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Release Notes for RobotStudio 4.0

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1 Introduction

This file contains release notes for RobotStudio **4.0**. The information should be considered as last minutes information and most up-to-date.

Visit also our web site at http://www.abb.com/roboticssoftware for more information and updates.

2 Supported Platforms

Before you install RobotStudio, make sure your system conforms to the following requirements:

Software requirements

Microsoft Windows 2000 Professional with Service Pack 4 or higher.

Microsoft Windows XP Professional with Service Pack 1 or higher.

$TEMP folder must exist (e.g. c:\temp).

The VRML Cad Converter requires that Microsoft Virtual Machine is installed.

***Note**: Windows service-packs can be downloaded from www.microsoft.com*

***Note**: Windows XP SP2. Windows Firewall will try to block features necessary to run RobotStudio and RobotStudio^{Online} properly. Make sure to **unblock** these features when asked (Industrial Robot Discovery Server, RobotStudio StudioAppFramework module, Virtual RobotController (all published by ABB)). The blocking state of a certain program can be viewed and changed at Start/Control Panel/Windows Security Center/Windows Firewall. Read more on www.microsoft.com*

Recommended hardware

CPU:	2.0 GHz Intel Pentium 4 or faster processor		
Memory:	1 GB RAM or higher		
Free disc-space:	500+ MB on the system disk. 250+ MB on the installation disk.		
Graphics card:	High performance OpenGL-compatible graphics card with the corresponding up-to-date drivers installed		
Display settings:	Screen resolution:	1280 x 1024 pixels	
	Colors:	Windows 2000/XP	256 or higher
Mouse:	Three button mouse		

3 Supported Controller Versions

3.1 Full support

S4c/S4c+ with RobotWare 3.2/52, 4.0/121

3.2 Limited support

S4/S4c with RobotWare 3.0, 3.1 (3.0 is only supported for S4C). Linear jogging, View Robot at Target, Jump to Target, robot axis configuration support and automatic setup of external axes are not supported.

See also Known limitations for information about controller version 2.1.

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4 Installation and Compatibility

When you are installing, make sure that you have **administrator rights** on the computer that you are using. Note: remote installation is **not** supported.

Compatibility with other versions and products:

- **It's recommended to uninstall versions earlier than 2.0 of RobotStudio before you start installation of RobotStudio 4.0. This includes uninstall of RobInstall.**
- ProgramMaker/QuickTeach 4.0 or older must be un-installed before installing RobotStudio.
- RobotStudio-S4 Lite 4.0 or older must be un-installed before installing RobotStudio.
- **The station- and library- format was changed in RobotStudio 1.1.1. Stations and libraries saved in RobotStudio 1.1.1-3.2 cannot be opened in earlier versions**. Stations and libraries saved in RobotStudio 1.1 and earlier can be opened in RobotStudio 4.0.
- All 4.0 controllers made before RobotStudio 4.0 must be cold-started. Backup of these controllers is required before installation. You can restore them after RobotStudio has been installed.
- It's recommended to redefine all 4.0 controllers made before RobotStudio 4.0 to a system based on the new virtual controller 4.0/121.
- In order to get **RobotStudio**, **QuickTeach** or **ProgramMaker** to run on the same computer as **WebWare** please follow the instructions below.
  - Log in with local administrator rights.
  - Close all applications except Windows.
  - Install RobotStudio, QuickTeach or ProgramMaker.
  - Install WebWare.
  - Configure Interlink as an Out-Of-Process Server by following these steps:
    - Start the "Command Prompt" (Start-Menu ➔ Run… ➔ write cmd ➔ press "OK").
    - Enter the following text in the Command Prompt window :
      c:
      cd\
      cd program files
      cd common files
      cd abb automation
      cd interlink
      interlink –unregserver
      interlink –regserver
- All virtual controller related files are by default placed in C:\Program Files\Common Files\ABB Automation.
- RobotStudio 4.0 requires a new license.

5 What's on this CD?

5.1 Software components

The virtual controller versions 2.1, 3.0, 3.1 3.2/52 and 4.0/121
Interlink 4.50.0015

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RobInstall 1.31
VBA 6.3
ACIS R16 SP1

5.2 Libraries

Library of robots, tools, external axes, positioners and equipment

A default robot controller version is stored for every robot. Unless other is specified this controller version is used when the Virtual Controller is started.

This release includes the robot models according to the table below.

Note: New models and revisions of models (robots and positioners) are continuously published on www.abb.com/robotics as they become available.

IRB Model					***RobotStudio model***	***Default controller***
	M98	**M98A**	**M99**	**M2000**	**Library name**	**Version**
140, 140F/CR/T				X	IRB140_M2000.rlb	4.0/121
340, 340SA				X	IRB340_M2000.rlb	4.0/121
1400	X			X	IRB1400_M98-M2000.rlb	4.0/121
1400H	X			X	IRB1400H_M98-M2000.rlb	4.0/121
2400 M94A					IRB2400_M94A	2.1
2400/10				X	IRB2400_10_M2000.rlb	4.0/121
2400/16				X	IRB2400_16_M2000.rlb	4.0/121
2400L		X	X	X	IRB2400L_M98A-M2000.rlb	4.0/121
2400		X	X	X	IRB2400_ M98A-M2000.rlb	4.0/121
4400/45		X	X	X	IRB4400_45_M2000.rlb	4.0/121
4400/65		X	X	X	IRB4400_60_M2000.rlb	4.0/121
4400FS		X	X	X	IRB4400FS_M98A-M2000.rlb	4.0/121
4400L/10		X	X	X	IRB4400L10_M2000.rlb	4.0/121
4400L/30		X	X	X	IRB4400L30_M2000.rlb	4.0/121
640	X			X	IRB640_M98-M2000.rlb	4.0/121
6400/2.4-120	X				IRB6400_24_120_M98.rlb	3.2
6400/2.4-150	X				IRB6400_24_150_M98.rlb	3.2
6400/2.4-200	X				IRB6400_24_200_M98.rlb	3.2
6400/2.8-120	X				IRB6400_28_120_M98.rlb	3.2
6400/3.0-75	X				IRB6400_30_75_M98.rlb	3.2
6400R/2.5-120				X	IRB6400R_25_120_M2000.rlb	4.0/121
6400R/2.5-150				X	IRB6400R_25_150_M2000.rlb	4.0/121
6400R/2.5-200				X	IRB6400R_25_200_M2000.rlb	4.0/121
6400R/2.8-150				X	IRB6400R_28_150_M2000.rlb	4.0/121
6400R/2.8-200				X	IRB6400R_28_200_M2000.rlb	4.0/121
6400R/3.0-100				X	IRB6400R_30_100_M2000.rlb	4.0/121
6400S/2.9-120				X	IRB6400S_29_120_M2000.rlb	4.0/121
6600/2.55-175				X	IRB6600_255_175_M2000.rlb	4.0/121
6600/2.55-225				X	IRB6600_255_225_M2000.rlb	4.0/121
6600/2.80-175				X	IRB6600_280_175_M2000.rlb	4.0/121

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6600ID/2.55-185					IRB6600ID_255_185_M2000.rlb	4.0/121
6650/2.75-200				X	IRB6650_275_200_M2000.rlb	4.0/121
6650/3.20-125				X	IRB6650_320_125_M2000.rlb	4.0/121
6650ID/2.75-170					IRB6650ID_275_170_M2000.rlb	4.0/121
6650S/3.00-200				X	IRB6650S_300_200_M2000.rlb	4.0/121
6650S/3.50-125				X	IRB6650S_350_125_M2000.rlb	4.0/121
7600/2.30-500				X	IRB7600_230_500_M2000.rlb	4.0/121
7600/2.55-400				X	IRB7600_255_400_M2000.rlb	4.0/121
7600/2.80-340				X	IRB7600_280_340_M2000.rlb	4.0/121
7600/3.50-150				X	IRB7600_350_150_M2000.rlb	4.0/121
5402/3.0-15					IRB5402_30_15.rlb	4.0/121
5403/3.0-15					IRB5403_30_15.rlb	4.0/121
5400-02					IRB5400-02.rlb	4.0/121
5400-02 Process					IRB5400-02P.rlb	4.0/121
5400-03					IRB5400-03.rlb	4.0/121
5400-03 Process					IRB5400-03P.rlb	4.0/121
5400-04					IRB5400-04.rlb	4.0/121
5400-04 Process					IRB5400-04P.rlb	4.0/121
5400-12					IRB5400_12.rlb	4.0/121
5400-12R					IRB5400_12R.rlb	4.0/121
5400-13					IRB5400_13.rlb	4.0/121
5400-14					IRB5400_14.rlb	4.0/121
5400-22					IRB5400_22.rlb	4.0/121
5400-22R					IRB5400_22R.rlb	4.0/121
5400-23					IRB5400_23.rlb	4.0/121
5400-24					IRB5400_24.rlb	4.0/121
540-02					IRB540.rlb	4.0/121
580-02					IRB580-02.rlb	4.0/121
580-02S					IRB580-02S.rlb	4.0/121
940 (Tricept)				X	IRB940.rlb	4.0/121

Note*:* Following robots are <u>not</u> supported:

S4:	IRB3400/1.9-30, IRB3400/2.5-10
S4C:	IRB9410
S4C/S4Cplus:	IRB840 and IRB8400 (gantries)
IRC5:	All

5.3 Other

Help files, RAPID documentation, Demo stations, Addins and VBA examples.

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6 New features

6.1 New features since RobotStudio 3.2

Geometry	**ACIS R16 SP1** ACIS is upgraded from R14 SP4 to R16 SP1
VC	**VirtualController 4.0/121** A new version of the 4.0 virtual controller is included.
Robotics	**IRB66X0 ID** The following robots are now supported. - IRB6600ID/2.55-185 - IRB6650ID/2.75-170
Robotics	**IRBT4003** The IRBT4003 (90 deg. and inline) tracks are now supported.
Robotics	**IRB5300-03** The IRB5300-03 (door openers) are now supported.
Robotics	**IRB4400S** The IRB4400S is now supported.
Robotics	**RTT Tracks** The RTT Tracks (Marathon and Bobin) are now supported.

6.2 New features since RobotStudio 3.1

Geometry	**ACIS R14 SP4** ACIS is upgraded from R10 SP6 to R12 SP3
VC	**New VirtualController 4.0/113** A new version of the 4.0 virtual controller is included.
VC	**Interlink 4.50.0015** A new version of Interlink is included.
CAD	**CATIA V5** CATIA V5 is now supported be the CAD Converter. Note: Choose “Custom Installation” to install this feature.
CAD	**Inventor Series 9** Inventor 9 is now supported by the CAD Converter
CAD	**Pro/Engineer Wildfire** Pro/Engineer Wildfire is now supported by the CAD Converter
Robotics	**IRB5400 Enhanced robot family** The enhanced paint robot family is now supported. - IRB5400-12 - IRB5400-12R - IRB5400-13 - IRB5400-14 - IRB5400-22 - IRB5400-22R

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- IRB5400-23
- IRB5400-24

Robotics **IRB6650 Shelf**
The IRB6650 Shelf robots are now supported.
- IRB6650S/3.00-200
- IRB6650S/3.50-125

Robotics **IRBT4003**
The IRBT4003 (90 deg. and inline) tracks are now supported.

Robotics **IRBT6003**
The IRBT6003 (90 deg. and inline) tracks are now supported.

Robotics **IRBT7003**
The IRBT7003 (90 deg. and inline) tracks are now supported.

6.3 New features since RobotStudio 3.0

GUI **Spanish language**
RobotStudio is now available in Spanish.

Geometry **ACIS R12 SP3**
ACIS is upgraded from R10 SP6 to R12 SP3

VC **New VirtualController 4.0/100**
A new version of the 4.0 virtual controller is included.

VC **New VirtualController 3.2/52**
A new version of the 3.2 virtual controller is included.

Robotics **Irb5400-02 Process Arm**
The Irb5400-02 manipulator with process arm is now supported

Robotics **Irb5400-03 Process Arm**
The Irb5400-03 manipulator with process arm is now supported

Robotics **Irb5400-04 Process Arm**
The Irb5400-04 manipulator with process arm is now supported

Add-in **AVI Capture Add-in**
A new Add-in has been added to the Plus+Pac. The AVI Capture add-in is built on the Camtasia Screen Recorder SDK and enables fast and easy screen capturing from RobotStudio.
See documentation for more information.

Add-in **Hose Simulation Add-in**
A new Add-in has been added to the Plus+Pac. With the Hose Simulation add-in you can easily attach hoses to any Parts of a station, including robots and static surroundings. During simulation the hoses dynamically deform and are adjusted according to the positions of the attachment points and surrounding equipment.

The accuracy of the hose simulation depends on a number of factors, such as the properties of the hose and the complexity of the RobotStudio station. We can not guarantee that the hose simulation seen on the screen is identical with

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how the hose will behave in reality, which it probably isn't, but we believe that it will give the user a better understanding of potential cabling problems in the real station.

Add-in

Path Configurator Add-in
A new Add-in has been added to the Plus+Pac. The Path Configurator helps you set the robot's axis configuration for reaching the targets in the path, which results in better movements throughout the paths.
See documentation for more information.

GUI

Snap Modes
A new snap mode has been added which combines the snap modes mid, end and center into one single mode. The system will snap to the nearest mid, end or center point. This will minimize the number of mouse interactions required to perform certain tasks. Also, by holding down the Alt key and hovering the cursor over objects you will get a "preview" of the current snap point.

GUI

Insert Action Intruction
An Apply button has been added to the Insert Action Instruction dialogue.

Robotics

Keeping WObj's position when changing Robot World
An option has been added making it possible to keep workobjects positions when changing the Robot World.

GUI

Create Path from Curve
A list box has been added to the Create Path from Curve dialogue making it easier to select the curves.
Note: It's still possible to multiselect curves in the graphics or in the object browser and to select the "Create Path from Curve" command form the context menu.

GUI

Create Targets
In the Create Target dialogue it.s now also possible to select in which workobject targets should be created. It.s now also possible to also possible to create targets normal to a specified surface.

The user will now also be notified whether external axis values and robot configurations have been stored or not.

Robotics

Conveyor Tracking
It's now possible to work against the conveyor in a .Teach Mode., which enables you to create and teach targets at any desired position of the conveyor.

6.4 New features since RobotStudio 2.1

Robotics

Irb6600/2.80-175 now supported
The Irb6600/2.80-175 manipulator is now supported.

Robotics

Irb6650/3.20-125 now supported
The Irb6650/3.20-125 manipulator is now supported.

Robotics

Irb7600/2.80-340 now supported
The Irb7600/2.80-340 manipulator is now supported.

Robotics

Irb940 (Tricept) now supported
The Irb940 manipulator is now supported.

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Geometry	**ACIS R10 SP6** ACIS is upgraded from 6.3.6 to R10 SP6
Simulation /GUI	**Event Table improvements** The event table has been improved with a function that makes it possible to have different behavior each cycle in a cyclic simulation. It has also been enhanced with more drop down lists to make it easier to enter values to the table *See documentation for more information.*
Robotics	**Support of the new generation positioners from Laxå (Pluto)** In RobotStudio 3.0 it's possible to set up, program and simulate the new generation of positioners from Laxå.
Robotics	**Conveyor tracking support** It's now possible to configure and simulate conveyor tracking. See documentation for more information. *Note*: The virtual controller must be of version 4.0.70 or higher.
Process Targets	**In-line Targets** It's now possible to define targets as in-line. *See documentation for more information.*
VC	**New VirtualController 4.0/80** New VC 4.0/80 that supports Windows 2000 and XP is included
GUI	**New GUI for external axis set up** The user interface for mapping of external axis has been simplified and is now done on one single page. It also has a lot more logic to it minimizing the risk of entering incorrect values. *See documentation for more information.*
GUI	**Start Controller** It's now possible to start the controller from the Setup Controller dialogue.
GUI	**Progress Bar** A progress bar will now monitor the loading of a station.
GUI	**Current Controller** The status bar now shows the name of the running controller.
GUI	**Cursor** The graphical window cursor has been re-designed in order to make it more visible.
GUI	**Labels** It's now possible to have the names of targets, paths and frames displayed in the graphics.
GUI	**Coordinates showed when performing free hand move** The coordinates of an object will be showed during free hand move.
Process Targets	**Copying Paths** When copying a path you will now be asked whether you want to create new

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targets or not.

GUI **Modify position of a Work object**
It's now possible to choose mode, RPY or Quaternion, when entering coordinates in the "Modify Workobject" dialogue.

VC **Stop Virtual Controller**
A tool that stops all Virtual Controller related processes is included in the installation. It should be used in the event of a hanging controller or if the controller hasn't shut down properly.
The "Stop Virtual Controller.exe" can be found in the \Program Files\ABB Robotics\RobotStudio folder.

IRBP **New positioners**
A set of new positoners have been added to the installation including predefined controllers (for different robot/positioner combinations) to be able to run simulations with coordinated motion for positioners C, K, L, R and 1 A

GUI **Italian language**
RobotStudio is now available in Italian. The on-line documentation for ProgramMaker and QuickTeach is however still in English as well as all the manuals. The Italian version of these will be supplied as a service pack as soon as they become available.

7 RobotStudio API

The RobotStudio API uses the Microsoft's® Visual Basic for Applications (VBA) version 6.3.

There is an online help for RobotStudio API showing the RobotStudio Object Model as well as explaining the methods, properties and events for each object. The help can be reached from RobotStudio's Help menu.

RobotStudio has passed the compliance testing of "*Featuring Microsoft Visual Basic for Applications*".



7.1 API changes and news since RobotStudio 2.1

RobotStudioProject.vba
The storage of the RobotStudioProject.vba has been changed to C:\Documents and Settings\"Current User"\Local Settings\Application Data\ABB Robotics\

8 Solved limitations

8.1 Solved limitations since RobotStudio 3.2

DSE6377 **Show/Blank browser error when having a part and a path with same name**
This problem is now resolved

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DSE6383 **View Tool at Target doesn't support tools with multiple frames**
This problem is now resolved

DSE5452 **Working limits for linear move doesn't care about robot world nor active TCP**
This problem is now resolved

DSE6291 **RobotStudio crashes when running simulation**
Clicking on the 'start simulation' button from the toolbar causes RobotStudio to close immediately with an exception in a specific station.
This problem is now resolved.

DSE6272 **The conveyor setup wizard calculates a wrong base frame for the VC**
This problem is now resolved.

DSE5450 **Baseframe position of robot library of IRB940 is incorrect**
This problem is now resolved.

DSE5460 **Not possible to find any solutions for IRB940**
This problem is now resolved.

RobotStudio crashes when MoveAbsJ is selected as active process and moving along path
This problem is now resolved.

DSE5461 **IRB640 doesn't handle configuration correctly**
This problem is now resolved.

8.2 Solved limitations since RobotStudio 3.0

DSE 5376 **Target generated as "NoName" in the Virtual Controller**
This problem is now resolved.

CQ 3793 **Error when changing View Settings**
The error created when changing View Settings and applying them to All views is now resolved.

CQ 3790 **Add-in causes a crash**
The problem that some add-ins caused a crash when closing RobotStudio is now resolved.

CQ 3787 **Problems programming Stn 2**
The problems regarding programming station 2 in some arc welding stations are now resolved.

CQ 3784 **Deleting the active robot**
DSE5359 The error that was created when deleting the active robot from a station containing several robots is now resolved.

CQ 3766 **Minimize TPU**
DSE5301 The problem that the TPU only could be minimized once from RobotStudio/QuickTeach is now resolved.

CQ 3764 **The value of robhold not always correct**
Setting the robhold value to "True2 didn't take effect in the dialogue although the setting was actually made. This problem is now resolved.

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CQ 3758 **Synchronization with non coordinated Track**
When the robot is configured for non-coordinated track-motion, it.s now no longer necessary to place the track in the 0-position before synchronizing to and from the VC.

CQ 3756 **Shut down of Virtual Controller**
When closing a station or shutting down the virtual controller from RobotStudio the user will now be notified if there are any other actors accessing the Virtual Controller, e.g. IO Simulator or ProgramMaker. The user can then choose to close these as well for a complete shutdown of the virtual controller.

CQ 3744 **Add-ins in Italian version**
It was not possible to launch add-ins from the Italian version. This problem is now resolved.

CQ 3741 **RobotStudio hangs after controller restart**
Pressing the OK button in the setup controller dialogue a second time just after the controller has been restarted will cause the system to go into a non-responding state. This problem is now resolved.

CQ 3740 **Check marks in Simulation/Collision menu**
The check marks in the collision menu weren't visible, making it hard to see the actual mode. This problem is now resolved.

CQ 3736 **Create border failed**
Create border along edge failed if UCS was set to other than default. This problem is now resolved.

CQ 3679 **Sync with Action Instructions**
Synchronization from the virtual controller to the station could under some circumstances put action instructions in the wrong order. This problem is now resolved.

CQ 3477 **ModPos does not change tool when required although a warning is given**
When ModPos'ing a target and the active tool is changed, then the target instruction is not updated with the changed tool, only the target position is modified. This problem is now resolved.

CQ 3447 **Edit Externals**
The preview command in the edit externals dialogue could create an error, especially if no controller was started. This problem is now resolved.

DSE 5353 **Problem with Kinematic Modeler add-in**
The problem regarding defining a tool with two frames is now resolved.

8.3 Solved limitations since RobotStudio 2.1

CQ 2938 **Can't create tool at pos 0,0,0**
It was not possible to create a tool at pos 0,0,0 when using the create tool wizard.

CQ 3198 **Delete work object error**
When you deleted a work object, no other work object was set as active and the deleted work object was still selected in the combo box**.**

CQ 3207 **Incorrect handling of work object in the "Create path from curve" dialog**
It's now possible to select which work object that should be used during path creation.

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CQ3113 **Unreadable selection of robot tools**
It was more or less impossible to select desired tool when using the "Tool at target" function in a cell containing several tooldata.

CQ 3283 **Set View Center should be available from context menu**
It's now always available for selection.

CQ 3282 **ProgramMaker is always the active window/on top**
It's now possible to see other applications without first having to minimize ProgramMaker.

CQ 3293 **IO Simulator should always be on top**
The IO Simulator used to end up behind RobotStudio when activating the RobotStudio window.

CQ 3328 **Tools with multiple TCP-frames**
If you attached a tool with more than one tcp-frame defined to a robot, only one of these frames would then be available for selection. This is now corrected.

CQ 3416 **Wrong working range for Irb340**
Working range in z-direction changed from 230mm to 250mm according to product documentation.

CQ3474 **JumpToTarget when having room fixed tcp**
The robot did not jump to the correct position when having room fixed tcp (MoveTo worked fine).

CQ 3524 **Wrong initialization of axis 6 cursor in "Mechanism Status" dialog**
It was placed at the extreme left.

CQ 3528 **Attaching a robot to a mechanism not controlled by the robot affects its motion**
The problem was due to the fact that it was assumed that the mechanism was configured for the robot.

9 Known limitations

ROL 1003149 **IODisable and IOEnable Instructions**
The RAPID instruction IODisable and IOEnable are not supported.

IOF 1002453 **Disable simulated board**
All I/O units are simulated and therefore they are not possible to disable.

IOF 1003084 IOF 1003114 **DSQC351, DSQC350, DSQC352 I/O Boards**
All gateways are simulated, just as all other boards are. No simulations of field busses are made. This means that they are acting as digital board.

IOF 1002378 **Backup/Restore**
Making restore from a previously backed up controller configuration can sometimes fail. It has been observed that program modules or the I/O configuration are not restored.
Workaround: Load the missing parameter files manually from TeachPendant or redo Restore. Note! Please report if you experience problems on backup/restore.

AWD 1003009 **Sensor interface**
It's not possible to use the Sensor interface option. This option requires additional hardware connected to the controller.

RSE 1003 **Screen not updated when starting the Teach Pendant**

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Sometimes the TPU screen is not updated when the Teach Pendant is started up.
Workaround: Press any button to redraw the screen.

RSN 1006 **Simulation requires Auto mode**
Please allow approximately 15-30 seconds for the controller to reach Auto mode when controller is started, before executing the robot program.

RSN 1007 **Don't restart a new controller before the old one has shut down**
Please allow approximately 5 seconds for the controller to shut down before starting a new controller.

RSN 1025 **Execution time of logic instructions is not supported**
The execution time for logical instructions is not simulated. This will result in shorter cycle times compared to the real cycle time. This mean for example that for a RAPID Wait times instruction the simulated time will be close to zero independent of the programmed wait time.

RSN 1035 **Search**
It is not possible to use the Sensor interface option. This option requires additional hardware connected to the controller.

RSN 1038 **Array of robtargets, tooldata and workobjects are not supported**
RAPID programs containing arrays of tooldata, robtargets and workobjects are not supported, i.e. they will not be synced to the station.

CQ 1657 **RobotStudio is case sensitive**
RobotStudio is case sensitive and will not treat e.g. ROBTARGET and Main as robtarget and main.
Workaround: Change capital letters to lowercase letters.

DSE 3875 **CAD Converter does not accept filenames with 2 dots**
The CAD Converter does not accept filenames with 2 dots.
Workaround: Remove one dot. Example: Rename filename.new.igs to filename_new.igs

CQ 1683 **CAD Converter does not show remaining demo time**
The CAD Converter does not show how many days that remain of the free license time.

Restart VC from TPU requires also restart of VC from RobotStudio
If the VC is restarted from the TPU, the VC must be shutdown and started again from RobotStudio. It is recommended to always restart the VC from RobotStudio.

CQ 1794 **Edit program may freeze the Virtual Controller**
If you edit the RAPID program from ProgramMaker the Virtual Controller may freeze in Manual mode.
Workaround1: Open the TPU, press E-stop Off, then press Motors On and finally set the VC to Auto.
Workaround2: Shutdown and start the Virtual Controller from RobotStudio.
Workaround3: Always open the RAPID program File/Import

MMC 1009347 and MMC 1008552 **Filename of programs must not exceed 16 characters**
When a program is saved (*.prg or *.mod) the filename must not exceed 16 characters. The Virtual Controller does not support Filenames with more than 16 characters.

User defined motion instructions with only circular motion type not supported
User defined motion instructions with only one type of motion, circular, is not supported.

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CQ 2512 **Jogging with MechStatus may cause VC to crash**
Jogging linear in the MechStatus window may cause the VC to crash if the robot is repeatedly moved outside joint-limits.

Data from VirtualController not updated
When selecting Edit Instruction or Instruction Template, the list-boxes for e.g. speed- and zone-data are sometimes empty.
Workaround: Go to the Program menu and execute Refresh once before opening these dialogues.
Note: It takes a while for RobotStudio to read all data in the virtual controller. The reading is finished when the Play-button in RobotStudio becomes active.

CQ 2881 **Synchronization with non coordinated Track**
When the robot is configured for non-coordinated track-motion, the track must be on the 0-position when synchronizing to and from the VC.

Program in VC must be syntactically and semantically correct when synced
Existing program in VC must be syntactically and semantically correct when synced. This is to ensure that correct RAPID instructions are created when a path is synced from the station to the VC.

SUP 1007504 **Downloading a VC-key to RC causes pagefault**
If a key.id created for a VC is downloaded to the controller, the root script cannot load the file and will crash and the installation will fail. This will only occur if download is done with a 3rd party ftp-client. RobInstall handles this case.

Add-ins only available in English
Add-ins to RobotStudio (for instance the *Plus*$^{+}$ *Pac*) are only available in English

1010189 **PaintWare and Irb5xx-robots are not fully supported in VC 3.2 and earlier**
PaintWare and simulation of Irb5xx robots are not fully supported in VC3.2 and earlier.

Virtual Controller 2.1
Due to startup problem on some PC configurations the virtual controller 2.1 is no longer fully supported. Since VC 2.1 will run without problem on most PC, we provide VC 2.1 to be used as is.

Virtual Controller cannot read compressed cfg-files
The VC cannot read compressed cfg-files

Independent move is not supported
The VirtualController does not support axes with independent movement

Limited user rights installing and using RobotStudio
You must have administrator permission to install and use RobotStudio

CQ 3087 **It's not possible to synchronize routines belonging to system modules**
The synchronization engine doesn't allow system modules to be synchronized.

Virtual Controller startup
You might experience problems starting the virtual controller (it takes a long time) or aborting the startup procedure. This occurs on computers having a virus scan active (McAfee 4.5.1). To correct this problem you will have to exclude a folder from the virus check. Open the VirusScan Console and configure it to exclude the following folder (you must have RobotStudio running): **C:\Documents and Settings\All Users\Application**

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Data\ABB Automation .

Only one virtual controller at a time
It is not possible to have more than one controller running at a time in RobotStudio.

WebWare and RobotStudio 3.0
To have full compatibility between WebWare 3.0 and RobotStudio 3.0 you need to have WebWare 3.0 SP1 or later release installed.

Configuration parameter Cfx for 6600 &7600 robots
Note that you must define the corresponding robot as "Current" in the Virtual Robot Browser to be able to see the Cfx value.

"Move Along Path" wont update data in the Virtual Controller
The "Move along Path" command will not update data in the Virtual Controller. If you modify data in the station that once have been synchronized you need to update the Virtual Controller by synchronizing again before executing "Move along Path".

10 License manager error codes

The following, most common, error numbers are reported by the license manager:

Error number	Description
-1	The license file cannot be opened.
-2	Invalid license file syntax.
-5	The license file does not contain the requested license.
-8	Bad encryption code.
-9	The host ID in the license does not match the machine on which the software is running.
-10	The license has expired.
-21	The version requested is greater than the highest version supported in the license file.
-30	The license file cannot be read.
-76	Internal FlexLM error.
-88	System clock has been set back.
-99	The internal checksum on a decimal license has indicated the license has been typed in incorrectly.
-111	License is neither date locked nor node locked.

11 How to operate the demo stations and VBA examples

A number of demo stations and VBA examples are included in the RobotStudio distribution. For all demo stations, VirtualController 3.2 and 4.0 is required.

11.1 Demo stations

In the directory ...\ABB Robotics\Stations you will find a number of example stations.

rsFlexArcR.stn – Coordinated external axis.

rsGlue.stn – Stationary tool + grip and release of part

rsLaserCut.stn – Laser cutting.

rslDeburr.stn - Deburring

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rslFlexArc250S.stn – FlecArc Compact welding station

rslPaint.stn - Paint

rslPress.stn – Press brake tending

rslSpot.stn – Spot welding

2xInjection_machines.stn – Unloading rubber injection machines.

For each example station, load the station and wait for its controller to start. Go to the File menu, select Import/Program, and open the program found in the Programs folder that has the same name as the station. Press the Play button. Watch the robot move!

11.2 VBA Examples

In the directory ...\ABB Robotics\Library\VBA you will find a station, VBAExamples.stn, with examples of VBA scripts. Open the station, press Alt+F8, select "Macros in <All Standard Projects>" and run a macro.

Macros:

Extrude.TestExtrude	Shows an example of how to extrude objects.
FenceWizard.RunWizard	An example using modeling functions for creating a fence.
RSE.xxx	Macros that shows how menus in RobotStudio can be manipulated.

In the directory RotController there is a station, Rotate.stn, that shows how to extend the object-model with a new controller class to be used in simulation. Open the station and press the play button. Watch the pyramid rotate

12 Setup of standard positioners

The picture below describes correct combinations of options for ABB Flexible Automation standard positioners

X = Mandatory option
O = Optional option

For more information, please see the documentation or contact your nearest ABB Support Center.

Note: A set of predefined controllers (4.0/80) for different robot/positioner combinations are included in the installation. E.g: The controller C250K_1400 should be used in a station with a IRB1400 and a IRBP250K.

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Selections															Required												
Robot		Positioner type							Install		Type		RTT	External Axes							Process						
140, 1400 and 2400	4400 and 6400	A	B	C	D	K	L	R	Laxi standard config	IRBP Config (no signals)	STD	HPP	Traveltrack	External axes in controller cabinet	External axes only in drive cabinet	392 External axes DC2T	Ext axes DC2T + GT	393 External axes DC2 + GT	No Ext Cab Axes	IO Plus	551 ArcWare	552 ArcWare Plus	541 Loadid and ColDetect	531 Advanced Motion	556 Arcitec	562 Compact Arc
X		X								X	X			X				X		O	O	O		X	O	
X		X								X	X		X	X			X			O	O	O		X	O	
X		X								X		X		X				X		O	O	O	X	X	O	
X		X								X		X	X	X			X			O	O	O	X	X	O	
X			X							X	X			X				X		O	O	O		X	O	
X			X							X	X		X	X			X			O	O	O		X	O	
X				X						X	X			X				X		O	O	O			O	
X				X						X	X		X	X				X		O	O	O			O	
X					X					X	X			X				X		O	O	O		X	O	
X					X					X	X		X	X			X			O	O	O		X	O	
X						X				X	X			X				X		O	O	O			O	
X						X				X	X		X	X				X		O	O	O			O	
X						X				X		X		X				X		O	O	O	X	X	O	
X							X			X	X			X				X		O	O	O			O	
X							X			X	X		X	X				X		O	O	O			O	
X							X			X		X	X	X				X		O	O	O	X	X	O	
X							X			X		X	X	X				X		O	O	O	X	X	O	
X								X		X	X			X				X		O	O	O			O	
X								X		X	X		X	X				X		O	O	O			O	
X								X		X		X	X	X				X		O	O	O	X	X	O	
	X			X						X	X			X		X				O	O	O			O	
	X					X				X	X			X		X				O	O	O			O	
	X						X			X	X			X		X				O	O	O			O	
	X							X		X	X			X		X				O	O	O			O	