MOTOMAN Cockpit Platform
INSTRUCTIONS

Upon receipt of the product and prior to initial operation, read these instructions thoroughly, and retain for future reference.

Please have the following information available when contacting Yaskawa Customer Support:

- System
- Primary Application
- Software Version (Located on Programming Pendant by selecting: (Main Menu) - (System Info) - (Version))
- Robot Serial Number (Located on robot data plate)
- Robot Sales Order Number (Located on controller data plate)

Part Number: 179947-1CD
Revision: 0
DANGER

• This manual describes details on the functions of MOTOMAN Cockpit Platform including settings for the controller to use MOTOMAN Cockpit Platform. Read this manual carefully and be sure to understand its contents before handling the controller. Any matter, including operation, usage, measures, and an item to use, not described in this manual must be regarded as “prohibited” or “improper”.

• General information related to safety are described in “Chapter 1. Safety” of the YRC1000/DX200/FS100/DX100/NX100 INSTRUCTIONS. To ensure correct and safe operation, carefully read “Chapter 1. Safety” of the YRC1000/DX200/FS100/DX100/NX100 INSTRUCTIONS.

CAUTION

• In some drawings in this manual, protective covers or shields are removed to show details. Make sure that all the covers or shields are installed in place before operating this product.

• YASKAWA is not responsible for incidents arising from unauthorized modification of its products. Unauthorized modification voids the product warranty.

• Software described in this manual is supplied against licensee only, with permission to use or copy under the conditions stated in the license. No part of this manual may be copied or reproduced in any form without written consent of YASKAWA.

NOTICE

• The drawings and photos in this manual are representative examples and differences may exist between them and the delivered product.

• YASKAWA may modify this model without notice when necessary due to product improvements, modifications, or changes in specifications. If such modification is made, the manual number will also be revised.

• If your copy of the manual is damaged or lost, contact a YASKAWA representative to order a new copy. The representatives are listed on the back cover. Be sure to tell the representative the manual number listed on the front cover.
Notes for Safe Operation

Read this manual carefully before installation, operation, maintenance, or inspection of the YRC1000/DX200/FS100/DX100/NX100.

In this manual, the Notes for Safe Operation are classified as “DANGER”, “WARNING”, “CAUTION”, or “NOTICE”.

DANGER
Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury. Safety Signs identified by the signal word DANGER should be used sparingly and only for those situations presenting the most serious hazards.

WARNING
Indicates a potentially hazardous situation which, if not avoided, will result in death or serious injury. Hazards identified by the signal word WARNING present a lesser degree of risk of injury or death than those identified by the signal word DANGER.

CAUTION
Indicates a hazardous situation, which if not avoided, could result in minor or moderate injury. It may also be used without the safety alert symbol as an alternative to “NOTICE”.

NOTICE
NOTICE is the preferred signal word to address practices not related to personal injury. The safety alert symbol should not be used with this signal word. As an alternative to “NOTICE”, the word “CAUTION” without the safety alert symbol may be used to indicate a message not related to personal injury.

Even items described as “CAUTION” may result in a serious accident in some situations. At any rate, be sure to follow these important items.

NOTE
To ensure safe and efficient operation at all times, be sure to follow all instructions, even if not designated as “DANGER”, “WARNING” and “CAUTION”.
Descriptions of the programming pendant keys, buttons, and displays are shown as follows:

<table>
<thead>
<tr>
<th>Equipment</th>
<th>Manual Designation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Programming Pendant</td>
<td>Character Keys /Symbol Keys&lt;br&gt;The keys which have characters or its symbols printed on them are denoted with [.]. ex. [ENTER]</td>
</tr>
<tr>
<td>Axis Keys /Numeric Keys</td>
<td>[Axis Key] and [Numeric Key] are generic names for the keys for axis operation and number input.</td>
</tr>
<tr>
<td>Keys pressed simultaneously</td>
<td>When two keys are to be pressed simultaneously, the keys are shown with a “+” sign between them, ex. [SHIFT]+[COORD]</td>
</tr>
<tr>
<td>Displays</td>
<td>The menu displayed in the programming pendant is denoted with { }. ex. {JOB}</td>
</tr>
</tbody>
</table>

**Description of the Operation Procedure**

In the explanation of the operation procedure, the expression “Select • • •” means that the cursor is moved to the object item and [SELECT] is pressed, or that the item is directly selected by touching the screen.

**Registered Trademark**

In this manual, names of companies, corporations, or products are trademarks, registered trademarks, or brand names for each company or corporation. The indications of (R) and ™ are omitted.
1 Introduction ..................................................................................................................................... 1-1
  1.1 Overview of MOTOMAN Cockpit Platform ................................................................. 1-1
  1.2 System Requirements to Use MOTOMAN Cockpit Platform .................................... 1-2
  1.3 Supported Web Browser ............................................................................................. 1-2

2 Installation .................................................................................................................................... 2-1
  2.1 Connecting the Controller and the Personal Computer for MCP ............................ 2-1
    2.1.1 Ethernet Cable Connections ............................................................................. 2-1
    2.1.2 Windows Network Settings ............................................................................. 2-7
  2.2 Installation of MCP Software ....................................................................................... 2-10
  2.3 Settings for the Controller ............................................................................................ 2-11
    2.3.1 LAN Interface Setting ..................................................................................... 2-11
      2.3.1.1 Setting procedure .................................................................................. 2-11
      2.3.1.2 LAN Interface Setting Item .................................................................... 2-15
    2.3.2 Settings for MOTOMAN Cockpit ..................................................................... 2-20
    2.3.3 Settings for Backup ........................................................................................... 2-25

3 Starting the MOTOMAN Cockpit Platform ............................................................................. 3-1
  3.1 Starting the MOTOMAN Cockpit Server ....................................................................... 3-1
    3.1.1 Starting the MOTOMAN Cockpit Server ........................................................... 3-1
    3.1.2 Setting the Controller ........................................................................................ 3-1
    3.1.3 Setting Up the MOTOMAN Cockpit Server ....................................................... 3-2
  3.2 Starting the MOTOMAN Cockpit Client ........................................................................... 3-3
  3.3 Login ............................................................................................................................... 3-3
  3.4 Logout .............................................................................................................................. 3-4

4 Setting Up the MOTOMAN Cockpit Platform ........................................................................... 4-1
  4.1 Initial Settings .................................................................................................................. 4-2
    4.1.1 “Factory” Settings ............................................................................................. 4-3
    4.1.2 “Line” Settings .................................................................................................. 4-4
    4.1.3 “Cell” Settings ................................................................................................ 4-6
    4.1.4 “Controller” Settings ....................................................................................... 4-7
    4.1.5 “User” Settings ................................................................................................ 4-9
    4.1.6 “Email” Settings .............................................................................................. 4-11
    4.1.7 “Alarm” Settings ............................................................................................. 4-13
    4.1.8 “Backup” Settings ........................................................................................... 4-14
Contents

4.1.9 “Config” Settings ........................................................................................................... 4-16
4.1.10 “Add On” Settings ..................................................................................................... 4-17
4.2 Display Settings .................................................................................................................. 4-19
  4.2.1 “Basic Information” Settings ...................................................................................... 4-19
  4.2.2 “Status” Settings ......................................................................................................... 4-20
  4.2.3 “Alarm & Log” Settings ................................................................................................ 4-22
4.3 Backup Settings .................................................................................................................. 4-23
4.4 License Manager ................................................................................................................ 4-24

5 Description of the MOTOMAN Cockpit Platform Function ....................................................... 5-1
  5.1 “Line Group” Window ..................................................................................................... 5-1
  5.2 “Line” View .................................................................................................................... 5-2
  5.3 Information View for Each Controller ............................................................................ 5-4
    5.3.1 Basic Info .................................................................................................................. 5-4
    5.3.2 Status ....................................................................................................................... 5-6
    5.3.3 Alarm & Log .............................................................................................................. 5-9
    5.3.4 Backup..................................................................................................................... 5-11
  5.4 Timing of Updating the Information on the Window .......................................................... 5-12

6 Backup and Restoration of Database ........................................................................................ 6-1

7 License Request Tool .............................................................................................................. 7-1
  7.1 Overview ......................................................................................................................... 7-1
  7.2 System Requirements ...................................................................................................... 7-1
  7.3 Installation ....................................................................................................................... 7-1
  7.4 How to Use ..................................................................................................................... 7-4
    7.4.1 Creating the License Request File ............................................................................ 7-4
    7.4.2 Issuing the License .................................................................................................... 7-5
    7.4.3 Modifying Theme and Font Size .............................................................................. 7-6
1 Introduction

1.1 Overview of MOTOMAN Cockpit Platform

MOTOMAN Cockpit Platform (hereinafter referred to as MCP) is software for collecting data from the YRC1000, DX200, FS100, DX100, or NX100 (controller for YASKAWA's industrial robot MOTOMAN) to monitor the status and operations of the manipulator, create backup data, send alarm notification, and so on. MCP is a Web server which runs on a personal computer, and data can be viewed and operated via the browser on the tablets and smartphones connected to the same network.

Communication between MCP and the controller (YRC1000, DX200, FS100, DX100, or NX100) becomes available by connecting the personal computer with the controller by using an Ethernet cable. One personal computer in which MCP installed can be connected to up to 20 controllers. The following functions are provided:

- Viewing of the controller’s basic information
- Monitoring of the manipulator’s status and operations
- Compiling and viewing of the operation log and the alarm history
- Backup of the files of the controller
- Alarm notification by e-mail
- Addition of optional functions by add-on

※ The NX100 does not support the operation log. For the FS100 and DX100, the operation history is shown when the controller’s function (optional) is enabled.

All the data viewed via the browser are information saved in the database, and not retrieved from the controller with each access. MCP communicates with the controller periodically to update the database.

For security reasons, do not connect MCP directly to the Internet. Use MCP inside the local network.
1.2 System Requirements to Use MOTOMAN Cockpit Platform

<table>
<thead>
<tr>
<th>OS</th>
<th>Microsoft Windows 7 (64 bit) ¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>Memory</td>
<td>Minimum 16 GB</td>
</tr>
<tr>
<td>Hard disk</td>
<td>Minimum 500 GB (1 TB recommended)</td>
</tr>
<tr>
<td>CPU</td>
<td>Core i7</td>
</tr>
<tr>
<td>Display</td>
<td>Display supported by MS-Windows (minimum 256 colors)</td>
</tr>
<tr>
<td>Controller</td>
<td>YRC1000, DX200, FS100, DX100, NX100</td>
</tr>
<tr>
<td>Transmission cable</td>
<td>Ethernet cable</td>
</tr>
</tbody>
</table>

¹. MS Windows 7 is the registered trademark of Microsoft Corporation in the USA and other countries.

Supplement

This package does not include transmission cable, personal computer, or OS.

1.3 Supported Web Browser

- Internet Explorer 11 or later
- Google Chrome 4 or later
- Firefox 5 or later

Note

- The latest version is recommended.
- This package does not include a browser.
2 Installation

2.1 Connecting the Controller and the Personal Computer for MCP

To use MCP, connect the controller and the personal computer for MCP via Ethernet.

2.1.1 Ethernet Cable Connections

Connect the Ethernet cable to the controller.

For further information of the connection destinations for each controller, refer to the following descriptions.

- For YRC1000

Connect the Ethernet cable (shielded cable: category 5 or more) to the LAN connector, CN106 (LAN2) or CN107 (LAN3) which are located on the front panel of the ACP01 board inside the CPU rack.

- There are three LAN connectors (RJ45) in front of the ACP01 board, and CN106 (LAN2) or CN107 (LAN3) are the connectors for the Ethernet communication function. Do not connect the connector to or disconnect the connector from CN105 (LAN1) since it is exclusively used for the programming pendant.

- To the enabled interface (LAN2 or LAN3), the YRC1000 confirms the presence or the type of the connected cable when starting. To avoid performing an unnecessary check process, enable only the interface that is actually connected over an Ethernet cable. Note that LAN3 cannot be enabled by itself. To enable LAN3, make sure that LAN2 is also enabled.
2 Installation
2.1 Connecting the Controller and the Personal Computer for MCP

Fig. 2-1: Front View of CPU Rack (without Cover)
For DX200

Connect the Ethernet cable (shielded cable; category 5 or more) to the CN104 RJ-45 LAN connector which is located on the front face of the YCP21 board inside the CPU rack.

**NOTE**

There are two RJ-45 connectors at the front face of the YCP21 board, and CN104 on the bottom side is the one for the Ethernet function. Do not touch CN105 on the upper side since it is exclusively used for the programming pendant.

*Fig. 2-2: Front View of CPU Rack (without Cover)*
2 Installation
2.1 Connecting the Controller and the Personal Computer for MCP

For FS100

Connect the Ethernet cable (shielded cable; category 5 or more) to the CN2 RJ-45 LAN connector which is located on the front face of the main CPU board inside the CPU rack.

There are two RJ-45 connectors at the front face of the main CPU board, and CN2 on the upper side is the one for the Ethernet function. Do not touch CN3 on the lower side since it is exclusively used for the programming pendant.

Fig. 2-3: Front View of CPU Rack (without Cover)
2 Installation
2.1 Connecting the Controller and the Personal Computer for MCP

For DX100

Connect the Ethernet cable (shielded cable; category 5 or more) to the CN104 RJ-45 LAN connector which is located on the front face of the YCP01 board inside the CPU rack.

**NOTE**

There are two RJ-45 connectors at the front face of the YCP01 board, and CN104 on the bottom side is the one for the Ethernet function. Do not touch CN105 on the upper side since it is exclusively used for the programming pendant.

Fig. 2-4: Front View of CPU Rack (without Cover)
2 Installation
2.1 Connecting the Controller and the Personal Computer for MCP

For NX100

Connect the Ethernet cable (shielded cable; category 3 or more) to the RJ-45 transmission connector which is located on the bottom of the NCP01 board inside the CPU rack.

**NOTE**

There are two RJ-45 connectors at the bottom of the NCP01 board, and LAN0 on the front side is the one for the transmission function. Do not touch LAN1 on the rear side since it is exclusively used for the programming pendant.

*Fig. 2-5(a): Front View of CPU Rack (without Cover)*

*Fig. 2-5(b): Bottom View of CPU Rack*
2.1 Connecting the Controller and the Personal Computer for MCP

2.1.2 Windows Network Settings

To communicate via the Ethernet, set the settings related to the Windows network. (The example below is based on Windows XP.) Set the IP address for the MOTOMAN Cockpit server.

1. Click the “Start” in the task bar, select “Setting” and click “Control Panel”. If the “Control Panel” is “Category View”, double-click the “Network and Internet Connections” category, and double-click the “Network Connections”. If the “Control Panel” is “Classic View”, double-click the “Network Connections”.

2. Select the network connection to use for data transmission, and select the “Properties” from the right click menu.
3. To set the IP address and subnet mask for the personal computer, select "Internet Protocol (TCP/IP)" from the list and click the "Properties" button.
2 Installation
2.1 Connecting the Controller and the Personal Computer for MCP

4. Input the value for the [IP address] and [Subnet mask] of the personal computer. For details of the settings of Default gateway and DNS server, refer to a Windows manual, to make proper settings for the application. The IP address for the personal computer must be different from the IP address for the controller.

![Internet Protocol (TCP/IP) Properties](image)

The above values are examples only. When setting the IP address and subnet mask, input the correct numbers as advised by the network manager.

**NOTE**
An incorrect setting such as assigning the same IP address to different personal computers may cause problems in communication.
2.2 Installation of MCP Software

1. Close all the applications.

2. Download the MCP installer from YASKAWA's products and technical information website (http://www.e-mechatronics.com/). Double-click the downloaded “MCPSetup.exe”.

3. Proceed by following the descriptions on the window, and the file will be expanded.

4. Run the file “jdk-8u92-windows-x64.exe”. Use the default installation directory.

5. Run the file “apache-tomcat-8.5.5.exe”. Use the default installation directory.

6. Run the file “mongodb-win32-x86_64-2008plus-ssl-3.0.7-signed.msi”. Use the default installation directory.

7. Run the file “setup.exe”. “MCP-InstallShieldWizard” will appear.

8. Proceed by following the descriptions on the window.

9. Decompress the file “db.zip”, and then create a folder and copy all the files so that the folder is configured as shown below.

   C:\MOTOMAN Cockpit\data\db

   Folder configuration after copy:

10. When the setup is completed, the following software will be registered under the “Program Files”:
   - “MOTOMAN” - “MOTOMAN Cockpit”
   - Microsoft .NET Framework 4.5 or later must be installed.
   - When using MCP under Windows OS in English, two-byte characters cannot be used.
2.3 Settings for the Controller

2.3.1 LAN Interface Setting

Settings for the LAN interface are necessary only when using the YRC1000.

2.3.1.1 Setting procedure

For performing the data communication by using the Ethernet, first perform the LAN interface settings. These settings are required for using the data communication described in this manual.

- Perform the settings in the management mode.
- In the operation mode or the edit mode, only reference to the settings is available.

1. Turn ON the power supply while pressing {Main Menu}. Maintenance mode starts.

2. Set the security mode to the "MANAGEMENT MODE".
2 Installation
2.3 Settings for the Controller

3. Select {SYSTEM} under the Main Menu. Sub menu appears.

4. Select {SETUP}. The SETUP window appears.

5. Select “OPTION FUNCTION”. The OPTION FUNCTION window appears.
6. Select “DETAIL” of the “LAN INTERFACE SETTING”. The LAN INTERFACE SETTING window appears.

7. Select “IP ADDRESS SETTING(LAN2)”. The pull-down menu appears, and then select either “MANUAL SETTING” or “DHCP SETTING”.

8. Select the communication parameter which requires changing. After “IP ADDRESS SETTING(LAN2)” is enabled, select other communication parameters that require changing. If using the pull-down menu, the parameters can be selected. For direct input, the virtual keyboard can be used.
9. Press [ENTER].
   The confirmation dialog box appears.

10. Select {YES}.
    Select {YES} to return to the OPTION FUNCTION window.

11. Turn OFF/ON the power supply again.
    Turn OFF/ON the power supply again to start the normal operation mode.
2.3.1.2 LAN Interface Setting Item

In the LAN interface settings, perform the following settings.

- **Host Setting**
  Select the host name setting method of the YRC1000 from the pull-down menu.

  - **MANUAL SETTING**: The character string set in the following item is used as the host name.
  - **DCHP SETTING (LAN2)**: The host name is acquired from the LAN2 DCHP server.
  - **DCHP SETTING (LAN3)**: The host name is acquired from the LAN3 DCHP server.

  • **HOST NAME**
  - If "MANUAL SETTING" is set for host setting method, enter the host name by using the character string.
  - Characters which can be used for the host name are half-width alphanumeric characters, hyphens (-) and underscores (_).
  - Include one or more alphabetic character, and set the name to within 32 characters.

- **Setting the Domain**
  Select the domain name of the YRC1000 setting method from the pull-down menu.

  - **MANUAL SETTING**: The character string set in the following item is used as the domain name.
  - **DCHP SETTING (LAN2)**: The domain name is acquired from the LAN2 DCHP server.
  - **DCHP SETTING (LAN3)**: The domain name is acquired from the LAN3 DCHP server.

  • **DOMAIN NAME**
  - If "MANUAL SETTING" is set for domain setting method, enter the domain name by using the character string.
  - Characters which can be used for the domain name are half-width alphanumeric characters, hyphens (-) and underscores (_).
  - Include one or more alphabetic character, and set the name to within 32 characters.
2 Installation
2.3 Settings for the Controller

**IP Address (LAN2)**

Select the LAN2 IP address setting method from the pull-down menu.

- **NOT USED**: LAN2 is not used. Thus, LAN3 cannot be used either.
- **MANUAL SETTING**: The value set in the following item is used as the LAN2 IP address/subnet mask.
- **DCHP SETTING**: The IP address (LAN2) is acquired from the DCHP server.

**• IP ADDRESS**

If "MANUAL SETTING" is set for IP address (LAN2) setting method, set the LAN2 IP address to this item. Use half-width numbers and periods (.) for the IP address, and set "xx.xx.xx.xx" using the following format: xx is decimal number from 0 to 255.

(Example) 192.168.255.1

**NOTE**

YRC1000 supports only IPv4 and does not support IPv6.

"10.0.0.xx" (xx: 0 to 255) cannot be used for the IP address of the LAN2.

**• SUBNET MASK**

If "MANUAL SETTING" is set for IP address (LAN2) setting method, set the LAN2 subnet mask to this item. Use half-width numbers and periods (.) for the subnet mask, and set "xx.xx.xx.xx" using the following format: xx is decimal number from 0 to 255.

(Example) 255.255.255.0

**IP Address (LAN3)**

Select the LAN3 IP address setting method from the pull-down menu.

- **NOT USED**: LAN3 is not used.
- **MANUAL SETTING**: The value set in the following item is used as the LAN3 IP address/subnet mask.
- **DCHP SETTING**: The IP address (LAN3) is acquired from the DCHP server.

**NOTE**

Enable LAN2 before using LAN3.
LAN3 cannot be used without using LAN2.

**• IP ADDRESS**

If "MANUAL SETTING" is set for IP address (LAN3) setting method, set the LAN3 IP address to this item. Use half-width numbers and periods (.) for the IP address, and set "xx.xx.xx.xx" using the following format: xx is decimal number from 0 to 255.

(Example) 172.16.0.1

**NOTE**

YRC1000 supports only IPv4, does not support IPv6.

"10.0.0.xx" (xx: 0 to 255) and the address of the same network as LAN2 cannot be used for the IP address of LAN3.
2.3 Settings for the Controller

**• SUBNET MASK**

If "MANUAL SETTING" is set for IP address (LAN3) setting method, set the LAN3 subnet mask to this item. Use half-width numbers and periods (.) for the subnet mask, and set "xx.xx.xx.xx" using the following format: xx is decimal number from 0 to 255.

(Example) 255.255.255.0

**• Default Gateway**

Select the default gateway of the YRC1000 setting method from the pull-down menu.

- NOT USED: The default gateway is not used.
- MANUAL SETTING: The value set in the following item is used as the default gateway.
- DHCP SETTING (LAN2): The default gateway is acquired from the LAN2 DHCP server.
- DHCP SETTING (LAN3): The default gateway is acquired from the LAN3 DHCP server.

**• DEFAULT GATEWAY**

If "MANUAL SETTING" is set for default gateway setting method, set the default gateway to this item. Use half-width numbers and periods (.) for the default gateway, and set "xx.xx.xx.xx" using the following format: xx is decimal number from 0 to 255.

(Example) 192.168.255.200

**• Static Route (LAN2)**

Select whether to perform the static route control via LAN2 from the pull-down menu.

- NOT USED: The static route control via LAN2 is not performed.
- MANUAL SETTING: Perform the static route control using the value set in the following item.

**• NETWORK DESTINATION**

If "MANUAL SETTING" is set for static route (LAN2) setting method, set the network destination to perform static route control via LAN2 to this item. Use half-width numbers and periods (.) for the network destination, and set "xx.xx.xx.xx" using the following format: xx is decimal number from 0 to 255.

**• SUBNET MASK**

If "MANUAL SETTING" is set for static route (LAN2) setting method, set the subnet mask to perform static route control via LAN2 to this item. Use half-width numbers and periods (.) for the subnet mask, and set "xx.xx.xx.xx" using the following format: xx is decimal number from 0 to 255.

**• GATEWAY**

If "MANUAL SETTING" is set for static route (LAN2) setting method, set the gateway to perform static route control via LAN2 to this item. Use half-width numbers and periods (.) for the gateway, and set "xx.xx.xx.xx" using the following format: xx is decimal number from 0 to 255.
2 Installation
2.3 Settings for the Controller

- **Static Route (LAN3)**
  Select whether to perform the static route control via LAN3 from the pull-down menu.
  
  NOT USED : The static route control via LAN3 is not performed.
  MANUAL SETTING : Perform the static route control using the value set in the following item.

  • NETWORK DESTINATION
    If “MANUAL SETTING” is set for static route (LAN3) setting method, set the network destination to perform static route control via LAN3 to this item. Use half-width numbers and periods (.) for the network destination, and set “xx.xx.xx.xx” using the following format: xx is decimal number from 0 to 255.

  • SUBNET MASK
    If “MANUAL SETTING” is set for static route (LAN3) setting method, set the subnet mask to perform static route control via LAN3 to this item. Use half-width numbers and periods (.) for the subnet mask, and set “xx.xx.xx.xx” using the following format: xx is decimal number from 0 to 255.

  • GATEWAY
    If “MANUAL SETTING” is set for static route (LAN3) setting method, set the gateway to perform static route control via LAN3 to this item. Use half-width numbers and periods (.) for the gateway, and set “xx.xx.xx.xx” using the following format: xx is decimal number from 0 to 255.

- **DNS Setting**
  For using the DNS (Domain Name System) client function, and for the setting method of DNS server when using the DNS client function, select from the pull-down menu.
  
  NOT USED : The DNS is not used.
  MANUAL SETTING : The value set in the following item is used as the DNS server.
  DHCP SETTING (LAN2) : The DNS Server is acquired from the LAN2 DHCP server.
  DHCP SETTING (LAN3) : The DNS Server is acquired from the LAN3 DHCP server.

  • DNS SERVER
    If “MANUAL SETTING” is set for DNS setting method, set the IP address of the DNS server to this item. Use half-width numbers and periods (.) for the IP address of the DNS server, and set “xx.xx.xx.xx” using the following format: xx is decimal number from 0 to 255.
SNTP Setting

For using the SNTP (Simple Network Time Protocol) client function, and for the setting method of SNTP server when using the SNTP client function, select from the pull-down menu.

**NOT USED**: The SNTP is not used.

**MANUAL SETTING**: The value set in the following item is used as the SNTP server.

**DCHP SETTING (LAN2)**: The SNTP Server is acquired from the LAN2 DCHP server.

**DCHP SETTING (LAN3)**: The SNTP Server is acquired from the LAN3 DCHP server.

*SNTP SERVER*

If “MANUAL SETTING” is set for SNTP setting method, set the SNTP setting to this item. Use half-width numbers and periods (.) for the SNTP server IP address, and set “xx.xx.xx.xx” using the following format: xx is decimal number from 0 to 255.

Note that if the DNS client function is enabled, the FQDN (Fully Qualified Domain Name: “Hostname@domainname” name format) can also be set. Characters which can be used for the FQDN are half-width alphanumeric characters, hyphens (-), underscores (_), and the at-sign (@) which is the character boundary between the host name and the domain name. Set it within 128 characters or less.

*TIME DIFFERENCE FROM UTC*

The time that can be acquired by using SNTP is UTC (Coordinated Universal Time). To calculate the local time from UTC, enter the time difference between UTC and the local time.

Every time a symbol is selected, “+” and “-” switches. Enter half-width numeric characters for each hour and minute. The settable range is from -12:00 to +14:00.

*INQUIRY INTERVAL (H)*

Enter a time interval for making an inquiry to the SNTP server. Enter the hour (H) using half-width numeric characters. The settable range is 10 to 99.
2.3.2 Settings for MOTOMAN Cockpit

Perform settings for MOTOMAN Cockpit by using the controller.

For further information of the settings for each controller, refer to the following descriptions.

- For YRC1000
  1. Under the Main Menu, select (SYSTEM), and then select (SETUP).
  2. The SETUP window appears. Move the cursor to “OPTION FUNCTION”, and press [SELECT].
3. The OPTION FUNCTION window appears. Move the cursor to “MOTOMAN Cockpit”, and press [SELECT].

4. The selection list appears. Move the cursor to “USED”, and press [SELECT].

5. Press [ENTER], and then select {Yes}.

MCP has the window which shows the time set for the controller’s clock. By referring to this window, set the times for all the controllers. For details on time setting for the controller’s clock, refer to “YRC1000 INSTRUCTIONS (RE-CTO-A221) 8.13 Setting the Controller Clock”.
2 Installation

2.3 Settings for the Controller

For DX200

1. Under the Main Menu, select {SYSTEM}, and then select {SETUP}.

2. The SETUP window appears. Move the cursor to “OPTION FUNCTION”, and press [SELECT].

3. The OPTION FUNCTION window appears. Move the cursor to “DETAIL” of “MOTOMAN Cockpit”, and press [SELECT].
2 Installation

2.3 Settings for the Controller

4. The MOTOMAN Cockpit window appears. Move the cursor to “USED”, and press [SELECT].

![MOTOMAN Cockpit window]

**IP ADDRESS:**

By using half-width numbers and periods (.), enter the IP address for the DX200 as “xx.xx.xx.xx” (xx is decimal number from 0 to 255).

**SUBNET MASK:**

By using half-width numbers and periods (.), enter the subnet mask for the DX200 as “xx.xx.xx.xx” (xx is decimal number from 0 to 255).

**DEFAULT GATEWAY:**

For the TCP/IP communication with the terminal under another network or another subnet, settings for the default gateway are necessary. In this case, by using half-width numbers and periods (.), enter the default gateway for the DX200 as “xx.xx.xx.xx” (xx is decimal number from 0 to 255).

5. Press [ENTER], and then select {Yes}.

6. The settings for MOTOMAN Cockpit are enabled.

**SUPPLEMENT:**

MCP has the window which shows the time set for the controller’s clock. By referring to this window, set the times for all the controllers. For details on time setting for the controller’s clock, refer to “YRC1000 INSTRUCTIONS (RE-CTO-A220) 8.13 Setting the Controller Clock”.
### 2 Installation

#### 2.3 Settings for the Controller

- **For FS100**
  Perform settings for the Ethernet function. For details on settings, refer to “FS100 OPTIONS INSTRUCTIONS FOR ETHERNET FUNCTION (HW1480728) 3 Ethernet Function Settings”.

- **For DX100**
  Perform settings for the Ethernet function. For details on settings, refer to “DX100 OPTIONS INSTRUCTIONS FOR ETHERNET FUNCTION (HW0485429) 3 Ethernet Function Settings”.

- **For NX100**
  Perform settings for the Ethernet function. For details on settings, refer to “NX100 OPTIONS INSTRUCTIONS FOR ETHERNET FUNCTION (HW0482354) 3 Ethernet Function Settings”.

- **For NX100 (NS3.00 or later)**
  Perform settings for the Ethernet function. For details on settings, refer to “NX100 OPTIONS INSTRUCTIONS FOR ETHERNET FUNCTION (FOR NS3.00 OR GREATER) (HW0482781) 3 Ethernet Function Settings”.


2.3.3 Settings for Backup

To use this backup function, perform the following settings:

1. Set the security mode to the management mode.

2. Select (SETUP), and then select (AUTO BACK SET).
   - The AUTO BACKUP SET window appears.

3. Set the “DEVICE” to “RAMDISK”.

![AUTO BACKUP SET window](image-url)
• When an alarm occurs, the device cannot be changed on the AUTO BACKUP SET window. Reset the alarm, and then change the device.

• When the MOTOMAN Cockpit function is not set to “USED”, “RAMDISK” is not shown as the device on the AUTO BACKUP SET window. In this case, perform settings by referring to chapter 2.3.2 “Settings for MOTOMAN Cockpit”.

• For the DX100, the AUTO BACKUP SET window can be used under the system software version DS3.00 or later.

• For the FS100, the AUTO BACKUP SET window can be used under the system software version FS1.14 or later.

• The AUTO BACKUP SET window cannot be used with the NX100.

• For details on the automatic backup function, refer to the following instruction manuals:
  • For the YRC1000: “YRC1000 INSTRUCTIONS (RE-CTO-A221) 9.3 Automatic Backup Function”
  • For the DX200: “DX200 INSTRUCTIONS (RE-CTO-A220) 9.3 Automatic Backup Function”
  • For the DX100: “DX100 INSTRUCTIONS (RE-CTO-A215) 9.3 Automatic Backup Function”
  • For the FS100: “FS100 INSTRUCTIONS (RE-CTO-A218) 9.3 Automatic Backup Function”

• To use the file backed up in the MOTOMAN Cockpit for system restoration, refer to the following instruction manuals:
  • For the YRC1000: “YRC1000 INSTRUCTIONS (RE-CTO-A221) 9.4 Loading the Backup Data from the SD Card”
  • For the DX200: “DX200 INSTRUCTIONS (RE-CTO-A220) 9.4 Loading the Backup Data from the Compact-Flash”
  • For the DX100: “DX100 INSTRUCTIONS (RE-CTO-A215) 9.4 Loading the Backup Data from the Compact-Flash”
  • For the FS100: “FS100 INSTRUCTIONS (RE-CTO-A218) 9.4 Restoring Backup Data”
3 Starting the MOTOMAN Cockpit Platform

3.1 Starting the MOTOMAN Cockpit Server

3.1.1 Starting the MOTOMAN Cockpit Server

To start the MOTOMAN Cockpit server, start the four programs described below. If these programs are started in the wrong order, they may run improperly. After starting each program, keep the program’s window open.

1. Start the ActiveMQ.
   
   Click “Start” in the taskbar, and then click “All Programs” - “MOTOMAN” - “MOTOMAN Cockpit” - “ActiveMQ”. 1,2

2. Start the Web server.
   
   Execute the following file:
   C:\Program Files\Apache Software Foundation\Tomcat 8.5\bin\Tomcat8.exe 2

3. Start the database.
   
   Click “Start” in the taskbar, and then click “All Programs” - “MOTOMAN” - “MOTOMAN Cockpit” - “MongoDB”. 2,3

1 The ActiveMQ uses the port 61616 as default. If the port 61616 is already used by another program, the following message appears, and starting of the ActiveMQ fails:

   “Failed to start Apache ActiveMQ ([localhost, ID: PC0CSGEW-55734-1475714384992-0:1], java.io.IOException: Transport Connector could not be registered in JMX: java.io.IOException: Failed to bind to server socket:tcp://0.0.0.0:61616?maximumConnections=1000&wireFormat.maxFrameSize=104857600 due to: java.net.BindException: Address already in use: JVM_Bind)"

   In this case, change the port for the ActiveMQ. After starting the programs in the steps 2 and 3 above, change the port by referring to chapter 4.1.9 ““Config" Settings”.

2 If a message from the firewall appears, permit the execution of the program.

3 If the window of “mongod.exe” opens but immediately closes, delete the file “.lock” under the folder “C:\MOTOMAN Cockpit\data\db”, and then execute “mongod.exe” again.

3.1.2 Setting the Controller

After the above-mentioned three programs started normally, register the controller to be connected to the factory. For details on registration of the factory, refer to chapter 4.1.1 ““Factory" Settings”. At this time, take a note of “Factory Name (Database Name)” and keep it. For details on registration of the controller, refer to chapter 4.1.4 ““Controller" Settings”.
3.1.3 Setting Up the MOTOMAN Cockpit Server

The procedure for connecting the MOTOMAN Cockpit server and the controller is described below.

1. Turn the Mode Switches on the programming pendants of all the controllers to “REMOTE”.
   - For details on setting and confirming “CMD REMOTE SEL”, refer to the following instruction manuals:
     • For the YRC1000: “YRC1000 OPTIONS INSTRUCTIONS FOR CONCURRENT I/O (RE-CKI-A467) 13.3 Pseudo Input Signal Window”
     • For the DX200: “DX200 OPTIONS INSTRUCTIONS FOR CONCURRENT I/O (RE-CKI-A465) 13.3 Pseudo Input Signal Window”

2. Click “Start” in the taskbar, and then click “All Programs” - “MOTOMAN” - “MOTOMAN Cockpit” - “RMSDcApp”.
   - The window “Remote Management System” appears. Continue the setting on the window.
     (1) Click the button ①.
       - The button switches to “Connect”.
     (2) Enter “Factory Name (Database Name)”, registered and kept in chapter 3.1.2 “Setting the Controller”, in the “Factory Name” field ②, and then click “Verify”.
     (3) Click “Scan Units” ③.
       - The list of the controllers appears in the lower part of the window.
     (4) Click “Reload” ④ of each controller.

- Data collection starts. It takes a few minutes per controller before the information of the controller is reflected in the database.

The MOTOMAN Cockpit server periodically collects data from the controller. Note that “CMD REMOTE SEL” must be enabled and the Mode Switch on the programming pendant must be turned to “REMOTE” for the server to collect the data.
3.2 Starting the MOTOMAN Cockpit Client

Start the Web browser.
Connection to the Internet is not necessary.

Specify “http://IP address of the MOTOMAN Cockpit server:8080/RMSApp” as the link destination address.

Use the IP address specified in chapter 2.1.2 “Windows Network Settings”. For example, when “192.168.255.2” is specified as the IP address of the MOTOMAN Cockpit server, use the address “http://192.168.255.2:8080/RMSApp” to access from the browser.

3.3 Login

After starting the MOTOMAN Cockpit, the following window appears.

Enter the login name and password, and click “Login”.

<table>
<thead>
<tr>
<th>Default account</th>
</tr>
</thead>
<tbody>
<tr>
<td>Login Name</td>
</tr>
<tr>
<td>Password</td>
</tr>
</tbody>
</table>
3.4 Logout

Select “LOGOUT” shown in the window.

After logging out, the window returns to the login window.
4 Setting Up the MOTOMAN Cockpit Platform

Select “SETTINGS”. The following items are shown:

- Initial Settings
- Display Settings
- Backup Settings
- License Manager

Do not use the following characters for the settings:

& $ + , / ; = ? @ # < > [ ] { } \ ^ %
4.1 Initial Settings

Select "Initial Settings", and then the Initial Settings window appears.

Factory, Line, Cell, and Controller are hierarchically structured as shown below.

![Hierarchical Structure Diagram]

- Factory
  - Line
    - Cell
      - Controller
      - NX200
      - NX300
      - RR1000
4.1.1 “Factory” Settings

The information of the registered factory is shown.

1. **“Add”**
The following window appears, and a new factory can be added.

2. **“Edit”**
The registered information of the factory can be modified.

3. **“Delete”**
The registration of the factory can be deleted.

- **Factory Name (Display Name)**
  Specify the factory name to be displayed.

- **Factory Name (Database Name)**
  Specify the name of the database for internal use. Data of the lines and controllers under the factory are stored in this database.
4.1.2 “Line” Settings

The information of the registered line is shown.

① “Add”
The following window appears, and a new line can be added.

- Factory name
  Select the factory to which the line belongs.

- Line Name
  Specify the display name of the line.
4 Setting Up the MOTOMAN Cockpit Platform
4.1 Initial Settings

② “Edit”
   The following window appears, and the layout of the line can be specified. The already-registered controller is shown (“Controller A” in the figure below). Drag and move the controller to the desired position.

③ “Delete”
   The line can be deleted.
4. Setting Up the MOTOMAN Cockpit Platform

4.1 Initial Settings

4.1.3 "Cell" Settings

The information of the registered cell is shown.

![Cell Settings Window]

① "Add"
The following window appears, and a new cell can be added.

- **Factory Name**
  Select the factory to which the cell belongs.

- **Line Name**
  Select the line to which the cell belongs.

- **Cell Name**
  Specify the display name of the cell.

- **Please Select File To Upload.**
  Specify the file when using an optional add-on function. For details on settings, refer to the instruction manual of each optional function.

② "Refer"
Contents in the uploaded DC property file of the cell can be referred to.

③ "Delete"
The cell can be deleted.
4.1.4 “Controller” Settings

The information of the registered controller is shown.

1 “Add”

The following window appears, and a new controller can be added.

- Factory Name
  Select the factory to which the controller belongs.
- Line Name
  Select the line to which the controller belongs.
- Cell Name
  Select the cell to which the controller belongs. This cell name can be kept unselected, and in this case, the controller is deemed to be located directly under the line.
- Controller Name
  Specify the display name of the controller.
- Serial No.
  Specify the serial number of the controller.
- IP Address
  Specify the IP address of the controller.
4 Setting Up the MOTOMAN Cockpit Platform
4.1 Initial Settings

- Counter Variable For Production Amount (D variable)
  For the DX200, DX100, FS100, and NX100, settings of this item are necessary for the graph of production volume in the Status window. Specify the D variable number from 0 to 1999, which is equivalent to the value of the production amount. This value is not used for the YRC1000. For details on how to read the graph, refer to chapter 5.3.2 “Status”. For details on how to display the graph, refer to chapter 4.2.2 “Status Settings”.

② “Edit”
The registered information of the controller can be modified.

③ “Delete”
The registration of the controller can be deleted.

When an controller is added or the IP address is changed, start and set up the MOTOMAN Cockpit Server by referring to chapter 3.1.1 “Starting the MOTOMAN Cockpit Server” and chapter 3.1.3 “Setting Up the MOTOMAN Cockpit Server”.
4 Setting Up the MOTO MAN Cockpit Platform
4.1 Initial Settings

4.1.5 “User” Settings

The information of the registered user is shown.

The following window appears, and a new user can be added.

1 “Add”

- First Name
  Enter the first name (given name) of the user.

- Last Name
  Enter the last name (family name) of the user.

- Login Name
  Enter the login name of the user.

- Password
  Enter the password of the user.

- Email
  Enter the e-mail address of the user. Alarm notification will be sent to this e-mail address.

- Tel. No.
  Enter the phone number of the user. (Enter only numbers. No hyphens needed.)

- Factory Name
  Select the factory of the user.
4 Setting Up the MOTOMAN Cockpit Platform
4.1 Initial Settings

- Security mode
  Select the user’s authority from the following:
  - Management mode
    All the operations can be performed.
  - Edit mode
    Operations can be performed except for operations using the SETUP window.
  - Operation mode
    In addition to the same restrictions as the Edit mode, “Create Backup Now” and “Download To PC” in the Backup window cannot be used.

②“Edit”
The registered information of the user can be modified.

③“Delete”
The registration of the user can be deleted.

The “Login Name” of the registered user cannot be changed. To change the login name, delete the registered user, and then add the user again as a new user.
4 Setting Up the MOTOMAN Cockpit Platform
4.1 Initial Settings

4.1.6 “Email” Settings

The mail server to which alarm notification is sent can be specified.

![Initial Settings Diagram]

1. **Host Name**
   Enter the host name or IP address of the mail server.

2. **Port**
   Enter the port which the mail server uses.

3. **Perform SMTP authentication.**
   When the mail server uses the SMTP authentication, check the box “Perform SMTP authentication.” and specify the user name and password.

4. **Username**
   Specify the user name of the account on the mail server.

5. **Password**
   Specify the password of the account on the mail server.
When using Gmail, change the account information of Gmail. (Details are shown in the figure below.)

Turn OFF “2-Step Verification”.

Turn ON “Allow less secure apps”.
4 Setting Up the MOTO MAN Cockpit Platform

4.1 Initial Settings

4.1.7 “Alarm” Settings

Settings for sending alarm notification to the logged-in user can be performed.

① Factory Name (Database Name)
Select the factory for which alarm notification will be specified.

② “Enable Notification” checkbox
Specify whether to send e-mail notification for an alarm occurred in the factory. If this box is unchecked, alarm notification will not be sent even if an alarm occurs in the factory.

③ “Email Notification” checkbox for each controller
Specify whether to send e-mail notification for an alarm occurred in the controller. To enable this notification, the “Enable Notification” box for the factory must also be checked.

④ “Update”
The settings above will be updated.

Example of settings
4.1.8 “Backup” Settings

The time for automatic backup for each controller can be specified. When a new controller is added, the time specified in the Settings window in chapter 4.3 “Backup Settings” is set as the initial value.

1. Specify the cycle and time for automatic backup.
   - To back up once a day: Select “Daily”, and select the time for backup.
   - To back up once a week: Select “Weekly”, and select the day of the week and the time for backup.
   - To back up once a month: Select “Monthly”, and select the date and the time for backup.

2. Select the file to be backed up automatically.
   - CMOS.BIN: acquires CMOS
   - All File: acquires individual files

3. Click “Save”, and the changes will be applied.

   - For details on the results of backup, refer to chapter 5.3.4 “Backup”.
• The backup settings are updated once every hour (at XX:00:00).
• The backup is performed according to the time set in the server PC, which may be different from the times set in the controller and the client device.
4. Setting Up the MOTOMAN Cockpit Platform

4.1 Initial Settings

4.1.9 “Config” Settings

Settings of the ActiveMQ can be modified.

- **ActiveMQ Port**

  Specify the port number for the ActiveMQ. As default, 61616 is used.

  Modify settings of the ActiveMQ as follows:

  1. Modify the port number in the above window.
  2. Close the window of the ActiveMQ and exit.
  3. Open "C:\apache-activemq-5.13.3\conf\activemq.xml", and modify the part shown below.

```
<storeUsage>
  <storeUsage limit="100 gb"/>
</storeUsage>
<tempUsage>
  <tempUsage limit="50 gb"/>
</tempUsage>
</systemUsage>

<!-- The transport connectors expose ActiveMQ over a given protocol to clients and other brokers. For more information, see:
 -->>
<transportConnectors>
  <!-- 10000 connection, limit concurrent connections to 1000 and frame size to 10000 bytes. -->
  <transportConnector name="amqp" url="amqp://0.0.0.0:5672" maxConnections=1000 />
  <transportConnector name="stomp" url="stomp://0.0.0.0:61615?maxConnections=1000" />
  <transportConnector name="nats" url="nats://0.0.0.0:4560?maxConnections=10000" />
</transportConnectors>

<!-- destroy the spring context on shutdown to stop jetty -->
<shutdownHooks>
  <!-- copy xmls="http://www.springframework.org/schema/beans" class="org.apache.activemq />
  <shutdownHooks>
  </shutdownHooks>
</broker>
```

4. Restart MCP.

- For details on restarting MCP, refer to chapter 3.1.1 “Starting the MOTOMAN Cockpit Server” and chapter 3.1.3 “Setting Up the MOTOMAN Cockpit Server”.

54/82
4.1.10 “Add On” Settings

“Add On” settings are necessary to use an optional function (purchased) of the MOTOMAN Cockpit. If no optional function is purchased, no optional function can be used even if the following “Add On” settings are performed.

The information of the registered add-on is shown.

① “Add”
The following window appears, and a new add-on can be added.

- UI Name
  Specify the name of the add-on.
- Description
  Enter comments for the add-on.
- IO Parameter File
  The parameter file of the add-on can be uploaded.
- Zip File
  The add-on module can be uploaded.
- Register UI to
  Select the destination where the add-on is displayed.
4 Setting Up the MOTOMAN Cockpit Platform

4.1 Initial Settings

② “Refer”
Contents in the uploaded DW property file of the add-on can be referred to.

③ “Edit”
The registered contents of the add-on can be modified.

④ “Delete”
The add-on can be deleted.
4. Setting Up the MOTOMAN Cockpit Platform
4.2 Display Settings

4.2 Display Settings

Select “Display Settings”, and then the Display Settings window appears. The following 3 buttons are shown in the lower right corner of the window.

- **Restore**: Restores settings to the initial values.
- **Apply**: Applies the modifications in settings.
- **Cancel**: Cancels the modifications and restores to the previous settings.

### 4.2.1 “Basic Information” Settings

The time to acquire data to be used for starting the MOTOMAN Cockpit server can be specified.

The time to acquire the entire data is in accordance with the time set in the server PC, which may be different from the times set in the controller and the accessed client device.
4 Setting Up the MOTOMAN Cockpit Platform

4.2 Display Settings

4.2.2 “Status” Settings

The history numbers and the threshold values can be specified in the Status window. For details on the Status window, refer to chapter 5.3.2 “Status”.

Operating Rate

① History
Specify for how many past days the operating rates are shown in the graph of the daily operating rate.

② Upper Threshold
Specify the upper threshold for the graph of the daily operating rate.

③ Lower Threshold
Specify the lower threshold for the graph of the daily operating rate.

As the upper threshold, specify a value larger than the lower threshold. If a value smaller than the lower threshold is specified as the upper threshold, the operating rate may not be measured correctly.

Production Volume

④ History
Specify for how many past days the production volumes are shown in the graph of the daily operating rate.

⑤ Current Threshold
Specify the threshold for the graph of the daily production volume.

• After clicking “Apply”, threshold levels are immediately reflected in the graph, but it may take up to 1 hour before the color of the label indicating the measured results is reflected.

• To display the graph of the daily production volume, perform settings on the controller.
4 Setting Up the MOTOMAN Cockpit Platform
4.2 Display Settings

- For YRC1000
  Register the job by using the job monitor function. For details on the procedures, refer to “YRC1000 INSTRUCTIONS (RE-CTO-A221) 8.23 Job Monitor Function”. The number of executions of the first-registered job is recorded as the production volume in the database and shown in the graph.

- For DX200, DX100, FS100, and NX100
  The production volume is counted from the job, etc., and written in the D variable. For details on setting the variable number, refer to chapter 4.1.4 “Controller” Settings.

Example
Call “PROD-CNT.JBI” at the beginning of the job whose production volume is to be counted.
D99 is used here.

```
PROD-CNT.JBI
0001   NOP
0002   WAIT IN#(4096)=OFF
0003   INC D99
0004   END
```

The value of the variable number (D variable) for counting the production volume is cleared when the date changes. However, the variable is not cleared during a playback operation.

For the FS100 and DX100, set S2C541 to 0.

  S2C541: Specify whether to write a variable or I/O in the play mode
  (0: Permit writing, 1: Prohibit writing)
4.2 Display Settings

4.2.3 “Alarm & Log” Settings

The history numbers of alarms and logs shown in the Alarm & Log window can be specified.

**Alarm History**

1. **History**
   Specify the maximum number of the alarm history to be shown.

**Logging History**

2. **History**
   Specify the maximum number of the operation log history to be shown.
4.3 Backup Settings

When a new controller is added, the automatic backup schedule specified in the following window will be automatically specified.

The automatic backup schedule can be specified as one of the following:

- Daily : hour
- Weekly : hour + day of the week
- Monthly : hour + date

To specify the automatic backup schedule for each controller, refer to chapter 4.1.8 “Backup Settings”.

For details on necessary settings and backup for the controller, refer to chapter 4.1.8.

The date and time for backup are in accordance with the time set in the server PC, which may be different from the times set in the controller and the accessed client device.
4.4 License Manager

Settings of the License Manager are necessary to use an optional function (purchased) of the MOTOMAN Cockpit. If no optional function is purchased, the following settings are not necessary.

The license to enable the optional function can be specified. Also, the list of the specified licenses can be displayed.
5 Description of the MOTOMAN Cockpit Platform Function

5.1 “Line Group” Window

The list of the registered lines are shown. In the example below, Line A, Line B, and Line C are registered.
5.2 “Line” View

When a line is selected in the line list, all the controllers registered in the selected line can be viewed. Select the view of the controller list from “List View” or “Layout View”.

- List View

The information on model, version, application, status, operating rate, and production volume in the entire line can be monitored simultaneously. Because the current condition of each item is indicated by color, it is easy to check visually if there is an alarm or error occurred.

- Cell Name
  The cell name specified in the “Cell” setting window is shown. If no cell is registered in the controller, this column is not shown.

- Controller
  The name of the controller specified in the “Controller” window is shown.

- Model
  The model name of R1 (the first manipulator) specified in the controller is shown.

- Version
  The version of the software in the controller is shown.

- Application
  The application of R1 specified in the controller is shown.

- Status
  The operating status of the manipulator is shown. For details, refer to chapter 5.3.2 “Status”.

- Operating Rate
  The operating rate of the manipulator is shown.

<table>
<thead>
<tr>
<th>Operating Rate</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 70%</td>
<td>Operating rate is under 70%.</td>
</tr>
<tr>
<td>70% - 80%</td>
<td>Operating rate is between 70% and 80%.</td>
</tr>
<tr>
<td>&gt; 80%</td>
<td>Operating rate is over 80%.</td>
</tr>
</tbody>
</table>

* The above value will be between the upper threshold and the lower threshold specified in chapter 4.2.2 “Status” Settings.”
5 Description of the MOTOMAN Cockpit Platform Function

5.2 “Line” View

- Production Volume
  The production volume of the manipulator is shown.

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 80%</td>
<td>Production volume is under 80% of the threshold.</td>
</tr>
<tr>
<td>80% - 100%</td>
<td>Production volume is between 80% and 100% of the threshold.</td>
</tr>
<tr>
<td>&gt; 100%</td>
<td>Production volume is over the threshold.</td>
</tr>
</tbody>
</table>

* Specify the threshold in chapter 4.2.2 “Status” Settings”.

- Layout View
  The overhead view of the entire line can be shown.
5.3 Information View for Each Controller

When a controller to be monitored is selected in the line view, the information of the selected controller is shown.

5.3.1 Basic Info

The basic information of the manipulator and the controller is shown.

1. **Image of Manipulator**
   The image of the manipulator model specified in the controller is shown. When multiple manipulators are specified, the images of the manipulators are shown in turns. To manually change the images, click the circle in the lower center of the image.

   - If no image is available for the manipulator model, the following illustration is shown.

     ![No Image](image)

     - A dual-arm robot is regarded as having two manipulators, and two images of the manipulators are shown.

2. **System Structure**
   For the DX100, FS100, and NX100, the names of bases and stations are not shown.

3. **Controller Information**
   The information specified in the controller registration window is shown. For details on settings, refer to chapter 4.1.4 “Controller” Settings.”
5 Description of the MOTOMAN Cockpit Platform Function
5.3 Information View for Each Controller

④ System Monitoring Time
For the DX100, FS100, and NX100, “Accumulated Energy-Saving Time” is not shown.

⑤ Version Information
For the DX100, FS100, and NX100, “Language” is not shown.

- The information in this window is updated once a day, when the date changes.
- The date and time shown in the System Monitoring Time are the date and time set in the controller, which may be different from the dates and times set in the server PC and the client device.
- The Version Information is shown in the language specified in the controller when the information is retrieved.
The operating status of the manipulator is shown. In this window, the following information can be monitored:

- **Current Status**: current operating status
- **Operating Rate**: today's operating rate/operating rate per hour/operating rate per day
- **Production Volume**: today's production volume/production volume per hour/production volume per day

### Current Status

The current status of the controller is shown.

### Operating Rate

#### Status of Operating Rate

Today's operating rate is indicated by color.

<table>
<thead>
<tr>
<th>Color of Label</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red</td>
<td>Status of “Running (blue)” is under the lower threshold.</td>
</tr>
<tr>
<td>Yellow</td>
<td>Status of “Running (blue)” is between the lower threshold and the upper threshold.</td>
</tr>
<tr>
<td>Blue</td>
<td>Status of “Running (blue)” is over the upper threshold.</td>
</tr>
</tbody>
</table>

*For details on settings of the thresholds, refer to chapter 4.2.2 “Status Settings”.*
5 Description of the MOTOMAN Cockpit Platform Function

5.3 Information View for Each Controller

3 Today’s Operating Rate

Today’s operating rate is shown in percentage. The status is indicated by color.

<table>
<thead>
<tr>
<th>Status</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Running (blue)</td>
<td>The manipulator is in operation.</td>
</tr>
<tr>
<td>Energy Saving (green)</td>
<td>The servo is turned OFF by the energy-saving function.</td>
</tr>
<tr>
<td>Alarm (red)</td>
<td>An alarm occurred.</td>
</tr>
<tr>
<td>Idle (yellow)</td>
<td>The manipulator is in the idle status.</td>
</tr>
<tr>
<td>Disconnect (gray)</td>
<td>MCP and the manipulator cannot communicate.</td>
</tr>
<tr>
<td>Other (black)</td>
<td>Status other than the above.</td>
</tr>
</tbody>
</table>

For the NX100, the status “Energy Saving” is not available.

4 Today’s Operating Rate (per Hour)

Today’s operating rate is shown by the hour.

5 Operating Rate (per Day)

The past operating rate is shown by the day. For details on the number of days to be shown, refer to chapter 4.2.2 “Status” Settings.

Production Volume

6 Status of Production Volume

Today’s production volume is indicated by color.

<table>
<thead>
<tr>
<th>Color of Label</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red</td>
<td>Today’s production volume is under 80% of the threshold.</td>
</tr>
<tr>
<td>Yellow</td>
<td>Today’s production volume is between 80% and 100% of the threshold.</td>
</tr>
<tr>
<td>Blue</td>
<td>Today’s production volume is over the threshold.</td>
</tr>
</tbody>
</table>

*For details on settings of the threshold, refer to chapter 4.2.2.

7 Today’s Production Volume

The total of today’s production volume is shown.

8 Today’s Production Volume (per Hour)

Today’s production volume is shown by the hour.

9 Production Volume (per Day)

The past production volume is shown by the day. For details on the number of days to be shown, refer to chapter 4.2.2.
- The Status window is refreshed every 3 seconds. However, depending on the connection condition, it may take more than 5 seconds.

- When using Internet Explorer, the Status window is not refreshed with the default settings of the browser. Perform the following settings:
  1. From the menu of Internet Explorer, select “Tools”, and then select “Internet Options”.
  2. Select the “General” tab, and then click “Settings” in the “Browsing history”.
  3. Check the box of “Check for newer versions of stored pages: Every time I visit the webpage”.

- The statuses and graphs of the operating rate and the production volume are updated every hour.

- To display the graph of the production volume, specific settings are necessary. For details, refer to chapter 4.2.2 “Status Settings”.

- The graphs are based on the date and time set in the server PC, which may be different from the dates and times set in the controller and the client device.
5.3.3 Alarm & Log

The alarm history and the operation log of the manipulator and the controller are shown.

The dates and times of alarms and logs are based on the date and time set in the controller, which may be different from the dates and times set in the server PC and the client device.

- “Alarm History” Window

The history lists of Major Alarm, Minor Alarm, User Alarm, and Offline Alarm are shown.

Select an alarm from the list to view the details of the selected alarm in the lower part of the window.

![Alarm History Window]

When the “Latest Alarm History” button is selected, the list of recent alarms is shown. The “Latest Alarm” section shows the last alarm that occurred. The date and time shown here are based on the date and time set in the controller. For the NX100, these date and time are not shown. For the DX100, when using the data transmission function, these date and time are not shown.
5 Description of the MOTOMAN Cockpit Platform Function

5.3 Information View for Each Controller

“Logging History” Window

The history lists of edit and operation are shown.

Select a log from the list to view the details of the selected log in the lower part of the window.

- The alarms and logs are updated every other day. To view today’s latest alarm, click “Latest Alarm History”.
- The Alarm History and the Logging History are shown in the language specified in the controller when the data are retrieved.
- To view the Logging History of the DX100 or FS100, the logging function (optional) of the controller must be enabled.
- For the NX100, the Logging History is not shown.
5.3.4 Backup

The statuses of the automatic backup and the manual backup of the controller are shown. If the backup data are required, files can be selected and downloaded from the database to the PC.

1. “Auto Backup” List
   The list of dates and times when the automatic backup was performed is shown. Select a date and time to view the list of the backup files on the right pane. To set up the automatic backup, refer to chapter 4.1.8 “Backup” Settings”.

2. “Manual Backup” List
   The list of dates and times when the manual backup was performed is shown. Select a date and time to view the list of the backup files on the right pane.

3. “Create Backup Now” and Checkboxes
   To perform the manual backup, click “Create Backup Now”. The files selected by the checkbox (CMOS File or ALL File) are backed up from the displayed controller to the server PC. It takes a few minutes to complete the backup. Also, settings for the controller are necessary. For details, refer to chapter 4.1.8.

4. File List
   The list of files backed up on the date and time selected on the left pane is shown.

5. “Download to PC”
   The files checked in the file list are compressed in a ZIP file and downloaded to the device opening this window. The file name will be “Backup_[Line name]_[Controller name]_YYYY-MM-DD.zip”.

- If the ZIP file is decompressed by using the decompression tool in the standard Windows 7, file names using 2-byte characters will be garbled. (The contents of the file will not be affected.) To decompress the ZIP file, it is recommended to use a user-supplied decompression tool.
- The dates and times shown in the list are based on the date and time set in the server PC, which may be different from the dates and times set in the controller and the client device.
### 5.4 Timing of Updating the Information on the Window

The timing of updating the information viewed by MCP differs depending on the window. The following table lists the timing when information of each item in each window is updated. The updating process is executed at the timing marked with Ø or described in the “Others” column.

<table>
<thead>
<tr>
<th>Window</th>
<th>Item</th>
<th>Timing of updating the information</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Reload¹</td>
</tr>
<tr>
<td>Line</td>
<td>Cell Name</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Controller</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Model</td>
<td>Ø</td>
</tr>
<tr>
<td></td>
<td>Version</td>
<td>Ø</td>
</tr>
<tr>
<td></td>
<td>Application</td>
<td>Ø</td>
</tr>
<tr>
<td></td>
<td>Status</td>
<td>Ø</td>
</tr>
<tr>
<td></td>
<td>Operating Rate</td>
<td>Ø</td>
</tr>
<tr>
<td></td>
<td>Production Volume</td>
<td>Ø</td>
</tr>
<tr>
<td>Basic Info</td>
<td>System Structure</td>
<td>Ø</td>
</tr>
<tr>
<td></td>
<td>Servo Power Time</td>
<td>Ø</td>
</tr>
<tr>
<td></td>
<td>System Monitoring Time</td>
<td>Ø</td>
</tr>
<tr>
<td></td>
<td>(other items)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Version Information</td>
<td>Ø</td>
</tr>
<tr>
<td></td>
<td>Controller Information</td>
<td></td>
</tr>
<tr>
<td>Status</td>
<td>Current Status</td>
<td>Ø</td>
</tr>
<tr>
<td></td>
<td>Operating Rate label</td>
<td>Ø</td>
</tr>
<tr>
<td></td>
<td>Operating Rate graph (upper)</td>
<td>Ø</td>
</tr>
<tr>
<td></td>
<td>Operating Rate graph (mid)</td>
<td>Ø</td>
</tr>
<tr>
<td></td>
<td>Operating Rate graph (lower)</td>
<td>Ø</td>
</tr>
<tr>
<td></td>
<td>Production Volume label</td>
<td>Ø</td>
</tr>
<tr>
<td></td>
<td>Production Volume graph (upper)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Production Volume graph (mid)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Production Volume graph (lower)</td>
<td></td>
</tr>
<tr>
<td>Alarm &amp; Log</td>
<td>Latest Alarm</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Alarm History</td>
<td>Ø</td>
</tr>
<tr>
<td></td>
<td>Logging History</td>
<td>Ø</td>
</tr>
<tr>
<td>Latest Alarm History Backup</td>
<td>List</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Auto Backup</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Manual Backup</td>
<td></td>
</tr>
</tbody>
</table>

---

1. Click “Reload” in chapter 3.1.3 “Setting Up the MOTOMAN Cockpit Server” to update the data.
2. Updated every hour, at XX:00.
3. Updated every day, at the time specified in chapter 4.2.1 “Basic Information” Settings.”
6 Backup and Restoration of Database

- **How to Back Up the Database:**
  1. Close the window of "mongod.exe".
  2. Copy the folder “C:\MOTOMAN Cockpit\data\db” to the location to be used for backup.
     The file of the database is saved in this folder.
  3. Start "mongod.exe". (Refer to chapter 3.1 “Starting the MOTOMAN Cockpit Server”.)

- **How to Restore the Database:**
  1. Exit the MOTOMAN Cockpit server. Close all the following windows:
     - Tomcat8.exe
     - mongod.exe
     - ActiveMQ
     - RMS (Remote Management System)
  2. Delete all the files under the folder “C:\MOTOMAN Cockpit\data\db”.
     The database will be deleted.
  3. Copy the file of the database backed up under the folder “C:\MOTOMAN Cockpit\data\db”.
  4. Start the MOTOMAN Cockpit server. (Refer to chapter 3.1.)
     Do not operate MCP while performing the backup or the restoration of the database.
7 License Request Tool

7.1 Overview

The license request tool is used for collecting necessary data to enable an optional function (purchased) in the MOTOMAN Cockpit Platform. To use the optional function, send the file created by the license request tool to your YASKAWA representative.

**NOTE**

Run the license request tool on the PC in which the MOTOMAN Cockpit Platform is installed. If the license request tool is run on the PC in which the optional function of the MOTOMAN Cockpit Platform is not used, the license information will become invalid, thus the optional function cannot be enabled.

7.2 System Requirements

The system requirements to use the license request tool are as follows:

- **OS**: Windows 7 or later
- **Framework**: Microsoft .NET Framework 4.5 or later

7.3 Installation

Install the license request tool as follows:

1. Run "LicenseRequest.msi".
2. The following window appears. Click "Next".

![License Request Window](image)
3. The following window appears. Click “Next”. (To modify the settings, first modify the settings, and then click “Next”.)

![Select Installation Folder]

The installer will install License Request to the following folder. To install in the folder, click “Next”. To install in a different folder, enter it below or click “Browse”.

Folder: 

Browse... 

Next>

4. The following window appears. If it is OK to proceed to install the license request tool, click “Next”.

![Confirm Installation]

The installer is ready to install License Request on your computer. Click “Next” to start the installation.
5. When the installation is completed, the following window appears. Click "Close".

![Installation Complete Window]

6. The installation is completed.
7.4 How to Use

7.4.1 Creating the License Request File

Create the license request file as follows:

1. Start the license request tool.
   – After installing the license request tool, the shortcut “License Request” is created on the desktop.

2. Fill in the Request Form as follows.

   Organization Name:
   Enter your company name. (up to 64 characters)

   Directory:
   Specify the location to save the license request file.

3. Click “Generate”.

   Organization Name: yaskawa
   Directory: C:\License
7.4 How to Use

4. The license request file is created in the specified location.

![Screenshot of a successful license request]

7.4.2 Issuing the License

To use an optional function, send the file created by the license request tool to your YASKAWA representative. Based on the information in this file, YASKAWA will issue a license for the optional function.

Reissuance of the license may be charged additionally. For details on reissuance of the license, contact your YASKAWA representative.
7.4.3 Modifying Theme and Font Size

The theme and the font size of the license request tool can be modified as follows:

1. Click “SETTINGS” in the upper right of the window.

2. Select the appearance, theme, and font size.
   - The modification is immediately reflected.