

## Subject: MP720 Controller Software: Description, Policy and Application Guidelines

### Purpose:

The purpose of this document is to briefly explain the application development software supported by Yaskawa especially for current generation of MP2000 Machine Controller products, the range and breadth of product coverage, license and upgrade policy, legacy applications support, pc compatibility, feature comparisons, etc. Reference the MP2000 Controller Product catalog publication YEA-KAA-C807-15 for more complete descriptions, specifications, ordering information, etc. especially for latest v6 software and the MPL utility.

**Application Development Software:** (MP2000 Controller Series) is available in two versions:

- MotionWorks MPE720 v6      part# CPMC-MPE770      ver 6.04
- MotionWorks MPE720      part# MPE720      ver 5.38

An Application program upload/download utility:

- MPL<sup>1</sup>: an excellent utility for the end user and loading application programs

**Description of MPE720 v6** (recommended application development software for current MP2000 generation of controller products)

The MPE720 v6 is based upon the latest standards in graphical user interfaces (GUI) and provides a single Integrated Development Environment for programming sequence, motion, drive, and process control. Routines can be written in any combination of three IEC61131 style languages (ladder, function block, and structured text). It is a programming, monitoring as well as debugging tool. The user benefits with quick, transparent access to all local and distributed functions as well as data throughout a machine controller system regardless of motion, drive or I/O technology. Tabs allow easy access to different parts of the program. New features in MPE720 v6 include tag based addressing (vs. register addressing), drag and drop objects, multilevel password protection, customizable watch windows, standard windows file management tools, one click connection with the controller for program transfer, easy user access to all elements of the application from anywhere within a project, and more. MotionWorks v6 provides an integrated solution with MP2000 controllers with all-digital setup, operation, and fully automatic commissioning of all local and network nodes. Using standardized tools and interfaces, you can create solutions for all engineering tasks in a single, centralized software environment – it's Yaskawa's most integrated, efficient and intuitive suite of MotionWorks software tools to-date. Reference the MP2000 Controller Product catalog publication YEA-KAA-C807-15\_ (currently 15A) for a v6 description and necessary computing resource requirements.

### Product Coverage

Version 6 is a major upgrade and compatible w/ MP2000 series controllers only. By limiting the v6 functionality to the MP2000 Series, the processing overhead has been lightened and the processing speed has been improved greatly.

Version 5.38 can be used with any Yaskawa MP2000, MP900<sup>2</sup>, and CP series controllers. OEM applications and user facilities desirous of either 1) a single software platform to support all Yaskawa single and multi-axis controllers or 2) support for legacy MP900 and CP controller products as well as contemporary machine controllers will value the benefits of the existing ver 5.38. **Yaskawa is continuing support for version 5.38** and future upgrades are planned so as to protect existing customer investments in training and machine installations.

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<sup>1</sup> MP Loader utility software is a great compliment to MPE720 v6 by providing User's a backup program/data transfer tool for application programs to either the controllers or flash memory modules. Functions provided by MPE720 such as system configuration definition, programming and monitoring are not provided by the loader so that original application settings are preserved. For convenience, machine builders can purchase MP loader in economical multiple licensed copies and include with the machine for faster upgrades.

<sup>2</sup> including MP940 Single axis controller.

### Yaskawa's software policy

- 1 license/1 pc/user. Individual holders of the software are strongly encouraged to register<sup>3</sup> for future upgrades.
- Individual and reduced cost multiple license packages are available for both v6 and MPL loader. Therefore licensed software can be more easily provided for all users (programmers, service engineers, etc.) within a single company . Multiple licenses for the MPL upload/download tool are not limited to a single company...ideal for OEMs supplying support tools shipping with the machine and excellent for a user managing multiple machine programs and utilizing OEM/developer's updates made available via internet.
- Reference Appendix A for a list of frequently asked questions about Yaskawa's software policy

### Yaskawa's upgrade policy

Any minor upgrades are free and any major upgrade must be purchased (example: a minor upgrade is defined as upgrading from 5.x to 5.y). Version 6 is a major upgrade requiring purchase of a license and is also available in more cost effective multiple license sets of 5, 10 and 20 copies.

### PC Compatibility

The MPE720 version 6 can coexist on engineering workstations with the MPE720 version 5. The MPE720 version 5 is not overwritten even when the MPE720 version 6 is installed. After installation, version 5 and version 6 can both be used. Both versions are compatible w/ Windows XP service pack 2. Compatibility w/ Vista is planned for 4<sup>th</sup> Qtr 2007 or earlier and will be announced generally and to all registered users. The recommended computing resources necessary for either version is defined in the MP catalogs. Example: recommended pc requirements for v6 is defined in the specifications section for MP2000 products catalog.

### Motionworks v5 applications files for use with v6 and MP2000 controllers: Two cases:

- 1) Application files for MP2000 controllers developed w/ v5 software: How can these files be used with v6 for same MP2000 controllers? Save existing MPE720 version 5 application files (PLC folders) as a new .mal file (compressed file). MPE720 version 6 can open the .mal files and use them directly (with the same set of MP2000 ...physical and logical hardware configuration). Application testing is NOT required.
- 2) Application files for MP900 controllers developed w/ v5 software:
  - a. How can these files be used with v6 for next machine/system using newer MP2000 controllers? Save existing MPE720 version 5 application files (PLC folders) as a new .mal file (compressed file). MPE720 version 6 can open the .mal files and an error list will automatically be generated. Generally, however, depending upon the original application size and complexity, error lists and required application checking may be as equally time consuming as initiating a new project and reprogramming. Consult Yaskawa's application engineering assistance for more detail.
  - b. How can these files be used with v6 for same MP900 controllers? **NOT possible**. As mentioned above: V6 software is NOT compatible with MP900 controllers.

### Motionworks v6 applications files for use with v5 Software (future...consult factory)

**Motionworks applications developed prior to v5:** Not currently supported in v 6.

### General Functional differences (v5 vs v6)

A comparison table of software functionality and Yaskawa controller compatibility is listed in appendix B below for quick reference.

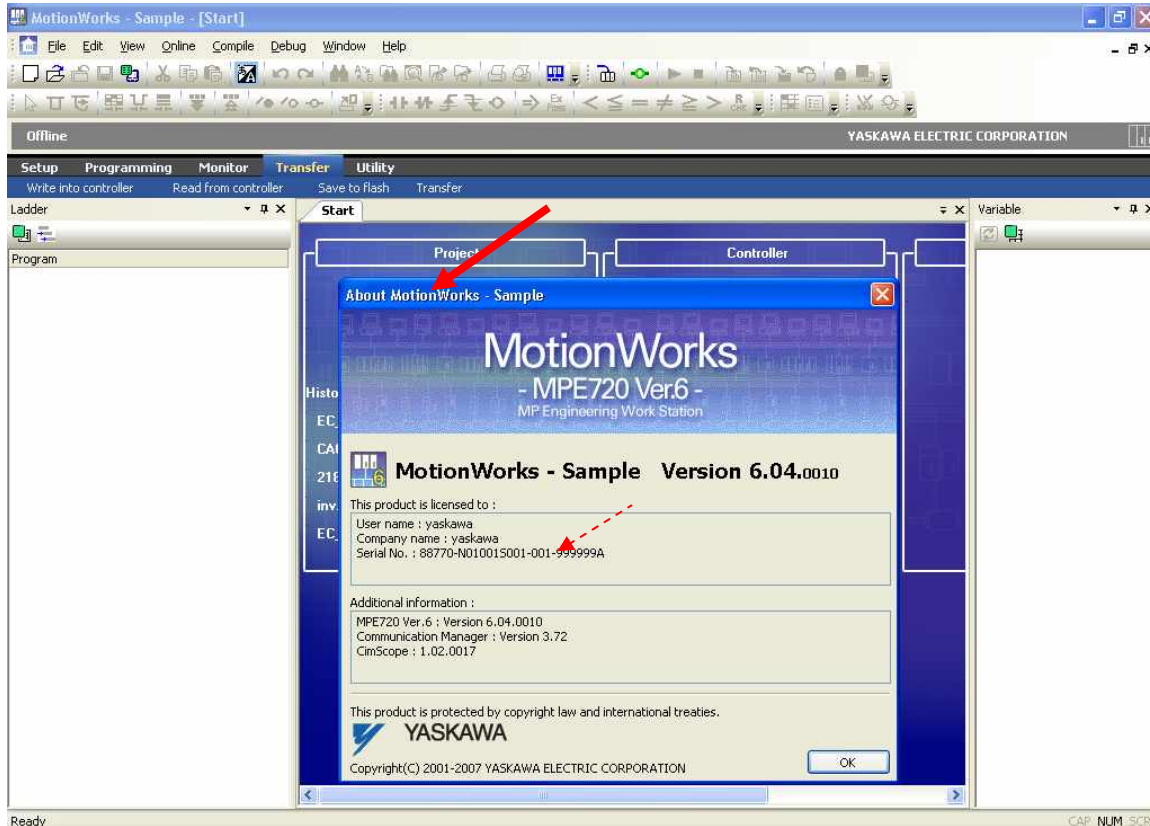
Both software development tools share certain similar characteristics by providing machine controller and network configuration, system commissioning tools and troubleshooting aides as well as program development for machine sequence, motion, and process. Both include options for ladder logic, structured text, and function blocks.

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<sup>3</sup> Guidelines for registration are included with the software for convenience.

## Appendix A Frequently Asked Questions Yaskawa's Software Policy

- How do I register my product?  
Complete your registration by accessing Yaskawa's registration web site with the link provided in the software product CD or log on to <http://registerproduct.yaskawa.com/> with the serial number from your software.
- I do not have the original Software CD. Is there any other way to get the serial number?



- I can't remember if I registered my software or not? How can I check?  
Please call your Yaskawa Inside Sales Representative with your Software's Serial Number. They will check the registration database to see if you are registered or not.
- Can I change the name on an existing registration and what is the procedure?  
Registration changes can be made if the new holder is a member of the same company or division of the original company \*. Email requests for name changes should be sent to [registration@yaskawa.com](mailto:registration@yaskawa.com). Registration changes cannot be made without the serial number, new holder's name, e-mail address, and company address included in your correspondence. Yaskawa will acknowledge completion of your request in approximately 10 days via email as the procedure does include checks with the original registration holder.  
**\* It is not necessary for the company to be located at the same address, but must be within the same region (i.e. North America, South America, etc.)**

## Appendix B

Comparison between Functions of MPE720 version 6 and version 5

○: Supported, ×: Not supported, △: Substituted by other function

Item		Function	Version 6	Version 5
Installer	Installer	• Install	○	○
		• Uninstall	○	○
Communication	Communication settings	• Communication process	○	○
Project file	File	• Project file (1 file)	○	×
	Management	• Explorer (standard Windows)	○	×
		• File Manager (standard Windows)	○	×
	Security	• Management of project password	○	×
		• Log-on with user name	○	○
		• Online security	○	○
	• Password for a program	○	×	
Setup	System setting	• System setting	○	○
		• Scan time setting	○	○
		• Setting of module configuration	○	○
		• Detailed setting of module configuration	○	○
		• Setting of application information	○	○
	Motion setting	• Motion parameter (Fixed, setting, monitor and SERVOPACK)	○	○
Programming	Ladder programming	• Conventional ladder editor	○	○
		• Cross reference	○	○
		• Double coil check	○	×
	Motion programming	• Motion editor	○	○
		• Group definition	○	○
	User Defined Variables (w/ extensions for description and further clarity)	• System variables (S registers)	○	×
		• Axis variables (motion registers)	○	×
		• I/O variables (I/O registers)	○	×
		• Global variables (M registers)	○	×
		• Constant variables (C registers)	○	×
		• Internal variables (D registers)	○	×
		• Function external variables (A registers)	○	×
Symbol manager	• Symbol manager	△*2	○	
Comment	• Comment list (I/O/M/C/D/#/X/Y/Z/A)	○	○	
Programmi	Data Table programming	• Table definition	○	○
		• Constant table	○	○
		• # register constant table	○	○

Item		Function	Version 6	Version 5
Maintenance and adjustment		• M register constant table	○	○
		• Tuning panel	○	○
	Data trace	Trace manager	○	○
		• Graph display	○	○
		• List display	○	○
		• X-Y display	○	○
		Old data trace	○	○
	Register monitoring	• Register list	○	○
		• Watch	○	○
	Troubleshooting	• Machine Controller status monitoring	○	×
• Analysis of user application error		○	×	
Transfer	Transfer	• Write to Machine Controller	○	○
		• Read from Machine Controller	○	○
		• Comparison	○	○
		• Write to flash memory	○	○
		• Write to MP2200-02 CF card	○ (Version 6.02 or higher)	○
Printing	Printing	• Printing manager	○	○
Others	Others	• Cam Tool	○	○
Applicable Machine Controller		• MP900 and CP Series Controllers	×	○
		• MP2000	○	○

\*1 Substituted by Windows Explorer

\*2 Substituted with variables

\*3 Not supported because these functions are not used for version 6.