For DX100 for Industrial Robot MOTOMAN
Job Editing Software for Personal Computer
Job EditorDX OPERATION MANUAL

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

Part Number: 156061-1CD
Revision: 0
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1. INTRODUCTION

1.1 Hardware Requirements

The Job EditorDX operates with the configurations shown in Table 1.

<table>
<thead>
<tr>
<th>Hardware Requirement</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>OS</td>
<td>Microsoft Windows 2000 / XP / Vista *)</td>
</tr>
<tr>
<td>Required Memory</td>
<td>32 MB or more</td>
</tr>
<tr>
<td>CPU</td>
<td>Pentium processor 90 MHz or more</td>
</tr>
<tr>
<td>Hardware Disk Capacity for Installation</td>
<td>30 MB or more</td>
</tr>
<tr>
<td>Display</td>
<td>Supported by MS-Windows (with 256 color or more)</td>
</tr>
<tr>
<td>Mouse</td>
<td>Supported by MS-Windows</td>
</tr>
<tr>
<td>Hardware Lock Key</td>
<td>Single user registration. If an conversion adapter is required, refer to “Hardware Lock Key” for details.</td>
</tr>
</tbody>
</table>

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**NOTE**

Power Users group or upper group membership is required for a user who operates Job EditorDX with Windows 2000/XP/Vista.
1.2 Hardware Key

For proper operation, install the provided hardware key to the personal computer before using this software.

Perform <Check the computing environment> and <Installation of driver> explained below before connecting the key to the personal computer. Connect the key to the USB port after completing those procedures.

<Check the computing environment>
Multi-connection of USB type key is not available for one USB port because of hardware structure. Therefore, only one key can be connected to one USB port. When installing multiple software with USB keys into one personal computer, use a personal computer which provides at least the same numbers of USB ports as the number of software to be installed.

<Installation of driver>
Be sure to install the driver with key detached from personal computer.

For Windows 2000/XP/Vista environment:
・Execute "¥SentinelDriver¥Sentinel System Driver Installer 7.4.0.exe" of installation CD-ROM.
・Refer to "¥SentinelDriver¥Manual¥us¥Readme.pdf" for the installation procedure.

For Windows NT4.0 environment:
・ Execute "¥SentinelDriver¥SSD5411¥SSD5411-32bit.EXE" of the installation CD-ROM.
・ Refer to "¥SentinelDriver¥SSD5411¥Manual¥us¥Readme.pdf " for the installation procedure.

Note: 1. The necessary drivers must be install for WindowsNT4.0/2000/XP/Vista environment.
2. When installing the driver under WindowsNT4.0/2000/XP/Vista environment, be sure to login in administrator mode in order to add files to system folder and input information in registry.
3. If a key is connected to personal computer before installing the driver, Windows wizard ([Add New Hardware] Wizard) starts up. In this case, press [cancel], and remove the key from personal computer and then install the driver.

Refer to "6.1 Frequently-asked questions" for other countermeasures concerning hardware lock key.
1.3 Job EditorDX

1.3.1 What is the Job EditorDX?

The Job EditorDX is editing software for INFORMⅢ, the control language of the robot controller, the DX100.

1.3.2 Features

On a personal computer, Job EditorDX can be used in the same manner as a programming pendant to edit jobs. The displays where editing can be done are the same as those for the programming pendant. Anyone who can edit with the programming pendant can easily use this software.

NOTE Since the parameter file used in Job EditorDX are the same used in the programming pendant, required instructions and additional items (such as tags, numeric data) may not be displayed properly unless presetting each parameter options.
2. SETUP

2.1 The Setup Program

To install the Job EditorDX in Windows, follow the procedures below. However, be sure to login on administrator mode in installing the Job EditorDX in Windows NT4.0/2000/XP/Vista, or else the system related DLL files in Windows might not be updated.

1) Insert the installation CD-ROM into the CD-ROM drive.

2) Click the [Start] button and point to [Settings]. Click [Control Panel], and select the [Add/Remove Programs].

3) Click the [Install] button. Follow the on-screen instructions to run “Setup.exe” from the CD-ROM drive.

4) Clicking the [Finish] button and the [Execute Application] button calls up the [Setup] dialog box.

5) Follow the on-screen instructions.

6) When the setup is completed, [Job EditorDX] is registered under the [Job EditorDX] folder that appears by clicking the [Start] button in the task bar and selecting [Program] and then [Motoman].

Note: To re-install the Job EditorDX for some reason, click the [Start] button and point to [Settings]. Click [Control Panel], and double-click the [Add/Remove Programs] icon. Then select [Job EditorDX], and delete all the Job EditorDX application files before starting re-installation.
3. BASIC OPERATION

3.1 Basic Concept and Operation Flow

3.1.1 Operation Flow

This software requires only parameter files. To edit the same instructions as the programming pendant, save the parameter file from the programming pendant in advance.

3.1.1.1 Saving a Parameter File (ALL.PRM)

Save ALL.PRM and the job file to be edited from the programming pendant.

NOTE: Since the parameter file used in Job EditorDX are the same used in the programming pendant, required instructions and additional items (such as tags, numeric data) may not be displayed properly unless presetting each parameter options.

3.1.1.2 Creating a Folder

Create a folder anywhere on the personal computer, and copy the parameter file and job file that have been saved from the programming pendant to the folder.

3.1.1.3 Editing

Use the Job EditorDX to open the job file and save it after editing.

3.1.1.4 Loading to the Programming Pendant

Load the edited file to the programming pendant using the same procedure as described in paragraph 3.1.1.1.
3.2 Startup of the Job EditorDX

3.2.1 Clicking the Job EditorDX

To start up the Job EditorDX, click the [Start] button and select in the order of [Program], [Motoman], [Job EditorDX], and then select “Job EditorDX”.

The following window appears with a correct operation:
3.3 Basic Windows

The basic windows are the “Main Window,” “Line-edit Box,” and the “Detail Edit Window.”
3.4 Selecting a Job

Various basic parameter files and jobs are provided in Sample under the installation folder. Refer to those samples before reading the following procedures.

3.4.1 Opening One Job

① Click [File].

② Click [Select Job].

The [Open] dialog box appears.

③ Click the file to be opened.

④ Click [Open].

NOTE

The DX parameter file (ALL.PRM) must be in the directory having the job. If there is no parameter file, the following warning appears.
3.4.2 Opening Multiple Jobs at One Time

① Click [File].

② Click [Select Job].

The [Open] dialog box appears.

③ Click the file to be opened.

④ Hold the [Ctrl] key down and click the file to be opened.

⑤ Hold the [Ctrl] key down and click the file to be opened.

⑥ Click [Open].
3.5 Creating a Job

If there are no job files, you can create new job file by selecting parameter file. Refer to “3.8 When No Job is Provided" for details.

3.5.1 Creating a Job

① Click [File].
② Click [Create Job].

The [Create Job] dialog box appears.

③ Enter a job name using lower-case letters, maximum 32 characters.
④ Click [OK].

The new job appears.
A file is created in the folder. If any existing job has the same name, the following message appears. Select [Yes] only when the existing job is to be overwritten.

### Selecting Options when Creating a Job

#### 3.5.1.1 Job Type

Select whether a job including position data is to be created. “Robot” contains position data, and “Non Robot” contains no position data.

#### 3.5.1.2 Control Group

Select the job control group. If the control group is not found in this list, register the control group in the “Group Combination Registry,” and re-open this window.

(Refer to "5.2 Defining Control Groups" for details on defining control groups.)
3.6 Copying a Job

First, you open job file that you want to copy by clicking [File]-[Select Job], and you operate the following in this state. (Refer to "3.4 Selecting a Job" for details.)

① Click [File].

② Click [Copy Job].

The [Copied Job Name Input] dialog box appears.

③ Enter a job name using lower-case letters, maximum 32 characters.

The newly copied job appears.

**NOTE**

Any existing job cannot be selected for the Copied Job Name Input. If selected, the following message appears to prompt user to enter a different name. To select the name of an existing job for the Copied Job Name Input, delete the existing job first.
3.7 Deleting a Job

First, you open job file that you want to delete by clicking [File]-[Select Job], and you operate the following in this state. (Refer to 3.4 "Selecting a Job" for details.)

1. Click [File].
2. Click [Delete Job].

The [Delete Job] dialog box appears.

3. Click the file to be opened.
4. Click [Open].

Refer to “3.4.2 Opening Multiple Files at One Time” for details on deleting multiple files at one time.

NOTE
3.8 When No Job is Provided

When no job is provided, select the parameter file to create an environment for making a new job.

3.8.1 Opening a Parameter File

① Click [File].

② Click [Select Job].

The [Open] dialog box appears.

③ Click here.

④ Click [PRM Files].

PRM Files appear.

⑤ Click [All.prm].

⑥ Click [Open].
3.9 Changing a Job Name

First, you open job file that you want to rename by clicking [File]-[Select Name], and you operate the following in this state. (Refer to "3.4 Selecting a Job" for details.)

① Click [File].
② Click [Modify Name].

The [Modified Job Name Input] dialog box appears.

③ Enter a job name using lower-case letters, maximum 32 characters.

Any existing job cannot be specified for the Modified Job Name Input. If selected, the following message appears to prompt user to enter a different name. To select the name of an existing job for the Modified Job Name Input, delete the existing job first.
3.10 Closing a File

① Click [File].

② Click [Close].

When the file to be closed has been modified, the following message appears.

Saves modified contents, and closes the file.

Closes the file without saving the modified contents.

Cancels closing the file.
3.11 Saving a File

① Click [File].

② Click [Save].

The following error message may appear when saving a file. This message appears when the position variable is not defined, although there is an instruction using a position variable in the job which was going to be saved. Select [View] and then [Position Variable] to define the position variable.

NOTE
3.12 Printing

① Click [File].

② Click [Print].

The [Print] dialog box appears.

③ Click [OK].
3.13 Exit

If there is any job that has not been saved when attempting to close the Job EditorDX, the dialog will appear to ask if the edited job is to be saved.

① Click [File].
② Click [Exit].
4. EDITING

4.1 Adding an Instruction

Press the cursor keys to highlight the address of the line where an instruction is to be added. This can be also done by clicking the mouse directly.

① Move to the address of the line where an instruction is to be inserted.

② Press the [Space] key, or click [Edit] on the Menu and then click [Insert Instruction]. (Menu: [Edit] - [Insert Instruction])

The [Select Inst] dialog box for each group of instructions appears.

③ Select a line by pressing the cursor keys or by clicking the mouse.

④ Press the [Enter] key or double-click the mouse.

*) Press the [Esc] key to exit the Add mode.

The [Select Inst] dialog box appears.

⑤ Select a line by pressing the cursor keys or by clicking the mouse.

⑥ Press the [Enter] key or double-click the mouse.

*) Press the [Esc] key to return to the [Select Inst] dialog box for each group of instructions.
The line-edit box appears in the lower-left of the window.

Press the [Enter] key or click [OK].

The instruction has been inserted.
4.2 Deleting an Instruction

4.2.1 Deleting One Line

1. Select the address or instruction to be deleted.
2. Click [Edit].
3. Click [Cut].

The dialog box appears asking if you are sure you want to delete the line.

1. Click [Yes].

**NOTE** Since the cut contents are copied to the buffer, they can be pasted on another place or job.

4.2.2 Deleting Multiple Lines

Perform the same operation as described in “4.2.1 Deleting One Line” after selecting multiple lines described in the next section.
4.3 Selecting Multiple Lines

4.3.1 Using the Keyboard

① Move to the first line to be selected.

② Press the [SHIFT] key.

③ Move the cursor holding the [SHIFT] key down to select additional lines.

4.3.2 Using the Mouse

① Click the first line to be selected. (Left side of line.)

② Drag over adjacent lines to select multiple lines.
4.4 Copying an Instruction

4.4.1 Copying One Line

1. Move to the line to be copied.
2. Click [Edit].
3. Click [Copy].

Perform the same operation as described in “4.5 Pasting an Instruction.”

NOTE

There is no limitation to the number of instructions that can be copied. Move instructions can also be copied, however, pay attention in operating those copied instructions.

4.4.2 Copying Multiple Lines

Perform the procedure described in “4.3 Selecting Multiple Lines,” and then perform the procedures as described in steps ② and ③ in “4.4.1 Copying One Line.”
4.5 Pasting an Instruction

4.5.1 Paste

① Move to the line where data is to be pasted.
② Click [Edit].
③ Click [Paste].

A dialog box appears asking if you are sure you want to paste the data.

④ Click [Yes].

4.5.2 Reverse

“Reverse” pastes several copied lines in the opposite order of how they were copied. A group of move instructions for returning can be simply created by copying the group of move instructions for going, and reverse-pasting them.

① Select multiple lines and copy.
① Click [Reverse].

② Move to the position where the data is to be inserted. The data will be inserted on the next line.

③ Click [Edit].

④ Click [Reverse].

A dialog box appears asking if you are sure you want to reverse-paste the data.

⑤ Click [Yes].

The data has been reverse-pasted.
4.6 Modifying an Instruction

4.6.1 Changing Numeral Values (1)

① Move to the instruction line to be edited.

② Press the [Space] key, or click [Edit] on the Menu and then click [Modify Instruction].

The line-edit box appears in the lower-left of the window.

③ Press the [→] key.

④ Press the [↑] key.

⑤ Press the [↑] or [↓] key until obtaining the desired value.

⑥ Press the [Enter] key or click [OK].

⑦ To cancel the changes, press the [Esc] key or click [Cancel].

The new data appears in the main window.
4.6.2 Changing Numeral Values (2)

① Move to the instruction line to be edited.

② Press the [Space] key, or click [Edit] on the Menu and then click [Modify Instruction].

The line-edit box appears in the lower-left of the window.

③ Press the [→] key.

④ Press the [Space] key.

The [Value Input] dialog box appears.

⑤ Change the value by one of the following three methods.

1) Enter the value directly.

2) Press the [↑] or [↓] key.

⑥ Click [OK].

⑦ Press the [Enter] key or click [OK].

⑧ To cancel the changes, press the [Esc] key or click [Cancel].
The new data appears in the main window.

**NOTE**

Lines cannot be moved in the main window during line editing.
4.6.3 Changing Characters

① Move to the instruction line to be edited.

② Press the [Space] key, or click [Edit] on the Menu and then click [Modify Instruction].

③ Press the [→] key.

④ Press the [Space] key.

⑤ The [Character Input] dialog box appears.

⑥ Enter the character string.

⑦ Click [OK].

⑧ To cancel the changes, press the [Esc] key or click [Cancel].

The new data appears in the main window.
4.7 Changing the Motion Type

① Move to the instruction line to be edited.

② Press the [Space] key, or click [Edit] on the Menu and then click [Modify Instruction].

③ Press the [↑] or [↓] key to select the desired motion type.

Motion types can be changed in this order. Speed is relative speed and converted automatically.

④ Press the [Enter] key or click [OK].

④ To cancel the changes, press the [Esc] key or click [Cancel].

The instruction line with the new motion type appears in the main window.
4.8 Using an Alias

1. Move to the instruction line.

2. Press the [Space] key, or click [Edit] on the Menu and then click [Modify Instruction].

3. Press the [→] key.

4. Press the [Space] key.

The [Condition file edit] dialog box appears.

5. Press the [↑] or [↓] to select the desired item.

6. Click on [OK] button.
⑦ Press the [Enter] key.

⑦ To cancel the changes, press the [Esc].

The new data appears in the main window.

NOTE

The alias function may not be used depending on parameter settings.
The names such as I/O name or variable name cannot be changed in the main window.
4.9 Editing in the Detail Edit Window

4.9.1 Changing an Item

① Move to the instruction line to be edited.

② Press the [Space] key, or click [Edit] on the Menu and then click [Modify Instruction].

The line-edit box appears in the lower-left of the window.

③ Press the [Space] key.

The [Detail Edit] window appears.

④ Use the [↓], [↑], [→] or [←] key to move the cursor to the item to be changed.

⑤ Press the [Space] key.

A selection list appears.

⑥ Use the [↑] or [↓] key to select an item.

⑦ Press the [Enter] key.

*) To cancel, press the [Esc] key.

The new item appears in the [Detail Edit] window.
4.9.2 Adding an Item

To call up the Detail Edit window, perform the same procedure as described in steps ① to ③ of “4.9.1 Changing an Item.”

① Use the [↓], [↑], [←] or [→] key to move the cursor to the item to be changed.

② Press the [Space] key.

③ Press the [Enter] key.

⑧ Click [OK].

The line-edit box appears in the lower-left of the window.

The new instruction appears in the main window.
A selection list appears.

③ Use the [↓] or [↑] key to make a selection.

④ Press the [Enter] key.

The added item appears in the [Detail Edit] window.

⑤ Move the cursor to the numerical data when the numerical value of the item is to be changed.

⑥ Press the [Space] key.

The [Value Input] dialog box appears.

⑦ Change the value by one of the following three methods (1) through (3) on the right.

⑧ Click [OK].

The [Detail Edit] window appears with the new value.

Perform the same procedure as described in “4.9.1 Changing an Item” to return to the main window.
4.9.3 Deleting an Item

To call up the Detail Edit window, perform the same procedure as described in steps ① to ③ of “4.9.1 Changing an Item.”

① Use [↓], [↑], [←] or [→] key to move the cursor to the item to be deleted.

② Press the [Space] key.

③ Use the [↓] or [↑] key to make a selection.

④ Press the [Enter] key.

A selection list appears.

The [Detail Edit] window appears with the item deleted.

Perform the same procedure as described in “4.9.1 Changing an Item” to return to the main window.
4.9.4 Using an Alias

To call up the Detail Edit window, perform the same procedure as described in steps ① to ③ of “4.9.1 Changing an Item.”

1. Use \[ \downarrow \], \[ \uparrow \], \[ \rightarrow \] or \[ \leftarrow \] key to move the cursor to the item to be deleted.

2. Press the [Space] key.

A selection list appears.

3. Use the \[ \downarrow \] or \[ \uparrow \] key to make a selection.

4. Press the [Enter] key.

A confirmation dialog box appears after selecting an item available for alias.

5. Click on [OK] button.
The [Condition file edit] window appears.

⑥ Use the [↓] or [↑] key to make a selection.

⑦ Click on [OK] button.

The [Detail Edit] window appears with the item changed to the alias.

Perform the same procedure as described in “4.9.1 Changing an Item” to return to the main window.

**NOTE**
The alias function may not be used depending on parameter settings.
The names such as I/O name or variable name cannot be changed in the main window.
4.10 Searching

4.10.1 Searching for Character Strings

① Click [Edit].

② Click [Find].

The [Find and Jump] dialog box appears.

③ Enter the character string to be found (disregarding whether upper-case or lower-case characters are used).

④ Click [Next].

The search for the character string starts.

NOTE
The search starts from the cursor’s position and goes down the list.

4.10.2 Moving the Line Number or Step Number

To call up the [Find and Jump] dialog box, perform the same procedure as described in steps ① to ④ of “4.10.1 Searching Character String.”

① Select a line No. or Step No.

② Click here to select the No.

③ Click [Jump].

The search for the line No. or Step No. starts.

NOTE
The search starts from the cursor’s position and goes down the list.
5. EDITING OTHER ITEMS

5.1 Changing the Speed

5.1.1 Changing according to Speed Type

1. Select the range to be changed.

2. Click [Edit].

3. Click [Modify Speed].

The [Modify speed] dialog box appears.

4. Select VJ.

5. Enter speed 100.00 as the speed.

6. Click [OK].
The main window appears with only VJ changed to 100.00.

5.1.2 Changing Speed Relatively (Changing Speed in Ratio for Current Speed)

To call up the "Modify speed" dialog box, perform the same procedure as described in “5.1.1 Changing according to Speed Type.”

1. Select RELATIVE

2. Enter 50.

3. Click [OK].

The main window appears with all the speeds changed to 50%.
5.2 Defining Control Groups

When there is more than one control group, the combination can be defined. The control group to be selected for new job creation, etc. does not appear on the window when creating a job unless it is defined here.

5.2.1 Adding a Combination

1. Click [Mode].
2. Click [Match Control Group].

The [Regist Match of Group] dialog box appears.

3. Click [Add].

The [Select Group] dialog box appears.

4. Click [R1].
5. Click [S1].

“R1 + S1” has been added to the Regist Match of Group list.
5.2.2 Changing a Combination

To call up the "Regist Match of Group" dialog box, perform the same procedure as described in steps ① and ② of “5.2.1 Adding a Combination.”

① Select the combination to be changed.

② Click [Modify].

The [Select Group] dialog box appears.

To define the group combination, perform the same procedure as described in steps ① and ② of “5.2.1 Adding a Combination.”

“S1” in the [Regist Match of Group] dialog box has been changed to “R1 + S1”.

5.2.3 Deleting a Combination

To call up the "Regist Match of Group" dialog box, perform the same procedure as described in steps ① and ② of “5.2.1 Adding a Combination.”

① Select the combination to be deleted.

② Click [Del].

“S1” has been deleted from the [Regist Match of Group] dialog box.
5.3 Defining Position Variables

① Click [View].

② Click [Position Variable].

③ Click [Robot…].

The [Position Variable] dialog box appears.

④ Click here to select the file No.

⑤ Click here to select the frame.

⑥ Click [OK].

To create a job using position variables, the position variables must be defined in this window before saving the data.
### 5.4 Adding Comments

1. Click [View].
2. Click [Header].

The [Header of Job] dialog box appears.

3. Enter comment character string.
4. Click [OK].

**NOTE**
Enter maximum of 32 characters for the comment character string.
5.5 Entering the Numbers and Names of Local Variables Used

① Click [View].
② Click [Header].
③ Click [More].
④ Enter the number.
⑤ Click [Edit].
⑥ Click [OK].

The [Header of Job] dialog box appears.

The Local variable Num text boxes appear.
The [Local variable edit] window appears.

- The [More] button occasionally becomes invalid and becomes unable to select.
- The [Local variable edit] window may not appear after clicking on the [Edit] button depending on parameter settings.
5.6 Increasing the Instruction Types to be Used

5.6.1 Changing the Language Level

Since the “language level” is set to “Reduction” by default, the instruction types displayed are less than the total number available. Setting the language level to “Extension” increases the number of instruction types displayed.

1. Click [Mode].

2. Click [Extension].

The number of instructions increases.

5.6.2 Parameter Option

For example, the SRCH tag is one of several instructions that can be added to MOVIL. Because the instruction is a parameter option, it requires the parameter file, where the flag permitting the use of the SRCH tag is valid, from the programming pendant.
5.7 Displaying Step Nos., I/O Names, or Variable Names

1. Click [Mode].

2. Click [Option].

The [Option] dialog box appears.

3. Click the desired items to be displayed.

4. Set the position to display the I/O name or the variable name.

5. Click [OK].

Names and numbers are displayed.
5.8 Opening a Call Job

This function can be used only with a CALL instruction or a JUMP instruction.

1. Move the cursor to a CALL or JUMP instruction.
2. Click [View].
3. Click [Open Call Job].

The job that is designated in the CALL or JUMP instruction appears.
5.9 Changing a Condition File

5.9.1 Changing an I/O Name File (IONAME.DAT)

① Click [Mode].
② Click [Condition File Edit] and [I/O name].
③ Select I/O.
④ Click [Edit].
⑤ Enter an I/O name up to 16 characters.

The [Condition file edit] dialog box appears.

The [Character edit] dialog box appears.

NOTE
If there is no I/O name file, a file is automatically created after entering the I/O name in step ⑤. This I/O name file can also be used with the programming pendant in the same way as a job edited by the Job EditorDX can be used with the programming pendant.
5.9.2 Changing a Variable Name File (VARNAME.DAT)

1. Click [Mode].
2. Click [Condition File Edit] and [Variable name].

The [Condition file edit] dialog box appears.

3. Select variable.
4. Click [Edit].

The [Character edit] dialog box appears.

5. Enter an I/O name up to 16 characters.

NOTE
If there is no variable name file, a file is automatically created after entering the variable name in step 5. This variable name file can also be used with the programming pendant in the same way as a job edited by the Job EditorDX can be used with the programming pendant.
5.10 Editing an Expression

To edit an expression, use a "SET" instruction.

NOTE: To edit an expression, set the language level to "Standard" or "Extension".

1. Move to the address area of the line to be inserted.

2. Press the [Space] key, or click [Edit] on the Menu and then click [Insert Instruction].

The [Select Inst] dialog box for each group of instructions appears.

3. Select a line by pressing the cursor keys or clicking the mouse.

4. Press the [Enter] key or double-click the mouse.

5. Select a line by pressing the cursor keys or clicking the mouse.

6. Press the [Enter] key or double-click the mouse.

*) Press the [Esc] key to exit the Add mode.

*) Click here or press the [Esc] key to return to the [Select Inst] dialog box for each group of instructions.
The line-edit box appears in the lower-left of the window.

⑦ Press the [Space] key.

The [Detail Edit] dialog box for the SET instruction appears.

⑧ Press the [Space] key.

A selection list appears.

⑨ Press the [Enter] key.

*) Press the [Esc] key to cancel.

The [Detail Edit] dialog box for EXPRESS appears.

⑩ Set an expression.

⑪ Click [OK].

*) Displays the set expression.

⑪-a) Click here to add the data.

⑪-b) Click here to delete the data.
Double-click the position or click [Edit] to select the following items.

(a) Left parenthesis
   By performing double-click or clicking [Edit], the display changes in the following order.
   \[
   ( \rightarrow ( \rightarrow ((( \rightarrow ) \rightarrow ) \rightarrow ) \rightarrow ) \rightarrow )
   \]

(b) Data
   The [Value Input] box appears.
   (1) Enter the value.
   (2) Click [OK].

(c) Changing the data type
   A selection list appears.
   (1) Use the \[
   \downarrow \text{ or } \uparrow \text{ key to select the data}
   \]
   (2) Press the [Enter] key.
   (3) Enter the value.
   (4) Click [OK].

(d) Right parenthesis
   By performing double-click or clicking [Edit], the display changes in the following order.
   \[
   ) \rightarrow ))) \rightarrow )))
   \]

(e) Operator
   A selection list appears.
   (1) Use the \[
   \downarrow \text{ or } \uparrow \text{ key to select the operator.}
   \]
   (2) Press the [Enter] key.
The [Detail Edit] dialog box for the SET instruction appears again.

13 Click [OK].

The line-edit box appears in the lower-left of the window.

14 Press the [Enter] key.

The changed main window appears.
5.11 Using a Macro Command

By storing the macro definition file (MACRO.DAT) in the same folder as the parameter file (All.prm), the defined macro command can be used.

1. Move the cursor to the address area of the line to be added.
2. Press the [Space] key, or click [Edit] on the Menu and then click [Insert Instruction].
3. Move the cursor to "MACRO" and select it by clicking it.

The [Select Inst] dialog box for each group of instructions appears.

The [Select Inst] dialog box appears.

Instructions that have been defined in the macro definition file appear. These instructions are used to add or edit the macro command.

**NOTE**
The Job EditorDX can use a macro command but cannot create the command. To use this function, use the parameter file of which option for "INFORM creation function" is available.
5.12 Changing the Font

The font can be changed in the “Main Window,” “Line-edit Box,” or “Detail Edit Window.”

1. Click [View].
2. Click [Font].
3. Click the window to be changed.

The [Font] dialog box appears.

4. Click [OK].
5.13 Changing the Background Color

The background color can be changed in the “Main Window,” “Line-edit Box,” or “Detail Edit Window.”

① Click [View].
② Click [BackColor].
③ Click the window to be changed.

The [Color] dialog box appears.

① Select the color.
⑤ Click [OK].
5.14 Changing the Comment Color

① Click [View].

② Click [Comment Color].

The [Color] dialog box appears.

③ Select the color.

④ Click [OK].
5.15 Changing the Language

① Click [View].

② Click [Change Language].

The [Select Language] dialog box appears.

③ Select the language.

④ Click [OK].
6. APPENDIX

6.1 Frequently-asked questions

6.1.1 When the driver has been installed with USB type key connected to a personal computer

1. Under the state that the USB type key is attached to the personal computer, delete the item registered as “USB Token” in Device Manager.
2. Uninstall the driver (Sentinel System Driver) with [Add/Remove Programs].
3. Install the driver with key detached from personal computer. With the procedure above, the driver can be performed normally.
   (For installation, refer to “1.2 Hardware Lock Key” in the following section.)

6.1.2 When the previous version driver has been installed after installing the driver

In this case, a problem may arise rarely. Therefore, uninstall the driver (Sentinel System Driver) by [Add / Remove Programs].
(For installation, refer to “1.2 Hardware Lock Key” in the following section.)