Upon receipt of the product and prior to initial operation, read these instructions thoroughly, and keep for future reference.
For Your Safety

Read and understand the instruction manuals and related documents, and observe all precautions in order to avoid the risk of injury to personnel and damage to equipment.

Carelessness contributes to serious accidents in the work area.

It is the user’s responsibility to ensure that all local, state, and national codes, regulations rules, or laws relating to safety and safe operating conditions are met and followed.

DANGER

- Teaching operation and maintenance operation of the Manipulator must conform to:
  - Industrial Safety and Health Law
  - Order for Enforcement of the Industrial Safety and Health Law
  - Industrial Safety and Health Regulations
  - Technical Standards for Electrical Facilities

Other related laws and regulations are:
- Occupational Safety and Health Act in USA
- Factory Act (Gewerbeordnung) in Germany
- Health and Safety at Work, etc. Act in UK
- EC Machinery Directive 2006/42/EC

- Prepare
  - SAFETY WORK REGULATIONS based on concrete policies for safety management complying with related laws and regulations.

- Observe
  - JIS B 8433-1: 2015 “Robots for industrial environments-Safety requirements” (ISO 10218-1: 2011) for safe operation of the robot. (JIS B 8433 is for Japan only)

- Reinforce the
  - SAFETY MANAGEMENT SYSTEM by designating authorized operators and safety managers for the Manipulator, as well as giving continuing safety education and training.

DANGER

- Make sure to have and follow all manuals, read them thoroughly and understand the contents of them.

Confirm that you have all required manuals. If any of the manuals are missing, contact Customer Support.

- Read and understand these instructions thoroughly before installing, operating, or maintaining the MotoSim TOUCH.

Any matter not described in this manual must be regarded as “prohibited” or “improper”.

For Your Safety
CAUTION

- General items relating to safety are described in Chapter 1 of the Controller manual. To ensure correct and safe operation, carefully read the Controller manual.

- Make sure all covers and shields are in place before installing or operating.

- If your copy of the manual is damaged or lost, contact Customer Service to order a new copy. See section 1.5 “Customer Support Information”. Be sure to tell the representative the manual number listed on the front cover.

- YASKAWA is not responsible for incidents arising from unauthorized modification of its products. Unauthorized modifications will void the product’s warranty.

NOTICE

- The drawings and photos in this manual are 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.

- 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.

- If your copy of the manual is damaged or lost, contact Customer Support to order a new copy. Be sure to tell Customer Support the manual number listed on the front cover.
We suggest that you obtain and review a copy of the ANSI/RIA National Safety Standard for Industrial Robots and Robot Systems (ANSI/RIA R15.06-2012). You can obtain this document from the Robotic Industries Association (RIA) at the following address:

Robotic Industries Association  
900 Victors Way  
P.O. Box 3724  
Ann Arbor, Michigan 48106  
TEL: (734) 994-6088  
FAX: (734) 994-3338  
www.roboticsonline.com

Ultimately, well-trained personnel are the best safeguard against accidents and damage that can result from improper operation of the equipment. The customer is responsible for providing adequately trained personnel to operate, program, and maintain the equipment. NEVER ALLOW UNTRAINED PERSONNEL TO OPERATE, PROGRAM, OR REPAIR THE EQUIPMENT!

We recommend approved YASKAWA training courses for all personnel involved with the operation, programming, or repair of the equipment.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.
Notes for Safe Operation

Read this instruction carefully before installing, operating, maintaining, or inspecting.

In this instruction, Safe Operations are classified as “DANGER”, “WARNING”, “CAUTION” or “NOTICE”.

DANGER
Indicates a hazardous situation which, if not avoided, WILL result in death or serious injury.

WARNING
Indicates a hazardous situation which, if not avoided, MAY result in death or serious injury.

CAUTION
Indicates a hazardous situation, which if not avoided, MAY result in minor to moderate injury.

CAUTION
“CAUTION” without the safety symbol is used to indicate a situation which if not avoided may result in equipment damage.

NOTICE
NOTICE is preferred signal word for practices not related to personal injury. The safety symbol is not used with this signal word.

A “CAUTION” or “NOTICE” may result in a serious accident in some situations.

NOTICE
To ensure safe and efficient operation at all times, be sure to follow all instructions, even if not designated as “DANGER”, “WARNING” or “CAUTION”.

WARNING
• Make sure the person performing maintenance on the equipment has taken the maintenance training course offered by YASKAWA
Not taking the maintenance training course offered by YASKAWA may cause electrical shock which may result in death or serious injury.

• Read and understand all Explanation of Safety Labels before operating the MotoSim TOUCH.
Not reading or understanding the safety labels may result in death or serious injury
Definition of Terms Used Often in This Manual

In this manual, the following equipment is designated as follows:

<table>
<thead>
<tr>
<th>Equipment</th>
<th>Manual Designation</th>
</tr>
</thead>
<tbody>
<tr>
<td>FS100 controller or YRC1000 Controller</td>
<td>Controller</td>
</tr>
<tr>
<td>FS100 or YRC1000 Programming Pendant</td>
<td>Programming Pendant</td>
</tr>
</tbody>
</table>

Notation for Menus and Buttons in This Manual

Descriptions of the programming pendant, buttons, and displays are shown as follows:

<table>
<thead>
<tr>
<th>Item</th>
<th>Manual Designation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Menu</td>
<td>The menus displayed on screen are denoted with { }. ex. {TOOL}.</td>
</tr>
<tr>
<td>Button</td>
<td>The buttons, check boxes, radio buttons displayed on screen are denoted with [ ]. ex. [Close]; [Sync] check box; [Fast] radio button.</td>
</tr>
</tbody>
</table>

Registered Trademark

In this manual, names of companies, corporations, or products are trademarks, registered trademarks, or bland names for each company or corporation. The indications of ® and TM are omitted.

Disposal

**CAUTION**

- Do not modify the Controller.

Failure to observe this CAUTION can cause fire, mechanical failure, or malfunction, which may result in minor to moderate injury and/or equipment damage.
NOTICE

- When disposing of or recycling the equipment, follow the applicable national/local laws and regulations.
- This symbol is applicable in some locations.

The wheelie bin symbol on this product, manual or its packaging indicates that at the end of life the product should enter the recycling system. It must be disposed at an appropriate collection point for electrical and electronic equipment (EEE) and should not be put in the normal waste stream.
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   1.3 MotoSim Touch Requirements .......................................................... 1-1
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1 Introduction

1.1 Purpose

MotoSim Touch is a complete hardware and software system that allows a standard Programming Pendant to control the computer with MotoSimEG-VRC installed. This product enables the user to become familiar with the operations of a robot in a virtual environment, while also learning the operation of the Programming Pendant. This enables faster utilization of the robot in a real life environment.

1.2 MotoSim Touch Includes

The MotoSim Touch complete package includes the following items:

- MotoSim Touch Adapter and cables
- FS100 or YRC1000 Programming Pendant
- Programming Pendant cable - 6 ft
- MotoSimEG-VRC version 5.2 or newer (see Appendix B.2 for details)
- USB to Ethernet adapter
- This manual

1.3 MotoSim Touch Requirements

To operate the MotoSim Touch system, the following are the hardware and software requirements:

<table>
<thead>
<tr>
<th>Operating System</th>
<th>Microsoft: Operating System supports 32 and 64 bit Windows 7 and 64 bit Windows 10</th>
<th>1) 2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Computer</td>
<td>Intel® Core™ 2 Duo or more multi-core processor</td>
<td></td>
</tr>
<tr>
<td>Memory</td>
<td>2 GB or more</td>
<td></td>
</tr>
<tr>
<td>Hardware Disk</td>
<td>1 GB or more</td>
<td></td>
</tr>
<tr>
<td>Monitor</td>
<td>Supported by MS-Windows (256 colors or more)</td>
<td></td>
</tr>
<tr>
<td>Hardware Key</td>
<td>Used for single user environment. Refer to the manual &quot;MotoSim EG-VRC&quot; section 1.4 “Hardware Key” for details.</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>Graphic Board for 3D</td>
<td></td>
</tr>
</tbody>
</table>

1) MS-Windows 7 and MS-Windows 10 are registered trademarks of Microsoft Corporation, USA.
2) 64 bit Windows 10 is supported starting with MotoSim Touch version 2016SP2.
NOTICE

- MotoSim EG-VRC may not execute correctly, because of PC model, Graphic Board, other connected peripherals, installed software, etc.
- When .NET Framework 3.5 SP1 is not installed to a personal computer, it is automatically installed by installation of MotoSim EG-VRC.
1.4 MotoSim Touch Adapter Call Outs

- **Yellow LED - 24V Power Supply Indicator**
- **Green LED - 5V Power Supply Indicator**
- **Power ON/OFF Rocker Switch**
- **Ethernet Cable Connection**
- **USB Cable Connection**
- **120V Power Cord Connection**
- **Programming Pendant Cable Connection**

![MotoSim Touch Adapter](image-url)
1.5 Customer Support Information

If you need assistance, please contact Customer Support at the 24-hour telephone number (937) 847-3200.

For routine technical inquiries, contact Customer Support at techsupport@motoman.com.

When using e-mail to contact Customer Support, please provide a detailed description of your issue, along with complete contact information. Please allow approximately 24 to 36 hours for a response to your inquiry.

<table>
<thead>
<tr>
<th>NOTICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Please use e-mail for routine inquiries only. If you have an urgent or emergency need for service, replacement parts, or information, you must contact Customer Support at (937) 847-3200.</td>
</tr>
</tbody>
</table>

Please have the following information ready before calling:

<table>
<thead>
<tr>
<th>System</th>
<th>MotoSim Touch</th>
</tr>
</thead>
<tbody>
<tr>
<td>Robots</td>
<td>MotoSimEG-VRC</td>
</tr>
<tr>
<td>Primary Application</td>
<td>Educational</td>
</tr>
<tr>
<td>Controller</td>
<td>YRC1000 or FS100</td>
</tr>
<tr>
<td>Software Version</td>
<td>Access this information on the Programming Pendant’s LCD display screen by selecting (MAIN MENU) - (SYSTEM INFO) - (VERSION)</td>
</tr>
<tr>
<td>Robot Sales Order Number</td>
<td>Located on the bottom of the MotoSim Adapter</td>
</tr>
</tbody>
</table>
There are several connectors and cables to attach before this adapter can begin to interface with MotoSimEG-VRC software.

1. Unpack the MotoSim Touch adapter unit.
2. Connect power cord - between MotoSim Touch Adapter and a 110-120V wall plug.
3. Connect USB cable - between MotoSim Touch Adapter and the computer.
4. Connect Ethernet cable - between MotoSim Touch Adapter and the computer.
5. Connect Programming Pendant cable - between MotoSim Touch Adapter and Programming Pendant or into optional Ethernet-to-USB adapter.
6. If required, mount the MotoSim Touch adapter to a flat surface using the included mounting plate and hardware. Refer to Appendix A for hole pattern.

*Fig. 2-1: Cable Connections*
3 Software Installation

3.1 Install MotoSim EG-VRC

NOTICE

Refer to the MotoSim EG-VRC manual (156225-1CD) section 1.5 ”Installing MotoSim EG-VRC” to install the MotoSim EG-VRC software.

3.2 USB to Ethernet Adapter

Section 3.1 above installs the Plug and Play driver for the USB to Ethernet adapter. The first time the adapter is plugged into a USB port (and again, if plugged into a different USB port), Windows will automatically install the proper driver.

3.3 MotoSim Touch Adapter Driver Installation

NOTICE

• If using Windows 7, it is a required to install the MotoSim Touch Adapter Driver.
• Windows 10 does not require the installation of the MotoSim Touch Adapter Drive, continue to section 3.4 “Firewall Settings”.

1. Installing the MotoSimEG_VRC per section 3.1 will leave the MotoSim Touch Adapter Driver Installation files in a subdirectory of the MotoSimEG_VRC program on your computer. If you have accepted the default directory at installation time, this will be:

   • Windows7 32bit: C:\Program Files\Motoman\MotoSimEG-VRC #.##\MotoSim Touch\numatoDriver
   • Windows7 64bit: C:\Program Files(x86)\Motoman\MotoSimEG-VRC #.##\MotoSim Touch\numatoDriver

2. Note where this directory is on your computer. If you overrode the default installation location, note the driver folder location for your install accordingly.

3. Plug a USB cable between the MotoSim Touch Adapter and the USB port you will use on your computer.

4. Windows will try to install a driver (Fig. 3-1(a)), but will fail (Fig. 3-1(b)). Close the warning window if it does not go away by itself.

Fig. 3-1(a): Installing Driver notification
3 Software Installation

3.3 MotoSim Touch Adapter Driver Installation

Fig. 3-1(b): Driver Did Not Install Successfully

5. Open Device Manager (Control Panel - System - Device Manager.)

6. Scroll down to “Other devices” and click to expand if necessary. You should see the device “Numato Lab 16 Channel USB GPIO Module” (see Fig. 3-2) with a yellow exclamation mark.

Fig. 3-2: “Numato Lab 16 Channel USB GPIO Module”

7. Right Click on the device, and select “Update Driver Software …” (see Fig. 3-3).

Fig. 3-3: Updating Driver Software
3 Software Installation
3.3 MotoSim Touch Adapter Driver Installation

8. A dialog box will come up asking “How do you want to search for driver software?” Click on “Browse my computer for driver software” (see Fig. 3-4).

Fig. 3-4: How to Search for Driver Software Selection

9. Click the {Browse...} button on the next dialog (see Fig. 3-5) to browse (under “Computer” to the folder identified in step 2. Click the {Next} button.

Fig. 3-5: Locating Driver Software

10. Windows should find the correct driver and ask if you would like to install it. Click [Install] button (see Fig. 3-6).

Fig. 3-6: Installing Device Software
3 Software Installation
3.3 MotoSim Touch Adapter Driver Installation

11. Windows should then report it has successfully updated your driver software (see Fig. 3-7). Click (Close) button.

Fig. 3-7: Successful Update of Driver Software

12. Device Manager should now show that the Module no longer has a yellow exclamation mark and has moved underneath the heading Ports (COM & LPT) (see Fig. 3-8).

Fig. 3-8: Module Moved Under Ports Heading
3.4 Firewall Settings

If the computer is dedicated to MotoSim Touch and is not on any other network, it is easiest to completely disable the Firewall by clicking on Control Panel - Windows Firewall - Turn Windows Firewall on or off, then click on “Domain network settings,” “Home or work (private) network location settings,” and “Public network settings” then press the {OK} button (see Fig. 3-9).

Fig. 3-9: Turning all Windows Firewalls Off

![Turning all Windows Firewalls Off](image)

**NOTICE**

When running MotoSim Touch, if a Windows Firewall brings up a dialog asking if ok to allow, select allow.

If it is not feasible to turn off Windows Firewall completely, then:

During the first attempt to run MotoSim Touch with a real pendant, there should be several of these Windows Firewall requests to allow access:
3 Software Installation

3.4 Firewall Settings

Fig. 3-10: Allowing Access in the Windows Firewall

Always select [Allow access]. MotoSim Touch’s behavior may be erratic until all of these features are unblocked. This procedure should unblock all required features through Windows Firewall. If, for any reason, this is not the case, the following procedures are available for manually unblocking the necessary features of MotoSim Touch through Windows Firewall:


2. Find the “FS VRC” rules.

3. Delete any Inbound Rule that shows a (“Blocking” connection) for the “FS VRC”.

Fig. 3-11: Delete Inbound Rules that Shows a “Blocking” Connection

4. Pick the first “FS VRC” rule that allows connections. This is a rule with a (green check mark) in front of it.
   a) Double click on the rule to bring up the “FS VRC Properties” window.
   b) Change to the “Advanced” tab and set the checkboxes for {Domain}, {Private}, and {Public}. Also change the “Edge traversal” settings to {Allow edge traversal}.
      – Press the {OK} button to save the settings.
3.4 Firewall Settings

Fig. 3-12: Set the Profiles and “Edge Traversal”

5. Repeat the process for the second “FS VRC” allow connection rule. (One of for TCP and one is for UDP traffic.)

6. Find the “MotoSimEG-VRC” rules.

7. Delete any Inbound Rule that shows a ☓ ("Blocking" connection) for “MotoSimEG-VRC”.

8. Pick the first “MotoSimEG-VRC” rule that allows connections. This is ☑ (green check mark) in front of it.
   a) Double click on the rule to bring up the Properties window.
   b) Change to the “Advanced” tab and set the checkboxes for “Domain”, “Private”, and “Public”. Also change the Edge traversal settings to “Allow edge traversal”.
   – Press the {OK} button to save the settings.

9. Repeat the process for the second “MotoSimEG-VRC” allow connection rule. (One of for TCP and one is for UDP traffic.)

10. Change to “Outbound Rules”.

Fig. 3-13: Selecting “Outbound Rules”
3-8

MotoSim TOUCH

3 Software Installation
3.4 Firewall Settings

11. Add a new rule. (Click the button “New Rule…” on the right side)

Fig. 3-14: Selecting a New Rule from Outbound Rules

![Selecting a New Rule from Outbound Rules](image)

a) At the “Rule Type” step, keep the type set to “Program”, then press {Next}.

b) In the “Program” step, enter the program path:

```
%ProgramFiles%\Motoman\MotoSimEG-VRC
2015SP2\Controller\FS100\VRC\FL2.00-00\FS.exe
```

c) In the “Action” step select “Allow the connection”.

d) In the “Profile” step select all three checkboxes {Domain}, {Private}, and {Public}.

e) In the “Name” step, pick a name that is appropriate. For example: “MotoSimEG-VRC FS100 FL2.00”.

Then click {Finish}.

f) This completes this rule.

12. Repeat step 11 with several additional file paths and rule names. All other settings remain the same. Table 3-1 provides example paths and suggestions for rule names:

<table>
<thead>
<tr>
<th>Rule Number</th>
<th>Path <strong>adjust per MotoSim version</strong></th>
<th>Suggested Rule Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rule #2</td>
<td>%ProgramFiles%\Motoman\MotoSimEG-VRC 2015SP2\Controller\FS100\VRC\FS3.20A-00\FS.exe</td>
<td>MotoSimEG-VRC FS100 FS3.20A</td>
</tr>
<tr>
<td>Rule #3</td>
<td>%ProgramFiles%\Motoman\MotoSimEG-VRC 2015SP2\Controller\FS100\VRC\FS3.20B-00\FS.exe</td>
<td>MotoSimEG-VRC FS100 FS3.20B</td>
</tr>
<tr>
<td>Rule #4</td>
<td>%ProgramFiles%\Motoman\MotoSimEG-VRC 2015SP2\Controller\FS100\VRC\FS3.20C-00\FS.exe</td>
<td>MotoSimEG-VRC FS100 FS3.20C</td>
</tr>
<tr>
<td>Rule #5</td>
<td>%ProgramFiles%\Motoman\MotoSimEG-VRC 2015SP2\MotoSimEG-VRC.exe</td>
<td>MotoSimEG-VRC EXE</td>
</tr>
</tbody>
</table>

13. After establishing all settings in Windows Firewall screen, reboot Windows completely. This step is required to register and move forward with the changes.

**NOTICE**

Adjust the program path based on the version of MotoSim installed. In the example above, MotoSim 2015 SP2 is used.

Rule Number Path **adjust per MotoSim version**

Adjust the program path based on the version of MotoSim installed. In the example above, MotoSim 2015 SP2 is used.

"Adjust the program path based on the version of MotoSim installed. In the example above, MotoSim 2015 SP2 is used."
3.5 Set Computer IP Address

1. Control Panel -> Network and Sharing Center (Fig. 3-15)

   Fig. 3-15: Opening Network and Sharing Center

   ![Opening Network and Sharing Center]

2. Click on “Change adapter settings”. (Fig. 3-15)

3. Right click on the Local Area Connection corresponding to “ASIX AX88772B USB2.0 to Fast Ethernet” and select Properties. (Fig. 3-16)

   Fig. 3-16: Select Network Device

4. Click on “Internet Protocol Version 4 (TCP/IPv4)” and click on {Properties}. (Fig. 3-17)

   Fig. 3-17: Selecting Internet Protocol

   ![Selecting Internet Protocol]
5. Change (if necessary) the IP address to 10.0.0.2 and the subnet mask to 255.255.255.0. *(Fig. 3-18)*

*Fig. 3-18: Setting IP address*
3.6 Modify Shortcut

MotoSimEG-VRC must be started as an administrator. The easiest way to do this is to modify the shortcut, as follows:

1. Click on the start button and right click on the MotoSimEG-VRC shortcut (see Fig. 3-19)

   Fig. 3-19: Selecting MotoSimEG-VRC

2. Select “Properties” (see Fig. 3-20)

   Fig. 3-20: Selecting Properties

3. On the “Shortcut” tab, select (Advanced) (see Fig. 3-21)

   Fig. 3-21: Selecting Advance on the Shortcut Tab
3.6 Modify Shortcut

4. Select “Run as administrator,” then click {OK} button (see Fig. 3-22)

*Fig. 3-22: Selecting Run as Administrator*

5. Save the changes by clicking the {Apply} button, then the {OK} button (see Fig. 3-23)

*Fig. 3-23: Save Changes*

6. If you would like to put a copy of the shortcut on the desktop, click the button (see Fig. 3-19) and hold the {Ctrl} button down on the keyboard while clicking on the MotoSimEG-VRC shortcut and drag a copy to the desktop.
3.7 MotoSim Shutdown Desktop Shortcut

If MotoSimEG-VRC ever shuts down unexpectedly, it is possible that there are orphan processes still running in the background, even if it appears that MotoSimEG-VRC is not running. A batch file to close these has been installed with MotoSimEG-VRC. The following procedure allows placing a shortcut on the desktop to easily shut down these orphan processes.

1. From Windows Explorer, browse to 
   \C:\Program Files\Motoman\MotoSimEG-VRC 5.20.
2. Scroll down to the file 
   VRCdelete.bat. (See Fig. 3-24)

Fig. 3-24: Selecting VRCdelete.bat file in Windows Explorer

3. Right click on the file and select “Copy”.
4. Close Windows Explorer and right click on the desktop, select “Paste shortcut.” (see Fig. 3-25)

Fig. 3-25: Pasting Shortcut on Desktop

5. Click on the new desktop shortcut and press the [F2] keyboard key to highlight the shortcut name. (see Fig. 3-26)
6. Replace the existing shortcut name by typing “MotoSim Shutdown” or whatever you would like to call the shortcut. (see Fig. 3-27)

Fig. 3-27: Changing Shortcut Name to “MotoSim Shutdown”

7. Right click on the new shortcut and select “Properties.”

8. Click on the {Advanced} button. (see Fig. 3-28)

Fig. 3-28: MotoSim Shutdown Properties Screen

9. In the Advanced Properties dialog box, check the “Run as administrator” box, then click {OK}, and {OK} again. (see Fig. 3-29)

Fig. 3-29: Running as Administrator
4 Usage

The MotoSim Touch software is a plug-in module to MotoSimEG-VRC. When properly installed, the “PP Setting” tab label, located on the ribbon tools tab.

*Fig. 4-1: Selecting the PP Setting Tab*

Selecting the “PP Setting” tab displays two disabled buttons when a cell is not open. These buttons will place the MotoSimEG-VRC into a Real Programming Pendant or a Virtual Programming Pendant setting.

*Fig. 4-2: Pendant Setting Buttons.*

MotoSim Touch only works with cells created with the Robot Controllers listed in *Appendix B.*
A cell created with a supported Robot Controller always initially opens with a Virtual Programming Pendant.

Fig. 4-3: Cell Created with a Supported Robot Controller

NOTICE

Notice that the pendant window(s) is/are onscreen, and the [Real PP] button becomes enabled.

The [Virtual PP] button is disabled because the system is already using the Virtual Programming Pendant.

Before trying to connect to the Real Programming Pendant, make sure it is plugged into the MotoSim Touch Adapter unit, and that the computer's Ethernet cable and USB cable are both connected to the MotoSim Touch Adapter as well.

The computer's Ethernet adapter must be set to IP address 10.0.0.2.

The following procedure may be used:

1. Open the “Network and Sharing Center” by using the Control Panel or clicking on the network icon in the task bar notification area.
2. Click on “Change adapter settings”.
3. Right click on the MotoSim Touch Adapter to identify the adapter connected by the Ethernet cable to the MotoSim Touch Adapter.
4. Select “Properties.”
6. Click on the “Properties” button.
7. Click on the “Use the following IP address:” button (if it is not already selected).
8. Set the IP address to: 10.0.0.2
9. Set the Subnet mask to: 255.255.255.0
10. Click the [OK] button.
11. Click the [Close] button.
12. Close the Network Connections window.
13. Turn the Power Switch of the MotoSim Touch Adapter to ON.

**NOTICE**

If using a YRC1000 Controller continue to step 14.

**• For FS100 ONLY**

(1) Wait for the Real Programming Pendant to boot to the Startup screen. This is when the [Connect to FS100] button is visible.

*Fig. 4-4: Connecting to FS100 button*
Usage

(2) After this screen is visible, it is safe to press the [Real PP] button on the Pendant Setting section of the {PP Setting} ribbon in the MotoSimEG_VRC. Wait about three seconds, and then press the [Connect to FS100] button on the Real Programming Pendant screen. When the prompt “Pendant connection check - Grip” dialog appears, grip and hold the enable switch on the back of the Real Programming Pendant.

Fig. 4-5: “Pendant connection check - Grip” dialog

(3) When the “Pendant connection check - Release the enable switch” dialog appears, release the enable switch.

Fig. 4-6: “Pendant connection check - Release” dialog
14. Observe the Real Programming Pendant continues to boot to the normal booted screen.

**NOTICE**

The YRC1000 Controller may require pressing the [Real PP] button on the Pendant Setting section of the {PP Setting} ribbon in the MotoSimEG_VRC.

*Fig. 4-7: Normal Booted Screen*

At any time during a Real Programming Pendant session, you can toggle back to a Virtual Programming Pendant session by pressing the [Virtual PP] button in the {PP Setting} ribbon on MotoSimEG_VRC. The software pendant screen will appear and the Real Programming Pendant may be turned off or disconnected.

**NOTICE**

If desired to toggle back to the Real Programming Pendant, the MotoSim Touch Adapter must first be turned off, then back on again to bring the Real Programming Pendant screen back to the Startup screen (see *Fig. 4-4*). The power to the MotoSim Touch Adapter should be kept off for at least five seconds before turning back on.
5 Troubleshooting

5.1 No Communication

If communication cannot be established between the Programming Pendant and the MotoSimEG-VRC software you will be alerted by an alarm. This alarm will state:

![Alarm Screen](image)

When communication cannot be established, please check the following:

5.1.1 Hardware Connections

1. Are the hardware cables plugged in?
   - Refer to chapter 2 “Hardware Connections” and Fig.2-1 "Cable Connections" to ensure all cable are plugged in.

5.1.2 Power ON

1. Ensure the power cord is attached to the MotoSim Touch Adapter and an active 120 VAC wall outlet.
2. Ensure the power rocker switch on the MotoSim Touch Adapter is in the ON position.
   - ON is with the “-“ symbol on the switch pressed “down”.
   - OFF is with the “o” symbol on the switch pressed “down”.
3. Ensure the two power status LED’s are illuminated.
   - If only one of the two LED’s are lit check the unlit LED indicator power supply for a blown fuse or a loose or disconnected wire.
     - Yellow LED indicates the status of the 5 V power supply
     - Green LED indicates the status of the 24 V power supply
     - Both LEDs not lit contact technical support for appropriate replacement fuses and troubleshooting
4. Does the Programming Pendant’s touch screen display illuminate when the power is switched from OFF to ON?
   - If yes this indicates the 24 V power supply is functioning properly.

5.1.3 Communication Cables

1. Is there a USB cable connected between the MotoSim Touch Adapter and the PC?
2. Verify that the MotoSim Touch Adapter is present in the Device Manager Folder of your PC.
3. Is there an Ethernet cable connected between the MotoSim Touch Adapter and the PC?
5.1.4 **Computer IP Address**

Is computer IP address set to 10.0.0.2? (Refer to section 3.5 “Set Computer IP Address” on page 3-9).

1. Verify the connection by issuing a ping command from the PC to the Programming Pendant
   a) Open a command prompt and type “ping 10.0.0.4”
   b) Verify packets are received

5.1.5 **Unable to Turn on Servos in Play Mode**

Make sure the Pseudo Input Signal #82016 is off as follows:

1. On Pendant, press Main Menu (IN/OUT), then {PSEUDO INPUT SIG} (see Fig. 5-1.)

*Fig. 5-1: IN/OUT Menu*
5 Trouble-Shooting

5.1 No Communication

2. Make sure the Pseudo Input Signal #82016 is off (not Black.)
   
   a) If the Pseudo Input Signal #82016 is on arrow down to #82016, and simultaneously press [Interlock] + [Select] on the Programming Pendant to toggle the bit off (see Fig. 5-2).

Fig. 5-2: Setting Pseudo Input Signal #82016

![Fig. 5-2: Setting Pseudo Input Signal #82016](image)

**NOTICE**

It may be necessary to perform this operation whenever a new cell is created.
Appendix A

A.1 Mounting Plate

The following is the hole pattern for mounting the MotoSim Touch adapter to a flat surface (Desk).

- Holes marked “A” secures the unit to the desk.
- Holes marked “B” secures the bracket to the unit.
Appendix B

B.1 Supported Controllers

The MotoSim Touch System supports the following controllers:

Table B-1: Supported Controllers

<table>
<thead>
<tr>
<th>MotoSim Touch Version</th>
<th>Controller</th>
<th>Software Version</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.20</td>
<td>FS100</td>
<td>FS3.03B</td>
</tr>
<tr>
<td>2018SP2</td>
<td>YRC1000</td>
<td>YAS2.02.00-00</td>
</tr>
</tbody>
</table>

B.2 Supported PC Software Versions

The MotoSim Touch System supports the following PC software versions:

Table B-2: Supported PC Software

<table>
<thead>
<tr>
<th>MotoSim EG-VRC Version</th>
<th>Supported / Not Supported</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.2 32/64 bit</td>
<td>Supported</td>
</tr>
<tr>
<td>2015 SP2 32 bit</td>
<td>Not Supported</td>
</tr>
<tr>
<td>2015 SP2 64 bit</td>
<td>Supported</td>
</tr>
<tr>
<td>2015 SP3 32/64 bit</td>
<td>Not Supported</td>
</tr>
<tr>
<td>2016 SP2 64 bit</td>
<td>Supported</td>
</tr>
</tbody>
</table>
System Manual

FOR: FS100 CONTROLLER

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