

Upgrade Information for MPE720 Version 6.10

1. Added and Improved Functions

1.1 Ver.6.10 Upgrade Information

Items added and features improved from MPE720 version 6.08 to version 6.10 are as follows.

No.	Feature	Classification
1	New Support for sequence programs and M-EXECUTOR in MP2100/MP2100M (MP2500/MP2500M)	Add function
2	New support for MECHATROLINK I/O modules IO2900 and IO2910	Add module
3	Upgrades to the "Motion Program Editor"	Add function
4	Upgrades to the "Drive Control Panel"	Add function
5	New support for "SigmaWin+" Pass-through to SGD V (not available for MP2300 or MP2200)	Add function
6	New "Axis Setup Wizard"	Add function
7	New support for "XY Trace" in Scope Tool	Add function
8	Upgrades to the "Tuning Panel"	Add function
9	New "My Tool"	Add function
10	Renaming of two MSEE structure elements	Improvement
11	Improve forward compatibility of YMW project files	Improvement
12	Support for one-line comment instruction "//" in motion program	Improvement
13	Batch transfer to controller	Improvement
14	Offline detection of PFORK nesting errors	Improvement
15	Fix for motion program PFORK-SFORK saving error	Improvement
16	Fix for comparing Online vs Offline Module Configurations	Improvement
17	Fix program error when saving M-EXECUTOR definition	Improvement
18	Fix register range check when option module is changed	Improvement
19	Fix CNTR-01 printout	Improvement
20	Fix indication of current step in PFORK during debug mode	Improvement
21	Fix version storage in SERVOPACK parameter backup file	Improvement
22	Improvement of ladder display update	Improvement
23	Improvement in acquiring SERVOPACK current values	Improvement
24	Fix motion program saving error message	Improvement
25	Improvement when motion program single quote is used	Improvement

1.2 Past Upgrade Information

No.	Upgrade information	Remarks
1	MPE720 version 6.02 upgrade information	Version 6.01 -> Version 6.02
2	MPE720 version 6.03 upgrade information	Version 6.02 -> Version 6.03
3	MPE720 version 6.04 upgrade information	Version 6.03 -> Version 6.04
4	MPE720 version 6.05 upgrade information	Version 6.04 -> Version 6.05
5	MPE720 version 6.06 /Ver.6.07 upgrade information	Version 6.05 -> Version 6.06 Version 6.06 -> Version 6.07
6	MPE720 version 6.08 upgrade information	Version 6.07 -> Version 6.08

2. Description

No.1 New Support for Sequence Programs and M-EXECUTOR in MP2100/MP2100M (MP2500/MP2500M)

Sequence programs are text-based logic programs written much like motion programs. There is 1 available for high scan and 1 for low scan. The motion executor module (M-EXECUTOR) allows up to 16 motion programs to be controlled/monitored without writing any ladder control code. The control monitoring words can be freely allocated (directly to physical I/O connections) if desired. The sequence programs and M-EXECUTOR module are now supported in MP2100 and MP2100M. They will have the same functionality as found in then MP2400 and MP2300S.

< Supported Version >

Controller	Version
MP2100 /MP2100M (MP2500 /MP2500M)	Version 2.66 or later

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No.2 Support for MECHATROLINK I/O modules IO2900 and IO2910

The IO2900 and IO2910 I/O modules for MECHATROLINK-II are now supported.

I/O	Specifications
JAMSC-IO2900	- 16 digital outputs - 12/24 VDC
JAMSC-IO2910	- 16 digital inputs - 12/24 VDC

< Supported Version >

Controller	Version
MP2000 series cpu	Version 2.66 or later
SVB-01 module	Version 1.24 or later

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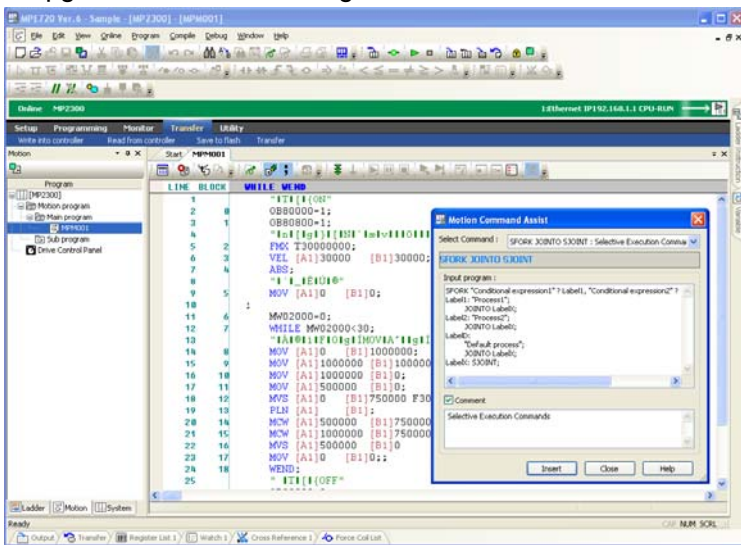
No.3 Upgrades to the "Motion Program Editor"

The Motion Program Editor has been upgraded to operate more like Visual Basic.

Many programming assistance functions (wizards) and dialog boxes have been added to support and ease motion programming tasks.

1. Compatibility
Complete forward and backward compatibility with previous motion editor.
Programs created with the previous motion editor can be edited in the new motion editor, and vice-versa.
2. Using the previous motion editor in Engineering Manager
It is possible to use the previous motion editor in Engineering Manager.

< Upgrades to the Motion Program Editor >



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No.4 Upgrades to the "Drive Control Panel"

The "Drive Control Panel" has been upgraded.

This useful panel visually displays the control signals and the status of motion programs and is very helpful during program test and debug.

< Upgrades to the Drive Control Panel >

The screenshot displays the 'Drive Control Panel' interface for 'MPM001'. It is organized into two main sections: 'Motion Program Control Signals Monitor' and 'Motion Program Status Monitor'.

Motion Program Control Signals Monitor: This section lists various control signals (BT 0 to BT 9) and their status across eight tasks (Task1 to Task8). Task1 (MPM001) is active, while others are 'No allocate'. The 'BT 0: Start request' signal is active in Task1, indicated by a green light.

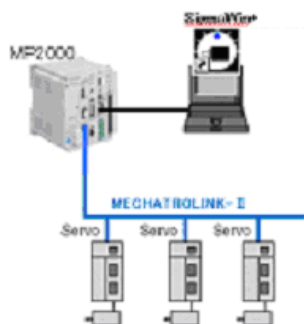
Task	Task1	Task2	Task3	Task4	Task5	Task6	Task7	Task8
Main program	MPM001	MPM010	MPM002	No allocate	No allocate	No allocate	No allocate	No allocate
Motion Program Control Signals	OW0C01 H0001	OW0C05 H0000	OW0C09 H0001	SW02439 H0000	SW03497 H0000	SW03555 H0000	SW03613 H0000	SW03671 H0000
BT 0 : Start request	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
BT 1 : Pause request	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
BT 2 : Stop request	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
BT 3 : Single block mode selection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
BT 4 : Single block start request	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
BT 5 : Alarm reset request	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
BT 6 : Program continuous operation start request	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
BT 8 : Skip1 information	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
BT 9 : Skip2 information	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
BT D : System work number setting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
BT E : Interpolation override setting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Status	IW0C00 H2100	IW0C04 H0000	IW0C08 H2001	SW03438 H0000	SW03496 H0000	SW03554 H0000	SW03612 H0000	SW03670 H0000
BT 0 : Running	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
BT 1 : Pausing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
BT 2 : Stopped	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
BT 4 : Stopped under single block mode	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
BT 8 : Alarm	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
BT 9 : Stopped at break point	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
BT B : Debugging mode	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
BT D : Start request signal history	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
BT E : No system work error	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
BT F : Main program number limit error	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Motion Program Status Monitor: This section shows the current status of the motion programs. The 'BT 0 : Running' status is active in Task3, indicated by a green light. The 'BT 8 : Alarm' status is active in Task1, indicated by a red light.

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No.5 New Support for "SigmaWin+" Pass-through to SGD

It is possible to use SigmaWin+ connected through MP controllers that have built-in Ethernet ports. This function is NOT available for MP2300 or MP2200 since the Ethernet port is on a separate option card module. This function will also only work with Sigma-5 servopacks and is NOT compatible with Sigma-II or Sigma-III.



< Useable Condition >

Useable condition
MPE720 Ver.6.10
SigmaWin+ Ver.5.11

< Supported Version >

Controller	Version
MP2100 /MP2100M(MP2500 /MP2500M), MP2300S, MP2310, MP2400	Version 2.66 or later
SVB-01 module	Version 1.25 or later
SGDV	Version 0011 or later

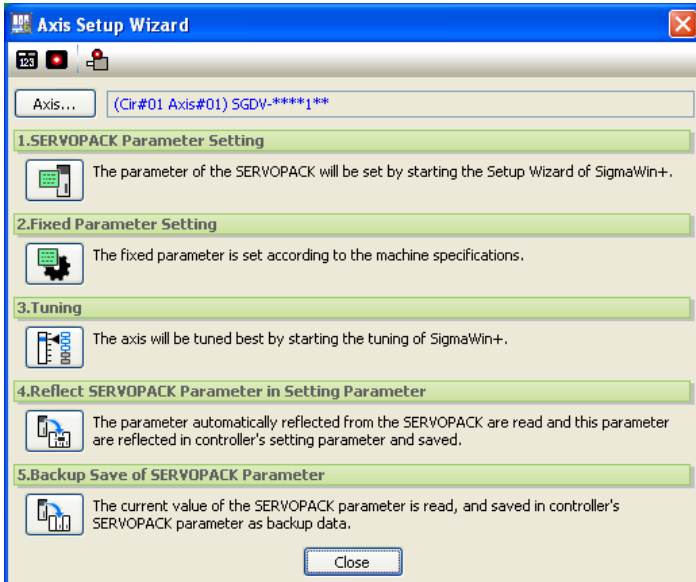
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No.6 New "Axis Setup Wizard"

"Axis Setup Wizard" allows MPE720 Ver.6 to easily set up motion axes using SigmaWin+ functions.

The wizard provides functions for parameter setting and tuning, and backup of servopack parameters to the controller.

< Axis Setup Wizard >



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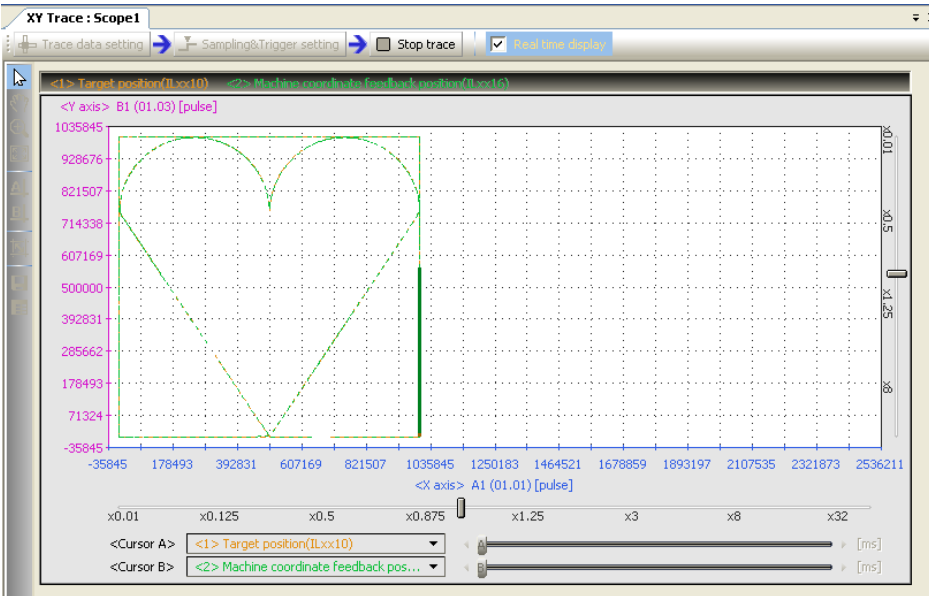
No.7 New support for "XY Trace" in Scope Tool

The Scope Tool now supports display of data in an XY graph. This is very useful for applications involving interpolated paths. Position data can be found in the motion registers specified below.

< Tracing Data >

Tracing Data
ILxx10: Calculated Position in Machine Coordinate System
ILxx16: Machine Coordinate System Actual Feedback Position

<XY Trace >



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No.8 Upgrades to the "Tuning Panel"

The Tuning Panel operates like a simulated HMI and has been upgraded to improve its functionality and usability. In this panel, the display of register values can be customized as follows.

- * modify permissions for data changes
- * change scales
- * visual monitors for quick graphical representation of register value within the specified range

< Upgrades to the Tuning Panel >

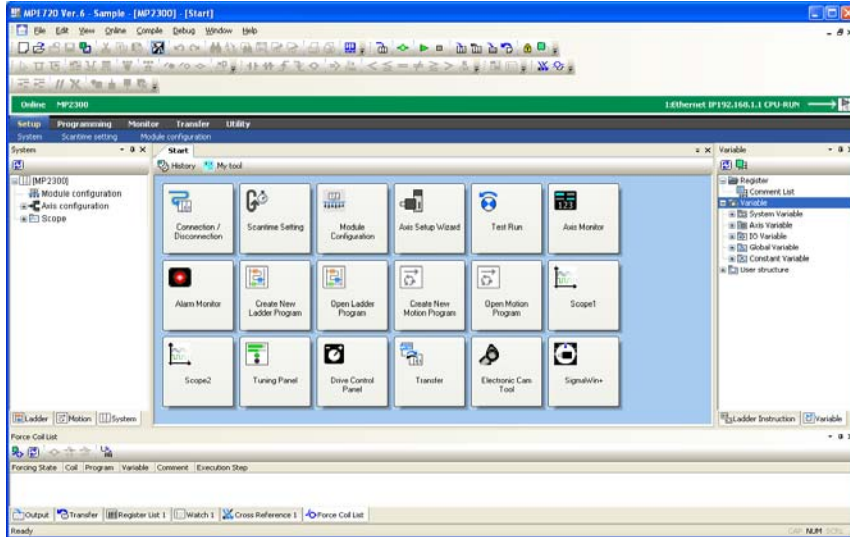
Variable	Comment	Name	View definiti...	Current value	Unit	Lower limit	Visual monitor	Upper limit
H : Main Program[Changes]								
MB00010F			ON/OFF	ON		----		----
ML00200			XXXXXX ...	100		-2147483648		2147483647
ML30000			XXXXXX ...	4		0		30
Please input variable...								
Please input Program No....								

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No.9 New "My Tool"

"My Tool" is a custom space for programmers to place shortcuts that can quickly launch programming functions/tools. This tool saves programming time otherwise spent searching the menu tree.

< My Tool >



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No.10 Renaming of two MSEE structure elements

The renamed elements are "Control.Continue" and "Status.Break".

< Renamed structure elements >

Before (v6.08)	After (v6.10)
Control.Continue	Control.Continued
Status.Break	Status.DebugBreak

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No.11 Improve forward compatibility of YMW project files

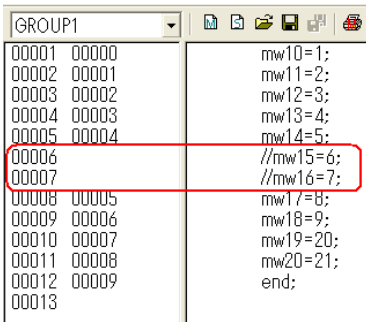
When upgrading to newer versions of MPE720 Ver.6.x, support for certain new functions or modules was blocked based on the support level of the original version. This has been corrected so that new functions and modules supported by new revisions to the software can be used properly.

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No.12 Support for one-line comment instruction in motion program

One-line comment instruction "//" was added to the motion program.

This instruction treats from "//" to line feed as a comment.



```
GROUP1
00001 00000      mw10=1;
00002 00001      mw11=2;
00003 00002      mw12=3;
00004 00003      mw13=4;
00005 00004      mw14=5;
00006 00005      //mw15=6;
00007 00006      //mw16=7;
00008 00007      mw17=8;
00009 00008      mw18=9;
00010 00009      mw19=20;
00011 00010      mw20=21;
00012 00011      end;
00013
```

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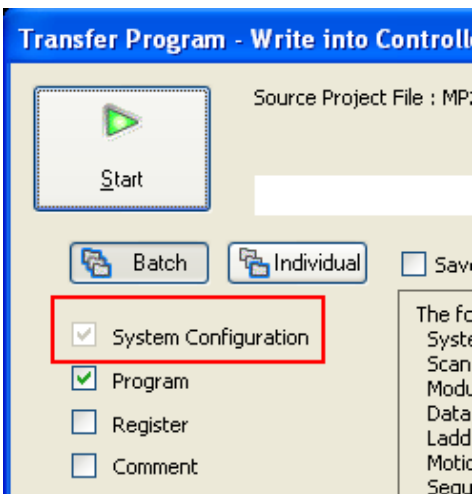
No.13 Batch transfer to controller

The System Configuration data is automatically transferred to controller during Batch transfer mode.

In Batch transfer mode, the selectable button for the System Configuration is checked by default..

If no system configuration file exists, a warning message will appear.

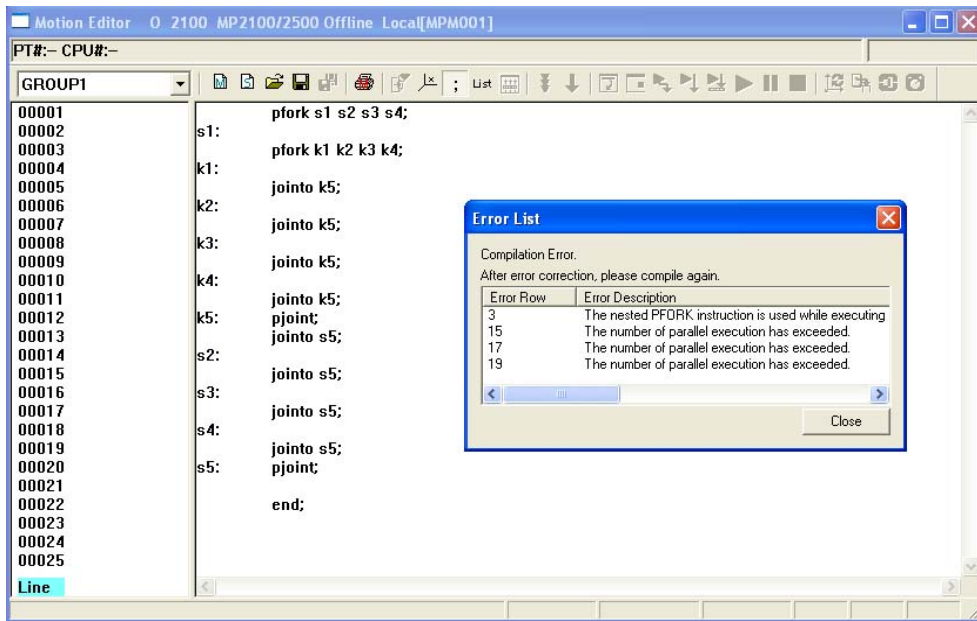
< Batch Transfer to controller >



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No.14 Offline detection of PFORK nesting errors

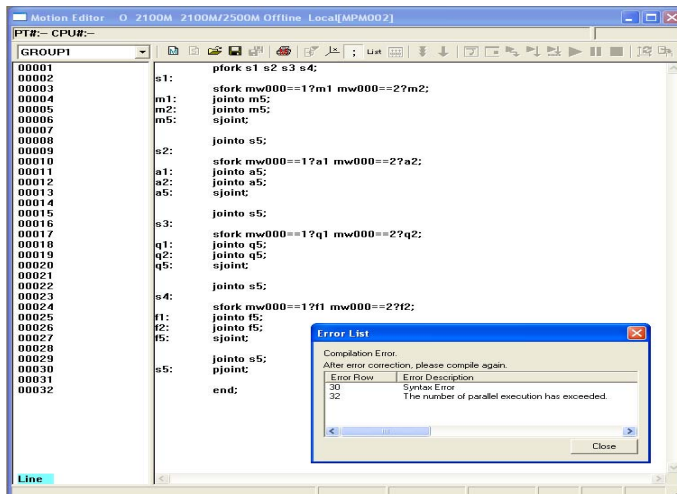
When programming off-line, PFORK nesting errors will now be detected. Previously, errors would only be detected while on-line.



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No.15 Fix for motion program PFORK-SFORK saving error

When using SFORK within a PFORK structure, there is a limitation on the number of combinations. Up to 4 parallel forks may be created, each with its own SFORK instruction. However, an error message would be generated and prevent saving upon reaching, but not exceeding, the limit. It has been corrected so that only exceeding the limitation will generate the error message.



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No.16 Fix for comparing Online vs Offline module configurations

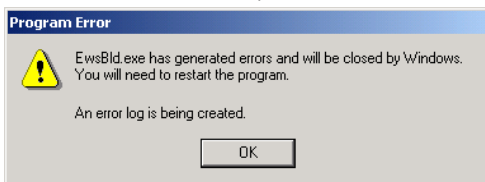
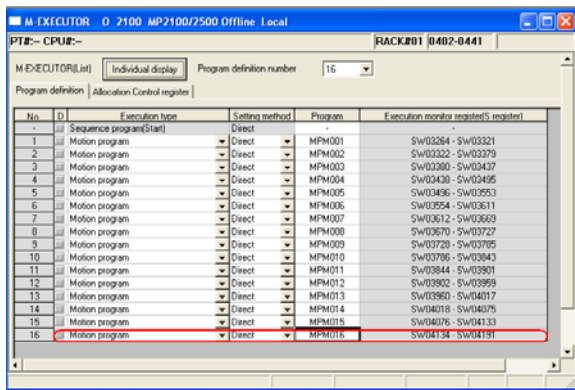
Automatic detection of differences between the offline version of Module Configuration (in the project file) vs the online configuration (as stored in the controller) was not operating properly. It has been corrected so that Module Configuration differences will be detected properly and the user will be notified by pop-up message.

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No.17 Fix program error when saving M-EXECUTOR definition

Occasionally, MPE720 would abruptly terminate when 16 programs were registered on the M-EXECUTOR screen even though 16 programs are allowed.

It was corrected so that up to, and including, 16 programs may be registered on the M-EXECUTOR screen without error.



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No.18 Fix register range check when module is changed

When the changing the allocation from a two sub slot option module to one sub slot option module, the register range check was abnormally executed. This has now been corrected.

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No.19 Fix CNTR-01 printout

When the setting data of CNTR-01 was printed, the value of fixed parameter No.13 was wrong.

NO.	Fix Parameter Name	CH# 1	CH# 2
1	Channel selection	unused	unused
2	The First Register Number	0000	0020
3	A/B-Pulse Signal form Selection	+5V differential input	+5V differential input
4	C-Pulse signal type	+5V differential input	+5V differential input
5	A/B-Pulse Signal Polarity	Positive logic	Positive logic
6	C-Pulse signal polarity selection	Positive logic	Positive logic
7	Pulse Counting Mode Selection	A/B pulse x4	A/B pulse x4
8	Counter Mode Selection	Reversible counter	Reversible counter
9	Coincidence Detection Function Use Selection	not used	not used
10	Coincidence Interrupt Function Use Selection	not used	not used
11	Frequency calculation selection	X1	X1
12	Mask of Calculation by C-Pulse	disable	disable
13	Ring-Counter function selection	Finite length axis	Finite length axis
14	Reference Unit Selection	pulses	pulses
15	Number of Digits Below Decimal Point	3	3
16	Travel Distance per Machine Rotation	0000010000	0000010000
17	Encoder Gear Ratio	00001	00001
18	Machine Gear Ratio	00001	00001
19	Maximum value of Ring Counter	0000360000	0000360000
20	Encoder Resolution (Pze Quadrature)	0000016384	0000016384
21	Feedback speed moving average time constant	10	10

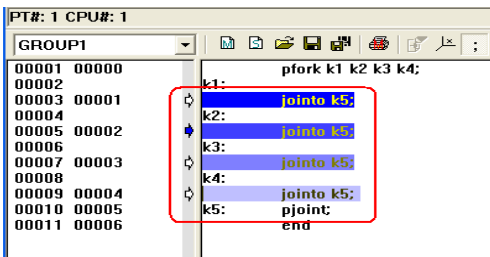
The printout value of "No.13 Ring Counter function selection" has been corrected.

NO.	Fix Parameter Name	CH# 1	CH# 2
1	Channel selection	unused	unused
2	The First Register Number	0000	0020
3	A/B-Pulse Signal form Selection	+5V differential input	+5V differential input
4	C-Pulse signal type	+5V differential input	+5V differential input
5	A/B-Pulse Signal Polarity	Positive logic	Positive logic
6	C-Pulse signal polarity selection	Positive logic	Positive logic
7	Pulse Counting Mode Selection	A/B pulse x4	A/B pulse x4
8	Counter Mode Selection	Reversible counter	Reversible counter
9	Coincidence Detection Function Use Selection	not used	not used
10	Coincidence Interrupt Function Use Selection	not used	not used
11	Frequency calculation selection	X1	X1
12	Mask of Calculation by C-Pulse	disable	disable
13	Ring-Counter function selection	not used	not used
14	Reference Unit Selection	pulses	pulses
15	Number of Digits Below Decimal Point	3	3
16	Travel Distance per Machine Rotation	0000010000	0000010000
17	Encoder Gear Ratio	00001	00001
18	Machine Gear Ratio	00001	00001
19	Maximum value of Ring Counter	0000360000	0000360000
20	Encoder Resolution (Pze Quadrature)	0000016384	0000016384
21	Feedback speed moving average time constant	10	10

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No.20 Fix indication of current step in PFORK during debug mode

The current execution step indicator had incorrectly moved to the second parallel divergence when step into/step over the PFORK instruction was clicked.



It has been corrected so that indicator now moves to the first parallel divergence of PFORK as intended.

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No.21 Fix version storage in SERVOPACK parameter backup file

When a specific SERVOPACK was connected, the version information in SERVOPACK parameter backup file was not correctly stored.

It has been corrected so that version information is now stored properly.

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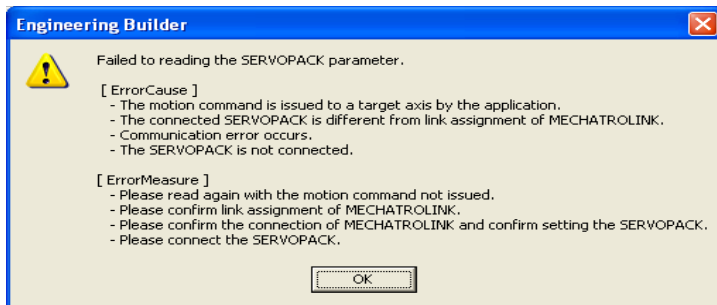
No.22 Improvement of ladder display update

The screen display tended to flicker when scrolling up and down through the program. This display issue has been corrected.

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No.23 Improvement in acquiring SERVOPACK current values

When retrieving current parameter values from a SERVOPACK, the software occasionally displayed that the procedure had ended normally when, in fact, it had failed. This has been corrected so that the failure message is reliably displayed if the procedure fails.



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No.24 Fix motion program saving error message

The error "You have insufficient Write Privileges" occurred if "Save New File" was executed for an *existing* motion program instead of "Save".

It has been corrected so that "Save New File" will operate properly for existing programs.

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No.25 Improvement when motion program single quote is used

When a single quote was used for comments entered into a motion program, a compile error was occasionally generated.

It has been corrected so that it is possible to compile without error even if a single quote is used in the comment.

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