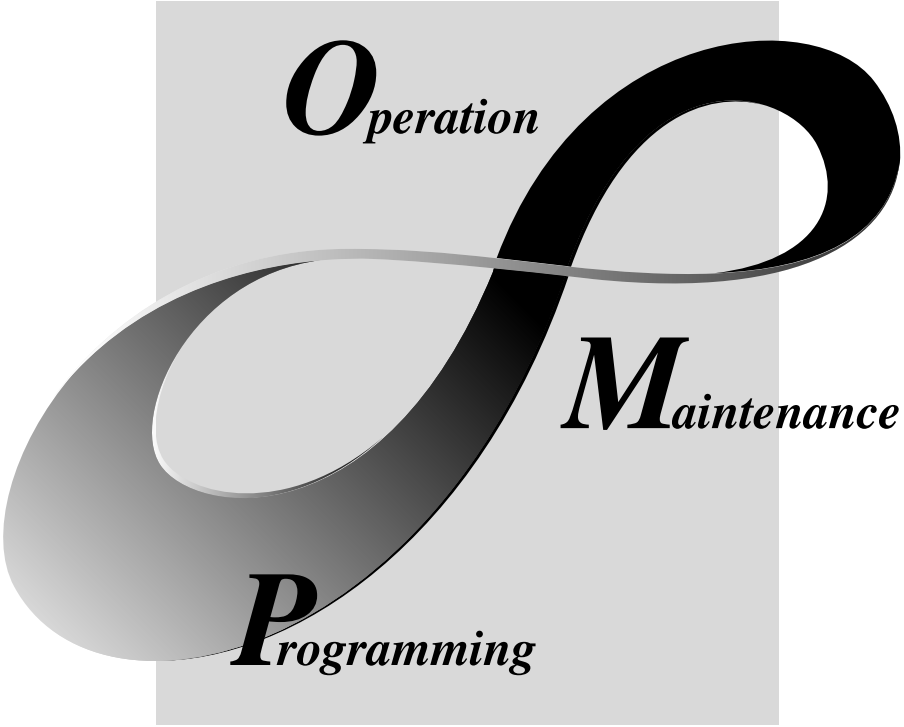
# GX Configurator-ST Version 1

Operating Manual

MITSUBISHI

MELSOFT




MELSOFT
Integrated FA Software

SW1D5C-STPB-E

# ● SAFETY PRECAUTIONS ●

(Read these precautions before using.)

When using Mitsubishi equipment, thoroughly read this manual and the associated manuals introduced in this manual. Also pay careful attention to safety and handle the module properly.
The precautions given in this manual are concerned with this product. Refer to the user's manual of the network system to use for a description of the network system safety precautions.
These SAFETY PRECAUTIONS classify the safety precautions into two categories: "DANGER" and "CAUTION".

| | |
|---|---|
| ⚠ DANGER | Indicates that incorrect handling may cause hazardous conditions, resulting in death or severe injury. |
| ⚠ CAUTION | Indicates that incorrect handling may cause hazardous conditions, resulting in medium or slight personal injury or physical damage. |

Depending on circumstances, procedures indicated by ⚠ CAUTION may also be linked to serious results.
In any case, it is important to follow the directions for usage.

Store this manual in a safe place so that you can take it out and read it whenever necessary. Always forward it to the end user.

## [Design Instructions]

### ⚠ DANGER

- For data change and status control made to the MELSEC-ST system which is running from a Personal computer, configure the interlock circuit externally so that the system safety is ensured. The action to be taken for the system at the occurrence of communication errors caused by such as loose cable connection must be determined for online operation of MELSEC-ST system from Personal computers.

### ⚠ CAUTION

- Be sure to read the manual careful and exercise an appropriate amount of caution connecting to MELSEC-ST system and performing online operations (head module resetting, forced output test, etc.) while the personal computer is operating.
- When replacing the module online, make sure to observe the procedure specified for the module.
  For I/O module, refer to the chapter of online module change in the head module user's manual; for each intelligent function module, refer to the same chapter in the corresponding intelligent function module user's manual.

REVISIONS

＊ The manual number is given on the bottom left of the back cover.

| Print Date | ＊ Manual Number | Revision |
|---|---|---|
| Dec., 2003 | SH(NA)-080439ENG-A | First edition |
| Dec., 2005 | SH(NA)-080439ENG-B | Correction<br>How to Use This Manual, Section 2.2, Section 3.2, Section 5.1.2, Chapter 6 |
| Jan., 2006 | SH(NA)-080439ENG-C | Correction<br>Section 1.1, Section 5.3, Chapter 6, Section 7.6, Section 7.6.4, Section 8.1 |
| | | |

Japanese Manual Version SH-080438-C

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# —— SOFTWARE USER REGISTRATION ——

After agreeing to the terms of the END-USER SOFTWARE LICENSE AGREEMENT included in the package, please access the MELFANSweb Home Page (http://www.MitsubishiElectric.co.jp/melfansweb) and make a software user registration. (User registration is free of charge.)
You can also make a registration by faxing or mailing the "Software Registration Card" packed with the product.

1. Software Registration
   You can make a software registration by accessing the MELFANSweb Home Page or faxing or mailing the "Software Registration Card" packed with the product.
   After you have made a software registration, we will register the user and send the "Software registration confirmation" together with the user ID.
   We will also provide the latest information, such as the new product release, version upgrade information and event information, by direct mail.

2. Notes on Contact
   Please ask questions concretely and clearly using terms listed in the manual.
   When requesting us to solve a problem, provide us with detailed information for reproducing the problem.
   In addition, contact the respective manufacturers when asking questions about the operating system (OS) or the other vender's software products

User registration is valid only in Japan.


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INTRODUCTION

Thank you for choosing the Mitsubishi MELSOFT Series Integrated FA software.
Read this manual and make sure you understand the functions and performance of MELSOFT series thoroughly in advance to ensure correct use.

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## About Manuals

The following table lists manuals relevant to this product.

You can order it as necessary.

### Relevant Manuals

| Manual Name | Manual Number (Model Code) |
|---|---|
| MELSEC-ST System User's Manual<br>Describes the system configuration of the MELSEC-ST system and the performance specifications, functions, handling, wiring and troubleshooting of the power distribution modules, base modules and I/O modules. (Sold separately) | SH-080456ENG (13JR72) |
| MELSEC-ST PROFIBUS-DP Head Module User's Manual<br>Describes the performance specifications, functions, handling, wiring and troubleshooting of the MELSEC-ST PROFIBUS-DP head module. (Sold separately) | SH-080436ENG (13JR68) |


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### PURPOSE

Purpose of operation explained in each chapter, section or paragraph.

### BASIC OPERATION

Operation to be performed until the actual operation screen appears.

8.4 Copying the Module Information

*PURPOSE*

Copies the slice module from the saved project to the open project.
At this time, the parameters are also copied to the copied slice module.

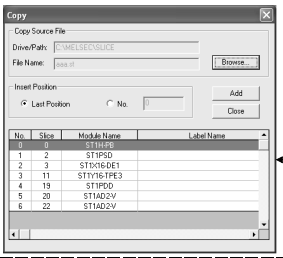
*BASIC OPERATION*

(1) Click the [File] → [Copy] menu.
(2) Specify the copy source project with the Browse button.
(3) Select the slice module to be copied, set the inserting position at the "Insert Position" section , and click the Add button.
(4) To close this screen, click the Close button.

**Point**

Perform the operation with the "Module Information List" screen displayed.
The "Module Information List" screen is displayed when the [View] → [Module Information List] menu is selected.

*DISPLAY/SETTING SCREEN*




Copy source project corresponding"module"list

DISPLAY/SETTING DATA

| Item | | Descriptio |
|---|---|---|
| Copy Source File | | Specify the copy source project. |
| | Drive/Path | Displays the drive and directory of the project. |
| | File Name | Displays the file name of the project. |
| | Browse button | Specifies the project.<br>The operation is the same as opening the existing project.<br>Refer to Section 7.2 for details.<br>When the project is specified, the modules of the copy source project are displayed in the "Copy source project corresponding module list". |

### DISPLAY/SETTING SCREEN

Screen used to make setting or provide display for the purpose being described.

### DISPLAY/SETTING DATA

Explains the display/setting screen items.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In addition, there are also the following explanations.

*HELPFUL OPERATION*

Describes application operation if there are multiple purposes and the basic operation and display/setting data do not provide enough information.

**Point**

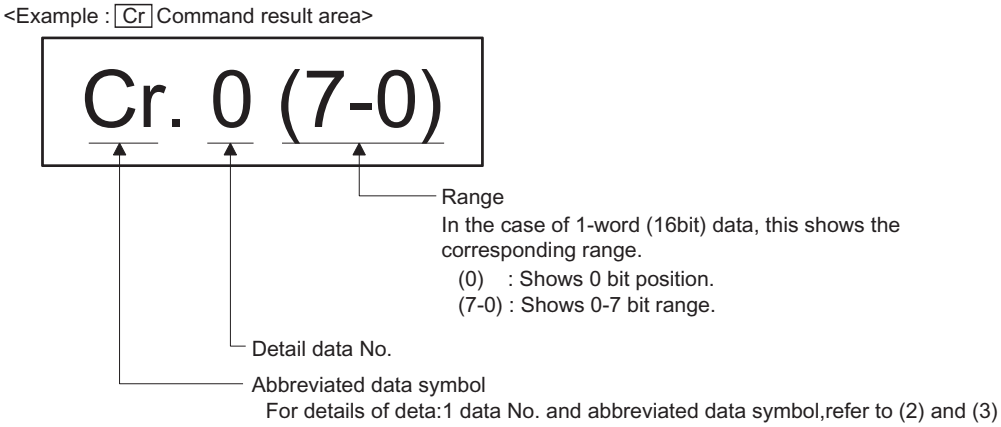
Provides information relevant to that page, e.g. the items you should be careful of and the functions you should know.

The following table lists the symbols used in this manual and their definitions.

| Symbol | Description |
|---|---|
| [ ] | Represents the menu name of the menu bar.<br>[ ] → [ ] indicates a drop-down menu.<br>Example: [File] → [New] menu |
| ( ) | Represents the tool button on the toolbar corresponding to the drop-down menu.<br>Example: [File] → [Save] menu ( ) |
| " " | Represents the item name in the dialog box.<br>Example: "File name" |
| | Represents a button.<br>Example: OK button |
| << >> | Represents the tab in the dialog box.<br>Example: <<Verify All Modules>> tab |

This manual explains each area for input data and output data using the following symbols.

(1) Data symbol



## (2) Input data

| Data symbol | | Area | Unit | Detail data No. notation |
|---|---|---|---|---|
| Br | Br.00 to Br.FF | Bit Input Area | 1 bit/1 symbol | Hexadecimal |
| Er | Er.00 to Er.FF | Error Information Area | 1 bit/1 symbol | Hexadecimal |
| Mr | Mr.0 to Mr.127 | Module Status Area | 1 bit/1 symbol | Decimal |
| Cr | *1 | Command Result Area | 1 word /1 symbol | Decimal |
| Wr | Wr.00 to Wr.33 | Word Input Area | 1 word /1 symbol | Hexadecimal |

*1: The detailed area of the command result area uses the following symbols.

| Data symbol | | Area |
|---|---|---|
| Cr.0 | Cr.0 (15-8) | Command Execution Result |
| | Cr.0 (7-0) | Start Slice No. of Execution Target |
| Cr.1 | | Executed Command No. |
| Cr.2 | | Response Data 1 |
| Cr.3 | | Response Data 2 |

## (3) Output data

| Data symbol | | Area | Unit | Detail data No. notation |
|---|---|---|---|---|
| Bw | Bw.00 to Bw.FF | Bit Output Area | 1 bit/1 symbol | Hexadecimal |
| Ew | Ew.00 to Ew.FF | Error Clear Area | 1 bit/1 symbol | Hexadecimal |
| Sw | Sw.0 to Sw.7 | System Area | 1 word /1 symbol | Decimal |
| Cw | *1 | Command Execution Area | 1 word /1 symbol | Decimal |
| Ww | Ww.00 to Ww.33 | Word Output Area | 1 word /1 symbol | Hexadecimal |

*1: Following shows the data symbols and the corresponding detail areas within the command execution area.

| Data symbol | Area |
|---|---|
| Cw.0 | Start Slice No. of Execution Target |
| Cw.1 | Command No. to be executed |
| Cw.2 | Argument 1 |
| Cw.3 | Argument 2 |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About the Generic Terms and Abbreviations

Unless otherwise specified, this manual uses the following generic terms and abbreviations to explain the configuration software.

| Generic Term/Abbreviation | Description |
|---|---|
| GX Configurator-ST | SWnD5C-STPB-E type products. (n: 1 or later) |
| Head module | ST1H-PB, MELSEC-ST PROFIBUS-DP compatible head module. |
| PROFIBUS-DP | PROFIBUS-DP network. |
| Bus refreshing module | Module that distributes the external SYS. power supply and external AUX. power supply among the head module and slice modules. |
| Power feeding module | Module that distributes external AUX. power supply among slice modules. |
| Power distribution module | Bus refreshing module and Power feeding module. |
| Base module | Module that transfers data/connects between the head module and slice modules, and between slice modules and external devices. |
| Input module | Module that handles input data in bit units. |
| Output module | Module that handles output data in bit units. |
| Intelligent function module | Module that handles input/output data in word units. |
| I/O module | Input module and output module. |
| Slice module | Module that can be mounted to the base module: power distribution module, I/O module and intelligent function module. |
| MELSEC-ST system | System that consists of head module, slice modules, end plates and end brackets. |
| Configuration software | Software used to set slave parameters for head module and slice modules.<br>(e.g., GX Configurator-DP) |


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Term definition

The following table explains the terms used in this manual.

| Term | Definition |
|---|---|
| Master station | Class 1 master station that communicates I/O data with slave stations. |
| Slave station | Device that communicates I/O data with the master station. |
| FDL address | Address assigned to the master station/slave station. |
| Extended diagnostic information | Information that is notified from the slave station to the master station when an error occurs at a slave station. |
| Slave parameter | The slave station parameter (including user parameter) set by the master station.<br>The setting items are described in the GSD file. |
| GSD file | The electronic file that includes description of the slave station parameter.<br>The file is used to set slave parameters by the master station. |
| Input data | Data sent from the head module to the master station.<br>The data consists of the following areas.<br>• Br Bit Input Area<br>• Information Area<br>Er Error Information Area<br>Mr Module Status Area<br>Cr Command Result Area<br>• Wr Word Input Area |
| Output data | Data that the head module receives from the master station.<br>The data consists of the following areas.<br>• Bw Bit Output Area<br>• Request Area<br>Ew Error Clear Area<br>Sw System Area<br>Cw Command Execution Area<br>• Ww Word Output Area |
| I/O data | Data (input data, output data) transferred between the head module and the master station. |
| Br.n bit input | Bit input data of each module. |
| Bw.n bit output | Bit output data of each module |
| Wr.n word input | Word (16-bit) input data of an intelligent function module.<br>In the case of analog input module, the digital output data value is stored. |
| Ww.n word output | Word (16-bit) output data of an intelligent function module.<br>In the case of analog output module, the digital setting data value is stored. |
| Information area | Bit/Word input data for checking each module status and command execution results. |
| Request area | Bit/Word output data for requesting each module to clear errors/to execute commands. |
| Number of occupied I/O points | The area, that is equivalent to the occupied I/O points, is occupied in Br Bit Input Area/Bw Bit Output Area. |
| Slice No. | No. assigned to every 2 occupied I/O points of each module. This numbering starts by assigning “0” to the head module and then proceeds in ascending order. (The maximum value is 127).<br>The No. is used for specifying the execution target. |
| Command | Requesting from the master station in order to read the module status, to set/control the intelligent function module command parameters. |

Packing List

The following indicates the packing list of GX Configurator-ST.

| Model Name | Product | Quantity |
|---|---|---|
| SW1D5C-STPB-E | GX Configurator-ST Version 1 (CD-ROM *1) | 1 |
| | END-USER SOFTWARE LICENSE AGREEMENT *1 | 1 |
| | Software registration card *1 | 1 |
| | License Certificate *1 | 1 |

*1: If this software is packed with GX Configurator-DP, each document is shared between this software and GX Configurator-DP.


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# 1 OVERVIEW

1

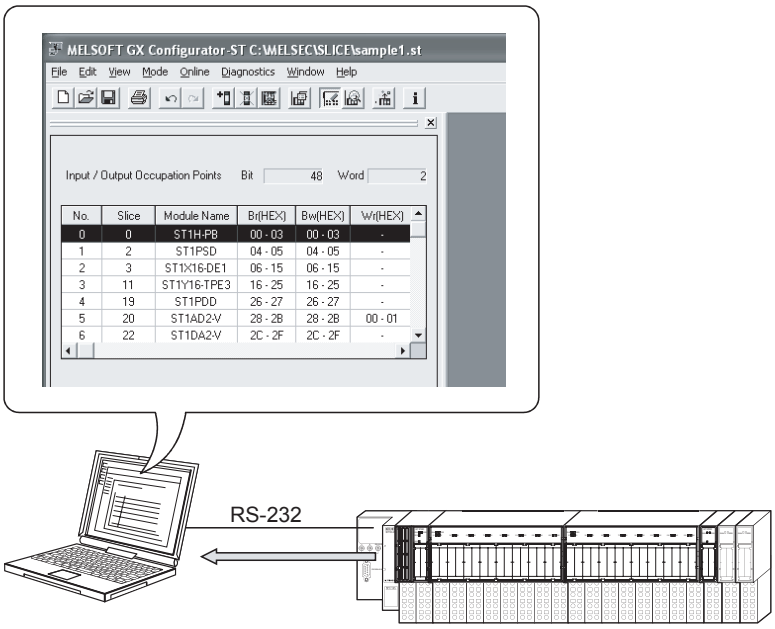
GX Configurator-ST is the configuration software dedicated to the MELSEC-ST system.

## 1.1 Features

### (1) Project creation of MELSEC-ST system

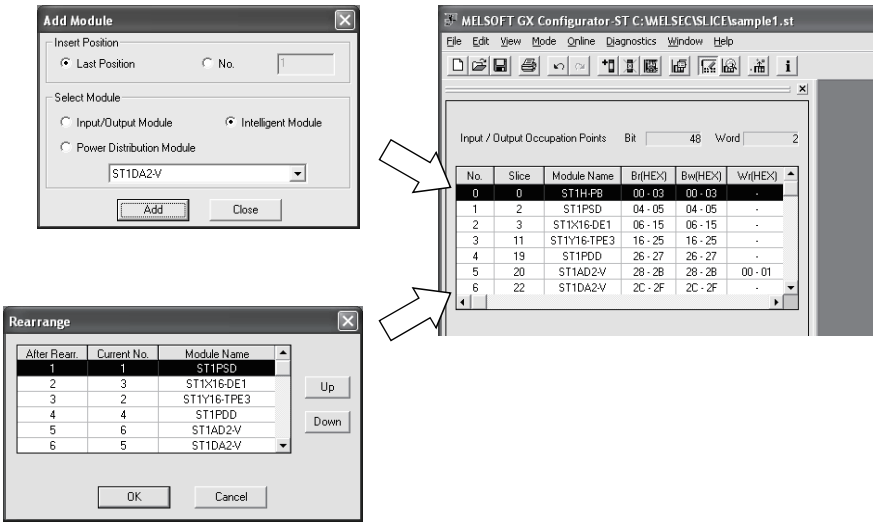
#### (a) Uploading module data to create project

A project can be created easily by uploading the system configuration and parameters from the MELSEC-ST system.




#### (b) Changing system configuration to edit project

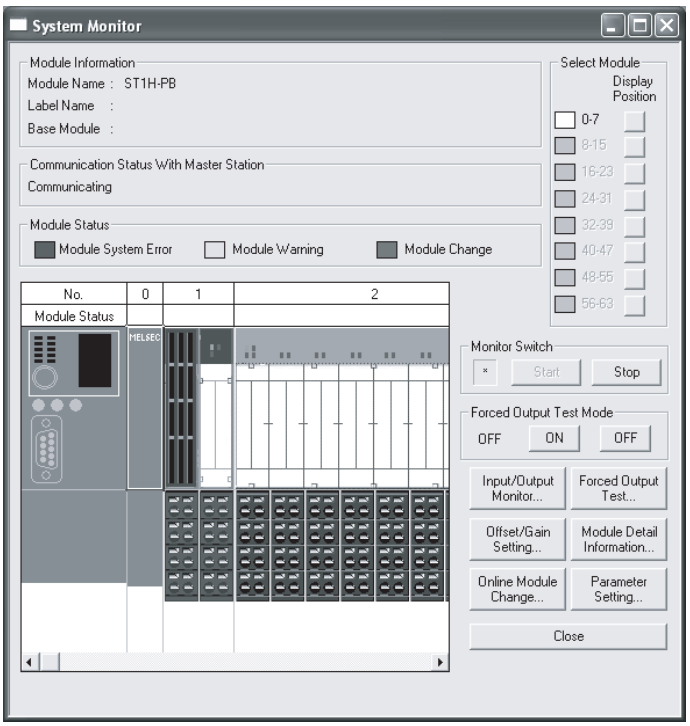
A project can be edited by changing the system configuration, e.g. adding or rearranging modules.



(2) Monitoring MELSEC-ST system

(a) MELSEC-ST system status can be easily checked.

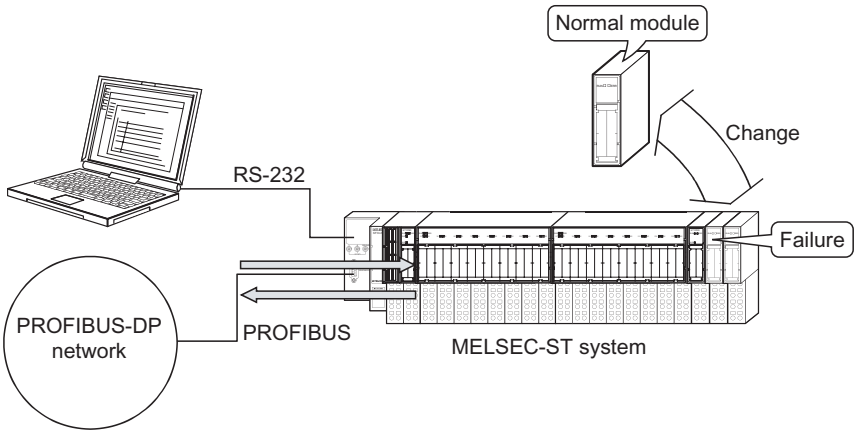
GX Configurator-ST provides an image to show the statuses of the head/slice modules that comprise the MELSEC-ST system on the “System Monitor” screen. Therefore, these module statuses can be checked easily.




(b) I/O module or intelligent function module can be changed online from GX Configurator-ST

By using online module change, the faulty I/O module or intelligent function module can be changed with normal module without the PROFIBUS-DP network being stopped.

GX Configurator-ST allows online module change to be made easily by screen-guided operation without operation of the head module switches.



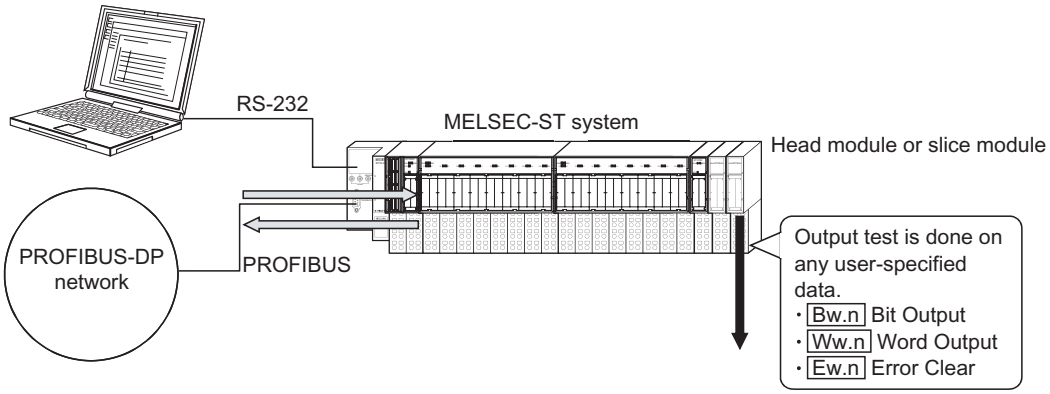
(c) Output test can be done without affecting PROFIBUS-DP network

In a forced output test, outputs can be tested using the Bw. n Bit Output, Ww. n Word Output and Ew.n Error Clear of the head module or slice module.

The user can specify any Bw. n Bit Output, Ww.n Word Output and Ew.n Error Clear.

As only the Bw.n Bit Output, Ww. n Word Output and Ew.n Error Clear are used for the forced output test, output data not used in the test are not affected.

In the forced output test, therefore, an output test can be conducted without affecting the PROFIBUS-DP network.

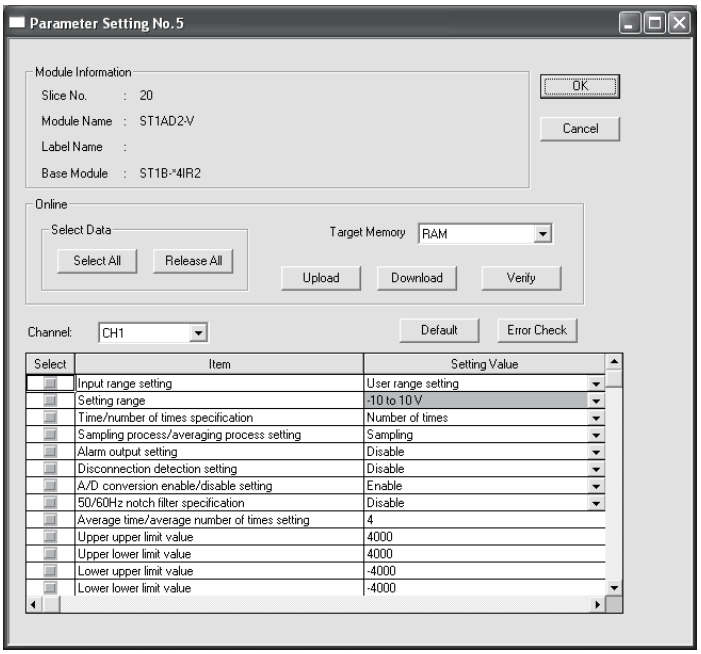



(3) Parameter setting of slice module

(a) Parameter setting of intelligent function module

The "Parameter Setting" screen displays a list of module parameters. Parameter setting can be made on this list.

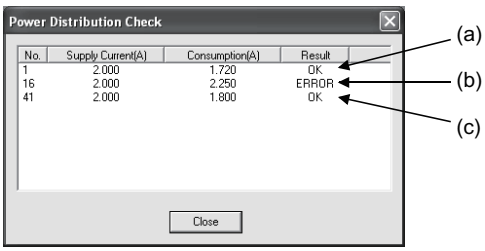
As it includes functions to upload and verify data, and to check the setting errors, the parameters can be confirmed easily.



### (4) Power supply capacity check

A check can be made to see if the sum of 5VDC internal current consumption required by each module is within the 5VDC maximum rated output current of the bus refreshing module.

A power supply capacity check example is shown below.




(a) The check result is "OK" since the sum 1.720A of 5VDC internal current consumption required by the head module No. 0 and slice modules No. 2 to 15 is not greater than the 5VDC maximum rated output current 2.000A of the bus refreshing module.

(b) The check result is "ERROR" since the sum 2.250A of 5VDC internal current consumption required by the slice modules No. 17 to 40 is greater than the 5VDC maximum rated output current 2.000A of the bus refreshing module.

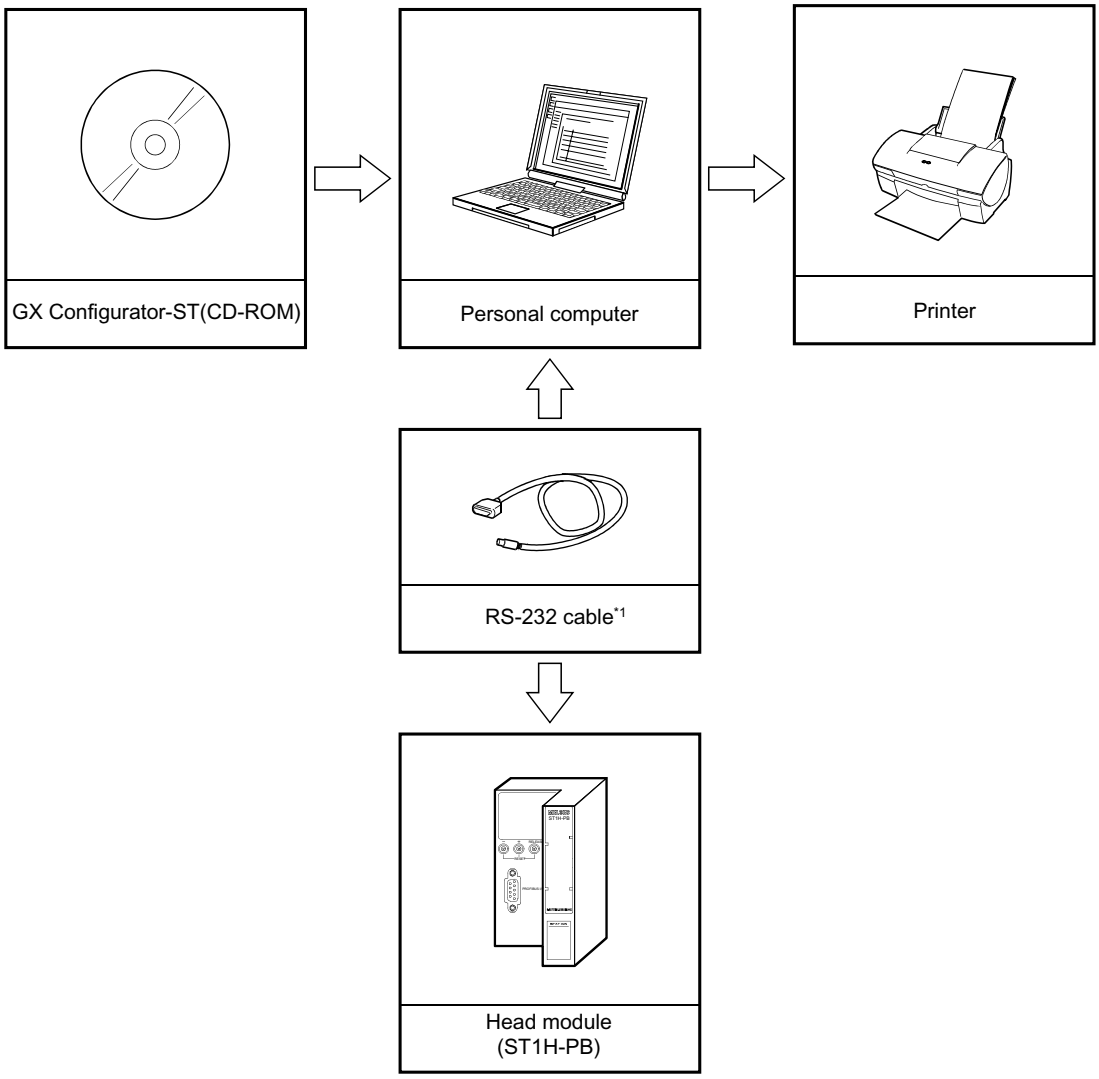
(c) The check result is "OK" since the sum 1.800A of 5VDC internal current consumption required by the slice modules No. 42 and later is not greater than the 5VDC maximum rated output current 2.000A of the bus refreshing module.

# 2 SYSTEM CONFIGURATION

## 2.1 System Configuration



The following shows the configuration where a personal computer is connected to the MELSEC-ST system.




*1 : Use either of the following cables as the RS-232 cable.

| Manufacturer name | Model name |
|---|---|
| Mitsubishi Electric | QC30R2 |
| Beijer ELECTRONICS | SC-Q QC30R2 |

## 2.2 Operating Environment

The operating environment of GX Configurator-ST is indicated below.

| Item | | Description |
|---|---|---|
| Computer main unit | CPU | Refer to the following table "Used operating system and performance required for personal computer". |
| | Required memory | |
| Hard disk free space | | 60MB or more |
| Disk drive | | CD-ROM disk drive |
| Display | | 800 × 600 dot or more resolution |
| Operating system | | Microsoft® Windows® 95 Operating System (English version)<br>Microsoft® Windows® 98 Operating System (English version)<br>Microsoft® Windows® Millennium Edition Operating System (English version)<br>Microsoft® Windows NT® Workstation Operating System Version 4.0 (English version) *1<br>Microsoft® Windows® 2000 Professional Operating System (English version)<br>Microsoft® Windows® XP Professional Operating System (English version)<br>Microsoft® Windows® XP Home Edition Operating System (English version) |

*1: Sevice Pack 4 or more is needed for use of Windows NT® Workstation 4.0.

Used operating system and performance required for personal computer

| Operating system | Performance Required for Personal Computer | |
|---|---|---|
| | CPU | Required memory |
| Windows® 95 | Pentium® 133MHz or more | 32MB or more |
| Windows® 98 | Pentium® 133MHz or more | 32MB or more |
| Windows® Me | Pentium® 150MHz or more | 32MB or more |
| Windows NT® Workstation 4.0 (Service Pack 4 or more) | Pentium® 133MHz or more | 64MB or more |
| Windows® 2000 Professional | Pentium® 133MHz or more | 64MB or more |
| Windows® XP Professional | Pentium® 300MHz or more | 128MB or more |
| Windows® XP Home Edition | Pentium® 300MHz or more | 128MB or more |

**Point**

- New functions of Windows® XP
  When Microsoft® Windows® XP Professional Operating System or Microsoft® Windows® XP Home Edition Operating System is used, the following new functions cannot be used.
  If any of the following new functions is used, this product may not operate normally.
  Start of application in Windows® compatible mode of earlier version
  Fast user switching
  Remote desktop

# 3 FUNCTION LIST

## 3.1 Function List

The functions of GX Configurator-ST are indicated below.

| Function | Description | Reference Section |
|---|---|---|
| System configuration setting | Registers modules into the system by model name. | Chapter 8 |
| Parameter Setting | Sets the parameters to the intelligent function module. | Section 8.8 |
| Option Settings | Sets the label name, base module and maximum input/output points, etc. to the module. | Section 8.9 |
| Power Distribution Check | Checks whether the 5VDC internal current consumption of the bus refreshing module is sufficient. | Section 8.10 |
| System Monitor | Monitors the statuses of the head and slice modules. | Section 10.1 |
| Module configuration, parameter upload/download | Uploads/downloads the module configuration and parameters. | Section 9.2 |
| Input/Output Monitor | Monitors the input data and output data. | Section 10.3 |
| Forced Output Test | Tests the Bw.n Bit Output, Ww.n Word Output and Ew.n Error Clear of the head module or slice module without stopping the PROFIBUS-DP network. | Section 10.4 |
| Offset/Gain Setting | Sets the offset and gain value to the intelligent function module (ST1AD2-V, etc.). | Section 9.5 |
| Reset Head Module | Resets the head module. | Section 11.1 |
| Module Detail Information | Shows the module detail information and monitors the corresponding module error status. | Section 10.2 |
| Online Module Change | Changes the I/O module or intelligent function module online from GX Configurator-ST. | Section 11.2 |
| PROFIBUS-DP Network Parameter Monitor | Monitors the slave parameters and PROFIBUS-DP network parameters sent from the master station of PROFIBUS-DP to the MELSEC-ST system to show the results for confirmation. | Section 10.6 |
| Master Station Data Communication Monitor | Monitors the I/O data between the master station and slave station (head module) of PROFIBUS-DP. | Section 10.5 |

## 3.2 Menu List

This section explains the menus of GX Configurator-ST.

**Point**

The menu screens in this section are different from the actual ones.
Actually, some menu items are not selectable depending on the operation status of GX Configurator-ST.
For the purpose of explanation, all the menu items are shown as selectable.

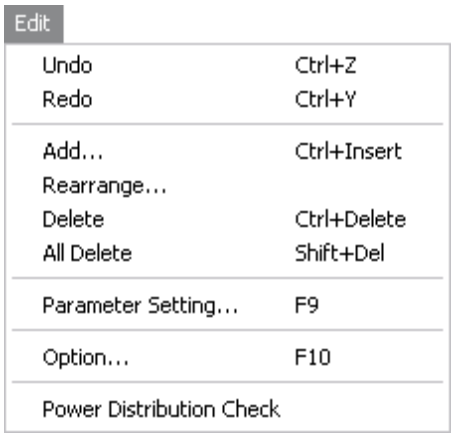


### [File] menu

The [File] menu includes project file operation, print and other functions.

Refer to Chapter 7 for details of the [New], [Open], [Close], [Save], [Save As], [Verify] and [Print] menu items.
Refer to Chapter 8 for details of the [Copy] menu item.
Refer to Chapter 5 for details of the [Exit] menu item.

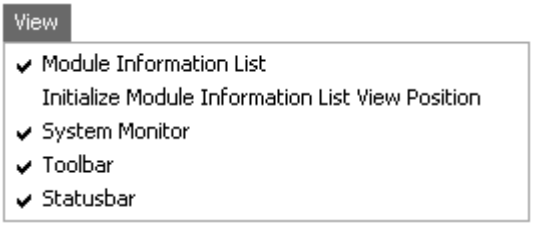
### [Edit] menu




The [Edit] menu includes the functions for module configuration setting and parameter setting.

Refer to Chapter 8 for details of each menu item.

### [View] menu




The [View] menu includes the function to display/hide each screen.

Refer to Chapter 6 for details of each menu item.

## [Mode] menu

Mode
- • Edit F2
- Diagnosis F3

The [Mode] menu includes the functions to switch between the edit mode and diagnosis mode.

Refer to Section 4.2 for details of the [Edit] menu item.
Refer to Section 4.3 for details of the [Diagnosis] menu item.

## [Online] menu

Online
- Transfer Setup...
- Get System
- Get Input/Output Data Settings
- Input/Output Monitor...
- Forced Output Test...
- Offset/Gain Setting...
- Parameter Block Write...
- Reset Head Module

The [Online] menu includes the functions for connection to the head module and online operation of the head module.

Refer to Chapter 9 for details of the [Transfer Setup], [Get System], [Get Input/Output Data Settings], [Offset/Gain Setting] and [Parameter Block Write] menu items.
Refer to Chapter 10 for details of the [Input/Output Monitor] and [Forced Output Test] menu items.
Refer to Chapter 11 for details of the [Reset Head Module] menu item.

## [Diagnostics] menu

Diagnostics
- Module Detail Information...
- Online Module Change...
- PROFIBUS-DP Network Parameter Monitor...
- Master Station Data Communication Monitor...

The [Diagnostics] menu includes the functions to diagnose the system.

Refer to Chapter 10 for details of the [Module Detail Information], [PROFIBUS-DP Network Parameter Monitor] and [Master Station Data Communication Monitor] menu items.
Refer to Chapter 11 for details of the [Online Module Change] menu item.

## [Window] menu

Window
- Cascade
- Tile Vertically
- Tile Horizontally
- Arrange Icons
- Close All Windows
- 1 Parameter Setting No.1
- ✔ 2 Result Verify 1

The [Window] menu includes the functions to change the screen layout of GX Configurator-ST.

Refer to Chapter 6 for details of each menu item.

## [Help] menu

Help
- Key Operation List...
- About...

The [Help] menu includes the functions to operate the GX Configurator-ST keys and confirm the software version.

# 4 OPERATION PROCEDURES

## 4.1 Precautions when using GX Configurator-ST

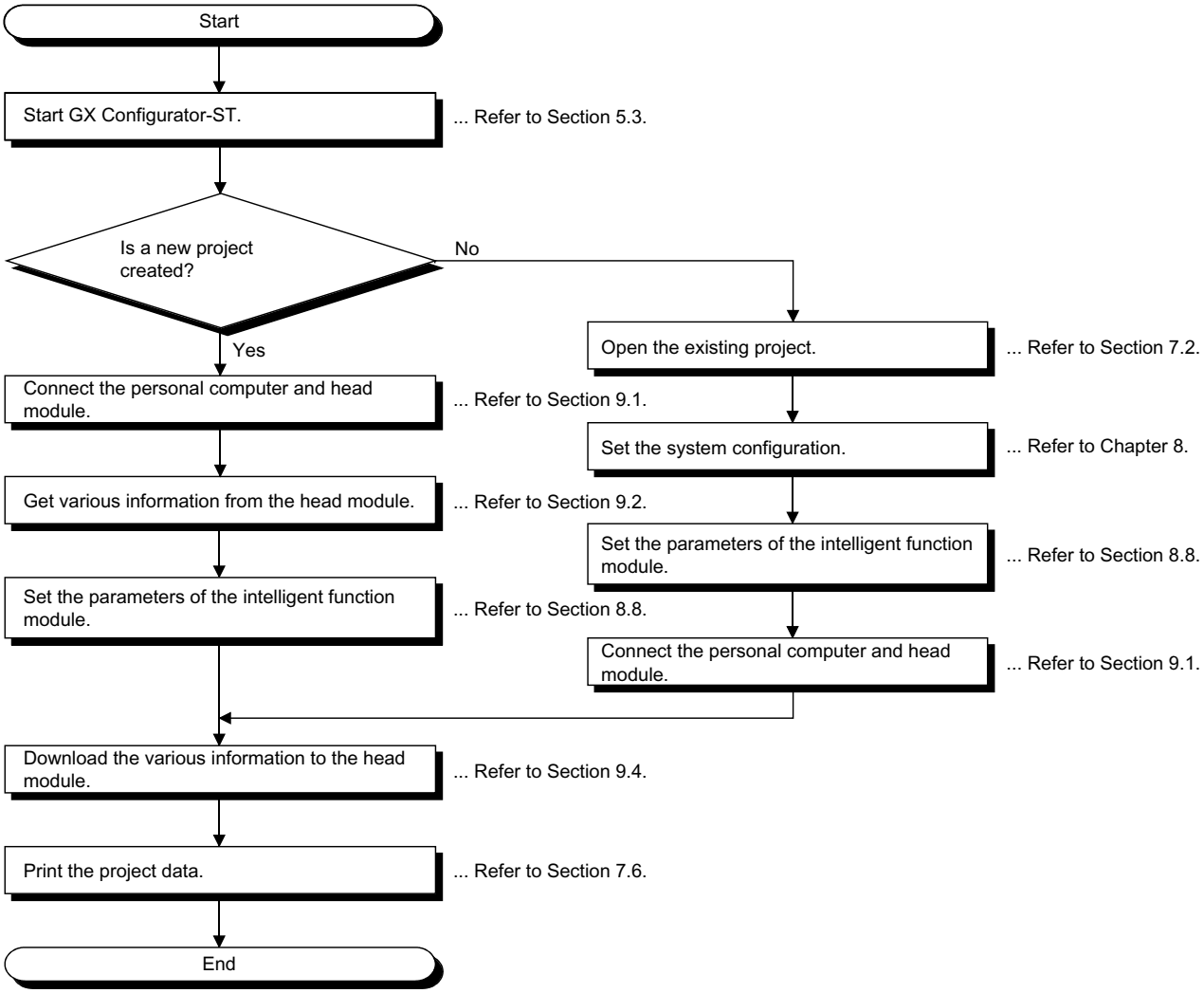
This section provides precautions when using GX Configurator-ST.

(1) A communication error may occur if communication is made with the MELSEC-ST system after setting of the resume function, suspend setting, power-saving function or standby mode of the personal computer.
For this reason, do not set any of these functions before starting communication with the MELSEC-ST system.

## 4.2 Edit Mode Operation Procedure

Create a new project, and edit and download it to the head module.



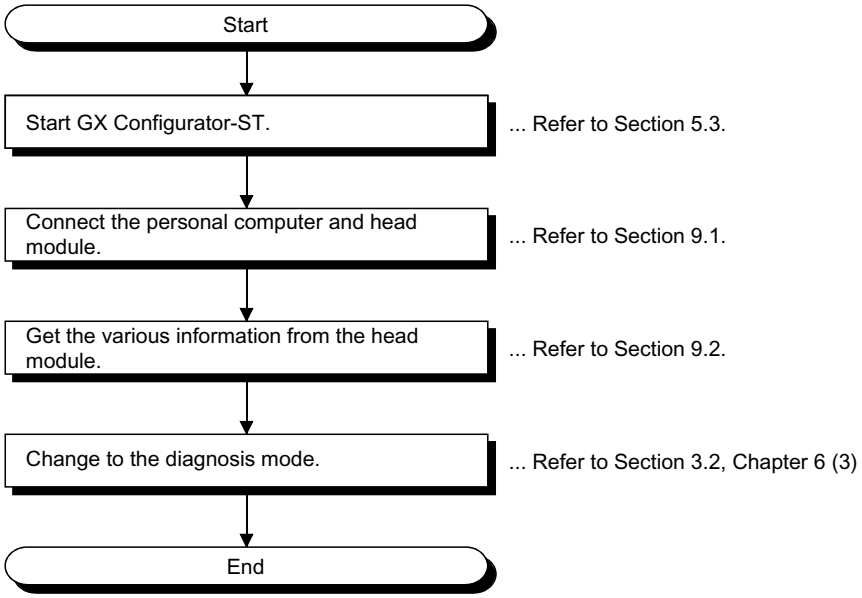


## 4.3 Diagnosis Mode Operation Procedure

Confirm the error status and take corrective action, or perform the monitor/test, etc. of I/O data.

### (1) Preparations for diagnosis mode

Make preparations for operation in the diagnosis mode.
Perform the following operation before starting operation in the diagnosis mode.




### (2) Diagnosis mode operation procedure

Perform the operation explained in the reference section for each purpose of use.
Before starting the diagnosis mode operation, perform the operation in (1) of this section.

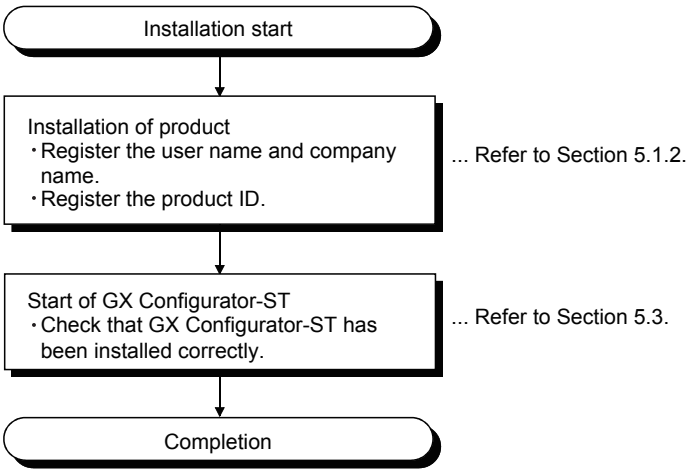
| Purpose of use | Reference section |
|---|---|
| To monitor the MELSEC-ST system.<br>To confirm the module where an error occurred. | Section 10.1 |
| To confirm the error definition. | Section 10.2 |
| To set the offset and gain values. | Section 9.5 |
| To confirm the I/O data. | Section 10.3 |
| To conduct the forced output test. | Section 10.4 |
| To monitor the master station data communication. | Section 10.5 |
| To monitor the PROFIBUS-DP Network Parameters. | Section 10.6 |
| To reset the head module. | Section 11.1 |
| To change the module online. | Section 11.2 |

# 5 INSTALLATION AND UNINSTALLATION

This chapter explains how to install and uninstall GX Configurator-ST.

## 5.1 Installation

### 5.1.1 Installation procedure



## 5.1.2 Installing GX Configurator-ST

The following indicates how to install GX Configurator-ST.
Microsoft® Windows® XP Professional Operating System is used for explanation in this section.

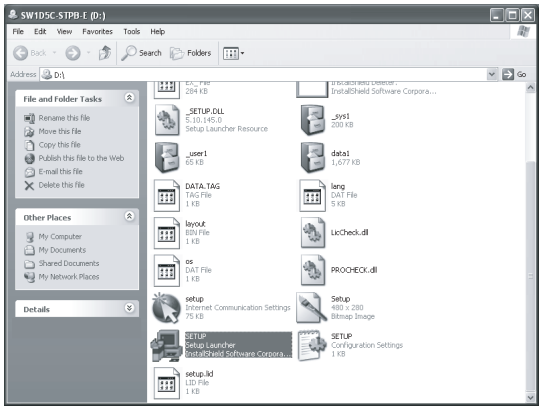
**Point**

(1) Before starting installation, exit all other applications operating on Windows® .
(2) When installing GX Configurator-ST on any of the following operating systems, log on as the user who has the attributes of the administrator (computer manager).
- Microsoft® Windows NT® Workstation Operating System Version 4.0
- Microsoft® Windows® 2000 Professional Operating System
- Microsoft® Windows® XP Professional Operating System
- Microsoft® Windows® XP Home Edition Operating System

(3) Check whether or not GX Configurator-ST has been installed on the personal computer. If it has already been installed, uninstall it, restart the personal computer, and then install this software.



### (1) Installing GX Configurator-ST




1) After powering on the personal computer, start Windows® .
2) Start Windows® Explorer and click the drive where the disk is inserted. Double-click "Setup.exe"( ).
   To display Windows® Explorer, choose [start] → [All Programs] → [Windows Explorer].

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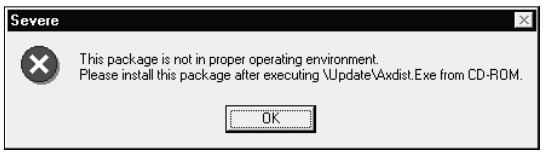
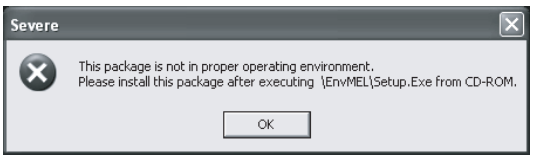
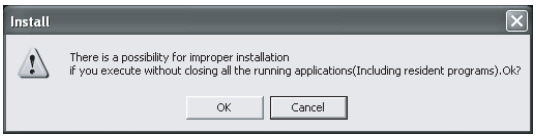



3) If either of the left screens appears, perform operation in accordance with the instructions given in (a) in "(reference) When message appears at start of installation".
After the operation is over, restart installation operation.



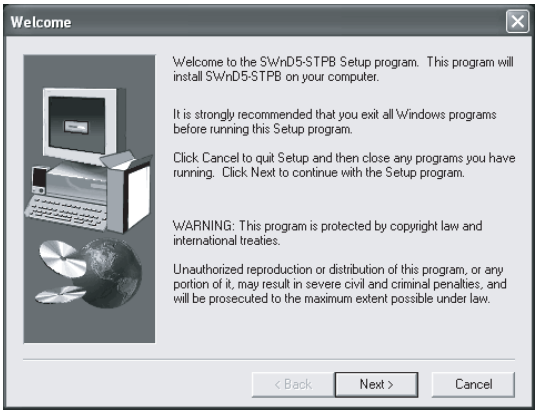

If the left screen appears, perform operation in accordance with the instructions given in (b) in "(reference) When message appears at start of installation".
After the operation is over, restart installation operation.

↓




4) As the left screen appears, make sure that all applications have been closed, and click the OK button.
If applications are running, close them all.

↓




5) As the left screen appears, click the Next button.

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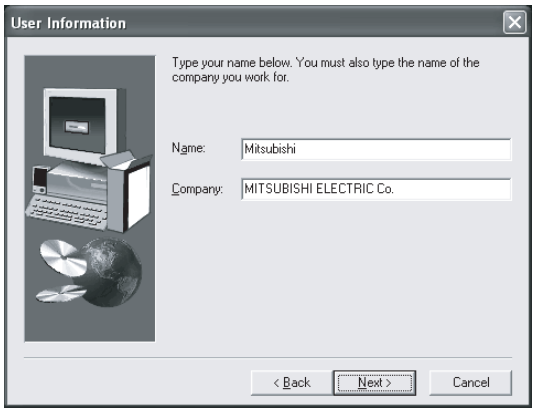
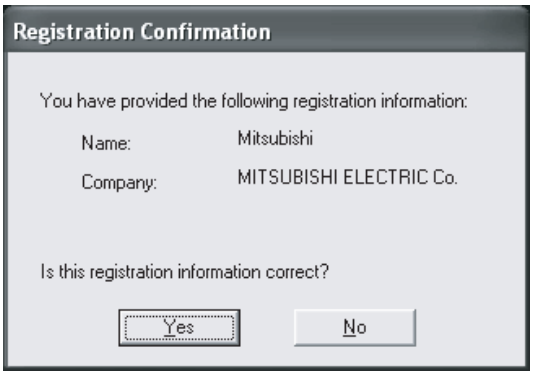


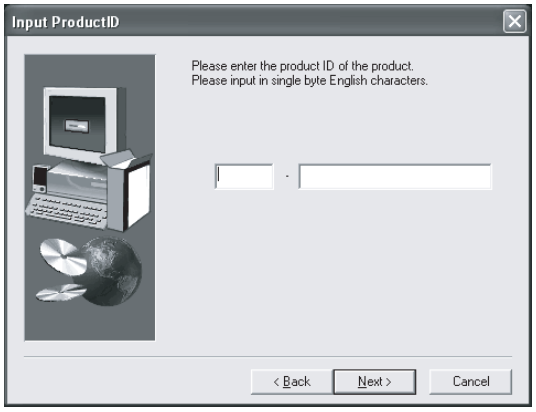

6) Enter the name and company, and click the Next button.

↓




7) Check the registered name and company.
If they are correct, click the Yes button.
To change them, click the No button to return to the previous screen.

↓




8) Enter the product ID and click the Next button.
The product ID is given on the "Software Registration Card" included with the product.

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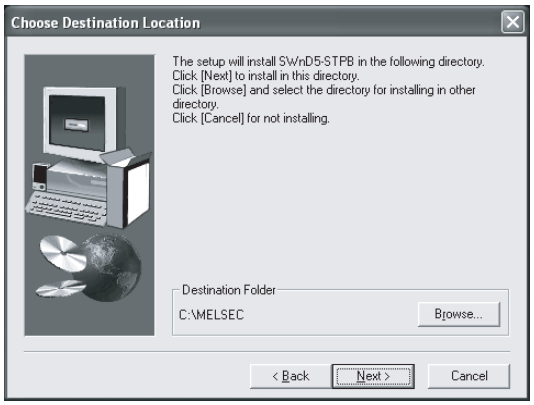
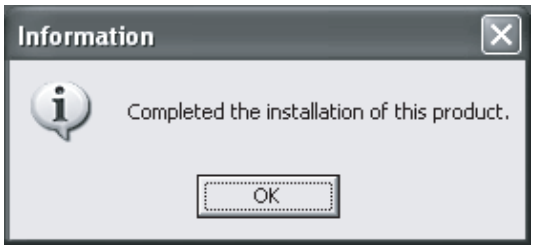


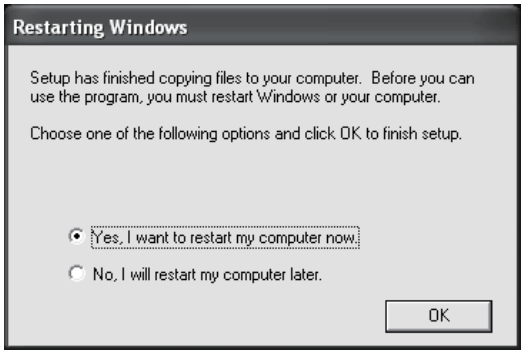

9) Specify the installation destination folder.
After specifying the destination folder, click the Next button.
By default, it is set to "C:\MELSEC\".
To change the destination folder, click the Browse button and specify another drive and folder.

↓




10) When the left screen appears, installation is complete.
Click the OK button.

↓

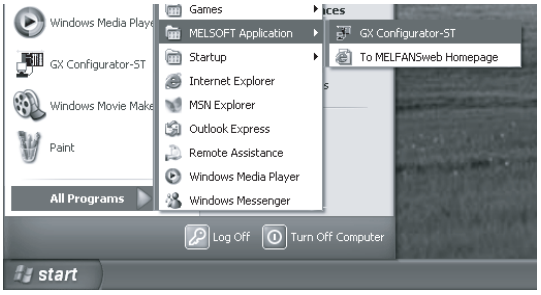



If the left message appears, restart Windows® .

↓

(Completion)

Installing GX Configurator-ST registers the icon as shown below.




REMARK

When any of the following operating systems is used, the icon is displayed in the [Start] → [Programs] → [MELSOFT Application] menu.

- Microsoft® Windows® 95 Operating System
- Microsoft® Windows® 98 Operating System
- Microsoft® Windows® Millennium Edition Operating System
- Microsoft® Windows NT® Workstation Operating System Version 4.0
- Microsoft® Windows® 2000 Professional Operating System

## (reference) When message appears at start of installation

When the installation of this product starts, the "This package is not in proper operating environment" message appears, disabling normal completion of installation.
In such a case, close all applications and perform the (a) or (b) operation.

### (a) Installation of dcom95.exe or Axdist.exe

Execute dcom95.exe or Axdist.exe provided for GX Configurator-ST.
Install GX Configurator-ST after executing the exe file and restarting the IBM-PC/AT compatible.
The exe file to be executed on the corresponding operating system is indicated below.

| OS | File name |
|---|---|
| Microsoft® Windows® 95 Operating System<br>Microsoft® Windows® 98 Operating System | dcom95.exe<br>Axdist.exe |
| Microsoft® Windows NT® Workstation Operating System Version 4.0 | Axdist.exe |

(dcom95.exe and Axdist.exe are in the "Update" folder on CD-ROM.)

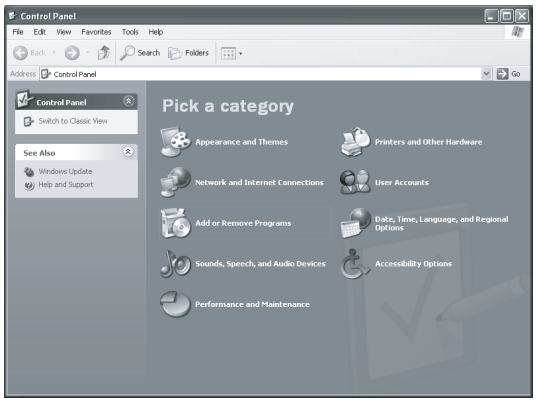
### (b) Installation of EnvMEL

Execute Setup.exe in the "EnvMEL" folder on this product CD-ROM.
Install GX Configurator-ST after executing the "Setup.exe".

＊ : After executing the above exe file, install the product again. If this product is not installed properly at this time, reboot the personal computer.

## 5.2 Uninstallation

This section explains the operation for removing GX Configurator-ST from the hard disk.
The screens used for explanation in this section are those of Windows® XP Professional.
Though they differ slightly from the screens of Windows® 2000 Professional or like, refer to REMARKS and perform installation.

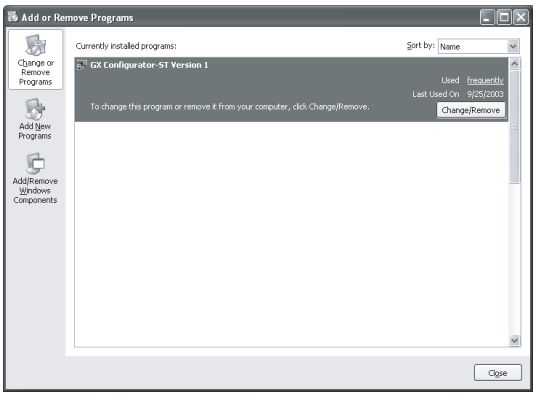



1) Double-click "Add or Remove Programs" on the Control Panel.
   To display the Control Panel, choose [start] → [Control Panel].

REMARKS

When using any of the following operating systems, double-click "Add or Remove Programs".
To display the control panel, choose [Start] → [Settings] → [Control Panel].
- Windows® 95
- Windows® 98
- Windows® Me
- Windows NT® Workstation 4.0
- Windows® 2000 Professional

↓



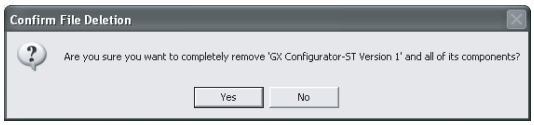

2) Choose "Change or Remove Programs" and then "GX Configurator-ST Version 1".
   After selection, click the Change/Remove button.

REMARKS

(a) When using any of the following operating systems, choose "Install/Uninstall" and then "GX Configurator-ST Version 1".
    After selection, click the [Add/Remove] button.
    - Windows® 95
    - Windows® 98
    - Windows® Me
    - Windows NT® Workstation 4.0

(b) When using Windows® 2000 Professional, choose "Change or Remove Programs" and then "GX Configurator-ST Version 1".
    After selection, click the Remove button.

↓




3) Confirm that the files have been removed.
   Clicking the Yes button starts uninstallation.
   Clicking the No button stops uninstallation.

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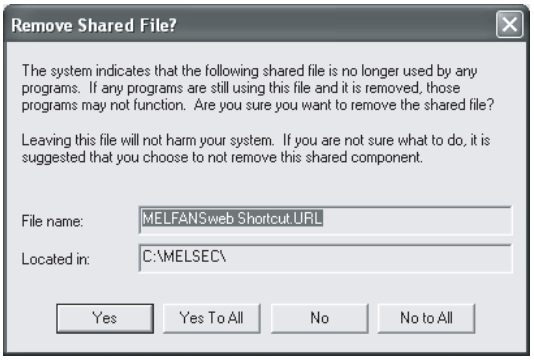
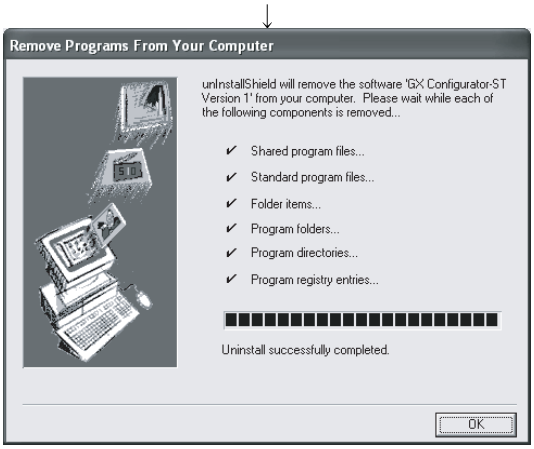



4) If the left screen appears, click the No To All button.
If you click the Yes or Yes To All button, the shared files of the Windows® compatible MELSOFT software is removed. Therefore, click the No To All button when removing GX Configurator-ST only.

↓



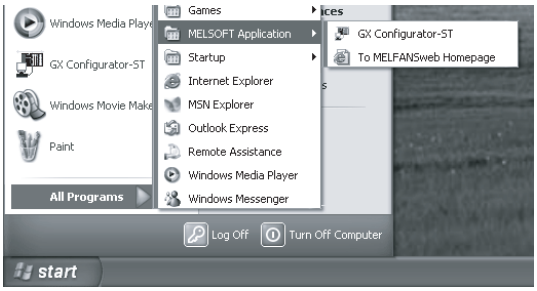

5) When the message appears telling that files have been removed, click the OK button.
When uninstallation is completed, the corresponding message will appear.

↓

(Completion)

## 5.3 Starting GX Configurator-ST

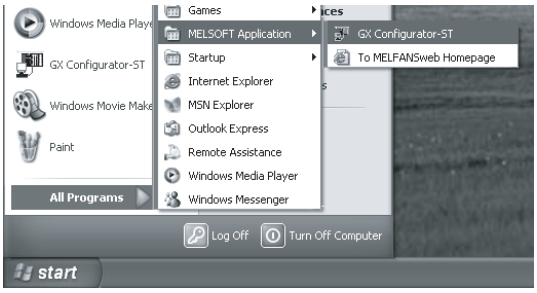
This section explains how to start GX Configurator-ST from the start menu.




1) Move the cursor from [start] → [All Programs *1] → [MELSOFT Application].

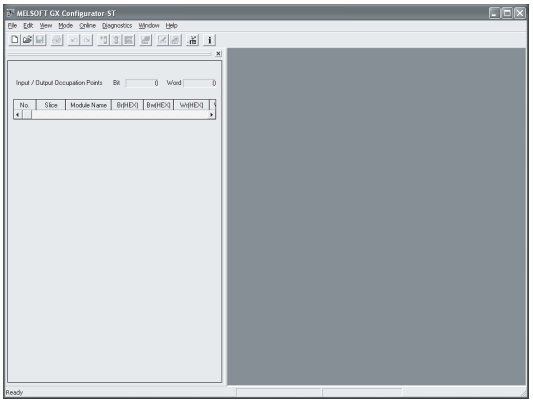
*1: [Programs] is displayed when any of the following operating systems is used.
- Windows® 95
- Windows® 98
- Windows® Me
- Windows NT® Workstation 4.0
- Windows® 2000 Professional

↓




2) Click [GX Configurator-ST].

↓




3) GX Configurator-ST starts.

REMARK

Multiple GX Configurators-ST can be started to use.
Since different projects can be opened on multiple GX Configurators-ST, multiple projects can be browsed simultaneously.
The same project cannot be opened from multiple GX Configurators-ST.

When multiple GX Configurators-ST are started, GX Configurators-ST started second and later have the following restrictions.

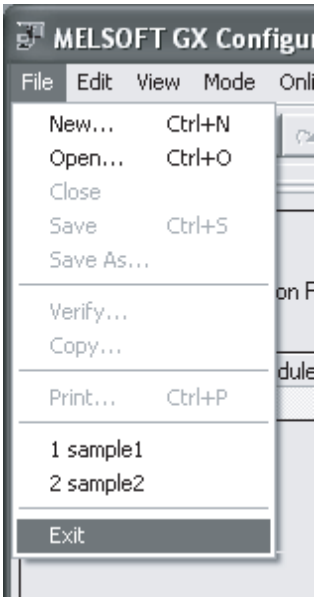
1) The diagnosis mode cannot be used.
   The [Mode] → [Diagnosis] menu ( ) cannot be clicked.
2) Get System cannot be executed.
   The [Online] → [Get System] menu ( ) cannot be clicked.
3) Parameter Block Write cannot be executed.
   The [Online] → [Parameter Block Write] menu cannot be clicked.
4) Parameter upload, download and verify cannot be executed on the Parameter Setting screen.
   The Upload, Download and Verify buttons cannot be clicked.

GX Configurator-ST started first can perform the following operation since the above restrictions do not apply.
Even when GX Configurator-ST started first is exited, the above restrictions still apply to all GX Configurators-ST that have started.
To remove the restrictions, restart GX Configurator-ST after exiting all the remaining GX Configurators-ST.

## 5.4 Exiting GX Configurator-ST

This section describes how to exit GX Configurator-ST.

(1) From menu




Click the [File] → [Exit] menu.
GX Configurator-ST ends.

(2) From "Titlebar"

Click and choose [Close].
Alternatively, click at the right end of the "Titlebar".

**Point**

(1) While the print preview is displayed, GX Configurator-ST cannot be exited.
Exit GX Configurator-ST after closing the print preview.

(2) Do not restart or shut down your personal computer during GX Configurator-ST operation.
Exit GX Configurator-ST before restarting or shutting down the personal computer.

**REMARK**

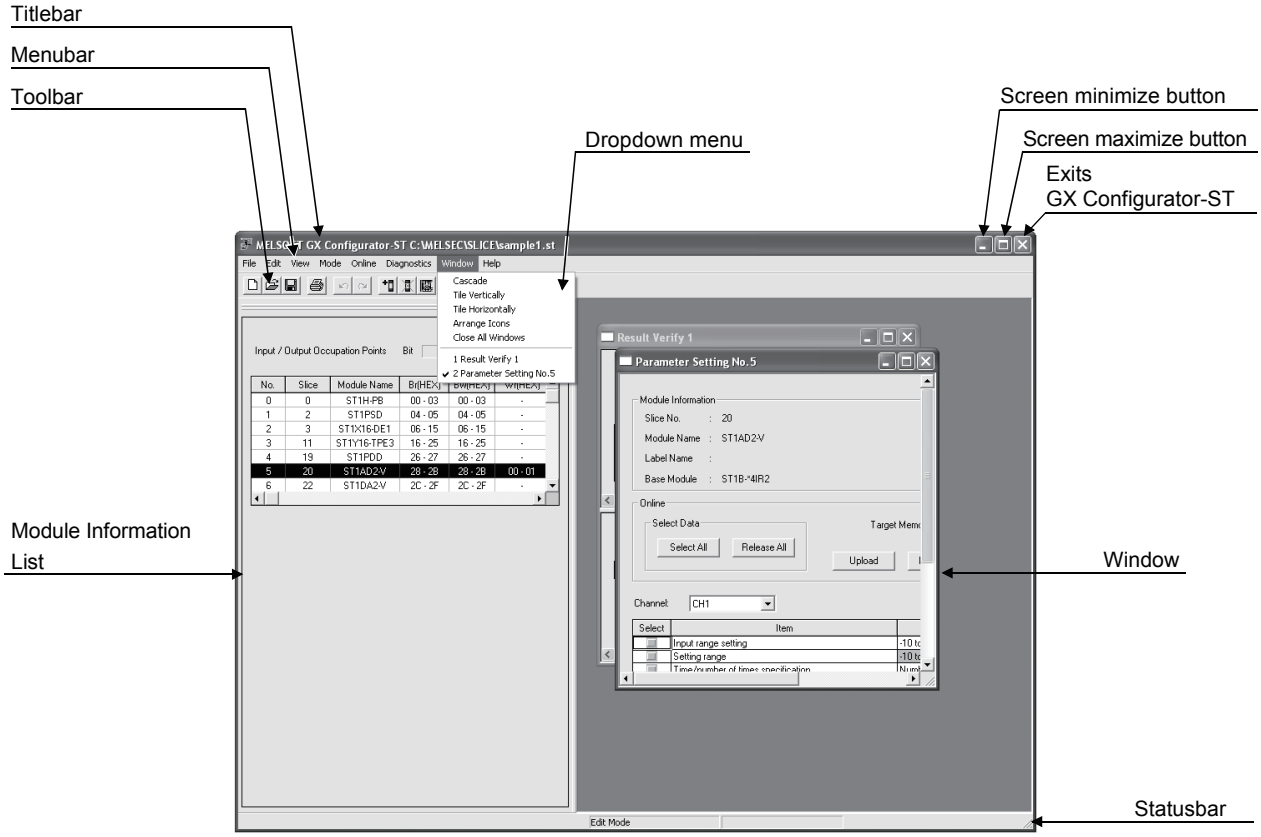
When a project is newly created, or modified but not yet saved, a dialog box appears asking whether the project will be saved or not.
When not saving it, click the No button.
When saving it, click the Yes button.
When saving a new project, name the project.
Refer to Section 7.4.2 for details.

# 6 SCREEN LAYOUT AND DISPLAY SWITCHING

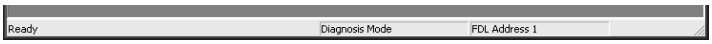
This chapter explains the screen layout of GX Configurator-ST and the display switching of each area.

## (1) Screen layout

The screen layout of GX Configurator-ST is shown below.




| Name | Description |
|---|---|
| Titlebar | Displays the file name of the open project.<br>When two or more GX Configurator-STs have been started, "Edit Mode only" is displayed before each file name of the second and later ones.<br>MELSOFT GX Configurator-ST Edit Mode only C:\MELSEC\SLICE\sample2.st<br>When "Window" on GX Configurator-ST is maximized, the name of that "Window" is displayed.<br>MELSOFT GX Configurator-ST C:\MELSEC\SLICE\sample1.st - [Parameter Setting No.1] |
| Menubar | Clicking each menu opens the corresponding "Dropdown menu". Then clicking a "Dropdown menu" item to execute the corresponding function of GX Configurator-ST.<br>Refer to Section 3.2 for details. |
| Dropdown menu | |
| Toolbar | Click any of the buttons to execute the corresponding function of GX Configurator-ST.<br>Refer to (3) in this section for details. |
| Screen minimize button | Click this button to minimize GX Configurator-ST. |
| Screen maxmize button | Click this button to maximize GX Configurator-ST. |
| Exits GX Configurator-ST | Click this button to exit GX Configurator-ST. |

| Name | Description |
|---|---|
| Module Information List | Displays a list of modules registered to the project.<br>Double-click a module to set the parameters.<br>Right-click the module to display the menu, and select a menu item to execute the corresponding function. |
| Window | Displays the "Parameter Setting" screen, "Result Verify" screen, etc. |
| Statusbar | When the mouse pointer is moved over each "Dropdown menu" item, the corresponding explanation is displayed.<br>The following information is also displayed.<br>• Current mode of GX Configurator-ST<br>• Station number of the connected head module in the diagnosis mode<br>  |

## (2) Display switching and window rearranging operations

The following table shows how to display/hide bars and how to arrange windows.

| Operation | Description |
|---|---|
| [View] → [Module Information List] | Displays or hides the "Module Information List" screen.<br>This operation can be performed in the edit mode only. |
| [View] → [Initialize Module Information List View Position] | Returns the display position of the "Module Information List" screen to the initial status.<br>This operation can be performed in the edit mode only. |
| [View] → [System Monitor] | Displays or hides the "System Monitor" screen.<br>This operation can be performed in the diagnosis mode only. |
| [View] → [Toolbar] | Displays or hides the "Toolbar". |
| [View] → [Statusbar] | Displays or hides thee "Statusbar". |
| [Window] → [Cascade] | Overlays multiple "Windows" opened on GX Configurator-ST. |
| [Window] → [Tile Vertically] | Displays multiple "Windows" vertically. |
| [Window] → [Tile Horizontally] | Displays multiple "Windows" horizontally. |
| [Window] → [Arrange Icons] | Arranges the icons to which windows have been minimized. |
| [Window] → [Close All Windows] | Closes all "Windows".<br>When a "Window" is being edited, a confirmation message is displayed. |

### (3) Details of Toolbar

The buttons included in the Toolbar will be explained.

| Button | Name | Description | Reference Section |
|---|---|---|---|
| | New | Creates a new project. | Section 7.1 |
| | Open | Opens the existing project. | Section 7.2 |
| | Save | Saves the open project, whether it is new or existed previously. | Section 7.4.1 |
| | Print | Prints the module configuration, module information list, and module detail information of the open project. | Section 7.6 |
| | Undo | Restores to the status prior to the last operation. | Section 8.5 |
| | Redo | Restores to the status prior to the "Undo" operation. | Section 8.6 |
| | Add | Adds a slice module to the project. | Section 8.1 |
| | Delete | Deletes the slice module from the project. | Section 8.2 |
| | All Delete | Deletes all slice modules from the project. | Section 8.3 |
| | Parameter Setting | Sets the parameters of the intelligent function module. | Section 8.8 |
| | Edit | Switches to the edit mode. | — |
| | Diagnosis | Switches to the diagnosis mode. | — |
| | Get System | Uploads the system configuration and the parameters of each module from the head module. | Section 9.2 |
| | About | Displays the software version of GX Configurator-ST. | — |

# 7 PROJECT CREATION

This chapter explains how to create the project of GX Configurator-ST.

## 7.1 Creating a New Project

### *PURPOSE*

Creates a new project.

### *BASIC OPERATION*

Click the [File] → [New] menu ( ) or press the Ctrl + N keys on the keyboard.
This displays a new project on the "Module Information List" screen.

## 7.2 Opening the Existing Project

### *PURPOSE*

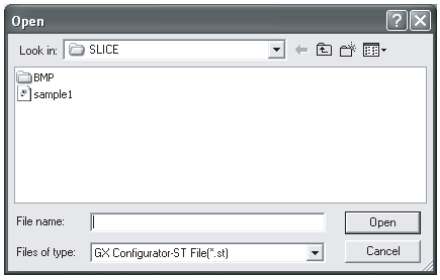
Reads the saved project.

### *BASIC OPERATION*

(1) Click the [File] → [Open] menu ( ) or press the Ctrl + O keys on the keyboard.
(2) On the opened screen, select the project to be opened, and click the Open button. This displays the selected project on the "Module Information List" screen.



### *DISPLAY/SETTING SCREEN*




### *DISPLAY/SETTING DATA*

| Item | Description |
|---|---|
| Lock in | Select the directory that stores the project to be opened. |
| File name | Set the file name of the project to be opened. |
| Open button | Opens the project specified at "File name". |
| Cancel button | Closes this screen without opening the project. |

## 7.3 Closing the Project

### *PURPOSE*

Closes the currently open project.

### *BASIC OPERATION*

(1) Click the [File] → [Close] menu.

(2) When closing a project that includes unsaved changes, i.e., newly created project or changed existing project, a screen appears asking whether the project will be saved or not.

When not saving it, click the No button.
When saving it, click the Yes button.
When saving a new project, name the project.
Refer to Section 7.4.2 for details.

(3) When closing an unchanged existing screen, the following screen appears asking whether the project will be closed or not.

Click the Yes button to close the project.

## 7.4 Saving the Project

### 7.4.1 Save

*PURPOSE*

Saves the open project , whether it is new or existed previously.

*BASIC OPERATION*

Click the [File] → [Save] menu ( ) or press the Ctrl + S keys on the keyboard.
For a new project, name and save it.
Refer to Section 7.4.2 for details.

### 7.4.2 Save As

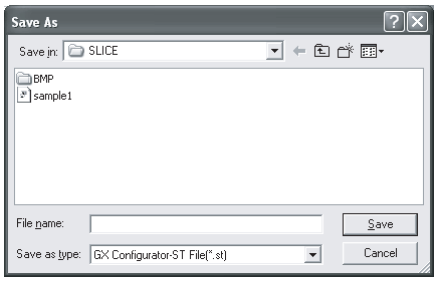
*PURPOSE*

To name and save the open project.

*BASIC OPERATION*

(1) Click the [File] → [Save As] menu.
(2) On the opened screen, select the destination directory, set the file name, and click the Save button.

*DISPLAY/SETTING SCREEN*




*DISPLAY/SETTING DATA*

| Item | Description |
|---|---|
| Save in | Select the directory that stores the project. |
| File name | Set the file name of the project to be saved. |
| Save button | Saves the project with the file name specified at "File name". |
| Cancel button | Closes this screen without saving the project. |

## 7.5 Verifying the Projects

Verify two projects against each other to check whether the parameters are consistent or not.

There are the following two different verify methods.

(1) n:n verify

Verify all modules of the same No. between the open project and saved project.
Refer to Section 7.5.1 for details of the verify operation.
Refer to Section 7.5.2 for details of the verify result.

(2) 1:n verify

Select one module from one of two projects, select multiple modules from the other project, and verify the one module of the former project against the multiple modules of the latter project.
Refer to Section 7.5.3 for details of the verify operation.
Refer to Section 7.5.2 for details of the verify result.

### 7.5.1 n:n verify

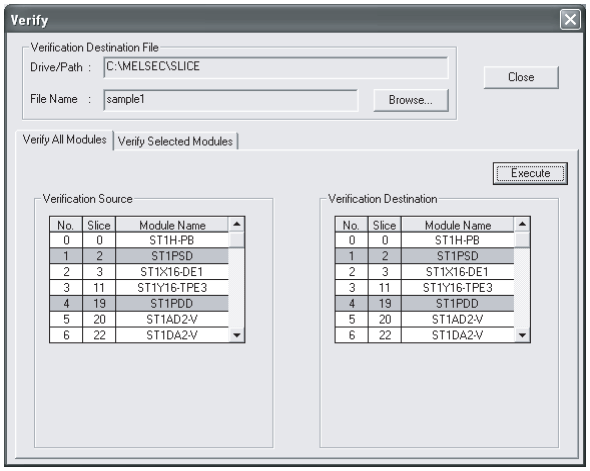
*PURPOSE*

Verifies all modules of the same No. between the open project and saved project.

*BASIC OPERATION*

(1) Clicking the [File] → [Verify] menu displays the "Verify" screen.
(2) Open the <<Verify All Modules>> tab.
(3) Click the Browse button and specify the verification destination project.
(4) Clicking the Execute button starts verify, closes this screen, and displays the result.
Refer to Section 7.5.2 for details.

## DISPLAY/SETTING SCREEN




## DISPLAY/SETTING DATA

| Item | | Description |
|---|---|---|
| Verification Destination File | | Specify the verification destination project. |
| | Drive/Path | Displays the drive and directory that stores the verification destination project specified with the Browse button. |
| | File Name | Displays the file name of the verification destination project specified with the Browse button. |
| | Browse button | Specifies the project.<br>Operation is the same as opening the existing project.<br>Refer to Section 7.2 for details. |
| Close button | | Closes this screen without verifying the projects. |
| <<Verify All Modules>> tab | | Performs n:n verify. |
| | Execute button *1 | Verifies the projects, closes this screen, and displays the verify result.<br>Refer to Section 7.5.2 for details of the verify result. |
| | Verification Source *2 | Displays a list of all modules of the open project. |
| | Verification Destination *2 | Displays a list of all modules of the verification destination project. |

*1: The Execute button cannot be clicked if the open project and verification destination project differ in system configuration.

*2: As this verification is conducted to check parameter inconsistency, the module without parameters is grayed out and is not verified.
The module with uploadable parameters is verified, even if the parameters are not editable.

## 7.5.2 Verify result

### *PURPOSE*

Confirms the verify result displayed by n:n verify or 1:n verify.

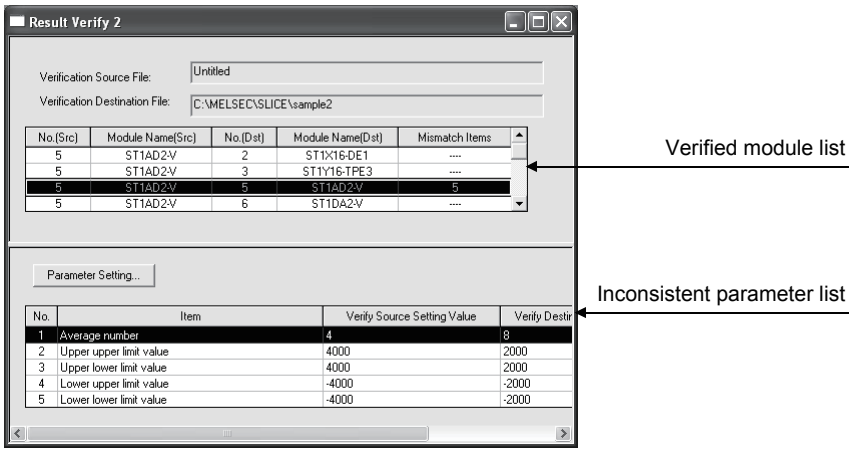
### *BASIC OPERATION*

(1) The module having inconsistent parameters in the verify result is displayed red in the verified module list.
To display the inconsistent parameters, click the module displayed red.

(2) To change the parameters, double-click or select the corresponding module and click the Parameter Setting button.

(3) To close this screen, click the button.

### *DISPLAY/SETTING SCREEN*




### *DISPLAY/SETTING DATA*

| Item | | Description |
|---|---|---|
| Verification Source File | | Displays the file name of the verification source project.<br>"Untitled" is displayed when a newly created and unsaved project has been set. |
| Verification Destination File | | Displays the file name of the verification destination project. |
| Verified module list | | Displays a list of modules verified.<br>The module having inconsistent parameters is displayed red.<br>Double-click that module to change its parameters.<br>Refer to Section 8.8 for details. |
| | No. (Src) | Displays the No. of the verification source module. |
| | Module Name (Src) | Displays the model name of the verification source module. |
| | No. (Dst) | Displays the No. of the verification destination module. |
| | Module Name (Dst) | Displays the model name of the verification destination module. |
| | Mismatch Items | Displays the number of items whose verify result is inconsistent.<br>"----" indicates that the "Module Name(Src)" and "Module Name(Dst)" are different modules. |

| Item | | Description |
|---|---|---|
| Parameter Setting button | | Changes the parameters of the module selected in the verified module list.<br>Refer to Section 8.8 for details.<br>The target is an open project. |
| Inconsistent parameter list | | Displays the parameters that were inconsistent as a result of verify in the module selected in the verified module list. |
| | No. | Displays the serial number. |
| | Item | Displays the parameter name. |
| | Verify Source Setting Value | Displays the parameter value of the verification source module. |
| | Verify Destination Setting Value | Displays the parameter value of the verification destination module. |

### 7.5.3 1:n verify

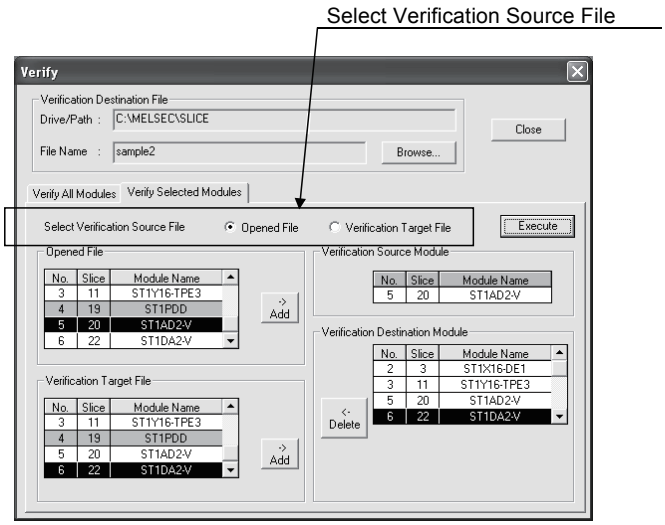
*PURPOSE*

Selects one module from one of two projects, selects multiple modules from the other project, and verifies the one module of the former project against the multiple modules of the latter project.

*BASIC OPERATION*

(1) Clicking the [File] → [Verify] menu displays the "Verify" screen.
(2) Open the <<Verify Selected Modules>> tab.
(3) With the Browse button, specify the verification destination project.
(4) With the "Select Verification Source File" radio button, select the project that includes the verification source module.
(5) With the Add button, select the verification source module.
(6) With the Add / Delete button, select the verification target module.
(7) Clicking the Execute button starts verify, closes this screen, and displays the result.
Refer to Section 7.5.2 for details.

## DISPLAY/SETTING SCREEN




## DISPLAY/SETTING DATA

| Item | Description |
|---|---|
| Verification Destination File | Specify the verification destination project.<br>Operation is the same as performing n:n verify.<br>Refer to Section 7.5.1 for details. |
| Close button | Closes this screen without verifying the projects. |
| <<Verify Selected Modules>> tab | Performs 1:n verify. |
| Select Verification Source File | Select the project that includes the verify source module.<br>• When "Opened File" is selected, select the verification source module from the open project.<br>• When "Verification Target File" is selected, select the verification source module from the project specified at "Verification Destination File". |
| Execute button | Verifies the projects, closes this screen, and displays the verify result.<br>Refer to Section 7.5.2 for details of the verify result. |
| Opened File *1 | Displays a list of all modules of the open project. |
| Add button | Adds the selected module to the "Verification Source Module" or "Verification Destination Module".<br>The addition destination changes depending on the selection of "Select Verification Source File".<br>• When "Opened File" is selected, the selected module is added to "Verification Source Module".<br>• When "Verification Target File" is selected, the selected module is added to "Verification Destination Module". |

*1: As this verification is conducted to check parameter inconsistency, the module without parameters is grayed out and is not verified.
The module with uploadable parameters is verified, even if the parameters are not editable.

| Item | | | Description |
|---|---|---|---|
| Verify Selected Modules | | | – |
| | Verification Target File *1 | | Displays a list of all modules of the verification destination project. |
| | | Add button | Adds the selected module to the "Verification Source Module" or "Verification Destination Module".<br>The addition destination changes depending on the selection of "Select Verification Source File".<br>• When "Opened File" is selected, the selected module is added to "Verification Source Module".<br>• When "Verification Target File" is selected, the selected module is added to "Verification Destination Module". |
| | Verification Source Module | | Displays the module selected as the verification source.<br>Only one module can be selected for this item. |
| | Verification Destination Module | | Displays the modules to be verified. |
| | | Delete button | Deletes the selected module. |

*1: As this verification is conducted to check parameter inconsistency, the module without parameters is grayed out and is not verified.
The module with uploadable parameters is verified, even if the parameters are not editable.

## 7.6 Printing the Project Data

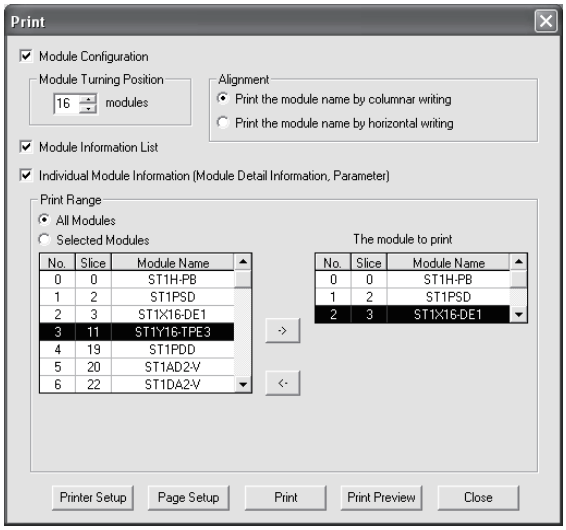
### *PURPOSE*

Prints the module configuration, module information list and module detail information of the open project.

### *BASIC OPERATION*

(1) Click the [File] → [Print] menu ( ) or press the Ctrl + P keys on the keyboard.
(2) Make settings on the opened screen, e.g. select the printing details (Module Configuration, Module Information List or Individual Module Information (Module Detail Information, Parameter)).
(3) Click the Print button to start printing.
Refer to Section 7.6.4 for the printing result.

### *DISPLAY/SETTING SCREEN*




### *DISPLAY/SETTING DATA*

| Item | Description |
|---|---|
| Module Configuration | Check this item to print the module configuration. |
| Module Turning Position | Set the number of modules to be arranged horizontally when the module configuration is to be printed.<br>This item is available only when the "Module Configuration" is checked. |
| Module Information List | Check this item to print the module information list. |
| Individual Module Information (Module Detail Information, Parameter) | Check this item to print the detail information of the modules specified at "Print Range". |

| Item | | Description |
|---|---|---|
| Alignment | | Select the print orientation for the module names. |
| | Print the module name by columnar writing | Prints the module names vertically.<br>0 ST1H-PB<br>1 ST1PSD<br>2 ST1X16-DE1 |
| | Print the module name by horizontal writing | Prints the module names horizontally.<br>0 ST1H-PB<br>1 ST1PSD<br>2 ST1X16-DE1 |
| Print Range | | Set the modules to be printed when the detail information of individual modules is to be printed.<br>This item is available only when the "Individual Module Information" is checked. |
| | All Modules | Prints the detail information of all modules. |
| | Selected Modules | Prints the detail information of the modules displayed in "The module to print". |
| | -> button | Adds the module selected in the left side list to the end of "The module to print" as the module to be printed. |
| | <- button | Withdraws the module selected in "The module to print" from the modules to be printed, and deletes it from "The module to print". |
| Printer Setup button | | Sets the printer.<br>Refer to Section 7.6.1 for details. |
| Page Setup button | | Sets the page layout.<br>Refer to Section 7.6.2 for details. |
| Print button | | Starts printing. |
| Print Preview button | | Closes this screen and displays a print image.<br>Refer to Section 7.6.3 for details. |
| Close button | | Closes this screen without printing. |

## 7.6.1 Setting up the printer

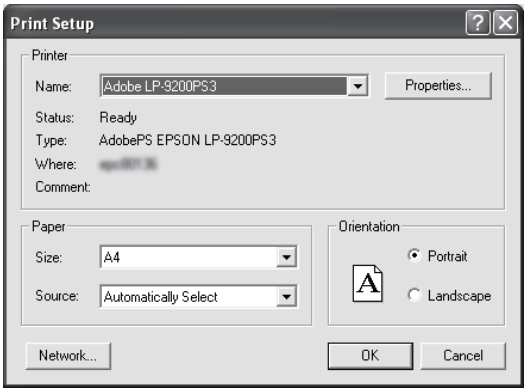
### *PURPOSE*

Selects a printer for printing and sets the paper size, the printing orientation, and other printing format-related items.

### *BASIC OPERATION*

(1) Click the Printer Setup button on the "Print" screen to display this screen.
(2) Select the printer for printing, and set the paper size, print orientation, etc.
(3) To close this screen, click the OK button.

### *DISPLAY/SETTING SCREEN*




### *DISPLAY/SETTING DATA*

| Item | Description |
|---|---|
| Printer | Selects a printer for printing. |
| Propaties button | Clicking this button displays the properties dialog box.<br>The printer property option is used to make the basic settings of the printer. |
| Paper | Sets the size of the paper for printing and the paper feed method of the printer.<br>The setting range depends on the printer. |
| Orientation | — |
| Portrait | Characters will be printed along the paper feed direction. |
| Landscape | Characters will be printed across the paper feed direction. |
| Network button | Click this button when connecting to the shared network folder.<br>This item is displayed only when any of the following operating systems is used.<br>• Microsoft® Windows® 2000 Professional Operating System<br>• Microsoft® Windows® XP Professional Operating System<br>• Microsoft® Windows® XP Home Edition Operating System |
| OK button | Click this button after the printer setting is completed. |
| Cancel button | Cancels the settings and closes this screen. |

**Point**

For the property setting of the printer, please read the manual of the used printer carefully since the setting changes depending on the printer maker and model.

## 7.6.2 Setting a page layout

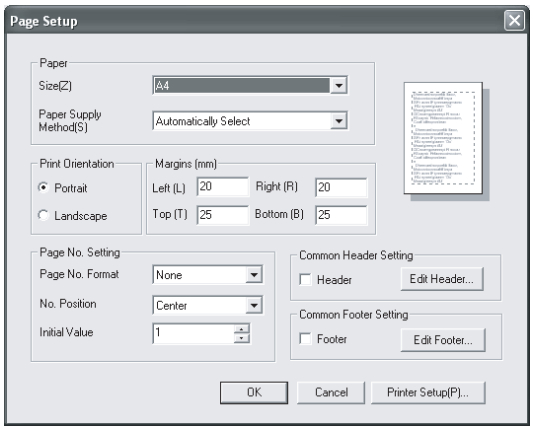
### *PURPOSE*

Makes settings related paper, page number, header, and so on.

### *BASIC OPERATION*

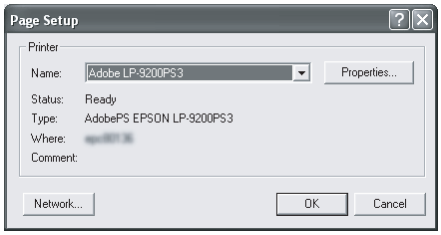
(1) Click the Page Setup button on the "Print" screen to display this screen.
(2) Set the paper, page number, header, etc.
(3) To close this screen, click the OK button.

### *DISPLAY/SETTING SCREEN*




### *DISPLAY/SETTING DATA*

| Item | | Description |
|---|---|---|
| Paper | | Sets paper size and paper feed method. |
| Print Orientation | | Sets the orientation of printing on paper. |
| Margins | | Sets the margins of the page. |
| Page No. Setting | | Set the page number. |
| | Page No. Format | Select the page number format.<br>• "-**-" indicates that a page number will printed on pages, starting from the initial value.<br>• "-**/**-" indicates that a page number and the total number of pages will be printed.<br>• Set "None" to print no page numbers. |
| | No. Position | Sets the position of page numbers. |
| | Initial Value | Sets the page number to be printed on the first page. |

| Item | Description |
|---|---|
| Common Header Setting/<br>Common Footer Setting | By checking the check box, a header will be printed on each page.<br>Click the Edit header button, and the "Header Edit" dialog box as shown below will be displayed.<br> <br><br>Alternatively, clicking the Edit header button displays the "Footer Edit" dialog box like the Header Edit dialog box.<br>The header (or footer) can be edited within the range of 64 characters x seven lines.<br>Lines and images cannot be edited, and characters cannot be decorated. |
| OK button | Click this button after the page setting is completed. |
| Cancel button | Cancels the settings and closes this screen. |
| Printer Setup button | By clicking this button, the printer dialog box will be displayed.<br>Select the printer for printing and click the OK button.<br>  <br> |

**Point**

- If the print characters are small, reduce the value of margin setting.
- When the mouse button is clicked while the shape of the mouse pointer is , the window zooms in.
  When the mouse button is clicked while the shape of the mouse pointer is , the data is displayed in the standard scale.

## 7.6.3 Previewing a Print Image

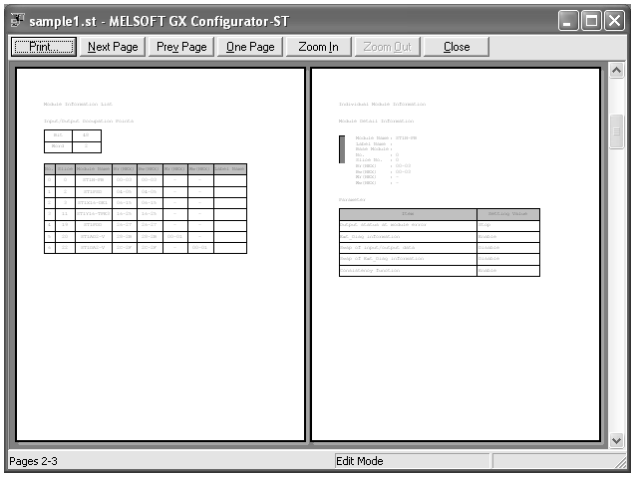
### *PURPOSE*

The image of the entire page when it is printed will be displayed.

### *BASIC OPERATION*

(1) Clicking the Print Preview button on the "Print" screen displays the print image of the entire page.
(2) To return to the "Print" screen, click the Print button.
(3) To end the image display, click the Close button.

### *DISPLAY/SETTING SCREEN*




### *DISPLAY/SETTING DATA*

| Item | Description |
|---|---|
| Print button | Ends the image display and displays the "Print" screen.<br>Refer to Section 7.6 for details of the "Print" screen. |
| Zoom In button | The displayed image will be enlarged by clicking this button.<br>Data will be displayed in three different scales. |
| Zoom Out button | The displayed image will be reduced by clicking this button. |
| Close button | Ends the image display. |

**Point**

When the mouse button is clicked while the shape of the mouse pointer is , the window zooms in.
When the mouse button is clicked while the shape of the mouse pointer is , the data is displayed in the standard scale.

## 7.6.4 Print Examples

Print examples are shown below.

### (1) Module Configuration

(a) When "Print the module name by columnar writing" is set

Module Configuration

| 0 | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| ST1H-PB | ST1PSD | ST1X16-DE1 | ST1Y16-TPE3 | ST1PDD | ST1AD2-V | ST1DA2-V |

(b) When "Print the module name by horizontal writing" is set

Module Configuration

| 0 | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| ST1H-PB | ST1PSD | ST1X16-DE1 | ST1Y16-TPE3 | ST1PDD | ST1AD2-V | ST1DA2-V |

## (2) Module Information List

Module Information List

Input/Output Occupation Points

| | |
|---|---|
| Bit | 48 |
| Word | 2 |

| No. | Slice | Module Name | Br(HEX) | Bw(HEX) | Wr(HEX) | Ww(HEX) | Label Name |
|---|---|---|---|---|---|---|---|
| 0 | 0 | ST1H-PB | 00-03 | 00-03 | - | - | |
| 1 | 2 | ST1PSD | 04-05 | 04-05 | - | - | |
| 2 | 3 | ST1X16-DE1 | 06-15 | 06-15 | - | - | |
| 3 | 11 | ST1Y16-TPE3 | 16-25 | 16-25 | - | - | |
| 4 | 19 | ST1PDD | 26-27 | 26-27 | - | - | |
| 5 | 20 | ST1AD2-V | 28-2B | 28-2B | 00-01 | - | |
| 6 | 22 | ST1DA2-V | 2C-2F | 2C-2F | - | 00-01 | |

## (3) Individual Module Information

Individual Module Information

Module Detail Information

Module Name : ST1H-PB
Label Name :
Base Module :
No. : 0
Slice No. : 0
Br(HEX) : 00-03
Bw(HEX) : 00-03
Wr(HEX) : -
Ww(HEX) : -

Parameter

| Item | Setting Value |
|---|---|
| Output status at module error | Stop |
| Ext_Diag information | Enable |
| Swap of input/output data | Disable |
| Swap of Ext_Diag information | Disable |
| Consistency function | Enable |

# MEMO

# 8 EDITING THE PROJECT

This chapter explains how to edit the project of GX Configurator-ST.

**Point**

Always add the power distribution module to the project.

## 8.1 Adding the Module

*PURPOSE*

Adds a slice module to the project.

*BASIC OPERATION*

(1) Execute any of the following operations to display the "Add Module" screen.
Click the [Edit] → [Add] menu ( ).
Press the Ctrl + Insert keys on the keyboard.
Right-click the list on the "Module Information List" screen, and click [Add] from the menu.

(2) Set the adding position and model name of the module on the "Add Module" screen, and click the Add button.

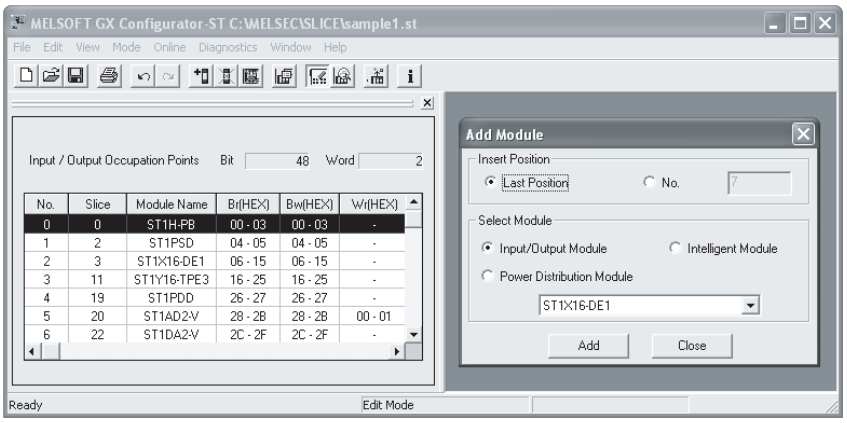
(3) To close the "Add Module" screen, click the Close button.

**Point**

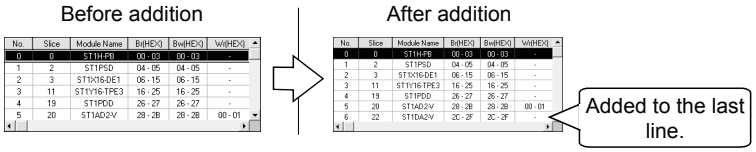
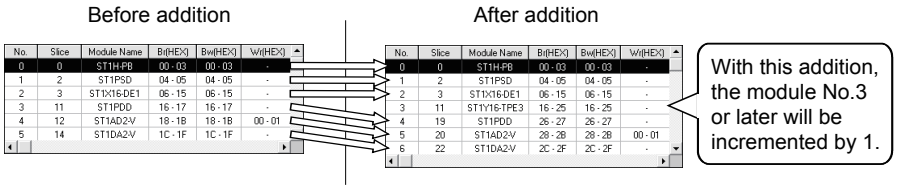
Perform the operation with the "Module Information List" screen displayed.

The "Module Information List" screen is displayed when the [View] → [Module Information List] menu is selected.

## DISPLAY/SETTING SCREEN




## DISPLAY/SETTING DATA

| Item | | Description |
|---|---|---|
| Insert Position | | Set the position where the slice module will be inserted. |
| | Last Position | Sets the inserting position to the last line.<br>Example: When the module is added to the last line.<br>  <br> |
| | No. | Select the "No." radio button and specify the inserting position with "No.".<br>Example: When the module (ST1Y16-TPE3) is added to No. 3<br>  <br> |
| Select Module | | Select the model name of the slice module to be added in the pull-down menu. |
| | Input/Output Module | Displays the input/output modules in the pull-down menu to enable selection. |
| | Intelligent Module | Displays the intelligent function modules in the pull-down menu to enable selection. |
| | Power Distribution Module | Displays the power distribution modules in the pull-down menu to enable selection. |
| Add button *1 | | Adds the slice module to the project. |
| Close button | | Closes this screen without adding the slice module. |

*1: The slice module cannot be added in excess of the Maximum Input/Output points of the head module.
Refer to Section 8.9 for the Maximum Input/Output points.

## 8.2 Deleting the Module

*PURPOSE*

Deletes the selected slice module from the project.

*BASIC OPERATION*

(1) Select the module to be deleted on the "Module Information List" screen.
(2) Execute any of the following operations.
- Click the [Edit] → [Delete] menu ( ).
- Press the Ctrl + Delete keys on the keyboard.
- Right-click the module to be deleted on the "Module Information List" screen, and click [Delete] from the menu.

(3) On the opened screen, confirm the slice module to be deleted, and click the Yes button. This deletes the module.
The module Nos. greater than the deleted module No. are decremented by 1.

## 8.3 Deleting All Modules

*PURPOSE*

Deletes all slice modules from the project.

*BASIC OPERATION*

(1) Execute any of the following operations.
- Click the [Edit] → [All Delete] menu ( ).
- Press the Shift + Delete keys on the keyboard.
- Right-click the list of the "Module Information List" screen, and click [All Delete] from the menu.

(2) On the opened screen, click the Yes button.

**Point**

Perform the operation with the "Module Information List" screen displayed.

The "Module Information List" screen is displayed when the [View] → [Module Information List] menu is selected.

## 8.4 Copying the Module Information

### *PURPOSE*

Copies the slice module from the saved project to the open project.
At this time, the parameters are also copied to the copied slice module.

### *BASIC OPERATION*

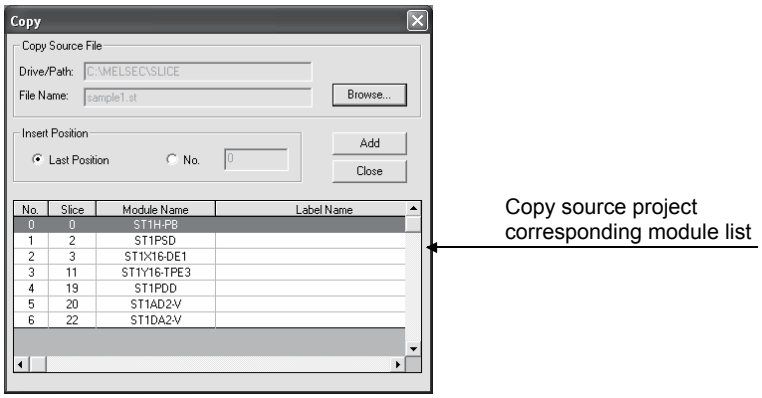
(1) Click the [File] → [Copy] menu.
(2) Specify the copy source project with the Browse button.
(3) Select the slice module to be copied, set the inserting position at the "Insert Position" section, and click the Add button.
(4) To close this screen, click the Close button.

**Point**

Perform the operation with the "Module Information List" screen displayed.

The "Module Information List" screen is displayed when the [View] → [Module Information List] menu is selected.

### *DISPLAY/SETTING SCREEN*




### *DISPLAY/SETTING DATA*

| Item | | Description |
|---|---|---|
| Copy Source File | | Specify the copy source project. |
| | Drive/Path | Displays the drive and directory of the project. |
| | File Name | Displays the file name of the project. |
| | Browse button | Specifies the project.<br>The operation is the same as opening the existing project.<br>Refer to Section 7.2 for details.<br>When the project is specified, the modules of the copy source project are displayed in the "Copy source project corresponding module list". |

| Item | | Description |
|---|---|---|
| Insert Position | | Set the position where the slice module will be inserted into the open project. |
| | Last Position | Sets the inserting position to the last line. |
| | No. | Select the "No." radio button and specify the inserting position with "No.". |
| Add button | | Copies the slice module selected in the "Copy source project corresponding module list".<br>Copy is not executed when no slice module is selected. |
| Close button | | Closes this screen. |
| Copy source project corresponding module list | | Select the slice module to be copied. |

## 8.5 Undo

### *PURPOSE*

Returns the following operations to the status prior to execution.
- Adding the module
- Deleting the module
- Deleting all modules
- Copying the module information
- Get System

### *BASIC OPERATION*

Executing any of the following operations returns to the status prior to the last operation.
- Click the [Edit] → [Undo] menu ( ).
- Press the Ctrl + Z keys on the keyboard.
- Right-click the list of the "Module Information List" screen, and click [Undo] from the menu.

Repeating this operation returns to the status of up to the tenth preceding operation.

**Point**

- Perform the operation with the "Module Information List" screen displayed.
  The "Module Information List" screen is displayed when the [View] → [Module Information List] menu is selected.
- The operation history is erased when the project is closed.
  When the project is closed, the operation performed before closing the project cannot be returned to the previous status.

## 8.6 Redo

### *PURPOSE*

Returns to the status prior to the "Undo" processing in Section 8.5.

### *BASIC OPERATION*

Execute any of the following operations.

- Click the [Edit] → [Redo] menu ( ).
- Press the Ctrl + Y keys on the keyboard.
- Right-click the list of the "Module Information List" screen, and click [Redo] from the menu.

**Point**

Perform the operation with the "Module Information List" screen displayed.

The "Module Information List" screen is displayed when the [View] → [Module Information List] menu is selected.

## 8.7 Rearranging the Modules

### *PURPOSE*

Rearranges the slice modules of the project.

**Point**

The head module cannot be rearranged.

### *BASIC OPERATION*

(1) Execute either of the following operations.
- Click the [Edit] → [Rearrange] menu.
- Right-click the list of the "Module Information List" screen, and click [Rearrange] from the menu.

(2) On the opened screen, select the slice module to be moved from among the slice modules displayed in the list, and move it using the Up/Down button.

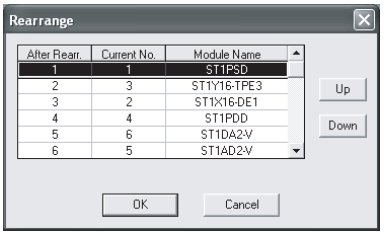
(3) To close this screen, click the OK button.

**Point**

Perform the operation with the "Module Information List" screen displayed.

The "Module Information List" screen is displayed when the [View] → [Module Information List] menu is selected.

## DISPLAY/SETTING SCREEN




## DISPLAY/SETTING DATA

| Item | Description |
|---|---|
| After Rearr. | Displays the No. of the slice module after rearrangement. |
| Current No. | Displays the No. of the slice module before rearrangement. |
| Module Name | Displays the product model name of the slice module after rearrangement. |
| Up button | Changes the positions of the selected slice module with the one above that.<br>When the selected slice module is at the top of the list, its position is not changed. |
| Down button | Changes the positions of the selected slice module with the one below that.<br>When the selected slice module is at the bottom of the list, its position is not changed. |
| OK button | Validates the rearrangement and closes this screen. |
| Cancel button | Cancels the rearrangement and closes this screen. |

## 8.8 Parameter Setting

The following table shows the reference section for each parameter-related operation.
The operation can be performed on the "Parameter Setting" screen.
Refer to Section 8.8.1 for the operation to display the "Parameter Setting" screen.

| Operation | Reference Section |
|---|---|
| To set the parameters. | Section 8.8.2 |
| To upload the parameters.<br>To download the parameters.<br>To verify the parameters being edited and the parameters within the module. | Section 8.8.3 |
| To check the parameters being edited for errors and identify the parameter errors. | Section 8.8.4 |

### 8.8.1 "Parameter Setting" screen displaying operation

*BASIC OPERATION*

The "Parameter Setting" screen displaying operation differs among the following (1) to (3).

(1) In the edit mode

(a) When the "Module Information List" screen is not displayed, choose the [View] → [Module Information List] menu to display the "Module Information List" screen.

(b) On the "Module Information List" screen, select the module whose parameters will be set.

(c) Execute any of the following operations to display the "Parameter Setting" screen.

- Click the [Edit] → [Parameter Setting] menu ( ).
- Press the F9 key on the keyboard.
- On the "Module Information List" screen, right-click the module whose parameters will be set, and click [Parameter Setting] from the menu.
- On the "Module Information List" screen, double-click the module whose parameters will be set.

(2) In the diagnosis mode

(a) When the "System Monitor" screen is not displayed, choose the [View] → [System Monitor] menu to display the "System Monitor" screen.

(b) On the "System Monitor" screen, select the module whose parameters will be set.

(c) Execute any of the following operations to display the "Parameter Setting" screen.

- Click the [Edit] → [Parameter Setting] menu ( ).
- Press the F9 key on the keyboard.
- On the "System Monitor" screen, right-click the module whose parameters will be set, and click [Parameter Setting] from the menu.
- On the "System Monitor" screen, select the module whose parameters will be set, and click the Parameter Setting button.

(3) When the "Result Verify" screen is open after project verify

Execute either of the following operations to display the "Parameter Setting" screen.

- On the "Result Verify" screen, double-click the module whose parameters will be set.
- On the "Result Verify" screen, select the module whose parameters will be set, and click the Parameter Setting button.

## 8.8.2 Setting the parameters

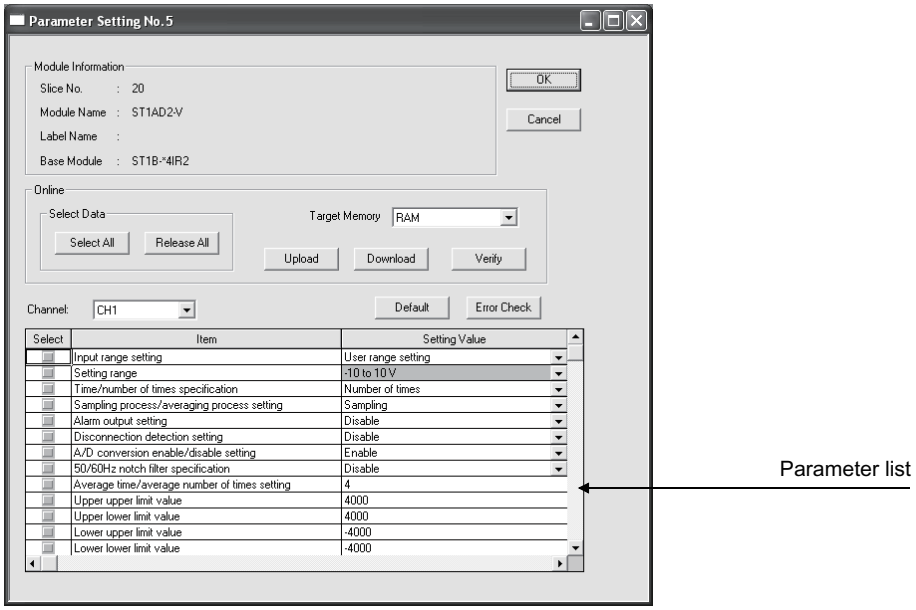
*PURPOSE*

Sets the parameters of the intelligent function module.

*BASIC OPERATION*

(1) When the module has the same parameters on multiple channels, select the channel whose parameters will be set at "Channel".
(2) Set the parameters in the "Parameter list".
(3) Click the OK button to close this screen.

## DISPLAY/SETTING SCREEN




## DISPLAY/SETTING DATA

| Item | | Description |
|---|---|---|
| Module Information | | Displays the information (start slice No., module name, label name, base module name) of the target intelligent function module. |
| OK button | | Validates the settings and closes this screen. |
| Cancel button | | Cancels the settings and closes this screen. |
| Channel | | Specify the channel of the parameters to be displayed in the parameter list.<br>Only when the intelligent function module has the same parameters on multiple channels, this item is available. |
| Default button | | Returns the parameters in the "Parameter list" to the default values.<br>Only when the module has the parameters that can be changed, this item is available. |
| Parameter list | | A list of the parameters of the intelligent function module is displayed and can be edited.<br>For the types and applications of the parameters of the module, refer to the manual of the corresponding intelligent function module. |
| | Item | Displays the parameter name. |
| | Setting Value | Edit the parameter.<br>The parameter that cannot be edited is grayed out. |

## 8.8.3 Uploading/downloading the parameters or verifying the parameters being edited and parameters within module

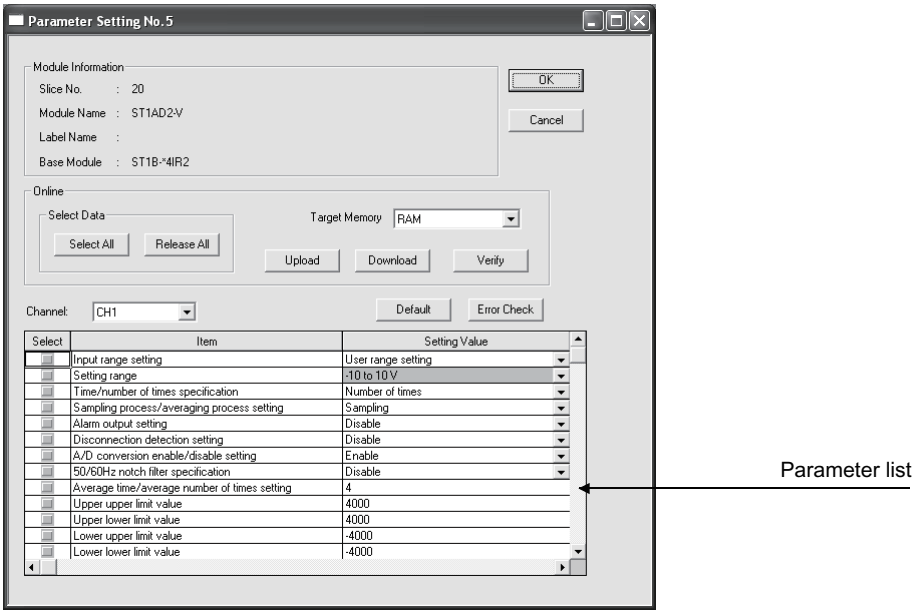
### *PURPOSE*

Uploads/downloads the parameters, or verifies the parameters being edited and parameters within module.

### *BASIC OPERATION*

(1) When the module has the same parameters on multiple channels, select the channel, whose parameters will be uploaded, downloaded or verified, at "Channel".
(2) Select the parameters to be uploaded, downloaded or verified.
To make selection, mark the "Select" check box in the "Parameter list".
(3) At "Target Memory", select the memory as the target of upload, download or verify.
(4) To upload the parameters, click the Upload button.
(5) To download the parameters, click the Download button.
(6) To verify the parameters, click the Verify button.
(7) Click the OK button to close this screen.

### *DISPLAY/SETTING SCREEN*



### *DISPLAY/SETTING DATA*

| Item | Description |
|---|---|
| Module Information | Displays the information (start slice No., module name, label name, base module name) of the target module. |
| OK button | Closes this screen. |
| Online | Perform operation for the target module. |
| Select Data | Select the parameters to be uploaded, downloaded or verified. |
| Select All button | Checks all "Select" check boxes in the "Parameter list". |
| Release All button | Unchecks all "Select" check boxes in the "Parameter list". |
| Target Memory | Select the memory as the target of upload, download or verify. |
| Upload button | Uploads the parameters of the target module from the memory selected at "Target Memory".<br>When the module has the same parameters on multiple channels, the parameters of the channel selected at "Channel" are uploaded.<br>The uploaded parameters are displayed in the "Parameter list". |
| Download button | Checks the parameters for incorrect settings, and when they are correct, downloads the parameters to the memory selected at "Target Memory".<br>When the module has the same parameters on multiple channels, the parameters of the channel selected at "Channel" are downloaded.<br>If any parameter is incorrect, that parameter is not downloaded, and its name under "Item" is displayed red in the "Parameter list". |
| Verify button | Verifies the parameters of the memory selected at "Target Memory" and those in the "Parameter List".<br>When the module has the same parameters on multiple channels, the parameters of the channel selected at "Channel" are verified.<br>If any parameter is judged as inconsistent as a result of verify, its name under "Item" is displayed red in the "Parameter list". |
| Channel | Specify the channel for which parameters will be uploaded, downloaded or verified.<br>Only when the module has the same parameters on multiple channels, this item is available. |
| Parameter list | Displays a list of the parameters of the module.<br>For the types and applications of the parameters of the module, refer to the manual of the corresponding module. |
| Select | Select the parameters used for the operation performed at "Online". |
| Item | Displays the parameter name.<br>This item may be displayed red depending on the result of clicking the Download or Verify button.<br>For details, refer to the description of the corresponding button. |
| Setting Value | Displays the parameter value.<br>Downloading is not allowed to the items displayed in gray, however, uploading and verification is available. |

## 8.8.4 Checking the parameters for errors

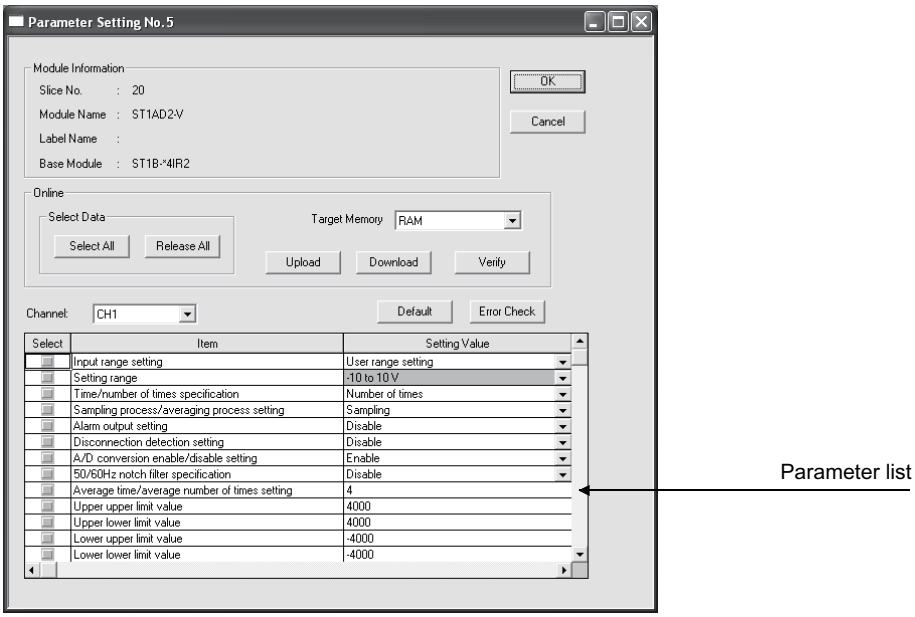
### *PURPOSE*

Checks the parameters for errors and identifies the parameter errors.

### *BASIC OPERATION*

(1) When the module has the same parameters on multiple channels, select the channel, whose parameters will be checked for errors, at "Channel".
(2) Click the Error Check button to start an error check.
(3) Click the OK button to close this screen.

### *DISPLAY/SETTING SCREEN*




### *DISPLAY/SETTING DATA*

| Item | Description |
|---|---|
| Module Information | Displays the information (start slice No., module name, label name, base module name) of the target module. |
| OK button | Closes this screen. |
| Channel | Specify the channel of the parameters to be checked for errors.<br>Only when the module has the same parameters on multiple channels, this item is available. |
| Error Check button | Checks the parameters for incorrect settings.<br>If any parameter has an incorrect setting, its name under "Item" is displayed red in the "Parameter list". |

| Item | | Description |
|---|---|---|
| Parameter list | | Displays a list of the parameters of the module.<br>For the types and applications of the parameters of the module, refer to the manual of the corresponding module. |
| | Item | Displays the parameter name.<br>This item may be displayed red depending on the result of clicking the Error Check button.<br>For details, refer to the description of the Error Check button. |

## 8.9 Option Settings

### *PURPOSE*

Sets the label name, base module, Maximum Input/Output points, etc.

### *BASIC OPERATION*

(1) Execute any of the following operations.
- Click the [Edit] → [Option] menu.
- Press the F10 key on the keyboard.
- On the "Module Information List" screen, right-click the module, where option settings will be made, and click [Option] from the menu.

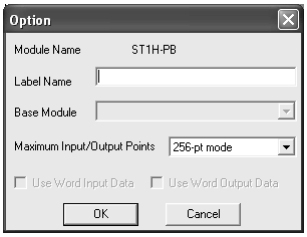
(2) On the opened screen, make option settings and click the OK button.

**Point**

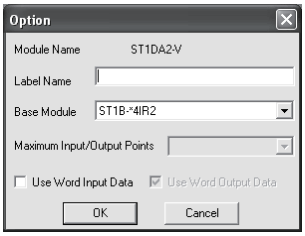
Perform the operation with the "Module Information List" screen displayed.
The "Module Information List" screen is displayed when the [View] → [Module Information List] menu is selected.

### *DISPLAY/SETTING SCREEN*

For head module




For slice module




### *DISPLAY/SETTING DATA*

| Item | Description |
|---|---|
| Model Name | Displays the product model name of the module for which option settings will be made. |
| Label Name | Enter any character string within 32 alphanumeric characters.<br>As the label name is displayed on the "Module Information List" screen or is output for printing, it is useful for module management, etc. |
| Base Module *1 | Select the base module for the slice module. |
| Maximum Input/Output Points | Set the Maximum Input/Output points for the head module. |
| Use Word Input Data | When the module has Wr.n word input, check this check box to use the Wr.n word input. |
| Use Word Output Data | When the module has Ww.n word output, check this check box to use the Ww.n word output. |
| OK button | Validates the settings and closes this screen. |
| Cancel button | Cancels the settings and closes this screen. |

*1: For applicable base modules, refer to the manual of the module used.

## 8.10 Power Distribution Check

### *PURPOSE*

Checks whether the sum of 5VDC internal current consumption required by the modules is within the 5VDC maximum rated output current of the bus refreshing module.

**Point**

For details of the calculation method used for this function, refer to the MELSEC-ST System User's Manual.

### *BASIC OPERATION*

(1) Execute any of the following operations.
- Click the [Edit] → [Power Distribution Check] menu.
- On the "Module Information List" screen, right-click a menu and click [Power Distribution Check] from the menu.

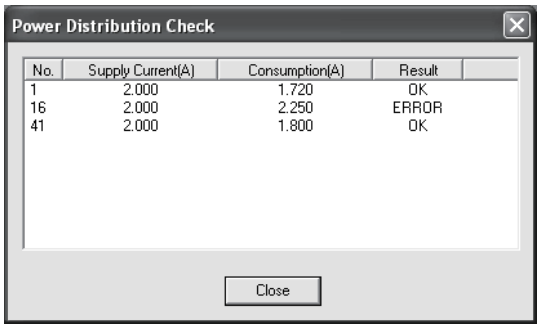
(2) On the opened screen, confirm the check result.
(3) Click the Close button to close this screen.

**Point**

Perform the operation with the "Module Information List" screen open.

To display the "Module Information List" screen, choose the [View] → [Module Information List] menu.

## DISPLAY/SETTING SCREEN




## DISPLAY/SETTING DATA

| Item | Description |
|---|---|
| No. | Displays the mounting position of the bus refreshing module. |
| Supply Current (A) | Displays the 5VDC maximum rated output current of the bus refreshing module. |
| Consumption (A) | Displays the sum of 5VDC internal current consumption of the modules powered by the bus refreshing module. |
| Result | Displays the check result.<br>"OK" : The sum of 5VDC internal current consumption is not greater than the 5VDC maximum rated output current of the bus refreshing module.<br>"ERROR" : The sum of 5VDC internal current consumption is greater than the 5VDC maximum rated output current of the bus refreshing module. |
| Close button | Closes this screen. |

# 9 DOWNLOADING AND UPLOADING THE PARAMETERS

This chapter explains how to download or upload the parameters of each module.

## 9.1 Transfer Setup

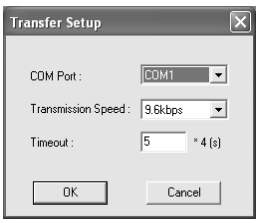
### *PURPOSE*

Sets the connection with the head module.

### *BASIC OPERATION*

(1) Click the [Online] → [Transfer Setup] menu.
(2) Make setting and click the OK button.

### *DISPLAY/SETTING SCREEN*



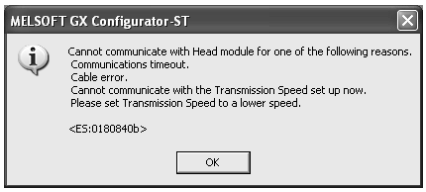

### *DISPLAY/SETTING DATA*

| Item | Description |
|---|---|
| COM Port | Select the COM port connected with the head module.<br>(Setting range: COM1 to COM10, default *1: COM1) |
| Transmission Speed | Select the transmission speed.<br>(Setting range: 9.6kbps, 19.2kbps, 38.4kbps, 57.6kbps, default *1: 9.6kbps) |
| Timeout *2 | When the external power supply of the MELSEC-ST system is switched off or the head module is reset during communication with the head module, it will take some time before a communication error is displayed.<br>The monitor displays Executing until the error is displayed.<br>The maximum time until the error is displayed can be found by the following expression.<br>(Specified "Timeout" period) × 4<br>For example, when 5s was specified for "Timeout", (5s) × 4 = 20s and the error is displayed in a maximum of 20s.<br>(Setting range: 1 to 9, default *1: 5) |
| OK button | Validates the settings and closes this screen. |
| Cancel button | Closes this screen without making settings. |

*1: When this screen is used the second or later time after installation of GX Configurator-ST, the default is the value set when this screen was used the last time.
*2: If a communication error occurs during write to the ROM of each module, a maximum of 30s is required before the error is displayed.

**Point**

When the transmission speed of 19.2kbps or higher is set to "Transmission Speed", some personal computers may be unstable, fail the communication and display the following screen.
In this case, set the lower transmission speed.



## 9.2 Get System

### *PURPOSE*

Uploads the module configuration and the parameters from each module.

### *BASIC OPERATION*

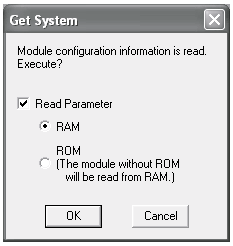
(1) Click the [Online] → [Get System] menu ( ).

(2) When the project is open, uploading the module configuration and the parameters of each module erases the project information uploaded previously.
Hence, a screen appears asking whether data will be uploaded or not.
- Click the Yes button to display the "Get System" screen.
  In this case, the project information uploaded previously is erased.
- Click the No button to stop processing.

(3) Set the data to be uploaded on the "Get System" screen, and click the OK button to upload the module configuration and the parameters of each module.

(4) When upload is completed, the "Completed" message is displayed.
Click the OK button.

### *DISPLAY/SETTING SCREEN*




### *DISPLAY/SETTING DATA*

| Item | | Description |
|---|---|---|
| Read Parameter | | Check this check box to upload the parameters of each module.<br>The module configuration is uploaded regardless of the setting of this item. |
| | RAM | Uploads the parameters from the RAM of each module.<br>This item is available only when the "Read Parameter" check box is checked. |
| | ROM | Uploads the parameters from the ROM of each module.<br>When the target module does not have the ROM, the parameters are uploaded from the RAM.<br>This item is available only when the "Read Parameter" check box is marked. |
| OK button | | Validates the settings and closes this screen. |
| Cancel button | | Closes this screen without making settings. |

## 9.3 Get Input/Output Data Settings

### *PURPOSE*

Uploads the input/output data settings made using GX Configurator-DP from each module.
The following two different input/output data settings are uploaded.
• Maximum Input/Output points of the head module
• Setting of whether the Wr.n word input/ Ww.n word output of the intelligent function module are used or not

### *BASIC OPERATION*

(1) Click the [Online] → [Get Input/Output Data Settings] menu.
(2) A screen appears asking whether the settings will be uploaded or not.
Click the OK button to upload the input/output data settings.
(3) When upload is completed, the "Completed" message is displayed.
Click the OK button.

## 9.4 Parameter Block Write

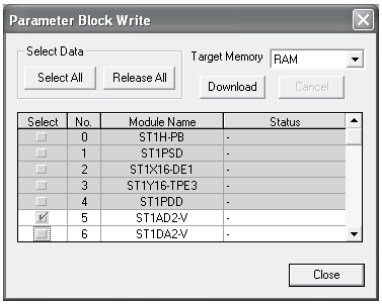
### *PURPOSE*

Downloads the parameters to the modules in block.

### *BASIC OPERATION*

(1) Click the [Online] → [Parameter Block Write] menu to display the "Parameter Block Write" screen.
(2) Select the target memory and parameters, and click the Download button.
(3) When download is completed, the "Download Completed" message is displayed.
Click the OK button.
(4) To close this screen, click the Close button.

## DISPLAY/SETTING SCREEN




## DISPLAY/SETTING DATA

| Item | | Description |
|---|---|---|
| Select Data | | Batch-select the modules whose the parameters will be downloaded. |
| | Select All button | Selects all modules. |
| | Release All button | Deselects all modules. |
| Target Memory | | Select the memory where the parameters will be downloaded.<br>• When "RAM" is selected, the parameters are downloaded to the RAM of each module.<br>• When "ROM" is selected, the parameters are downloaded to the ROM of each module.<br>• When "RAM/ROM" is selected, the parameters are downloaded to both RAM and ROM of each module. |
| Download button | | Downloads the parameters of the module specified at "Select".<br>While the parameters are downloaded, this button cannot be clicked. |
| Cancel button | | Stops download.<br>Only while the parameters are downloaded, this button can be clicked. |
| Select *1 | | Select the module whose parameters will be downloaded. |
| No. *1 | | Displays the module No. |
| Module Name *1 | | Displays the module name. |
| Status *1 | | Displays the download execution status.<br>Refer to (1) in this section for details of the execution status. |
| Close button | | Closes this screen.<br>While the parameters are downloaded, this button cannot be clicked. |

*1: For the module whose parameters cannot be edited, this item is grayed out and is not available, as parameter download is not necessary.

### (1) Download execution status

Details of the download execution status are described below.

| Display | Description |
|---|---|
| — | Indicates the module that does not have parameters or to which parameters are not downloaded. |
| Wait | Indicates the status prior to download. |
| Writing... | Indicates that download is in progress. |
| Complete | Indicates that download is completed. |
| Error | Indicates a failure in download. |

## 9.5 Offset/Gain Setting of Intelligent Function Module

**Point**

For details of this function, refer to the manual of the used intelligent function module.

### *PURPOSE*

Sets the offset value or gain value of the intelligent function module*1.

*1: The following gives the examples of the intelligent function modules to which the offset or gain value can be set.

| | |
|---|---|
| • ST1AD2-V | • ST1AD2-I |
| • ST1DA2-V | • ST1DA1-I |

For details, refer to the manual of the used intelligent function module.

### *BASIC OPERATION*

(1) On the "System Monitor" screen, select the intelligent function module for which the setting will be made.

(2) On the "System Monitor" screen, click the ON button of "Forced Output Test Mode" to change the MELSEC-ST system to the forced output test mode. When the MELSEC-ST system is changed to the forced output test mode, the RUN LED of the head module flickers.

(3) Execute any of the following operations.
- Click the [Online] → [Offset/Gain Setting] menu.
- Right-click the module selected in (1), and click Offset/Gain Setting from the menu.
- Click the [Offset/Gain Setting] button on the "System Monitor" screen.

(4) The dialog box appears asking whether or not the MELSEC-ST system will be changed to the offset/gain setting mode.
Click the OK button to change the system to the offset/gain setting mode.
When the system changes to the offset/gain setting mode, the RUN LED of the target intelligent function module flickers (at 0.5s intervals) and the module's operation is stopped.

(5) Select the channel to be set at "Select Channel", choose the wiring method of the base module at "Connection Method", and select the value to be set from "Offset" or "Gain".

(6) Set the offset or gain value adjustment amount, and click the Set button.
Repeat the operation in Step (6) until the desired value is reached.

(7) Click the Save button to download the offset or gain value to that intelligent function module.

(8) To close this screen, click the Close button.

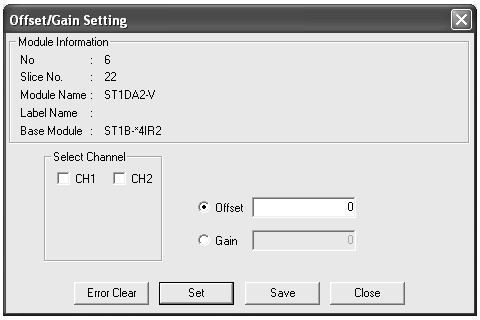
(9) The dialog box appears asking whether or not the MELSEC-ST system will be released from the offset/gain setting mode.
Click the Yes button to release the system from the offset/gain setting mode.

REMARK

(a) If the MELSEC-ST system is not in the forced output test mode after the operation in Step (3) is performed, the dialog box appears asking whether or not the MELSEC-ST system will be changed to the forced output test mode.
Click the OK button to change the system to the forced output test mode.

(b) If the MELSEC-ST system is changed to the forced output test mode in (a), the dialog box appears asking whether or not the MELSEC-ST system will be released from the forced output test mode after the operation in Step (9) is performed.
Click the Yes button when releasing the system from the forced output test mode.
Click the No button when not releasing the system from the forced output test mode.

## *DISPLAY/SETTING SCREEN*




## *DISPLAY/SETTING DATA*

| Item | Description |
|---|---|
| Module Information | Displays the information (No., start slice No., module name, label name, base module) of the target intelligent function module. |
| Select Channel | Select the channel to which the offset or gain value will be set.<br>When multiple channels are checked, the offset or gain values will be set to all the corresponding channels.<br>The channels displayed in this item change depending on the module of the setting target.<br>For details, refer to the manual of the used intelligent function module. |

| Item | Description |
|---|---|
| Offset | Set the offset value adjustment amount.<br>This item is available only when the "Offset" radio button is selected.<br>For details, refer to the manual of the used intelligent function module. |
| Gain | Set the gain value adjustment amount.<br>This item is available only when the "Gain" radio button is selected.<br>For details, refer to the manual of the used intelligent function module. |
| Error Clear button | Turns ON the Ew.n Error Clear to clear the error of the intelligent function module. |
| Set button | Applies the set value to the target module. |
| Save button | Validates the value set with the Set button. |
| Close button | Closes this screen and releases the system from the offset/gain setting mode.<br>Releases the MELSEC-ST system from the forced output test mode if it was not in the forced output test mode when this screen was opened. |

# 10 MONITOR, TEST

This chapter explains how to monitor and test the modules.

## 10.1 System Monitor

### *PURPOSE*

Monitors the statuses of the head module and slice modules.

### *BASIC OPERATION*

(1) When the "System Monitor" screen is not displayed, click the [View] → [System Monitor] menu to display the "System Monitor" screen.
(2) Monitor starts as soon as the "System Monitor" screen is displayed.
(3) To close this screen, click the Close button.

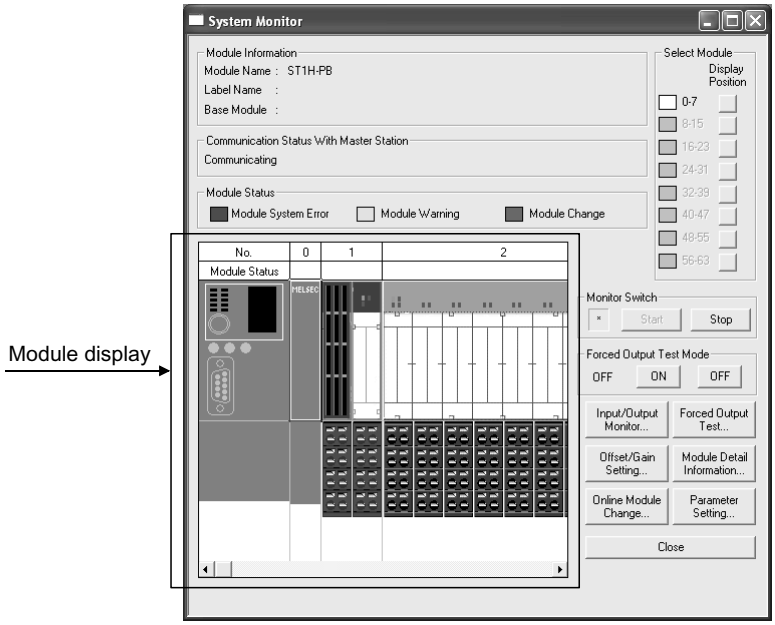
**Point**

The "System Monitor" screen is not displayed if the module configuration of the MELSEC-ST system connected to the personal computer differs from that of the project.
Display the "System Monitor" screen after confirming that their module configurations are the same.

### *HELPFUL OPERATION*

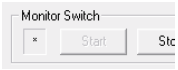
To identify the module where an error has occurred, execute the following operation on the "System Monitor" screen.
(1) At "Select Module", confirm the area displayed red or yellow.
(2) Click the Display Position button corresponding to the area confirmed in (1).
(3) The module whose "Module Status" in the "Module display" is displayed red or yellow is where the error occurred.
Scroll the "Module display" to identify the module whose "Module Status" in the "Module display" is displayed red or yellow.

## DISPLAY/SETTING SCREEN




## DISPLAY/SETTING DATA

| Item | Description |
|---|---|
| Module Information | Displays the information (module name, label name, base module) of the module selected in the "Module display". |
| Communication Status With Master Station | Indicates the status of communication between the head module and master station.<br>"Communicating" : Communicating with the master station<br>"Communication suspended" : Communication with the master station suspended (Interruption)<br>"No communication" : Communication with the master station stopped (No communication) |
| Module Status | Displays the samples of the colors displayed under "Select Modules" and under "Module Status" in the "Module display".<br>Red : System error<br>Yellow : Warning<br>Purple : Module being changed online |
| Module display | Displays the illustrative image of the MELSEC-ST system being monitored.<br>When using the function specific to a certain module, click and select the module from this item.<br>At "Module Status" above the module, the operating status of the slice module is displayed.<br>Refer to (1) in this section for details of the module status. |
| Select Module | The numerals indicate the module Nos., and the color shows the statuses of the modules in that range. The modules displayed in the "Module display" can be changed.<br>Refer to (1) in this section for details of the module status. |
| Display Position button | The numerals on the left of this button indicates the module Nos., and the corresponding modules are displayed in the "Module display". |

| Item | | Description |
|---|---|---|
| Monitor Switch | | Starts/stops monitor. |
| | Start button | Starts monitor.<br>This button is usable only while monitor is at a stop.<br>While monitor is executed, " × " flickers on the left side of this button.<br>  |
| | Stop button | Stops monitor.<br>This button is usable only while monitor is executed. |
| Forced Output Test Mode | | Sets/releases the MELSEC-ST system to/from the forced output test mode, and displays the current mode status.<br> |
| | ON button | Sets the MELSEC-ST system to the forced output test mode. |
| | OFF button | Releases the MELSEC-ST system from the forced output test mode. |
| Input/Output Monitor button | | Monitors the input data and output data of the module selected in the "Module display".<br>Refer to Section 10.3 for details.<br>When no module has been selected, the error message is displayed and monitor cannot be executed. |
| Forced Output Tes button | | Runs a forced output test on the head module, output module or intelligent function module selected in the "Module display".<br>Refer to Section 10.4 for details.<br>When no module has been selected, the error message is displayed and the forced output test cannot be executed. |
| Offset/Gain Setting button | | Sets the offset or gain value to the target intelligent function module which is selected in the "Module display".<br>Refer to Section 9.5 for details.<br>When no module has been selected, the error message is displayed and the offset or gain value cannot be set. |
| Module Detail Information button | | Monitors the detail information and error status of the module selected in the "Module display".<br>Refer to Section 10.2 for details.<br>When no module has been selected, the error message is displayed and monitor cannot be executed. |
| Online Module Change button | | Performs the online change of the I/O module or intelligent function module selected in the "Module display".<br>Refer to Section 11.2 for details.<br>When no module has been selected, the error message is displayed and online module change cannot be executed. |
| Parameter Setting button | | Sets the parameters to the head module, I/O module or intelligent function module selected in the "Module display".<br>Refer to Section 8.8 for details.<br>When no module has been selected, the error message is displayed and parameter setting cannot be executed. |
| Close button | | Closes this screen. |

### (1) Module status

Details of the module status are described below.

| Display | Description |
|---|---|
| Red | System error occurred.<br>For details of the error, refer to the manual of the corresponding module. |
| Yellow | Warning occurred.<br>For details of the warning, refer to the manual of the corresponding module. |
| Purple | Module being changed online |
| Gray | Module not mounted<br>Gray is displayed for "Select Module" only. |
| White | Operating normally |

**Point**

If the slice module is changed for another type of module during a monitor stop on this screen and the monitor is then resumed, the items corresponding to the new module and modules of the following Nos. are displayed red in the "Module Status" section.

## 10.2 Module Detail Information

### *PURPOSE*

Shows the module detail information, and monitors the corresponding module operation status and error status.

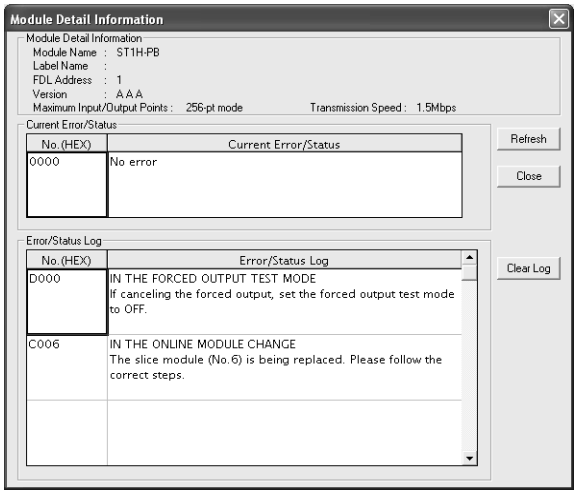
### *BASIC OPERATION*

(1) On the "System Monitor" screen, select the module to be monitored.
(2) Execute any of the following operations to display the "Module Detail Information" screen and start monitor.
- Click the [Diagnostics] → [Module Detail Information] menu.
- Right-click the module selected in (1), and click [Module Detail Information] from the menu.
- Click the Module Detail Information button on the "System Monitor" screen.

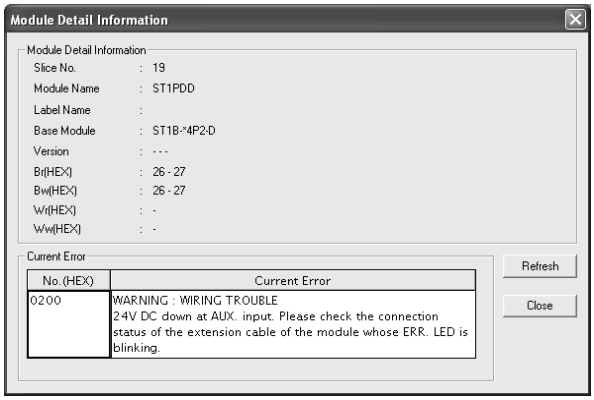
(3) To update the operation status or error status, click the Refresh button.
(4) To close this screen, click the Close button.

### *DISPLAY/SETTING SCREEN*

For head module




For power distribution module, I/O module or intelligent function module



## DISPLAY/SETTING DATA

| Item | | Description |
|---|---|---|
| Module Detail Information | | Displays the information of the module to be monitored.<br>This item includes the following information.<br>• Start slice No. *1<br>• Module name<br>• Label name<br>• FDL Address *1<br>"---" is displayed if the FDL address set with the FDL address setting switches of the head module is outside the setting range (100 or later).<br>For details, refer to "Current Error/Status" or "Error/Status Log" on this screen.<br>• Base module name *1<br>• Version<br>Each module version is displayed for the base module or the intelligent function module.<br>"- - -" is displayed for the power distribution module or the I/O module.<br>• Maximum Input/Output points *2<br>• Transmission speed *2<br>"--" is displayed when the MELSEC-ST system is not communicating with the master station.<br>• Br.n Bit Input *1/Bw.n Bit Output *1/Wr.n Word Input *1, *3/Ww.n Word Output *1, *3 |
| Current Error/Status *2, *4 | | Displays the current operation status or error information of the head module. |
| | No. (HEX) | Displays the error code in hexadecimal. |
| | Current Error/Status | Displays the operation status or error definition. |
| Current Error *1, *4 | | Displays the current operation status or error information of the target module. |
| | No. (HEX) | Displays the error code in hexadecimal. |
| | Current Error/Status | Displays the operation status or error definition. |
| Error/Status Log *2, *4 | | Displays the operation status or error history of the head module.<br>The latest log is displayed in the top line (descending order).<br>This item displays up to five status or error logs. When information is added as the sixth status or error, the information is deleted in the order from the oldest to the newest.<br>Switching off the external power of the MELSEC-ST system or resetting the head module erases the data of this item. |
| | No. (HEX) | Displays the error code in hexadecimal. |
| | Error/Status Log | Displays the operation status or error definition. |
| Refresh button | | Updates the data of "Current Error/Status" and "Error/Status Log". |
| Close button | | Closes this screen. |
| Clear Log button *2 | | Erases the data of "Error/Status Log".<br>The data of "Current Error/Status" are not erased. |

*1: This item is available for the power distribution module, I/O module or intelligent function module.
*2: This item is available for the head module.
*3: For the Wr.n Word Input/Ww.n Word Output, "-" is displayed when the target module does not occupy the corresponding item.
*4: For details of the errors, refer to the manual of the corresponding module.

## 10.3 Input/Output Monitor

### *PURPOSE*

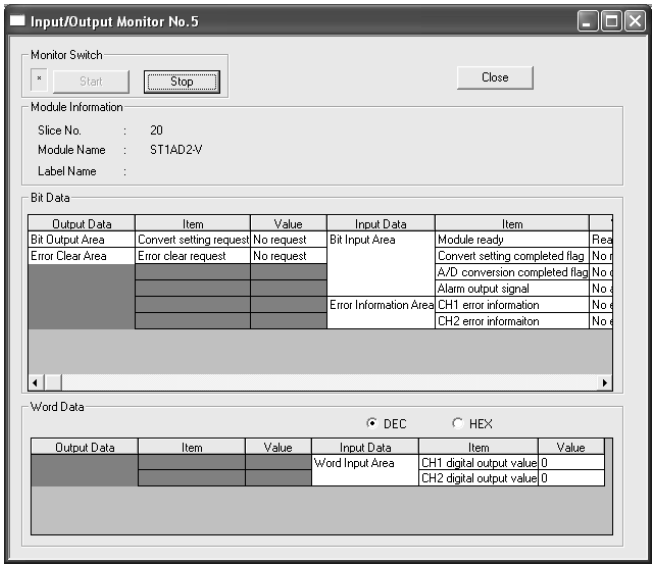
Monitors the input data and output data of the module.

### *BASIC OPERATION*

(1) On the "System Monitor" screen, select the module to be monitored.
(2) Execute any of the following operations to display the "Input/Output Monitor" screen and start monitor.
- Click the [Online] → [Input/Output Monitor] menu.
- Right-click the module selected in (1), and click [Input/Output Monitor] from the menu.
- Click the Input/Output Monitor button on the "System Monitor" screen.

(3) To close this screen, click the Close button.

### *DISPLAY/SETTING SCREEN*




### *DISPLAY/SETTING DATA*

| Item | | Description |
|---|---|---|
| Monitor Switch | | Starts/stops monitor. |
| | Start button | Starts monitor.<br>This button is usable only while monitor is at a stop.<br>While monitor is executed, " × " flickers on the left side of this button.<br> |
| | Stop button | Stops monitor.<br>This button is usable only while monitor is executed. |

| Item | Description |
|---|---|
| Close button | Closes this screen. |
| Monitor Information | Displays the information (start slice No., module name, label name) of the module to be monitored. |
| Bit Data *1 | Displays the input/output data of the target module in bit unit. |
| Word Data *1 | When the target module is the intelligent function module, displays the Wr.n Word Input values and Ww.n Word Output values.<br>Selecting the DEC or HEX radio button displays the values displayed under "Value" in decimal or hexadecimal.<br>DEC: Decimal<br>HEX: Hexadecimal |

*1: For details of each data, refer to the manual of the corresponding module.
*2: When the MELSEC-ST system is in the forced output mode, the values entered on the "Forced Output Test" screen are displayed.

## 10.4 Forced Output Test

### *PURPOSE*

Runs an output test on the Bw.n Bit Output, Ww.n Word Output and Ew.n Error Clear of the head module or slice module without stopping the PROFIBUS-DP network.

### *BASIC OPERATION*

(1) On the "System Monitor" screen, select the module to be monitored.
(2) On the "System Monitor" screen, click the ON button of "Forced Output Test Mode". This displays a screen asking whether or not the MELSEC-ST system will be changed to the forced output test mode.
Click the Yes button to change the MELSEC-ST system to the forced output test mode.
When the MELSEC-ST system is changed to the forced output test mode, the RUN LED of the head module flickers.
(3) Execute any of the following operations to display the "Forced Output Test" screen.
• Click the [Online] → [Forced Output Test] menu.
• Right-click the module selected in (1), and click [Forced Output Test] from the menu.
• Click the Forced Output Test button on the "System Monitor" screen.
(4) On the "Forced Output Test" screen, select the forced output test item and set data, and click the Settings button to start the forced output test.
(5) When the forced output test is completed, the "Completed" message is displayed.
Click the OK button.
(6) To close this screen, click the Close button.
(7) On the "System Monitor" screen, click the OFF button of "Forced Output Test Mode" to release the MELSEC-ST system from the forced output test mode.

**Point**

(1) If any of Bw.n+1 Convert setting request, Bw.n+3 , Bw.n+2 CH□ output permission ON/OFF, and Ww.n , Ww.n+1 CH□ digital value setting is changed in the forced output test, fully ensure safety before starting the test as the analog output will change.

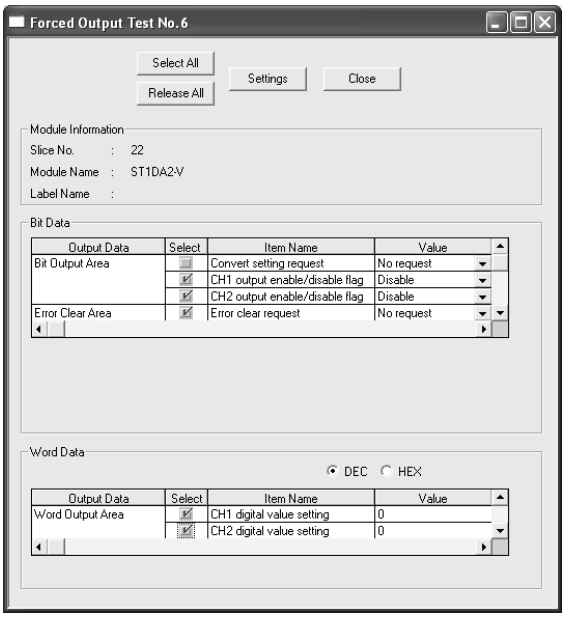
(2) When the communication between the MELSEC-ST system and master station is disconnected, changing the Bw.n+1 Convert setting request of the intelligent function module, whose CH□ CLEAR/HOLD/PRESET setting is set to HOLD, from ON to OFF in the forced output test turns the Ww.n Word Output value to 0.
In this case, the Ww.n Word Output value will not return to the held value if the forced output test mode is canceled.

REMARK

(a) If the MELSEC-ST system is not in the forced output test mode when the Settings button is clicked in (4), a screen appears asking whether or not the MELSEC-ST system will be changed to the forced output test mode.
Click the OK button to change the system to the forced output test mode and start the forced output test.

(b) When the MELSEC-ST system was changed to the forced output test mode in (a), a screen appears asking whether or not the system will be released from the forced output test mode after the operation in Step (6) is performed.
Click the Yes button when releasing the system from the forced output test mode.
Click the No button when not releasing the system from the forced output test mode.

## DISPLAY/SETTING SCREEN




## DISPLAY/SETTING DATA

| Item | Description |
|---|---|
| Select All button | Checks all "Select" check boxes of "Bit Data" and "Word Data". |
| Release All button | Unchecks all "Select" check boxes of "Bit Data" and "Word Data". |
| Settings button | Runs a forced output test on the Bw.n Bit Output, Ww.n Word Output and Ew.n Error Clear whose "Select" check boxes are checked.<br>When the forced output test is completed, the "Completed" message is displayed. |
| Close button | Closes this screen.<br>The screen to release the MELSEC-ST system from the forced output test mode is displayed if the system was not in the forced output test mode when this screen was opened. |
| Module Information | Displays the information (start slice No., module name, label name) of the module on which a forced output test will be conducted. |
| Bit Data *1 | Select the bit data on which a forced output test will be conducted by checking the corresponding "Select" check box, and set the bit value to be output at "Value". |
| Word Data *1 | Select the word data on which a forced output test will be conducted by checking the corresponding "Select" check box, and set the word value to be output at "Value".<br>Selecting the DEC or HEX radio button changes the input format of "Value" to decimal or hexadecimal.<br>DEC: Decimal<br>HEX: Hexadecimal |

*1: For details of each data, refer to the manual of the corresponding module.

## 10.5 Master Station Data Communication Monitor

### 10.5.1 Master Station Data Communication Monitor

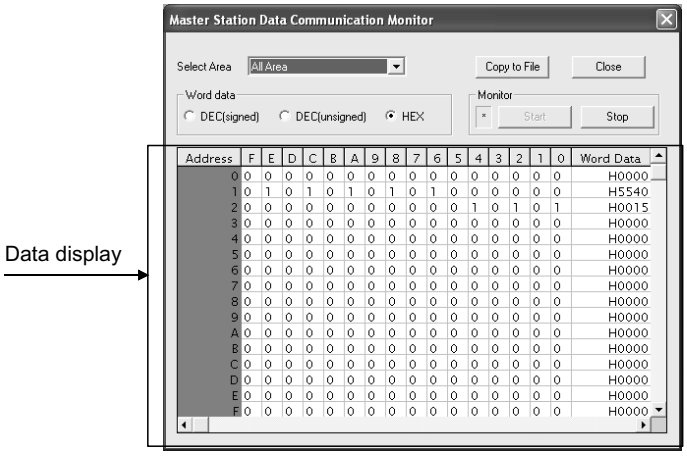
*PURPOSE*

Monitors the input/output data between the master station and slave station (head module) of PROFIBUS-DP.

*BASIC OPERATION*

(1) Click the [Diagnostics] → [Master Station Data Communication Monitor] menu to display the "Master Station Data Communication Monitor" screen and start monitor.
(2) At "Select Area", select the I/O data to be displayed in the "Data display".
(3) To save the monitored data into a text file, click the Stop button to stop monitor, and click the Copy to File button.
Refer to Section 10.5.2 for details.
(4) To close this screen, click the Close button.

*DISPLAY/SETTING SCREEN*



## DISPLAY/SETTING DATA

| Item | Description |
|---|---|
| Select Area *1 | From among the following items, select the I/O data to be displayed in the "Data display".<br>All Area : All I/O data<br>Bit Output Area : Bw Bit Output Area<br>Error Clear Area : Ew Error Clear Area<br>System Area : Sw System Area<br>Command Execution Area : Cw Command Execution Area<br>Word Output Area : Ww Word Output Area<br>Bit Input Area : Br Bit Input Area<br>Error Information Area : Er Error Information Area<br>Module Status Area : Mr Module Status Area<br>Command Result Area : Cr Command Result Area<br>Word Input Area : Wr Word Input Area |
| Copy to File button | Saves the monitored data into a text file.<br>Refer to Section 10.5.2 for details.<br>While monitor is executed, this button is not usable.<br>Save the data after clicking the Stop button to stop monitor. |
| Close button | Closes this screen. |
| Word data | Changes the representation of the word values in the text file to be saved with the Copy to File button and in the "Data display". |
| DEC(signed) | Displays the values in signed decimal. |
| DEC(unsigned) | Displays the values in unsigned decimal. |
| HEX | Displays the values in hexadecimal headed by "H". |
| Monitor | Starts/stops monitor. |
| Start button | Starts monitor.<br>This button is usable only while monitor is at a stop.<br>While monitor is executed, " × " flickers on the left side of this button.<br> |
| Stop button | Stops monitor.<br>This button is usable only while monitor is executed. |
| Data display *1 | Displays the data in the data range selected at "Select Area".<br>"Address" is the offset address of the data selected at "Select Area", with Address 0 set as the start address. |

*1: For details of the I/O data, refer to the Head Module Manual.

**REMARK**

When confirming the data for each module, use the "Input/Output Monitor" screen.
Refer to Section 10.3 for details.

## 10.5.2 Saving the communication data

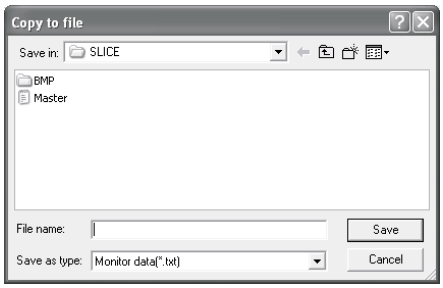
### *PURPOSE*

Saves the I/O data, which were monitored on the "Master Station Data Communication Monitor" screen in Section 10.5.1, into a text file.

### *BASIC OPERATION*

(1) On the "Master Station Data Communication Monitor" screen, click the Stop button to stop monitor, and then click the Copy to File button.
(2) Set the destination directory and file name, and click the Save button to save the monitored data into a text file and close this screen.

### *DISPLAY/SETTING SCREEN*




### *DISPLAY/SETTING DATA*

| Item | Description |
|---|---|
| Save in | Select the directory that stores the monitored data. |
| File name | Set the file name of the monitored data. |
| Save button | Saves the project with the file name specified at "File name". |
| Cancel button | Closes this screen without saving the project. |

(1) Example of text file for saving data

The following shows an example of the text file for saving data.

```
GX Configurator-ST Master Station Data Communication Monitor
Monitor Data : All Area
0000 : 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0  : H0000
0001 : 0 1 0 1 0 1 0 1 0 1 0 0 0 0 0 0  : H5540
0002 : 0 0 0 0 0 0 0 0 0 0 0 1 0 1 0 1  : H0015
0003 : 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0  : H0000
0004 : 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0  : H0000
                    •
                    •
                    •
```

## 10.6 PROFIBUS-DP Network Parameter Monitor

### 10.6.1 PROFIBUS-DP Network Parameter Monitor

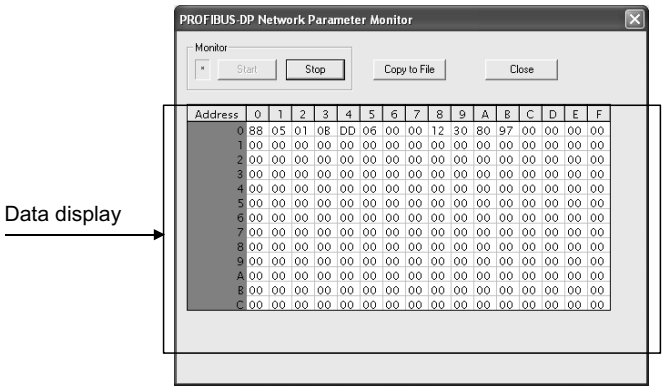
#### *PURPOSE*

Confirms of the slave parameters and PROFIBUS-DP network parameters sent from the master station of PROFIBUS-DP to the MELSEC-ST system.

#### *BASIC OPERATION*

(1) Click the [Diagnostics] → [PROFIBUS-DP Network Parameter Monitor] menu to display the "PROFIBUS-DP Network Parameter Monitor" screen and start monitor.
(2) To save the monitored data into a text file, click the Stop button to stop monitor, and click the Copy to File button.
Refer to Section 10.6.2 for details.
(3) To close this screen, click the Close button.

#### *DISPLAY/SETTING SCREEN*




#### *DISPLAY/SETTING DATA*

| Item | | Description |
|---|---|---|
| Monitor | | Starts/stops monitor. |
| | Start button | Starts monitor.<br>This button is usable only while monitor is at a stop.<br>While monitor is executed, " * " flickers on the left side of this button. |
| | Stop button | Stops monitor.<br>This button is usable only while monitor is executed. |

| Item | Description |
|---|---|
| Copy to File button | Saves the monitored data into a text file.<br>Refer to Section 10.6.2 for details.<br>While monitor is executed, this button is not usable.<br>Save the data after clicking the Stop button to stop monitor. |
| Close button | Closes this screen. |
| Data display *1 | Displays the slice module parameters and PROFIBUS-DP parameters sent from the master station of PROFIBUS-DP to the MELSEC-ST system.<br>"Address" is the offset address of the monitored parameter, with Address 0 set as the start address. |

*1: For details of the data, refer to the manual of the used master station or configuration software.

## 10.6.2 Saving the PROFIBUS-DP network parameter data

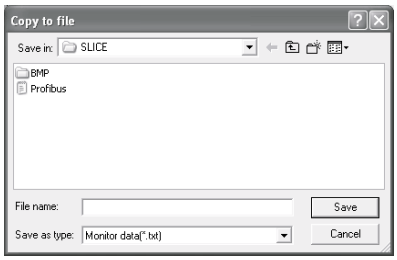
### *PURPOSE*

Saves the data, which were monitored on the "PROFIBUS-DP Network Parameter Monitor" screen in Section 10.6.1, into a text file.

### *BASIC OPERATION*

(1) On the "PROFIBUS-DP Network Parameter Monitor" screen, click the Stop button to stop monitor, and then click the Copy to File button.
(2) Set the destination directory and file name, and click the Save button to save the monitored data into a text file and close this screen.

### *DISPLAY/SETTING SCREEN*




### *DISPLAY/SETTING DATA*

| Item | Description |
|---|---|
| Save in | Select the directory that stores the monitored data. |
| File name | Set the file name of the monitored data. |
| Save button | Saves the project with the file name specified at "File name". |
| Cancel button | Closes this screen without saving the project. |

(1) Example of text file for saving data

The following shows an example of the text file for saving data.

```
GX Configurator-ST PROFIBUS-DP Network Parameter Monitor

0000 : 88 05 01 0B DD 06 00 00 12 30 80 97 00 00 00 00
0001 : 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0002 : 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0003 : 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0004 : 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0005 : 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0006 : 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0007 : 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0008 : 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0009 : 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
000A : 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
000B : 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
000C : 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
```

# 11 ONLINE MODULE OPERATION



This chapter explains the functions for operating each module from GX Configurator-ST in the online mode (where the MELSEC-ST system and personal computer are connected).

## 11.1 Reset Head Module

### *PURPOSE*

Resets the head module from GX Configurator-ST.

### *BASIC OPERATION*

(1) Click the [Online] → [Reset Head Module] menu.
(2) When there is a window being monitored, a screen appears asking whether monitor will be stopped or not.
Click the OK button to stop monitor.
(3) A screen appears asking whether the head module will be reset or not.
Click the OK button to reset the head module, and check the LED status (on/off) to see if the head module has been reset.
While the head module is reset, all LEDs are off. When reset is completed, the LEDs turn on again.
Confirm that all LEDs turn on after they have turned off once.
(4) A screen appears asking whether a reset request has been issued to the head module or not.
Click the OK button.
(5) When monitor is stopped in Step (2), a message appears asking whether monitor will be resumed or not.
Click the Yes button to resume monitor.
Click the No button to keep monitor stopped.

## 11.2 Online Module Change

### (1) Online module change function

The I/O modules and intelligent function modules can be replaced without stopping the MELSEC-ST system.
An online module change can be executed by operation of the head module buttons or from GX Configurator-ST.
This section explains how to perform an online module change from GX Configurator-ST.

## 11.2.1 Precautions for online module change

The precautions for the online module change are given below.

(1) To perform the online module change, the system configuration must be appropriate for execution of the online module change.
For details, refer to the MELSEC-ST System User's Manual, "3.4 Precautions for System Configuration".
Executing the online module change in an inappropriate system configuration may result in malfunction or failure.
In such a system configuration, shut off all phases of the external power supply for the MELSEC-ST system to replace a slice module.

(2) Be sure to perform an online module change in the procedure given in Section 11.2.2.
Failure to do so can cause a malfunction or failure.

(3) Before starting an online module change, confirm that the external device connected with the slice module to be removed will not malfunction.
It is recommended to set 0 (OFF) to Bw.n Bit output and Ww.n Word output of the slice module to be replaced in advance.

(4) Only the slice modules of the same model name can be replaced online.
It is not possible to replace with/add the slice module of different model name.

(5) Only one slice module can be replaced in a single online module change.
To replace multiple slice modules, perform an online module change for each module.

(6) This function is available for I/O module and intelligent function module; not available for power distribution module and base module.
Shut off all phases of the external power supply before installing or removing the power distribution module and/or the base module.
Failure to do so may result in damage to all devices of the MELSEC-ST system.

(7) While an online module change is being executed (while the REL. LED of the head module is on), no command can be executed from the master station to the slice module being replaced online.
To do so will cause an error.

(8) While the slice module is being replaced online (while the head module's REL. LED is on), change its user parameter setting from the master station after the online module change is completed.
If the user parameter setting is changed from the master station during the online module change, the new setting is not validated since the user parameters saved in the head module are written over the new user parameter values when the online module change is finished.

(9) During an online module change, the ERR. LED of the head module turns on only when an error related to the online module change occurs.
It will not turn on or flicker when any other error occurs.

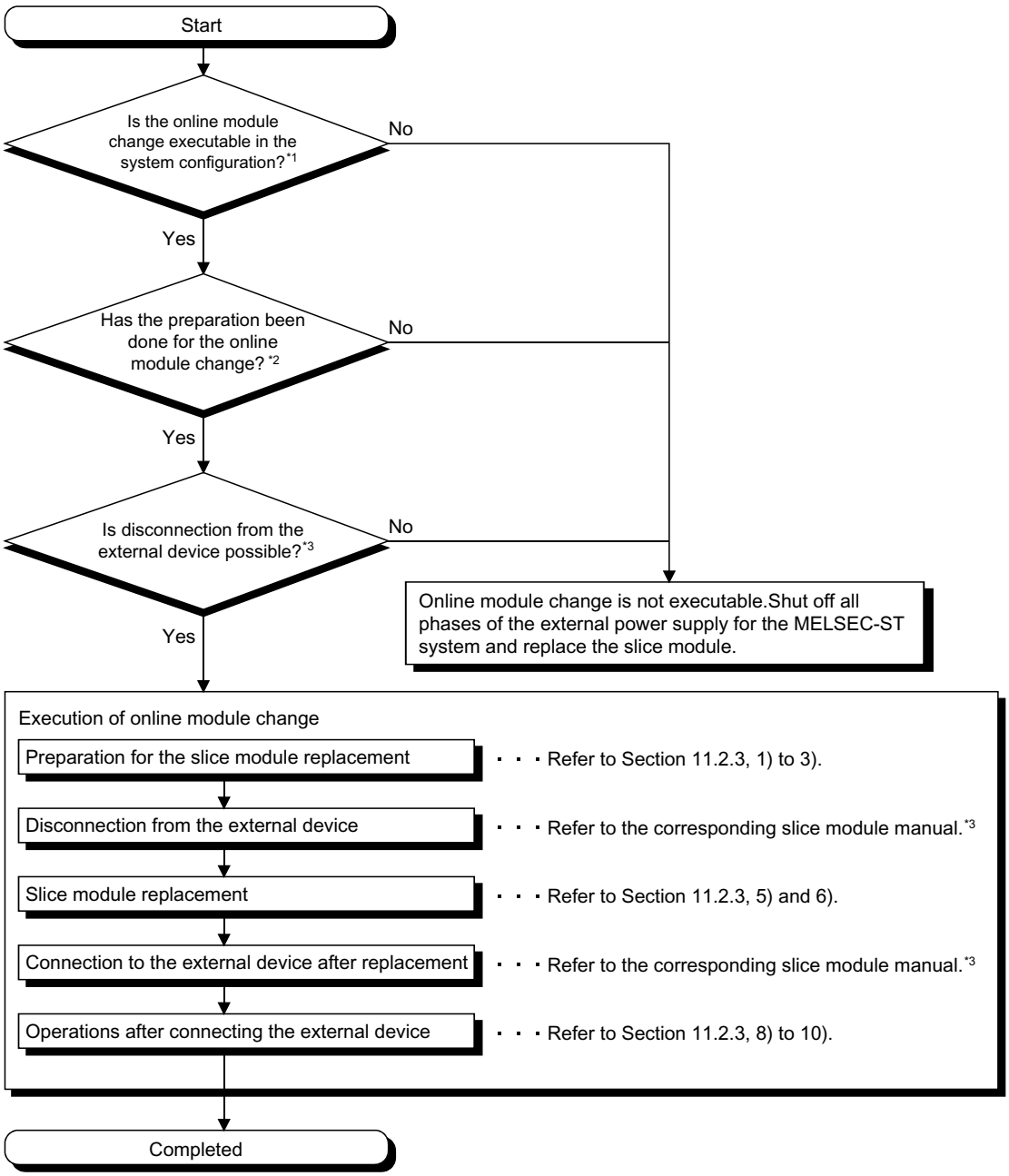
(10) While an online module change is being executed (while the REL. LED of the head module is on), the following data of the slice module being replaced online all turn to 0 (OFF).
- Br.n Bit Input
- Er.n Error Information
- Mr.n Module Status
- Wr.n Word Input

(11) When the communication with the master station is disconnected, replacing the output module online, whose CLEAR/HOLD setting is set to HOLD, turns the Bw.n Bit Output value to 0 (OFF).
After the online module change is finished, the Bw.n Bit Output value will not return to the held value.

(12) When the forced output test is executed on the slice module being replaced online, only Ew.n Error Clear can be tested.
Bw.n Bit Output and Ww.n Word Output cannot be tested.

## 11.2.2 Procedures for online module change

This section explains the procedures for the online module change.
Replace a module online as shown below.




*1: Refer to the MELSEC-ST System User's Manual, "3.4 Precautions for System Configuration".
*2: Refer to "Preparation for online module change" in the corresponding slice module manual.
*3: Refer to "External device connection and disconnection procedures for online module change".

## 11.2.3 Online module change from GX Configurator-ST

Here is an explanation of how to replace a module online from GX Configurator-ST.

**Point**

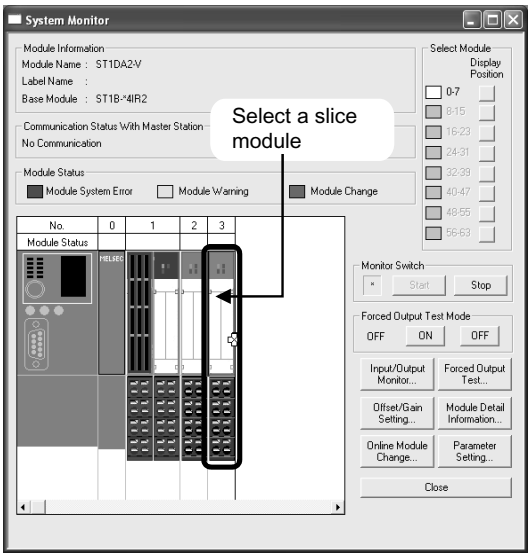
If a slice module different from the target one is selected by mistake, restart the operation as instructed below.

(1) To restart the operation at step 3)
Click the Cancel button on the screen to terminate online module change.

(2) To restart the operation at step 4)
Click the Next button without executing online module change, continue to step 10) and then terminate online module change.

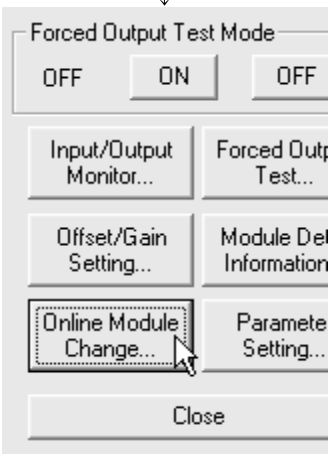
(3) To restart the operation at step 8)
Mount the removed slice module again, click the Next button, continue to step 10) and then terminate online module change.

Preparation for replacing slice module




1) Select the slice module to be replaced online on the "System Monitor" screen.

↓




2) Click the Online Module Change button on the "System Monitor"screen.
Then, confirm that the RUN LED of the selected slice module is flashing at 0.25s intervals.

REMARKS

In addition to above, the following operations are also available.

- Select Diagnostics → Online Module Change.
- Right-click the slice module selected at step 1), and click Online Module change on the menu.

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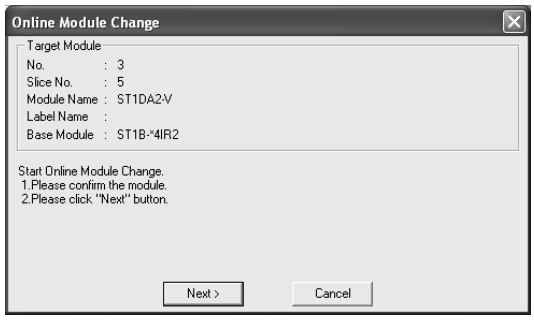


3) Confirm that the slice module displayed as "Target Module" is the slice module to be replaced and click the Next button.

(a) Clicking the Next button validates the settings and the following will be performed.
- Puts the head module into the online module change mode.
- Transfers the user parameters and command parameters of the target slice module to the head module.

(b) After clicking the Next button, confirm the following module statuses.
- The REL. LED of the head module is on.
- The RUN LED of the target slice module is off.
- The "Module Status" indicator of the target module has turned purple. This applies only when monitoring from the "System Monitor" screen.

(c) If the user parameters and command parameters cannot be read from the slice module, both REL. LED and ERR. LED of the head module turns on, and the error message will appear on the screen at step 5).
In this case, confirm the error details and take corrective action.
For how to read error codes and error code details, refer to the Head Module Manual.

When not executing online module change, click the Cancel button.

(a) Clicking the Cancel button causes the screen to show that online module change is cancelled.

Clicking the Exit button returns to the step 1).

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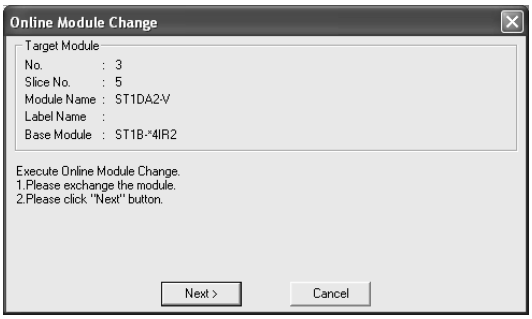
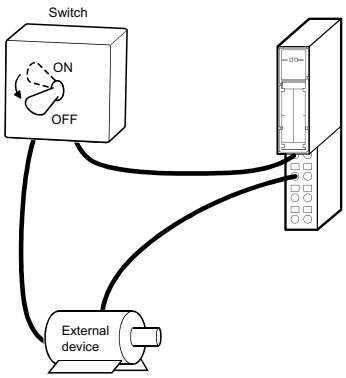
Disconnection from external device



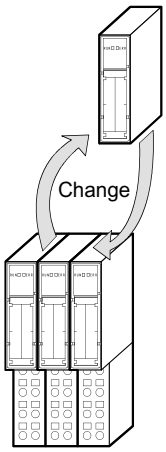

4) When the left screen appears, disconnect the external device from the slice module to be replaced online.
For details, refer to "External device connection and disconnection procedures for online module change" in the corresponding slice module manual.

**Point**

If the disconnection procedure given in the relevant slice module manual cannot be executed, shut off all phases of the external power supply for the MELSEC-ST system to replace the slice module.




Replacing slice module




5) Remove the slice module to be replaced from the base module.
6) Mount a new slice module with the same model name as the one of the removed.

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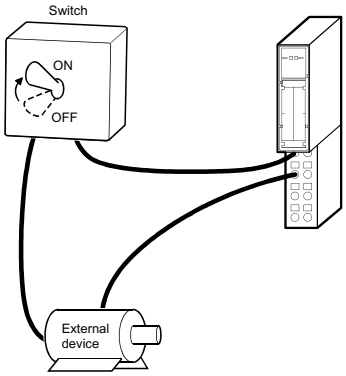
Connection to external device after replacement




7) After mounting a new slice module, connect it to the external device.
For details, refer to "External device connection and disconnection procedures for online module change".

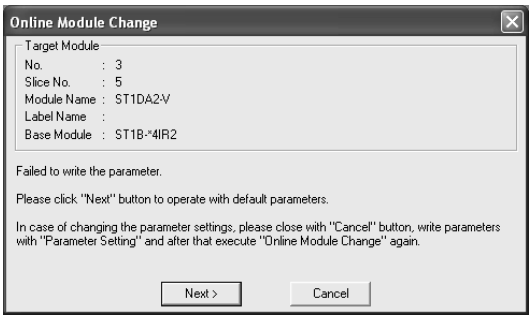
Operations after external device connection

8) After connecting the external device, click the Next button on the screen in step 4).

(a) Clicking the Next button performs the following.
- Checks whether the module name of the newly mounted slice module is the same as that of the removed one.
- Writes the user parameters and command parameters transferred to the head module (at step 3)) to the newly mounted slice module.

(b) After clicking the Next button, confirm the following module statuses.
- The REL. LED of the head module is flashing.
- The RUN LED of the newly mounted slice module is flashing (at 0.25s intervals).

Clicking the Cancel button, i.e., interrupting online module change returns to step 1). In this case, select the same slice module as selected before, and complete online module change. Note that selecting different one causes an error.




If the user parameters and command parameters could not be read from the old slice module by the operation in step 3), the REL. LED and ERR. LED of the head module turn on and the left screen appears on GX Configurator-ST.
In this case, confirm the error details and take corrective action.
For how to read error codes and error code details, refer to the Head Module Manual.
When step 10) has completed in this status, the intelligent function module starts its operation with the command parameters set as default.

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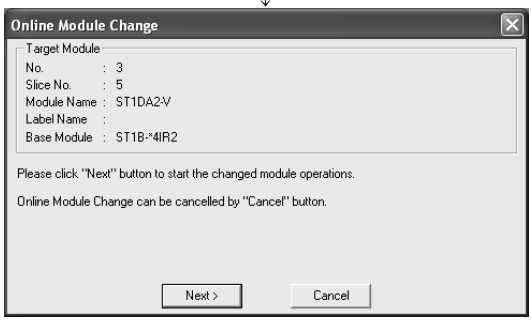



9) Clicking the Next button releases the head module from the online module change mode.

(a) Clicking the Next button performs the following.
- Releases the head module from the online module change mode.
- Restarts refreshing the I/O data, etc.

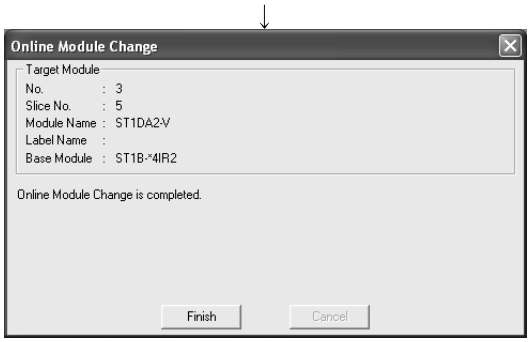
(b) After clicking the Next button, confirm the following module statuses.
- The REL. LED of the head module is off.
- The RUN LED of the newly mounted slice module is on.
- The "Module Status" indicator of the target slice module has turned white. This applies only when monitoring from the "System Monitor" screen.

(c) If the head module cannot be released from the online module change mode, both REL. LED and ERR. LED of the head module turn on.
In this case, confirm the error details and take corrective action.
For how to read error codes and error code details, refer to the Head Module Manual.

When interrupting online module exchange, click the Cancel button.

(a) Clicking the Cancel button, i.e., interrupting online module change returns to step 1). In this case, select the same slice module as selected before, and complete online module change. Note that selecting different one causes an error.

↓

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(Completion)

10) The left screen appears showing that online module change has been completed.
Click the Finish button.

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# *GX Configurator-ST Version 1*

## Operating Manual

| | |
|---|---|
| MODEL | SW1D5C-STPB-E-O-E |
| MODEL CODE | 13JU47 |
| SH(NA)-080439ENG-C(0601)MEE | |

MITSUBISHI ELECTRIC CORPORATION

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