GX Developer Version 6
GX Simulator Version 5

Operating Manual

(Start up)

MITSUBISHI

MELSOFT

*O*peration

*M*aintenance

*P*rogramming
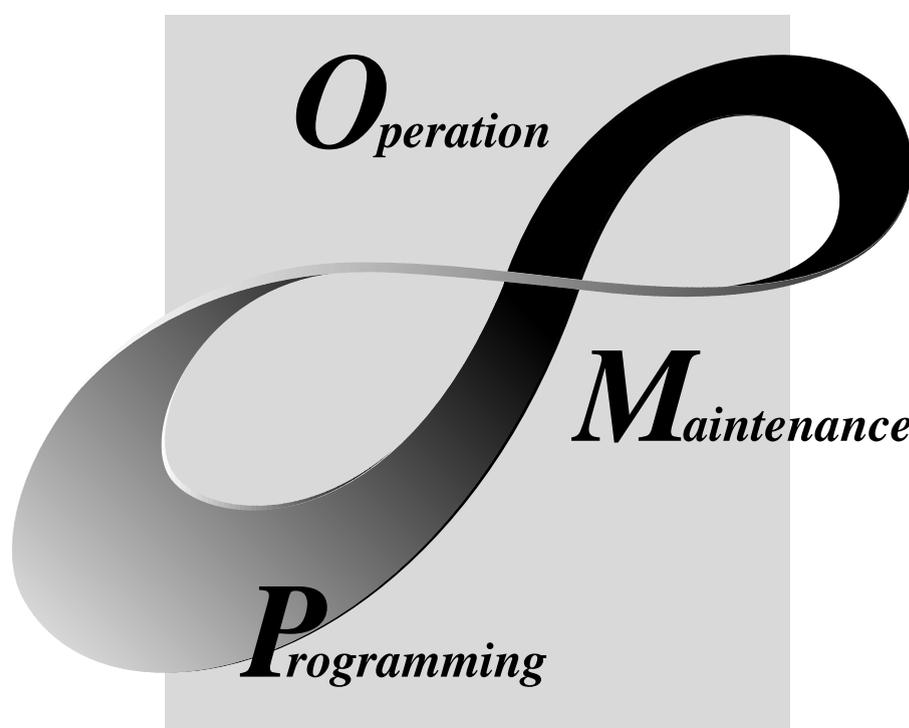
MELSOFT
Integrated FA Software

SW6D5C-GPPW-E
SW5D5C-LLT-E

REVISIONS

Print Date	∗ Manual Number	Revision
Sep., 2000	IB(NA)-0800132-A	First edition
Dec., 2000	IB(NA)-0800132-B	Addition Section 2.2, 3.1.1, 4.1.1, 5.1 Correction Section 3.1.2, 3.2.2, APPENDICES1, APPENDICES2

—— SOFTWARE USER REGISTRATION ——

After agreeing to the terms of the Software License Agreement included in the package, make the necessary entries in the Software User Registration Card and mail it to us to receive the following services.
We register users according to the received Software Registration Card and send the user ID and registration confirmation. (<u>User registration is free of charge.</u>)

1. Software Registration

   Mail the Software User Registration Card included in the package, and you will receive direct mail for the latest information such as the new product release, version upgrade information, event information, etc.

2. Notes on Contact

   Call our GX Developer telephone center and tell us your product ID before asking questions.

   • 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.

INTRODUCTION

Thank you for choosing the Mitsubishi MELSOFT series comprehensive Factory Automation software.
Read this manual and make sure you understand the functions and performance of MELSEC series sequencer
thoroughly in advance to ensure correct use.
Please make this manual available to the end user.

CONTENTS

About Manuals

The following lists the manuals for this software package.
Refer to the following table when ordering manuals.

Related Manuals

Manual Name	Manual Number (Model Code)
GX Developer Version6 Operating Manual Describes the online functions of GX Developer including the programming procedure, printing out procedure, monitoring procedure, and debugging procedure.　　　　　　(Sold separately.)	SH-080098 (13J989)
Ladder Logic Test Function Software for Windows SW5D5C-LLT-E Operating Manual. This manual gives a product summary,device memory monitoring and setting / operating methods for machine simulation　　　　　　　　　　　　　　　　　　　(Sold separately.)	SH-080064 (13J977)
GPP Function Software for Windows SW4D5C-GPPW-E SW4D5C-LLT-E 　Starting GPPW(Guidebook) 　This manual is intended for beginners of the SW4D5C-GPPW-E, SW4D5C-LLT-E. It describes how to 　install and start them and provides you with a basic knowledge and the methods for creating and editing 　circuits, making printouts, monitoring, and debugging showing a few illustrations.　　(Sold separately.)	IB-0800057 (13J966)
GX Developer Version6 Operating Manual (SFC) Describes the functions of GX Developer including the programming procedure and printing out procedure.　　　　　　　　　　　　　　　　　　　　　　(Sold separately.)	SH-080099 (13J990)
GX Developer Version6 Operating Manual (MELSAP-L) Describes the function of GX Developer including the programming procedure and printing out procedure.　　　　　　　　　　　　　　　　　　　　　　(Sold separately.)	SH-080100 (13JU00)

Note: The manuals other than the Guidebook are contained on the CD-ROM with the corresponding software
packages as sets.
Any of the manuals is available separately in printed form. Please indicate its manual number (model
code) in the above list.

NOTICES

- We don't guarantee the commercially-available Windows® -based software
  products that have been introduced in this manual.
- We hold the copyrights of this software package.
- No part of this manual may be transcribed or duplicated in any form without prior
  permission by Mitsubishi Electric Corporation.
- We have attempted to cover all the revisions of software and hardware, but this
  manual may not contain the latest revisions.
- We assume that one software package will be used on single machine.
- We permit the user to use this software package (including this manual) based on
  the Software License Agreement.
- We are not liable for consequences or influences due to this software package
  (including this manual).
- The specifications of this software package and the descriptions in this manual
  may be altered in future without prior notice.

Generic Names and Abbreviations Used in This Manual

Unless otherwise specified, the following generic names and abbreviations are used for explanations in this manual.

Generic Name/Abbreviation	Description
GX Developer	Generic product name of the product types SWnD5C-GPPW-E, SWnD5C-GPPW-EA, SWnD5C-GPPW-EV and SWnD5C-GPPW-EVA. (n denotes any of versions 0 to 6.) -A means a multiple-license product, and -V an updated product.
GX Simulator	Generic product name of the product types SWnD5C-LLT-E, SWnD5C-LLT-EA and SWnD5C-LLT-EVA. (n denotes any of versions 0 to 5.) -A means a multiple-license product, and -V an updated product.
1-license product	Abbreviation of the 1-license product of GX Developer or GX Simulator.
Multiple-license product	Abbreviation of the multiple-license product of GX Developer or GX Simulator.
License key FD	Generic product name of SW6D5F-GPPKEY-E, SW5D5F-LLTKEY-E, SW6D5F-GPPKEY-EA and SW5D5F-LLTKEY-EA.

Product Makeup

GX Developer and GX Simulator are made up of the following products.

Type	Product Name	Quantity
SW6D5C-GPPW-E	GX Developer	1
	SW6D5C-GPPKEY license key FD	1
	Software License Agreement	1
	Software Registration Card	1
SW6D5C-GPPW-EV	GX Developer	1
	SW6D5C-GPPKEY license key FD	1
	Software License Agreement	1
	Software Registration Card	1
SW6D5C-GPPW-EA	GX Developer	1
	SW6D5C-GPPKEY-A license key FD＊1	2
	Software License Agreement	1
	Software Registration Card	1
SW5D5C-LLT-E	GX Simulator	1
	SW5D5C-LLTKEY license key FD	1
	Software License Agreement	1
	Software Registration Card	1
SW5D5C-LLT-EV	GX Simulator	1
	SW5D5C-LLTKEY license key FD	1
	Software License Agreement	1
	Software Registration Card	1
SW5D5C-LLT-EA	GX Simulator	1
	SW5D5C-LLTKEY-A license key FD＊1	2
	Software License Agreement	1
	Software Registration Card	1

＊1: Master license key FD ： 1 pc.
Backup license key FD ： 1 pc.

1. GENERAL DESCRIPTION

1

This manual describes the system configuration, installation procedure, start method, screen configuration, and basic operations of the following Windows® compatible products.
- GX Developer (CD-ROM Version)
- GX Simulator (CD-ROM Version)

The product type ended by "-V" is an update-only product.

System configuration

Install procedure

Screen configuration and basic operation

Start and End GX Developer

GX Developer

End GX Developer

1

MEMO
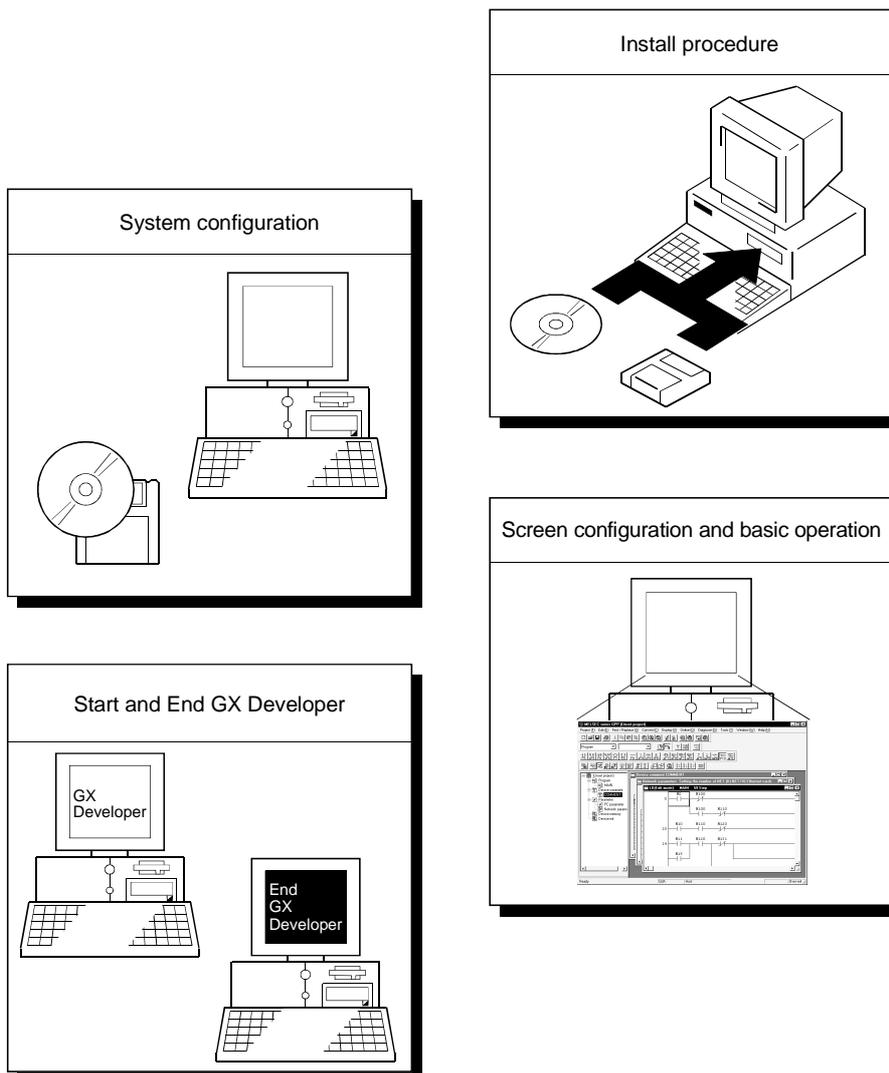
2. SYSTEM CONFIGURATION

2.1 System Configuration

The following figure shows the system configuration.

Product   License key FD ✳

∗The multiple-license right contains
 two types of license key FDs :
 master and backup ones.
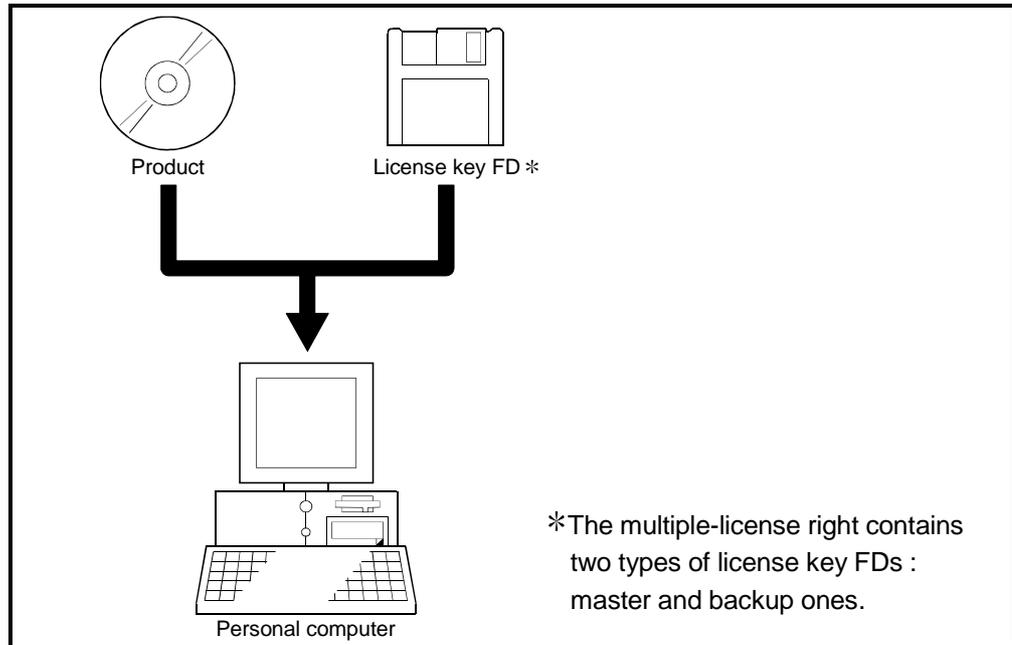
Personal computer

POINT

(1) Simultaneous use of this product on two or more personal computers is illegal.
    Therefore, you cannot use this product on any other personal computer than the
    one specified in the software registration card.
    However, the spare license key FDs are prepared for the unexpected (refer to
    Q8 to Q18 in Appendix 2), e.g., the hard disk of the personal computer is
    broken.
    1 license right product: SW6D5F-GPPKEY-E and SW5D5F-LLTKEY-E
       These license key FDs are designed to be installable up to five times.
    Multiple-license right product: SW6D5F-GPPKEY-EA and SW5D5F-LLTKEY-EA
       These backup license key FDs (of the same quantity as the number of the
       licenses you purchased) are packed with the product.
    When you use this product on another personal computer, uninstalling the
    license key FD returns you one installation right.

(2) By installing the license key FD, you can start the product.
    (Refer to Section 3.1.)

(3) Take charge of the license key FD so that you can identify the personal
    computer where it was installed, and store the FD carefully.
    If you lost the license key FD or the license key FD does not match the personal
    computer on which it was installed, you cannot install or uninstall the product.

2

2.2 Operating Environment

The following table summarizes the operating environment.

Item		Contents
Computer main unit		Pentium® (133 MHz or faster recommended) based personal computers that are compatible with Windows operating system For label program: Pentium® 300MH or faster
Operating system		Microsoft® Windows® 95 operating system Microsoft® Windows® 98 operating system Microsoft® WindowsNT® Workstation 4.0 operating system
Required memory		32MB or more (recommendation) For label program: 64MB or more (recommendation)
Required hard disk space	For installation	80 MB or more

	For operation	80 MB or more
		The spaces below are required for device memory editing.
		1. For word device
		   ZR: 64 k bytes are used in steps of 32 k points.
		   (Even if only one point of 0 to 32767 is used, 64 k bytes will be used. When 0 to 32800 is used, 128 k point is used.)
		   Other than ZR: 64 k bytes are used each time the device is used.
		   Example: When D and W are used,
		   64 k bytes + 64 k bytes = 128 k bytes
		2. For bit device
		   4 k bytes

Disk drive		3.5inch (1.44MB) floppy disk drive required CD-ROM drive (if using CD-ROM media)
Monitor		Resolution 800x600 pixels or higher

Communication interface		RS-232C port : Needed when communicating with the PLC CPU.
		                         (Required when accessing a PLC CPU other than the Q02H, Q06H, Q12H and Q25HCPU.)
		USB port : Can be used when communicating with the QCPU (Q mode).
		                         (Excludes the Q02CPU and remote I/O modules.)

> POINT
> - 3.5 inch (1.44MB) floppy disk drive is required to install the license key FD.
> - Instruction for use of the online manual
>   Addition of memory ensures more comfortable use.
> - Instruction for use of the PDF data
>   Use with addition of personal computer memory ensures comfortable operation.

3. INSTALLATION AND UNINSTALLATION

This chapter explains how to install and uninstall the product.

3.1 Installation

3.1.1 Installing Procedure

3

Install any of GX Developer, GX Simulator in the following procedure.

New installation

Install the product.
× Register you name and company.
× Register the product ID.
Refer to Section 3.1.2 (1).

*1
Prepare the FD drive.

*2
Install the license key FD.
× Make the product valid.
Refer to Section 3.1.2 (2).

*3
Store the license key FD.

Start the application.
× Check that the product has been installed correctly.
Refer to Section 3.1.2 (3).
Refer to Section 3.1.2 (4).
Refer to Section 3.1.2 (5).

Completion

Updating

*4
Uninstall the license key FD.
× Make the production invalid.
Refer to Section 3.2.2 (1).

*5
Is the product the updating product?
Yes
No

Uninstall the product.
Refer to Section 3.2.2 (2).

If no CD-ROM drive is included in your peripherals, refer to Appendix 3 for the installing procedure.

Action to be taken when Error 119 occurs during installation
1. Close the resident applications (such as the virus protection program) and perform installation again.
2. If installation cannot be completed successfully even after closing all resident applications, follow the steps below:
   Drive D refers to a CD-ROM drive.
   (1) Double-click D:\EnvMEL\disk1\Setup.exe.
   (2) When installation is complete, restart your personal computer.
   (3) Double-click D:\Setup.exe.

3

```
┌─────────────────────────────────────────────────────────────────────┐
│ ┌────────┐                                                            │
│ │ POINT  │                                                            │
│ └────────┘                                                            │
│ *1: When your personal computer is a notebook which is used by changing│
│     between a CD-ROM drive and an FD drive, change the drive after     │
│     completion of application installation.                            │
│     Even after the personal computer has been powered off, you can     │
│     install the license key FD.                                        │
│ *2: About the license key FD                                           │
│     (a) The license key FD is required for installation/uninstallation.│
│         Without the license key FD, you cannot perform                 │
│         installation/uninstallation.                                   │
│     (b) Use the license key FD in the as-is status of the purchased FD.│
│         (You cannot use the license key FD created by copying.)        │
│     (c) Store the license key FD carefully.                            │
│     Never perform the following operations for the license key FD.     │
│     *: If you perform any of the following operations, the license key │
│        FD will be broken.                                              │
│          • FD formatting                                               │
│          • Write of file onto FD                                       │
│          • Copying of file on FD (to or from the other drive)          │
│          • Deletion of file on FD, changing of file name, changing of  │
│            file attribute                                              │
│          • Execution of analysis tool (e.g. SCANDISK) for FD           │
│ *3: If you lost the license key FD, refer to Section 3.2.3.            │
│ *4: Use the license key FD which was used to install the product.      │
│ *5: Install the updating product in the personal computer which contains│
│     the product of the old version.                                    │
└─────────────────────────────────────────────────────────────────────┘
```

3.1.2 Installing Operation

Before starting installation, confirm the following.

```
┌─────────────────────────────────────────────────────────────────────┐
│  POINT                                                                 │
├─────────────────────────────────────────────────────────────────────┤
│ • Terminate all the other applications running under Windows before   │
│   installation.                                                        │
│ • When using Windows NT4.0, log on as a user with the administrator   │
│   attributes (for computer administration).                           │
│ • When installing the GX Simulator, install GX Developer first.       │
└─────────────────────────────────────────────────────────────────────┘
```

(1) Installing the product (This installation assumes that of GX Developer.)
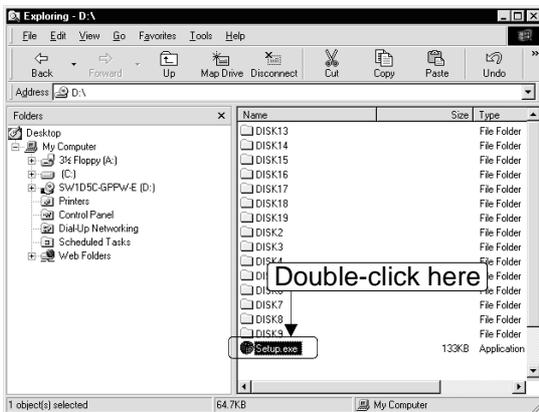
1) Start Explorer and click the drive in which the disk has been inserted.
   Double-click "setup.exe".
   On Explorer, choose [Start]-[Programs]-[Windows Explorer].

For reinstallation (if the product is invalid)

If the left message appears, click Cancel, uninstall the product, and then reinstall it.

For reinstallation (if the product is valid)

If the left message appears, recover the license using the license key FD, and then install the product.
If you have lost the license key FD, refer to Section 3.2.3.

For updating product

Check the items listed to the left. If an old version of the product is installed in your personal computer, click OK and continue the installation.
If no old version is installed in your personal computer, click Cancel to stop the installation. Install an old version of the product first, and then install this product again.

Regarding the utility package for intelligent functional module, there is no dedicated upgrade package.

(From the preceding page)

↓
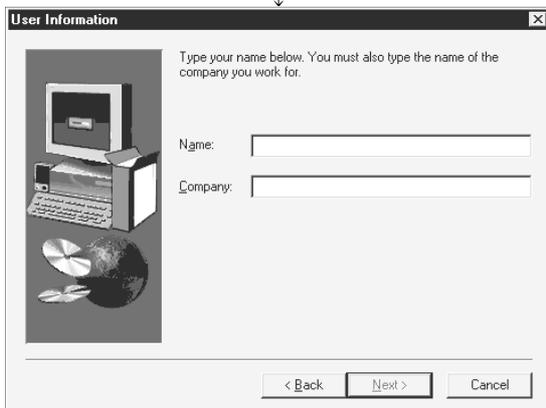
2) Enter the name and company name, then click the $\boxed{\text{Next>}}$ button.

↓

3) Enter the product ID and click the $\boxed{\text{Next>}}$ button.

The product ID is printed on the Software User Registration card

↓

4) When you want to import to GPPW the data created with MELSEC MEDOC or the data output as a printout data file, check the check box and click $\boxed{\text{Next>}}$.

Not displayed when installing the utility package for intelligent functional module.
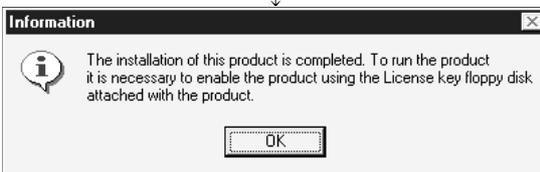
↓

(To the next page)

(From the preceding page)

5) Specify the installation Destination Folder.
If the installation Destination Folder displayed is correct, click $\boxed{\text{Next>}}$.

If you change the destination folder, click $\boxed{\text{Browse}}$ and specify a new drive and folder.

The utility package for intelligent functional module is always installed in "C:\MELSEC."
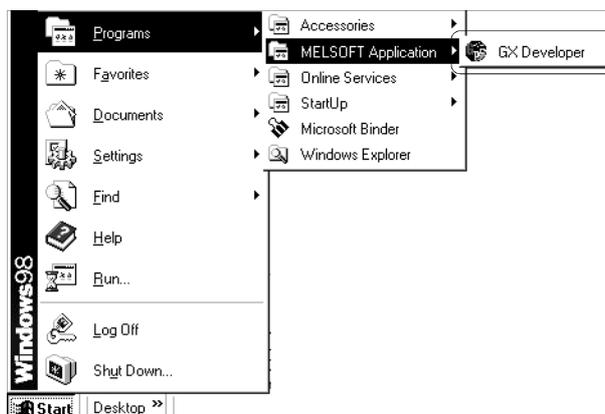
6) This completes the installation.
Then, install the license key FD and make the product valid.
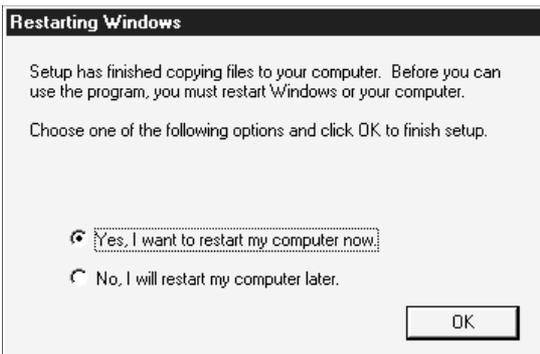
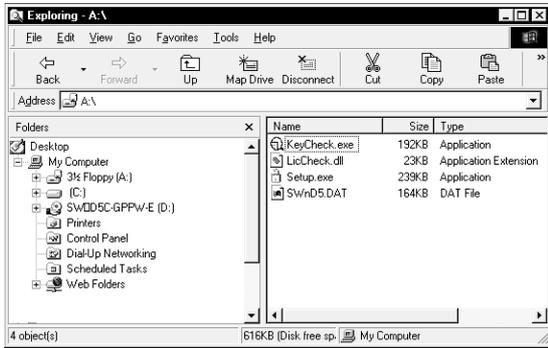If the left screen appears, you must restart Windows.

Installing GX Developer registers the icons as shown below.

POINT

No icons are registered for GX Simulator and the utility package for intelligent functional module, since they are always launched from GX Developer.

(2) Installing the license key FD

1) Start Explorer and click the drive in which the license key FD has been inserted.
Double-click "setup.exe".
On Explorer, choose [Start]-[Programs]-[Windows Explorer].

2) Click the key picture.

3) Click the Close button.

In this status, you can start the application.

Make sure that the application has started in (3) or (4).

REMARK

The n license right product has a utility function to check the number of the licenses you purchased and the number of the rest.
Start Explorer and click the drive in which the license key FD has been inserted. Double-click "KeyCheck.exe" to appear the screen shown below.
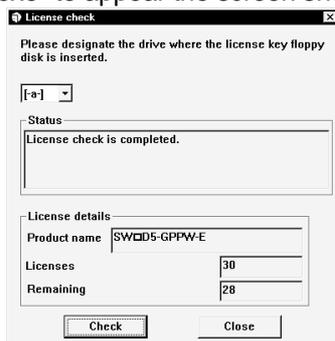
The left side screen as an example shows that the number of the licenses is 30 and the number of the rest is 28.

(3) Confirming the start of GX Developer
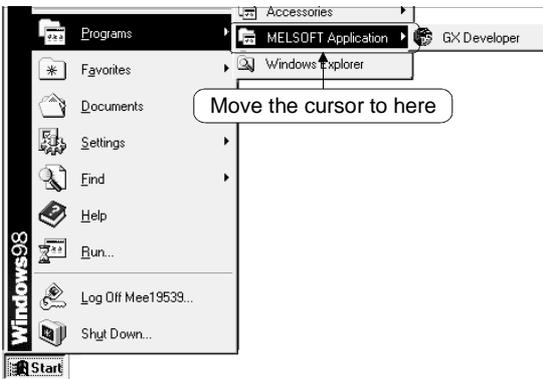
1) Click [Start] and move the cursor to the [Programs]-[MELSOFT Application] menu.
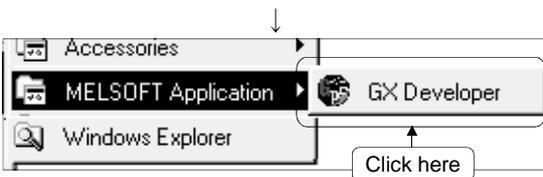
2) Click the [GX Developer] menu.
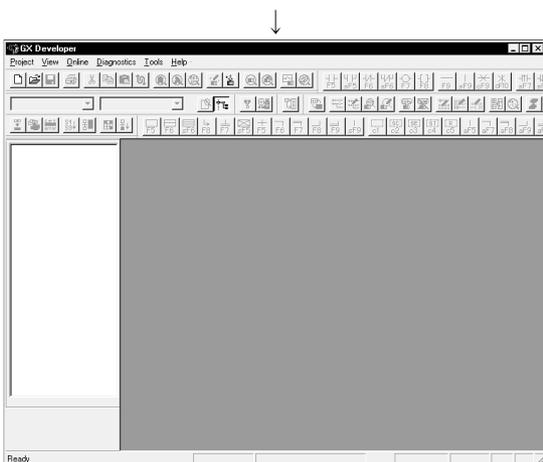
3) GX Developer starts.
   If the left screen appears, the product has been installed properly.

(4) Confirming the start of the GX Simulator
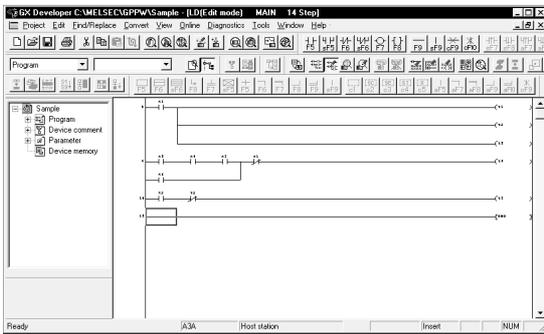
1) Open the project to be debugged with GX Developer.
   Refer to the GX Developer Version ☐ Operating Manual.

↓

2) Click the [Tools]-[Start ladder logic test] menu of GX
   Developer.

↓
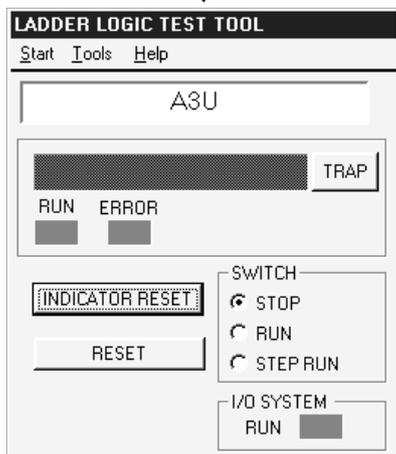
3) The GX Simulator starts.
   If the left screen appears, the product has been installed
   properly.

(5) Confirming the start of the intelligent function unit utility package
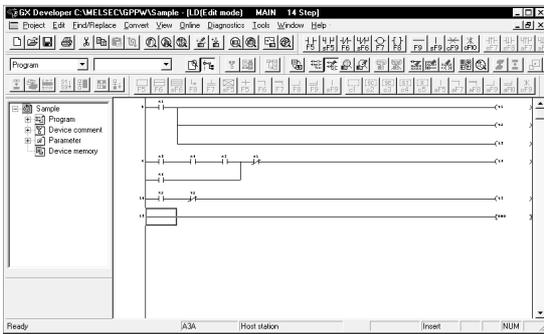
1) Open the project for which the project name is specified.
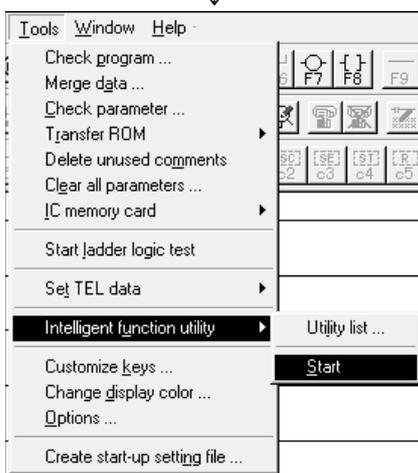
2) Click the [Tools]-[Intelligent Function Unit Utility]-[Start] menu of GPPW.

Multiple numbers of the intelligent function unit utility packages can be started.
When multiple numbers of the utility packages are started, switch the screens by clicking the buttons shown on the task bar.
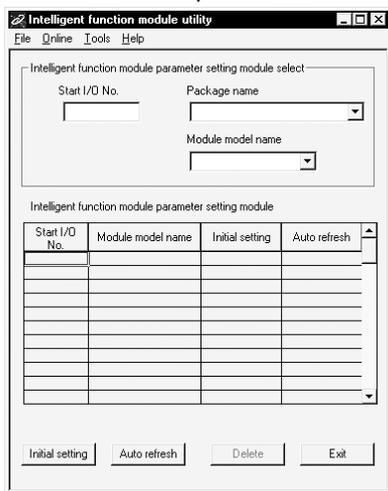
3) If the left screen appears, the product has been installed properly.

(To the next page)

(From the preceding page)
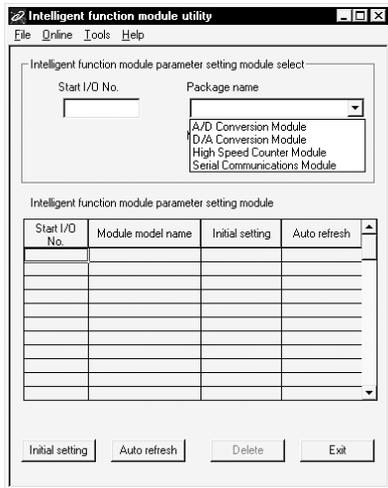
4) To select the utility package of each intelligent function unit, click to check the list box for the package name.

3.2 Uninstallation

This section describes the operation to remove the product from the hard disk.

3.2.1 Uninstalling Procedure

```
        ┌──────────────────────┐
        │    Uninstallation    │
        └──────────────────────┘
                   │            *1
        ┌──────────────────────┐
        │ Uninstall the license key FD.    Refer to Section 3.2.2 (1).
        │ · Make the product invalid.      
        └──────────────────────┘
                   │
        ┌──────────────────────┐
        │ Uninstall the application.       Refer to Section 3.2.2 (2).
        └──────────────────────┘
                   │
        ┌──────────────────────┐
        │      Completion      │
        └──────────────────────┘
```
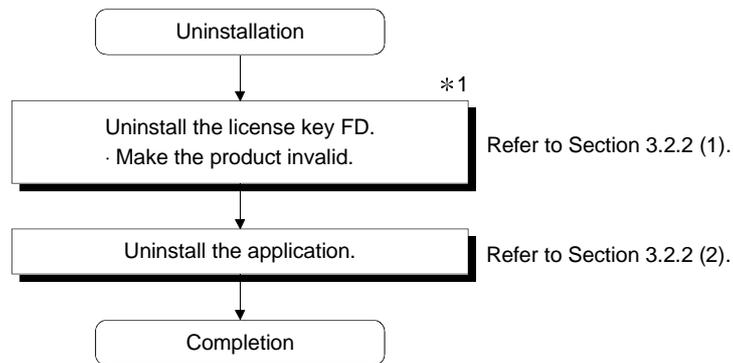
POINT

*1: Use the license key FD which was used to install the product.

3.2.2 Uninstalling Operation

(1) Uninstalling the license key FD
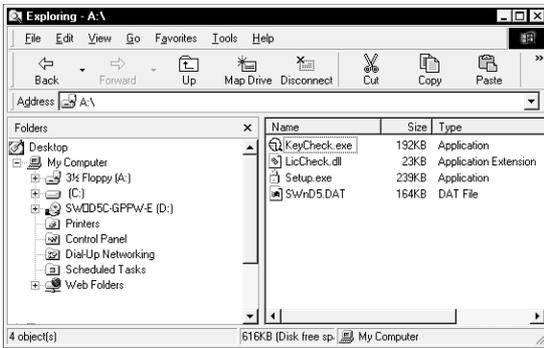
1) Start Explorer and click the drive in which the license key FD has been inserted.
   Double-click "setup.exe".
   On Explorer, choose [Start]-[Programs]-[Windows Explorer].

↓

2) Click the key picture.

↓

3) Click the Close button.

   In this status, the product is invalid and you can perform the operation in (2) Uninstalling the product.

(2) Uninstalling the product

1) Choose and double-click "Add/Remove Programs" in the Control Panel.
   On Control Panel, choose [Start]-[Settings]-[Control Panel].
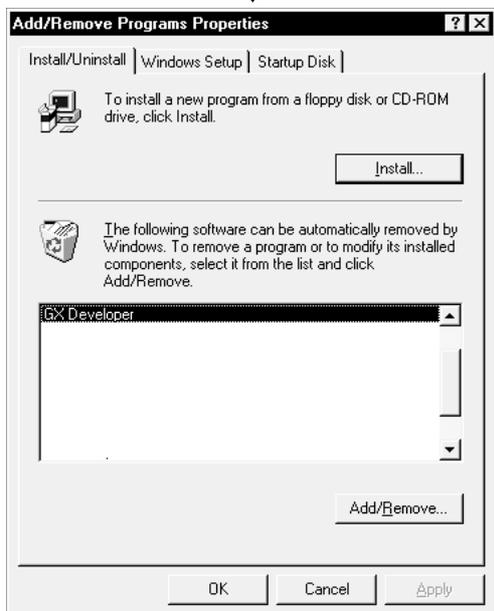
2) Choose the software package to be deleted.
   - For GX Developer
     Choose "GX Developer".
   - For GX Simulator
     Choose "SWnD5-LLT".
   After making selection, click Add/Remove Programs .

   ＊ Steps 3 and later are those for SWnD5-GPPW-E but perform the same operation also for SWnD5-LLT-E.
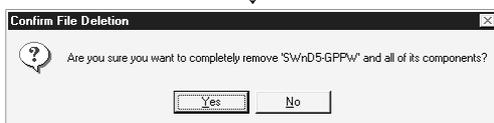
3) Check whether you will remove the software package or not.
   When uninstalling it, click Yes .
   Uninstallation starts.
   When not uninstalling it, click No .
   This returns to the preceding screen.
   ＊ Components indicate the icons and files installed.
   If you do not make the license key FD invalid, the following dialog box appears.

(To the next page)

(From the preceding page)

↓

Remove Shared File?

The system indicates that the following shared file is no longer used by any programs. If any programs are still using this file and it is removed, those programs may not function. Are you sure you want to remove the shared file?

Leaving this file will not harm your system. If you are not sure what to do, it is suggested that you choose to not remove this shared component.

File name: OLEAUT32.DLL

Located in: C:\WINDOWS\SYSTEM\

[Yes]   [Yes To All]   [No]   [No to All]

↓

4) When this screen has appeared, click ⌐No to All⌐.

The software package of only GX Developer is removed.

> **POINT**
>
> Choosing ⌐Yes⌐ will remove the shared file of the Windows 95/98 or Windows NT Workstation 4.0-compatible MELSOFT software package group. To remove only GX Developer (or GX Simulator), click ⌐No to All⌐.
>
> (To remove GX Developer only, you need not change the file name and location.)

Remove Programs From Your Computer

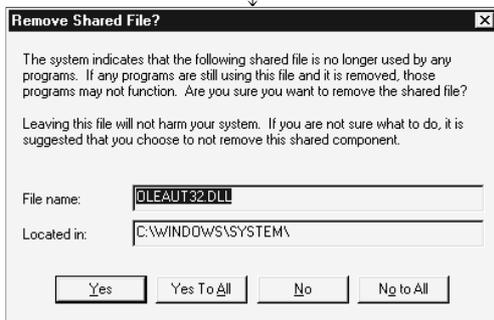uninstallShield will remove the software 'SWnD5-GPPW' from your computer. Please wait while each of the following components is removed...

✔ Shared program files...
✔ Standard program files...
✔ Folder items...
✔ Program folders...
✔ Program directories...
✔ Program registry entries...

[Uninstall successfully completed.]

[OK]

When the completion message appears, uninstallation is complete.

5) When the removal finished message appears, click ⌐OK⌐.

＊ If the unremoved file alarm is given, open "Windows Explorer", check the files and remove unnecessary files. Note that if you remove necessary files accidentally, the other applications may not be started.

3.2.3 If you have lost the license key FD of the old product and cannot perform uninstallation Uninstalling Operation

Make the product invalid in the following procedure if you have lost the license key FD or if the information of the registered product is corrupted.
In that case, one installation right of the license key FD of the old product is lost.
Refer to Section 2.1 for information on the handling and instructions for the license key FD.

1) Insert a new license key FD into the floppy disk drive and choose [Start]-[Run].

2) Enter "A:\SETUP /X" and click the OK button.
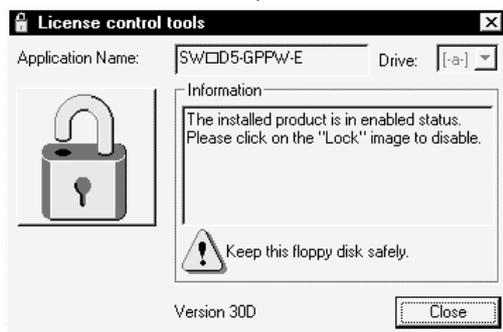
3) Click the key of the license tool dialog box.
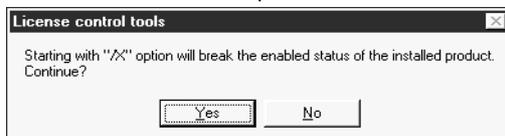
4) Clicking the Yes button abandons the valid status of the product.

5) Click the Close button.

6) Refer to Section 3.1.2 (1) to (3) and perform installation.

4. USING THE OPERATING MANUALS (PDF DATA)

The operating manuals are contained on the CD-ROM which includes the MELSOFT software package products.
The operating manuals may either be used by reading them directly from the CD-ROM or by installing them on the HD. (They can be used at the user's option.)
The manuals are in the form of PDF data which can be viewed using Acrobat Reader of Adobe® Systems, Inc.

4.1 Operating Procedure

4.1.1 Procedure for browsing the operating manuals

Using My Computer or Explorer, specify the CD-ROM drive.

Is Acrobat Reader installed in the personal computer? ＊1

Yes

No

Double-click ar405eng.exe and ac405up2.exe in "MANUAL" to install.   ＊2
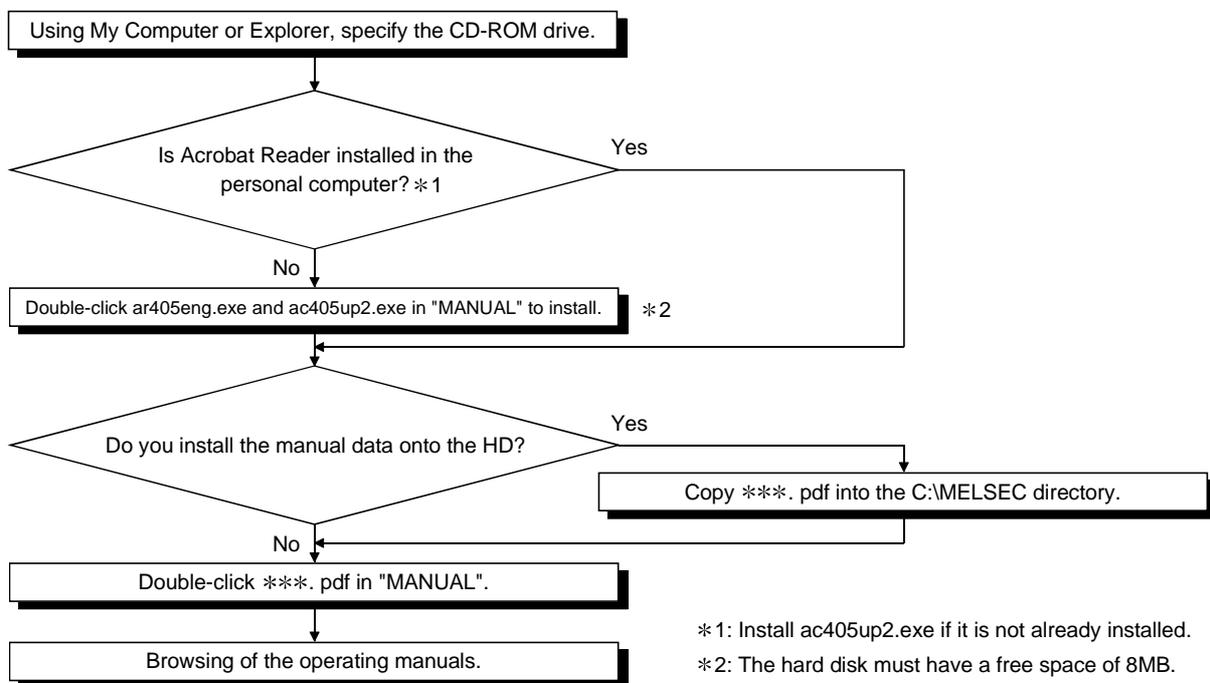
Do you install the manual data onto the HD?

Yes

Copy ＊＊＊. pdf into the C:\MELSEC directory.

No

Double-click ＊＊＊. pdf in "MANUAL".

Browsing of the operating manuals.

＊1: Install ac405up2.exe if it is not already installed.
＊2: The hard disk must have a free space of 8MB.

PDF data file list

For SW6D5C-GPPW-E

Manual —— read me. txt (Describes the files in the manual folder.)

acrobat
— ar405eng. exe (Application required to view the PDF data.)
— ac405up2.exe (Acrobat® 4.0 update file)

0800132a.pdf
(GX Developer version6 GX Simulator version5 Operating Manual Startup)

s080098a. pdf
(GX Developer Version6 Operating Manual)

s080099a. pdf
(GX Developer Version6 Operating Manual SFC)

s080100a. pdf
(GX Developer Version6 Operating Manual MELSAP-L)

Sample 1・・・Program given in the GX Developer Operating Manual (Chapter 5)

Sample 2・・・Program given in the GX Developer Operating Manual (Chapter 5)

For SW5D5C-LLT-E

Manual ─────── read me. txt (Describes the files in the manual folder.)

├─── acrobat
│   └── setup. exe (Application required to view the PDF data.)

├─── 0800132a
│   (GX Developer Version6 GX Simulator Version5 Operating Manual Startup)

├─── s080064b. pdf
│   (Ladder Logic Test Tool Function Software for Windows SW5D5C-LLT-E(V) Operating Manual)

└─── sample...Program (use example) and various files covered by the logic
              test function (LLT) operating manual (Chapter 7).

              ├── Program (Project of GPPW)

              ├── Sample.LIM (I/O system setting file)

              └── Sample.mon (Device registration file)

4.1.2 Operation for browsing the operating manual

4

The following screen is used to brow any operating manual.

Bookmark Section   Manual Display Section
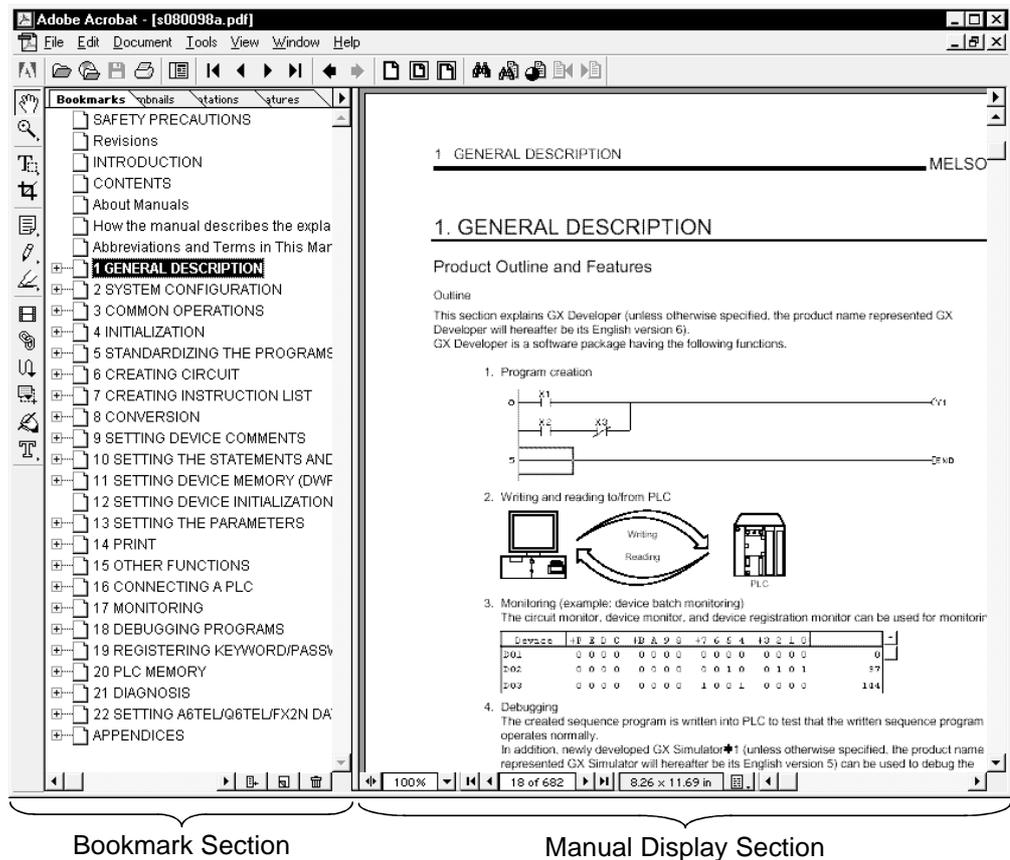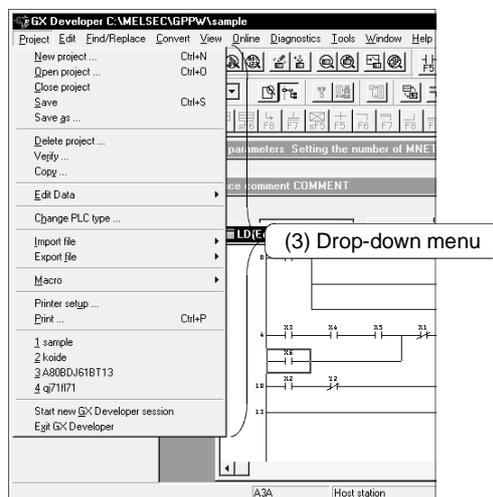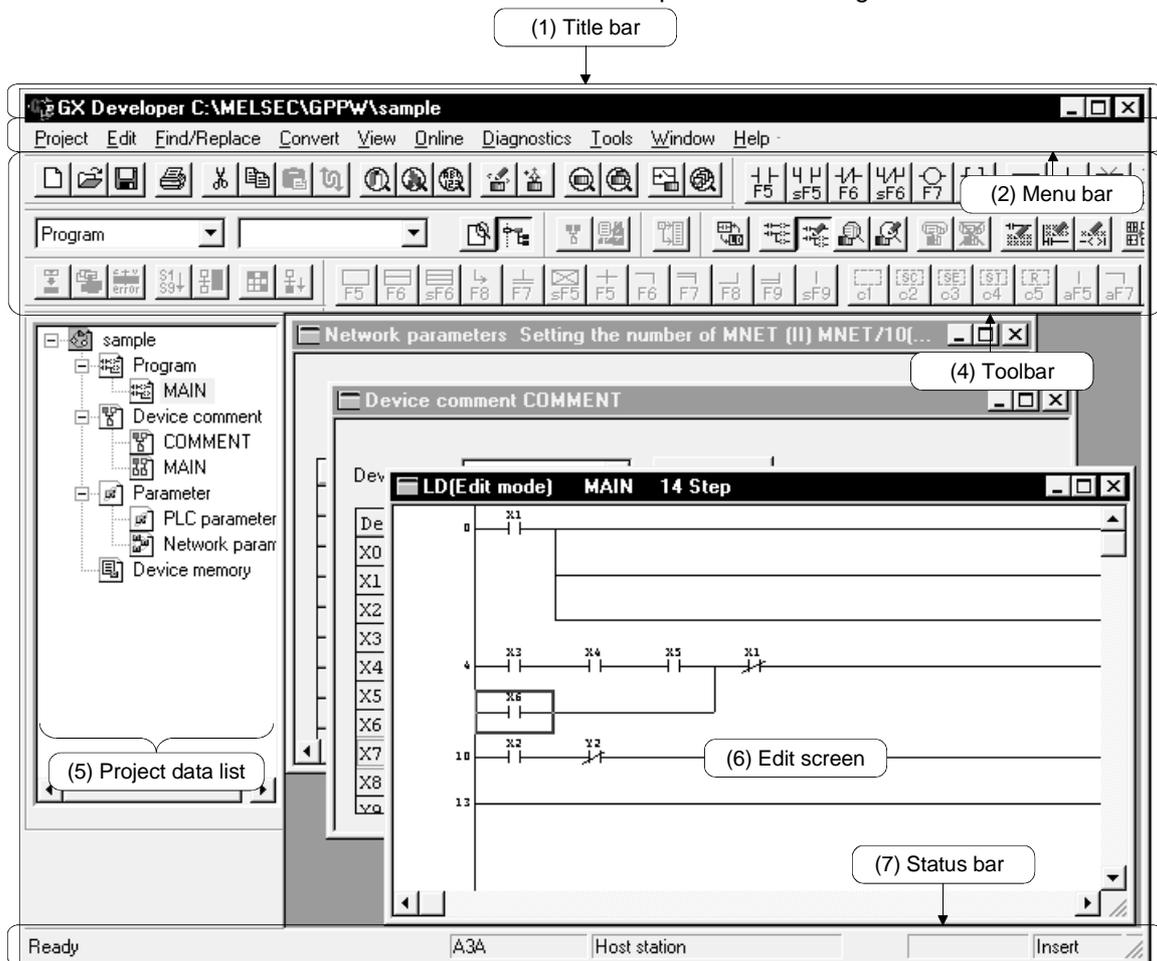
Clicking any contents item in the "bookmark section" with the mouse changes the screen in the "manual display section".

5. USING GX Developer
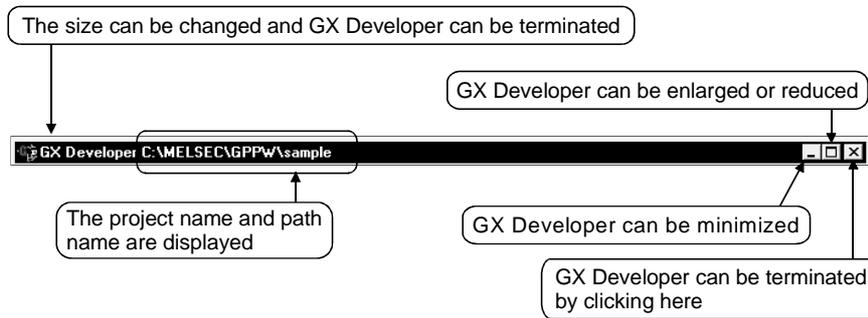
5.1 GX Developer Edit Window and Various Tools

This section describes the GX Developer window configuration and various tools.

(1) Title bar
(2) Menu bar
(3) Drop-down menu
(4) Toolbar
(5) Project data list
(6) Edit screen
(7) Status bar

5 - 2

(1) Title bar
    Indicates the name of the open project

The size can be changed and GX Developer can be terminated

GX Developer can be enlarged or reduced

GX Developer C:\MELSEC\GPPW\sample

The project name and path name are displayed

GX Developer can be minimized

GX Developer can be terminated by clicking here

To close multiple windows at once, select [Windows] → [Close all windows].

(2) Menu bar
    Displays the names of GX Developer menus.
    If a desired menu is selected, the drop-down menu is displayed so that various functions can be used.
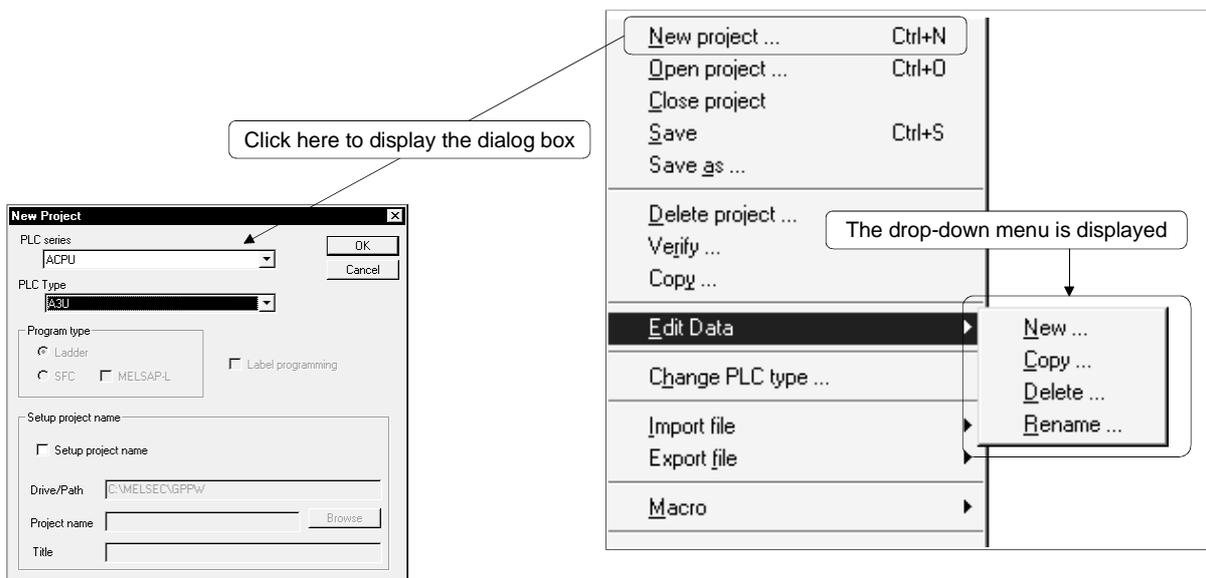
Project   Edit   Find/Replace   Convert   View   Online   Diagnostics   Tools   Window   Help

5

(3) Drop-down menu
    Displays the names of GX Developer functions.
    When " ▶ " is displayed at the rightmost end of the menu item, the drop-down menu of the selected item is displayed.
    When " ..." is displayed next to a function name, a setup dialog box is displayed by selecting the item.

Click here to display the dialog box

New project ...   Ctrl+N
Open project ...   Ctrl+O
Close project
Save   Ctrl+S
Save as ...

Delete project ...
Verify ...
Copy ...

The drop-down menu is displayed

New Project

PLC series
ACPU
PLC Type
A3U

Program type
  Ladder
  SFC   MELSAP-L
  Label programming

Setup project name

  Setup project name

Drive/Path   C:\MELSEC\GPPW
Project name
Title

OK
Cancel

Edit Data   ▶   New ...
                            Copy ...
Change PLC type ...   Delete ...
                            Rename ...
Import file   ▶
Export file   ▶

Macro   ▶

(4) Toolbar

Displays the buttons for the frequently used functions assigned on the menu bar.
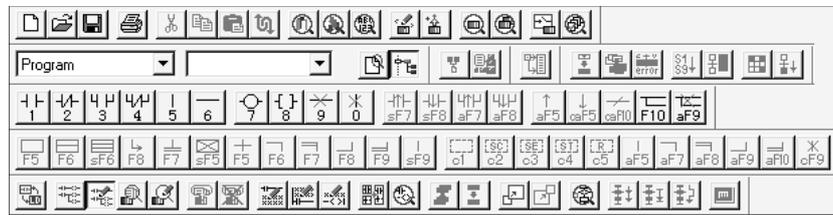
(5) Project data list

Lists project data by class.
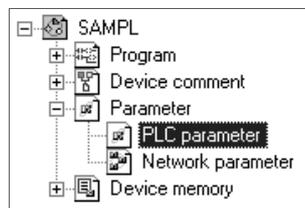
The circuit creation dialog box and other dialog boxes can be directly called.

(6) Edit window

Displays the circuit creation dialog box and comment creation dialog box to make settings for circuits, comments, and parameters.
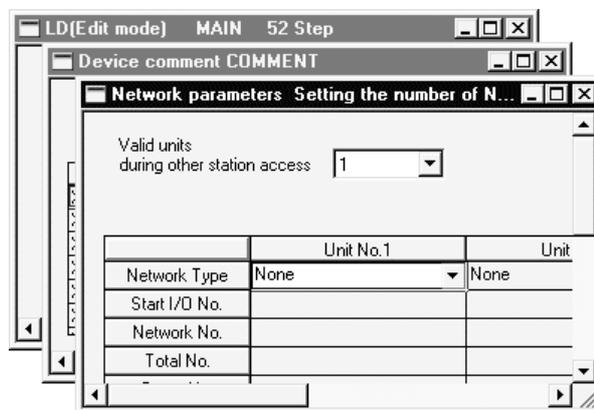
(7) Status bar

Displays the GX Developer status information.
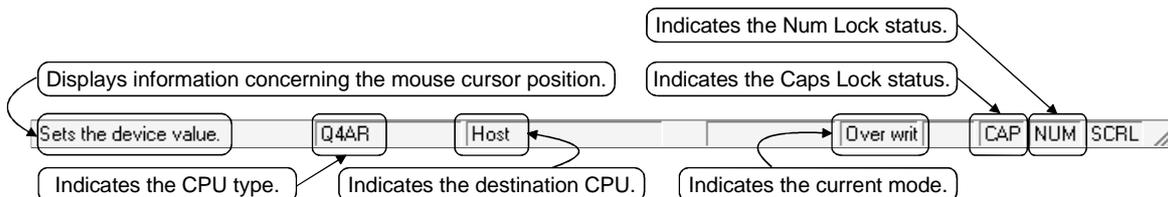
(8) Displaying a handy menu

Work efficiency can be increased by clicking the right mouse button to display a menu of items related to the current work.

When you are editing a circuit or comment, you can select [Cut], [Copy], [Paste] or [Find Device] from this menu.

5.2 Dialog Box Basic Operations

(1) Command button

Buttons such as OK and Cancel .

Click the button to execute the item.

(2) Check box

Click a checkbox to select and execute an item.

(3) List box

Click ▼ to drop-down the list of the items, then click a desired item to select.
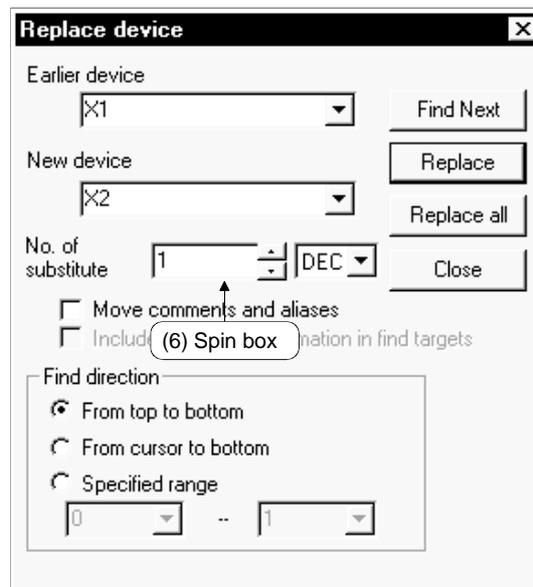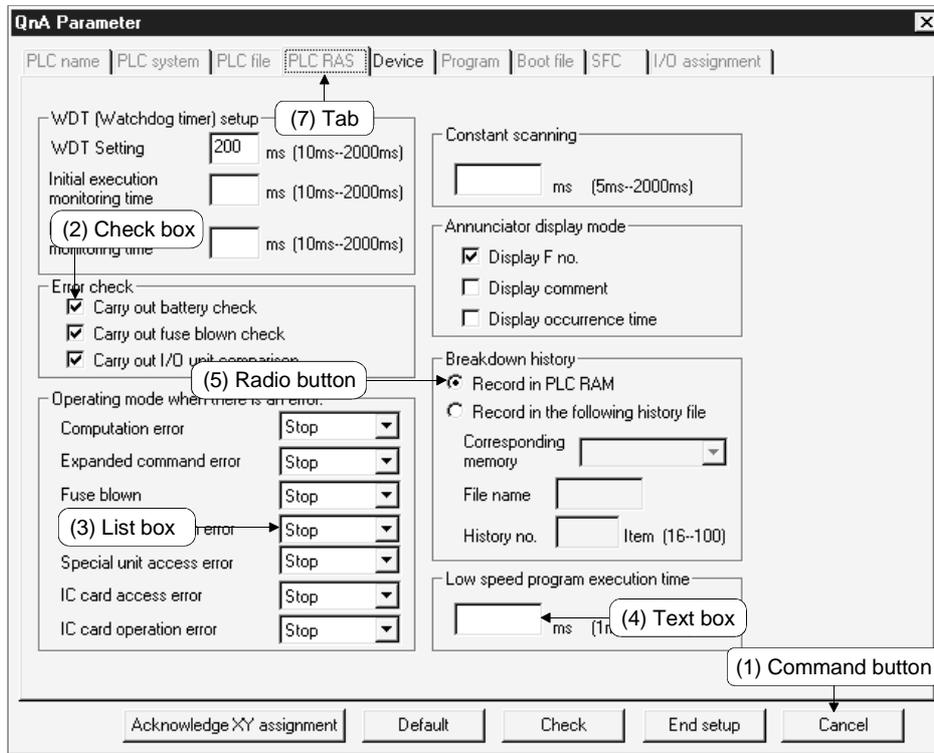
(4) Text box

Enter characters with the keyboard.

The text box may permit only numeric values or letters.

(5) Radio button

Click ○ for the item to be selected.

(6) Spin box

Spin boxes may permit direct value input or selection of a value by clicking ▲▼.

When inputting a value directly, click ⬧ and enter a numeric value with the keyboard.

When clicking ▲▼ for selecting a value, clicking ▲ increments the value and clicking ▼ decrements the value.

(7) Tab

For tab switching, click the desired tab in the property pages dialog box.

APPENDICES

APPENDIX 1 Questions and Answers about Personal Computers

This section provides basic information in question & answer style for quick reference.

Q1.   What happens when the monitor with a resolution of 800x600 pixels or lower is used?

A1.   The icon near the edges of the screen may not be displayed entirely, so that the operations cannot be performed using that icon.
Read the manual and set the dedicated resolution high enough to display the entire icon.

Q2.   What is the operating environment?

A2.   It refers to a combination of hardware equipment needed to fully utilize GX Developer, GX Simulator, etc., and basic operating software (Microsoft® Windows® 95 operating system/Microsoft® Windows® 98 operating system/Microsoft® WindowsNT® Workstation 4.0 operating system).

Q3.   Is the MELSOFT software package available under Microsoft® Windows® 3.1 operating system?

A3.   The MELSOFT software package is not available under Windows® 3.1.

Q4.   What happens when the CPU is Pentium® 133MHz or slower?

A4.   When the clock speed of the CPU is slower than 133MHz, it takes longer for operations such as screen display.

APP

APPENDIX 2 Notes on GX Developer

This section lists the questions and answers to assist you in solving the problems encountered during GX Developer operation.

Q1.   Each circuit diagram is enclosed in white lines during circuit editing depending on the type of video card installed in the personal computer (card storing the characters, figures, and pictures to be displayed on the monitor as data). How can these white lines be deleted?

A1.   Make necessary settings from the Windows® 95/ Windows® 98/ WindowsNT® Workstaiton 4.0 "Control Panel".
Operating procedure
(1) Open "Control Panel".
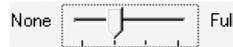   ↓
(2) Open "System".
            ↓
(3) Click the "Performance" tab.
            ↓
(4) Click the "Graphics" button.
            ↓
(5) Set "Hardware acceleration" to the entry (second entry) next to "None".

Q2.   What action should be taken for the message "Can not allocate Share memory" or "Initialization failed" displayed at the start of the GX Developer software package?

A2.   Restart the GX Developer software package or restart Windows® 95/ Windows® 98/ WindowsNT® Workstation 4.0 and start the GX Developer software package again.

Q3.   Why does it take time to change screen after starting setup.exe on page 3-2?

A3.   It takes time when the memory-resident program (such as Virus checker) is running.

Q4.   Which method is recommended in upgrading the existing GPP function software package (overwriting the exiting software package or uninstalling the exiting package and installing the new software package)?

A4.   Uninstall the existing GPP function software package, then install the new package.
However, do not uninstall the existing software package if you will install the updating product.
It cannot be installed unless the application of the old version has been installed.

Q5   What points are to be noted in installing PC-cilling (commercially available software package) on the personal computer.

A5   (a) At the start of PC-cilling
           Because it takes time for initialization at the start of PC-cilling, other applications in "StartUp" group may not be started.
           In addition, it may take time to accept the subsequent operations after storage into the task tray.
           These phenomena vary depending on the specifications of the operating environment (CPU, memory, etc.).
           It is well known that this problem occurs frequently when the CPU is Pentium® 100 MHz or lower.

       (b) Effects on the system
           When PC-cilling is already started, system load increases because PC-cilling checks the files.
           For this reason, it may take extra time for starting the application depending on the operating environment.
           These phenomena vary depending on the operating environment specifications (CPU, memory, etc.).
           It is well known that this problem occurs frequently when the CPU is Pentium® 100 MHz or lower.

       (c) Effects on applications
           When applications cannot be started or run normally after PC-cilling has been installed, check the operations of the applications according to the following procedure:
           1) Uninstall PC-cilling and restart the system to check the operations of the applications.
              If the same problem recurs, the cause of the problem is not PC-cilling.
              In such a case, contact our application support engineers.
           2) When the applications run normally after PC-cilling has been uninstalled, install PC-cilling again and change the monitor setting to "Custom Monitor." In addition, change the selection of the checkboxes for Extension Designation or Monitor Function.

              ＊ When the system does not work well after the step 1) has been performed, install Windows® 95/ Windows® 98/ WindowsNT® Workstation 4.0 and/or applications again.

Q6.   Can applications like GX Developer (SW0D5C-GPPW-E) and GX Simulator (SW0D5C-LLT-E) be used in WindowsNT® Workstation 4.0?

A6.   GX Developer (SW0D5C-GPPW-E) and GX Simulator (SW0D5C-LLT-E) may not work properly. Use the versions of GX Developer (SW1D5C-GPPW-E or later) and GX Simulator (SW1D5C-LLT-E or later) that support WindowsNT® Workstation 4.0.

Q7.   When a program is read from a floppy disk, it cannot be read from the floppy disk so long as the disk is write protected. Why not?

A7.   Because multiple GX Developer can be started, access to files in the same floppy disk may occur simultaneously. In such a case, an access flag is written to a floppy disk at the time of floppy disk access to prevent the files in the disk from being accessed from another GX Developer.
Namely, no files can be read in this system so long as the floppy disk is write protected.

Q8.   What should I do when I have problems with my computer or hard disk?

A8.   1) Insert the license key FD of GX Developer and uninstall it (make the product invalid). You will get your installation right back.
Then, restore the personal computer, hard disk, Windows® and so on to normal, and reinstall the FD in the same way as when you purchased.

2) If the personal computer or hard disk have some serious problems, you may not restore as given in the above method 1), use the spare license. Restore the personal computer, hard disk, Windows® and so on to normal, and reinstall the FD in the same way as when you purchased it.

3) Number of spare licenses
For 1 license right product:
To prepare for the unexpected, the license key FD is designed to be installable up to five times.
For n license right spare product:
The backup license key FDs (of the same quantity as the number of the licenses you purchased) are designed to be installable.

Q9.   If Windows® is corrupted, what should I do?

A9.   Do as described in A8.

Q10.   If the personal computer went wrong, what should I do to format it?

A10.   Do as described in A8.

Q11.   What should I do if I formatted the personal computer?

A11.   Do as described in A8, 2).

Q12.   What should I do if I accidentally erased the software such as GX Developer?

A12.   Do as described in A8.

Q13.   If GX Developer went wrong (some of the files were lost), what should I do?

A13.   Do as described in A8.

Q14.   What should I do if the license key FD is corrupted?

A14.   Please contact your sales representative.

Q15.   What should I do if I lost the CD-ROM/FD product and/or license key FD?

A15.   We are sorry to tell you to please purchase them newly.

Q16.   What should I do if I am forced to change the personal computer where GX
        Developer is used due to its renting or leasing expiration or the like.

A16.   1) Insert the license key FD of GX Developer into the personal computer
           whose renting or leasing will expire and uninstall it (make the product
           invalid).
           You will get your installation right back. Then, reinstall the FD into the new
           personal computer in the same way as when you purchased.

        2) If you have already returned the personal computer whose renting or
           leasing will expire, use the spare license. The installation procedure is the
           same as when you purchased.
           For the number of spare licenses, refer to item (3) of A8.

Q17.   I bought a new personal computer and want to use GX Developer on the new
        one. What should I do?

A17.   1) Insert the license key FD of GX Developer into the old personal computer
           and uninstall it (make the product invalid).
           You will get your installation right back.
           Then, reinstall the FD into the new personal computer in the same way as
           when you purchased.

        2) If you do not already have the old personal computer, use the spare license.
           The installation procedure is the same as when you purchased.
           For the number of spare licenses, refer to item (3) of A8.

Q18.　I bought new Windows® and want to change the old one for the new. What
should I do?

A18.　1) To install new Windows® over the old, exchange them as they are.

2) To install new Windows® newly or install it after formatting the hard disk,
insert the license key FD of GX Developer into the personal computer and
uninstall it (make the product invalid).
You will get your installation right back.
Then, format the personal computer, install new Windows® , and reinstall
the license key FD in the same way as when you purchased.

3) If you have already formatted the personal computer to change the old
Windows® for the new, use the spare license.
The installation procedure is the same as when you purchased.
For the number of spare licenses, refer to item (3) of A8.

# Appendix 3 How to Install GX Developer after Copying It onto FDs

The following describes the method of installing the GX Developer on the personal computer when no CD-ROM drive is included in the peripherals. The installation of the utility packages for GX Simulator and intelligent function unit is also performed in the same manner as this method.

On the CD-ROM, folders are prepared for each capacity allowed to be copied onto one FD so that the copying onto the FDs can be performed easily.

If the CD-ROM drive is selected using Explorer, Disk 1 through Disk n will appear on the screen. Prepare formatted FDs of the same quantity as the number of folders.

Setup.exe shown in the Route Directory of the CD-ROM must not be copied.

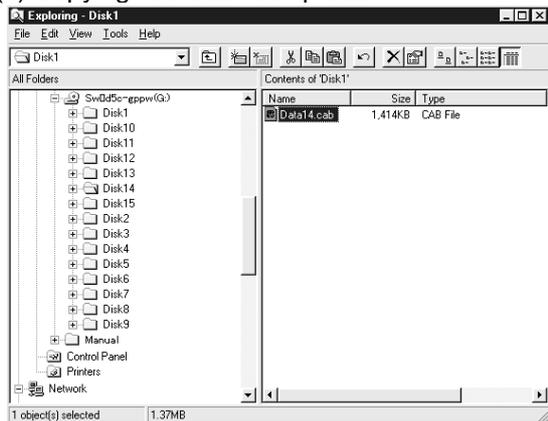## (1) Copy the data onto FDs.
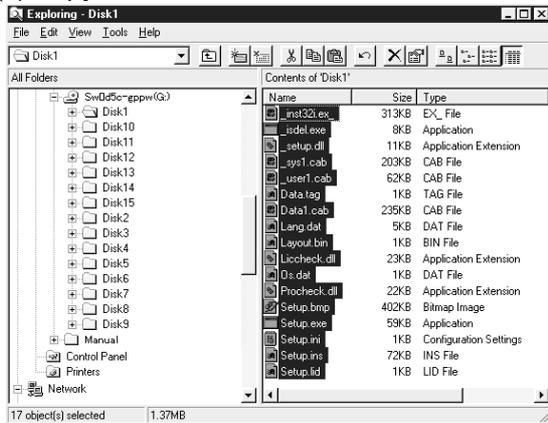
1) Select the drive in which the product has been set up. Next, select all files stored in Disk 1, and copy them onto the FD.

   After the copying of Disk 1 has been completed, also copy the files stored in the other directories in the same manner.

↓

(2) Copying has been completed.

2) After the copying onto the FDs has been completed, insert the copied FD in the peripheral device to be installed, and install the product according to the messages shown on the screen.

   For details of the installation operation, refer to Section 3.1.2 of this manual.

MEMO

GX Developer Version 6
GX Simulator Version 5

Operating Manual (Start up)

MODEL	SW6D5C-STA-O-E
MODEL CODE	13J988
IB(NA)-0800132-B(0012)MEE	

When exported from Japan, this manual does not require application to the Ministry of International Trade and Industry for service transaction permission.

Specifications subject to change without notice.