercomputing Applications (NCSA) at the University of Illinois at Urbana-Champaign (UIUC), Lawrence Livermore National Laboratory (LLNL), Sandia National Laboratories (SNL), Los Alamos National Laboratory (LANL), Jean-loup Gailly and Mark Adler (gzip library).

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Contents

Release Notes for Release 13 with Service Pack 2

Release Notes for
Release 13 with Service Pack 2

Changes from the Previous Release

Bug Fixes

Release 13 with Service Pack 2 incorporates important bug fixes for several products. These bug fixes address issues that were present in Release 13SP1.

Changed Source Dialog Box Behavior

In this release, Simulink® no longer provides the user with the ability to change the values of source block parameters through a dialog box while a simulation is running.

For full information, see the Simulink Release Notes.

Dials & Gauges Blockset Changes

All source blocks (dials) have been removed from Dials & Gauges Blockset and it has been renamed the Gauges Blockset.

Products Changed in Release 13SP2

See the product-specific release notes for detailed information about the changes (HTML links provided below).

MATLAB Products

For Release 13SP2, the version number for MATLAB® has changed from 6.5.1 to 6.5.2, but there are no functional changes. The MATLAB documentation has *not* been updated to change instances of "6.5.1" in the text to "6.5.2."

The following MATLAB product has been updated:

- MATLAB Link for Code Composer Studio™

Toolboxes

- Bioinformatics Toolbox (introduced after R13SP1)
- Genetic Algorithm and Direct Search Toolbox (introduced after R13SP1)
- Mapping Toolbox
- Link for ModelSim (introduced after R13SP1)
- System Identification Toolbox

- Virtual Reality Toolbox

Simulink Products

- Simulink
- Embedded Target for TI C2000™ DSP (introduced after R13SP1)
- Embedded Target for the TI C6000™ DSP
- Real-Time Windows Target
- Real-Time Workshop®
- Real-Time Workshop® Embedded Coder
- Simulink® Performance Tools
- Stateflow® and Stateflow® Coder
- xPC Target
- xPC TargetBox™

Blocksets

- Aerospace Blockset
- CDMA Reference Blockset
- Communications Blockset
- DSP Blockset
- Fixed-Point Blockset
- Gauges Blockset

Printing the Release Notes for Release 13 with Service Pack 2

If you are reading the Release Notes for Release 13 with Service Pack 2 online and would like to print them, you can link to a PDF version.

Supported Platforms

The following platforms are supported for Release 13 with Service Pack 2:

- Windows 98 (original and second edition)
- Windows ME
- Windows 2000 (Service Pack 1, 2, or 3)
- Windows NT 4.0 (Service Pack 5, 6, or 6a)
- Windows XP (Service Pack 1)
- Linux ix86 2.2.x or 2.4.x, glibc (libc6) 2.1.2, glibc (libc6) 2.2.5 (recommended)
- Sun Solaris 2.6, 2.7, 2.8, and 2.9
- Alpha TRU64 UNIX 4.0f, 4.0g, 5.0, 5.1, or 5.1a
- HP-UX 10.20, 11.0, or 11i
- SGI IRIX/IRIX64 6.5.8 – 6.5.12, 6.5.15f
- IBM AIX 4.3.3 or 5.1
- Macintosh OS X 10.1.5 and 10.2 (and 10.3 with downloadable patch, as explained in "Installing under Mac OS X 10.3" on page 6)

Note For details on supported platforms and system requirements, see "System Requirements & Platforms" on the MathWorks Support Web site (`http://www.mathworks.com/support/`).

Installation Notes

To install Release 13 with Service Pack 2, follow the instructions in the Release 13 installation guide for your platform.

For additional information on installing MATLAB on a Macintosh OS X system, see "Macintosh Platform Notes" on page 6 of these release notes.

Note For Release 13SP2, the version number for MATLAB® has changed from 5.6.1 to 5.6.2, but there are no functional changes. The installation guides have not been updated to change instances of "5.6.1" in the text to "5.6.2."

Install in a New Directory

For all platforms, if you are installing Release 13SP2 on a machine that already has an earlier version of MATLAB installed on it, then you must install Release 13SP2 in a new installation directory. By default, the installer creates a new installation directory for each release; for Release 13SP2, the default directory on Windows is `C:\MATLAB6p5p2`.

You do not need to delete an existing MATLAB installation before installing Release 13SP2. You can run multiple versions of MATLAB on the same system.

Preferences

The installer does not overwrite existing MATLAB preference files on your system. Multiple MATLAB installations on the same system use the same preference files.

Macintosh Platform Notes

Much of the Macintosh-specific information for this release is organized in one document, called *Installing and Using MATLAB on Mac OS X*. That document describes

- How to install and use MATLAB on the Macintosh
- Upgrading issues from previous versions of MATLAB for the Macintosh
- Differences between the UNIX and Macintosh versions of MATLAB
- Known problems and limitations with this release
- Troubleshooting information

In the Help browser, you can access *Installing and Using MATLAB on Mac OS X* under "Installation."

Installation Notes

Installing and Using MATLAB on Mac OS X describes how to install MathWorks products on Macintosh systems running OS X. The following notes highlight issues and modifications in the installation process.

Installing under Mac OS X 10.3

The R13SP2 installer is not compatible with Mac OS X 10.3. Instead, you must download the MathWorks Mac OS X 10.3 Updater from

```
http://www.mathworks.com/support/solutions/data/
1-1BG7V.html?solution=1-1BG7V
```

Follow the instructions on that Web page to install R13SP2 under Mac OS X 10.3.

Install Release 13SP2 in a New Directory

If you are a Macintosh user who is installing Release 13 with Service Pack 2 on a system where Release 13 or Release 13SP1 is already installed, you should install the new release (Release 13SP2) in a new directory. The default installation directory is `/Applications/MATLAB6p5p2`.

Use UNIX Line Endings

During the installation process, you use an editor to perform various tasks such as creating a license file. Some editors give you the option of choosing line endings. If you are given the option of using Macintosh or UNIX line endings, you must select UNIX.

Note The MathWorks suggests 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.

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.

If you previously configured the `MATLABLmgr` folder for an earlier installation of MATLAB, you will need to reconfigure it according to the following instructions.

Note If you installed your MATLAB products using the installation defaults, then `$MATLAB`, which represents the directory where your MATLAB products are installed, is `/Applications/MATLAB6p5p2`.

The default installation directory for Release 13SP2 is `/Applications/MATLAB6p5p2`, not `/Applications/MATLAB6p5`, as stated in Installing and Using MATLAB on Mac OS X.

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/MATLAB6p5p2`, you would enter

```
/Applications/MATLAB6p5p2
```

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.

Starting the License Manager Manually

To start the license manager,

1 Run the `Terminal` application (from `/Applications/Utilities/`).

2 At the command prompt in the **Terminal** window, enter

```
cd /Applications/MATLAB6p5p2/etc
```

3 To start the license manager, enter

```
./lmstart
```

If the license manager fails to start using the manual process, it might be due to a known problem concerning the license manager and dynamic hostnames. "Using the License Manager with Dynamic Hostnames" on page 10 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 the "Using the License Manager with Dynamic Hostnames" section below.

```
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 can download a script that will 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. Download the `addalias.tar` file to your desktop.

   ```
   ftp://ftp.mathworks.com/pub/tech-support/solutions/s33143/
   addalias.tar
   ```

   When you download this file, the Stuffit Expander application on your Mac will automatically unpack it and create the `addalias.command` icon on your desktop.

2. Reboot your computer while disconnected from the network.

3. Run the `Terminal` application (`/Applications/Utilities/`), and enter the following:

   ```
   hostname
   ```

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

4. Double-click the `addalias.command` icon on your desktop.

5. A Terminal window will open and ask you to enter your `Rendezvous` hostname, username, and password. (Since you have rebooted off the network, your `Rendezvous` hostname will be given by default.)

6. Open your `license.dat` file in `/Applications/MATLAB6p5p2/etc` using the `TextEdit` application and edit the `SERVER` line to read

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

   where

   `<your_rendezvuos_name>` is the `Rendezvous` hostname from step 3.

7. 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.

OS X 10.1.x Systems. To successfully start 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/MATLAB6p5p2/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 extensions.

Usernames Longer Than Eight Characters

The problem of starting the license manager when the username is longer than eight characters has been fixed.

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.

Quick Access to Product-Specific Release Notes

Below are links to the product-specific release notes for each MathWorks product. If a product is not listed below, it has not changed significantly since Release 11.

Note Products flagged with an asterisk (*) include changes since Release 13SP1. For products that do not have an asterisk, you only need to refer to the release notes if you are upgrading from a release prior to Release 13SP1.

MATLAB	
MATLAB®	MATLAB® COM Builder
MATLAB® Compiler	MATLAB® Excel Builder
MATLAB® Link for Code Composer Studio™*	MATLAB® Report Generator
MATLAB® Web Server	

Toolboxes	
Bioinformatics Toolbox* (introduced after R13SP1)	Communications Toolbox
Control System Toolbox	Curve Fitting Toolbox
Database Toolbox	Data Acquisition Toolbox
Datafeed Toolbox	Filter Design Toolbox
Financial Derivatives Toolbox	Financial Time Series Toolbox
Financial Toolbox	Fixed-Income Toolbox
Fuzzy Logic Toolbox	GARCH Toolbox

Toolboxes (Continued)	
Genetic Algorithm and Direct Search Toolbox* (introduced after R13SP1)	Image Acquisition Toolbox
Image Processing Toolbox	Instrument Control Toolbox
Link for ModelSim* (introduced after R13SP1)	Mapping Toolbox*
Model-Based Calibration Toolbox	Neural Network Toolbox
Optimization Toolbox	Signal Processing Toolbox
Spline Toolbox	Statistics Toolbox
Symbolic Math Toolbox	System Identification Toolbox*
Virtual Reality Toolbox*	Wavelet Toolbox

Simulink	
Simulink®*	Embedded Target for Infineon C166 Microcontrollers
Embedded Target for Motorola® HC12	Embedded Target for Motorola MPC555
Embedded Target for OSEK/ VDX®	Embedded Target for TI C2000™ DSP* (introduced after R13SP1)
Embedded Target for the TI C6000™ DSP*	Real-Time Windows Target*
Real-Time Workshop*	Real-Time Workshop® Embedded Coder*
Requirements Management Interface	SimMechanics
SimPowerSystems	Simulink® Performance Tools*

Simulink	
Simulink® Report Generator	Stateflow® and Stateflow® Coder*
xPC Target*	xPC TargetBox™*

Blocksets	
Aerospace Blockset*	CDMA Reference Blockset*
Communications Blockset*	DSP Blockset*
Fixed-Point Blockset*	Gauges Blockset*
Nonlinear Control Design Blockset	