

# Upgrade Information of MPE720 Version 7.34

## 1. Added and Improved Functions

### 1.1 Version 7.34 Upgrade Information

Items added and features improved from MPE720 version 7.33 to version 7.34 are as follows.

No.	Feature	Classification
1	The ladder instruction of the MP3000 series controller was added the MLNK-SVR instruction.	Add function
2	The ladder instruction of the MP3000 series controller was added the FLASH-OP instruction.	Add function
3	We improved the status display of the SVC module.	Functional enhancement
4	We added the function to display the register comment to the "Expression Instruction".	Functional enhancement
5	We improved the replace function of the addressing in the "Replace in the project".	Functional enhancement
6	We added an individual transfer function about the CF card transfer function.	Functional enhancement
7	We improved the Expression editor functions of the ladder program.	Functional enhancement
8	We improved the local variable notation used in the ladder instructions.	Functional enhancement
9	We added the variable and comments to the axis variable of motion register.	Functional enhancement
10	We added the parameter and monitor about the following SERVOPACKs.	Improvement
11	We changed the update timing of the comment list.	Improvement
12	We improved the process of the constant variable check function.	Improvement
13	We improved the process of the "Open Trace File" of the real-time trace function.	Improvement
14	We fixed message wording of the transmission cycle of the built-in SVC.	Improvement
15	We changed the error message of the test driving operation.	Improvement
16	We improved the operation of the current value collection functions of "Open Program" from each of the ladder drawings.	Improvement
17	We improved the communication processing of the servo parameters read.	Improvement
18	We added a variable display mode to the replace function of the ladder editor.	Improvement
19	We improved the variable display of the "Auto Watch".	Improvement
20	We improved the operation at the time of startup of the MPE720.	Improvement
21	We improved input and output variables registration errors of MTD2310/30.	Improvement
22	We improved the error of the parameters display of M-III inverter monitor parameters (IWxx31).	Improvement
23	We improved the error of fixed parameter wording of PO-01.	Improvement
24	We improved the printing process of the new ladder.	Improvement
25	We improved the compilation process of the motion program.	Improvement
26	We improved the timing of indication of the back ground flash preservation completion message.	Improvement

(\*): When MPE720 Ver.7 before MPE720 Ver.7.11 is already installed in Windows Vista and Windows 7, it may not operate for the newest information of the servo model addition by the axial setup wizard function (the newest information added into the database) updated by after MPE720 Ver.7.13.

Please refer to the following page for operating procedures.

## 【About the restriction matter when using MPE720 Ver.7 in Windows Vista and Windows 7】

When MPE720 Ver.7 is used in Windows Vista and Windows 7, the following phenomena might be generated.

### <Phenomena>

When MPE720 Ver.7 before MPE720 Ver.7.11 is already installed in Windows Vista and Windows 7, it may not operate for the newest information of the servo model addition by the axial setup wizard function (the newest information added into the database) updated by after MPE720 Ver.7.13.

### <Measures>

Using a batch file, the following folder is deleted. (\*1)

C:\Users\UserName(\*2)\AppData\Local\VirtualStore\Program Files(\*3)\YASKAWA\MPE720 Ver7

### Procedure

1. The batch file enclosed by MPE720 Ver.7 installer is copied to a desktop.

#### 【Download Version】

MPE720Ver7\_xxx(\*4)\Tools\CleanUp\MPE720Ver7\_x86.bat (32bitOS)

MPE720Ver7\_xxx(\*4)\Tools\CleanUp\MPE720Ver7\_x64.bat (64bitOS)

#### 【DVD Media Version】

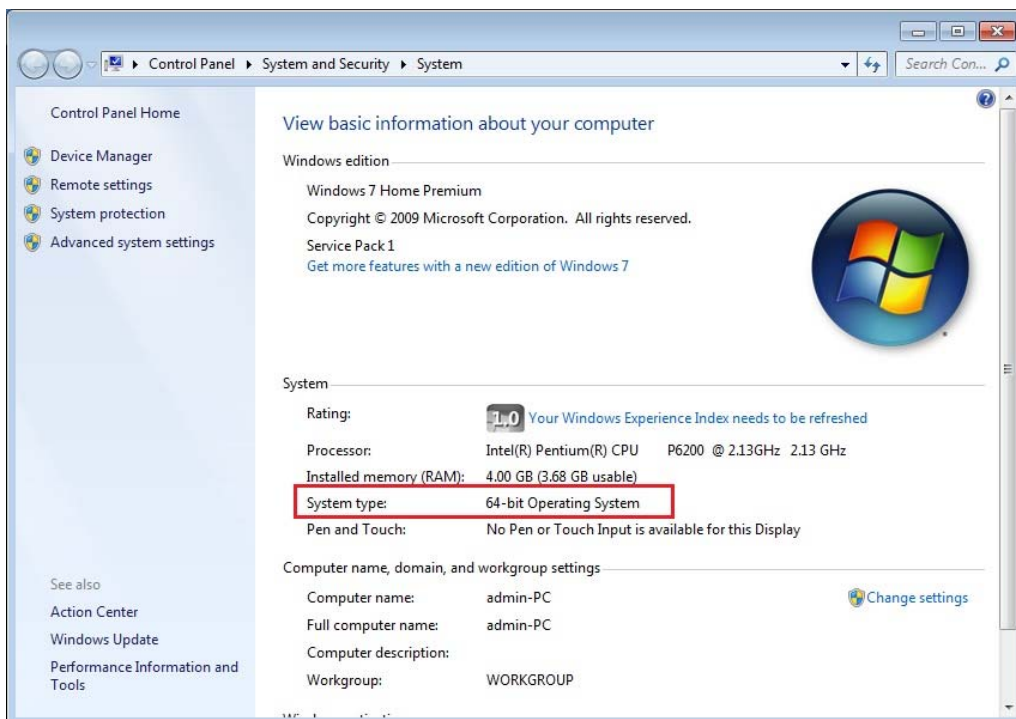
D(\*5):\Tools\CleanUp\MPE720Ver7\_x86.bat (32bitOS)

D(\*5):\Tools\CleanUp\MPE720Ver7\_x64.bat (64bitOS)

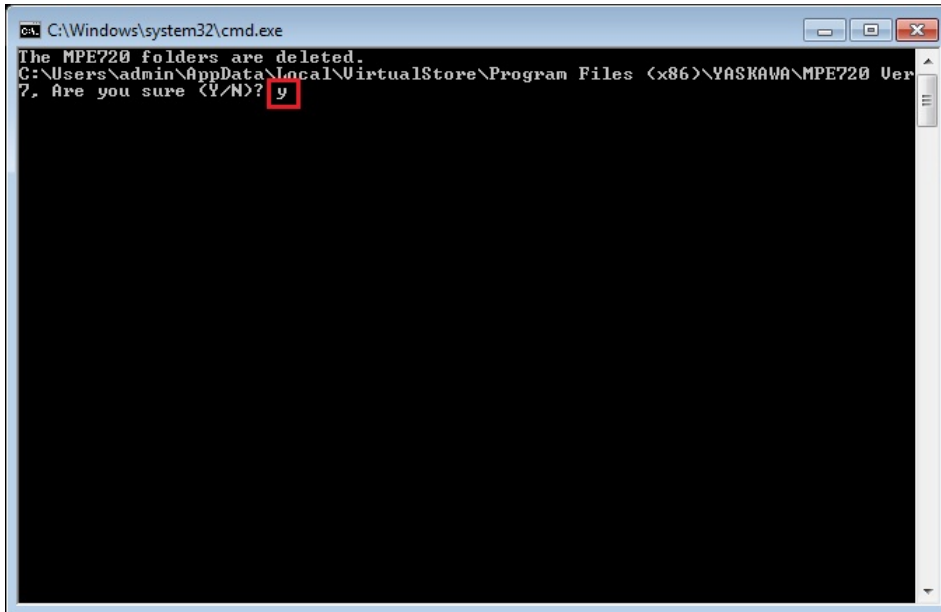
2. The copied batch file is performed.

MPE720Ver7\_x86.bat (32bitOS)

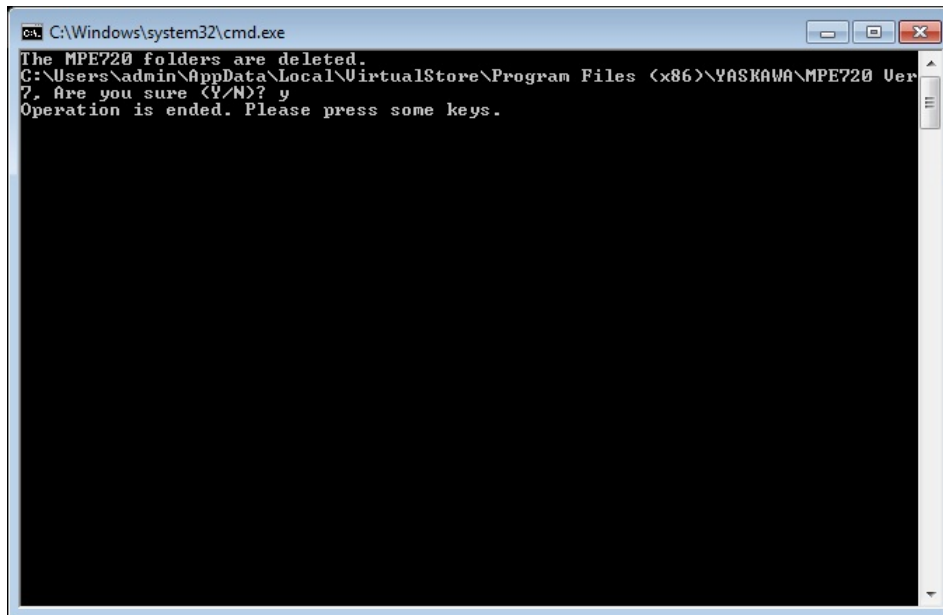
MPE720Ver7\_x64.bat (64bitOS)



3. “y” is inputted on a command prompt and the Enter button is pushed.



4. The Enter button is pushed on a command prompt after deletion.



- (\*1): When multi-user is using one set of PC, please operate it by each user.
- (\*2): The user account name that logs in enters.
- (\*3): The path changes by OS.
  - 32bitOS: Program Files
  - 64bitOS: Program Files (x86)
- (\*4): The path changes by version.
- (\*5): The path changes by DVD drive.
- (\*6): When an installation path is changed at the time of MPE720 Ver.7 installation, please delete the “MPE720 Ver7” folder which a folder subordinate has below manually according to the installed path.
  - C:\Users¥UserName(\*2)\AppData\Local\VirtualStore

## 【About compile of the parallel circuit】

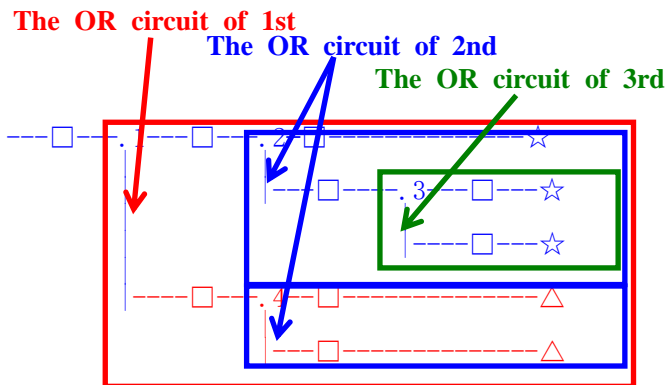
In the Ladder program of MPE720 Ver7 before MPE720 Ver7.23, when the parallel circuit is used, the following phenomena may occur.

<Phenomena>

When the circuit containing the following pattern was created, there was a phenomenon of operating without receiving the condition that the circuit below the OR circuit of 1<sup>st</sup> class must operate essentially in response to the conditional instruction before the OR circuit of 1<sup>st</sup> class.

<Measures>

When a phenomenon occurs, please carry out re-compile about the Ladder program in MPE720 Ver7 after MPE720 Ver7.24. Or please carry out again “Compile All Programs” of “Compile” menu.



The OR circuit of 1st class: The OR circuit branched from the bus-bar of language.

The OR circuit of 2nd class: The OR circuit branched out of the OR circuit of 1st class.

The OR circuit of 3rd class: The OR circuit branched out of the OR circuit of 2nd class.

□(Conditional instruction): NO Contact, NC Contact, Coil, instruction(==, !=, >, <), power line (-----) etc.

☆(Output instruction): Coil, Block instruction(Expression, STORE, COPYW) etc

※However, when all ☆ is coil commands, a phenomenon does not occur.

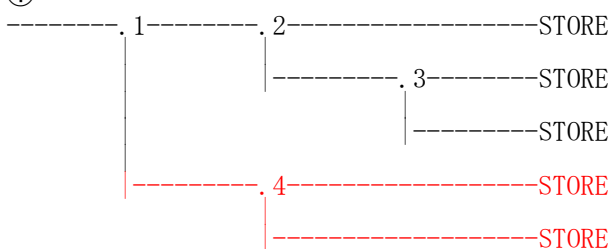
△(Output instruction): Coil, Block instruction(Expression, STORE, COPYW)etc

<Pattern>

Symbol	Instruction
	NO Contact
STORE	STORE instruction
()	Coil

<NG Pattern>

①



This pattern is minimum circuit pattern.

This is NG.



## 1.2 Past Upgrade Information

No.	Upgrade Information	Remarks
1	<a href="#">MPE720 version 7.11 upgrade information</a>	version 7.10→version 7.11
2	<a href="#">MPE720 version 7.13 upgrade information</a>	version 7.11→version 7.13
3	<a href="#">MPE720 version 7.14 upgrade information</a>	version 7.13→version 7.14
4	<a href="#">MPE720 version 7.20 upgrade information</a>	version 7.14→version 7.20
5	<a href="#">MPE720 version 7.21 upgrade information</a>	version 7.20→version 7.21
6	<a href="#">MPE720 version 7.23 upgrade information</a>	version 7.21→version 7.23
7	<a href="#">MPE720 version 7.24 upgrade information</a>	version 7.23→version 7.24
8	<a href="#">MPE720 version 7.26 upgrade information</a>	version 7.24→version 7.26
9	<a href="#">MPE720 version 7.27 upgrade information</a>	version 7.26→version 7.27
10	<a href="#">MPE720 version 7.28 upgrade information</a>	version 7.27→version 7.28
11	<a href="#">MPE720 version 7.29 upgrade information</a>	version 7.28→version 7.29
12	<a href="#">MPE720 version 7.30 upgrade information</a>	version 7.29→version 7.30
13	<a href="#">MPE720 version 7.31 upgrade information</a>	version 7.30→version 7.31
14	<a href="#">MPE720 version 7.33 upgrade information</a>	version 7.31→version 7.33

## 2. Description

### No. 1 The ladder instruction of the MP3000 series controller was added the MLNK-SVR instruction.

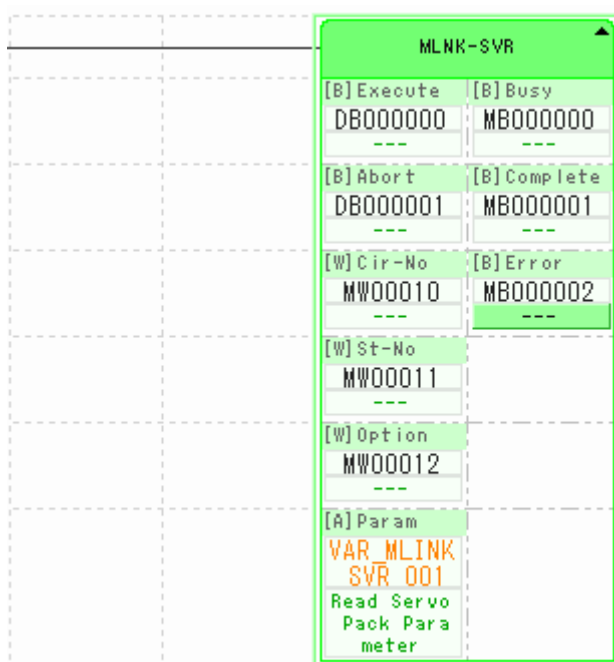
The ladder instruction of the MP3000 series controller was added the following instruction.

#### •Read Servo Pack Parameter (MLNK-SVR)

It reads in a parameters in a lump from the RAM area of the servo pack of the specified Circuit number and axis number. And overwrite the parameters that are stored in the machine controller as a backup file of the servo pack parameters. By using this function, when performing the exchange of servo pack, even if there is no tool such as MPE720, it can read the servo pack parameters in the ladder processing.

In addition, we have implemented the following changes.

1. We added the MLNK-SVR instruction to the ladder instruction tree.
2. We added the MLNK-SVR instruction to the compilation process of the ladder instructions
3. We added structure of the MLNK-SVR instruction to the system structure.



#### 【Support Version】

○Controller

Controller	Support Version
MP3000 Series	Ver.1.23 or later
MP2000 Series	Unsupported

**No. 2 The ladder instruction of the MP3000 series controller was added the FLASH-OP instruction.**

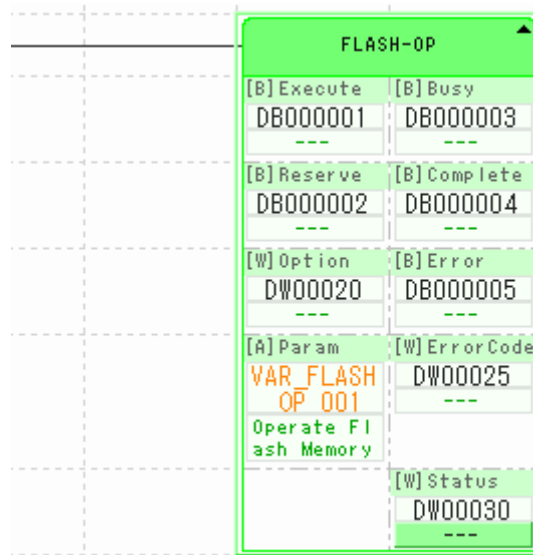
The ladder instruction of the MP3000 series controller was added the following instruction.

• Operate Flash Memory (FLASH-OP)

It compares the RAM and Flash data on the controller, and save to flash. By using this function, it is able to “save to flash” and comparison of RAM and flash on the ladder.

In addition, we have implemented the following changes.

1. We added the FLASH-OP instruction to the ladder instruction tree.
2. We added the FLASH-OP instruction to the compilation process of the ladder instructions
3. We added structure of the FLASH-OP instruction to the system structure.



**【Support Version】**

Controller	Support Version
MP3000 Series	Ver.1.23 or later
MP2000 Series	Unsupported



### No. 3 We improved the status display of the SVC module.

If the axis number is duplicated, when you check the status of the SVC module in the module configuration definition screen, there was a phenomenon that appears when in trouble. So, when the axis number is duplicated, we improved to be displayed as "Duplicate Address" on the status of the SVC.

Module	Function Module/Slave	Status
01 CPU-201 : ---		
-- UNDEFINED --		
PSA-12		
00 CPU-201 CPU201 [Duplicate Address]	01 CPU	Driving
	02 218IFD	Driving
	03 + SVC32	Duplicate Address
	04 + SVR32	Driving
	05 M-EXECUTOR	Driving
	06 -- UNDEFINED --	----

#### 【Support Version】

##### ○Controller

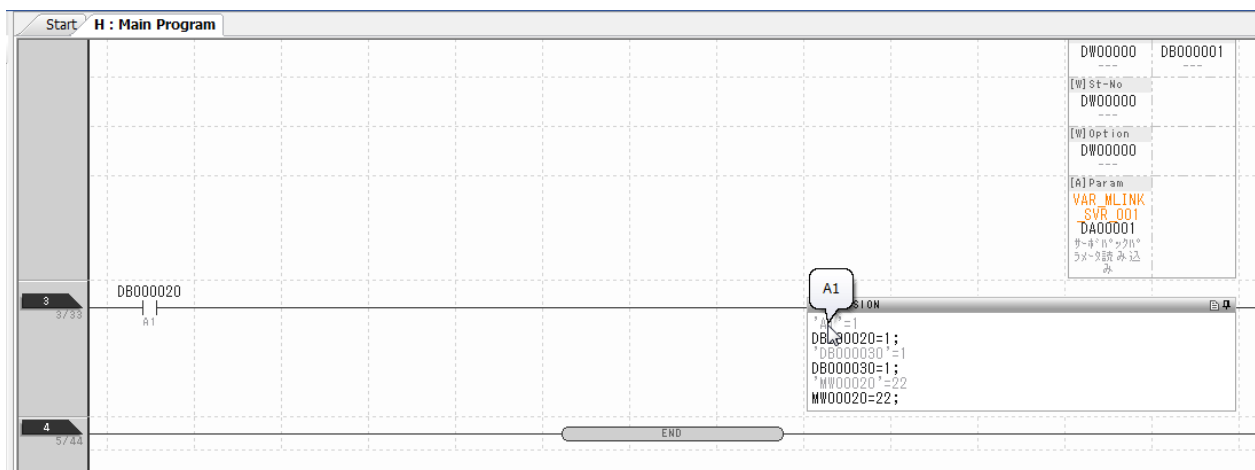
Controller	Model	Support Version
MP3000 Series	All models	Ver.1.23 or later
MP2000 Series	Except the following models. MP2100, MP2101, MP2400, NSC-M21	Ver.2.96 or later

##### ○Option Module

Module	Support Version
SVC-01	Ver1.16 or later

#### No. 4 We added the function to display the register comment to the "Expression Instruction".

1. We added the function to display the register comment to the "Expression Instruction".
2. We added the function of setting the number of display characters of register comments to the "Display" in the "Environment Setting".
3. We added the ability to display the register comments balloon help when mouse cursor was put on the register comments.



#### 【Support Version】

Controller	Support Version
MP3000 Series	It is not dependent on the version.
MP2000 Series	It is not dependent on the version.

**No. 5 We improved the replace function of the addressing in the "Replace in the project".**

The multiple registers replacement could not be carried out at once. So, we improved the following improvements.

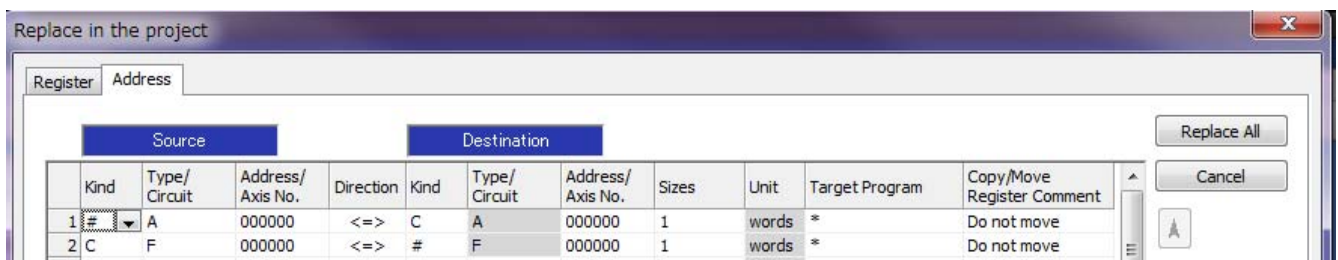
1. We changed the screen of the addressing in "Replace in the project" function in order to allow a replace by one time about multiple registers.
2. We added the import function and the export function for setting of multiple register replace function.
3. We added a register comments replacement function.

Before replacement

MW00000: X-axis position ⇔ MW00001: Y-axis position

After replacement

MW00000: Y-axis position ⇔ MW00001: X-axis position



**【Support Version】**

Controller	Support Version
MP3000 Series	It is not dependent on the version.
MP2000 Series	It is not dependent on the version.

**No. 6 We added an individual transfer function about the CF card transfer function.**

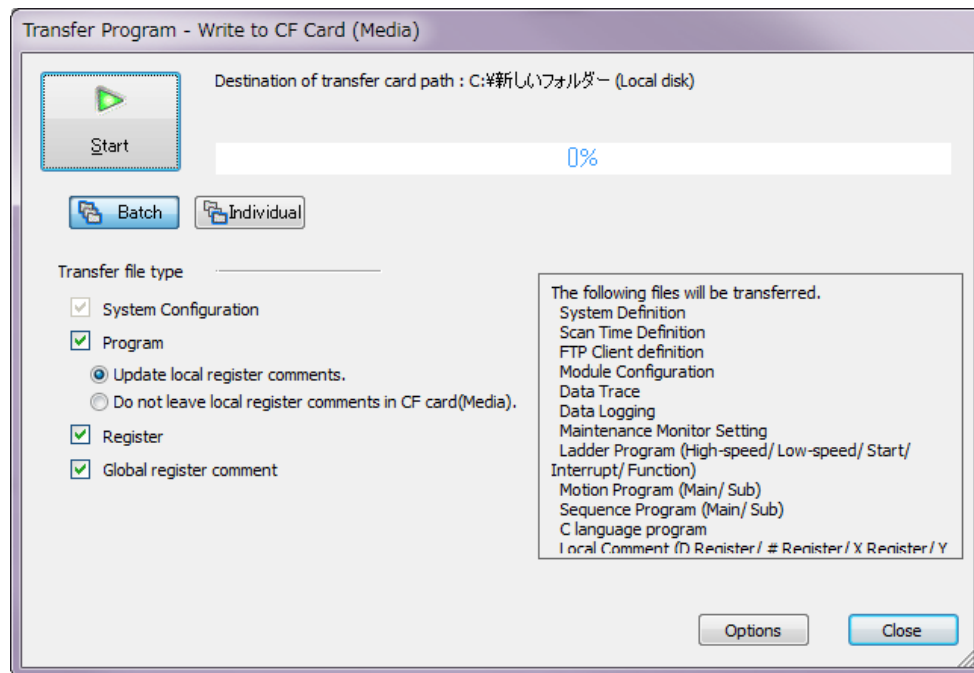
In the "Writing to the CF card (Media)" of the transfer function, it was supported the "Individual Transfer" function.

○Write to CF Card (Media)

Target	Format	Support
MP controller' s		×
User memory (folder specification)	Compressed 2.0MB Division	○
	Compressed 2.0MB Division	○
	Compressed 2.0MB Division	○
	MP2000CF card backup	×

○Read from CF Card (Media)

Target	Format	Support
MP controller' s		×
User memory (folder specification)	Compressed 2.0MB Division	○
	Compressed 2.0MB Division	○
	Compressed 2.0MB Division	○
	MP2000CF card backup	×

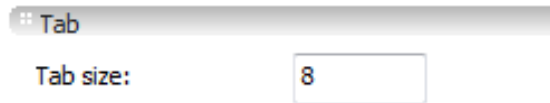


**【Support Version】**

Controller	Support Version
MP3000 Series	It is not dependent on the version.
MP2000 Series	It is not dependent on the version.

### No. 7 We improved the Expression editor functions of the ladder program.

We added the setting of the space character numbers of the tab code to "Tab" in the Environmental Setting screen. This is able to set the number of spaces of the tab to be used in the Expression, IF, and While instructions of the ladder program.

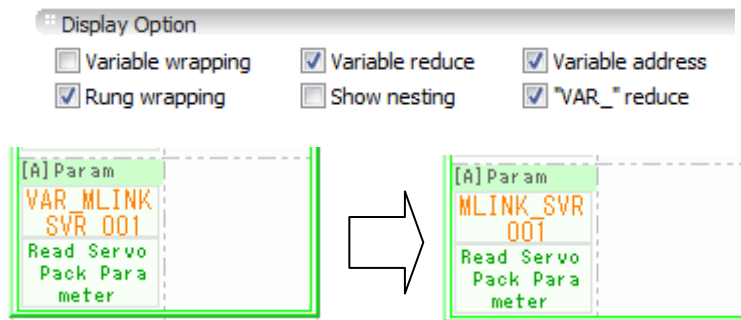


#### 【Support Version】

Controller	Support Version
MP3000 Series	It is not dependent on the version.
MP2000 Series	It is not dependent on the version.

### No. 8 We improved the local variable notation used in the ladder instructions.

We added the setting of omit display of 'VAR\_' of the prefix to the "display" in the Environmental Setting screen. If it sets the function, prefix of 'VAR\_' is shown omitted.



#### 【Support Version】

Controller	Support Version
MP3000 Series	It is not dependent on the version.
MP2000 Series	It is not dependent on the version.

### No. 9 We added the variable and comments to the axis variable of motion register.

The axis variable of motion register had not registered additional variable and comments. Therefore, we added those.

OLxx66: Positive software limit value,

OLxx68: Negative software limit value,

OWxx12: speed limit value

Watch 1			
Variable	Value	Comment	P
OL8066	0	A1~Positive software limit value	
OL8068	0	A1~Negative software limit value	
OW8012	0	A1~Speed limit value	

#### 【Support Version】

Controller	Support Version
MP3000 Series	It is not dependent on the version.
MP2000 Series	It is not dependent on the version.

### No. 10 We added the parameter and monitor about the following SERVOPACKs.

It added the parameter and monitor about the following SERVOPACKs.

#### ○Target model

Sigma5 (SGDV-\*\*\*\*11\*) (AC Input: Over22kW)

Sigma5 (SGDV-\*\*\*\*21\*) (AC Input: Over22kW)

#### ○Additional servo parameters

No.	Parameter Name	Firmware version
Pn00F	Application Function Select Switch F	Ver002D or later
Pn514	Output Signal Selection 4	Ver002D or later
Pn612	Ambient temperature for Lifetime Calculate.	Ver002D or later
Pn614	Lifetime 1 for Servo motor	Ver002D or later
Pn615	Lifetime 2 for Servo motor	Ver002D or later
Pn824	Option Monitor Selection 1	Ver002D or later
Pn825	Option Monitor Selection 2	Ver002D or later

#### ○Additional servo monitor

No.	Parameter Name	Firmware version
Un027	Built-in Fan Remaining Life Ratio	Ver002D or later
Un028	Capacitor Remaining Life Ratio	Ver002D or later
Un029	Surge Prevention Circuit Remaining Life Ratio	Ver002D or later
Un02A	Dynamic Brake Circuit Remaining Life Ratio	Ver002D or later
Un02B	Rush Current prevention relay switching count	Ver002D or later
Un02C	Dynamic brake relay switching count	Ver002D or later
Un02D	Servo Motor Lifetime Monitor 1	Ver002D or later
Un02E	Servo Motor Lifetime Monitor 2	Ver002D or later

#### 【Support Version】

Controller	Support Version
MP3000 Series	It is not dependent on the version.
MP2000 Series	It is not dependent on the version.

### No. 11 We changed the update timing of the comment list.

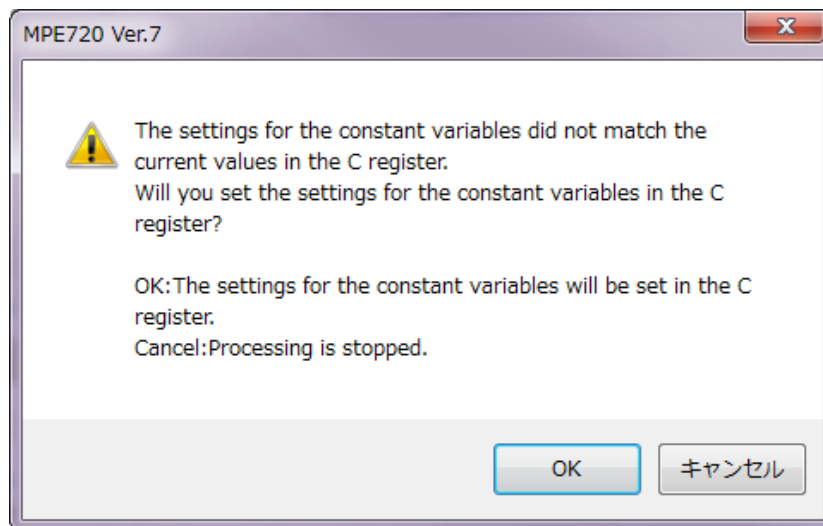
The comment of the input and output variables and axis variable was not updated when it changed the allocation in the module configuration screen. So, we improved to immediately reflect the update of the comments when it changed the assignment in the module configuration definition.

#### 【Support Version】

Controller	Support Version
MP3000 Series	It is not dependent on the version.
MP2000 Series	It is not dependent on the version.

### No. 12 We improved the process of the constant variable check function.

If it used the constant variable check function, it was only possible to write the definition of the constant variable (set value) to the current value when the definition of the constant variable (set value) and the comparison of the current value result were a mismatch. So, in the confirmation message, we added the cancel button to be able to cancel the write operation.



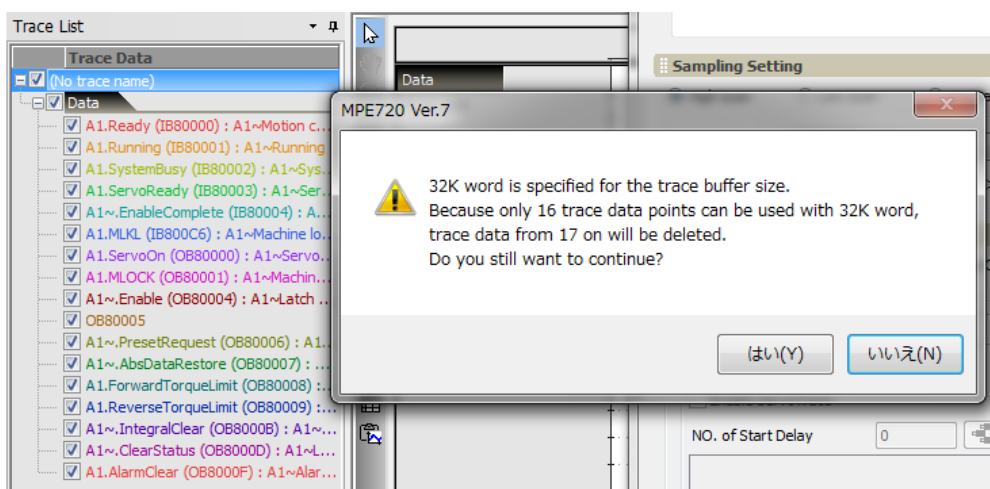
#### 【Support Version】

Controller	Support Version
MP3000 Series	It is not dependent on the version.
MP2000 Series	It is not dependent on the version.

### No. 13 We improved the process of the "Open Trace File" of the real-time trace function.

When 17 points or more registers data were registered in the definition data, import error occurs when you run "Open trace file" in the real-time trace function. In addition, there was a phenomenon that MPE720 was shut down at the timing that opened the trace data setting screen. So, we improved the following improvements.

1. We have added the setting of trace buffer size in the export data.
2. When 17 or more points of the register has been registered when the trace buffer size was imported the trace definition data that had not been outputted, we improved to ask them to change the set value of the trace buffer size of the "Sampling& Trigger Setting" screen by shown a message of alarm.
3. If it registered the register 17 points or more, it sets the "32 [K word] 32K word" to "trace buffer size" of the "Sampling& Trigger Setting" screen and it presses "OK" button. Then we added the function to delete the registered number data so as to be 16 points.



#### 【Support Version】

Controller	Support Version
MP3000 Series	It is not dependent on the version.
MP2000 Series	It is not dependent on the version.



## No. 14 We fixed message wording of the transmission cycle of the built-in SVC.

We fixed the message for the setting value of the transmission cycle and high-speed scanning, which is displayed in the detail definition screen of the built-in SVC.

### ○Target Controllers

MP2101T  
MP2101TM  
MPU-01  
MPU-01N

### ○Message

125us: Please set the setting value of a high-speed scanning by the integral multiple 500us.

250us: Please set the setting value of a high-speed scanning by the integral multiple 500us.

500us: Please set the setting value of a high-speed scanning by the integral multiple 500us.

1ms: Please set the setting value of a high-speed scanning by the integral multiple 1ms.

The screenshot shows a configuration window for a built-in SVC. It contains several settings:

- Master/Slave: Master
- My station address: 0x0001
- Communication Cycle: 125us
- Enabled message communication
- Number of retry to slaves: 1
- Number of connection: 4
- Slave detection waiting time: 0sec

At the bottom, there is a message box that reads: "Please set the setting value of a high-speed scanning by the integral multiple of 500us."

### 【Support Version】

Controller	Support Version
MP3000 Series	It is not dependent on the version.
MP2000 Series	It is not dependent on the version.

## No. 15 We changed the error message of the test driving operation.

Because the servo ready signal is not ON, there was a case that cannot be run the Test Run. So, we added the following content to the wording of the error message.

### ○Message

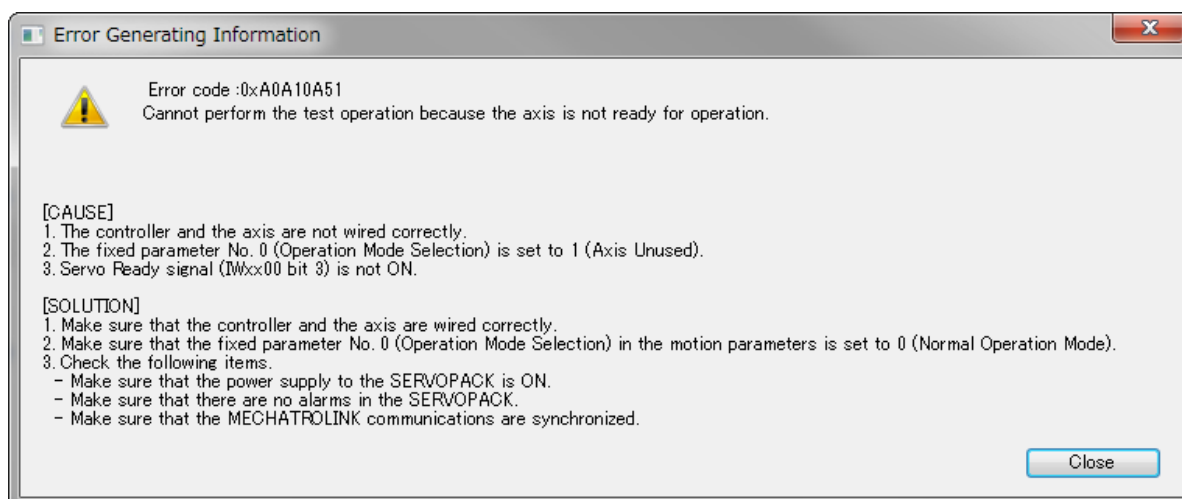
Cannot perform the test operation because the axis is not ready for operation

#### 【CAUSE】

1. The controller and the axis are not wired correctly.
2. The fixed parameter No.0 (Operation Mode Selection) is set to 1 (Axis Unused).
3. Servo Ready signal (IWxx00 bit 3) is not ON.

#### 【SOLUTION】

1. Make sure that the controller and the axis are wired correctly.
2. Make sure that the fixed parameter No.0 (Operation Mode Selection) in the motion parameter is set to 0 (Normal Operation Mode).
3. Check the following items.
  - Make sure that the power supply to the SERVOPACK is ON.
  - Make sure that there are no alarms in the SERVOPACK.
  - Make sure that the MECHATROLINK communications are synchronized.

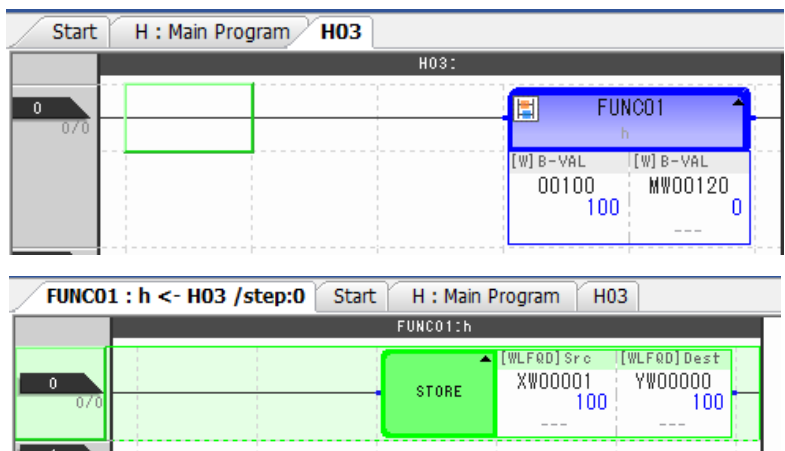


#### 【Support Version】

Controller	Support Version
MP3000 Series	It is not dependent on the version.
MP2000 Series	It is not dependent on the version.

**No. 16 We improved the operation of the current value collection functions of "Open Program" from each of the ladder drawings.**

When it runs the "Open Program" from each ladder drawings, the called current value was not display correctly. So, we improved as the called current values were displayed correctly.



**【Support Version】**

Controller	Support Version
MP3000 Series	It is not dependent on the version.
MP2000 Series	It is not dependent on the version.

**No. 17 We improved the communication processing of the servo parameters read.**

It opens the servo parameters screen of the MC-Configurator in the following situations. Then servo parameters communication timeout occurred and there was a phenomenon cannot be read.

- High-speed Scan

Setting value: More than 20ms

So, we changed the parameter number from 320 to 70 pieces to be read in one-time communication in the servo parameters screen startup.

**【Support Version】**

Controller	Support Version
MP3000 Series	It is not dependent on the version.
MP2000 Series	It is not dependent on the version.

**No. 18 We added a variable display mode to the replace function of the ladder editor.**

It supports the input of the variable in the replace function of the ladder editor.

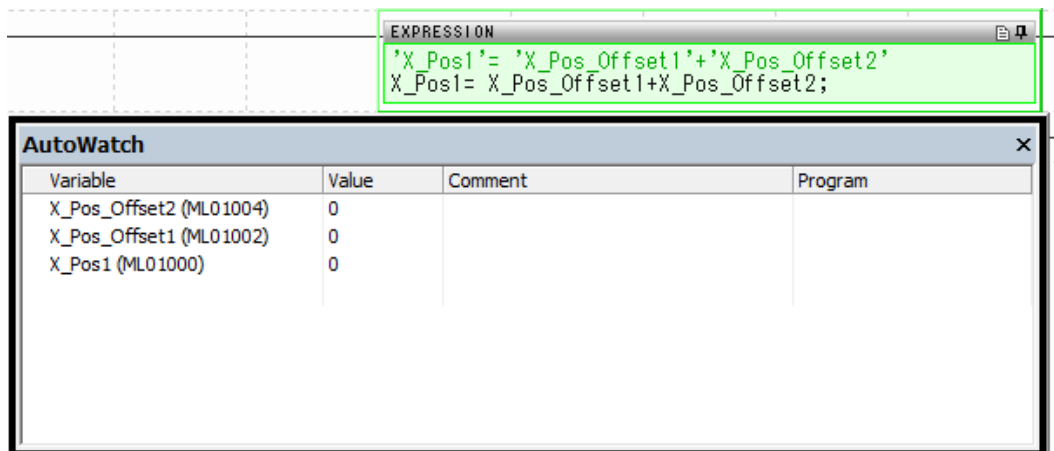
Previously, it was able to use only register.

**【Support Version】**

Controller	Support Version
MP3000 Series	It is not dependent on the version.
MP2000 Series	It is not dependent on the version.

**No. 19 We improved the variable display of the "Auto Watch".**

In the variable display mode, the variables that are used by the instruction, in the case of displaying the "Auto Watch" function has been improved so as to be displayed by the variable display.



**【Support Version】**

Controller	Support Version
MP3000 Series	It is not dependent on the version.
MP2000 Series	It is not dependent on the version.

**No. 20 We improved the operation at the time of startup of the MPE720.**

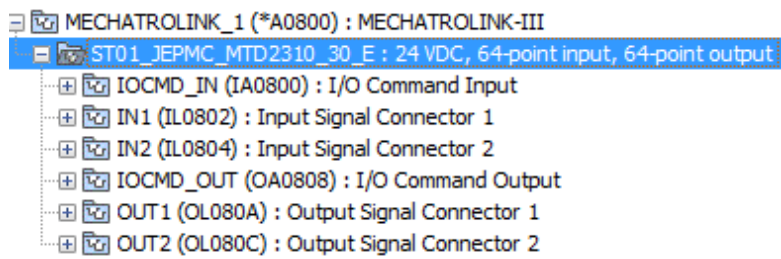
There was a phenomenon that cannot be started at the next startup when the icon register number was equal zero in the "Edit My Tool". Even if it changed the icon register number to be zero, we changed to be able to start up properly.

**【Support Version】**

Controller	Support Version
MP3000 Series	It is not dependent on the version.
MP2000 Series	It is not dependent on the version.

**No. 21 We improved input and output variables registration errors of MTD2310/30.**

There was an error in the offset of the input and output variables of MTD2310/30 module. (Only English version)  
 If it is normal, the IN1, IN2, OUT1 and OUT2 include the offset of +2-word. So, we fixed the registration to include +2 words of offset to the IN1, IN2, OUT1 and OUT2.



**【Support Version】**

Controller	Support Version
MP3000 Series	It is not dependent on the version.
MP2000 Series	It is not dependent on the version.

**No. 22 We improved the error of the parameters display of M-III inverter monitor parameters (IWxx31).**

In the M-III inverter (1000 Series INVERTER, Wild Card Inverter) monitor parameters IWxx31, the parameters of the system reservation was displayed. In addition, there was an error in the wording of the parameters details. So, we fixed the error of the parameter display.

- Bit 2: Subcommand Ready
- Bit 8~B: Subcommand Alarm

49: M-III Sub Command Status	IW8031
[Bit:2]Subcommand Ready	IB80312
[Bit:8-B]Subcommand Alarm	IB80318

**【Support Version】**

Controller	Support Version
MP3000 Series	It is not dependent on the version.
MP2000 Series	It is not dependent on the version.

**No. 23 We improved the error of fixed parameter wording of PO-01.**

We improved the error of fixed parameter wording of PO-01 in the MPE720 Japanese version.

**【Support Version】**

Controller	Support Version
MP3000 Series	It is not dependent on the version.
MP2000 Series	It is not dependent on the version.

**No. 24 We improved the printing process of the new ladder.**

In print function of ladder program, there was a phenomenon which isn't right printed. So, we improved the print function.

1. If it prints the ladder program in the following situations, the middle rung might not be printed.  
 [Condition]  
 “Print” in the Environment Setting  
 Circuit auto-reduction print: Print
  
2. If it prints the ladder program in the following situations, there was that cross-reference information and ladder circuit were printed in duplicate.  
 [Condition]  
 “Print” in the Environment Setting  
 Circuit auto-reduction print: Print  
 Print the cross reference information: Print

**【Support Version】**

Controller	Support Version
MP3000 Series	It is not dependent on the version.
MP2000 Series	It is not dependent on the version.

**No. 25 We improved the compilation process of the motion program.**

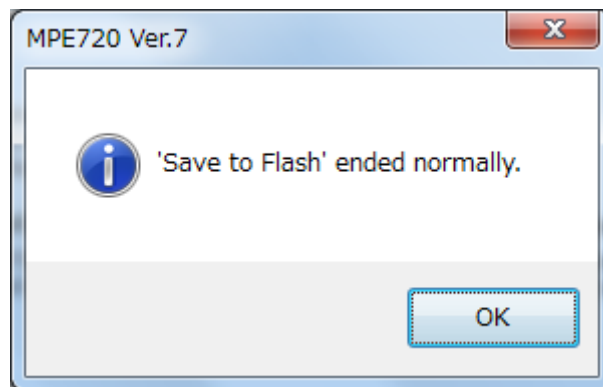
It uses a string such as 5D and 5F at the end of the function name of the user function in the UFC instruction of motion program. Then, there was a phenomenon that the compilation errors occur because string was determined to be a real number. So, we improved the phenomenon that becomes the compilation error.

**【Support Version】**

Controller	Support Version
MP3000 Series	It is not dependent on the version.
MP2000 Series	It is not dependent on the version.

**No. 26 We improved the timing of indication of the back ground flash preservation completion message.**

When carrying out background flash preservation continuously more than one times, processing of flash preservation was complete, but there was a phenomenon that the complete message isn't displayed. So, we improved the timing of indication of the back ground flash preservation completion message.



**【Support Version】**

Controller	Support Version
MP3000 Series	Ver1.10 or later
MP2000 Series	Unsupported