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

The operator’s manual above corresponds to specific usage. Be sure to use the appropriate manual.
MANDATORY

- This manual explains the MLX DATA Software. Read this manual and the MLX Manuals carefully and be sure to understand its contents before using this software.
- General items related to safety are listed in Section 1 of the MLX Manual. To ensure correct and safe operation, carefully read the section before reading this manual.

CAUTION

- The drawings and photos in this manual are representative examples and differences may exist between them and the delivered product.
- YASKAWA may modify this product without notice when necessary due to product improvements, modifications, or changes in specifications.
- If such a modification is made, the manual number will also be revised.
- If your copy of this document 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.
- YASKAWA is not responsible for incidents arising from unauthorized modification of its products. Unauthorized modification voids your product’s warranty.
Notes for Safe Operation

Read this manual carefully before installation, operation, maintenance, or inspection of the Yaskawa Motoman robot.

In this manual, the Notes for Safe Operation are classified as "WARNING", "CAUTION", "MANDATORY", or "PROHIBITED".

WARNING

Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury to personnel.

CAUTION

Indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury to personnel and damage to equipment. It may also be used to alert against unsafe practices.

MANDATORY

Always be sure to follow explicitly the items listed under this heading.

PROHIBITED

Must never be performed.

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 "CAUTION" and "WARNING".

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 the SELECT key 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 bland names for each company or corporation. The indications of (R) and TM are omitted.
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1 Introduction

MLX DATA software was developed for simplifying the process of importing and exporting various user data from the MLX controller.

1.1 MLX Software Screen

The MLX Software screen comes up first once the included DVD is installed. There are three areas on the MLX Software Screen (see Fig. 1-1 MLX Software Screen):

1. MLX Software
2. Quick Links
3. Motoman Contact Info

Fig. 1-1: MLX Software Screen
1 Introduction
1.1 MLX Software Screen

1.1.1 MLX Software

The MLX Software section contains the software required to use the MLX DATA program. The programs included are (see Fig.1-2 MLX Software):

- **MLX DATA Software**: Simplifies the process of finding, exporting, and importing various MLX Data.
- **MLX DATA Software Manual**: Gives easy to use instructions on how to install and operate the MLX DATA Software.

Fig. 1-2: MLX Software

1.1.2 Quick Links Section

In the quick link section there is a link directly to the Motoman Website for various things including Training and Support. (See Fig.1-3 Quick Links Section)

Fig. 1-3: Quick Links Section

1.1.3 Motoman Contact Info

The Motoman Contact Info section includes information for contacting Motoman by (see Fig.1-4 Motoman Contact Info Section):

- Phone
- Fax
- Email

Fig. 1-4: Motoman Contact Info Section
1.2 MLX DATA Main Screen

The MLX DATA software main screen is broken down into the following four areas (see Fig. 1-5 MLX DATA Main Screen):

1. Communication Settings
2. Export Data
3. Import Data
4. Helpful Information

Fig. 1-5: MLX DATA Main Screen
1.2.1 Communication Settings

The Communication Setting section of the MLX Data software is where communications between a computer and the MLX is setup at. Communication Settings of the main screen contains (See Fig.1-5 MLX DATA Main Screen and Fig.1-6 Communication Setting Section):

- **Robot Number**: Gives the ability to select what robot (0 or 1) to communicate with for MLX Data.
- **PLC Processor Slot**: Allows the ability to select which Processor slot (0 to 16) is needed to communicate with for MLX Data information.
- **PLC IP Address**: This shows the IP address for the PLC that may be changed manually by entering the desired IP address.

![Communication Setting Section](image)

**NOTE**

The MLX DATA software ships with a default IP address of 192.168.1.2.

**CAUTION**

Do not change the file name or contents in the exported files or damage could occur to the equipment.

1.2.2 Export Data

The Export Data section of the MLX Data software is where it is decided on what is to be exported. Export Data section of the Main Screen contains (see Fig.1-5 MLX DATA Main Screen and Fig.1-7 Export Data Section):

- **Export File Path**: Allows the User to say where to export data from the MLX.
- **What to Export Field**: Gives the ability to export All User Data, Job Teach Points, User Frame Data, Interference Zone Data, and Tool Data.
- **Start Export**: Starts the exporting of the selected data from the MLX.
1.2.3 Import Data

The Import Data section of the MLX Data software is where what is decided to be imported. The Import Data of the Main Screen contains (see Fig. 1-5 MLX DATA Main Screen and Fig. 1-8 Import Data Section):

- **Job Import Parameters**: Gives the ability to select either all 10 jobs, all points in a specific job, a single point in a single job or multiple points in a single job. This field is not selectable unless the Import File(s) Path contains “Teach Points” in one of the paths. The Job Import Parameter is broken down to:
  - **Job Number**: Gives the ability to select a specific job to import data from or all ten jobs.
  - **Number of Points**: Allows the ability to select one point to multiple points.

- **Import File(s) Path**: Allows the User to say where and what to import one file or multiple files to the MLX. All import files need to be text (.txt) files.

- **Clear**: Clears ALL Import Files Path

- **Start Import of Files**: Starts importing files that are in the Import File(s) path to the MLX. All import files need to be text (.txt) files.

**CAUTION**
When importing files ensure the file names and the content in the files have not changed or damage could occur to the equipment.
1.2.4 Helpful Information

The Helpful Information section contains the following:

- **View Teach Point on PLC:** Shows the teach points on the screen by selecting the robot, job number, and Teach Point. (See *Fig. 1-5 MLX DATA Main Screen* and *Fig. 1-9 View Teach Points on PLC*.)

*Fig. 1-9: View Teach Points on PLC*

- **HELP:** Brings up the MLX DATA Software Manual. (See *Fig. 1-5 MLX DATA Main Screen* and *Fig. 1-10 HELP Button* and .)

*Fig. 1-10: HELP Button*

- **Status Bar:** Shows the status of the software. (See *Fig. 1-5 MLX DATA Main Screen* and *Fig. 1-11 Status Bar*.)

*Fig. 1-11: Status Bar*

1.3 Customer Service Information

If in need of technical assistance, contact the Yaskawa Motoman service staff at (937) 847-3200. Please have the following information ready before calling:

- MLX DATA model and version
- Description of difficulty (make note of any error messages)
2 Installation

2.1 Installing MLX DATA

MLX DATA is part of the MotoSoft family of software solutions. The software simplifies the process of finding, exporting, and importing various MLX Data.

- Depending on local requirements software installation can be individually, with any combination or completely.
- The MLX DATA software is installed by default under the Motoman program manager group
  - On 32 bit windows: (C:\Program Files\Motoman\MLxData). 
  - On 64 bit windows: (C:\Program Files (x86)\Motoman\MLxData).
3  Operation

3.1  Setting the Communication Settings

1. Open the MLX Data Software program and observe the MLX DATA Main Screen appears.

2. On the MLX DATA Main Screen in the Communication Settings section use the pull down menus and select the desired (See Fig. 3.2 Viewing Teach Points on the PLC):
   • Robot Number
   • PLC Processor Slot from the pull down menus wanting to view.

Fig. 3-12: Communication Settings and View Teach Point on PLC

3. Enter the PLC IP Address in the appropriate location in the Communication Section.
3.2 Viewing Teach Points on the PLC

These procedures will give the ability to view the Teach Point directly from the PLC on a computer screen.

1. Complete Section 3.1 “Setting the Communication Settings”, if required.

2. Press and release [View Teach Point on PLC] button and observe the View Teach Point screen appears. (See Fig. 3-13 Select Robot Number / Job Number / Teach Point Section of the View Teach Point Screen.)

   **NOTE** Teach Point information can only be viewed and not changed.

   Fig. 3-13: Select Robot Number / Job Number / Teach Point Section of the View Teach Point Screen

3. Using the pull down menus select the Robot Number, Job Number and Teach Point.

4. Observe the View Teach Point Data section populates with:
   - Job Name
   - Teach Point name
   - Tool Number
   - User Frame Number
   - User Frame Number
   - Axis Positions, Pos0 through Pos6
   - TCP Positions, Pos0 through Pos6
3.3 Exporting MLX Data Information

Exporting MLX Data Information gives the ability to keep a record and a back up file of the required MLX Data.

1. Complete Section 3.1 “Setting the Communication Settings”, if required.

2. In the Export File Path enter the location of the file(s) to export using the ... (Browse Button.)

*Fig. 3-14: Export Section of the Main Screen*

3. Using the pull down menu select from the following what to Export (See *Fig.3-14 Export Section of the Main Screen.*):
   - All User Data
   - Job Teach Points
   - UserFrame Data
   - Interference Zone Data
   - Export Tool Data

4. Press the [Start Export] button and observe the Success! popup screen appears press the [OK] button. (See *Fig.3-15 Export Process Complete Popup.*)

*Fig. 3-15: Export Process Complete Popup*

**CAUTION**

The export data can be viewed using Notepad or similar software but do not change any part of the data or problems can occur if data needs restored.
3.4 Importing MLX Data Information

Importing MLX Data Information gives the ability to restore data if the data is lost or corrupted.

1. Complete Section 3.1 “Setting the Communication Settings”, if required.

2. In the Import File(s) Path enter the location of the file to import using the [Browse Button]. Repeat for each file to import.

*Fig. 3-16: Import Section on Main Screen*

3. If the data importing has “Teach Points” go to step 6 otherwise go to step 6.

*NOTE*

The Job Import Parameters section of the Import Data section is not available unless the Import File(s) contain “Teach Point” in one of the paths to be imported.

4. Select either all jobs or a specific job number to import data for. (See Fig.3-16 Import Section on Main Screen.)

5. Select what points in the Job(s) to import data for.

*NOTE*

The Job Import Parameters section of the Import Data section is not available unless the Import File(s) contain “Teach Point” in one of the paths to be imported.

6. Press the [Start Import of Files] button and observe the Operation Complete popup screen appears press the [OK] button.

*Fig. 3-17: Import*
Specifications are subject to change without notice for ongoing product modifications and improvements.