

Model Based Design Toolbox

Installation Quick-Start

An Embedded Target for the MPC574xP Family of Processors

Version 2.0.0

Target Based Automatic Code Generation Tools

For MATLAB™/Simulink™/Stateflow™ Models working with Simulink Coder™ and Embedded Coder®

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Model Based Design Toolbox Installation Quick-Start is for use with the Model Based Design Toolbox, an embedded target and block set library for MATLAB/Simulink/Stateflow Modeling.

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1 Installation

Installing the Model Based Design Toolbox is your first step to getting up and running on the target processor.

1.1 System Requirements

The minimum recommended PC platform is:

- *Windows® OS*: Intel® Pentium® 4 processor, 2 GHz or faster, Intel® Xeon™, Intel® Core™, AMD Athlon™ 64, AMD Opteron™, or later
- At least 4 GB of RAM
- At least 3 GB of free disk space.
- Internet connectivity for web downloads.

Operating System Hosts

| Windows | | | |
|-------------|----------|--------|--------|
| Host OS | SP Level | 32-bit | 64-bit |
| Windows 7 | SP1 | X | X |
| Windows 8.1 | U1 | X | X |
| Windows 10 | | X | X |

1.2 Installation Steps

1. Run installation 'setup.exe' downloaded from www.nxp.com/mctoolbox
2. Run FreeMASTER Installer from Model Based Design Toolbox Menu
3. Register and Install license file
4. Set the Target Compiler Environment Variables
5. Setup the MATLAB path for Model Based Design Toolbox

1.2.1 Run Setup.exe

Install the Model Based Design Toolbox by running the Setup.exe; this will activate the installer. Click through the dialogs entering in the appropriate location for the installation. It is best if this is NOT installed on a network drive.

1. The Model Based Design Toolbox Installation Wizard dialog will appear. Click "Next" to proceed.
2. Indicate acceptance of the end users license agreement. Click "Next" to proceed.
3. The "Choose destination directory" dialogue box will appear. The default install directory is "C:\MBDToolbox\". To change the install directory press "Browser" button. Click "Next" button to proceed.
4. A confirmation of installation settings screen will appear. Click "Install" to proceed.
5. Installation is complete. Click "Finish" to exit.

1.2.2 Run FreeMASTER Installers

1. START->Programs-> Model Based Design Toolbox for MPC574xP->Installers->FreeMASTER Installer
2. START->Programs-> Model Based Design Toolbox for MPC574xP->Installers->FreeMASTER SCI Driver Install

1.2.3 License Registration & Installation

The Model Based Design Toolbox for MPC574xP is available free of charge, however, a license is required. If you need to get a license it can be obtained by following the path outlined below. If you encounter issues getting a license please submit a ticket at <http://www.nxp.com/support/sales-and-support:SUPPORTHOME> describing the issue.

Please perform the following steps to obtain your license:

1. Go to www.nxp.com/mctoolbox and click on 'Get License'.
2. Once you have logged in, the 'Product Information' page for Motor Control Toolbox appears. Select 'Model Based Design for MATLAB/Simulink MBD supporting MPC574xP' to bring up the Software Terms and Conditions page.
3. Click "I Agree" to consent to the software license agreement.
4. If you need to download the tool, click on the linked file name. Otherwise, click on "License Keys" tab.
5. Verify the correct tool is identified and click on "Generate".
6. Enter your Disk Serial Number as the Host ID. If you do not know your Disk Serial Number, go to 'Locating the Host ID' in the document Motor Control Toolbox License Installation to learn how to locate your Disk Serial Number, which is needed to generate your license.
7. Enter a name for your license. (Optional)
8. Click "Generate"
9. Either click on "Save All" or copy and paste the file into a text editor and save the file as 'license.lic' to the folder "C:\MBDToolbox\mctbx_pnt\lic"
10. Your installation of the license is now complete.

1.2.4 Setting up the Target Compilers

The target compiler for Model Based Design Toolbox to use will need to be configured. Use the script commands below to setup these compiler environmental variables. Ensure a system environment variable called <COMPILER_STRING>_TOOL, corresponding to the compiler(s) you have installed, is defined to compiler path value as shown below:

```
DIAB_TOOL = C:\WindRiver\diab\5.9.4.8\  
GHS_TOOL = C:\ghs\comp_201516  
S32DS_PA_TOOL = C:\Freescale\S32_Power_v1.1
```

Note: Paths shown are for illustration, your installation path may be different. Once environmental variables are setup you will need to restart MATLAB in order for the environment to see these.

1.2.5 Setting the Path for Model Based Design Toolbox

In order for MATLAB to recognize the Model Based Design Toolbox, the path needs to be setup in the MATLAB environment. This is done by navigating the MATLAB Current Directory to the MBD Toolbox/mbdtbx_pnt installation directory and running the “mbd_pnt_path” script.

```
>> mbd_pnt_path  
Treating 'D:\MBD_Toolbox\mbdtbx_pnt' as MBD Toolbox installation root.  
MBD Toolbox path prepended.  
Successful.  
>>
```