

dSPACE Release

Quick Software Installation Guide

Release 6.3 – November 2008

dSPACE

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How to Contact dSPACE Support

There are different ways to contact dSPACE Support:

- Visit our Web site at <http://www.dspace.com/goto?support>
- Send an e-mail or phone:
 - General Technical Support:
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- Use the dSPACE Support Wizard:
 - On your dSPACE DVD at `\Diag\Tools\dSPACESupportWizard.exe`
 - Via Start – Programs – dSPACE Tools (after installation of the dSPACE software)
 - At <http://www.dspace.com/goto?supportwizard>

You can always find the latest version of the dSPACE Support Wizard here.
dSPACE recommends that you use the dSPACE Support Wizard to contact dSPACE Support.

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Safety Precautions

General Warning

Danger potential

Using dSPACE software can be dangerous. You must observe the following safety instructions and the relevant instructions in the user documentation.



WARNING

Improper or negligent use can result in serious personal injury and/or property damage.

Using the dSPACE software can have a direct effect on technical systems (electrical, hydraulic, mechanical) connected to it.

The risk of property damage or personal injury also exists when the dSPACE software is controlled via an automation interface. The dSPACE software is then part of an overall system and may not be visible to the end user. It nevertheless produces a direct effect on the technical system via the controlling application that uses the automation interface.

- **Only persons who are qualified to use dSPACE software, and who have been informed of the above dangers and possible consequences, are permitted to use this software.**
- All applications where malfunctions or misoperation involve the danger of injury or death must be examined for potential hazards by the user, who must if necessary take additional measures for protection (for example, an emergency off switch).

Liability

dSPACE GmbH and its subsidiaries accept no liability for property damage or personal injury resulting from improper or noncontractual use of this product, or from incorrect operation by insufficiently qualified staff.

If you do not accept the above restrictions, you can return this product at the expense of dSPACE GmbH within one (1) month of receiving it. The purchase price will then be refunded to you immediately.




Data loss under Windows Vista


The modified shutdown procedure of Windows Vista causes some required processes to be aborted although they are still being used by dSPACE software. To avoid data loss, the dSPACE software must be terminated manually before a PC shutdown is performed.

Before You Start

Symbols used in this guide

The following symbols are used in this document:

	Indicates a general hazard that may cause personal injury of any kind if you do not avoid it by following the instructions given.
	Indicates important information that should be kept in mind, for example, to avoid malfunctions.
	Indicates tips containing useful information to make your work easier.

 Precedes the document title in a link that refers to another document.

%name% Names enclosed in percent signs refer to environment variables for file and path names, for example, %DSPACE_ROOT% specifies the location of your dSPACE installation in the file system.

Where to go from here

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About dSPACE Software Installation

Contents of DVD

As of dSPACE Release 5.2, the software is no longer shipped on several CDs but comes on **one** DVD.

The DVD for dSPACE Release 6.3 contains the following dSPACE software items:

- RCP and HIL software
"RCP and HIL software" is a generic term for a software item containing several dSPACE software products, for example RTI, ControlDesk, AutomationDesk, ConfigurationDesk, MotionDesk, ModelDesk.
- TargetLink 3.0 and 2.3.1 (TargetLink 2.3.1 requires that TargetLink 2.3 is installed)
- CalDesk 2.1
- Model Compare 2.0.1



Product use prohibited in United States

You are not licensed to use Model Compare in the United States. You are not allowed to use or permit others to use this product in the United States or in any way that violates the laws of the United States.

- SystemDesk 2.0

Licensing

Various dSPACE products on the dSPACE DVD are license-protected. The license mechanism covers both the installation and the use of the installed software as follows:

- For installation, you need a license file (`keys.dsp` file). This file contains information on the software products which are installed during the installation procedure.
- To execute applications protected by license, the license protection must be enabled. Three different license mechanisms (dongle license, node-locked license, floating network license) are available to work with the dSPACE software after installation, depending on your order.

**Documentation for
software installation**

dSPACE provides information about software installation in the following documents:

- This **Quick Software Installation Guide** describes the software installation from scratch. It also guides you to further basic information and advanced practices in other documents.

The guide is available in printed form and as a printable PDF file (SWQuickInst.pdf) in:

- The \DOC folder on the DVD
- The \DOC\Print folder in the installation folder on your host PC (after software installation)

- Unlike this quick guide, the **Software Installation and Management Guide** contains all the information you need for installing and managing dSPACE software in all cases. The guide gives further basic information and detailed instructions on advanced practices, for example, managing dSPACE software installations and managing dSPACE licenses.

For an overview of the contents, refer to *Information on Further Basics and on Advanced Tasks* on page 35.

The guide is available as a printable PDF file (SWInst.pdf) in:

- The \DOC folder on the DVD
- The \DOC\Print folder in the installation folder on your host PC (after software installation)

What Do You Want to Install?

Not relevant to SystemDesk



The following information does not apply to SystemDesk. For information on the SystemDesk installation, refer to *Installing SystemDesk* on page 31.

Installation location

The installation procedure and the preconditions depend mainly on the installation location on your host PC. You can choose between:

- Installation in a **new folder** (= initial installation)

You can install:

- A single software item (RCP and HIL software, TargetLink, CalDesk, or Model Compare) from the DVD in a new folder.
- Two or more software items of RCP and HIL software, TargetLink, CalDesk, and/or Model Compare from the DVD in a common new folder.

- Installation in a **folder with existing dSPACE software**

If you need some tips on deciding on your installation location, refer to *Aspects of Choosing an Installation Location* on page 12.

Installation programs

The installation programs will guide you through the installation of the software. To handle the various installation scenarios, the dSPACE DVD contains two different types of installation programs:

- `dSPACE_MasterSetup.exe`: to install two or more software items of RCP and HIL software, TargetLink, CalDesk, and/or Model Compare from dSPACE Release 6.3 in a common new folder.
- Four different installation programs for single installations (`Install_RCP_HIL.exe`, `Install_CalDesk.exe`, `Install_TargetLink.exe`, `Install_MdlCmp.exe`): to install a single software item.



You cannot use `Install_TargetLink.exe` to install TargetLink 2.3.1.




To install TargetLink 2.3.1, TargetLink 2.3 of dSPACE Release 6.1 must be installed. Update this installation via `\TargetLink\TL2.3.1\TL2.3.1_UpdateSetup.exe`.

You can install TargetLink Blockset 2.3.1 (stand-alone) from `\TargetLink\TL2.3.1`.

The installation programs are located in the root folder of the DVD for dSPACE Release 6.3. The table below shows which installation program is required in which installation cases.

Installation cases

The table lists installation cases with links to necessary information.

Installation Location	What do You Want to Install?	Installation Program	Preconditions	Installation Instructions
New folder	RCP and HIL software ¹⁾	Install_RCP_HIL.exe	<i>Preconditions for Installing the Software in a New Folder on page 21.</i>	<i>How to Install RCP and HIL Software, TargetLink, CalDesk, and Model Compare on page 24</i>
	TargetLink	Install_TargetLink.exe		
	CalDesk	Install_CalDesk.exe		
	Model Compare	Install_MdlCmp.exe		
	Two or more software items of RCP and HIL software, TargetLink, CalDesk, and/or Model Compare from dSPACE Release 6.3 in a common folder	dSPACE_MasterSetup.exe		
Folder with existing dSPACE software	RCP and HIL software	Install_RCP_HIL.exe	<i>Preconditions for Installing the Software in an Existing Folder ( Software Installation and Management Guide)</i>	<i>How to Install RCP and HIL Software, TargetLink, CalDesk, and Model Compare on page 24</i>
	TargetLink	Install_TargetLink.exe		
	CalDesk	Install_CalDesk.exe		
	Model Compare	Install_MdlCmp.exe		
	A new component (for example, ConfigurationDesk to the "RCP and HIL software" installation)	–	–	<i>How to Install Components ( Software Installation and Management Guide)</i>
A software patch	–	–	<i>How to Install Software Patches ( Software Installation and Management Guide)</i>	

¹⁾ "RCP and HIL software" is a generic term for a software item containing several dSPACE software products, for example RTI, ControlDesk, AutomationDesk, ConfigurationDesk, MotionDesk, ModelDesk.

Aspects of Choosing an Installation Location

Not relevant to SystemDesk



The following information does not apply to SystemDesk. For information on the SystemDesk installation, refer to *Installing SystemDesk* on page 31.


Reason for installing in a common folder

If you want to work with two or more dSPACE software items at the same time, for example, ConfigurationDesk (part of the RCP and HIL software) and CalDesk, you should install them in one common folder.

If the software items are in one common folder, you can use them without having to switch between separate dSPACE installations. If these software items are installed in several folders, you have to activate the installation for an item first and then reboot your PC before you can use a product of the item.

Installation in an existing folder

You can install a dSPACE software item (for example, CalDesk 2.0) in a folder with an existing dSPACE installation (for example, dSPACE Release 6.0) so that you have them in a common folder.

Note that not every combination of different releases of the software items is possible. In addition there are stricter preconditions which must be observed. For example, you must install the software items in a specified order to avoid malfunctions. For details on the possible combinations and the preconditions, refer to *Preconditions for Installing the Software in an Existing Folder* ( *Software Installation and Management Guide*).

Multiple installations on your host PC

You should note the following guidelines when you want to install multiple versions of dSPACE software on your host PC.

- You have to install different releases of the same software item in a different folder, for example:
 - RCP and HIL software of dSPACE Release 6.0 in D:\dSPACE6.0, and RCP and HIL software of dSPACE Release 6.2 in D:\RCPHILdSPACE6.2
 - TargetLink 3.0 in D:\TargetLink3.0, and TargetLink 2.3 in D:\TargetLink2.3
 - CalDesk 2.0 in D:\CalDesk2.0, and CalDesk 1.4.1 in D:\CalDesk1.4.1

- You have to install each instance of the same release version in a different folder, for example:
 - dSPACE Release 6.2 (Set 1) in D:\dSPACE6.2_1 , and dSPACE Release 6.2 (Set 2) in D:\dSPACE6.2_2
 - TargetLink 3.0 (Set 1) in D:\TargetLink3.0_1, and TargetLink 3.0 (Set 2) in D:\TargetLink3.0_2
 - CalDesk 2.0 (Set 1) in D:\CalDesk2.0_1 , and CalDesk 2.0 (Set 2) in D:\CalDesk2.0_2



You must not install products and product components (part of a specific software item) in an installation of a different release version, for example:

- ConfigurationDesk 1.3.2 (part of dSPACE Release 6.2) in the Release 6.0 software installation.
- Data Dictionary Manager 1.5.1 (part of TargetLink 3.0) in the TargetLink 2.2 software installation.

Required user rights

To work with the dSPACE software, you need modify permissions (write and read access) for the %DSPACE_ROOT% folder (and all subfolders).

If you install dSPACE software under Windows XP or Windows Vista on the system partition (that is, the partition where Windows is installed) **and** this partition is formatted as an NTFS partition, nonadministrators usually have only read-only access to it.

To ensure that every user can work with the dSPACE software without restrictions:

- Install the dSPACE software on a partition where the operating system is not installed, or
- After installation, give the software users modify permissions for the %DSPACE_ROOT% folder (and all subfolders)



It is important to give modify permissions for the %DSPACE_ROOT% folder (and all subfolders) **after** the software is installed. Otherwise, software users get modify permissions for the %DSPACE_ROOT% folder, but not for all the subfolders that are created during the installation of the dSPACE software.

MATLAB Compatibility Information

Where to go from here

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<i>MATLAB Installation Prerequisites</i>	16
<i>TargetLink Compatibility with MATLAB, Model Compare, and RCP and HIL Software</i>	17

Required MATLAB Releases

MATLAB®

Working with RTI, RTI-MP and MLIB/MTRACE, ASM (Automotive Simulation Models), MTest, TargetLink, Model Compare, and SystemDesk requires that you have installed MATLAB.



Under Windows Vista, the dSPACE software supports only MATLAB versions as of MATLAB R2007a+.

MATLAB Release...	Is Supported by dSPACE Release 6.3 Software Item...				
	RCP and HIL Software	TargetLink 2.3.1	TargetLink 3.0	Model Compare 2.0.1	SystemDesk 2.0
R2008b	Yes	Yes	No	Yes	Yes
R2008a	Yes	Yes	Yes	Yes	Yes
R2007b+	Yes	Yes	Yes	Yes	Yes
R2007a+	Yes	Yes	Yes	Yes	Yes
R2006b	Yes	Yes	Yes	Yes	Yes
R2006a+	Yes	Yes	Yes	Yes	Yes

MATLAB Installation Prerequisites

Features of The MathWorks Installer

As of MATLAB R14SP2, The MathWorks Installer has two new features on Windows systems:

- The MathWorks Installer now allows a folder name with spaces in the installation path.
- By default, The MathWorks Installer selects the Windows default installation folder, which is **Program Files** on most machines.

Installing MATLAB in a network

dSPACE Setup does not check whether MATLAB is installed in a network or locally on your host PC. If MATLAB is installed in a network, it depends on your modify permissions how dSPACE Setup modifies the `matlabrc.m` file:

- If you do not have modify permissions, dSPACE Setup issues a message and lets you modify `matlabrc.m` manually or specify another MATLAB folder.

- If you have modify permissions, dSPACE Setup modifies `matlabrc.m` automatically.

TargetLink Compatibility with MATLAB, Model Compare, and RCP and HIL Software

Objective

TargetLink has special requirements regarding compatibility with MATLAB, and with RCP and HIL software and Model Compare. CalDesk is not dealt with here as it does not require MATLAB.

TargetLink 3.0

RCP and HIL software and MATLAB dependencies The table below shows you which MATLAB releases, and RCP and HIL software, you can install TargetLink 3.0 with.



TargetLink 3.0 can be installed only in the combinations shown in the table.

Installing TargetLink 3.0 Is Possible With MATLAB Release...	In Combination with RCP and HIL Software Contained in...				
	dSPACE Release 5.4	dSPACE Release 6.0	dSPACE Release 6.1	dSPACE Release 6.2	dSPACE Release 6.3
R2008b	No	No	No	No	No
R2008a	No	No	No	Yes	Yes
R2007b+	No	No	No	Yes	Yes
R2007a+	Yes	Yes	Yes	Yes	Yes
R2006b	Yes	Yes	Yes	Yes	Yes
R2006a+	Yes	Yes	Yes	Yes	Yes

The same applies to the TargetLink Blockset 3.0 (stand-alone).

Model Compare and MATLAB dependencies The table below shows you which MATLAB releases and Model Compare versions you can install TargetLink 3.0 with.



TargetLink 3.0 can be installed only in the combinations shown in the table.

Installing TargetLink 3.0 Is Possible With MATLAB Release...	In Combination with...		
	Model Compare 1.0	Model Compare 2.0	Model Compare 2.0.1
R2008b	No	No	No
R2008a	No	Yes	Yes
R2007b+	Yes	Yes	Yes
R2007a+	Yes	Yes	Yes
R2006b	Yes	Yes	Yes
R2006a+	Yes	Yes	Yes

dSPACE Data Dictionary Manager You can install TargetLink 3.0 with dSPACE Data Dictionary Manager version 1.5.1.

TargetLink 2.3.1

RCP and HIL software and MATLAB dependencies The table below shows you which MATLAB releases, and RCP and HIL software, you can install TargetLink 2.3.1 with.



TargetLink 2.3.1 can be installed only in the combinations shown in the table.

Installing TargetLink 2.3.1 Is Possible With MATLAB Release...	In Combination with RCP and HIL Software Contained in...				
	dSPACE Release 5.4	dSPACE Release 6.0	dSPACE Release 6.1	dSPACE Release 6.2	dSPACE Release 6.3
R2008b	No	No	No	No	Yes
R2008a	No	No	No	Yes	Yes
R2007b+	No	No	No	Yes	Yes
R2007a+	Yes	Yes	Yes	Yes	Yes
R2006b	Yes	Yes	Yes	Yes	Yes
R2006a+	Yes	Yes	Yes	Yes	Yes

The same applies to the TargetLink Blockset 2.3.1 (stand-alone).

Model Compare and MATLAB dependencies The table below shows you which MATLAB releases and Model Compare versions you can install TargetLink 2.3.1 with.



TargetLink 2.3.1 can be installed only in the combinations shown in the table.

Installing TargetLink 2.3.1 Is Possible With MATLAB Release...	In Combination with...		
	Model Compare 1.0	Model Compare 2.0	Model Compare 2.0.1
R2008b	No	No	Yes
R2008a	No	Yes	Yes
R2007b+	Yes	Yes	Yes
R2007a+	Yes	Yes	Yes
R2006b	Yes	Yes	Yes
R2006a+	Yes	Yes	Yes

dSPACE Data Dictionary Manager You can install TargetLink 2.3.1 with dSPACE Data Dictionary Manager version 1.5.

Installing RCP and HIL, TargetLink, CalDesk, and Model Compare Software

Where to go from here

Information in this section

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<i>Information Requested By the Installation Program</i>	23
<i>How to Install RCP and HIL Software, TargetLink, CalDesk, and Model Compare</i>	24

Preconditions for Installing the Software in a New Folder

Not relevant to SystemDesk






The following information does not apply to SystemDesk. For information on the SystemDesk installation, refer to *Installing SystemDesk* on page 31.

Installation folder

The folder in which you want to install the software must not contain any other software.

System requirements

Your system must meet specific system requirements. Refer to *Host PC Hardware* on page 38 and *Operating System* on page 42.

Windows Vista sleep mode	Using Windows Vista: The sleep mode must be switched off. Refer to <i>How to Disable Windows Vista's Sleep Mode</i> ( <i>Software Installation and Management Guide</i>).
Administrator rights	You need administrator rights to install dSPACE software. If you are not sure whether you have administrator rights, check them. For instructions, refer to <i>How to Check Administrator Rights</i> ( <i>Software Installation and Management Guide</i>).
Required licenses	You have all the license information available which you need for the dSPACE software you intend to install. To install the RCP and HIL software, TargetLink, or Model Compare, you need the <code>Keys.dsp</code> and <code>License.dsp</code> files for this software. To install CalDesk, you need its license ID. If you order dSPACE software items (RCP and HIL software, TargetLink, CalDesk, Model Compare) as a package, you receive the merged license information with the software. If not, you must merge the license information yourself. Refer to <i>Merging License Information</i> ( <i>Software Installation and Management Guide</i>).
Third-party software	The required third-party software must be installed. Some dSPACE products require specific third-party products to be installed. You must install these first, before installing the dSPACE products, to ensure correct operation and full functionality. Refer to <i>Third-Party Software</i> on page 44. MATLAB releases MATLAB R2008a or later To use the dSPACE installation with MATLAB R2008a or later, make sure the person installing the dSPACE Release can actually start and use MATLAB R2008a or later. This is especially important when you use the Stand Alone Named User activation type in MATLAB. The installation of the dSPACE Release fails otherwise.

Information Requested By the Installation Program

Naming of root folder	<p>When installing your dSPACE system, enter the name of the root folder for this dSPACE software installation. This guide and other documents refer to this folder as %DSPACE_ROOT%. The path name of the root folder can contain spaces.</p> <p>As of dSPACE Release 6.1, all dSPACE products on the DVD allow spaces in the path name of the root folder.</p>
CalDesk license	<p>If you want to install CalDesk, the installation program asks you for CalDesk's license ID. It has the format xxxx-xxxx-xxxx-xxxx and can be found on a sticker on the DVD cover.</p> <p>The license ID is only available in connection with a CalDesk license.</p> <p>When installing CalDesk without specifying the specific license information (contained on the Key-Disk or supplied via e-mail), supplementary components available for CalDesk are either not installed (CalDesk Automation Module and CalDesk Prototyping Module), or installed in a demo mode (CalDesk ECU Diagnostics Module).</p>
Floating network licenses	<p>If you have purchased floating network licenses, specify the following when prompted during installation:</p> <ul style="list-style-type: none">■ The name or IP address of the dSPACE License Server■ The TCP/IP port used for the management of dSPACE licenses <p>If you leave the TCP/IP port edit field empty, the software automatically determines a free port in the default port range 27 000 ... 27 009. In this case, the edit field must also be left empty during installation of the dSPACE License Server.</p>
Compiler installation	<p>The installation program asks for the paths of all compilers. You can:</p> <ul style="list-style-type: none">■ Specify the path of already installed compilers■ Specify the path of compilers that are to be installed by the installation program■ Skip specifying the path for compilers you do not want to use
MotionDesk: Path of the 3-D object library	<p>When selecting the path of the 3-D object library, note the following points:</p> <ul style="list-style-type: none">■ Specify a path outside the %DSPACE_ROOT% folder to ensure the path is independent of future dSPACE Releases.

- If you want to use your scenes on different computers, ensure that the 3-D object library is installed on the same path on all computers.

How to Install RCP and HIL Software, TargetLink, CalDesk, and Model Compare

Information requested by the installation program During installation of dSPACE software, the installation program requests several items of information. Refer to *Information Requested By the Installation Program* on page 23.

Installation of Microsoft .NET Framework During installation of the RCP and HIL software, CalDesk, and Model Compare, Microsoft .NET Framework 2.0 SP1 is automatically installed.


Installation of the TargetLink Blockset (stand-alone) With the license-free TargetLink Blockset in stand-alone mode, you can design and prototype graphical models of controllers used in electronic control units and simulate them. You cannot generate TargetLink code with it.

The TargetLink Blockset 3.0 is installed with `TLBS3.0_Setup.exe` contained on the DVD in the `TargetLink\TargetLinkBlockset` folder.

The TargetLink Blockset 2.3.1 is installed with `TLBS2.3.1_Setup.exe` contained on the DVD in the `TargetLink\TL2.3.1` folder.

Restrictions In TargetLink, you cannot simulate in SIL or PIL simulation mode if the installation path contains parentheses.

Preconditions

- Before installing the dSPACE software, check if the preconditions are met. The preconditions depend on the installation location. Installing in a new folder has different preconditions than installing in a folder with an existing installation:
 - *Preconditions for Installing the Software in a New Folder* on page 21
 - *Preconditions for Installing the Software in an Existing Folder* ( *Software Installation and Management Guide*)
- To install TargetLink 2.3.1, TargetLink 2.3 of dSPACE Release 6.1 must be installed.

Possible methods

You can install:

- A single software item in a new or existing folder. Refer to Method 1.
- Two or more software items (RCP and HIL software, TargetLink, CalDesk, Model Compare) as an initial installation in a common new folder. Refer to Method 2.

Method 1

To install a single software item (RCP and HIL software, TargetLink, CalDesk, Model Compare) in a new or existing folder

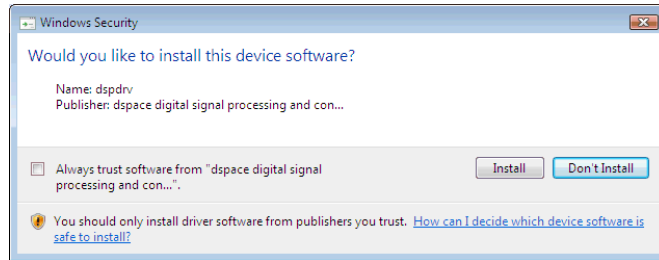
- 1 Insert the dSPACE DVD into the DVD drive.
- 2 Close all running programs before continuing the installation.
- 3 Choose the DVD drive and run the installation program for the dSPACE software item you want to install:

- `Install_RCP_HIL.exe` to install the RCP and HIL software
- `Install_TargetLink.exe` to install TargetLink 3.0
- `\TargetLink\TL2.3.1\TL2.3.1_UpdateSetup.exe` to install TargetLink 2.3.1
- `Install_CalDesk.exe` to install CalDesk
- `Install_MdlCmp.exe` to install Model Compare

To install the TargetLink Blockset (stand-alone), run `TLBS3.0_Setup.exe` from the `TargetLink\TargetLinkBlockset` folder.

To install the TargetLink Blockset 2.3.1 (stand-alone), run `TLBS2.3.1_Setup.exe` from the `TargetLink\TL2.3.1` folder.

- 4 Follow the instructions given by the installation program.
If you received a Key-Disk, insert it when requested. If you received the files for the Key-Disk via e-mail (usually in a ZIP archive), unpack them and save all the files to one folder and specify the folder path in the edit field. If no `Keys.dsp` file is available, click **Skip**.
- 5 Windows Vista only: When the system generates messages for the device drivers asking if you want to install the software, select **Always trust software from...** and click **Install**.



No more messages are generated for the device drivers.

- 6 When prompted, remove the Key-Disk and the dSPACE DVD.
- 7 Reboot your PC.
- 8 Log on as the same user with administrator rights directly after reboot. This allows the system to complete the installation correctly.



The last step is mandatory because some DLLs installed by dSPACE are registered only after reboot. **This registration – and thus the entire installation – will fail if you first log on without administrator rights.**

This is the standard behavior for most software installations that add or update system DLLs.

If Windows' autologon process is enabled on your PC, press the **Shift** key directly after restarting your PC, and hold the key until the log-on dialog opens. This allows you to log on as the same user with administrator rights.

- 9 Visit <http://www.dspace.com/goto?support> and check our Web site for patches for your current dSPACE installation.
- 10 Download and install the available patches.

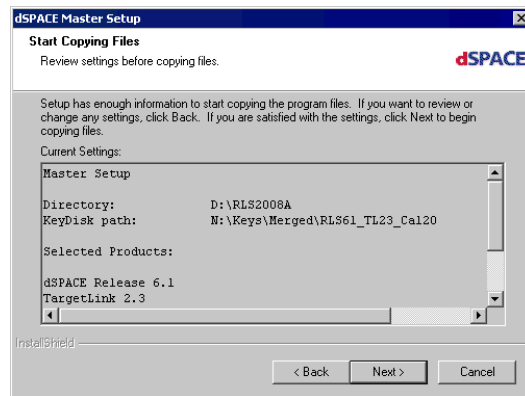
Method 2

To install two or more software items (RCP and HIL software, TargetLink, CalDesk, Model Compare) in a common new folder


- 1 Insert the dSPACE DVD into the DVD drive.
- 2 Close all running programs – including Windows Explorer – before continuing the installation.
Make sure the installation is not blocked by a firewall.
- 3 Choose the DVD drive and run `dSPACE_MasterSetup.exe`.
- 4 Follow the instructions given by the installation program.

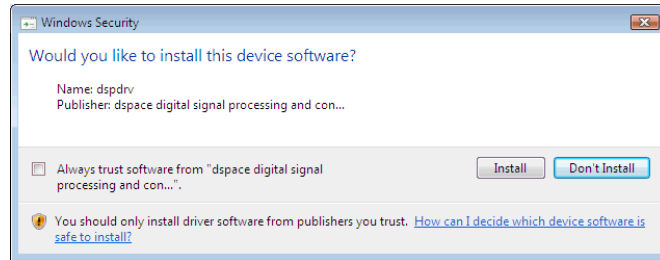
If you received a Key-Disk, insert it when requested. If you received the files for the Key-Disk via e-mail (usually in a ZIP archive), unpack them, save all the files to one folder, and specify the folder path in the edit field.

- 5 When you have entered all license information requested (the license information's path and if necessary, the CalDesk license ID), the dSPACE Master Setup displays the current settings in the **Start Copying Files** dialog.



The above screenshot serves as an example.

- 6 Check if all dSPACE software you want to install is listed. A software item can be missing in the list if:
 - You did not enter its license information.
 - The license information is wrong or incomplete.
 Click **Cancel** to quit the dSPACE Master Setup. Add the correct license information to the existing files by merging it. Refer to *How to Merge License Information* ( *Software Installation and Management Guide*). Restart `dSPACE_MasterSetup.exe`.
- 7 Click **Next** to continue the installation.
- 8 Windows Vista only: When the system generates messages for the device drivers asking if you want to install the software, select **Always trust software from...** and click **Install**.



No more messages are generated for the device drivers.

- 9 When prompted, remove the Key-Disk and the dSPACE DVD.
- 10 Reboot your PC.
- 11 Log on as the same user with administrator rights directly after reboot. This allows the system to complete the installation correctly.



The last step is mandatory because some DLLs installed by dSPACE are registered only after reboot. **This registration – and thus the entire installation – will fail if you first log on without administrator rights.**


This is the standard behavior for most software installations that add or update system DLLs.

If Windows' autologon process is enabled on your PC, press the **Shift** key directly after restarting your PC, and hold the key until the log-on dialog opens. This allows you to log on as the same user with administrator rights.




- 12 Visit <http://www.dspace.com/goto?support> and check our Web site for patches for your current dSPACE installation.
- 13 Download and install the available patches.

Result

The dSPACE software is installed according to the license information in the `keys.dsp` file. This file holds information on the components you can install from the related dSPACE DVD.

Components which are not specified in the `keys.dsp` file are either not installed, or installed in a basic version or demo mode. To install these components later, you have to modify your installation when you receive the license information. Refer to *How to Install Components* ( *Software Installation and Management Guide*).

Next steps

- You can check the software installation. Refer to *Verifying the Installation* ( *Software Installation and Management Guide*).
- Check if the software users have modify permissions (write and read access) for the %DSPACE_ROOT% folder and all subfolders.
- Before you can execute applications protected by licenses, make sure the licenses are available and enabled.
 - **Dongle licenses:** Enable the dongle licenses by connecting the execution key (dongle) to the USB port of the host PC.
 - **Node-locked licenses:** Normally, the node-locked licenses are automatically enabled on installation of the software when the corresponding network adapters are available. If you skipped specifying the node-locked licenses during installation, you must get a license from dSPACE. Refer to *How to Get a CalDesk License* ( *Software Installation and Management Guide*).
 - **Floating network licenses:** Normally, the floating network licenses are automatically enabled on installation of the software. If you skipped specifying the IP address and TCP/IP port of the dSPACE License Server during installation, you must direct your host PC as a client to use the server. Refer to *How to Set Up a Connection Between Client and Server* ( *Software Installation and Management Guide*).
- **AutomationDesk only:**



When starting AutomationDesk for the first time, make sure to start it with administrator rights.

Installing SystemDesk

Where to go from here

Information in this section

<i>Basics on Installing SystemDesk</i>	31
<i>How to Install SystemDesk</i>	32

Basics on Installing SystemDesk

Installation folder

Unlike other dSPACE software, SystemDesk is independent of the %DSPACE_ROOT% folder.

You cannot install SystemDesk in the %DSPACE_ROOT% folder in combination with other dSPACE software.

Installation program

You can install SystemDesk with the Install_SystemDesk.exe installation program only. You cannot use the dSPACE Master Setup for this.

Third-party software installed with SystemDesk


During installation of SystemDesk, the following third-party software is automatically installed on your host PC:

- Microsoft .NET Framework 2.0 SP1
- Python 2.5
- Microsoft SQL Express
- Microsoft Visual J# 2.0 Redistributable Package - SE

Access to the demo folder

Demos and example scripts for SystemDesk are installed in the `Demos` folder of the SystemDesk installation. Make sure that you have write permission for the `Demos` folder before working with the demos. You should copy the `Demos` folder to another folder for which you have write permission.

Automating more than one version of SystemDesk

When you install SystemDesk, by default the automation feature gives you access to the last SystemDesk version that was installed. For information on how to automate a previously installed version of SystemDesk, refer to *Migrating to SystemDesk 2.0* ( *New Features and Migration*).

How to Install SystemDesk

Information requested by the installation program

During installation of SystemDesk, the installation program requests several items of information.

Naming of folder When installing SystemDesk, enter the name of the installation folder. It must be different from the `%DSPACE_ROOT%` folder of the dSPACE Release installation.

Floating network licenses If you have purchased floating network licenses, specify the following when prompted during installation:

- The name or IP address of the dSPACE License Server
- The TCP/IP port used for the management of dSPACE licenses


If you leave the TCP/IP port edit field empty, the software automatically determines a free port in the default port range 27 000 ... 27 009. In this case, the edit field must also be left empty during installation of the dSPACE License Server.

Preconditions

Installation folder The folder in which you want to install SystemDesk must not contain any other software. It must be different from `%DSPACE_ROOT%`.

System requirements Your system must meet specific system requirements. Refer to *Host PC Hardware* on page 38 and *Operating System* on page 42.

Administrator rights You need administrator rights to install dSPACE software.

If you are not sure whether you have administrator rights, check them. For instructions, refer to *How to Check Administrator Rights* ( *Software Installation and Management Guide*).

Required licenses You have all the license information available which you need to install SystemDesk.

Restrictions

- You cannot install SystemDesk in the %DSPACE_ROOT% folder.
- You cannot use the dSPACE Master Setup to install SystemDesk.

Method**To install SystemDesk**

- 1 Insert the dSPACE DVD into the DVD drive.
- 2 Close all running programs before continuing the installation.
- 3 Choose the DVD drive and run `Install_SystemDesk.exe`.
- 4 Follow the instructions given by the installation program.
If you received a Key-Disk, insert it when requested. If you received the files for the Key-Disk via e-mail (usually in a ZIP archive), unpack them and save all the files to one folder and specify the folder path in the edit field.
- 5 When prompted, remove the Key-Disk and the dSPACE DVD.
- 6 Reboot your PC when prompted.
- 7 Visit <http://www.dspace.com/goto?support> and check our Web site for patches for your current dSPACE installation.
- 8 Download and install the available patches.

Result

SystemDesk is installed.

Further Information

Information on Further Basics and on Advanced Tasks

Objective If you want further basic information on dSPACE software installation or you want to carry out advanced tasks, refer to the *Software Installation and Management Guide*.

Content overview The following table gives a content overview and guides you to relevant sections and chapters.

Subject	Refer to ...	Content
Introductory information	Introduction to dSPACE Software	Introduces you to the software products on the DVD, their license requirements, and the available license mechanisms.
	dSPACE Installation Tools	The dSPACE DVD contains several installation tools. These help you manage your software installations and dSPACE licenses. This section gives an overview and lists the features of the tools.
	Using Dongle Licenses	dSPACE software is license-protected via three different license mechanisms. Each section provides basics on the mechanism and describes basic and advanced handling with the licenses.
	Using Node-Locked Licenses	
Using Floating Network Licenses		

Subject	Refer to ...	Content
Advanced installation tasks	Installing Third-Party Software	Depending on the dSPACE products you want to use, third party software must be installed on your PC before you can install the dSPACE software. This section gives: <ul style="list-style-type: none"> • Compatibility information of required third party software • Detailed instructions on installing Texas Instruments ANSI-C compilers
	Verifying the Installation	After installation of the dSPACE software, you can check the installation.
	How to Install dSPACE Software with Silent Setup	When you want to install a dSPACE installation on several host PCs, you can use the installation program's silent setup option to make the installation quicker and easier.
	How to Customize a CalDesk Installation	If you want the CalDesk installation to run customer-specific tasks such as replacing a configuration file by another, install CalDesk together with a customer-specific batch file.
	How to Install TargetLink Modules	TargetLink is a software application consisting of several modules. This means you can install and configure exactly the specific modules you intend to use. <ul style="list-style-type: none"> • With the TargetLink Target Simulation Module, you can test all the compiler/processor combinations supported by TargetLink. • The Target Optimization Modules let you generate code for specific compiler/processor combinations and run this generated code on an evaluation board during simulation. The modules can be installed during installation or after installation of TargetLink.
	How to Install the Client Software for Automating CalDesk	You can automate or remote-control CalDesk via a client PC using the CalDesk Automation Module with the ASAM-MCD 3 (DCOM) interface. In this case you must install specific client software on the client PC. Install this software after installing CalDesk.
Managing licenses	Obtaining Node-Locked Licenses for CalDesk	If you installed CalDesk without a license, you must contact dSPACE to get the license file(s) for your host PC. This section lists the information dSPACE needs for supplying the required license information.
	Obtaining Permanent Floating Network Licenses	If you purchased floating network licenses and dSPACE does not know the MAC address of the PC on which you want to run the dSPACE License Server, you will initially receive licenses that are valid for only 4 weeks.
	Setting Up the dSPACE License Server	If you purchased floating network licenses, you have to install and configure one of the networked PCs as the dSPACE License Server.
	Merging License Information	If you want to install several products (RCP and HIL software, CalDesk, or TargetLink) in a common new folder, you need the complete license information merged in a common file. If this file is not provided by dSPACE, you have to merge it yourself.
Managing dSPACE installations	Managing Installations with the dSPACE Installation Manager	With the dSPACE Installation Manager, you can handle all the dSPACE installations available on your host PC. You can switch from one installation to another and easily view details of an installation.
	Removing dSPACE Software	Depending on what kind of dSPACE installation you want to remove, you have several options.
Solving installation problems	Troubleshooting	The information given here may help if any problem related to the installation of the software comes up.

Appendix: System Requirements

Objective Before installing dSPACE's software, you have to check whether your system meets the system requirements.

Check whether your system meets the system requirements. The requirements for third-party software, for example, from The MathWorks, may be higher. For details, refer to the relevant software documentation.


Where to go from here


Information in this section


Host PC Hardware	38
Operating System	42
Limitations for Windows Vista	43
Third-Party Software	44


Information in other sections

For some complex tasks your system has to meet additional requirements.

Remote Control of Measurement and Calibration Systems According to ASAM-MCD 3MC (ASAP3) via AutomationDesk ( *Software Installation and Management Guide*)

3-D Online Animation via MotionDesk ( *Software Installation and Management Guide*)

Using Automotive Simulation Models (Vehicle Dynamics) ( *Software Installation and Management Guide*)

Using AutoBoot Option ( *Software Installation and Management Guide*)

Host PC Hardware

Host PC requirements

You can use an x86-compatible personal computer as a host PC for your dSPACE applications.

Hardware	dSPACE Software	Required
Host processor	RCP and HIL software	<ul style="list-style-type: none"> ■ Pentium III at 800 MHz (or equivalent) ■ Pentium 4 at 1.6 GHz or higher (recommended)
	TargetLink	
	CalDesk	
	Model Compare	
	SystemDesk	<ul style="list-style-type: none"> ■ Pentium 4 at 2 GHz (or equivalent) ■ Pentium 4 at 3 GHz (or equivalent) (recommended)
Main memory	RCP and HIL software	<ul style="list-style-type: none"> ■ 512 MB RAM ■ 1 GB RAM or more (recommended)
	TargetLink	
	Model Compare	
	CalDesk	<ul style="list-style-type: none"> ■ 256 MB RAM ■ 512 MB RAM or more (recommended)
	SystemDesk	<ul style="list-style-type: none"> ■ 2 GB RAM ■ 3 GB RAM or more (recommended)

Hardware	dSPACE Software	Required
Disk space ¹⁾	Complete installation of the DVD (RCP and HIL software, TargetLink, CalDesk, Model Compare, SystemDesk)	<ul style="list-style-type: none"> ■ 4.0 GB ■ 1.7 GB on the system partition
	RCP and HIL software	<ul style="list-style-type: none"> ■ At least 1.2 GB 300 MB on the system partition ■ A typical installation needs about 2.0 GB. 500 MB on the system partition ■ A complete installation needs about 2.6 GB. 600 MB on the system partition
	TargetLink	<ul style="list-style-type: none"> ■ At least 400 MB 100 MB on the system partition ■ A complete installation needs about 550 MB. 100 MB on the system partition
	CalDesk	<ul style="list-style-type: none"> ■ At least 550 MB ■ 500 MB on the system partition if Microsoft .NET Framework 2.0 SP1 and Python 2.5 must be installed.
	Model Compare	<ul style="list-style-type: none"> ■ At least 350 MB ■ 280 MB on the system partition if Microsoft .NET Framework 2.0 SP1 must be installed.
	SystemDesk ²⁾	<ul style="list-style-type: none"> ■ At least 300 MB ■ 1.2 GB on the system partition if Microsoft .NET Framework 2.0 SP1, Microsoft Visual J# 2.0 Redistributable Package - SE, Microsoft SQL Express, and Python 2.5 must be installed. ■ 1 GB on the partition where the temporary files are stored.
Disk drives	All	DVD drive for software installation

Hardware	dSPACE Software	Required
Ports for connecting hardware	RCP and HIL software	<ul style="list-style-type: none"> For communication with RapidPro hardware, you need a USB port. For using the SteeringController Instrument in ControlDesk, you need a game port or USB port to connect a game controller device. For using ControlDesk Failure Simulation, you need a serial port (COM1, COM2, COM3 or COM4) that can be run at 9,600 bps to connect dSPACE Simulator's failure insertion unit (FIU).
	TargetLink	For production code target simulation, you need: <ul style="list-style-type: none"> A serial port (COM1, COM2, COM3, or COM4) that can be run at 19,200, 38,400 or 57,600 bps A free USB port when using the RapidPro Control Unit with MPC5554 A free USB port for target simulation when using the CI_V850F3377, S12XEVB_USB, or SK_EBXC2287 evaluation board
	CalDesk	For connecting hardware, you need a USB port version 1.1 (USB 2.0 recommended).
Display	RCP and HIL software	<ul style="list-style-type: none"> OpenGL-compliant graphics adapter (16, 24, or 32-bit)³⁾ Windows' display properties must be set to at least 16-bit³⁾
	TargetLink	

¹⁾ Keep in mind that additional disk space is required for non-dSPACE software, for example, from The MathWorks.

²⁾ SystemDesk must be installed on a local hard disk. You need write access to this.

³⁾ Required by MATLAB.

Additional requirements for license handling

License Mechanism	Host PC Requirements
Dongle licenses	<ul style="list-style-type: none"> A USB port: To install the execution key (dongle) A special version of the execution key for connection to a parallel port is available on request.
Floating network licenses	<ul style="list-style-type: none"> All the PCs on which you want to run dSPACE software (<i>dSPACE License Clients</i>) need to be able to establish a TCP/IP connection to the <i>dSPACE License Server</i>.
Node-locked licenses	<ul style="list-style-type: none"> Network adapter (Ethernet) to identify the host PC

Required slots for dSPACE boards

The dSPACE boards have different slot requirements for the installation in the host PC.

DS1103 To install a DS1103 in the host PC, you need one free full-size ISA slot with a 16-bit connector (long socket) and two additional, free, adjacent brackets.

DS1104 To install a DS1104, you need one free 33 MHz/32-bit 5 V PCI slot.

Modular system based on DS1005 If you want to install a modular system in the host PC, you need as many free full-size ISA slots with 16-bit connectors as the number of boards (DS1005, DS2302 and DS4201) you want to install. The other boards require only 8-bit connectors.

The DS2210 requires two adjacent brackets altogether. The DS2202, DS2211, and DS4003 each require a total of three adjacent brackets.

Modular system based on DS1006 You cannot install a DS1006 in your host PC.

Link boards A link board is required in your host PC:

- To connect your modular system installed in an expansion box to the host PC via a bus interface.
- To connect MicroAutoBox, dSPACE Simulator Compact, or dSPACE Simulator Mid-Size to the host PC.

The possible link boards require the following slots in your host PC:

Link Board	Required slots
DS813	One half-size ISA slot with 16-bit connector
DS815	One free PC card slot (type 2)
DS817	One free 5 V PCI slot
DS819	One free PCI Express slot (x1 ... x32)
DS821	One free ExpressCard/54 slot

The DS819 and DS821 Link Boards (PC) are supported by the dSPACE software as of dSPACE Release 5.2.

Modular System with Ethernet connection To connect your dSPACE system to the host PC via an Ethernet connection, your host PC must have a 10baseT (twisted pair, 10 Mbit/s or faster) network adapter.

Operating System

Operating system on host PC

The following table shows which software items in dSPACE Release 6.3 support which operating system:

Operating System...	Is Supported By...					
	RCP & HIL Software	TargetLink 2.3.1	TargetLink 3.0	CalDesk 2.1	Model Compare 2.0.1	SystemDesk 2.0
Windows 2000 Professional with Service Pack 4	-	X	X	-	-	-
Windows XP Professional (32-bit version) with Service Pack 2 ¹⁾	X	X	X	X	X	X
Windows Vista ²⁾ (32-bit version) with Service Pack 1	X	X	X	-	X	X

¹⁾ It is recommended to use Service Pack 3. For the latest information on Windows XP with Service Pack 3, refer to <http://www.dspace.com/goto?winxpsp3>.

²⁾ Only Windows Vista Business, Ultimate, and Enterprise. Windows Vista Home and Starter are not supported.



- As of dSPACE Release 5.0 and TargetLink 2.2, Windows NT 4.0 is no longer supported.
- Windows XP Professional x64 Edition and Windows Vista (64-bit version) are not supported.

Operating system on dSPACE License Server

If you purchased floating network licenses, you have to install and configure one of the networked PCs as the dSPACE License Server.


The operating system of the dSPACE License Server must be one of the following:

- Windows XP Professional (32-bit version) with Service Pack 2 (Service Pack 3 recommended)
- Windows Vista Business, Ultimate, or Enterprise (32-bit version) with Service Pack 1
- Windows Server 2003
- Windows 2000 Professional with Service Pack 4 (supported only by TargetLink)

The dSPACE License Server does not support non-Windows operating systems.

Limitations for Windows Vista	Some limitations apply when you use Windows Vista in combination with dSPACE software. Refer to <i>Limitations for Windows Vista</i> on page 43.
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Limitations for Windows Vista

Objective	Some limitations apply when you use Windows Vista in combination with dSPACE software.
MATLAB support	Under Windows Vista, the dSPACE software supports only MATLAB versions since MATLAB R2007a+.
dSPACE software	Windows Vista is not supported by CalDesk.
Sleep mode not supported	<p>The dSPACE software does not support Windows Vista's sleep mode for power saving. When restarting the PC from the sleep mode, you must reboot it to restore communication with the dSPACE hardware.</p> <p>To avoid the automatic sleep mode, disable it. Refer to <i>How to Disable Windows Vista's Sleep Mode</i> ( <i>Software Installation and Management Guide</i>).</p>
Fast user switching not supported	The dSPACE software does not support the fast user switching feature of Windows Vista.
Closing dSPACE software before PC shutdown	The modified shutdown procedure of Windows Vista causes some required processes to be aborted although they are still being used by dSPACE software. To avoid data loss, the dSPACE software must be terminated manually before a PC shutdown is performed.
Allowing communication via additional firewall rules	<p>During installation of the dSPACE software, two additional Windows Vista firewall rules are installed. The first rule allows communication with a dSPACE expansion box, for example, AutoBox. The second rule allows MotionDesk to receive motion data from a network channel.</p> <p>The rules are created by the following commands:</p> <ul style="list-style-type: none"> ■ <code>advfirewall firewall add rule name="dSPACE Net Service" service=any dir=in action=allow profile=any protocol=icmpv4:0, any description="Allow the dSPACE Net</code>

Service to connect to a dSPACE expansion box via network."

```
■ advfirewall firewall add rule name="dSPACE MotionDesk"
program="%dSPACE_root%\MotionDesk\Bin\MotionDesk.exe"
dir=in action=allow profile=any description="Allow dSPACE
MotionDesk to receive motion data via network."
```

Third-Party Software

Overview

You may need to install third-party products to work with dSPACE products. The following table shows which dSPACE product requires which third-party software.

Third-Party Software	RCP and HIL software	TargetLink	Model Compare	CalDesk
MATLAB®/Simulink®	To work with: <ul style="list-style-type: none"> • RTI • RTI Blocksets • RTI-MP • MLIB/MTRACE • ControlDesk to control Simulink simulations • AutomationDesk to automate MATLAB via AutomationDesk's MATLAB Access library • MTest • Automotive Simulation Models (ASM) 	To work with TargetLink	To work with Model Compare	–
Real-Time Workshop	<ul style="list-style-type: none"> • For C code generation with RTI and RTI-MP • For C code generation of Automotive Simulation Models (ASM) 	–	–	–
C compiler	<ul style="list-style-type: none"> • For compiling real-time applications for the DS1103, DS1104, DS1005, DS1006, MicroAutoBox, and the RapidPro Control Unit with MPC5554 • For compiling slave applications for the DS1103, DS2210, DS2211, and DS2302 • Required for using the RTI CAN MultiMessage Blockset and RTI LIN MultiMessage Blockset to build MATLAB MEX files. • You can use the LCC compiler as shipped with MATLAB as the C Compiler. 	<ul style="list-style-type: none"> • For production code generation and processor-in-the-loop (PIL) simulation • For building MATLAB MEX files 	–	–
DAQ modules configuration software	–	–	–	To configure DAQ modules

Third-Party Software	RCP and HIL software	TargetLink	Model Compare	CalDesk
CAN hardware driver	To use CAN interfaces from Vector Informatik GmbH	–	–	To use CAN interfaces from Kvaser or Vector Informatik GmbH
Thesycon's USB driver	–	–	–	To communicate with an ECU with XCP on USB
Ethernet driver	–	–	–	To communicate with an ECU with XCP on Ethernet
Microsoft Internet Explorer	To work with dSPACE software and use dSPACE's online help dSPACE HelpDesk.			
Microsoft Office	To automate Microsoft Office applications such as writing data to an Excel sheet with Python.			

Make sure that the versions of the third-party software you intend to install are supported by the dSPACE software. For compatibility information:

- Refer to *MATLAB Compatibility Information* on page 15
- See below for other third-party software (for example C compilers)

C compiler for RCP and HIL software

The C compiler you need depends on the dSPACE hardware you use.

Hardware	Required C Compiler
DS1005	Microtec PowerPC C Compiler Ver. 3.3 ¹⁾
DS1006	dSPACE DS1006 Compiler Version 1.6 based on GNU C Compiler Ver. 3.3.5 ¹⁾
DS1103	<ul style="list-style-type: none"> ■ Microtec PowerPC C Compiler Ver. 3.3¹⁾ ■ Texas Instruments C2000 Code Composer Tools (including TMS320C2x/C2xx/C5x Compiler Vs 7.0)²⁾
DS1104	Microtec PowerPC C Compiler Ver. 3.3 ¹⁾
MicroAutoBox	Microtec PowerPC C Compiler Ver. 3.3 ¹⁾
DS2210	One of the following Texas Instruments tools ²⁾ (including an ANSI-C Compiler): <ul style="list-style-type: none"> ■ TMS 320C3x/C4x Code Generation Tools Ver. 4.70 ■ TMS 320C3x/C4x Code Generation Tools Ver. 5.11 ■ TMS 320C3x/C4x Code Composer Tools Release 4.10 (including TI Compiler Ver. 5.11)
DS2211	
DS2302	
RapidPro Control Unit with MPC5554	Microtec PowerPC C Compiler Ver. 3.3 ¹⁾

¹⁾ For compiling real-time applications.

²⁾ For compiling slave applications.

Microtec PowerPC C Compiler You can order the required Microtec PowerPC C Compiler together with your dSPACE system. The compiler is then installed automatically with the dSPACE software.

DS1006 Compiler The dSPACE DS1006 Compiler Version 1.6 based on GNU C Compiler Ver. 3.3.5 is free of charge and is installed automatically with the dSPACE software.

Texas Instruments ANSI-C Compiler The Texas Instruments tools are not part of the dSPACE Releases and have to be purchased separately.

Driver for CAN interfaces from Vector Informatik GmbH for ControlDesk Failure Simulation

To use CAN interfaces from Vector Informatik GmbH with ControlDesk Failure Simulation, you need the appropriate driver:

- CANcardX driver Ver. 3.x or later
- CANcardXL driver Ver. 4.3 or later

Download it from <http://www.vector-informatik.de>.

C Compiler for TargetLink

For compatibility reasons, TargetLink requires that specific C compilers for building MATLAB MEX files and processor-in-the-loop (PIL) simulation applications are installed:

- One of the following C compilers to build MATLAB MEX files:
 - Microsoft Visual C/C++ Ver. 6.0, Ver. 7.1, or Ver. 8.0 (recommended, see the MATLAB documentation)
 - LCC Compiler as shipped with the supported MATLAB versions
- A target-specific compiler for PIL simulation:

For Evaluation Board...	With a Processor from Microcontroller Family...	A Target-Specific Compiler...
Freescale 56F8367 Evaluation Module (56F8367EVM)	Freescale 56F83xx	Metrowerks 56800E C/C++ Compiler (Metrowerks81)
i+ME eCAN C167C Promo Evaluation Board (Promo167)	Infineon c166	Altium Tasking 80166 C Cross-Compiler (Task60, Task75, Task80, Task85, Task86, Task87)
Renesas H8S Evaluation Board (EV2633F)	Renesas H8S	Renesas H8S, H8/300 Series C/C++ Compiler (Hit30, Hit60, Hit62)
MCT HCS12 T-Board (HCS12EVB and HCS12DP512EVB)	Freescale HCS12	<ul style="list-style-type: none"> • Cosmic C Cross-Compiler for MC68HCS12 (Cosmic44, Cosmic45, Cosmic46, Cosmic47) • Metrowerks C Compiler CodeWarrior for MC68HCS12 (Met12, Met20, Met31)
MCT S12X T-Board (S12XEVB) MCT S12X T-Board (S12XEVB_USB)	Freescale S12X	<ul style="list-style-type: none"> • Cosmic C Cross-Compiler for S12X (Cosmic46, Cosmic47) • Metrowerks C Compiler CodeWarrior for MC9S12X (Met41, Met45, Met46, Met47)
Renesas Evaluation Board MSA2114 (MSA2114) Renesas Evaluation Board M3A-2154 (M3A2154)	Renesas M32R	<ul style="list-style-type: none"> • Renesas CC32R C Compiler (Mcc32r20, Mcc32r43, Mcc32r50) • Gaio Technology General Purpose Cross C Compiler (Gai09, Gai010)

For Evaluation Board...	With a Processor from Microcontroller Family...	A Target-Specific Compiler...
Axiom CME-0555 Single Board Computer (CME555)	Freescale PowerPC MPC500	<ul style="list-style-type: none"> Wind River Diab PowerPC Family C Compiler (Diab43, Diab44, Diab50, Diab52, Diab53, Diab55, Diab56) Green Hills PowerPC C Compiler (GHS30, GHS35, GHS36, GHS40, GHS42, GHS50) Metrowerks PowerPC Family C Compiler CodeWarrior (Met60, Met81, Met85, Met87)
Axiom CMD-0565 Single Board Computer (CMD565)		Wind River Diab PowerPC Family C Compiler (Diab50, Diab52, Diab53, Diab55, Diab56)
Axiom MPC5554DEMO Evaluation Board (MPC5554DEMO)	Freescale PowerPC MPC5500	<ul style="list-style-type: none"> Wind River Diab PowerPC Family C Compiler (Diab52, Diab53, Diab55, Diab56) Green Hills MPC55xx C Compiler (GHS40, GHS42, GHS50) Metrowerks MPC55xx Family C Compiler CodeWarrior (Met15, Met22, Met23) GNU GCC MPC55xx Family C Compiler (GNU34, GNU41)
Axiom MPC5561EVB Evaluation Board (MPC5561EVB)		<ul style="list-style-type: none"> Wind River Diab PowerPC Family C Compiler (Diab56) Green Hills MPC55xx C Compiler (GHS50) Metrowerks MPC55xx Family C Compiler CodeWarrior (Met23)
dSPACE RapidPro Control Unit with MPC5554		<ul style="list-style-type: none"> Wind River Diab PowerPC Family C Compiler (Diab53, Diab55, Diab56) Mentor Graphics Microtec PowerPC Family C Compiler (MRI32, MRI33)
NEC Drivelt Evaluation Board (DI_V850F3239)	NEC V850ES	<ul style="list-style-type: none"> Green Hills V8xx C Compiler (GHS35, GHS40, GHS42, GHS50) NEC V8xx C Compiler (NEC25, NEC27, NEC31, NEC32)
NEC CANIt Evaluation Board (CI_V850F3377)		
Renesas SH7055F Evaluation Board (SH2eEVB) Renesas CDK7058 (EVB7058)	Renesas SH-2	Renesas SH Series C Compiler (Hit60, Hit70, Hit80, Hit90, Hit91)
Renesas SDK72513 Evaluation Board (SDK72513)	Renesas SH-2A-FPU	Renesas SH Series C Compiler (Renasas90, Renasas91)
FS Forth-Systeme STart276 Development Board (STart276)	STMicroelectronics ST10	Altium Tasking C166/ST10 C Cross-Compiler (STart276) (Task75, Task80, Task85, Task86, Task87)
Texas Instruments TMS470R1x Evaluation Board (EVB470R1)	Texas Instruments TMS470	TI Code Composer Studio for the TMS470R1x (Tlccs13, Tlccs21, Tlccs221)
Infineon TriBoard TC1775 Evaluation Board (TBTC1775)	Infineon TriCore (TBTC1775)	<ul style="list-style-type: none"> Altium Tasking TriCore C Cross-Compiler (Task11, Task13, Task14, Task15) Altium Tasking TriCore C Cross-Compiler (Task22, Task23, Task25, Task30)
Infineon TriBoard TC1766 Evaluation Board (TBTC1766)	Infineon TriCore (TBTC1766)	Altium Tasking TriCore C Cross-Compiler (Task22, Task23, Task25, Task30)
Infineon TriBoard TC1796 Evaluation Board (TBTC1796)	Infineon TriCore (TBTC1796)	<ul style="list-style-type: none"> Altium Tasking TriCore C Cross-Compiler (Task22, Task23, Task25, Task30) HighTec GNU Toolchain for TriCore (GNU33, GNU34)
Infineon Starter Kit XC2287 Evaluation Board (SK-EB XC2287)	Infineon XC2200	Tasking VX – Toolset for C166 Compiler (TaskingVX21, TaskingVX22)

For detailed information on the evaluation boards, microcontrollers, and compilers, refer to *TargetLink Target Reference*.

Third-Party software for CalDesk

Configuration software for DAQ modules To configure DAQ modules, you need the appropriate configuration tools:

DAQ Modules	Required Configuration Tool		Supplier
CSM ScanMess modules (CAN-based only)	xx-Scan Config	Ver. 4.51 (or later)	CSM GmbH (http://www.csm.de)
IMC CANSAS modules	CANSAS	Ver. 1.3 Rev 17 (or later)	IMC Messsysteme GmbH (http://www.imc-berlin.de)
IPETRONIK SIM modules	IPEconf	Ver. 2.20.60 (or later)	IPETRONIK GmbH & Co. KG (http://www.ipetronik.com)

The configuration tools are required to provide CalDesk with the relevant files containing the channel configurations of the DAQ modules.

Driver for CAN interfaces from Vector Informatik GmbH To use CAN interfaces from Vector Informatik GmbH with CalDesk, you need the appropriate driver:


- CANcardX driver Ver. 3.x or later
- CANcardXL driver Ver. 4.3 or later

Download it from <http://www.vector-informatik.de>.

Driver for CAN interfaces from Kvaser To use Kvaser CAN interfaces with CalDesk, you need the appropriate Kvaser driver Vers. 3.9 or later. Download it from <http://kvaser.com>.

Driver for FlexRay interfaces from Eberspächer Electronics (formerly TZM) To use these FlexRay interfaces with CalDesk, you need the appropriate driver Ver. 3.0. Download it from <http://www.eberspaecher.com/>.

USB driver for ECUs with XCP on USB To communicate with an ECU with XCP on USB, CalDesk requires Thesycon's USB driver. The CalDesk installation contains the Thesycon USB driver for the Bosch EDC17 ECU.

To communicate with an ECU with XCP on USB other than Bosch's EDC17, you have to provide the Thesycon USB driver yourself, and make it available to CalDesk. For instructions, refer to *How to Make the USB Driver for an ECU with XCP on USB Available to CalDesk* ( *CalDesk Calibration Guide*).

Microsoft Internet Explorer dSPACE Release 6.3 supports all versions of the Microsoft Internet Explorer from version 6 SP1 up to the current version 7. However, limitations can occur when you use the Microsoft Internet Explorer with dSPACE software, for example, AutomationDesk. Refer to the limitations chapter in the relevant documentation.

To use the dSPACE HelpDesk of dSPACE Release 6.3, you need Microsoft Internet Explorer 6.0 or later.

Microsoft Office You can automate Microsoft Office applications such as writing data to an Excel sheet with Python. The following table shows the Microsoft Office versions supported by dSPACE Release 6.3 and which operating systems support which Office version:

Microsoft Office Version...	Supported by Operating System...		
	Windows 2000 Professional with Service Pack 4	Windows XP Professional (32-bit version) with Service Pack 2 ¹⁾	Windows Vista ²⁾ (32-bit version) with Service Pack 1
2000	X	X	–
XP	X	X	–
2003	X	X	X
2007	–	X	X

¹⁾ It is recommended to use Service Pack 3. For the latest information on Windows XP with Service Pack 3, refer to <http://www.dspace.com/goto?winxpsp3>.

²⁾ Only Windows Vista Business, Ultimate, and Enterprise. Windows Vista Home and Starter are not supported.

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