Class No. TRM010-Mpiec-WebUI
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Instructor Introduction

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Remote Demo System

- Request access by Email
  - Training@yaskawa.com

- Remote Connection Process
  - eLV.MPiec.01.PLCommon
  - RmtCnct
Install Yaskawa Remote IO

- Launch “Yaskawa Remote IO”
Yaskawa Remote IO

- Modbus/TCP
- Control
- Power
- Encoder
- Battery
- O.T. Inputs
MPiec Web User Interface
Project Archive

Hands-on Training Tutorial

• Backup
• Restore Controller
• Restore Servo Amplifiers
• Restore Servomotors
Quick Reference Guide

- **Web UI Procedures**
- **MotionWorks IEC Procedures**

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<td>2</td>
<td>Verify Drive Parameters</td>
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<td>Save archive from controller</td>
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**1.8 Receive Project Archive (Back up controller and servo parameters)**

**KEY INFORMATION**

The project archive contains the critical data for the controller and servopacks. Save this archive at time of machine commissioning and after any change is made.

**Detail**

- **Step 1:** Login to WebUI
  - See Procedure. Login: Admin. Password: MP2300S, MP2600, MP3200, MP3300

- **Step 2:** Verify Drive Parameters
  - Drive Parameters -> User Parameters, “verify” each axis. Verify compares parameters in the archive with the current parameters in the servo. If Verify is successful, proceed to next step. If Verify is not successful, then the archive drive parameters do not match the current parameters in the servos. Use MotionWorks IEC hardware configuration to import parameters to project archive.

- **Step 3:** Save archive from controller
  - Setup -> Archive -> "Receive", rename as required. *.zip file is saved to browser’s default download directory.

**1.9 Send Project Archive**

**KEY INFORMATION**

This procedure only sends the controller program and configuration.

**Detail**

- **Step 1:** Login to WebUI
  - See Procedure. Login: Admin. Password: MP2300S, MP2600, MP3200, MP3300

- **Step 2:** Obtain the project archive file
  - *.zip is the file extension. The project archive must have been previously saved from an existing controller. It can also be created by MotionWorks IEC.

- **Step 3:** Send archive to controller
  - Project Archive -> "Browse" and select the project archive file. Select "Clean Install" to delete any previous archive files. Then "Send to Controller", "OK". Wait 1-2 minutes. When complete the button changes from "Wait" back to "Send to Controller".

- **Step 4:** Reboot
  - Under "Maintenance" -> reboot, then "Reboot Controller" and "OK" to confirm. Wait 45 seconds for reboot.
Log in to WebUI

- Enter IP Address
- User – Log In
  - Admin
  - MP3300
MPiec Data

- **Archive (Flash)**
  - Program
  - Configuration
  - Cam Tables
  - Servopack Parameters

- **SRAM**
  - IP Address
  - Date, Time, Alarm History
  - Absolute encoder offsets
  - Data of Variables

Source code may not exist
Receive Project Archive

- Refer to Quick Reference Guide

Archive saved on the PC
System Restore

1. Send Archive
   • Reboot

2. Write Parameters
   • Reboot

3. Encoder Reset
   • Reboot

Flash contents saved on the PC
Send Archive

- **Step 1: Controller**
  - Send Archive “Archive_WebUI.zip”
  - Install
  - Reboot

### 1.A Startup from Project Archive

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<td>Login to WebUI</td>
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<td>Obtain the project archive file</td>
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<td>5</td>
<td>Send archive to controller</td>
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<td>Send Drive Parameters</td>
</tr>
<tr>
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<td>Reboot #1</td>
</tr>
<tr>
<td>8</td>
<td>Reboot #2</td>
</tr>
</tbody>
</table>

**KEY INFORMATION**

- Project Archive contains all required data including servo parameters.
- Archive is not active until reboot.

**Detail**

- **1.** Set up the controller: See procedure 1.0, for new controllers.
- **2.** Stop all motion: Operate the machine according to existing program.
- **3.** Login to WebUI: See Procedure. Login: Admin. Password: MP2300S, MP2600, MP3200, MP3300
- **4.** Obtain the project archive file: This is the file extension. The project archive must have been previously saved from an existing controller. It can also be created by MotionWorks IEC.
- **5.** Send archive to controller: Setup - Archive - Send - Add Archive. Navigate to select the project archive file. “Clean Install” to delete all previous archive files. Click “Send”, wait for transfer “Install”. “Installing Archive” message appears at the top. When complete, the message disappears and the archive files are displayed.
- **6.** Send Drive Parameters: Setup - Drive Parameters. Under “User Parameters”, click “verify” for each axis. Verify compares parameters in the archive with the current parameters in the servo drive. Click “Write” and confirm “Write” to send parameters from archive to servo. Takes 1-2 seconds to write. “Verified” confirms success.
- **7.** Reboot #1: Status -> Reboot and confirm with “Reboot”. Wait 45 seconds for reboot. Controller is now running the loaded archive but may have alarms.
- **8.** Reboot #2: Status -> Reboot and confirm with “Reboot”. Wait 45 seconds for reboot. Servos are now using the drive parameters sent from the archive.
# Write Parameters

## Step 2: Servo Amplifier

- **Drive Parameters**
- **Write All User Pns**
- **Reboot**

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<tr>
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<td>Reboot #1</td>
<td>Status -&gt; Reboot and confirm with “Reboot”. Wait 45 seconds for reboot. Controller is now running the loaded archive but may have alarms.</td>
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<td>Send Drive Parameters</td>
<td>Setup - Drive Parameters. Under “User Parameters”, click “verify” for each axis. Verify compares parameters in the archive with the current parameters in the servo drive. Click “Write” and confirm “Write” to send parameters from archive to servo. Takes 1-2 seconds to write. “Verified” confirms success.</td>
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<td>8</td>
<td>Reboot #2</td>
<td>Status -&gt; Reboot and confirm with “Reboot”. Wait 45 seconds for reboot. Servos are now using the drive parameters sent from the archive.</td>
</tr>
<tr>
<td>9</td>
<td>Initialize Absolute Encoders to clear A.810, A.820, A.CC0</td>
<td>Operations - Motion Control Panel. Click “Download and run externally” and run “WebControllerApplet”. Java opens, “Run”, new window titled Yaskawa Engineering Tool opens. Navigate to “Drive Pn” tab -&gt; select the axis with the encoder alarm. Click “abs encoder init” then “Multiturn Reset”. Alarms A.810, A.820 and A.CC0 will clear after reboot.</td>
</tr>
<tr>
<td>10</td>
<td>Reboot #3</td>
<td>Status -&gt; Reboot and confirm with “Reboot”. Wait 45 seconds for reboot. Encoder alarms are now clear, and Prn205 multiturn limit has been stored in the encoder.</td>
</tr>
</tbody>
</table>
**Encoder Reset**

- **Step 3: Encoder of Servomotor**
  - Motion Control Panel
  - Java
  - Drive Pn
  - Abs Encoder Init
  - Multiturn Reset
  - Repeat for each axis
  - Reboot

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Operations - Motion Control Panel. Click "Download and run externally" and run "WebControllerApplet". Java opens, "Run", new window titled Yaskawa Engineering Tool opens. Navigate to "Drive Pn" tab -> select the axis with the encoder alarm. Click "abs encoder init" then "Multiturn Reset". Alarms A.810, A.820 and A.CC0 will clear after reboot.

Motion Control Panel
Java Applet
Playtime

- Repeat this procedure on your own
  - Disconnect abs encoder battery and control power
  - Delete archive
MPiec Web User Interface Training Demo Operation
Hands-on Training Tutorial

- Jog Each Axis
- Set Zero Position
- Relative and Absolute Moves
- Controller Replacement
- Amplifier Replacement with HMI
- Motor Replacement with HMI
Demo Current Status

1. Send Archive
   • Reboot

2. Write Parameters
   • Reboot

3. Encoder Reset
   • Reboot

Flash contents saved on the PC
Jog Each Axis

- Servo ON
- Enter Speed
- Jog+
- Jog-
Set Zero Position

- Jog each axis to desired zero position
- Verify position feedback
- Set Zero
Relative Move

- Set Distance
- Positive or negative
- Move Rel
- Repeat the relative move
Absolute Move

- Set Position
- Move Abs
- Move back to position zero
Over-Travel

- **Normally Closed Circuit**
Playtime
Simulate a Controller Replacement

- **Delete archive**
- **Initialize SRAM**

1. **Send Archive**
2. **Reboot in Web UI**
3. **Set zero positions**
   - *Offsets for zero position are stored in SRAM*
Simulate a Drive Replacement

- **Set default Pn on X_axis (with WebUI)**
- **Cycle power to demo**
  1. Write Pn (with HMI)
  2. Soft Reboot (with HMI)
  3. Servo ON, Jog
Simulate a Motor Replacement

- Turn off power
- Disconnect absolute encoder cable
- Turn on power

1. AbsEnc-Rst (with HMI)
2. Soft Reboot (with HMI)
3. Set zero positions
Behind the Scenes

- Code Preview
MPiec Web User Interface
Test Move

Hands-on Training Tutorial

- Purpose of Test Move
- Quick Reference Guide
- Motion Control Panel
- Move the Motors
- Run Controller Program
Purpose of Test Move

- Can the controller make the motors move?
  - Yes
    » Check Controller Program
    » Check I/O
    » Check Upstream Devices; PLC, HMI
  - No
    » Check Mechatrolink Cables and node address
    » Check over-travel sensors
    » Send parameters
    » Jog motor directly from amplifier (SigmaWin+)
# Quick Reference Guide

## 1.1 Test Move

**KEY INFORMATION:** The test move confirms that the MPiec controller can run each servo axis. If successful, then application problems are related to the program or connected devices. If not successful, problems are likely related to servo wiring or parameter configuration.

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<tr>
<td>1</td>
<td>Restore system from project archive</td>
<td>See section 1.A. The servo parameters must be set and the absolute encoders must be reset.</td>
</tr>
<tr>
<td>2</td>
<td>Clear servo alarms</td>
<td>Many alarms can be cleared in the alarm menu. See section 1.B and 1.D for encoder alarms, which also require a reboot to clear.</td>
</tr>
<tr>
<td>3</td>
<td>Stop the controller program</td>
<td>Either 1) turn on the STOP switch on the controller front panel, 2) use the STOP button within the MotionWorks IEC environment, or 3) temporarily delete the archive and reboot (save the archive before deleting).</td>
</tr>
<tr>
<td>4</td>
<td>Open &quot;Motion Control Panel&quot;</td>
<td>Operations - Motion Control Panel. Click &quot;Download and run externally&quot; and run &quot;WebControllerApplet&quot;. Java opens, &quot;Run&quot;, new window &quot;Yaskawa Engineering Tool&quot; opens.</td>
</tr>
<tr>
<td>5</td>
<td>Move the motors</td>
<td>The axes are listed by name (or number) in columns. The feedback position and target position are given in configured user units. Target Vel is set to 1 rev/sec in user units. Accel Limit and Decel Limit are set to 1 rev/sec^2 in user units. Check the box &quot;Enable&quot;. Set &quot;Target Pos&quot; to the desired absolute position. Click the &quot;Move&quot; button. To stop, click the &quot;Abort&quot; button or uncheck the box &quot;Enable&quot;. The servo will move to the absolute position and stop when Feedback Pos = Target Pos.</td>
</tr>
<tr>
<td>6</td>
<td>Run the controller program</td>
<td>Turn off the stop switch on the controller front panel, install the saved archive if it was deleted, and reboot the controller.</td>
</tr>
</tbody>
</table>
Before Attempting

- **Demo System is Restored**
  - Controller – Archive
  - Servo Amplifier – Drive Pn
  - Servomotor – Abs Encoder Init

- **No alarms**
  - Clear any alarms
  - Encoder alarms require special procedure and reboot
Stop the Controller Program

- **Option 1:** Turn on STOP switch
- **Option 2:** Stop in MotionWorks IEC
- **Option 3:** Temporarily delete archive and reboot
  - Save the archive first
  - Units of motion revert to Revolutions
Motion Control Panel
Move the Motors

What happens if P-OT or N-OT inputs are disabled?
Run the Controller Program

- Turn off STOP
- Install archive (if deleted)
- Reboot
EASY TO WORK WITH

ENGINEERING EXPERTISE

QUALITY PRODUCT

TECHNOLOGICAL INNOVATION

YASKAWA

IT’S PERSONAL

YASKAWA