JetSym

Version Update from v. 5.3.2 to v. 5.4.0

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1 Introduction

**Overview
Version 5.4.0**

The following table gives an overview of newly added or enhanced features and fixed software bugs:

Feature	New	Enhanced	Fixed
Changeover to .NET Framework 4.5.2	✓		
Motor database updated		✓	
CPU and module setup pages		✓	
Beginning and end of blocks are highlighted	✓		
Expanded variable display in the monitor		✓	
Improved CAN communication details		✓	
Default settings for publisher/subscriber communication	✓		
Module setup: I/O pages for analog modules	✓		
Long type strings		✓	
Pragma for compatibility checkup after project conversion from ST to STX	✓		
Resource files have been added to projects		✓	
Module setup: Value changes by +/- and input dialog		✓	
Revision of publisher/subscriber		✓	
STX resolver: Enhanced resolving of array declarations		✓	
Axis type MC ExternalAxisJX2: Enhanced encoder selection		✓	
Software usage agreement		✓	
At the end of a build procedure, an overview of error and warnings is issued		✓	
Empty folders **Unassigned Axes** respectively **Unassigned Modules** are removed		✓	
Oscilloscope: Display communication blackout times by dashed lines		✓	
Display brand names instead of CPU names		✓	
Enhanced recording of non-localized variables in **Oscilloscope** live mode		✓	
Interfaces: Properties without explicit specification of getter and setter		✓	
Enhanced features for dealing with indirection		✓	
Declaration: Variables which have not been localized are initialized		✓	
The STX function lets you calculate the address offset of a structure element.		✓	
Access to JetViewSoft visualization objects by dot notation			✓
Goto definition was inactive on an identifier as function parameter			✓
In an array declaration, no Enum type could be selected via IntelliSense.			✓
Possibility of crash at renaming axis names			✓

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Feature	New	Enhanced	Fixed
Incorrect IP address for JetSTX-VM after changing interfaces.			✓
Using hyphens in project and workspace names			✓
Timeout at transferring an axis parameter file			✓
Missing limitation of the number of JX6 modules			✓
Freezing of JetSym at delayed network connection.			✓
The axis dialog in Hardware Manager occurred twice			✓
Setup file: If JX3-BN-ETHs could not be reached, the connection was interrupted			✓
Program download			✓
Ambiguous information at transferring bus node information to hardware scan			✓
The STX compiler generated unnecessary commands, when the enhanced type check had been activated.			✓
The Oszi recording in "Live View" mode did not work for JM-1xxx and JM-3xxx			✓
In the monitor "% mx" declared variables were displayed as "% ml"			✓
Incorrect error message in the **Compare and Download** dialog			✓
No oscilloscope recording on JM 2xx axes without MC connected to a JC-9xx MC controller			✓

2 Enhancements

Introduction
Below, all features that are new in this version, as well as the enhancements are listed.

2.1 Changeover to .NET Framework 4.5.2;

.NET Framework
For this JetSym release, NET framework 4.5.2 is required

2.2 Motor database updated

Motion Setup
The motor database in Motion Setup has been updated.

2.3 CPU and module setup pages

Module setup
The CPU and module setup pages have been revised.

2.4 Beginning and end of blocks are highlighted

Editor
For better visual identification of code blocks, at clicking on the beginning of a block, the respective block end is highlighted and vice versa.

2.5 Expanded variable display in the monitor

Monitor
Under the tab **Local**, you can now expand function-local arrays. In an invalid array index, the entire array is displayed and can be expanded, In an invalid array index, the contents of the respective array element are now displayed as **???** instead of **0**.

2.6 Improved CAN communication details

CAN communication
As of this version, the CAN communication is more stable and reliable, even if two or more JetSym programs are communicating with controllers via CAN interface.

2.7   Default settings for publisher/subscriber communication

Publisher/subscriber communication

For the subscribers automatically set by JetSym, the following default values apply to the variables:

Value on error = 0

Value On Error mask = 0xFFFFFFFF

Set Value On Error = true

2.8   Module setup: I/O pages for analog modules

Hardware Manager

Module setup in Hardware Manager has been enhanced by configuration sets for inputs and outputs of analog modules.

2.9   Long type strings

STX Language

For some API calls, type strings are needed to describe structure data types. In case of extremely large structures, the string length of 255 characters might not have been sufficient. Now, these type strings can have a length of up to 1024 characters.

2.10 Pragma for compatibility checkup after project conversion from ST to STX

STX compiler

By means of the pragma **CHECK_COMPATIBILITY(ON)**, the STX-compiler can check, whether expressions containing a division behave as they would do in ST. In case of doubt, the STX compiler issues a warning. This way, the respective expressions can be easily retrieved and correctly rewritten.

2.11 Resource files have been added to projects

Workspace

In STX projects, resource files, which are, for example, used by an STX program can also be managed besides the program code.

Via menu item **Compare program/Download,** the resource files are transferred to the controller together with the configuration and parameter files.

Another project settings option permits resource file transfer at program download as well.

2.12 Module setup: Value changes by +/- and input dialog

Module setup

In module setup, values can now also be changed by +/- and input dialog by analogy with the standard setup.

2.13 Revision of publisher/subscriber

Publisher/subscriber

Publisher/subscriber configuration has been revised completely.

2.14 Enhanced resolving of array declarations for the STX resolver

Setup File

The STX resolver has been enhanced by applying constants for array declarations.

2.15 Axis type MC ExternalAxisJX2: Enhanced encoder selection

Motion Setup

Axis type **MC ExternalAxisJX2**: Enhanced encoder selection In Motion Setup, for this axis type, change of directions can now also be set.

2.16 Software usage agreement

Usage agreement

The software usage agreement has been updated.

2.17 At the end of a build procedure, an overview of error and warnings is issued.

STX compiler   At the end of a build procedure, all errors and warnings are listed to spare oneself scrolling in the output window.

2.18 Empty folders Unassigned Axes respectively Unassigned Modules are removed

Project tree   If, after deleting axes or modules from the folders **Unassigned Axes** respectively **Unassigned Modules** no more child elements remain, these folders are deleted as well.

2.19 Oscilloscope: Display communication blackout times by dashed lines

Oscilloscope   Now, in the **Oscilloscope** live mode, dashed lines are displayed in the respective channels for disconnection.

2.20 Display brand names instead of CPU names

Hardware Manager   At hardware scan and at pushing the **Test** button at CPU configuration, now the brand name instead of the CPU name is displayed.

2.21 Recording registers of the controllers JC-945MC and JC-440MC in the internal oscilloscope mode

Oscilloscope   The internal oscilloscope mode lets you now also record controller registers of the controllers JC-945MC and JC-440MC.

2.22 Enhanced recording of non-localized variables in Oscilloscope live mode

Oscilloscope　　　　If an application program is changed, compiled, and uploaded to the controller while the oscilloscope is recording values, the variables of the oscilloscope channels are now resolved again, in order to enable access to the correct values in case of non-localized variables as well.

2.23 Properties without specification of getter and setter

STX compiler　　　　In interfaces, explicit specification of getter and setter methods is required no more. Possibly, the implicit methods **GetPropertyName**, respectively **SetPropertyName** are expected.

2.24 Enhanced features for dealing with indirection

Setup File　　　　Indirections in the setup screen are not permitted any more for inputs, outputs, and flags.

2.25 Declaration: Variables which have not been localized are initialized

STX language　　　　As of now, initialization of non-localized memory variables immediately during declaration is supported in STX.

2.26 The STX function lets you calculate the address offset of a structure element.

STX language　　　　The function OffsetOf(), by which an address offset of structure elements can be determined, has now been implemented into the STX compiler.

2.27 Access to JetViewSoft visualization objects by dot notation

STX
Visu programming　　　　Programming a visualization application in JetSym STX and using the file VisualInterface.stxp and the STX visualization library as of version 3.0.0 lets you access visualization objects using dot notation.

3   Fixed software bugs

Introduction   This chapter describes the software bugs which have been fixed in the new software release.

3.1   Goto definition is inactive on an identifier as function parameter

Error description   The menu item **Goto-Definition** could occasionally be inactive, if identifiers or further function calls were used as function parameters.

3.2   Enum typeyp in array declaration

Error description   In an array declaration, no **Enum** type whatsoever could be selected via IntelliSense.

3.3   Possibility of crash at renaming axis names

Error description   A renamed axis name being used as a function or method parameter in the program text could cause faulty replacing or a JetSym crash.

3.4   Incorrect IP address for JetSTX-VM after changing interfaces

Error description   Setting Ethernet again after having set an interface type other than Ethernet in JetSTX-VM before caused an error. The IP address was taken from the interface default settings instead of IP address 127.0.0.1.

3.5   Using hyphens in project and workspace names

Error description   Using hyphens in project and workspace names was not possible (JetSym STX only).

3.6   Timeout at transferring an axis parameter file

Error description   Transferring an axis parameter file could cause a timeout error, if the timeout value had been set to smaller than 2000 ms. Now, no value smaller than 2000 ms can be entered any more.

3.7   Missing limitation of the number of JX6 modules

Error description   Controller types JC-940MC and JC-945MC: Double-click in the **Add Module** dialog could enable any number of JX6 modules to be added to the carrier boards.

3.8   Freezing of JetSym at delayed network connection

Error description   If due to remote maintenance network connections were delayed, JetSym could freeze at displaying tooltips in the program editor.

3.9   The axis dialog in Hardware Manager occurred twice

Error description   If an axis dialog had been opened and saved within a workspace and this workspace had been closed again, the axis dialog reappeared at re-opening the workspace, but could also be opened a second time.

3.10   Setup file: If JX3-BN-ETHs could not be reached, the connection was interrupted

Error description   If a setup file had been opened in online mode, disconnection might have wrongly been reported which would lead to no more values being displayed. This error occurred, if, besides the usual registers, further registers or inputs/outputs of configured JX-3-BN-ETHs were to be displayed, whereas no connection to the JX3-BN-ETHs had been established.

3.11   Program download

Error description   After program download and display of a warning, JetSym could vanish behind other programs.

3.12   Ambiguous information at transferring bus node information to hardware scan

Error description   At hardware scan, several JX3 bus nodes of identical GNN and identical IP address could be taken over, although they were already available in the present configuration.

3.13   The STX compiler generated unnecessary commands, when the enhanced type check had been activated.

Error description   The STX compiler generated unnecessary commands, when the enhanced type check had been activated. These were not faulty commands, yet they could cause dissimilarities at comparison of programs.

3.14   The Oszi recording in "Live View" mode did not work for JM-1xxx and JM-3xxx

Error description   The Oszi recording in the "Live View" mode did not work for JM-1xxx and JM-3xxx.

3.15   In the monitor "% mx" declared variables were displayed as "% ml"

Error description   In the monitor "% mx" declared variables were displayed as "% ml"

3.16   Incorrect error message in the Compare and Download dialog

Error description   Relating to MC projects of JetSym version 4.1.2 or former ones, an incorrect error message about mc.ini and multicast could be issued at opening the dialog **Compare and download**.

3.17   No oscilloscope recording on JM 2xx axes without MC connected to a JC-9xx MC controller

Error description   When recording data from a JM-2xx axis without MC, connected to a JC-9xx MC controller, only a horizontal line was displayed.

4   Announcement of discontinuation

Introduction   As of this release, the following functions, operating systems, and APIs will not be supported any more or developed further.

4.1   Operating system Windows® Vista

Note!   Due to the upcoming changeover to the current .NET framework, JetSym release 5.4.0 will no longer support Windows Vista.

5   Information on future releases

Introduction   In the near future, the following features, operating systems, and APIs will not
                            be supported any more resp. developed further.

5.1   AutoBuild feature

Note!   In one of the next releases the AutoBuild feature will be redesigned. In this
                            connection, the existing COM interface will be disabled and will then not be
                            available for other features.

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