

## Upgrade Information of MPE720 Version 6.04

NO.	Item
1	Motion command addition ◆ Absolute encoder reset
2	Motion parameter addition ◆ Communication reset (Owxx00:Bit14) ◆ Gain switch2 (Owxx01:Bit5) ◆ Latch detection demand completion (lwxx00 : Bit4)
3	Correspondence to high-resolution of SVR
4	Integrated CP Ladder converter
5	User structure of variables
6	Import and export of variables
7	Print manager is added to "utility" menu structure
8	Improvement of print function
9	Automatic logical port setting to Communication process
10	Motion Command Assist
11	Motion Command Assist (Servo Enable, Disable)
12	Motion Command Assist (Alarm Clear)
13	Setting parameter addition
14	The monitor analysis screen is added
15	System window addition
16	Test run
17	Axis monitor
18	Alarm monitor
19	Compile option setting from environment setting
20	Troubleshooting function

## 2. Brief Description of Updates

### No.1 Motion command additions

The following motion commands were added.

#### ◆ Absolute encoder reset (ABS\_RST)

- 1) "ABS\_RST" command initializes the multiple rotation data of the absolute encoder (set 0).
- 2) "ABS-RST" command clears "encoder backup alarm" and "encoder checksum alarm" when they occur.

### No.2 Motion parameter addition

The following motion parameters were added.

#### ◆ Communication reset (Owxx00:Bit14)

This command resets MECHATROLINK communication and makes the parameters, that need cycle power, effective. Also it clears C-phase position data memorized in the interpolator for SONY linear scale.

#### ◆ Gain switch2 (Owxx01:Bit5)

The "gain switch 2 (Owxx01.bit5)" is added in setting parameters and combine with existing gain change parameter (Owxx01.bit4), user can choose 4 different gains.

#### ◆ Latch detection demand completion (lwxx00 : Bit4)

"Latch Armed" status was added to the monitor parameters.

<Controller version>

Supported Version

- Built-in SVB function: MP2000 system software Ver2.50<sup>3</sup> (MP2100/MP2100M/MP2300) or later
- SVB option module: SVB-01 system software Ver1.20 or later

### No.3 SVR (virtual axis) now supports linear and higher resolution applications

MP2000 SVR support for “Linear type”, and resolution in “microns meter” is available in the unit selection on MP2000 series.

#### <Controller version>

Supported Version: MP2000 system software Ver2.50<sup>1</sup> or later

### No.4 CP Ladder converter is now integrated into Motion Works

This is a function that converts programs made with CP ladder into the Ver.6 style ladder program.

This function is available only in “off-line.”

### No.5 User structures - variable

A User specified structure can be created, and variables will be allocated it to.

The variables in the user structure are called “Structure members”. Up to 100 members can be registered to a user structure.

The User structure can be allocated to global or local variables.

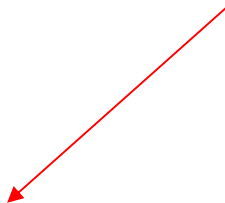
### No.6 Import and export of variable

Import and export are available for "Global variable and comment", "Local variable and comment", "Constant variable", "User structure", and "Ver5 CMT file"

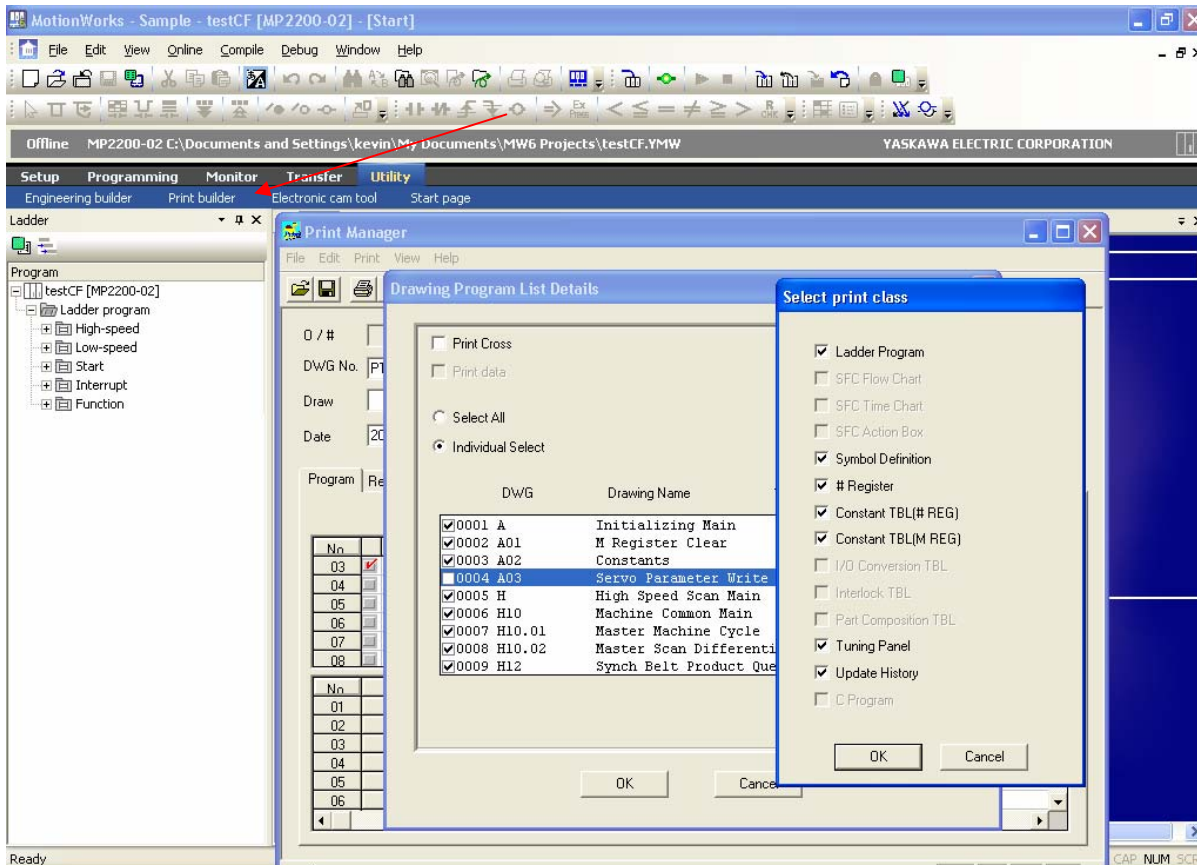
The exported file can be edited in Excel(CSV format) and/or imported to the other project.

Type	Type of file	Editing
The global variable and comment	CSV file	Possible by Microsoft Excel
The local variable and comment	CSV file	Possible by Microsoft Excel
The constant variable	CTF file	Not Possible
The user structure	YST file	Not Possible
Ver5 CMT file	CMT file	Not Possible

### No.7 Print manager is added to the “Utility” menu structure



<sup>1</sup> A method for determining your controller's firmware version is shown in appendix A for reference



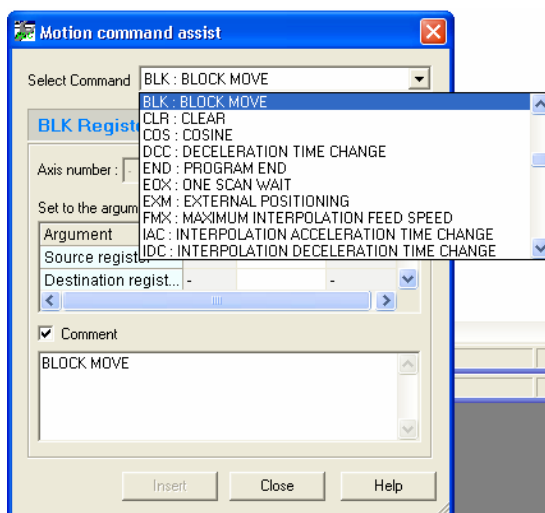
**No.8** And configuring the print options is selectable as shown above

**NO.9** Automatic logical port setting for any RS232, Ethernet, or USB communication process

The physical communication port is set to the communication process and logical ports are created automatically.

**NO.10** Motion Command Assist

A Motion command assist function is added. Using the Motion Command Dialog Box, the motion instructions will be easier to input.



**NO.11** Likewise, a Motion Command Assist (Servo Enable, Disable)

Motion command assist function for Servo Enable and Servo Disable is added.

**NO.12** Similarly a Motion Command Assist (Alarm Clear)

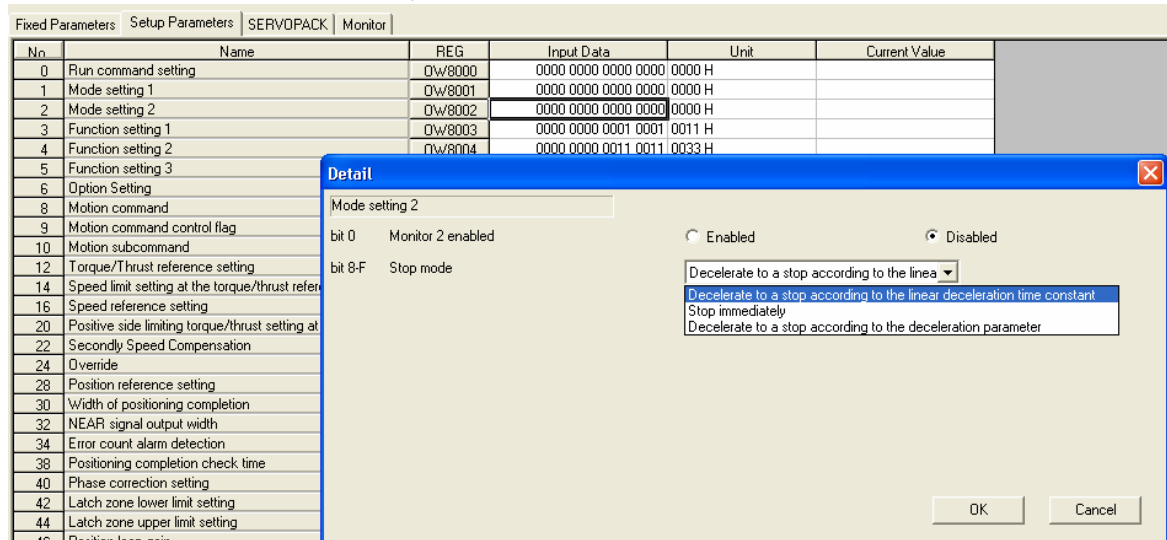
Motion command assist function for Alarm Clear is added.

**NO.13** Setting parameter addition

The new parameter “Stop mode” is added to the setting parameter of SVB.

Stop mode has following selections.

- Decelerate to a stop according to the linear deceleration time constant
- Stop immediately
- Decelerate to a stop according to the deceleration parameter

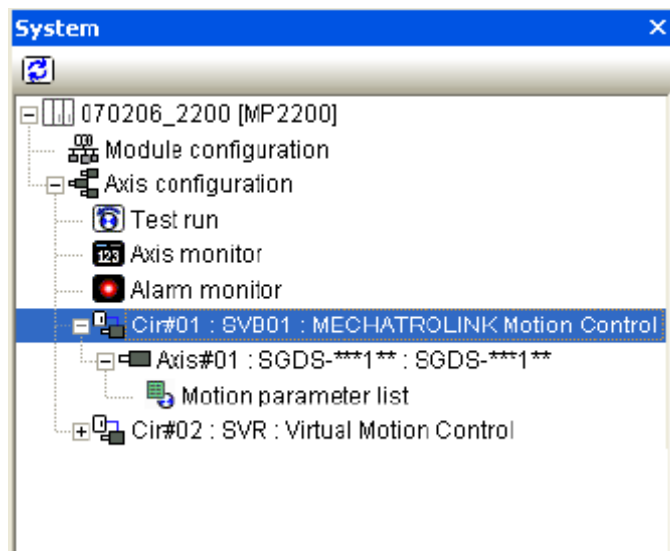


#### NO.14 The motion alarm analysis screen is added

The “motion alarm analysis screen” is added. It displays the alarm information which is occurred in the motion program.

#### NO.15 System window addition

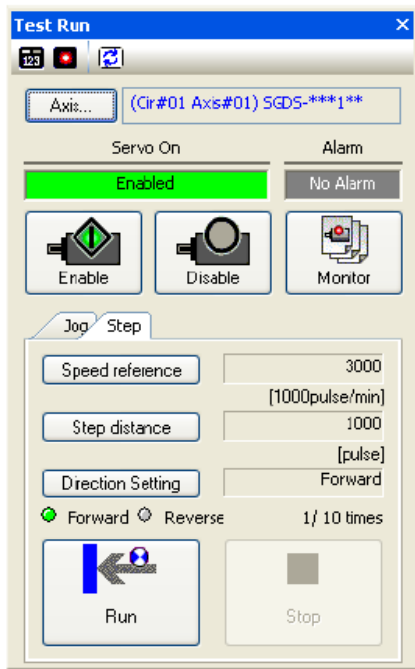
“Module configuration”, “Test run”, “Axis monitor” Alarm monitor and “Motion parameter screen” can be displayed from System window.



#### NO.16 Test run

The “Test run” function is added. The Test run function is for checking if the machine controller can operate an axis and has three functions.

- Servo Enable, Servo Disable
- JOG
- STEP



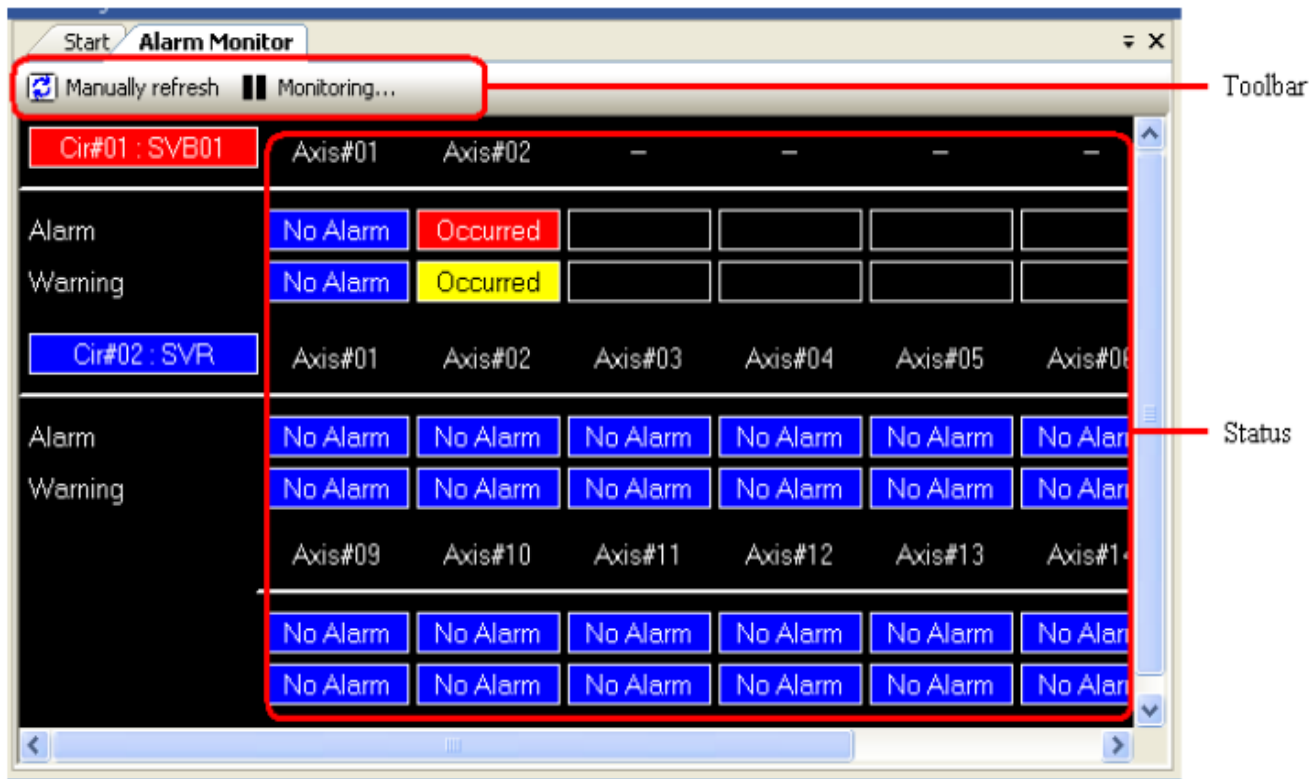
### NO.17 Axis monitor

The “Axis monitor” function is added. The Axis monitor is a function to monitor the status of each axis in the Axis Monitor window. The status (Ready, Enable, Alarm, Warning, Profile Complete, In Position, Motion Command) and other monitoring can be monitored.



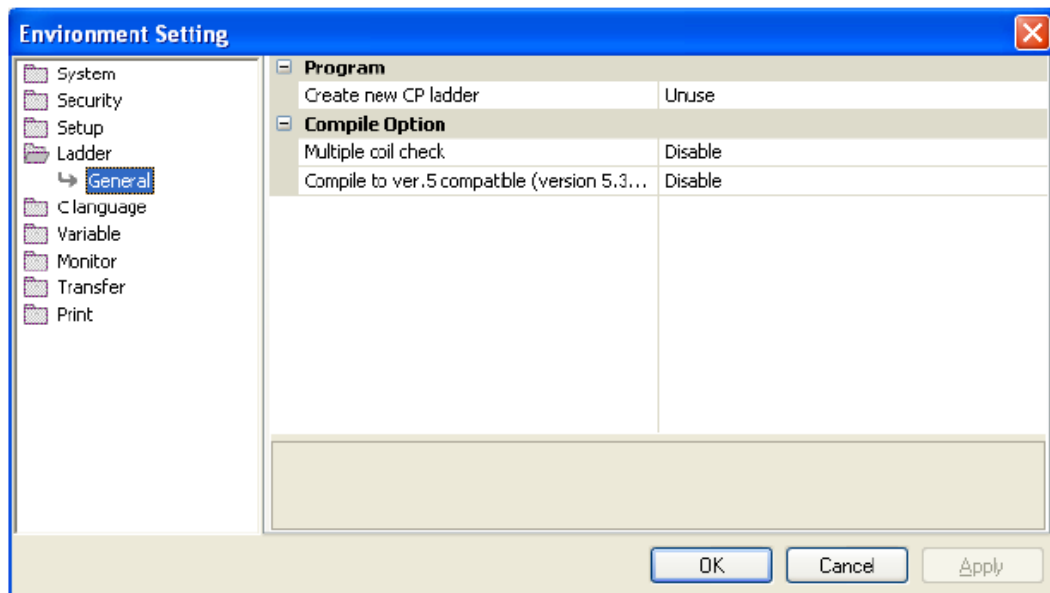
### NO.18 Alarm monitor

The “Alarm monitor” function is added. The Alarm monitor is a function to monitor alarm information on all axes on the screen.



### NO.19 Compile option setting from environment setting

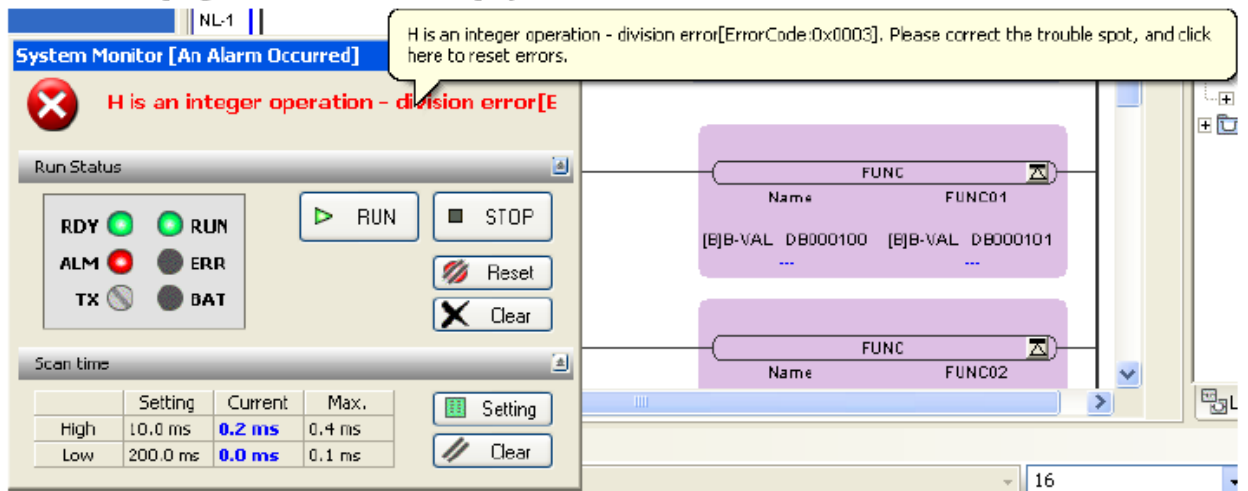
The ladder program "Compile Options" can be set without displaying the ladder program in this version or later. Select "Ladder" – "General" from the tree in the Environment Setting Dialog Box and the Compile Option settings are displayed.



### NO.20 Troubleshooting function

Troubleshooting is a function to analyze problems such as the error, battery alarm, scan time etc. When an error occurs, the message referencing the error is displayed in the System Monitor Sub-window.

The name of the program with the error is displayed.



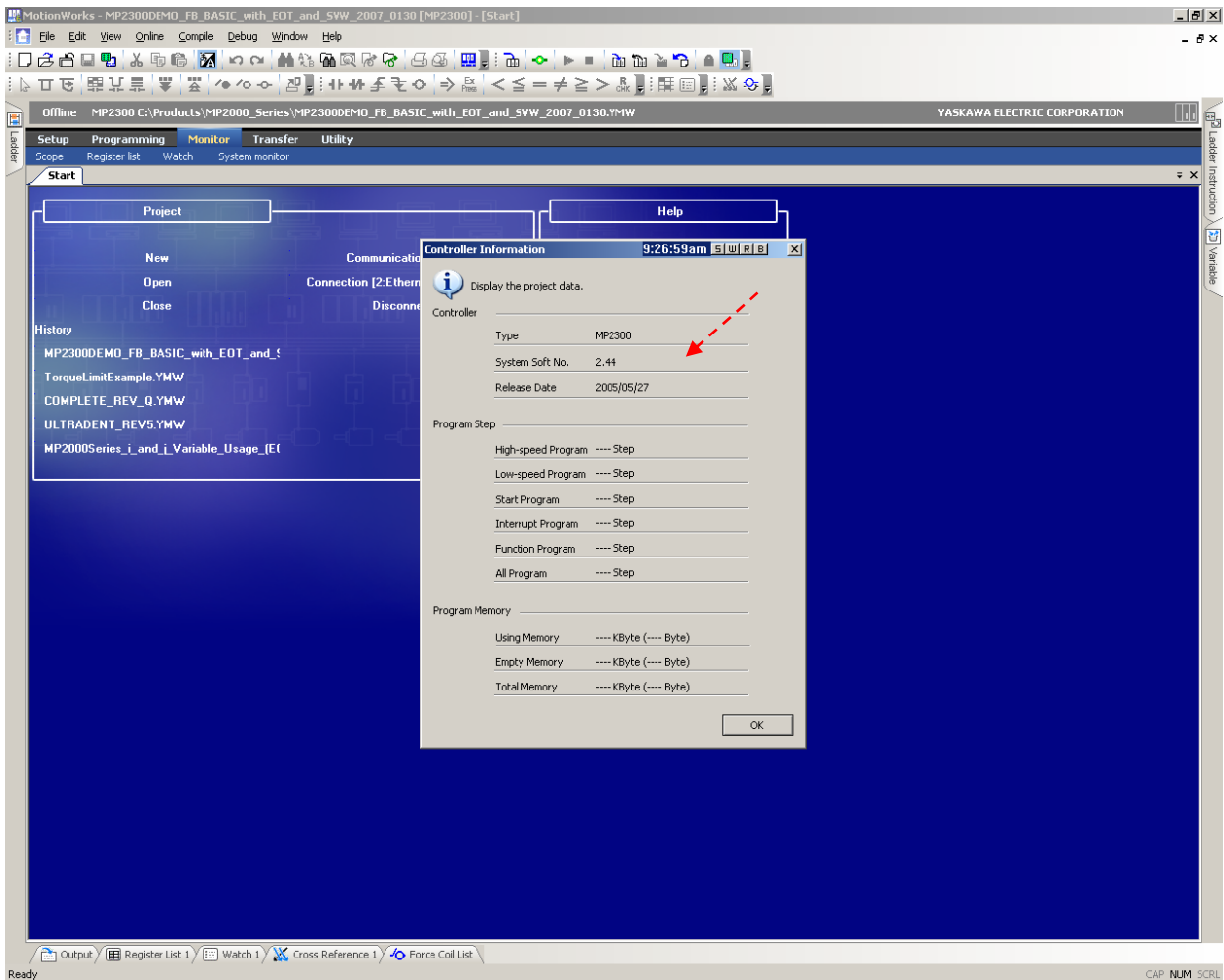
- ◆ A pop-up is displayed when the mouse is held over the status. Error information can be confirmed at a glance.

It's possible to analyze the error in the ladder program, motion program and sequence program. Also, an I/O module error can be detected.

## Appendix A

**How to find current firmware version of your MP2000 controller when connected via MotionWorks?**





**How to find current firmware version of your Motion Module (SVB) when connected via MotionWorks.**



Name	Register Number	Remarks
CPU Information	SW00800	Module ID
	SW00801	CPU Hardware version (BCD)
	SW00802	CPU Software version (BCD)
	SW00803	Number of subslots
	SW00804	CPU Function Module ID
	SW00805	CPU Function Module Status
	SW00806	SVR Function Module ID
	SW00807	SVR Function Module Status
	SW00808 to SW00815	Reserved by the system.
Rack 1, Slot 1 Information	SW00816	Module ID
	SW00817	Hardware version (BCD)
	SW00818	Software version (BCD)
	SW00819	Number of subslots
	SW00820	Subslot 1 Function Module ID
	SW00821	Subslot 1 Function Module Status
	SW00822	Subslot 2 Function Module ID
	SW00823	Subslot 2 Function Module Status
Rack 1, Slot 2 Information	SW00824 to SW00831	Same as above.
Rack 1, Slot 3 Information	SW00832 to SW00839	Same as above.
Rack 1, Slot 4 Information	SW00840 to SW00847	Same as above.
Rack 1, Slot 5 Information	SW00848 to SW00855	Same as above.
Rack 1, Slot 6 Information	SW00856 to SW00863	Same as above.
Rack 1, Slot 7 Information	SW00864 to SW00871	Same as above.
Rack 1, Slot 8 Information	SW00872 to SW00879	Same as above.