

dSPACE Release

New Features and Migration

dSPACE Release 6.6 – May 2010

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 - Via Start – Programs – dSPACE Tools (after installation of the dSPACE software)
 - At <http://www.dspace.com/goto?supportwizard>

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About This Document

Contents

This document informs you about the new features of all the dSPACE software products in dSPACE Release 6.6. It also gives you an overview of software products with no or minor changes. There are instructions on migrating from older dSPACE releases, especially from older product versions, if required.

Overview of dSPACE Release 6.6

Objective Gives you an overview of the new key features in dSPACE Release 6.6, and also information about unchanged products and general instructions on migrating.

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General Enhancements and Changes

Objective	The following new features and changes concern several dSPACE products.
Release update	The printed user documentation is not delivered with dSPACE Release 6.6 if you receive the release as an update for your existing dSPACE release. Use the current online help, for example, dSPACE HelpDesk, to obtain information about new features, enhancements, and the current safety precautions regarding your products.
Software support discontinuation	<p>RTI LIN Blockset The RTI LIN Blockset is provided only up to dSPACE Release 6.5. As of dSPACE Release 6.6, the RTI LIN Blockset has been discontinued.</p> <p>Software support for DS4301 The DS4301 CAN Interface Board is supported by the dSPACE software only up to dSPACE Release 6.5. As of dSPACE Release 6.6, the software no longer supports the DS4301.</p> <p>Software support for DS4120 The DS4120 ECU Interface Board is supported by the dSPACE software only up to dSPACE Release 6.3. As of dSPACE Release 6.4, the software no longer supports the DS4120.</p>

Product Version Overview

Objective

The following table is an extract from product version histories showing the product versions of the current release and of three older releases. If a product has new features, there is a link to the brief description in this document.

Product	dSPACE Release			
	6.3	6.4	6.5	6.6
AutomationDesk	2.2	2.3	3.0	3.1 See <i>AutomationDesk</i> on page 17.
Automotive Simulation Models	2.0	2.1	2.2	2.3 See <i>Automotive Simulation Models (ASM)</i> on page 21.
CalDesk	2.1	3.0	3.0	3.0.1 See <i>CalDesk</i> on page 33.
ConfigurationDesk	3.0	3.0.1	3.0.1	3.0.3
ControlDesk	3.3	3.4	3.5	3.6 See <i>ControlDesk</i> on page 37.
dSPACE Data Dictionary	1.5.1	1.5.1	2.0	2.0
dSPACE FlexRay Configuration Package	1.10	2.1	2.1.1	2.2.1 See <i>dSPACE FlexRay Configuration Package</i> on page 39.
Model Compare	2.0.1	2.0.1	2.0.2	2.0.2
ModelDesk	2.1	2.2	2.2.1	2.2.1
MotionDesk	2.1.2	2.1.3	2.1.4	2.1.4
MotionDesk Blockset	1.3.11	1.3.12	2.0	2.0.1
Real-Time Testing	1.5	1.6	1.6	1.7 See <i>Real-Time Testing</i> on page 41.
RTI	6.2	6.3	6.4	6.5 See <i>RTI/RTI-MP and RTLib</i> on page 43.
RTI-MP	5.6	5.7	6.0	6.1
RTI AUTOSAR Package	---	1.0	1.1	1.1.1

Product	dSPACE Release			
	6.3	6.4	6.5	6.6
RTI Bypass Blockset	2.5	2.6	2.6	2.7.1 <i>See RTI Bypass Blockset on page 49.</i>
RTI CAN Blockset	2.6.7	2.6.8	2.6.8	2.6.8
RTI CAN MultiMessage Blockset	2.4	2.4.1	2.4.1	2.5.1 <i>See RTI CAN MultiMessage Blockset on page 53.</i>
RTI LIN MultiMessage Blockset	1.6	1.7	1.7.1	1.7.1
RTI RapidPro Control Unit Blockset	1.9	1.9.1	1.9.1	1.9.1
RTI FPGA Programming Blockset	---	1.0	1.1	1.2 <i>See RTI FPGA Programming Blockset on page 55.</i>
SystemDesk	2.0	2.0.4	2.1	2.1 ¹⁾
TargetLink	2.3.1 3.0	2.3 2.3.1 3.0 3.0.1	3.1	3.1
Variable Editor	1.2	1.3	1.3	1.3

¹⁾ You are recommended to install the newest patch for SystemDesk 2.1 immediately after the installation of SystemDesk 2.1. Download and install the patch from <http://www.dspace.com/goto?patchesd>.

If you have not updated regularly, refer to the *New Features and Migration* documents for the dSPACE releases listed above for information about the new features and necessary migration steps.

New Product Key Features

Objective	This is an overview of each product's new key features. For detailed information, refer to the product-specific sections.
AutomationDesk	<p>The new key features of AutomationDesk are:</p> <ul style="list-style-type: none"> ■ Automatically stopping an execution via automation block or COM API method ■ Enhancements to the Remote Calibration (COM) library to modify a Collector object during run time ■ Enhancements to the Remote Diagnostics (COM) library to configure a LogicalLink object during run time ■ Demo project for signal evaluation showing advanced signal handling ■ Support of MicroAutoBox II ■ Application note describing Component Object Model (COM) handling in AutomationDesk ■ Enhancements to the version control interface to add a description to a check-in operation ■ Usability enhancements <p>For details on the new features, refer to <i>New Features of AutomationDesk 3.1</i> on page 17.</p>
Automotive Simulation Models (ASM)	<p>The new ASM blocksets of ASM are:</p> <ul style="list-style-type: none"> ■ ASM Engine Diesel Operator Blockset ■ ASM Engine Gasoline Basic Operator Blockset ■ ASM Engine Gasoline Operator Blockset ■ ASM Drivetrain Basic Operator Blockset ■ ASM Turbocharger Operator Blockset <p>For details on the new blocksets, refer to <i>Automotive Simulation Models (ASM)</i> on page 21.</p>
CalDesk	<p>The new key feature of CalDesk is:</p> <ul style="list-style-type: none"> ■ Support of MicroAutoBox II <p>For details on the new feature, refer to <i>New Features of CalDesk 3.0.1</i> on page 33.</p>

ControlDesk

The new key features of ControlDesk are:

- Support of the multicore DS1006 Processor Board
- Support of MicroAutoBox II
- Enhancements to the Bus Navigator

For details on the new features, refer to *New Features of ControlDesk 3.6* on page 37.

dSPACE FlexRay Configuration Package

The new key features of the dSPACE FlexRay Configuration Tool are:

- Supporting dual-channel FlexRay systems (for PDU-based modeling)
- New filters for customizing views

The new key feature of dSPACE FlexRay Configuration Blockset is:

- Supporting dual-channel FlexRay systems (for PDU-based modeling)

For details on the new features, refer to *New Features of dSPACE FlexRay Configuration Package 2.2.1* on page 39.

Real-Time Testing

The new key features of Real-Time Testing are:

- Support of MicroAutoBox II
- Support of the multicore DS1006 Processor Board

For details on the new features, refer to *New Features of Real-Time Testing 1.7* on page 41.

RTI, RTI-MP and RTLlib

The new key features of RTI, RTI-MP and RTLlib are:

- Support of MicroAutoBox II
- Support of the multicore DS1006 Processor Board
- RTI and RTI-MP support the parallel build feature of the Real-Time Workshop® when using model referencing is used on multicore host PCs.
- RTI supports the new Simulink Function-Call Split block.
- Enhanced TRC support of bus objects
- RTI supports the SENT protocol on DS2211 boards

For details on the new features, refer to *New Features of RTI/RTI-MP and RTLlib* on page 43.

RTI Bypass Blockset

The new key features of the RTI Bypass Blockset are:

- New bypass interface for service-based or code patch-based bypassing on ECUs equipped with a DCI-GSI1
- Supporting H-UDI on-chip debug interface (Renesas)
- Supporting further conversion types
- Disabling single external variables during run time
- Reading and writing array variables
- Support of MicroAutoBox II

The new key feature of the RTI Bypass Blockset MATLAB API is:

- Supporting the new generic DCI-GSI1 bypass interface

For details on the new features, refer to *New Features of the RTI Bypass Blockset 2.7.1* on page 49.

RTI CAN MultiMessage Blockset

The new key features of the RTI CAN MultiMessage Blockset are:

- Supporting J1939 network management
- Supporting J1939 messages > 8 bytes (message packaging)
- Supporting new J1939 DBC file format

For details on the new features, refer to *New Features of the RTI CAN MultiMessage Blockset 2.5.1* on page 53.

RTI FPGA Programming Blockset

The new key features of the RTI FPGA Programming Blockset are:

- Script interface function to update a model to a new version of the FPGA framework
- Time-optimized build process
- Processor Interface library supports all the MATLAB versions and operating systems of the dSPACE release

For details on the new features, refer to *New Features of the RTI FPGA Programming Blockset 1.2* on page 55.

Migrating to dSPACE Release 6.6

Objective	After you install dSPACE Release 6.6, some additional steps may be necessary.
Migrating from dSPACE Release 6.5	There are no general migration steps to be done. The required product-specific migration steps are usually done automatically by the product. For exceptions, refer to the product-specific migration descriptions.
Migrating from dSPACE Release 6.4 or earlier	To migrate from dSPACE Release 6.4 or earlier to dSPACE Release 6.6, you also have to perform the migration steps of the intervening dSPACE Releases. All of the required migration steps can be done with dSPACE Release 6.6 installed.
Example	<p>For example, if you want to migrate from dSPACE Release 6.2 to dSPACE Release 6.6, you have to perform the migration steps described in:</p> <ol style="list-style-type: none">1. New Features and Migration of dSPACE Release 6.32. New Features and Migration of dSPACE Release 6.43. New Features and Migration of dSPACE Release 6.54. Finally, the migration steps described above.
Previous release documents	<p>The New Features and Migration documents for previous releases are available via Internet and on the dSPACE DVD:</p> <ul style="list-style-type: none">■ Download them from http://www.dspace.com/goto?migration.■ Read them from the dSPACE DVD (see the \Doc folder). The PDF files are called <code>NewFeaturesAndMigrationxx.pdf</code>, where xx stands for the release number.



Until dSPACE Release 6.2, the new features and migration steps for RCP & HIL software, CalDesk and TargetLink were described in separate documents.

For the new features and migration documents of previous CalDesk versions, refer to <http://www.dspace.com/goto?VersionsCal>.

AutomationDesk

Where to go from here



Information in this section


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New Features of AutomationDesk 3.1


AutomationDesk 3.1


Automatically stopping an execution via automation block or COM API method AutomationDesk provides a new StopExecution automation block and a new StopExecution method in the AutomationDesk COM API. Both automatically stop a running execution. For further information, refer to:

- Main Library
StopExecution ( *AutomationDesk Library Reference*)
- AutomationDesk COM API
StopExecution ( *AutomationDesk API Reference*)

Enhancements to the Remote Calibration (COM) library There are some new methods that you can access via Python script in an Exec block to configure and start a collector during run time. For further information, refer to *Collector* ( *AutomationDesk Library Reference*).


Enhancements to the Remote Diagnostics (COM) library

There is a new `ConfigureLogicalLink` automation block to configure the referenced logical link to the ECU during run time. For further information, refer to *ConfigureLogicalLink* ( [AutomationDesk Library Reference](#)).

Demo project for signal evaluation The demo project for signal evaluation shows you some practical signal manipulations, for example, how to get the time stamps of a signal. For further information, refer to *Example on Getting Timestamps* ( [AutomationDesk Guide](#)).

Support of MicroAutoBox II The Platform Access library provides access to the new MicroAutoBox II.

Application note for COM handling A new application note is available with detailed information on COM handling in AutomationDesk. For further information, refer to `%DSPACE_ROOT%\Docs\AppNote_UsingCOMInAutomationDesk.pdf`.

Enhancements to the version control interface If your version control system (SCC provider) does not let you add a description to the check-in operation, you can enable an AutomationDesk dialog that requests a comment when check in. For further information, refer to *Check In* ( [AutomationDesk Reference](#)).

Enhancements to the usability You can start an execution via the F5 key. This keyboard shortcut was formerly used to refresh the Sequence Builder view.

Migrating to AutomationDesk 3.1

General migration aspects

If you open an AutomationDesk project with a newer AutomationDesk version, the software automatically detects whether migration is necessary. If you click OK in the message dialog, the migration is started. If you also want to continue working with the old project, you should not overwrite it with the migrated project, because the versions are not downward compatible. Save the migrated project to another path or name.

Before you open an older project with the new AutomationDesk version, ensure the following preconditions are fulfilled:

- You must create backups of the project and of the linked custom libraries.

- AutomationDesk must be running properly. There must not be any error message.
- The built-in libraries, required custom libraries and other packages must be correctly loaded.

You need not do any manual migration, except for the following point.

**Migrating from
AutomationDesk 1.x to
AutomationDesk 2.x or 3.x**

The serialization of a project structure to the file system has been totally changed with AutomationDesk 2.x. Automatic migration covers only elements that are handled by the AutomationDesk project.

If you have added a file or folder to an AutomationDesk project structure in the file system manually using AutomationDesk 1.x, and you migrate from AutomationDesk 1.x to AutomationDesk 2.x or 3.x, the new AutomationDesk project does not contain that file or folder. You must copy the file or folder to the new AutomationDesk project structure in the file system to make it available to your project manually.

For example, the MainLibraryExamples.zip project contains an ExternalMaterial folder which you must copy to the migrated project manually.


Automotive Simulation Models (ASM)

Where to go from here

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Information in other sections

Migrating ASM Models ( *ASM User Guide*)
Provides general information on the migration process of ASM models.

All ASM Blocksets

Where to go from here

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New Features of All ASM Blocksets


Simulink Rapid Accelerator mode

ASM now supports the Simulink Rapid Accelerator mode which can increase simulation performance.

Limitation: The Simulink Rapid Accelerator mode cannot be used with an ASM operator version and the MotionDesk Blockset which is used for animation.

Migration of All ASM Blocksets

ASM migration

The migration process has been redesigned. For details, refer to *Migrating ASM Models* ( *ASM User Guide*).

ASM Diesel Exhaust Blockset

Migrating to ASM Diesel Exhaust Blockset 1.1.1

PUMP_HOSE block	To support the Simulink Rapid Accelerator mode, data types of signals were changed.
------------------------	---

ASM Diesel InCylinder Blockset

Migrating to ASM Diesel InCylinder Blockset 1.0.3

Soft_ECU_ INCYLINDER_DIESEL block	The anti-windup implementation has been improved for the idle speed controller.
--	---

ASM Drivetrain Basic Blockset

New Blockset: ASM Drivetrain Basic Operator 1.0

Objective	The ASM Drivetrain Basic Operator Blockset is the operator version of the ASM Drivetrain Basic Blockset.
------------------	--

Operator Version	<p>The operator version has been designed for Simulink simulation only.</p> <p>The operator model offers the same functionality, simulation quality and parameterization options as the standard simulation package. The operator version is compatible with the standard model (developer version) and can be parameterized by using ASMPParameterization and ModelDesk.</p>
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The fundamental difference is the implementation of the library components: The components are encapsulated in S-functions. The blocks are accessible in the model so that the input and output behavior can be studied and parameters can be changed.

ASM Engine Diesel Blockset

Where to go from here

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New Blockset: ASM Engine Diesel Operator 1.0

Objective

The ASM Engine Diesel Operator Blockset is the operator version of the ASM Engine Diesel Blockset.

Operator Version

The operator version has been designed for Simulink simulation only.

The operator model offers the same functionality, simulation quality and parameterization options as the standard simulation package. The operator version is compatible with the standard model (developer version) and can be parameterized by using ASMPParameterization and ModelDesk.

The fundamental difference is the implementation of the library components: The components are encapsulated in S-functions. The blocks are accessible in the model so that the input and output behavior can be studied and parameters can be changed.

Migrating to ASM Engine Diesel Blockset 1.3.4

SOFT_ECU_DIESEL block	The anti-windup implementation has been improved for the idle speed controller. The lookup method for maximum torque map for interpolation/extrapolation was changed for consistency. The parameterization is adapted so that $T_{max}(n_{engine}=0) > 0$ and $T_{max}(n_{engine} > n_{max}) \ll 0$.
COMBUSTION_TORQUE_CI block	The block was updated to correct the lambda value calculation. The lambda_Cyl signal is added to the ASMSignalbus.
INTAKE_MANIFOLD block	The block is internally restructured without influencing its functionality.
EXHAUST_MANIFOLD block	The block is internally restructured without influencing its functionality.

ASM Engine Gasoline Basic Blockset

Where to go from here	Information in this section				
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New Blockset: ASM Engine Gasoline Basic Operator 1.0

Objective	The ASM Engine Gasoline Basic Operator Blockset is the operator version of the ASM Engine Gasoline Basic Blockset.
Operator Version	<p>The operator version has been designed for Simulink simulation only.</p> <p>The operator model offers the same functionality, simulation quality and parameterization options as the standard simulation package. The operator version is compatible with the standard model (developer version) and can be parameterized by using ASMParameterization and ModelDesk.</p> <p>The fundamental difference is the implementation of the library components: The components are encapsulated in S-functions. The blocks are accessible in the model so that the input and output behavior can be studied and parameters can be changed.</p>

Migrating to ASM Engine Gasoline Basic Blockset 1.3.4

COMBUSTION_TORQUE_SI block	The block was updated to correct the lambda value calculation. The lambda_Cyl signal is added to the ASMSignalbus.
INTAKE_MANIFOLD block	The block is internally restructured without influencing its functionality.
MAPS_TC block	The block is internally restructured without influencing its functionality.
SOFT_ECU_GASOLINEBASIC block	The anti-windup implementation has been improved for the idle speed controller.

ASM Engine Gasoline Blockset

Where to go from here

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New Blockset: ASM Engine Gasoline Operator 1.0

Objective

The ASM Engine Gasoline Operator Blockset is the operator version of the ASM Engine Gasoline Blockset.

Operator Version

The operator version has been designed for Simulink simulation only.

The operator model offers the same functionality, simulation quality and parameterization options as the standard simulation package. The operator version is compatible with the standard model (developer version) and can be parameterized by using ASMPparameterization and ModelDesk.

The fundamental difference is the implementation of the library components: The components are encapsulated in S-functions. The blocks are accessible in the model so that the input and output behavior can be studied and parameters can be changed.

Migrating to ASM Engine Gasoline Blockset 2.1.4

COMBUSTION_TORQUE_SI block

The block was updated to correct the lambda value calculation. The lambda_Cyl signal is added to the ASMSignalbus.

COMBUSTION_TORQUE_CI block

The block was updated to correct the lambda value calculation. The lambda_Cyl signal is added to the ASMSignalbus.

DIRECTINJECTOR block

Evaluation of the mean injected volumetric fuel mass flow $q_{Inj}[mm^3/s]$ has been improved.

EXHAUST_MANIFOLD block The block is internally restructured without influencing its functionality.

INTAKE_MANIFOLD block The block is internally restructured without influencing its functionality.

SOFT_ECU_GASOLINE block The anti-windup implementation has been improved for the idle speed controller.

Related topics

Basics

- [Migrating ASM Models \(📖 ASM User Guide\)](#)

ASM Environment Blockset

Migrating to ASM Environment Blockset 1.4.2

BRAKE_HYDRAULICS_VARIANT block The Const_Factor_BrakeDisc[FL;FR;RL;RR][m3] inport was renamed to Const_Factor_BrakeDisc[m3]. The dimension was modified from 4 to 1. During the migration process a sum block is added before this inport.

ASM Gasoline InCylinder Blockset

Migrating to ASM Gasoline InCylinder Blockset 1.0.3


Soft_ECU_INCYLINDER_GASOLINE block The anti-windup implementation has been improved for the idle speed controller.

ASMParameterization Tool

New Features of the ASMParameterization Tool 1.5

Customized parameterization tree


Now you can adapt the ASMParameterization browser tree for additional parameter pages by selecting **Insert tree element here** or **Delete this tree element** in the context menu of the browser entries.

For details, refer to *How to Insert or Delete a Parameter Page* ( *ASMParameterization User Guide*).

Adjustable plot depth

You can change the plotting depth during a parameterization session. Now you can specify whether to plot ...

- Table results only
- Table results with measurements (optional error plots)
- User-defined plotting depth

For details, refer to *Calculate Model Parameters* ( *ASMParameterization User Guide*).

Measurement validation

You can implement a range check for the measurement variables during the mapping procedure. You can define a range for the variables, and ASMParameterization checks whether the data is within range.

For details, refer to *Mapping Measurement Data* ( *ASMParameterization User Guide*).

ASM Traffic Blockset

Migrating to ASM Traffic Blockset 1.1.3

TRAFFIC_SCHEDULER block

The `v_x_Vehicle_CoG[kmlh]` inport was renamed `v_Vehicle[kmlh]`.

ASM Trailer Blockset

New Features of ASM Trailer Blockset 1.2

DRUM_BRAKE block

A look-up-table-based implementation is used to define the brake torques as functions of the brake pressures. Thus, nonlinear characteristics of drum brakes can be simulated. Note that the drum brake blocks are not supported by ModelDesk 2.2 (as included in Release 6.6).

SUSPENSION_FORCES _ACTIVE block

The suspension forces look-up tables have been extended by a second dimension. The force tables now depend not only on spring/damper/stabilizer displacements, but also on control signals, for example, control current from ECU. Thus, active suspension types can be simulated. Note that the suspension forces blocks are not supported by ModelDesk 2.2 (as included in Release 6.6).

ASM Truck Blockset

New Features of ASM Truck Blockset 1.1

DRUM_BRAKE block

A look-up-table-based implementation is used to define the brake torques as functions of the brake pressures. Thus, nonlinear characteristics of drum brakes can be simulated. Note that the drum brake blocks are not supported by ModelDesk 2.2 (as included in Release 6.6).

SUSPENSION_FORCES _ACTIVE block

The suspension forces look-up tables have been extended by a second dimension. The force tables now depend not only on spring/damper/stabilizer displacements, but also on control signals, for example, control current from ECU. Thus, active suspension types can be simulated. Note that the suspension forces blocks are not supported by ModelDesk 2.2 (as included in Release 6.6).

ASM Turbocharger Blockset

New Blockset: ASM Turbocharger Operator 1.0

Objective	The ASM Turbocharger Operator Blockset is the operator version of the ASM Turbocharger Blockset.
Operator Version	<p>The operator version has been designed for Simulink simulation only.</p> <p>The operator model offers the same functionality, simulation quality and parameterization options as the standard simulation package. The operator version is compatible with the standard model (developer version) and can be parameterized by using ASMPParameterization and ModelDesk.</p> <p>The fundamental difference is the implementation of the library components: The components are encapsulated in S-functions. The blocks are accessible in the model so that the input and output behavior can be studied and parameters can be changed.</p>

ASM Utilities Blockset

New Features of ASM Utilities Blockset 1.6.3

ASM label interface	The labelinterface library has been extended with new features. For details, refer to <i>ASM LabelInterface</i> ( <i>ASM User Guide</i>).
----------------------------	--

ASM Vehicle Dynamics Blockset

New Features of ASM Vehicle Dynamics Blockset 1.5

**ASM_VehicleDynamics
demo model**

A new functionality "Keep Vehicle Position" has been included. The vehicle can be forced to keep its current position under particular conditions, for example, if the roll angle exceeds a defined limit. This prevents the vehicle from rolling over.

**STEERING_VARIABLE
_RATIO block**

A variable steering ratio can be simulated with this block. Two one-dimensional look-up tables have to be parameterized, defining the steering ratio and the angle of the steering column as functions of the displacement of the steering rod. Note that the variable steering ratio block is not supported by ModelDesk 2.2 (as included in Release 6.6).

DRUM_BRAKE block

A look-up-table-based implementation is used to define the brake torques as functions of the brake pressures. Thus, nonlinear characteristics of drum brakes can be simulated. Note that the drum brake blocks are not supported by ModelDesk 2.2 (as included in Release 6.6).

**SUSPENSION_FORCES
_ACTIVE block**

The suspension forces look-up tables have been extended by a second dimension. The force tables now depend not only on spring/damper/stabilizer displacements, but also on control signals, for example, control current from ECU. Thus, active suspension types can be simulated. Note that the suspension forces blocks are not supported by ModelDesk 2.2 (as included in Release 6.6).

CalDesk

Where to go from here

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<i>Migrating to CalDesk 3.0.1</i>	35

New Features of CalDesk 3.0.1

Supporting
MicroAutoBox II

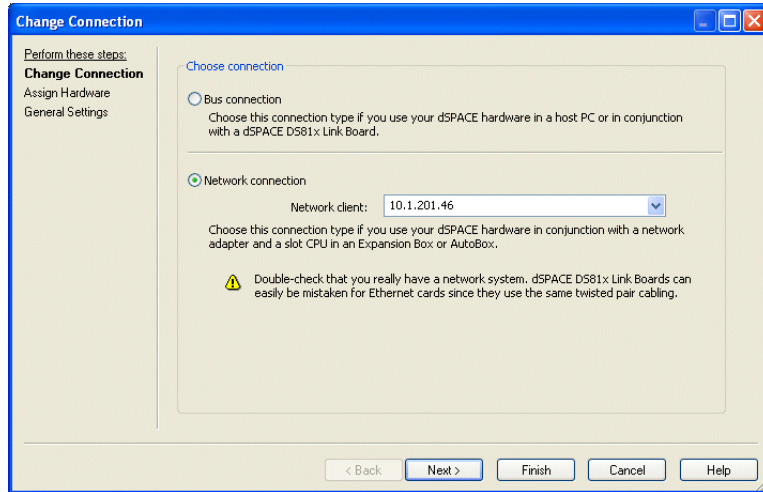
CalDesk 3.0.1 supports MicroAutoBox II.

Steps to use MicroAutoBox II in CalDesk To use MicroAutoBox II in a CalDesk experiment, you have to perform the following steps.

1. Add a MicroAutoBox platform to the experiment. For instructions, refer to *How to Add a Platform/Device to an Experiment* ( *CalDesk Calibration Guide*).
2. Select Configure Platform/Device from the platform's context menu.

The Change Connection dialog opens.


- In the dialog, select **Network connection** and specify the network address of your MicroAutoBox II.



- Complete the configuration of the platform as described in *How to Configure a MicroAutoBox* ( *CalDesk Calibration Guide*).



There are some limitations for using MicroAutoBox II:

- You cannot perform measurements on more than one MicroAutoBox II at the same time.
- Hot plugging is not supported for MicroAutoBox II: When you reconnect MicroAutoBox II to the host PC, the MicroAutoBox II platform remains in the *disconnected* state. To reconnect MicroAutoBox II, use the *Check Experiment Platform/Device Configurations* ( *CalDesk Reference*) command.
- MicroAutoBox II does not support the automatic reconnect feature.

Migrating to CalDesk 3.0.1

- To migrate from CalDesk 3.0 to CalDesk 3.0.1 and reuse existing experiments, you do not have to carry out migration steps.
- To migrate from CalDesk 2.1 or earlier to CalDesk 3.0.1 and reuse existing experiments, you may have to carry out some migration steps. For the migration steps, refer to <http://www.dspace.com/goto?VersionsCal>.

ControlDesk

New Features of ControlDesk 3.6

New supported platforms

ControlDesk supports the following new platforms:

- Multicore DS1006 Processor Board
- MicroAutoBox II



There are some limitations for using MicroAutoBox II:

- Hot plugging is not supported for MicroAutoBox II: When you reconnect MicroAutoBox II to the host PC, the MicroAutoBox II platform remains in the *disconnected* state. To reconnect MicroAutoBox II, use the Refresh Platform Connection command.
- You cannot perform measurements on more than one MicroAutoBox II at the same time.

Bus Navigator

Enhanced J1939 layouting support The layouts of the Bus Navigator have been adapted to the enhanced RTI CAN MultiMessage Blockset, which now supports J1939 network management, for example.

Enhanced layout handling Layouts are now saved together with the bus configuration and can be opened very fast.

Enhanced CAN data replay Even large CAN log files can now be replayed.

Related topics


References

- [Refresh Platform Connection](#) ( *ControlDesk Reference*)

dSPACE FlexRay Configuration Package

New Features of dSPACE FlexRay Configuration Package 2.2.1

FlexRay Configuration Tool

Support of dual-channel FlexRay systems (for PDU-based modeling) The FlexRay Configuration Tool can be used to create a configuration using two channels (dual channel configuration) if they are described by the FIBEX file. Dual channel configurations are supported for PDU-based modeling. For further information, refer to *Dual Channel Configurations* ( *FlexRay Configuration Tool Guide*).

New filters for customizing the different views The FlexRay Configuration Tool provides further filters for filtering project items displayed in the views:

- The *short name filter* lets you display only frames and signals whose short names contain a specified string. In the dialog you can specify the search string with wildcards ("*", "?").
- The *redundant frames filter* is useful if the FlexRay communication uses two channels. It lets you display redundant frames under an additional node. Frames which are sent or received via both channels are displayed under "Logical_Channel_AB" nodes. Frames which are sent or received via one channel only are displayed under the "Channel_A" or "Channel_B" node.

For further information, refer to *Sorting and Filtering Elements in the Views* ( *FlexRay Configuration Tool Guide*).

RTI FlexRay Configuration Blockset

Support of dual-channel FlexRay systems (for PDU-based modeling) The RTI FlexRay Configuration Blockset now supports dual-channel FlexRay systems for PDU-based modeling.

RTIFLEXRAYCONFIG STATUS block The MFR4300/V11 controller type now supports the error level. For details on the error level values, refer to *Block Description (RTIFLEXRAYCONFIG STATUS)* ( *FlexRay Configuration Features*)

Real-Time Testing

Where to go from here

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New Features of Real-Time Testing 1.7

New supported platforms


Real-Time Testing supports the following new platforms:

- MicroAutoBox II
- Multicore DS1006 Processor Board


Synchronized start of simulation model and RTT sequences

RTT sequences and simulation model can be started synchronously. You can create and start RTT sequences when the simulation model is stopped. The RTT sequences are not executed until the simulation model is started.

Changing sequence channel

You can change the sequence channel (postcomputation or precomputation) within an RTT sequence after it was created. For details, refer to *SetSequenceChannel* ( *Real-Time Testing Library Reference*).

Wait function

You can use the new `Wait` function to delay the execution of an RTT sequence for a specified number of seconds. For details, refer to *Wait Function* ( *Real-Time Testing Library Reference*).

Migration to Real-Time Testing 1.7

Demos of Real-Time Testing

Starting with this version, Real-Time Testing is not installed under the %DSPACE_ROOT% folder. It is installed in the folder for common program files instead, for example, Program Files\Common Files\dSPACE. This also affects the installation of the demos. To access the demos, a shortcut to the demo folder is added to Windows Start menu: Start - Programs - dSPACE Tools - Real-Time Testing - Real-Time Testing Demos v1.7.0. To work with the demos, copy the demos to your work folder.

RTI/RTI-MP and RTLib

Where to go from here

Information in this section

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<i>Migration Aspects of RTI/RTI-MP and RTLib</i>	46

New Features of RTI/RTI-MP and RTLib

Parallel build


RTI and RTI-MP support the parallel build feature of the Real-Time Workshop when model referencing is used on a multicore host PC. For referenced models, the model code generation and the build process can be executed in parallel on different cores of a multicore PC. This can reduce the build time.

This feature requires at least MATLAB R2009a and the Parallel Computing Toolbox by The MathWorks. For further information, refer to the Real-Time Workshop user documentation.

Branching interrupt signals

RTI and RTI-MP support the Simulink Function-Call Split block that is used to branch the output of an interrupt block and connect it to multiple function-call subsystems or models.

With RTI-MP, the Function-Call Split block cannot be used in conjunction with the IPI block.

For further information, refer to *How to Branch Interrupt Signals* ( *RTI and RTI-MP Implementation Guide*)

Enhanced TRC support of bus objects

The element names of Simulink bus signals are generated as labels into the variable description file if the signals are configured as nonvirtual bus signals.

Variable description files generated with older dSPACE releases contain the generic suffix *SubArray<n>* for nonvirtual bus signals, where *<n>* is the position of the signal in the bus. If you rebuilt your model with the current dSPACE release, data connections to these variables have to be recreated manually in ControlDesk.

Tunable parameter structures

With MATLAB R2010a, the tunable parameters can be structures containing numerical values. If MATLAB workspace variables and `Simulink.Parameter` objects provide a data structure as a value, they can be configured as tunable parameter structures.

However, tunable parameter structures are not generated into the variable description file.

Multicore DS1006 Processor Board

dSPACE Release 6.6 provides a new firmware and a new RTLib version which support both, the single-core DS1006 Processor Board and the multicore DS1006 Processor Board.

The features of the multicore DS1006 Processor Board are:

- Each core provides its own timers, interrupt controllers and watchdogs.
- The cores can communicate via internal virtual Gigalinks. The board also provides four external Gigalinks to connect to other DS1006 boards. A multiprocessor system can therefore be implemented using various cores of one or more boards.

The current firmware (version 2.1) and RTLib (version 2.2) are not compatible to older versions. Applications that you will build with dSPACE Release 6.6 require the new firmware. Applications that you built with a previous dSPACE release will not run with the new firmware. To use the full multicore support, you must have firmware version 2.1 and recompile your applications.

The multicore DS1006 Processor Board can be used as a single-core board and as a multicore board. The multicore support is enabled by default. If you want to use the board as a single-core board, you must use a migration tool to adapt the respective firmware.

For further information, refer to DS1006 Features.

MicroAutoBox II

The new MicroAutoBox comes with Ethernet interfaces for host communication and real-time I/O. It will be available in the same variants as the original MicroAutoBox, for example, MicroAutoBox II with DS1505 and DS1507 as I/O boards.

The existing real-time applications implemented with RTLib1401 or RTI1401 are compatible with the MicroAutoBox II. You do not have to rebuild them.

For further information, refer to MicroAutoBox Features.

DS2211

The RTI blockset of the DS2211 is improved:


Supporting the SENT protocol SENT (Single Edge Nibble Transmission) is a protocol used between sensors and ECUs. It is used to transmit data of high-resolution (10 bit or more) sensors as an alternative to an analog interface. You can implement a SENT receiver and SENT transmitter on a DS2211 board.

- SENT receiver:
 - Four independent channels (digital inputs 1 to 4).
 - Either all received messages are transferred to the real-time model or only the latest one.
 - Information about the message clock is transferred to the real-time model.
- SENT transmitter:
 - Five independent channels (digital outputs 1 to 5).
 - All nibbles are set by the user.
 - The checksum must be calculated within the real-time model, so it is possible to manipulate the checksum.
 - Several messages can be stored within a FIFO, so that seamless transmission of several different messages is possible.
 - If only one message is in the FIFO, it will be repeated (optional).
 - The message clock can be set from the real-time model.

The feature is only supported on DS2211 boards with the following board versions:

Board Revision	PAL Revision
02	>= 004
03	>= 004
04	002...009 or >= 012

Board Revision	PAL Revision
>= 05	>= 001

For details, refer to *Single Edge Nibble Transmission (SENT) Support* ( *DS2211 RTLib Reference*).

Migration Aspects of RTI/RTI-MP and RTLib


Migration aspects of multicore DS1006 Processor Board

Applications compiled with the RTLib1006 (version 2.2) can be executed on a single-core DS1006 when firmware version 2.1 is installed. The new firmware and RTLib1006 is intended for both multicore DS1006 boards (Rev. 6) and single-core DS1006 boards (Rev. 3).

Note the following supported combinations for boot firmware version and RTLib version.

	Firmware 1.x	Firmware 2.x
RTLib1006 1.x (up to dSPACE Release 6.5)	OK	Not supported. Recompile with new RTLib or downgrade the firmware.
RTLib1006 2.x (since dSPACE Release 6.5 SP1 and dSPACE Release 6.6)	Not supported. Recompile with old RTLib or upgrade the firmware.	OK

If you want to use dSPACE Release 6.4 or earlier, you must downgrade the firmware via the firmware update tool of the DS1006 board.

For further information, refer to *firmware_update_ds1006* ( *DS1006 RTLib Reference*).

The following functions have a different behavior on multicore DS1006 systems:

- ds1006_mp_init

If you use a multicore DS1006 board, a DS911 Gigalink module is not required if the specified topology can be realized with the internal virtual Gigalinks.

The internal Gigalinks are connected virtually and automatically configured according to the specified topology.

- `ds1006_gl_module_present`

If you are using a multicore DS1006 board, this function always returns 1, because the internal virtual Gigalinks are always present.

- `dsgl_ptr_get`

This function was deprecated since dSPACE Release 6.4 and must not be used for virtual Gigalinks.

**Migration aspects of
MicroAutoBox II**

Applications compiled with MicroAutoBox do not have to be recompiled for MicroAutoBox II if the same I/O boards are used.

**Discontinued software
support**

Note the discontinued software support mentioned in *General Enhancements and Changes* on page 10.

RTI Bypass Blockset

New Features of the RTI Bypass Blockset 2.7.1

RTI Bypass Blockset

New bypass interface and support of generic DCI-GSI1-based ECU access The RTI Bypass Blockset comes with a new generic DCI-GSI1 bypass interface which can be used to perform service-based or code patch-based bypassing on ECUs equipped with a DCI-GSI1.

In connection with the new bypass interface, the interface-specific `IF_DATA DCI_GSI1_BYPASS` entry and the relevant AML file `DCI_GSI1_Bypass.aml` are supported.

Support of H-UDI on-chip debug interface (Renesas) The RTI Bypass Blockset now supports ECUs equipped with a DCI-GSI1 with H-UDI on-chip debug interface and SH2A microcontrollers from Renesas. To perform bypassing via the H-UDI debug interface, the new generic DCI-GSI1 bypass interface must be used.

Support of further conversion types The RTI Bypass Blockset now also supports the following conversion types for computation methods to convert a source value into a converted value:

- `TAB_INTTP` (Tabular conversion with interpolation)
- `TAB_NOINTTP` (Tabular conversion without interpolation)
- `FORM` (Formula-based conversion)

The `FORM` conversion method can be used with formulas based on ASAM MCD-2 MC Ver. 1.6 or later. With the `FORM` conversion method, binary and logical operators within the formulas are not supported.

Disabling single external variables during run time The RTI Bypass Blockset lets you selectively disable single external variables during run time. To disable an external variable, the related ExtVar Type input port value must be set to 0.

Reading and writing array variables The RTI Bypass Blockset now supports the reading and writing of whole data arrays for the following array variable types:

- Measurement array variable
- Value blocks (CHARACTERISTIC variables of VAL_BLK type).

If an array variable of one of these types is selected in a Read, Write, Upload or Download block dialog, all the elements of the array are automatically added to the transfer list of the block, and only one port is created for the block. The input/output port created for the array variable is a 1-dimensional vector signal whose width matches the number of elements in the array variable.

To join the signals of an array variable going into a block input port, you can use a Simulink Mux block. To split the signal from a block output port corresponding to an array variable, you can use a Simulink Demux block.

New supported hardware The RTI Bypass Blockset supports MicroAutoBox II as prototyping hardware. It can be used for service-based bypassing of ECU control functions.

Enhancements to XCP-based interfaces

- For XCP-based interfaces with dynamic DAQ lists, the A2L file parameter `MAX_DAQ` is no longer interpreted as the upper limit for the number of supported DAQ lists, and therefore is no longer mandatory.
- For XCP on FlexRay interfaces, the RTI Bypass Blockset now also supports the FIBEX 2.0 specification. Additionally, dynamic cyclic buffers are supported for configuration in the FlexRay buffer assignment dialog.

RTI Bypass Blockset MATLAB API

Support of generic DCI-GS11 bypass interface The RTI Bypass Blockset MATLAB API supports the new generic DCI-GS11 bypass interface.

For details, refer to the *RTI Bypass Blockset MATLAB API Reference*.

Working with models from earlier RTI Bypass Blockset versions 2.x

dSPACE Release 6.6 comes with RTI Bypass Blockset 2.7.1, which is compatible with earlier blockset versions 2.x. However, data management was changed compared to the RTI Bypass Blockset version 2.5 or earlier.

If you have a Simulink model built with blockset version 2.5 or earlier and open it with RTI Bypass Blockset 2.7.1, the old data dictionary file (file name extension .dd) is replaced by a new data dictionary file (.vdb) using the information stored in the Setup block as soon as you open and close the Setup block dialog by clicking OK, or open the Read, Write, Upload or Download block dialog and click the Fill Variable Selector button on the Variables page.

If you have a model that was saved with RTI Bypass Blockset 2.7.1 and want to use it with RTI Bypass Blockset 2.5 or earlier, the model's data dictionary file required for the earlier blockset version (file name extension .dd) is recreated as soon as you update the A2L files in the Setup block or open the Read, Write, Upload or Download block and click the Fill Variable Selector button on the Variables page. The data dictionary file created under RTI Bypass Blockset 2.7.1 (*.vdb) remains on disk.

To enable the RTI Bypass Blockset to recreate the data dictionary, the ASAM-MCD 2MC (A2L) files specified in the Setup block must be accessible at the specified location and must be unchanged.

Limitation when using the Variable Editor

- You cannot open the Variable Editor via the RTIBYPASS_SETUP block of the RTI Bypass Blockset if you have installed a CalDesk version earlier than 3.0.
- You cannot open the Variable Editor via the RTIBYPASS_SETUP block of the RTI Bypass Blockset if Windows Vista or Windows 7 is your operating system.

RTI CAN MultiMessage Blockset

Where to go from here



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<i>Migrating to RTI CAN MultiMessage Blockset 2.5.1</i>	54

New Features of the RTI CAN MultiMessage Blockset 2.5.1

Support of J1939 network management

The RTI CAN MultiMessage Blockset now supports J1939 network management including address claiming for self-configurable address network nodes. In the address claiming process, addresses are autonomously assigned to network nodes during network initialization. If there is an address conflict, the network node with the highest priority gets the claimed address. The other network nodes must claim different addresses. This dynamic node address assignment ensures that each address is unique.


For further information, refer to *Basics on Working with a J1939-Compliant DBC File* ( *RTI CAN MultiMessage Reference*) and *Network Node Identification Page (RTICANMM MainBlock)* ( *RTI CAN MultiMessage Reference*).

Support of J1939 messages > 8 bytes

The RTI CAN MultiMessage Blockset now supports J1939 multipacket messages via

- Broadcast Announce Message (BAM)
- Request to Send/Clear to Send (RTS/CTS) Message

This allows the RTI CAN MultiMessage Blockset to transmit J1939 messages > 8 bytes as multipacket messages when working with a J1939-compliant DBC file.

For further information, refer to *Basics on Working with a J1939-Compliant DBC File* ( *RTI CAN MultiMessage Reference*).

Support of new J1939 DBC file format


The RTI CAN MultiMessage Blockset now also supports J1939 DBC files created with CANalyzer version 5.2 or later from Vector Informatik GmbH.

Migrating to RTI CAN MultiMessage Blockset 2.5.1

Working with models from earlier RTI CAN MultiMessage Blockset versions

To reuse a model created with an earlier RTI CAN MultiMessage Blockset version, you must update the S-functions for all the contained RTICANMM blocks before you perform modifications to the CAN configuration.

To create new S-functions for all the RTICANMM blocks in your model in one step, you can select the Create S-Function for all CAN Blocks command from the Options menu of the RTICANMM GeneralSetup block.

For further information, refer to *Limitations with RTICANMM* ( *RTI CAN MultiMessage Reference*).

RTI FPGA Programming Blockset

Where to go from here

Information in this section

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<i>Migrating to RTI FPGA Programming Blockset 1.2</i>	55

New Features of the RTI FPGA Programming Blockset 1.2

Enhancement to the script interface

The RTI FPGA Programming Blockset provides a script interface that you can use to update the FPGA framework to a newer version by entering the update command in the MATLAB Command Window or using it in an M file.

For further information, refer to *Migrating to RTI FPGA Programming Blockset 1.2* on page 55.

Migrating to RTI FPGA Programming Blockset 1.2

Objective

There are different methods to be used for migrating an existing model related to the blockset version used.

- Migrating from RTI FPGA Programming Blockset 1.1 to 1.2
- Migrating from RTI FPGA Programming Blockset 1.0 to 1.2

Migrating from RTI FPGA Programming Blockset 1.1 to 1.2

If you have implemented your FPGA application using RTI FPGA Programming Blockset 1.1 (released with dSPACE Release 6.5), and you want to use it with dSPACE Release 6.6, you must update the FPGA framework. This involves only a few internal modifications that do not affect the blocks' inputs and outputs or their parameters. To update the FPGA framework you can use the script interface.

To update the FPGA framework without changing the values of the block parameters

```
rtifpga_scriptinterface('FPGAFrameworkUpdate',  
    <SimulinkHandle>)
```

The script considers all subsystems that are contained in the model/subsystem which is specified by the Simulink handle. The parameters of the blocks are unchanged after updating to the current framework version.

Example: The following script will update the FPGA framework for any FPGA subsystems found in the processor model called *MyProcModel*. The specified values of the block parameters will not be changed.

```
ProcModelHandle = get_param('MyProcModel', 'handle')  
rtifpga_scriptinterface('FPGAFrameworkUpdate',  
    ProcModelHandle)
```

To update the FPGA framework and reset the values of the block parameters to their initial values

```
rtifpga_scriptinterface('FPGAFrameworkUpdate',  
    <SimulinkHandle>, 'ReInit')
```

The script considers all subsystems that are contained in the model/subsystem which is specified by the Simulink handle. The parameters of the blocks are reset to the initial values after updating to the current framework version.

The script considers all subsystems that are contained in the model/subsystem which is specified by the Simulink handle. The parameters of the blocks are reset to the initial values after updating to the current framework version.

```
ProcModelHandle = get_param('MyProcModel', 'handle')  
rtifpga_scriptinterface('FPGAFrameworkUpdate',  
    ProcModelHandle, 'ReInit')
```

**Migrating from RTI FPGA
Programming Blockset 1.0
to 1.2**

Because the RTI FPGA Programming Blockset 1.0 (released with dSPACE Release 6.4) was not fully implemented, a model that you implemented with it must be migrated manually. You must replace each block of the RTI FPGA Programming Blockset with a new one to get a model compatible with the current dSPACE RTI environment for modeling, building and executing.



The update function of the script interface does not support RTI FPGA Programming Blockset 1.0.

Compatibility Information

Where to go from here

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Supported MATLAB Releases

Supported MATLAB releases

The table below shows which dSPACE software item supports which MATLAB release:

MATLAB Release...	Is Supported by dSPACE Release 6.6 Software Item...			
	RCP and HIL Software	TargetLink 3.1	Model Compare 2.0.2	SystemDesk 2.1 ¹⁾
R2010a	Yes ²⁾	No	No	No
R2009b	Yes ²⁾	Yes	Yes	Yes
R2009a	Yes ²⁾	Yes	Yes	Yes
R2008b	Yes ²⁾	Yes	Yes	Yes
R2008a+	Yes	Yes	Yes	Yes
R2007b+	Yes	Yes	Yes	Yes
R2007a+	No	No	Yes	Yes
R2006b	No	No	Yes	Yes
R2006a+	No	No	No	No

¹⁾ DSOFFSim (dSPACE target for offline simulation) installed with SystemDesk requires MATLAB.

²⁾ Not supported by the RTI FPGA Programming Blockset - FPGA Interface

For up-to-date information on additional MATLAB releases which can be used in combination with dSPACE software, refer to <http://www.dspace.com/goto?sw3rdparty>.



dSPACE software supports only 32-bit versions of MATLAB. **64-bit MATLAB versions are not supported.**

For detailed information on compatibility, refer to <http://www.dspace.com/goto?Compatibility> on the dSPACE Web site.

Operating System

Operating system on host PC

The following table shows which software items in dSPACE Release 6.6 support which operating system:

Operating System...	Is Supported By...				
	RCP & HIL Software	TargetLink 3.1	CalDesk 3.0.1	Model Compare 2.0.2	SystemDesk 2.1
Windows XP Professional (32-bit version) with Service Pack 3	Yes	Yes	Yes	Yes	Yes
Windows Vista Business, Ultimate, and Enterprise (32-bit version) with the latest Service Pack ¹⁾	Yes ²⁾	Yes	Yes	Yes	Yes
Windows Vista Business, Ultimate, and Enterprise (64-bit version) with the latest Service Pack ¹⁾³⁾	Yes ²⁾	Yes	Yes ⁴⁾	Yes	Yes
Windows 7 Professional, Ultimate, and Enterprise (32-bit version) ⁵⁾	Yes ²⁾	Yes	Yes ⁴⁾	Yes	Yes
Windows 7 Professional, Ultimate, and Enterprise (64-bit version) ³⁾⁵⁾	Yes ²⁾	Yes	Yes ⁴⁾	Yes	Yes

¹⁾ Only the editions Windows Vista Business, Ultimate, and Enterprise are supported. The editions Windows Vista Home and Starter are not supported.

²⁾ Not supported by the RTI FPGA Programming Blockset - FPGA Interface

³⁾ The 64-bit operating systems are supported by 32-bit software running in WoW64 (Windows-On-Windows64). 64-bit MATLAB versions are not supported.

⁴⁾ CalDesk's ECU Diagnostics Module is not supported.

⁵⁾ Only the editions Windows 7 Professional, Ultimate, and Enterprise are supported. The editions Windows 7 Home and Starter are not supported.



- As of dSPACE Release 5.0 and TargetLink 2.2, Windows NT 4.0 is no longer supported.
- As of dSPACE Release 6.5 Windows 2000 is no longer supported.
- Windows XP Professional x64 Edition is not supported.

Limitations for Windows Vista/Windows 7 Some limitations apply when you use Windows Vista or Windows 7 in combination with dSPACE software. Refer to *Limitations for Windows Vista/Windows 7* on page 62.

Notes on 64-bit Windows operating systems dSPACE software runs as a 32-bit application under 64-bit Windows operating systems in a WoW64 (Windows-on-Windows 64-bit) subsystem. WoW64 is the x86 emulator that allows 32-bit Windows-based applications to run seamlessly on 64-bit versions of Windows. This allows you to use up to 4 GB virtual memory for each 32-bit process. 32-bit versions of Windows can only address up to 3.2 GB of memory in total for all running processes including the operating system itself.

Some additional limitations apply when you use a 64-bit Windows operating system with dSPACE software. Refer to *Limitations for 64-bit Windows Operating Systems* on page 64.

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 3
- Windows Vista Business, Ultimate, or Enterprise with the latest Service Pack
- Windows 7 Professional, Ultimate, or Enterprise
- Windows Server 2003

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

Limitations for Windows Vista/Windows 7


Objective

Some limitations apply when you use Windows Vista/Windows 7 in combination with dSPACE software.

MATLAB support

- Under Windows Vista, the dSPACE software has been released for MATLAB versions since MATLAB R2007a+.
- Under Windows 7, the dSPACE software has been released for MATLAB versions since MATLAB R2009a.

For further system requirements of The MathWorks software, refer to http://www.mathworks.com/support/sysreq/current_release.

Sleep mode not supported	<p>The dSPACE software does not support Windows'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 Sleep Mode of Windows Vista and Windows 7</i> ( <i>Software Installation and Management Guide</i>).</p>
Fast user switching not supported	<p>The dSPACE software does not support the fast user switching feature of Windows Vista and Windows 7.</p>
Closing dSPACE software before PC shutdown	<p>The modified shutdown procedure of Windows operating systems 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.</p>
USB devices under Windows 7	<p>The first time dSPACE USB devices using cables with opto-isolation are connected to the PC, there might be a message that the device driver software was not successfully installed. The dSPACE device will work properly later on nevertheless.</p>
Allowing communication via additional firewall rules	<p>During installation of the dSPACE software, two additional Windows 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 Service to connect to a dSPACE expansion box via network."</code>■ <code>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."</code>

Limitations for 64-bit Windows Operating Systems

Objective	Some additional limitations apply when you use Windows Vista/Windows 7 (64-bit versions) in combination with dSPACE software.
Using boards with ISA interface installed in the host PC	Using ISA boards, such as the DS813, installed directly in the host PC, with Windows Vista/Windows 7 (64-bit versions) is not possible with the standard installation routines. If necessary, contact dSPACE Support.
Limitations of device drivers	Third-party CAN interfaces are supported only if they are provided with 64-bit drivers from the manufacturers.
Limitations of target compilers	For information on the support of a given target compiler, contact the respective compiler manufacturer.
Limitations with software	The following table shows the known limitations of the dSPACE and third-party software under 64-bit Windows operating systems:

Software	Limitations and Recommendations
Naming of installation path	Under 64-bit Windows operating systems, the default installation folder for 32-bit applications is <code>C:\Program Files (x86)</code> . Since parentheses in the path name can cause problems, make sure to choose installation paths for the dSPACE software, MATLAB, and the PPC compiler which contain no parentheses.
AutomationDesk 3.1	The winsound Python module used to create an acoustic signal in the Tutorialdemo06 project is not supported.
CalDesk	<ul style="list-style-type: none"> ■ CalDesk 3.0.1 has been qualified for 64-bit Windows operating system. Keep in mind that CalDesk 3.0.1 requires a CalDesk 3.0 installation. ■ CalDesk 3.0 can be installed under Windows Vista/Windows 7 (64-bit versions) but has not been qualified for 64-bit Windows operating systems. ■ CalDesk versions earlier than CalDesk 3.0 do not support Windows Vista/Windows 7 (64-bit versions) and cannot be installed under them.

Software	Limitations and Recommendations
MATLAB	<p>If you install a 32-bit version of MATLAB under Windows Vista/Windows 7 (64-bit versions), the MATLAB installation program generates a message that a 64-bit version of MATLAB is available. Click OK and continue installing the 32-bit version of MATLAB.</p> <p>dSPACE software supports only 32-bit versions of MATLAB. 64-bit versions of MATLAB are not supported.</p>

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