Release Notes for MotionWorks IEC

Release 2.1.0 Build 152

Yaskawa America, Inc.

January 26, 2012.

1. New Features

Number	Summary	Release Notes
1570	Allow disabling of the external axis encoder	To save cpu cycles, external axis can be disabled.
1621	No values were visible when debugging functions in MP2600iec	Prior to v2.1.0, while debugging functions on the MP2600 it was not possible to see variable values inside the functions.
6025	OPC server support on Windows 7, 64 bit	The KW OPC server now supports Windows 7 64 bit. Use version 2.1.0.7.
6476	New firmware library: YDeviceComm	A new firmware library called Y_DeviceComm is available which includes functions to support reading and writing data via TCP socket connections. UDP is also supported. See new help manual included with the new firmware library in MotionWorks IEC 2.1.0
6489	Increase IEC Application memory available for Global Variables	A third icon was added to the Hardware Configuration toolbar which allows the user to configure a project to allocate more memory to the IEC application. The default was 1.5 MB and now projects can allocate up to 3 MB for non retained Global variables. Note that this only applies to the MP2300Siec and MP2310iec. In addition, there are some differences in the memory capacity as shown on the dialog box for this feature.
6530	Add Start Menu shortcuts for CHM help files and PDF manuals	Product documentation is now installed with the software and available on the Windows Start menu.

Additional information related to new features:

Together, firmware release 2.1.0.229 and software release 2.1.0.152 include support for a new firmware library called YDeviceComm, which contains several functions for building customized communications between the controller and other devices. With the addition of these features, the build settings now includes a new item in the list called 2.1.0. The following message will only appear if using the new 2.1.0.152 software release with an controller which has older firmware than 2.1.0.229.

An FAQ MTN-8PANT7 was added to www.yaskawa.com and is summarized here:

What causes the MotionWorks IEC error message "The project cannot be downloaded because it was compiled for a different device or a different version of the connected device. Please select the device version in the Resource Settings Dialog that matches the connected device."

The above message indicates that the Build Settings for a Configuration> Resource> is higher than the corresponding build setting of the firmware on the MPiec controller. For example, if a project compiled in MotionWorks IEC 2.1.0 *which uses build setting MPXXXXiec 2.1.0 by default*, is downloaded into a controller with firmware version 2.0.0, the message will be displayed. MPiec Build Settings change from time to time, and provide synchronization of major feature differences between the complier and firmware.

Remedy:
To proceed with the download, change the Build Settings in the project (under configuration> Resources> Settings) to MPXXXXiec 1.2.1. Once the software build setting is changed to a value equal to or lower than the firmware version on the controller, and the project is re- compiled, the project should be ready for download.

2. Bug Fixes

The following issues were identified and fixed for this release.

Number	Summary	Release Notes
1523	EN/ENO supported for MP2600iec controller	The MP2600iec controller now supports EN/ENO for functions.
1608	Error "No suitable converter error for projects created with the version '2.0' of MotionWorks IEC Pro"	Prior to v2.1.0, the "No Suitable Converter" error may occur when unzipping old MotionWorks IEC express projects.
5751	MP2600iec Logic Analyzer did not return data when synchronized with fast scan rates of 2 or 4 mSec	Prior to v2.1.0, when the CPU was heavily loaded, the logic analyzer did not return data.
5980	Error during generating native code! error occurred after project conversion from MP2300Siec to MP2600iec.	Prior to v2.1.0, the code that seems to cause this problem was: LR_Main_VMax_IPS := INT_TO_LREAL(IW0053) * LREAL#12.0 / LREAL#60.0;
6094	If a variable value for an LREAL was greater than 3.4e+150, attempting to display the value with the IEEE format box unchecked causes MotionWorks IEC to crash. This occurs for MP2300 and MP2310, but not for MP2600.	As a workaround in version 2.0, do not uncheck the "IEEE format" box. The challenge is to open the dialog to change the setting you must be in debug mode, and if the LREAL variable is set to a large value, then MotionWorks IEC crashes Step 1. Make the global variables window small with no LREALs showing and close all other POU windows. Step 2. Enter debug mode. Step 3. Open the debug dialog by right clicking on a variable with a live value in the global variables table. Step 4. Verify that the "IEEE format" box is checked. Step 5. Close the debug dialog.
6312	Setting a breakpoint in a MP2600iec project causes a watchdog	Single step debug was improved but is not fully functional on the MP2600iec. It may cause a watchdog error in very fast tasks, however temporarily disabling the watchdog while debugging will allow single step breakpoint to succeed.
6375	Changing Modbus TCP slave address gave the error: "Status variable already exists"	Prior to v2.1.0, when changing the IP address of a Modbus TCP slave, an error was displayed indicating that the status variable already existed.
6397	Pns 216 and 217 values displayed incorrectly in "All Parameters" tab of the Hardware Configuration	Prior to v2.1.0, the values of Pn216 and Pn 217 were displayed incorrectly in the "All Parameters" tab in the Hardware Configuration. The Servopack units for this parameter are 0.1 ms. So, if the DPRAM update is 2 ms, it is recommended to set 20 for Pn 216 or pn217 (depending on what style interpolation filter is preferred). However, if 20 was entered in the servopack (using SigmaWin or the MP2600iec web server), the Hardware Configuration displayed the value as 200 ms.

Number	Summary	Release Notes
6537	Windows user logged in as "Standard User" under a domain could not compile	Prior to v2.1.0, if a user was logged into the computer under a domain, and MotionWorks IEC version 1.x was installed by a different user from that domain, they may not be able to compile a program. The errors "Cannot open internal file for specific code generator. (Specific Code Generator)", "Cannot process file. (Specific Code Generator)", and "SCG could not be started!", will be displayed in the errors tab of the message window.

3. Known Issues

In addition to the known issues listed below, explanation regarding upgrading of User Libraries from 1.x to 2.x projects is required.

According to the help documentation, MotionWorks IEC never supported spaces in project filenames, however version 1.x did not complain about space characters. Yaskawa's Toolboxes all had space characters in the project name. When converting projects from 1.x to 2.x, there will be additional project conversion message boxes due to the space characters, and some of the messages will recur each time a project is opened. Toolboxes released after July 2011 have the project names converted to use underscores instead of spaces. TIP: We recommend changing the names of any existing projects and toolboxes to include underscores instead of spaces to make converting projects easier. Do this before converting the project to 2.x. If it's required to continue using the old toolboxes, it is easier to remove the user libraries from a 1.x project before converting to 2.x, and then convert each project individually in 2.x before adding the user libraries back into the main project.

There are also new warnings if duplicate POU names are references across multiple user libraries. To date, we have standardized on naming conventions in the user libraries, such as Initialize and Main, which are not functions and not applicable when the project is incorporated as a user library. The following warnings will be issued if using pre v200 toolboxes:

```
The POU 'FB_Pallette' is defined several times in:

    Math Toolbox v002\FB_Pallette

    Yaskawa Toolbox v008\FB_Pallette

The POU 'Main' is defined several times in:

    AccuflexMP2300\Main

    Yaskawa Toolbox v008\Main
```

These are not cause for concern. At other times, we have moved functions from one library to another for better organization. That may also result in warnings, which are of no concern. In the example below, upgrading to Yaskawa toolbox v009 would eliminate the duplicate.

The POU 'MOVE_UINT' is defined several times in:

    Math Toolbox v002\MOVE_UINT

    Yaskawa Toolbox v008\MOVE_UINT

The POU 'REM' is defined several times in:

    Math Toolbox v002\REM

    Yaskawa Toolbox v008\REM

Number	Summary	Release Notes	Workaround
638	Hardware Configuration Crashes when MotionWorks IEC is not fully loaded	Issue: If blocked at a dialog box during MotionWorks IEC load, and you navigate to the Hardware Configuration executable to start up, the Hardware Configuration will display an error message.	Wait for MotionWorks IEC to finish loading and launch the Hardware Configuration from the tool bar.
875	Hardware Configuration does not run when launched by a user who did not install it and who does not have Administrator privileges	Administrative privileges are required to install on Windows Vista or higher	Login with Administrative privileges before installing.
920	Warn user if User Library contains FB with same name as found in main Project	If the programmer imports a user library that has functions or function blocks with the same name as the programmer created in his/her project, the function or function blocks in the imported user library will not appear in the edit window.	Use a naming convention for the library function to avoid conflicts with application code.
1034	Cannot connect to the controller from the Hardware Configuration if DNS reverse and forward lookups contain mis-matching entries	If the DNS reverse lookup for the controller IP address returns a host name that has a forward lookup to a different IP address, then connection with the Hardware Configuration will fail.	Use a different IP address for the controller or fix the DNS entries on the DNS server.
1041	Cannot create a MotionWorks IEC project using the Project Wizard – Hardware Configuration fails to launch because configfiles directory is missing.	Cannot launch Hardware Configuration for project created with the project wizard	Create a project with one of the predefined templates for a controller model.
1165	Single Step debug does not always work	Single step debug mode does not work if multiple instances of a function block exist in the project (Editor will display the wrong instance with incorrect debug values.)	If other instances are unused, delete those instances of function blocks before debugging. Otherwise, debugging can proceed if you click on the correct tab for the proper instance after each time the code stops at a breakpoint.

Number	Summary	Release Notes	Workaround
1390	CrypKey license manager breaks if Parker CTC InteractX 3.0 is installed.	Issue: If Parker CTC InteractX 3.0 is installed after MotionWorks IEC, MotionWorks IEC will not function.	Workaround options: 1. Install InteractX before installing MotionWorks IEC or 2. Run SetupEx.exe from the MotionWorks IEC install directory then reboot
1516	Project source code stored on controller has wrong extension in express (ZipFile.zwt, should be .zwe)	Issue: Project source code is saved with wrong extension for MotionWorks IEC Express usage. (ZipFile.zwt, should be .zwe) when downloading the source code to the controller.	After uploading from the project archive from the web interface, extract ZipFile.zwt, change file extension to .zwe, then open it with MotionWorks IEC Express.
1593	Function block outputs are not retained on warm start	The outputs of function blocks like CTU (counter up), CTD, TON etc do not get retained on a warm start even though they are checked to be retained.	
1693	Slow compilation when Symantec Antivirus is enabled	Compiler runs slowly when Symantec Antivirus is enabled.	Exclude MotionWorks IEC file types from virus scan. File types: cic, dbd, dip, dit, diw, st1, sto
5753	MP2600iec logging does not upload data when "stop" is pressed.	MP2600 Logic Analyzer will not upload data after pressing the stop button. The log buffer must fill up first for the data to be transferred.	
5833	I/O group address range does not match text in global variables I/O group name	Editing the name of EtherNet/IP or Modbus device, or adding and deleting devices with the same settings can cause a disconnect between I/O Groups and Variable Groups that can cause the variable addresses to be unrelated to I/O group address range.	Save the Hardware Configuration between deleting a device and re entering it.
5916	Hardware Configuration logging fixes the sample time at 10ms, should use the Mechatrolink cycle period		If faster sampling is desired, Create a task in the IEC application that runs at the same rate as the Mechatrolink cycle, add MC_ReadParameter function blocks to that task, and use the Logic Analyzer to record data.
5922	Zipped project size is larger than necessary	PageLayouts increase the zipped project or downloaded source size by about 1MB. These files are not necessary to be included.	1) Go to C:\Documents and Settings\All Users\Documents\MotionWorks IEC Pro\Pagelayouts Delete all the .bmp files EXCEPT logo.bmp AND all three .plt files. 2) When Save/Zipping a project, UNCHECK "Zip Pagelayouts", that will stop the bitmaps from getting included in a new zip archive. 3) When download source code to a controller, UNCHECK "Include page layouts."

Number	Summary	Release Notes	Workaround
5935	How to export current values from the watch window in MotionWorks IEC	The way to import and export current values is not obvious to the user. See "workaround" for the correct steps.	To export the current values of variables: 1) Add variables to the watch window 2) Right click and choose "Read recipe" (reads the current value into the default value) 3) Right click and choose Export (the default value) To overwrite the current values reverse the procedure: 1) Import into the watch window to read in new default values. 2) Write recipe to overwrite the current value with the default value.
5939	Changing a Task Interval may result in "… must be a multiple" message related to interval and watchdog multiple	This affects MP2600iec projects only.	The warnings are caused by a entering a value which is non-divisible-by-100 for the ScheduleInterval setting in eCLRResourceSettings.set in the project.
5987	Conversion of projects with a space in a user library name results in "invalid node name" errors.	If a MotionWorks IEC 1.x project includes libraries with spaces in the name, such as "Cam Toolbox v002", then an error occurs after opening in MotionWorks IEC 2: 'library 1' is an invalid node name. Spaces are not allowed in project names in MotionWorks IEC 1.x or 2.x. The project will compile and run, but the error will become a nuisance if the space characters are not removed.	Rename the libraries before converting to remove all spaces.
6001	Access violation occurs	Sometimes an access violation occurs when the following sequence is performed: 1. Unzip a project that asks to extract firmware libraries. 2. Move "Extracting Firmware Libraries" dialog to near upper right corner of MotionWorks IEC. 3. Close "Extracting Firmware Libraries" then close MotionWorks IEC immediately afterward. 4. Zip|unzip in progress dialog displays. 5. Close message, then close MotionWorks IEC. If Zip|unzip in progress dialog displays again, keep closing the message then close MotionWorks IEC afterward. 6. Access Violation occurs.	After opening or saving a project, wait a little time before closing the application.

Number	Summary	Release Notes	Workaround
6029	The toolbar is slow to display and flashes with every mouse click in the editor	When running MotionWorks IEC 2 on Windows XP SP3, the toolbar can be slow to repaint and repaints on every mouse click, even in the ladder editor.	It has been found that on Windows XP machines using the NVIDIA Quadro video chips this problem is more likely to occur. A workaround in this case is to go to: Control Panel->Display->Settings Tab->Advanced->Troubleshoot tab->Hardware Acceleration. Change this setting from "Full" to "Disable cursor and bitmap accelerations". This is one step down from full. Press Apply and Ok.
6086	Get the error message "SCG could not be started!" when compiling for an MP 2600iec	MP2600iec projects created in MotionWorks IEC 1.2.2 and earlier containing the ProConOS firmware library may not recompile correctly in 1.2.3 and later. There may be a "SCG could not be started!" error. This is caused because the ProConOS firmware libraries for MP2600iec in MotionWorks IEC versions 1.2.2 and later have the same version number (1.5) but are different.	1. Remove the ProConOS library from project. 2. Remove all ProConOS objects (functions or function blocks that are found in the library) until the project recompiles successfully (change ProConOS types to other types; remove or comment out ProConOS objects) This is important because all traces of the old ProConOS library will only be eliminated by a successful compile without the library. 3. Add ProConOS library back in. 4. Add the ProConOS objects back into the project.
6136	I/O Driver Initialization fails with 11 Modbus inputs and 11 Outputs	The maximum number of data blocks is 20 for Modbus TCP and 20 for Ethernet/IP.	
6163	Error Message: "Drive may be offline" for deleted drive	An Error message may be displayed indicating that parameters cannot be read when the Hardware Configuration connects to the controller. The drive may be listed in the controller's configuration files yet it cannot be found by the controller. It may be disconnected (the Mechatrolink cable could be unplugged or not seated properly), or it may be powered off.	Either connect or power up the missing drive, or remove the configuration files by choosing "Controller Configuration Utilities" from the Online menu and then selecting "Restore controller to factory defaults and reboot the controller". Note: this will remove the configuration from the controller, so ensure a backup copy exists.
6180	Error - cannot read drive parameters	This is believed to be related to CPU load when the axis count is high and the Mechatrolink rate is fast.	Turn off the RUN DIP switch, which will stop the IEC application code from executing, which will free up the CPU for other lower priority tasks such as handling requests from the Hardware Configuration software for reading drive parameters. Increase the Mechatrolink update rate.

Number	Summary	Release Notes	Workaround
6188	Hardware Configuration cannot connect to an MP2300 controller when run as a Windows standard user, Initial Connectivity problem from Windows 7	Sometimes, especially on the first time run, the Hardware Configuration will fail to connect to the controller when using Windows 7 when logged in as a standard user.	Open Internet explorer and browse to the controllers web page: http://[controller ip] and then click on "Alarm Reference". After doing this the Hardware Configuration will be able to connect successfully.
6203	Old project with ProConOS firmware library included may not compile	ProConOS firmware library had a minor change. Older projects using this library may not compile.	Remove the ProConOS firmware library, compile the project and re-add the library. After this, the project should compile correctly.
6245	Status variable already exists message shows up even though it has been removed and the currently saved configuration does not have that variable	Status variable already exists message shows up even though it has been removed and the current saved configuration does not have that variable	Whenever information for a communication data block is deleted, save before reentering the information.
6278	All firmware libraries not extracted when set to include in ZWT project	When a project contains a user library, library A, which contains an additional user library, library B, where library B is not directly referenced in the project. A compiler message indicates a that user libraries must be recompiled. At this point, it may be the case, that library B is not in the project.	Manually import the missing user library
6377	MotionWorks IEC 2.x does not install correctly when Avira virus scanner installed	MotionWorks IEC 2 will not work with Avira virus software installed due to Avira detecting CrypKey (the license registration software) as malware, http://www.avira.com/en/support-threats-description/tid/3488/tlang/en	Disable Avira, or exclude CrypKey files from the antivirus scanner. The CrypKey files to exclude are: *.rst,*.ent, *.key, *.41s, *.ind, cks*.tmp *.ngn.
6394	Controller Parameter 1310 (Velocity Feedforward) is missing from 'All Parameters' tab in Hardware Configuration for a 2600 project		It's not possible to set the value from the Hardware Configuration, however, the parameter exists in the firmware and does operate as intended. Use MC_WriteParameter to set and MC_ReadParameter to verify the value.
6410	Function blocks with a structure input will not compile without a connected variable	The Y_CamIn & Y_CamOut blocks will not compile on a MP2600 project if the EngageData or DisengageData inputs are not connected. This did not occur in MotionWorks IEC version 1.x.	Connect a variable to the EngageData or DisengageData inputs.

Number	Summary	Release Notes	Workaround
6447	Undocked watch window stops updating (MP2600iec, eCLR only)	If the watch window is undocked, sometimes it stops updating and displays ??? for all of the values. Also, changing values requires two double clicks to activate the Debug: Resource dialog. STEPS: Open a MP2600 project. Add a function or function block with variables. Compile, download, warm start, and enter debug mode. Add variables to the watch window. Open watch window and undock and place in program window. Double click twice on a value before it can be changed. Sometimes after clicking between the program and the watch window, the variables stop updating.	Do not undock watch window.
6480	Cannot install MotionWorks IEC if multiple "All Users" folders exist	Sometimes a computer has an "All Users.Windows" folder or "All Users_Windows" folder in addition to the original "All Users" folder within "Documents and Settings" parent folder, which may cause the installer to abort and uninstall itself. when there are multiple "All Users" folders, the original folder is usually no longer active and is a backup used by Windows. Error message near installation's end says: Unable to complete MotionWorks IEC Pro installation. Please rerun setup from the beginning.	1. While error message is still opened, save a backup copy of the "Yaskawa\MotionWorks IEC Pro\[#_#_#_#]" application data folder from "All Users.Windows" or whichever is the active folder (e.g. C:\Document and Settings\All Users.Windows\Application Data\Yaskawa\MotionWorks IEC Pro\1_2_3_14_481) 2. Close the error message -> installer will uninstall 3. Copy the backed up folder to "All Users" 4. Install again -> installer passes check for MWIEC application data folder and finishes
6551	With MP2600iec continuous trace, no breaks in log on debug mode on/off if the project control dialog window is displayed	For MP2600iec (eCLR platform): When the project control dialog is closed, toggling debug mode on/off during continuous trace logging causes a break in the logged data. This is expected. When the project control dialog is open, toggling debug mode on and off results in the data display being time delayed. The project control dialog window must be closed and then debug mode toggled for the display to catch up.	When using continuous trace logging and toggling the debug mode on and off, close the project control dialog.
6579	The SEL_LREAL function causes "Error during generating native code!"	Using the SEL_LREAL function in a eCLR (MP2600) project will cause the project to not compile, issuing a "Error during generating native code!" message.	Create your own code to select between two LREAL values by using a Boolean on two Move blocks.
6622	Project Wizard does not behave as expected.	In MotionWorks IEC 2 Express, the Project Wizard will not create a new project.	For new projects, use the project templates instead of the Project Wizard.
6628	Continuous trace mode shows a value of -1.#QNAN0 if debugging mode is stopped and restarted	Continuous trace mode cannot guarantee that samples will not be dropped. When samples are dropped due to cpu overload or other reasons, a value of "-1.#QNAN0" will appear when the data is exported. For a more accurate trace use non-continuous mode.	

Number	Summary	Release Notes	Workaround
6646	Uninstalling 2.0.0 with 2.1.0 setup displays error about .NET 3.5	.Net 3.5 is required for MotionWorks IEC 2.1.0. This installer for .Net 3.5 is over 230 MB, so Yaskawa decided not to include it in the MotionWorks IEC installer package. Please download it from Microsoft as needed for Win XP. http://download.microsoft.com/download/2/0/e/20e90413-712f-438c-988e-fdaa79a8ac3d/dotnetfx35.exe	