

# Upgrade Information of MPE720 Version 6.07

## 1 Added and Improved Functions

### 1.1 Version 6.07 Upgrade Information

Items added and features improved from MPE720 version 6.06 to version 6.07 are as follows.

No.	Feature	Classification
1	Bug which using one-byte katakana in the motion program comment.	Bug fix
2	Bug of Input/ Output disable operation of I/O message communication.	Preventive
3	Spelling error.	Preventive
4	Bug of unit of display of SVB linear type for MP2310/ MP2300S/ MP2400.	Preventive
5	Bug of the fixed parameter input range.	Preventive
6	It is possible to set the size which exceeds the range of the enable allocation of 260IF.	Preventive

### 1.2 Version 6.06 Upgrade Information

Items added and features improved from MPE720 version 6.05 to version 6.06 are as follows.

No.	Feature	Classification
1	For Windows Vista.	Added function
2	Support to LIO-06 module.	Added module
3	Support to 262IF-01 module.	Added module
4	Supporting of IO variable (LIO-06/ 262IF-01).	Added function
5	Export/ import of register data.	Added function
6	Add the index function to motion program.	Added function
7	Add the "default" branch of SFORK instruction.	Added function
8	Easy start of tuning panel.	Added function
9	The history of the Start Window can be deleted.	Added function
10	Update the version of MP2100 driver.	Added function
11	Improvement of project file.	Improvement
12	Improvement of transfer rate.	Improvement
13	The combo list size for select the motion command was changed.	Improvement
14	Improvement of allocation of user structure.	Improvement
15	Comparison by off-line of table data.	Improvement
16	Occurrence at scan time over.	Improvement
17	Improvement of motion program saving error.	Improvement
18	Improvement of password change while opened program.	Improvement
19	Improvement of program illegal name at the time of transfer.	Improvement
20	Improvement of open Adobe Reader version 8 from MPE720 Version 6.	Improvement
21	Memory leak in monitor of D register.	Improvement
22	Improvement of conversion from the CP ladder to new ladder.	Improvement
23	Improvement which Choon "—" is Compiled.	Improvement
24	Cut in at the middle of the circuit when ladder program was printed.	Improvement
25	Improvement of reflect the setting value in C register by transfer of constant variable.	Improvement
26	Bug of save operation that detailed definition of CNTR-01 module.	Preventive
27	Bug of input of hexadecimal number in the motion program.	Preventive
28	Bug of block number when ON/OFF is used in the conditional expression.	Preventive

29	Width enhancing of grid of motion error list.	Preventive
30	Trouble of print.	Preventive
31	Freezing by printing of the ladder program of 25 parallels of coil.	Bug fix
32	The current value of all ladders was displayed without shifting.	Bug fix

### 1.3 Past Upgrade Information

No.	Upgrade information	Remarks
1	<a href="#">MPE720 version 6.02 upgrade information</a>	Version 6.01 -> Version 6.02
2	<a href="#">MPE720 version 6.03 upgrade information</a>	Version 6.02 -> Version 6.03
3	<a href="#">MPE720 version 6.04 upgrade information</a>	Version 6.03 -> Version 6.04
4	<a href="#">MPE720 version 6.05 upgrade information</a>	Version 6.04 -> Version 6.05

## 2. Description

### 2.1. Ver.6.07 Description

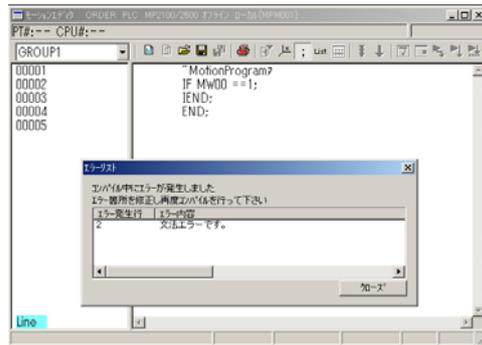
#### No.1 Bug which using one-byte katakana in the motion program comment.

##### <Bug>

The preservation error occurred when the motion program made by using the one-byte katakana to comment of the program was compiled, and it was not possible to compile normally.

In the version before the MPE720 Ver6.05, the one-byte katakana used to comment can be correctly preserved as a comment.

Therefore, the preservation error occurred when the motion program made before the MPE720 Ver6.05 was preserved with the MPE720 Ver6.06, and it was not possible to preserve it.



##### <Measure of bug>

The one-byte katakana used to comment just like the version before the MPE720 Ver6.05 was done to preserve it correctly as a comment.

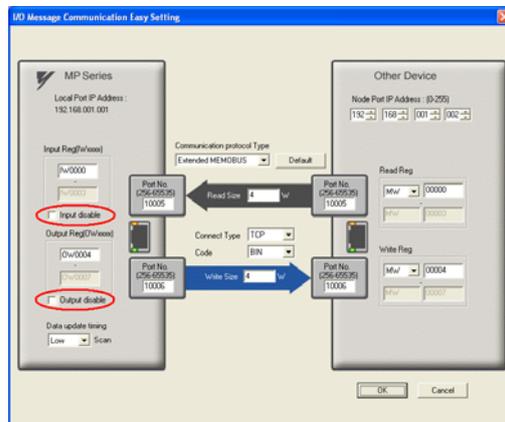
As a result, interchangeable data with the motion program made by the version before the MPE720 Ver6.05 was secured by this version.

#### No.2 Bug of Input/ Output disable operation of I/O message communication.

##### <Bug>

The operation of "Input disable" and "Output disable" were different on I/O message communication of 218IFA detail definition window.

"Input disable" is the check box is checked, the check is maintained until the check box is cleared. But "Output disable" is the checkbox will be unchecked when "Protocol type" is changed or "Default setting" button of the Easy Setting is clicked.



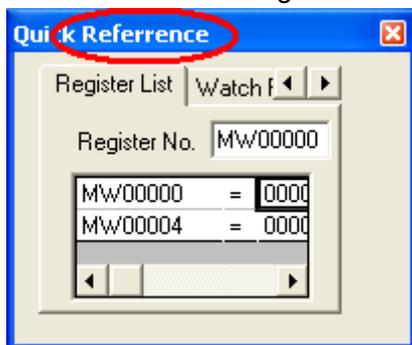
##### <Measure of bug>

The value of "Output disable" was not cleared with the "Default" transaction when "Protocol type" is changed or "Default setting" button of the Easy Setting is clicked.

### No.3 Spelling error.

**<Bug>**

It was modified that the title was spelling error which displayed double click the Quick reference is displayed as the Engineering Manager to convert to a floating window.



**<Measure of bug>**

It changed to a correct spelling.

### No.4 Bug of unit of display of SVB linear type for MP2310/ MP2300S/ MP2400.

**<Bug>**

When the Servo Type of motion parameter of SVB was set in the Linear, the unit of No.6 "Linear Scale Pitch" was displayed by mistake as "microm".

And, the unit of No.34 "Rated Speed" was displayed by mistake as "0.1m/s".

No.4 [Reference unit selection]	No.6 [Linear Scale Pitch]		No.34 [Rated Speed]	
	True	False	True	False
pulse	1microm or 1nm	um	0.1m/s or 0.1mm	0.1m/s
mm	mm	um	0.1m/s	0.1m/s
deg	deg	um	0.1m/s	0.1m/s
inch	inch	um	0.1m/s	0.1m/s
um	um	um	0.1mm/s	0.1m/s

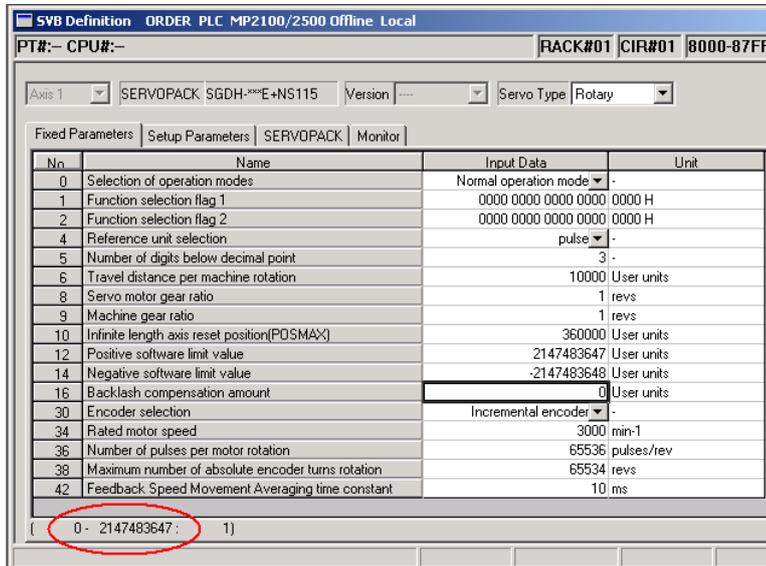
**<Measure of bug>**

The unit of the display of the parameter was made to change with the selected "user units" just like other MP2000 series.

## No.5 Bug of the fixed parameter input range.

### <Bug>

The setting range of the Fixed parameter No.16 "Backlash compensation amount" of MP2100 built-in SVB was "0 to 2147483647".



### <Measure of bug>

It was changed from "0 to 2147483647" to "-2147483648 to 2147483647".

## No.6 It is possible to set the size which exceeds the range of the enable allocation of 260IF.

### <Bug>

The size allocated in each slave bureau when 260IF are used upper limit is 256 bytes in the specification. However, the size which exceeded the range was able to be actually allocated.

### <Measure of bug>

The size that was able to be allocated with each slave bureau was changed.

## 2.2. Ver.6.06 Description

### No.1 For Windows Vista

In the Windows Vista environment, an installation and other function corresponded normally to operate.

#### < Supported Edition >

Support to all edition of Windows Vista.

Supported Edition
Home Basic edition
Home Premium edition
Business edition
Ultimate edition

#### < Supported Version >

Product	Supported Version
MPE720 Ver.6	version 6.06.0100
Communication Manager	version 3.75
Electronic Cam Data Tool	version 4.58
MP2100 driver	version 1.4.0.0
MP2200-02 USB driver	version 1.0.0.4

#### Please Note that Installing

- Please install MPE720 Ver.6 according to the following procedure when you install MPE720 version 6.05 (or before) on the computer which has already installed MPE720 version 6.06.

##### Procedure 1. Uninstalling MPE720 version 6.06

Double-click "Add or Remove Programs" from Windows Control Panel and uninstalling YASKAWA MPE720 Ver.6.

##### Procedure 2. Installing before MPE720 version 6.05

Please confirm MPE720 Version 6 was uninstalled from the computer, and install MPE720 Version 6(before version 6.05).

- The installation cannot be completed if MPE720 version 6.05 (or before) has been overwrite installed on the computer in which MPE720 version 6.06 is installed. Please install MPE720 Ver.6 again according to the following procedure.

##### Procedure 1. Uninstalling MPE720 Version 6

Double-click "Add or Remove Programs" from Windows Control Panel and uninstalling YASKAWA MPE720 Ver.6.

##### Procedure 2. Reinstalling before MPE720 version 6.05

Please confirm MPE720 Version 6 was uninstalled from the computer, and reinstall MPE720 Version 6 (before version 6.05).

## No.2 Support to LIO-06 Module

It supported to the LIO-06 module that was the new option module.

The LIO-06 module has digital input/output function, the analog input/output function, and the pulse counter function.

This module equips with the digital input (DI) 8 point and the digital output (DO) 8 point (Sync output) as digital input/output function.

This module equips with the analog input (AI) 1 channel and the analog output (AO) 1 channel as an analog input function.

This module equips with the pulse input (PI) 1 channel as a pulse counter function.

It is input/ output at each high-speed (High)/ low-speed (Low) scanning of the MP series Machine Controller.

### < LIO-06 Specification >

Function Module Name	Function Description	I/O Register Size
MIXIO	- Digital input: 8 point (Combine with Interruption 1 point DI_00.) (Combine with DI Latch 1 point DI_01.) - Digital output: 8 point (Combine with Coincident detection 1 point DI_07.) - Analog input: 1 channel - Analog output: 1 channel	Input register 2 word Output register 2 word
CNTR	Pulse input: 1 channel	Input register 32 word Output register 32 word

\*: MP2000 series Machine Controller needs system software version 2.63 or later, when this function will use.

### No.3 Support to 262IF-01 Module

It supported to the 262IF-01 module that was the new option module.

262IF-01 is a communication interface to connect the MP series Machine Controller with FL-net (OPCN-2).

262IF-01 can be communicated with MP series Machine Controller connected with FL-net (OPCN-2), other brands of controller, personal computer, and etc.

< FL-net Specification >

No.	Item	Specification	
1	Signal Transmission Speed	100Mbps/ 10Mbps	Ethernet compliance
2	Topology	bus	
3	Length of transmission line (Length which use repeater.)	- 100m (300m) Max:100BASE-TX - 100m (500m) Max: 10BASE-T	
4	Number of node	254 Max (use repeater)	
5	Media access control	<ul style="list-style-type: none"> <li>- Token path</li> <li>- Token re-create of each node</li> <li>- On in-ring/ out-ring of each node</li> </ul>	
6	Communications Function	<ul style="list-style-type: none"> <li>- Cyclic transmission (broadcast communications)</li> <li>- Message transmission <ul style="list-style-type: none"> <li>1:1 Opposed communications</li> <li>1:N Multicast communication</li> </ul> </li> </ul>	
7	Equipment Interface	<ul style="list-style-type: none"> <li>- Common memory <ul style="list-style-type: none"> <li>8k bit + 8k word (word: 16 bit)</li> </ul> </li> <li>- Message Service <ul style="list-style-type: none"> <li>Read byte block, write byte block, and others (All of the 13 types).</li> </ul> </li> </ul>	

< FL-net Performance >

No.	Item	Specification
1	Token Holding Time	Within 1.56 ms
2	Cyclic Transmission Cycle	Within 3.75 ms (Condition: 2node, amount of data 64 bit + 64 word)
3	Message Response Time	Within 500 ms (Condition: While No.2 cyclic transmission cycle.)

< FL-net System Performance >

No.	Item	Specification
1	Cyclic Transmission Cycle	Within 50ms (Condition: 32 node, amount of data 2k bit + 2k word)

\*: MP2000 series Machine Controller needs system software version 2.63 or later, when this function will use.

< Specification of MSG-SND/ MSG-RCV >

When the MSG-SND/ MSG-RCV function is used for FL-net in the ladder program, it becomes the following set.

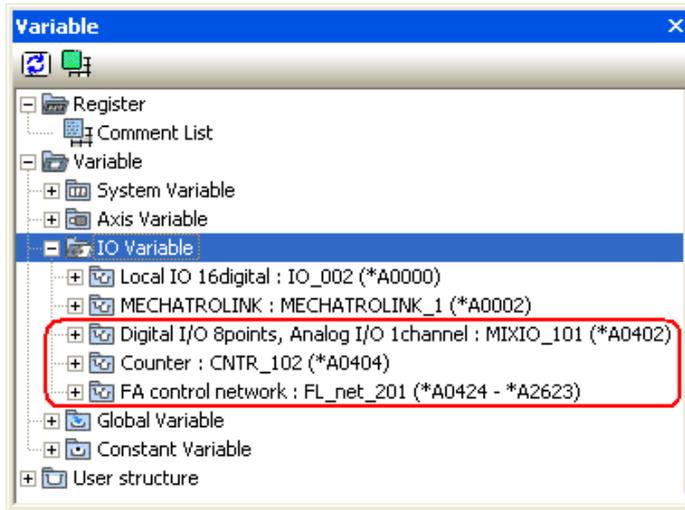
[ Parameter Specification ]

- Dev-Typ = 14 (FL-net)
- Enabled Function Code (PARAM04)

09H	Read holding register contents (extended)
0BH	Write to holding register (extended)

#### No.4 Supporting of IO Variable (LIO-06/ 262IF-01)

The LIO-06 module and 262IF-01 module were added to IO variable.



#### No.5 Export/ Import of Register Data

The function to export/ import the register data by CSV data format and the function to import the data (CDT data format) created by Electronic Cam Data Tool to the register were added.

Support List of Import/ Export by Data Format

Data Format	Import	Export
CSV data format	Enable	Enable
CDT data format (Electronic Cam Data Tool)	Enable	Disable

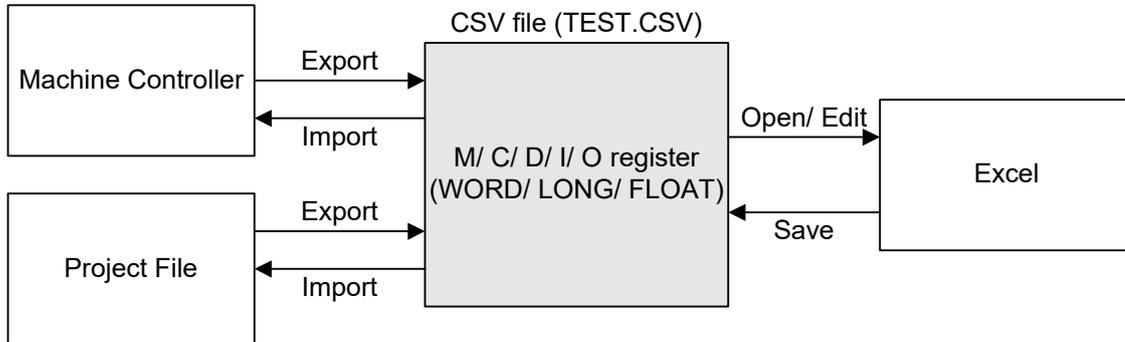
Target Register

Register Kind	Data Type
M Register	WORD
	LONG
	FLOAT
C Register	WORD
	LONG
	FLOAT
D Register	WORD
	LONG
	FLOAT
I Register	WORD
	LONG
	FLOAT
O Register	WORD
	LONG
	FLOAT

< Export/ Import of CSV Data Format >

The register data can be exported to the CSV file. And, the register data can be imported from CSV file. The CSV file can be edited by Microsoft Excel.

The result of export and importing is output to the Output Subwindow.



File Format of CSV file

	A	B	C
1	MW00000	DW00010	
2		H	
3	30	98	
4	2	3	
5	86	706	
6	987	8641	
7	19873	0	
⋮	⋮	⋮	

- <- Start register
- <- Program name (only local register)
- <- Register data

\*: Attention edits and import of CSV file

The data which is behind cannot be imported from illegal data when illegal register data with CSV file. Please input correct register data.

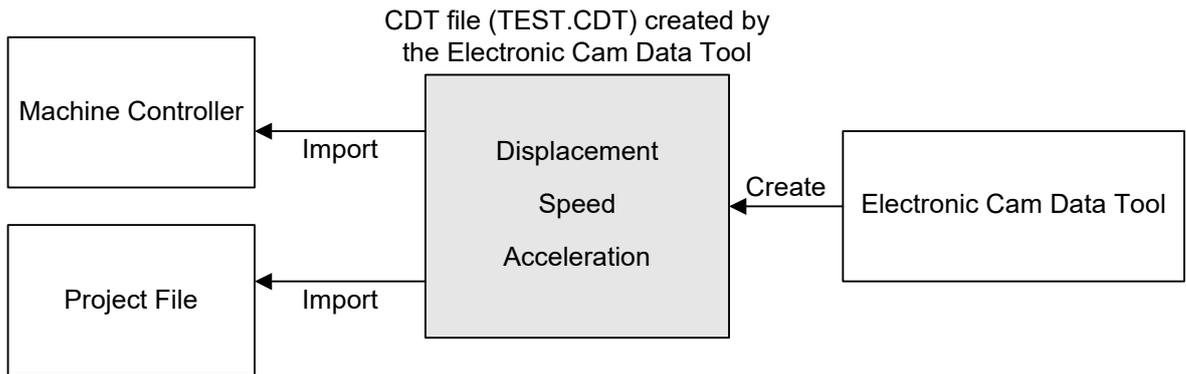
< Import of CDT Data Format >

The register of the cam data (CDT data format) created by Electronic Cam Data Tool can be imported. The importing data of each data type of the cam data can be selected.

The result of export and importing is output to the Output Subwindow.

Data Kind of Cam Data

Data Kind of Cam Data		
Displacement	Speed	Acceleration



## No.6 Add the Index Function to Motion Program

The index (i and j) can be used in the motion program as well as the ladder program.

< Target Program >

As for the index (i and j) can be used in the all motion programs and sequence programs.

Program Kind	Use
Motion main program	Use
Motion sub program	Use
Sequence main program	Use
Sequence sub program	Use

< Index Specification >

		Description
Index	i and j (Capital letter or small letter can be used.)	Ex) MW00000i MB010000j DW00001i
Target Register Kind	S/ I/ O/ M/ D/ C/ A	
Target Register Type	LONG/ FLOAT/ WORD/ BIT	
Description of Operation	Accesses MW00002 when MW00000i -----> i =2.	
	Accesses ML00002 when ML00000i -----> i =2.	
	Accesses MF00002 when MF00000i -----> i =2.	
	Accesses MB000002 when MB000000i -----> i =2.	
	The value set to specified register address in i is added, and accesses the register address when except BIT type. Accessing the BIT number to which the value set to the specified BIT number in i is added when BIT type..	

< Sample of index (i and j) >

```

PT#:-- CPU#:--
GROUP1
00001 00000
00002 00001
00003 00002
00004 00003
00005 00004
00006 00005
00007

i=0;
while ib00000==0;
    i=i+1;
    Mw00100i = i;
wend;
end;

```

\*: MP2000 series Machine Controller needs system software version 2.63 or later, when this function will use.

### No.7 Add the "default" Branch of SFORK Instruction

The "default" branch is added to the SFORK instruction. And, it jumps to this "default" branch if conditions are the unapproval of all when there is a "default" branch in the SFORK instruction.

< Target Program >

As for the "default" branch of the SFORK instruction can be used in the all motion programs and sequence programs.

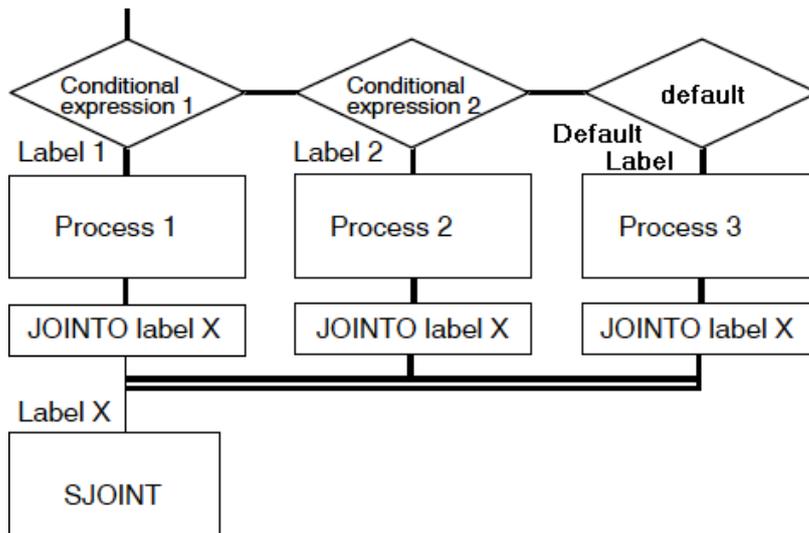
Program Kind	Use	"default" Branch
Motion main program	Use	Option
Motion sub program	Use	Option
Sequence main program	Use	Must
Sequence sub program	Use	Must

< Usage of "default" >

```

SFORKCondition1?Label1ConditionalExpression2?Label2default?DefaultLabel;
Label1: Process1;
    JOINTO LabelX;
Label2: Process2;
    JOINTO LabelX;
DefaultLabel: Process3;
    JOINTO LabelX;
LabelX:SJOINT;

```



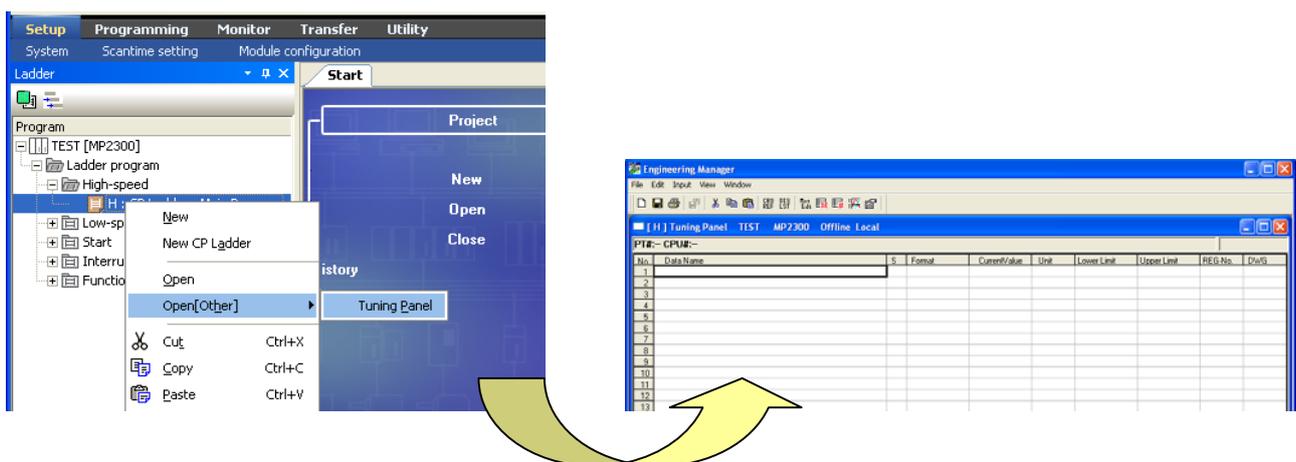
- \* There is the following conditions when "default" branch is used.
  - The "default" branch can be used at the end of the SFORK syntax.
  - As for the branch target in the SFORK syntax, 16 branches can be used including "default" branch.
  - A branch can be used in one SFORK syntax.
  - The "default" branch distinguishes neither the capital letter nor the small letter. Therefore, "Default", "DEFAULT" and "default" are judged as the same branch.

\*: MP2000 series Machine Controller needs system software version 2.63 or later, when this function will use.

## No.8 Easy Start of Tuning Panel

The tuning panel can be opened directly from the program.

The tuning panel can be opened by right-click the ladder program or the function program, and select "Open[Other]"-> "Tuning Panel" from the pop-up menu that will appear.



## No.9 History of the Start Window can be Deleted

The names of the five project files most recently created or edited or opened, and five communication port that have been used for connections using MPE720 Version 6 can be displayed in order beginning with the most recent in the history of the Start Window.

Deleting this history became possible. It can be deleted by two methods.

1. Deleting one history of the project file name or the communication port.
2. Deleting all the histories of the project file name or the communication port.

1. Deleting one history of the project file name or the communication port.

When select "Delete "xx" from History" from the pop-up menu, the selected history is deleted.



2. Deleting all the histories of the project file name or the communication port.

Right-click the project file name or the communication port, and select "Delete All History" from the pop-up menu. The message will appear asking whether or not to delete all histories. Click Yes to delete all histories of the project file name or communication port.



## No.10 Update the Version of MP2100 Driver

The latest version 1.4.0.0 of MP2100 driver was bundled with CD-ROM of MPE720 Version 6.

## No.11 Improvement of Project File

The following project files have been improved.

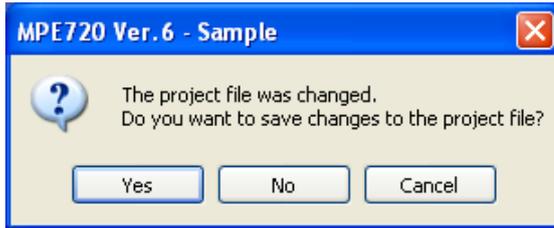
1. The message will appear when close the edited project file.
2. Display of read-only project file

1. The message will appear when close the edited project file.

The project file is not saved automatically when the project file will be closed.

The project file was saved when close the no editing project file in old version. Close the project file before saving the application data, when no editing project file will closed from this version.

The following message will appear asking whether or not to save the changes.



**Yes:** The changed content is saved, and the project file will be closed.

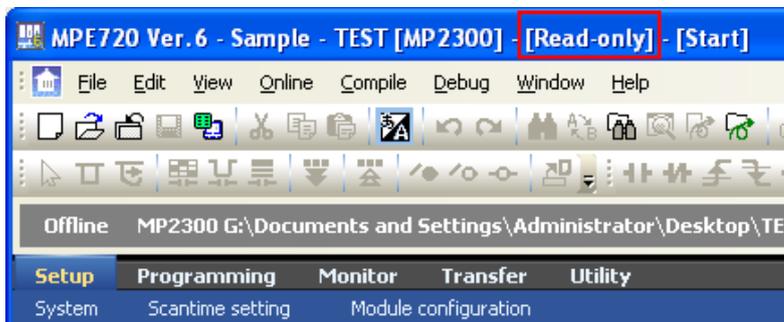
**No:** The project file will be closed without saving the changed content.

**Cancel:** Operation which closes the project file is canceled without saving the changed content.

## 2. Display of read-only project file

When the read-only project file is opened, "Read-only" is displayed in the title bar.

As a result, it came to understand the read-only project file at one view.



\*: In the project link connection, even if the open project file is read-only, "Read-only" is not displayed in the title bar. The edited data is written to only machine controller RAM. Because the project file is read-only, it is not written.

The edited data was not write to project file, because it is read-only project file.

## No.12 Improvement of Transfer Rate

Reducing transfer time.

The register and the data table were transferred by transfer maximum size of each communication medium.

And then, reducing transfer time.

	Machine Controller Dependent
Register	Firmware version 2.60 or later
Data Table	None

## No.13 The Combo List size for Select the Motion Command was Changed

The size of the combo list to select the motion command of the motion parameter is changed. And, the display area of the command list that can be displayed once is expanded.

#### **No.14 Improvement of Allocation of User Structure**

The error occurred when the structure of the structure name of 31 characters or more was specified when the variable of the structure was registered. The structure name can be registered 64 characters or less.

#### **No.15 Comparison by Off-line of Table Data**

If offline, the comparison between project files of the table definition and the table data were not supported. As a result, the comparison between project files of the table definition and the table data will be supported.

#### **No.16 Occurrence at Scan Time Over**

The data is batch-transferred to the machine controller with the scan time over has occurred. And the system monitor was displayed which failed to recognize scan time over.

The system monitor has been improved so that the system monitor should not malfunction.

#### **No.17 Improvement of Motion Program Saving Error**

The error "Syntax error" or "No end command" occurs when the motion program is saved, the motion program is corrected and saved. But, the motion program could not be saved after close and reopen the Engineering Manager.

The motion program can be saved without close and reopen the Engineering Manager.

#### **No.18 Improvement of Password Change while Opened Program**

When setting a password as a ladder program, opening a program and changing a password, the "Current password" input column displays a disable. That time the password was able to be changed without inputting.

#### **No.19 Improvement of Program Illegal Name when Transfer**

In the transfer of the motion program, the comment displayed in the Transfer Subwindow was correctly displayed when the transfer of the motion program which input the 24 double byte characters (maximum) to the comment was executed.

#### **No.20 Improvement of Open Acrobat Reader Version 8 from MPE720 Version 6**

The version for Vista of Adobe Reader is version 8.1.0.

Help file from Help dialog box of MPE720 Version 6 can be opened using Adobe Reader version 8.1.0.

#### **No.21 Memory Leak in Monitor of D Register**

It was modified that the memory leak did not occur even if D register was monitored by the Watch or the Register list.

Because the memory leak that the memory usage kept increasing had been generated when D register was observed by the Watch or the Register List.

## No.22 Improvement of Conversion from CP Ladder to New Ladder

It was modified that register address converted correctly.

Because the CP ladder that registers MFxxxxx and DFyyyyy (xxxxx, yyyy: address) as a symbol is converted into the new ladder. And then, the address after it had converted it was all 00000.

### < Example of Before Improvement >

(Before convert)

```
1 0014  |← MW01048  ÷ MF02020          × MF02022
1 0017  × MF02000          ÷ 10000  ÷ 00010          ⇒ MW01050
```

↓ Convert...

(After convert)



## No.23 Improvement which Choon "-" is Compiled

It was modified that the error did not occur even if choon "-" is saved as a code.

Because the error "No end command" occurred when choon "-" was saved as a code (not comment) by the motion program.

## No.24 Cut in at the Middle of the Circuit when Ladder Program is Printed

The circuit cannot be cut and it can be printed when "print the cross reference information" and "circuit auto-reduction print" are set in "Print" by printing the ladder program. And all the circuits can be printed including the next page.

Because the ladder program was printed which cut in at the middle of the circuit when "print the cross reference information" and "circuit auto-reduction print" are set in "Print" by printing the ladder program. And, the part which was able to be cut was not printed even on the next page.

## No.25 Improvement of reflect the setting value in C register by transfer of constant variable

The setting value of the constant variable can be reflected when the constant variable will be transferred.

Because the setting value of constant variable was not reflected in C register when the constant variable was transferred.

## No.26 Bug of Save Operation that Detailed Definition of CNTR-01 Module

### < Phenomenon >

An arbitrary set value with the spin button of the Fix Parameter Set screen is changed on the screen of a detailed definition of the CNTR-01 module. And, the saving confirmation message was not displayed though it moved to the I/O Data Set screen without saving.

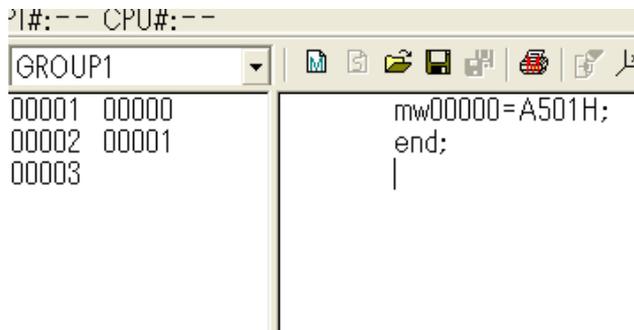
### < Measures >

It was modified that the confirmation message will be displayed when data was edited at the window was switched.

## No.27 Bug of Input of Hexadecimal Number in the Motion Program

### < Phenomenon >

The "Syntax error" occurred when the following program (example) was created in the motion main program.



```
PI#:-- CPU#:--
GROUP1
00001 00000
00002 00001
00003
mw00000=A501H;
end;
|
```

The register of ADDRESS type cannot be used in the motion main program. But, when "A501" was input by the hexadecimal number, this was judged the register of ADDRESS type.

### < Measures >

It was not to mistake for the register of ADDRESS type when hexadecimal.

## No.28 Bug of Block Number when ON/OFF is used in the Conditional Expression

### < Phenomenon >

ON/OFF is described in the conditional expression of the motion program. And then, the block of an invalid empty column was created.

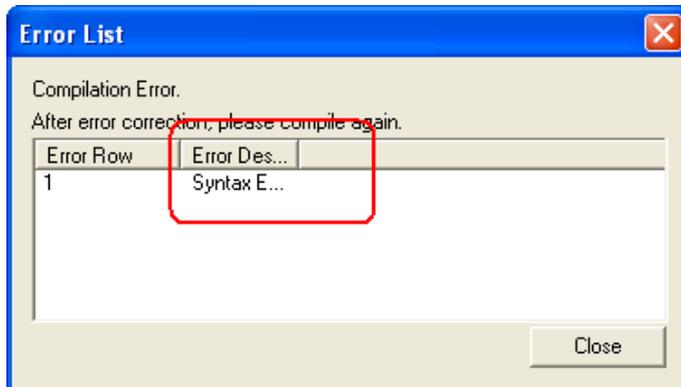
### < Measures >

The block number was not made in ON/OFF instruction unit.

## No.29 Width Enhancing of Grid of Motion Error List

### < Phenomenon >

The content of the error displayed in the error list dialog box of the motion program has not been understood easily at one view.



### < Measures >

Width in the grid that displayed the error of the error list dialog box of the motion program was expanded. And, it came to be able to confirm the content of the error at one view.

## No.30 Trouble of Print

### < Phenomenon >

The range of the automatic reception register of the serial definition was not correctly printed. And, the unnecessary DHCP setting of 218IFA/ IFB was displayed in the print result.

### < Measures >

The range of the automatic reception register of the serial definition was printed correctly.

## No.31 Freezing by Printing of the Ladder Program of 25 Parallels of Coil

### < Phenomenon >

It was printed that the ladder program which used N.O.contact (or N.C.contact) and 25 parallels of Coil were printed only up to 23 parallels.

It is frozen when set the same register as a coil, and only the register below changed and printed.

### < Measures >

The 25 parallels ladder program (with N.O.contact/ N.C.contact and Coil) can be printed and never freezing.

## No.32 The Current Value of All Ladders was Displayed without Shifting

### < Phenomenon >

The display of the current value of the instruction which was below MSEE instruction was shifted in ladder program.

### < Measures >

The current value of the ladder program in ladder program which was below MSEE instruction was displayed correctly.