

MX Sheet Version 1

mitsubishi

Operating Manual

(Introduction)



MELSOFT
Integrated FA Software

SW1D5C-SHEET-E

• SAFETY PRECAUTIONS •

(Always read these instructions before using this equipment.)

Before using this product, please read this manual and the relevant manuals introduced in this manual carefully and pay full attention to safety to handle the product correctly.

The instructions given in this manual are concerned with this product. For the safety instructions of the programmable controller system, please read the CPU module user's manual.

In this manual, the safety instructions are ranked as "⚠️WARNING" and "⚠️CAUTION".

 **WARNING**

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 minor or moderate injury or property damage.

Note that the ⚠️CAUTION level may lead to serious consequences according to the circumstances.

Always follow the instructions of both levels because they are important to personal safety.

Observe the precautions of both levels because they are important for personal and system safety.

Please save this manual in a convenient place so that you can refer to it and always forward it to the end user.

[Design Instructions]

WARNING

- Build an interlock circuit outside the PLC system to ensure that the whole system always works safely when changing the data of the running PLC or controlling the PLC status from the personal computer.
In addition, be sure to incorporate the corrective action into the system to deal with the communication error due to the poor cable connection while operating the PLC CPU online from the peripheral device.

[Operating Precautions]

CAUTION

- Read the manual carefully and confirm the safety before connecting a personal computer with the running CPU module to perform the online operation (especially forced output and operating status change).
Misoperation may cause the machine damage or accidents.

• CONDITIONS OF USE FOR THE PRODUCT •

- (1) Mitsubishi programmable controller ("the PRODUCT") shall be used in conditions;
- i) where any problem, fault or failure occurring in the PRODUCT, if any, shall not lead to any major or serious accident; and
 - ii) where the backup and fail-safe function are systematically or automatically provided outside of the PRODUCT for the case of any problem, fault or failure occurring in the PRODUCT.

- (2) The PRODUCT has been designed and manufactured for the purpose of being used in general industries.

MITSUBISHI SHALL HAVE NO RESPONSIBILITY OR LIABILITY (INCLUDING, BUT NOT LIMITED TO ANY AND ALL RESPONSIBILITY OR LIABILITY BASED ON CONTRACT, WARRANTY, TORT, PRODUCT LIABILITY) FOR ANY INJURY OR DEATH TO PERSONS OR LOSS OR DAMAGE TO PROPERTY CAUSED BY the PRODUCT THAT ARE OPERATED OR USED IN APPLICATION NOT INTENDED OR EXCLUDED BY INSTRUCTIONS, PRECAUTIONS, OR WARNING CONTAINED IN MITSUBISHI'S USER, INSTRUCTION AND/OR SAFETY MANUALS, TECHNICAL BULLETINS AND GUIDELINES FOR the PRODUCT.

("Prohibited Application")

Prohibited Applications include, but not limited to, the use of the PRODUCT in;

- Nuclear Power Plants and any other power plants operated by Power companies, and/or any other cases in which the public could be affected if any problem or fault occurs in the PRODUCT.
- Railway companies or Public service purposes, and/or any other cases in which establishment of a special quality assurance system is required by the Purchaser or End User.
- Aircraft or Aerospace, Medical applications, Train equipment, transport equipment such as Elevator and Escalator, Incineration and Fuel devices, Vehicles, Manned transportation, Equipment for Recreation and Amusement, and Safety devices, handling of Nuclear or Hazardous Materials or Chemicals, Mining and Drilling, and/or other applications where there is a significant risk of injury to the public or property.

Notwithstanding the above, restrictions Mitsubishi may in its sole discretion, authorize use of the PRODUCT in one or more of the Prohibited Applications, provided that the usage of the PRODUCT is limited only for the specific applications agreed to by Mitsubishi and provided further that no special quality assurance or fail-safe, redundant or other safety features which exceed the general specifications of the PRODUCTS are required. For details, please contact the Mitsubishi representative in your region.

REVISIONS

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

Print Date	* Manual Number	Revision
Aug., 2002	SH (NA)-080347E-A	First edition
Dec., 2003	SH (NA)-080347E-B	<p>Addition</p> <p>SOFTWARE USER REGISTRATION</p> <p>Correction</p> <p>Section 3.1.2</p>
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May, 2011	SH (NA)-080347E-J	<p>Addition</p> <p>Generic Terms and Abbreviations, Chapter 2, Section 3.1.1, Section 3.1.2, Section 3.1.3, Section 3.1.4</p>

Japanese Manual Version SH-080345-J

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INTRODUCTION

Thank you for choosing the Mitsubishi Integrated FA Software MELSOFT series.
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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Manuals

The following manuals are relevant to this software package.
Refer to the table when ordering the manuals.

Relevant Manuals

Manual Name	Manual Number (Model Code)
MX Sheet Version 1 Operating Manual Explains the operation procedures, setting and operation methods of MX Sheet. (Sold separately)	SH-080348E (13JU35)
MX Component Version 3 Operating Manual Explains the setting and operation methods of each utility on MX Component. (Sold separately)	SH-0800271 (13JU32)
MX Component Version 3 Programming Manual Explains the programming procedures, details and error codes for ACT control. (Sold separately)	SH-080272 (13JF66)

Note: The MX Sheet Version 1 Operating Manual is stored on CD-ROM of the corresponding software package in PDF format.

Any of the manuals is available separately in printed form. Please indicate its manual number (model code) in the above table, when ordering the printed manual.

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 one personal computer.
- 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 Terms and Abbreviations

Unless otherwise stated, this manual uses the following abbreviations and terms for the explanation of MX Sheet.

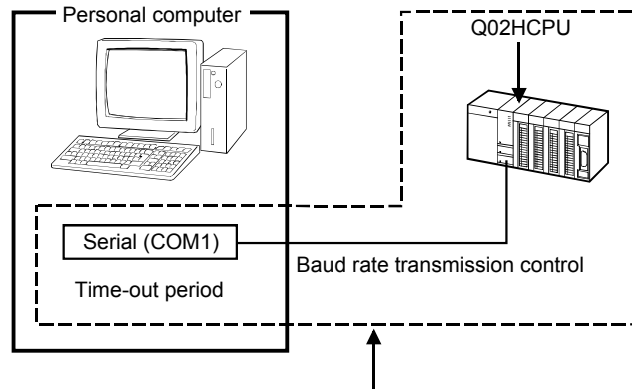
Generic Term/Abbreviation	Description
MX Sheet	Generic product name for product types SW1D5C-SHEET-E and SW1D5C-SHEET-EA. -EA indicates a volume license product.
IBM-PC/AT compatible	Abbreviation of the IBM PC/AT or its compatible personal computer
PC CPU module	Abbreviation of the MELSEC-Q series corresponding PC CPU module (CONTEC CO., LTD.).
Personal computer	Generic term of PC CPU module and IBM-PC/AT compatible Personal computer.
MX Component	Generic product name for product types SW3D5C-ACT-E and SW3D5C-ACT-EA. -EA indicates a volume license product.
Windows® 7	Microsoft® Windows® 7 Starter Operating System, Microsoft® Windows® 7 Home Premium Operating System, Microsoft® Windows® 7 Professional Operating System, Microsoft® Windows® 7 Ultimate Operating System and Microsoft® Windows® 7 Enterprise Operating System. Note that the 32-bit version is designated as "32-bit Windows® 7", and the 64-bit version is designated as "64-bit Windows® 7".
Windows Vista®	Generic term of Microsoft® Windows Vista® Home Basic Operating System, Microsoft® Windows Vista® Home Premium Operating System, Microsoft® Windows Vista® Business Operating System, Microsoft® Windows Vista® Ultimate Operating System and Microsoft® Windows Vista® Enterprise Operating System.
Windows® XP	Generic term of Microsoft® Windows® XP Professional Operating System and Microsoft® Windows® XP Home Edition Operating System.

Definitions of Terms

The terms used in this manual have the following meanings and definitions.

(1) Logical station number

A number assigned to the group of data that is integrated from the connection target information required for communication within the Communication Setup Utility.



Connection target information on up to CPU to communicate with is combined into one data, to which logical station number is assigned.

(2) 1 shot communication

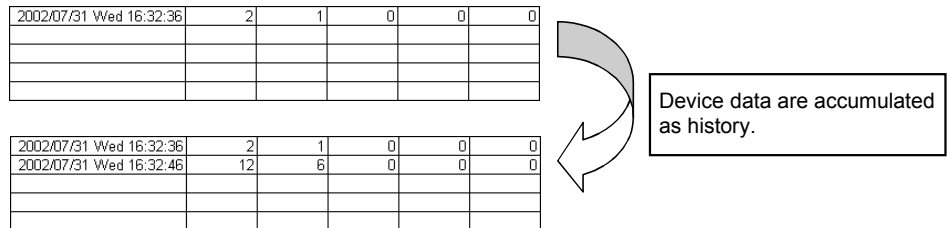
This function executes the function set to the selected cell area at any timing.

1.2 Functions Explained in This Manual

This manual explains the following MX Sheet functions.

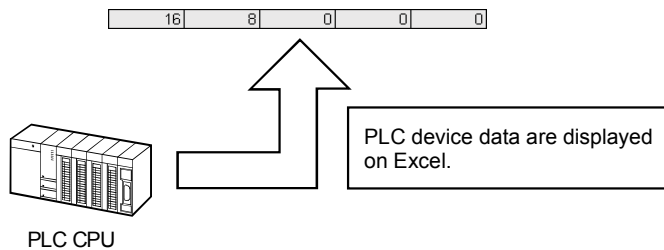
(1) Logging function (refer to Section 6.1)

This function accumulates the device data collected from the PLC as a history in the cell area selected on an Excel sheet.



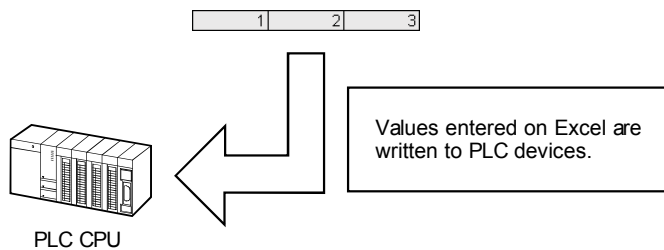
(2) Monitor function (refer to Section 6.2)

This function displays the device data collected from the PLC in the cell area selected on an Excel sheet.



(3) Write function (refer to Section 6.3)

This function writes the values entered on an Excel sheet to PLC devices.



(4) Automatic save function (refer to Section 6.4)

This function saves the Excel book automatically, when the specified device is triggered at the specified time.

(5) Automatic print function (refer to Section 6.5)

This function prints the Excel book or specified Excel sheets automatically, when the specified device is triggered at the specified time.

(6) Create button function (refer to Section 6.6)

This function executes each of the Start Communication, End Communication and 1 Shot Communication functions by merely clicking the corresponding button created from Create Button.

2 OPERATING ENVIRONMENT

The following table indicates the operating environment of MX Sheet.

Item		Description
Computer	IBM PC/AT compatible personal computer	Pentium® 200MHz or higher* ¹ IBM PC/AT compatible personal computer installed with applicable OS* ²
	PC CPU module	MELSEC-Q series compatible PC CPU module (CONTEC CO., LTD.)
Required memory		64MB or more* ⁴
Hard disk free space		100MB or more
Disk drive		CD-ROM disk drive
Display		Resolution 1024 × 768 pixels or higher
OS		Microsoft® Windows® 98 Operating System (English version), Microsoft® Windows® Millennium Edition Operating System (English version), Microsoft® Windows NT® Workstation Operating System Version 4.0 (English version) * ³ , Microsoft® Windows® 2000 Professional Operating System (English version), Microsoft® Windows® XP Professional Operating System (English version), Microsoft® Windows® XP Home Edition Operating System (English version), Microsoft® Windows Vista® Home Basic Operating System (English version), Microsoft® Windows Vista® Home Premium Operating System (English version), Microsoft® Windows Vista® Business Operating System (English version), Microsoft® Windows Vista® Ultimate Operating System (English version), Microsoft® Windows Vista® Enterprise Operating System (English version) , Microsoft® Windows® 7 Starter Operating System (English version), Microsoft® Windows® 7 Home Premium Operating System (English version), Microsoft® Windows® 7 Professional Operating System (English version), Microsoft® Windows® 7 Ultimate Operating System (English version) or Microsoft® Windows® 7 Enterprise Operating System (English version).
Required Software	Excel * ⁵	Microsoft® Excel 2000 (English version), Microsoft® Excel 2002 (English version), Microsoft® Excel 2003 (English version), Microsoft® Excel 2007 (English version)* ⁶ , or 32-bit Microsoft® Excel 2010 (English version)* ⁷
	MX Component* ⁸	MX Component version 3.01B or later

*1: A Pentium® 300MHz processor or higher is recommended when using Windows® XP and 1GHz processor or higher is recommended when using Windows Vista® or Windows® 7.

*2: This product does not work with a multiprocessor IBM-PC/AT-compatible personal computer, because the driver is not compatible with it.

*3: Service Pack 3 or more is needed when using Windows NT® Workstation 4.0.

*4: 128MB or more is recommended for Windows® XP, 1GB or more is recommended for Windows Vista® and 32-bit Windows® 7, and 2GB or more is recommended for 64-bit Windows® 7.

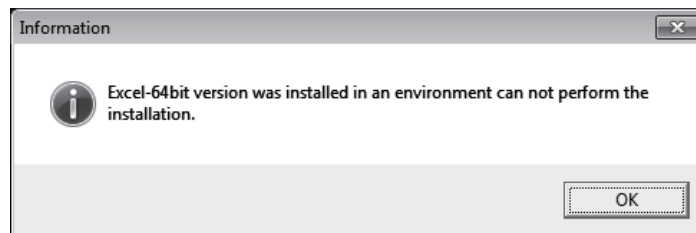
*5: Excel sheets created in the English environment can be used in the English environment only. They cannot be used in the other environment.

*6: Windows® XP Service Pack 2 or later is required for Microsoft® Excel 2007.

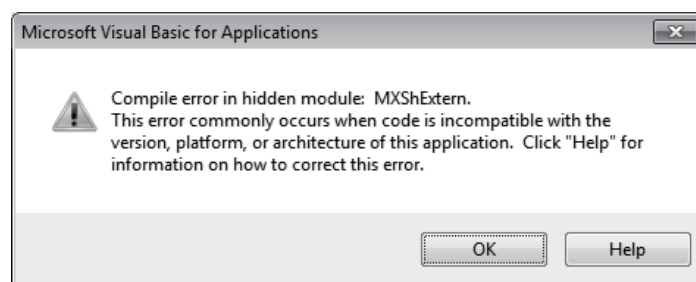
- *7: For 32-bit Microsoft® Excel 2010, Windows® XP Service Pack 3, Windows Vista® Service Pack 1 or higher, or Windows® 7 or later is required.
64-bit Microsoft® Excel 2010 is not supported.
- *8: When executing the Communication Setup Utility with administrator authority from Excel, MX Component Version 3.12N or later is required.

POINT

- (1) When Windows® XP, Windows Vista® or Windows® 7 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
 - Fast user switching
 - Remote desktop
 - Big fonts (Details setting of Screen properties)
- 64-bit Windows® XP and 64-bit Windows Vista® are not supported.
- (2) When Windows® 7 is used, the following new functions cannot be used.
- Windows XP Mode
 - Windows Touch
- (3) When MX Sheet is tried to be installed on the personal computer where 64-bit Microsoft® Excel 2010 has been installed, the following error message appears.



- (4) When MX Sheet is installed, 64-bit Microsoft® Excel 2010 is installed and started, then an add-in is installed, the following error message appears.



To use MX Sheet, install 32-bit Microsoft® Excel 2010.

3 INSTALLATION AND UNINSTALLATION

This chapter explains the installation and uninstallation procedures of MX Sheet. The screens used in this chapter are those of the Microsoft® Windows® XP Professional Operating System. Though they differ slightly from those of the other OSes, refer to **REMARK** and perform operations.

3.1 Installation

3

This section explains MX Sheet installation.

3.1.1 Installation precautions

(1) Precautions on the OS

Log on as the user who has the Administrator attributes, when any of the following OSes is used.

- 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
- Microsoft® Windows Vista® Home Basic Operating System
- Microsoft® Windows Vista® Home Premium Operating System
- Microsoft® Windows Vista® Business Operating System
- Microsoft® Windows Vista® Ultimate Operating System
- Microsoft® Windows Vista® Enterprise Operating System
- Microsoft® Windows® 7 Starter Operating System
- Microsoft® Windows® 7 Home Premium Operating System
- Microsoft® Windows® 7 Professional Operating System
- Microsoft® Windows® 7 Ultimate Operating System
- Microsoft® Windows® 7 Enterprise Operating System

(2) Software confirmation

Make sure that the following software programs have been installed in the personal computer where MX Sheet will be installed.

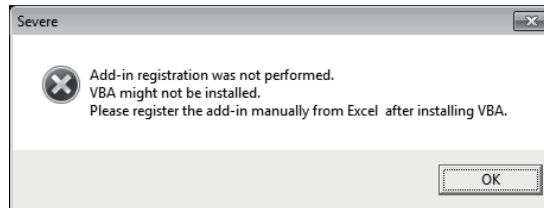
MX Component Version 3.01B or later

Microsoft® Excel 2000 or later

(3) Precautions on using Microsoft® Excel 2007 or later

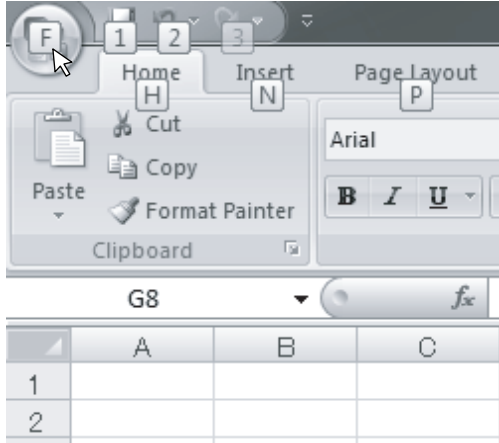
Installing Visual Basic for Applications (hereafter, abbreviated as VBA) is required for Microsoft® Office 2007 or later.

If not installed, the following error message appears when add-in is registered at MX Sheet installation, and MX Sheet cannot be used.

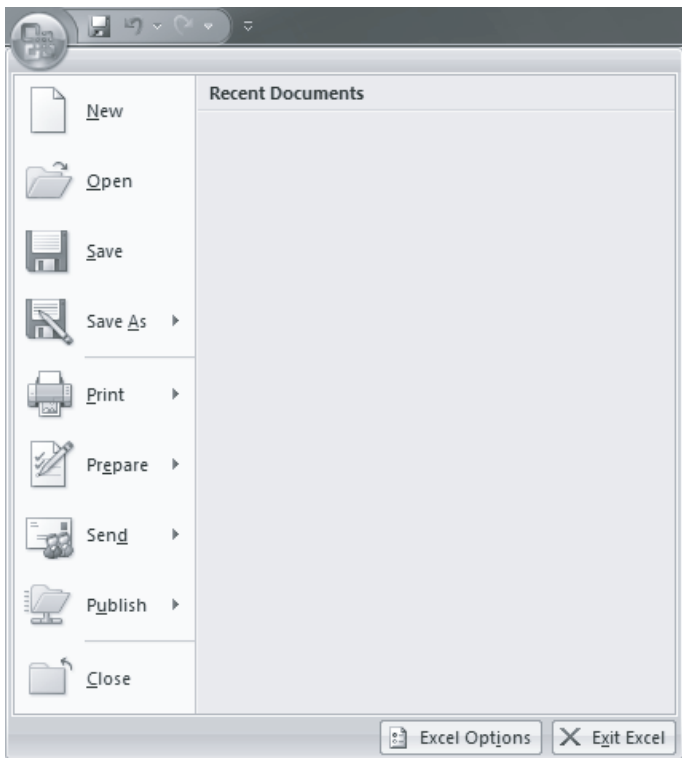


(4) Security Setting of Microsoft® Excel 2007

The following explains the setting procedure of required Trust Center when using MX Sheet with Microsoft® Excel 2007.



1) Click [Office button].

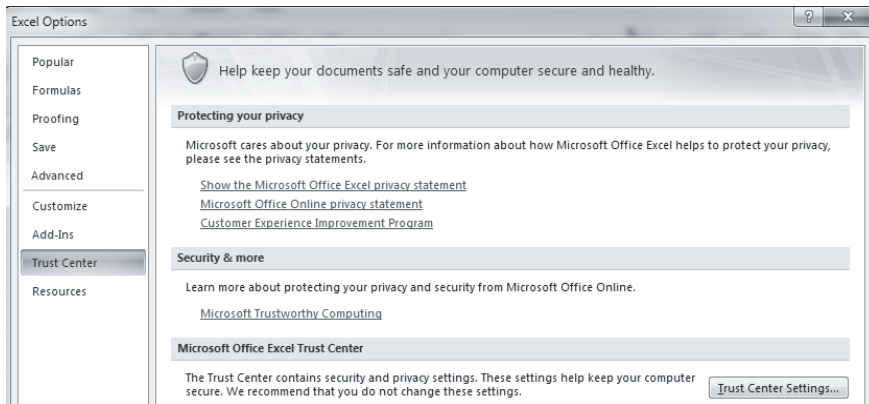


2) Click Excel Options.

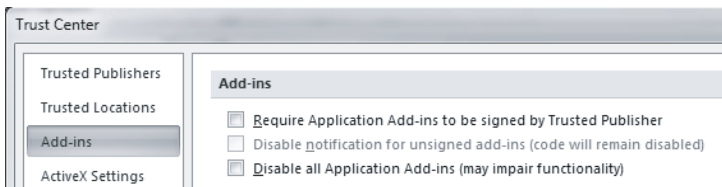


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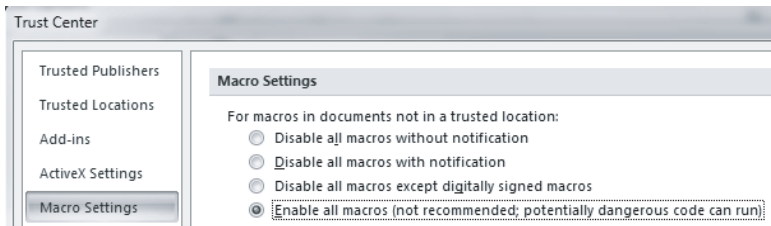
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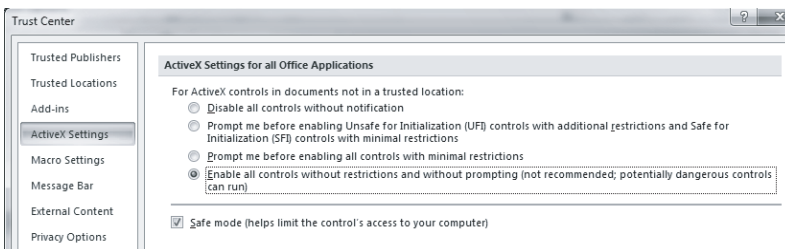
3) Select "Trust Center" from the list shown on the left and click **Trust Center Settings...**



4) Select "Add-ins" from the list shown on the left, and uncheck the items when they have the check marks.



5) Select "Macro Settings" from the list shown on the left, and select "Enable all macros (not recommended; potentially dangerous code can run)".



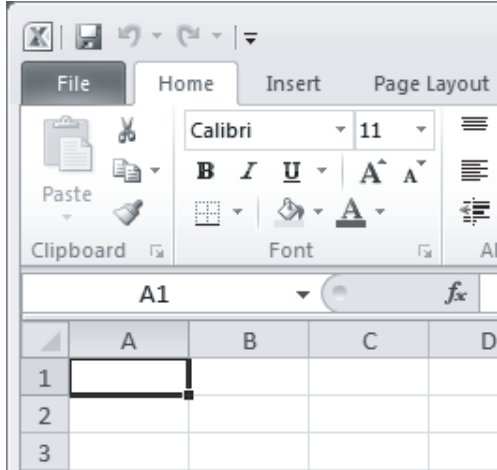
6) Select "Active X Settings" from the list shown on the left, and select "Enables all controls without restrictions and without prompting (not recommended; potentially dangerous controls can run)".

Complete!

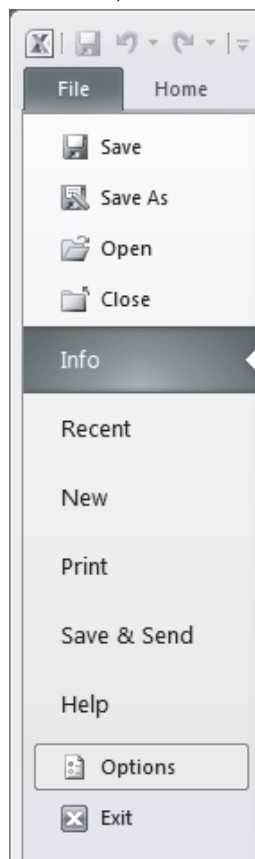
7) After completing all settings, close Excel 2007.

(5) Security Setting of Microsoft® Excel 2010

The following explains the setting procedure of required Trust Center when using MX Sheet with Microsoft® Excel 2010.



1) Click the <<File>> tab.

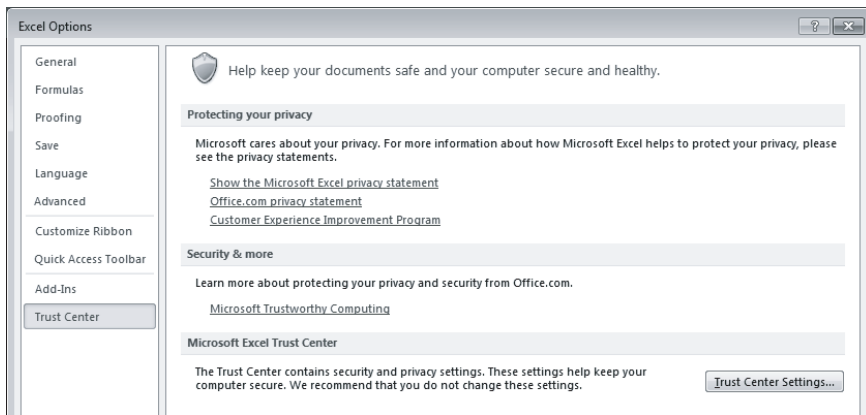


2) Select "Options".

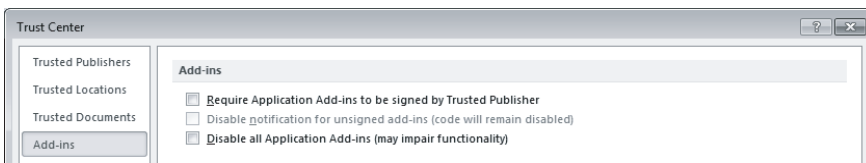


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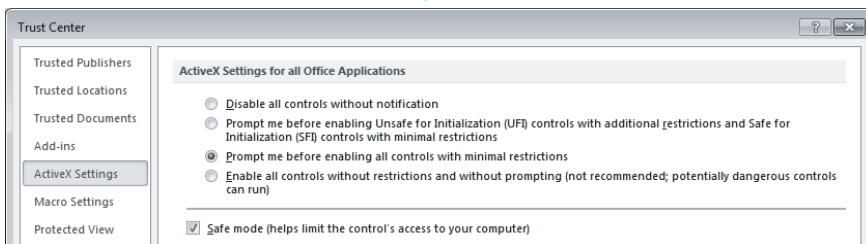
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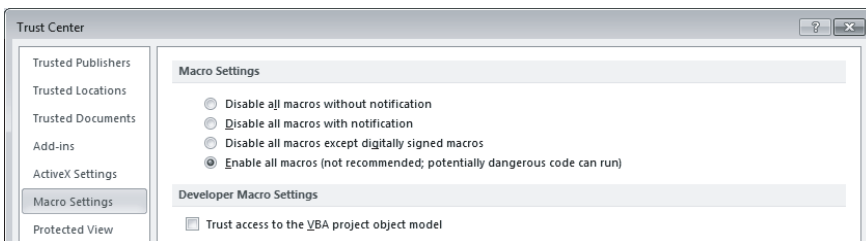
- 3) Select "Trust Center" from the list shown on the left and click **Trust Center Settings...**



- 4) Select "Add-ins" from the list shown on the left, and uncheck the items when they have the check marks.



- 5) Select "ActiveX Settings" from the list shown in the figure to left, and select any item other than "Disable all controls without notification".



- 6) Select "Macro Settings" from the list shown on the left, and select "Enable all macros (not recommended; potentially dangerous code can run)".

Complete!

- 7) After configuring the above settings, click **OK**, and exit Excel 2010.

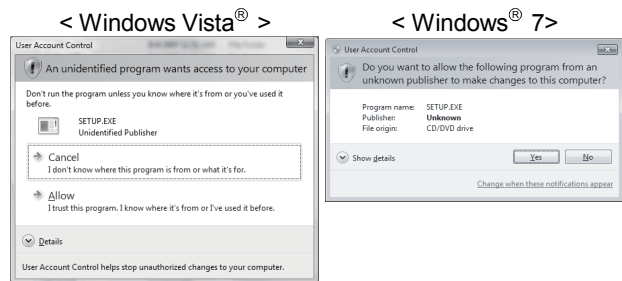
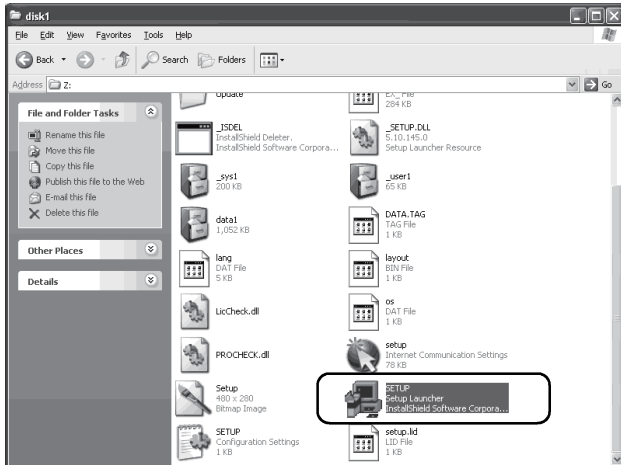
3.1.2 Installation

(1) Installing the product

1) Start Windows® after powering on the personal computer.

2) Start Explorer and click the drive in which the CD-ROM has been inserted. Double-click "SETUP.exe". To display Explorer, right-click [Start] and select [Explorer].

* When user account control is enabled, the following screen appears. Click "Allow" or **Yes**.



If the left message appears, click **OK**, install MX Sheet, and then install MX Component.

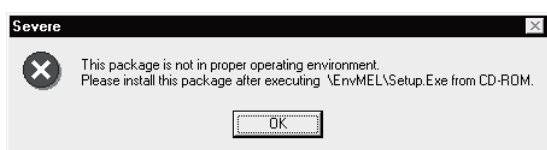
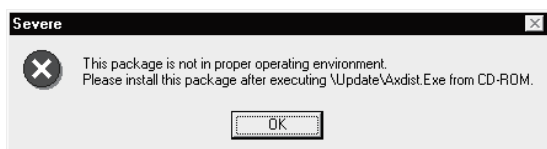
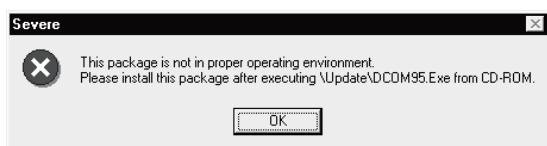
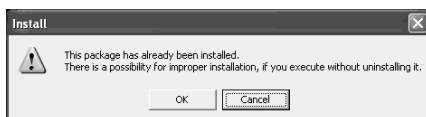
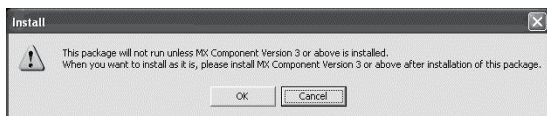
If the left message appears, click **Cancel**, uninstall MX Sheet, and then reinstall it.

If the left message appears, operate as instructed in (a) of "(2) When message appears at start of installation".

After the operation is complete, restart installation operation.

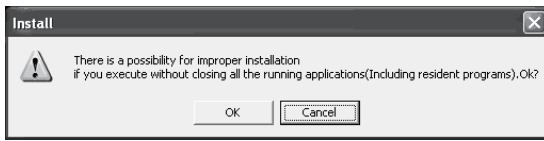
If the left screen appears, operate as instructed in (b) of "(2) When message appears at start of installation".

After the operation is complete, restart installation operation.

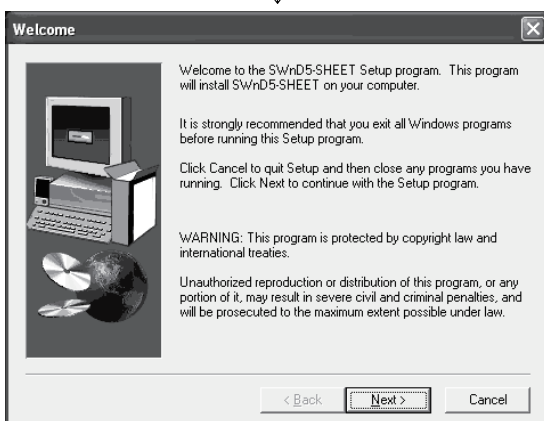


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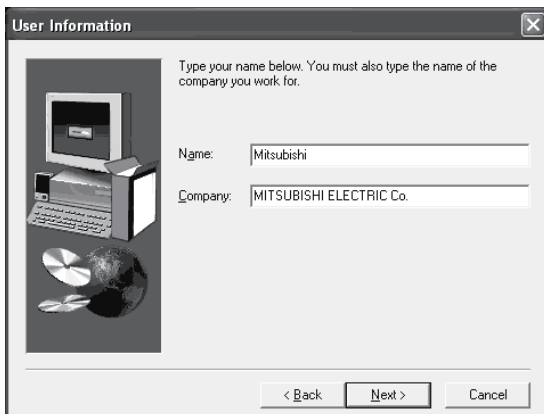
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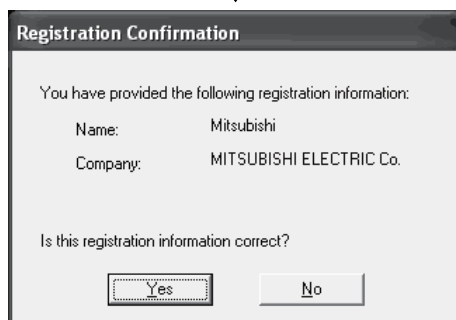
- 3) As the left screen appears, make sure that all applications have been closed and click **OK**.
If the applications are running, close all the running applications.



- 4) Setup starts.
As the left screen appears, read the information and click **Next>**.



- 5) Enter the name and company name, and then click **Next>**.



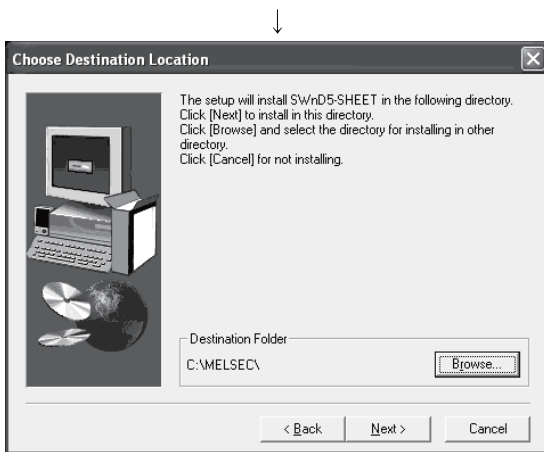
- 6) Confirm the registered name and company name.
If they are correct, click **Yes**.
To make a change, click **No** to return to the previous screen.

(To the next page)

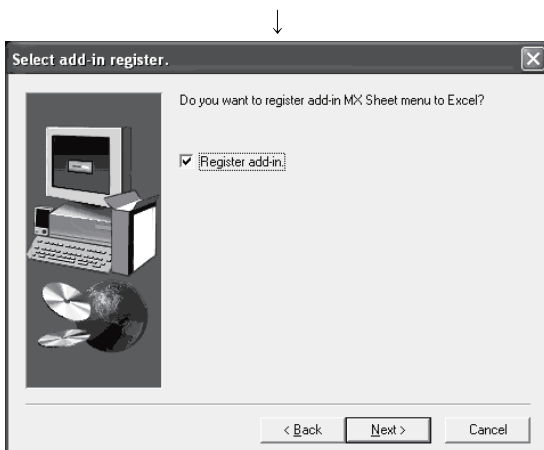
(From the previous page)



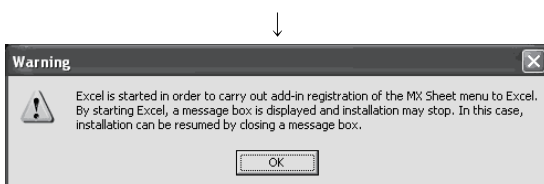
- 7) Register the product ID of the product.
Enter the product ID and click **Next>**.
The product ID is described on the "License certificate" included in the product.



- 8) Specify the installation destination folder.
If you do not change the destination folder, click **Next>**.
If you change the destination folder, click **Browse...** and specify a new drive and folder.



- 9) Register the MX Sheet to Excel as an add-in software.
Mark the checkbox, when registering an add-in.
(The checkbox is marked by default.)
Click **Next>**.

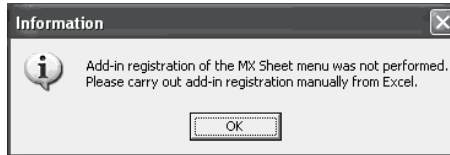


For confirmation, the left message appears.
Click **OK**.

(To the next page)

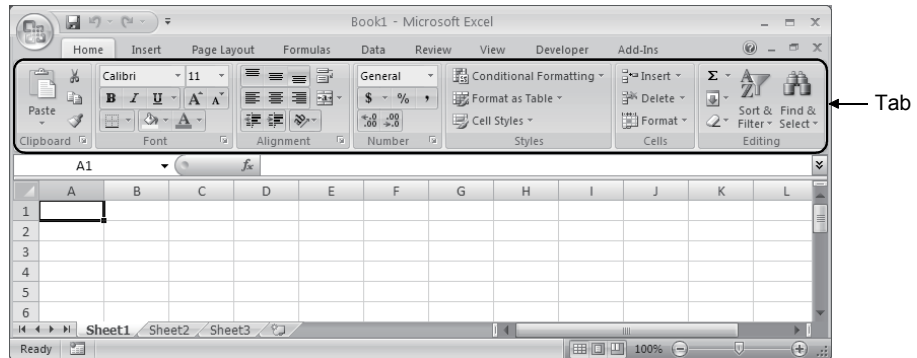
POINT

- To make MX Sheet available, register it to Excel as an add-in software. Normally, register an add-in software as instructed in step 9). If the "Register add-in checkbox" is unmarked in step 9), the following message appears after installation.

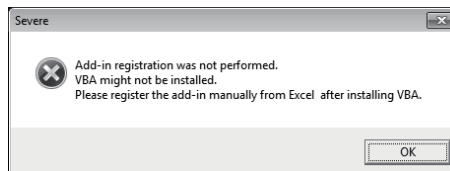


Refer to Section 3.1.4 for the manual MX Sheet add-in registration method.

- When installing an add-in for Microsoft® Excel 2007 or later, the add-in that hides the tabs is automatically installed for the Excel.

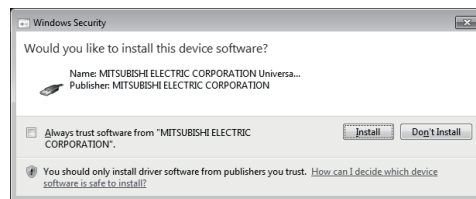
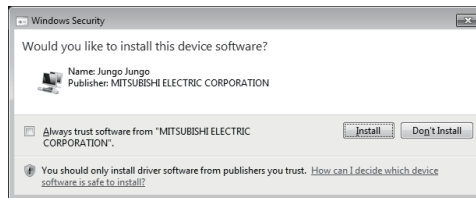


- If VBA has not been installed when an add-in is installed for Microsoft® Excel 2007 or later, the following error message appears, and MX Sheet cannot be used. Register add-in manually after installing VBA.

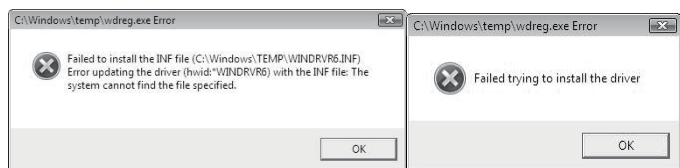


(From the previous page)

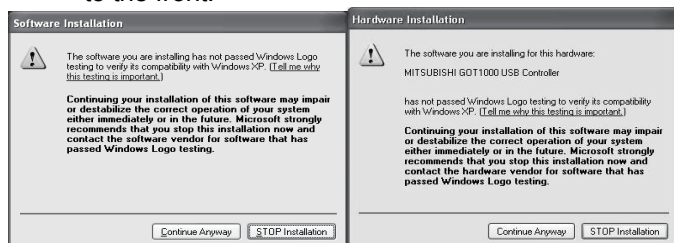
- When user account control is enabled, the following screen appears.
Click **Install**.
This screen may appear in several times.



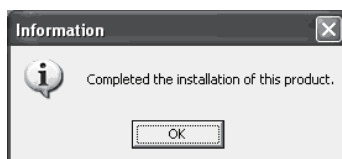
The either of the following screens may appear behind the Windows Security screen. Then, press the **Alt** + **Tab** keys to bring it to the front.
Click **OK** on the following screens.



- * For Windows® XP, the following screen may appear at installation.
Click **Continue**.
We checked operations in Windows® XP (Problems never occur after installation.)
The following screen may appear behind another screen. Then, press the **Alt** + **Tab** keys to bring it to the front.



- 10) The left screen appears, when installation is complete.
Click **OK**.



(To the next page)

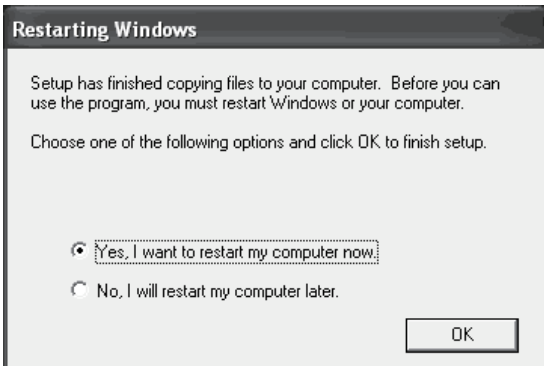
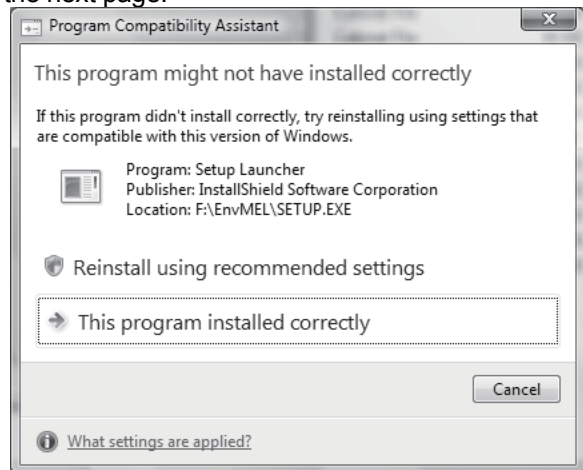
(From the previous page)



* When the left screen appears on Windows Vista®, regardless of the installation result, choose "This program installed correctly".

Do not choose "Reinstall using recommended settings", because the installer installs an incorrect module.

If choose, reinstall MX Sheet with following POINT on the next page.



↓
Complete!

- 11) When making a restart, make sure that the "Yes, I want to restart my computer now." checkbox is marked, and then click **OK**.
When not making a restart, mark the "No, I will restart my computer later." checkbox, and click **OK**.

POINT

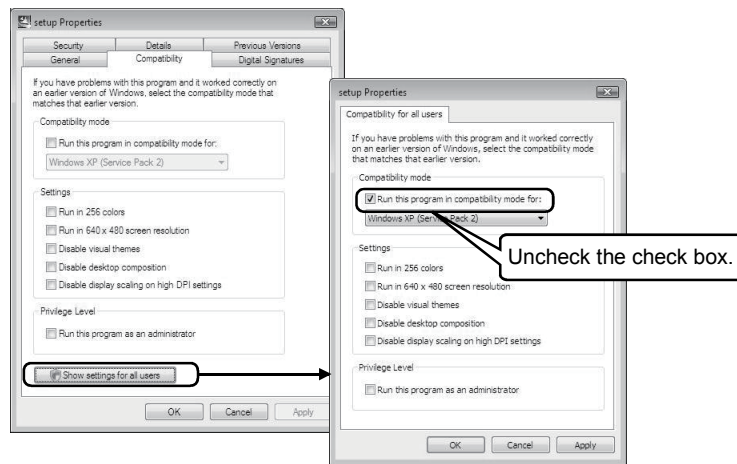
Note the following instructions when the installer is started from the hard disk drive of the personal computer for which Windows Vista® has been installed.

If the "Program Compatibility Assistant" screen appears after the installation, select "This program installed correctly".

If "Reinstall using recommended settings" is selected by mistake, 'Windows XP SP2 compatibility mode' is set automatically.

Disable the 'Windows XP SP2 compatibility mode' by following the procedure described below, and perform the reinstallation.

1. Right-click on the setup.exe icon of the installation target in the Windows explorer, and open the "setup Properties" screen.
2. Select the <<Compatibility>> tab and click **Show settings for all users**.
3. Uncheck the "Run this program in compatibility mode for:" check box of compatibility mode in the <<Compatibility for all users>> tab and click **OK**.
4. Click **OK** on the "setup Properties" screen.



(2) When message appears at start of installation

When starting the installation of this product, 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) Installing dcom95.exe or Axdist.exe

Execute dcom95.exe or Axdist.exe provided for MX Sheet.

Install MX Sheet after executing the exe file and restarting the personal computer.

Execute the exe file on the corresponding operating system as follows.

OS	File name
Microsoft® Windows® 98 Operating System	dcom95.exe Axdist.exe
Microsoft® Windows NT® Workstation Operating System Version 4.0	Axdist.exe

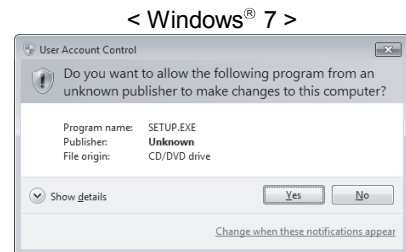
(Dcom95.exe and Axdist.exe are in the [Update] folder on CD-ROM.)

(b) Installing EnvMEL

Execute Setup.exe in the [EnvMEL] folder on this product CD-ROM.
 Install this product after executing the [Setup.exe].

*: When user account control is enabled, the following screen appears.

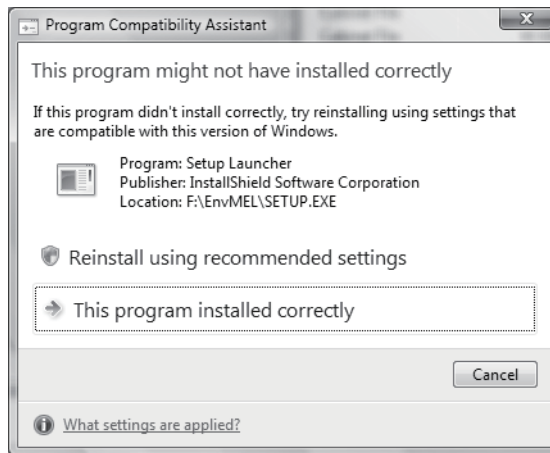
Click "Allow" or [Yes].



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

* When the following screen appears, regardless of the installation result, select "This program installed correctly".

Do not select "Reinstall using recommended settings", because the installer installs an incorrect module.

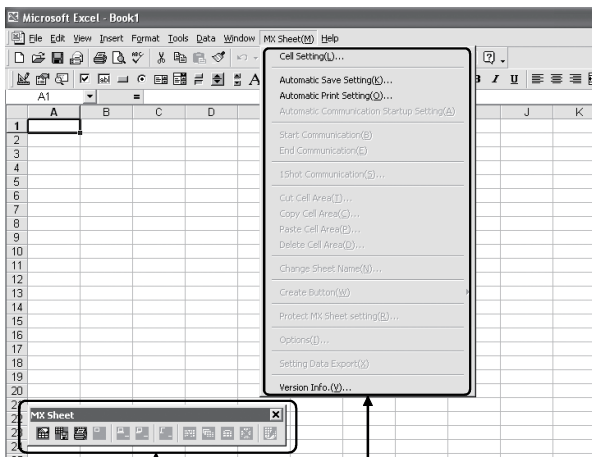


3.1.3 Installation check

Check whether MX Sheet has been installed normally or not as follows.

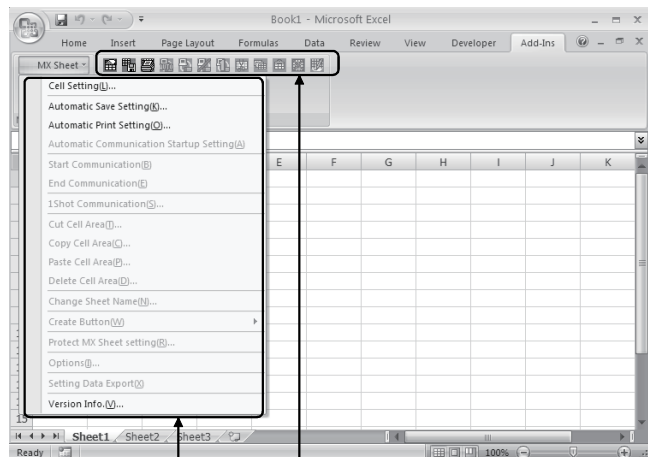
- (1) Start Excel.
- (2) If the [MX Sheet] item has been added to the menu bar, MX Sheet has been installed normally.

< Microsoft® Excel 2003 or earlier >



MX Sheet icons and menu are displayed.

< Microsoft® Excel 2007 or later >



MX Sheet icons and menu are displayed.

POINT

- (1) If the following screen appears during installation, [MX Sheet] is not registered to the menu bar.
Register MX Sheet as an add-in software manually.



- (2) If the "Register add-in" is not marked in the "Select add-in" dialog box in step 9) of Section 3.1.2, the [MX Sheet] menu will not be registered to the menu bar.
Register MX Sheet as an add-in software manually after installation.
Refer to Section 3.1.4 for the manual add-in registration method.

3.1.4 Manual add-in registration

[MX Sheet] menu will not be registered to Excel if "Register add-in" is not marked in "Select add-in" dialog in step 9) of Section 3.1.2. during installation.

Add-in registration is required to use MX Sheet.

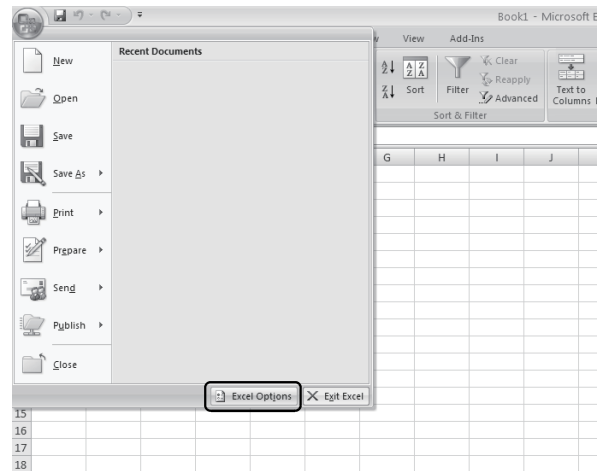
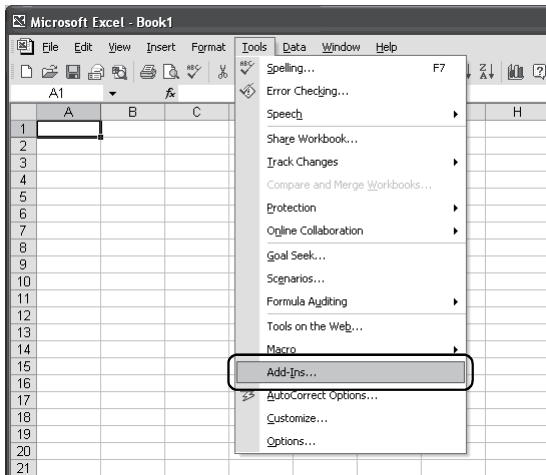
Register MX Sheet as an add-in software in the following procedure.

1) Start Excel.

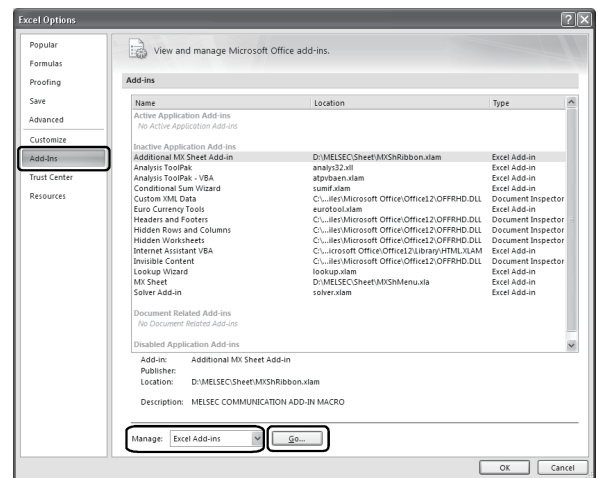
2) Choose [Tools] → [Add-Ins] from the menu bar to display the "Add-Ins" dialog box. *1

*1: For Microsoft® Excel 2007 or later, follow 2) –1 and 2) –2.

2) –1 Select [Office button] → [Excel Options].

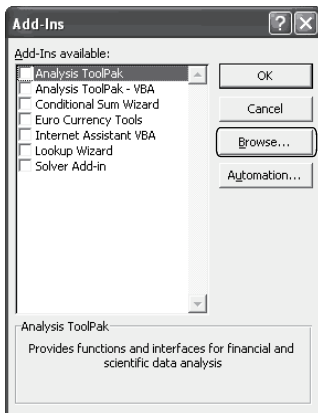


2)- 2 The "Excel Options" screen appears. Select [Add-Ins], change the item in "Manage" to [Excel Add-ins], and click [Go...].

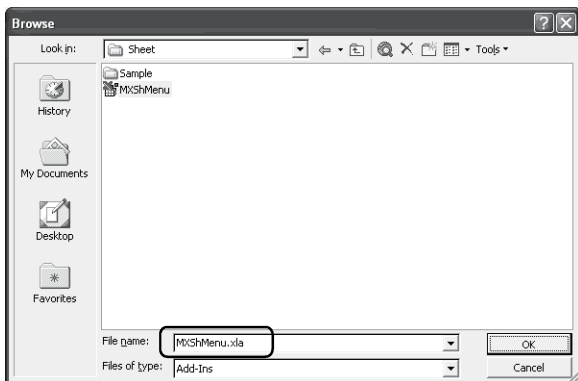


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(From the previous page)



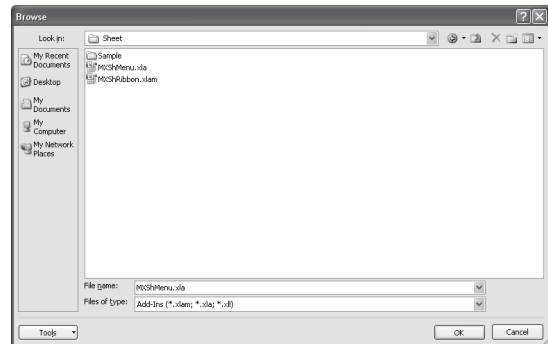
3) As the left screen appears, click **Browse...**.



4) As the left screen appears, enter "MXShMenu.xls" in "File name" and click **OK**.
 "MXShMenu.xls" has been stored into [User-specified folder*1] → [Sheet] at installation.

*1: The installation destination folder will be "C:\Melsec\Sheet" if it has not been changed at installation.

* The following screen appears in Microsoft® Excel 2007 or later.



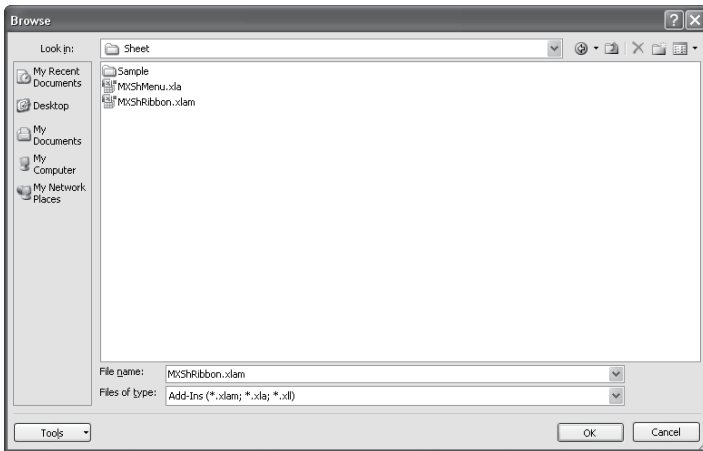
5) As the left screen appears, make sure that the "MX Sheet" checkbox is marked, and click **OK**.^{*2}

*2: For Microsoft® Excel 2007 or later, click **Browse...** again, and install the add-in that hides the tabs for Excel by operations 6) and 7).

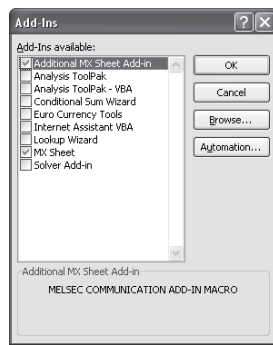


(To the next page)

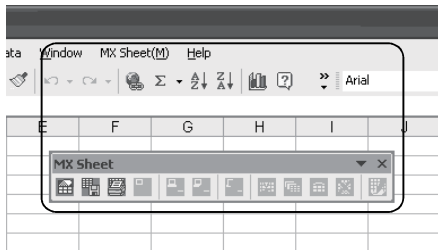
(From the previous page)



- 6) For Microsoft® Excel 2007 or later, enter "MXShRibbon.xlam" in "File name" on the displayed "Browse" screen, and click **OK**.

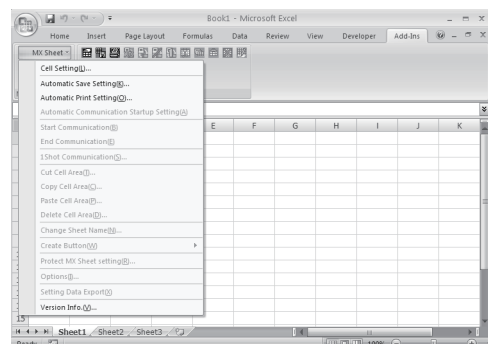


- 7) For Microsoft® Excel 2007 or later, check that "Additional MX Sheet Add-in" is selected on the displayed "Add-Ins" dialog box, and click **OK**.



- 8) Make sure that [MX Sheet] has been added to the menu bar. *1
The icon buttons are also displayed.
This means manual add-in registration is complete.

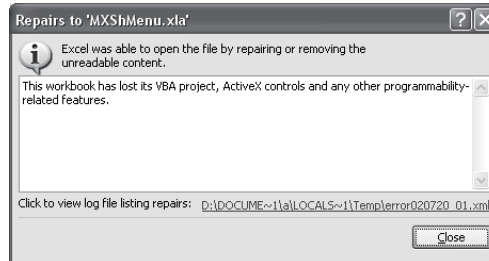
*1: For Microsoft® Excel 2007 or later, the << Add-Ins >> tab is added on the ribbon, and [MX Sheet] group and icons are added to it.



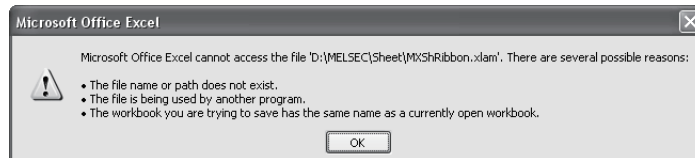
Registration complete!

POINT

- (1) To manually install the add-in "MXShMenu.xla" for Microsoft® Excel 2007 or later, install VBA.
If not installed, the following error message appears and MX Sheet cannot be used.

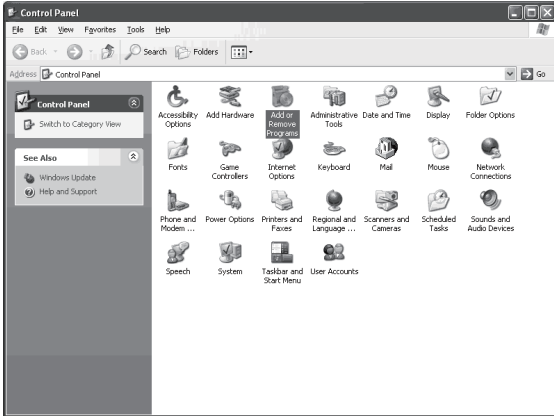


- (2) To manually install the add-in "MXShRibbon.xlam" for Microsoft® Excel 2007 or later, install VBA.
If not installed, the following error message appears and MX Sheet cannot be used.



3.2 Uninstallation

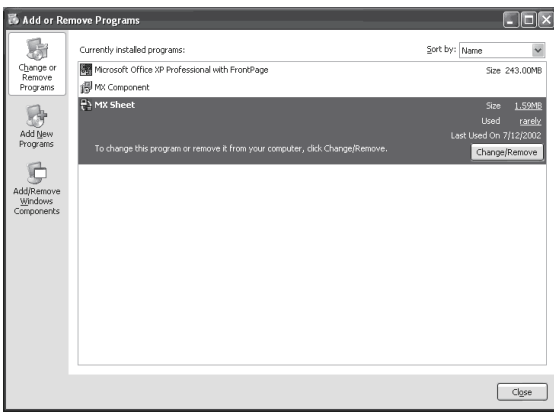
This section explains MX Sheet unistallation.



- 1) Select "Add or Remove Programs" from Control Panel and double-click it.
To display Control Panel, select [Start] → [Control Panel].

REMARK

When any of Windows® 98, Windows NT® Workstation 4.0 and Windows® 2000 Professional is used, select "Add or Remove Programs" from Control Panel and double-click it.
To display Control Panel, select [Start] → [Control Panel].
Select "Uninstall a program" on the Control Panel in Windows Vista® or Windows® 7.



- 2) Select MX Sheet and click **Change/Remove**.

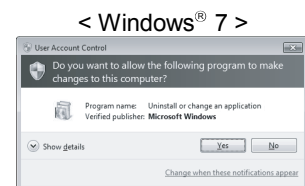
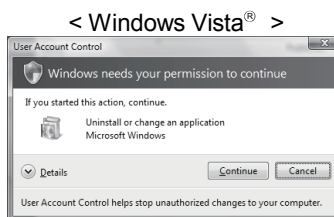
REMARK

The left screen is that of Windows® XP Professional. The displayed screen varies with the OS. Depending on the used OS, perform the following operation.

- < Windows® 98 or Windows NT® Workstation 4.0 >
 - (a) Click the <<Install and Remove>> tab.
 - (b) Select MX Sheet.
 - (c) Click **Add/Remove**.

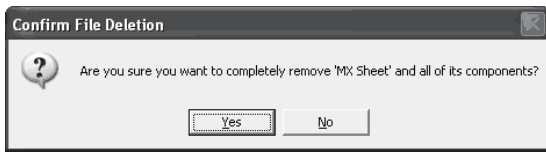
- < Windows® 2000 Professional >
 - (a) Click "Add or Remove Programs".
 - (b) Select MX Sheet.
 - (c) Click **Change/Remove**.

- < Windows Vista® or Window® 7>
 Select "MX Component" on the "Uninstall or change a program" screen, and click "Uninstall/Change".
 - * When user account control is enabled, the following screen appears. Click **Continue** or **Yes**.



(To the next page)

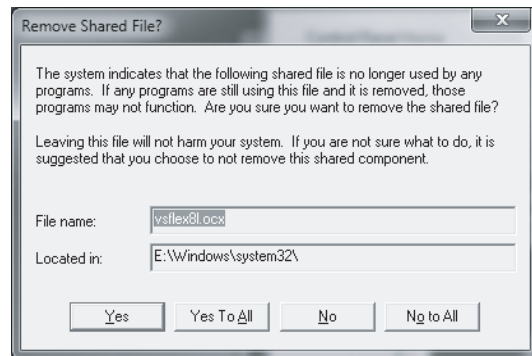
(From the previous page)



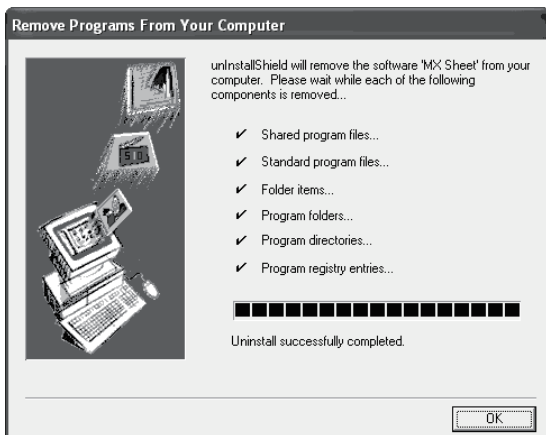
- 3) The dialog asks if you really want to uninstall MX Sheet for confirmation. To uninstall it, click **Yes**. When not uninstalling it, click **No**. Clicking **No** returns to the previous screen.

* Components indicate the installed icons and files.

* When the following screen appears, clicking **No to All** deletes MX Sheet software package only. Clicking **Yes**, **Yes To All** deletes the common files of Windows-based MELSOFT software and may not start normally.



- 4) When a message appears and shows that the files have been deleted, click **OK**. Be sure to restart the personal computer, if some files remain undeleted.



Complete!

REMARK

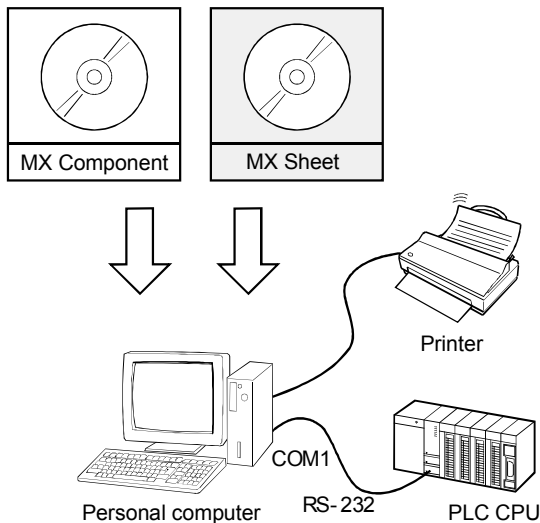
When uninstallation is executed using any of the following OSes, MX Sheet remains displayed in the application list of "Add or Remove Programs" if uninstallation is completed normally.

After uninstallation is completed, restart "Add or Remove Programs" and check whether MX Sheet has been removed from the application list.

- Windows® 98
- Windows® Me
- Windows NT® Workstation 4.0

4 SYSTEM CONFIGURATION USED IN THIS MANUAL

This manual explains system configuration as follows:

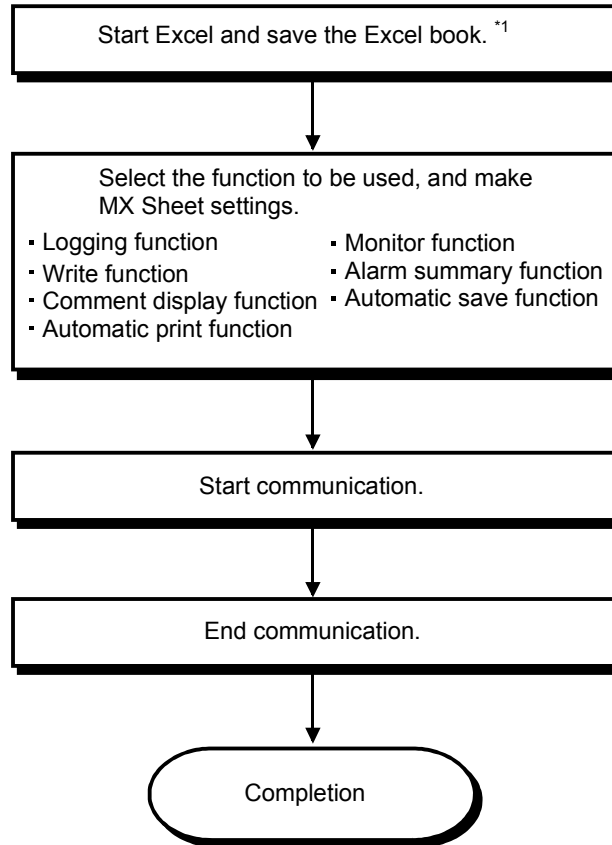


4

System Equipment		Description
Personal computer		Personal computer that satisfies the operating environment of MX Sheet. Refer to Chapter 2 for details.
Software	OS	Microsoft® Windows® XP Professional Operating System (English version)
	MX Sheet	MX Sheet Version 1
	MX Component	MX Component Version 3.01B
	Excel	Microsoft® Excel 2002 (English version)
PLC CPU		Q02HCPU
RS-232 cable		QC30R2 (Connect to COM1 on personal computer side.)
Printer		Printer compliant with the personal computer specifications.

5 MX Sheet OPERATION PROCEDURE

This chapter explains the MX Sheet operation procedure.



5

*1: Be sure to save the Excel book before making the MX Sheet settings. MX Sheet cannot be set unless the Excel book is saved.

REMARK

Refer to the Excel manual for Excel operation.

6 OPERATING MX Sheet

This chapter explains the following functions with examples.

Function	Reference Section
Logging function	Section 6.1
Monitor function	Section 6.2
Write function	Section 6.3
Automatic save function	Section 6.4
Automatic print function	Section 6.5
Create button function	Section 6.6

6.1 Logging

This section provides an example of creating an Excel sheet using the logging function.

(1) Creation example

Set the following Excel sheet as instructed in (2).

The screenshot shows an Excel spreadsheet titled "Microsoft Excel - MX Sheet.xls". The spreadsheet contains 10 rows of logging data from 2004/07/14. The data is organized as follows:

	A	B	C	D	E	F	G	H
1								
2		2004/07/14 Wed 20:41:07	42	50	0	0	0	
3		2004/07/14 Wed 20:41:12	47	55	0	0	0	
4		2004/07/14 Wed 20:41:17	52	60	0	0	0	
5		2004/07/14 Wed 20:41:22	57	65	0	0	0	
6		2004/07/14 Wed 20:41:27	62	70	0	0	0	
7		2004/07/14 Wed 20:41:32	67	75	0	0	0	
8		2004/07/14 Wed 20:41:37	72	80	0	0	0	
9		2004/07/14 Wed 20:41:42	77	85	0	0	0	
10		2004/07/14 Wed 20:41:47	83	91	0	0	0	
11		2004/07/14 Wed 20:41:52	88	96	0	0	0	
12								

Annotations in the image include:

- A bracket on the left side of rows 2-11, pointing to the first column of data.
- A bracket below the data rows, pointing to the time values in column B.
- A bracket below the data rows, pointing to the numerical values in columns C, D, E, F, and G.

Instructions below the spreadsheet:

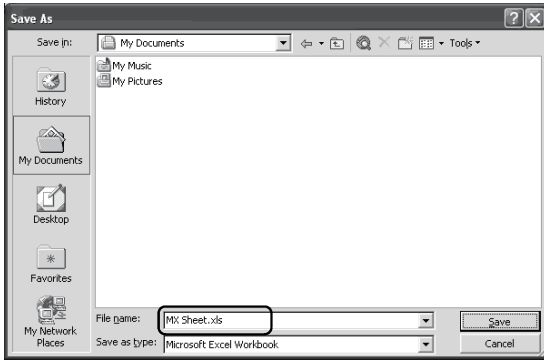
- Logging times are displayed.
- D0 to D4 contents are displayed in order from left to right.
- 10 logging data are displayed.
- The latest logging data is displayed on the last line.
- Scrolled up in order.

(2) Setting MX Sheet

This section explains the procedure of creating an Excel sheet for logging function.

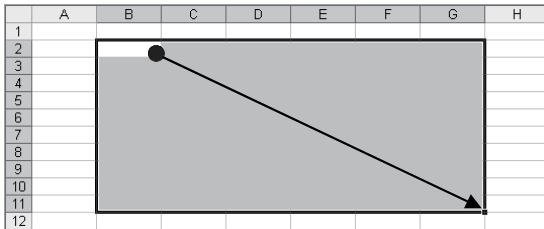
1) Saving the Excel book

Start Excel and save the Excel book.



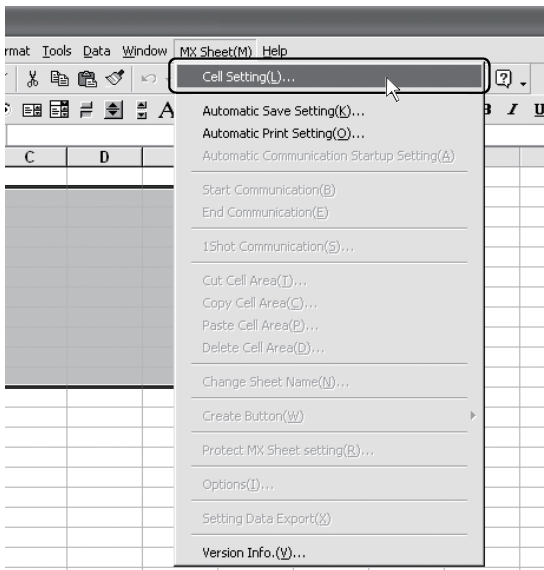
2) Specifying the cell area

Drag the cell (B2 to G11 in this example) on the left screen to specify the cell area in which logging data will be displayed.



3) Displaying the "Cell Setting" dialog box

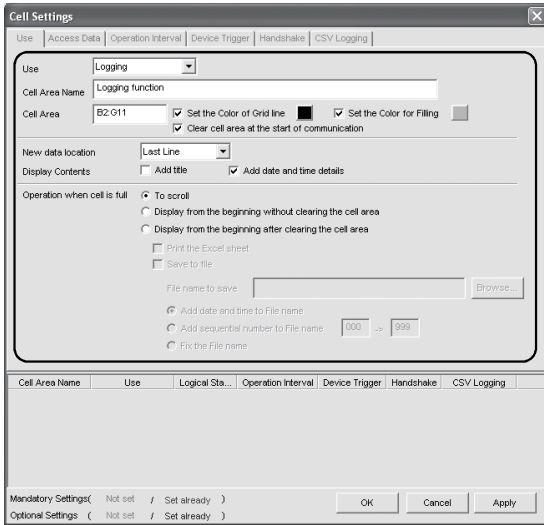
Choose [MX Sheet] → [Cell Setting] from the menu bar to display the "Cell Setting" dialog box.



(To the next page)



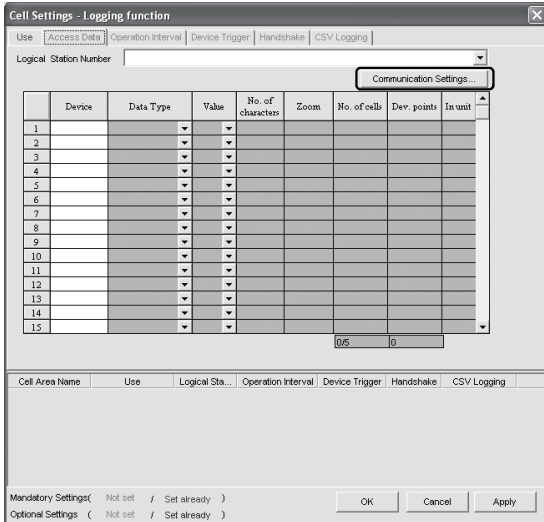
(From the previous page)



4) Setting the <<Use>> tab

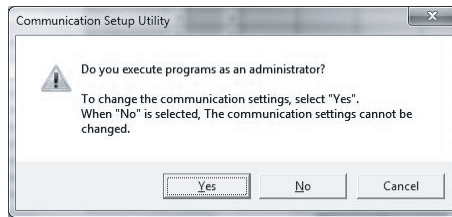
Set the setting items of the <<Use>> tab as follows:
After setting, click the <<Access Data>> tab.

- Use : Logging
- Cell Area Name : Logging function
- Cell Area : B2:G11
- New data location : Last Line
- Display Contents : Add date and time details
- Operation when cell is full : To scroll



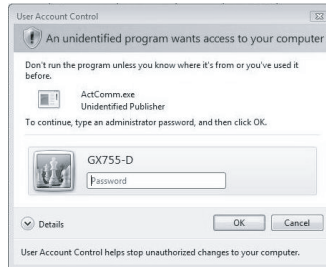
5) Setting the logical station number of the <<Access Data>> tab
Click **Communication Settings** to start the Communication Setup Utility for setting the logical station number.

When the following screen appears, click **Yes**.

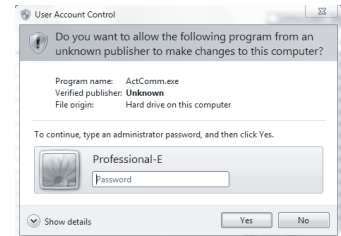


When logging on without administrator authority, the password input screen appears as follows

< Windows Vista® >



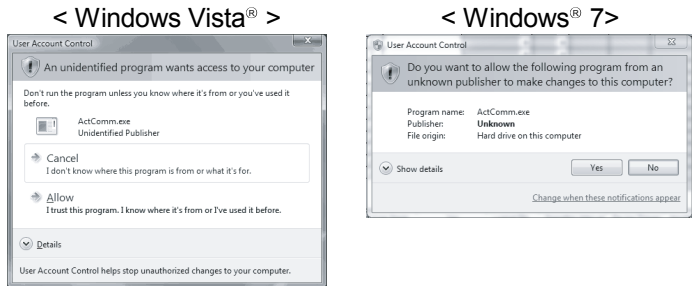
< Windows® 7 >



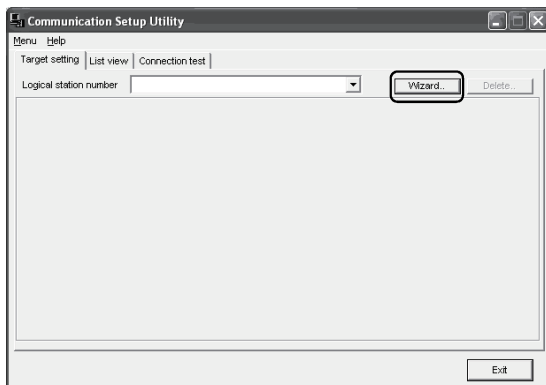
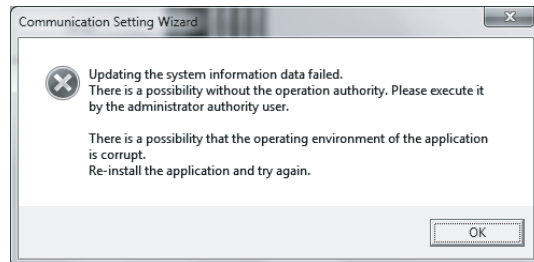
(To the next page)

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After inputting the password, click **Yes** or **OK**.
 The privilege escalation allowance screen on User Account Control appears as follows.



Clicking "Allow" or **Yes** executes the Communication Setup Utility with administrator authority.
 When executing without administrator authority, the Communication Setup data can be checked, however, when clicking finish button on the Communication Setting Wizard, the error occurs as follows.



6) Starting the Communication Setting Wizard
 After starting the Communication Setup Utility, click the <<Target Setting>> tab and click **Wizard**.

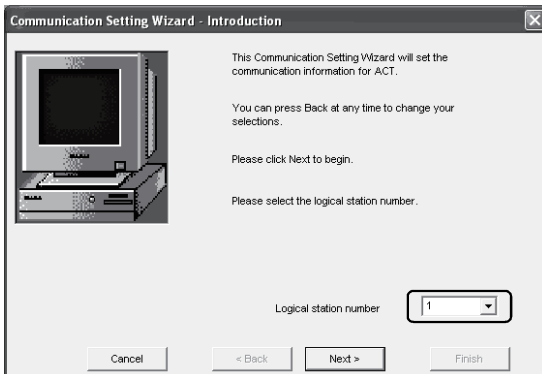
(To the next page)

TERM

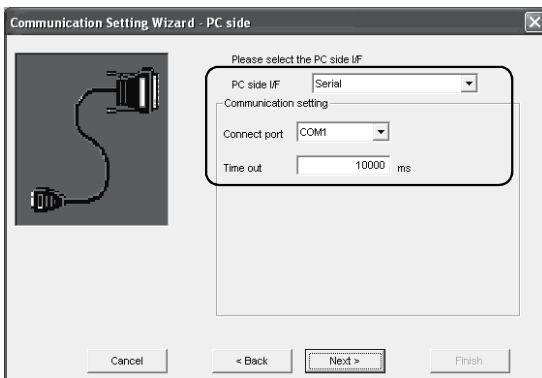
What is logical station?

A number assigned to the group of data that is integrated from the connection target information required for communication within the Communication Setup Utility.

(From the previous page)

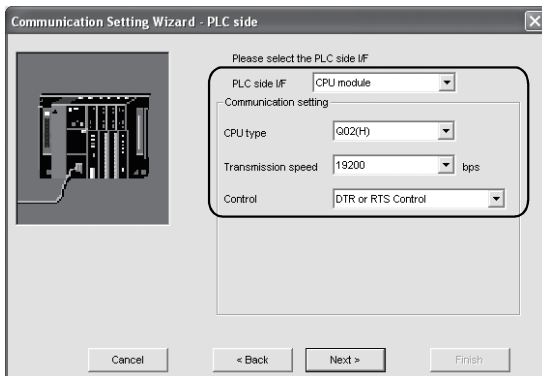


7) Setting the logical station number
Enter "1" in "Logical station number" and click **Next>**.



8) Setting the personal computer side interface
Make the following settings and click **Next>**.

PC side I/F : Serial
Connect port : COM1
Time out : 10000

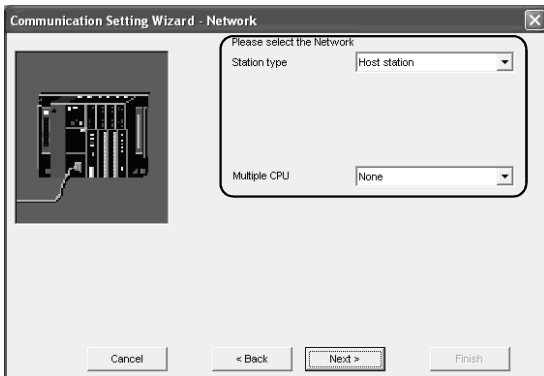


9) Setting the PLC side interface
Make the following settings and click **Next>**.

PLC side I/F : CPU module
CPU type : Q02(H)
Transmission speed : 19200
Control : DTR or RTS Control

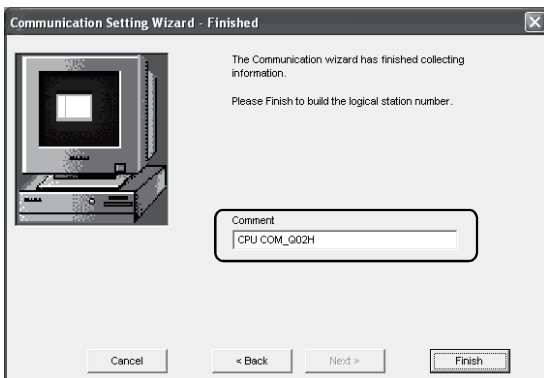
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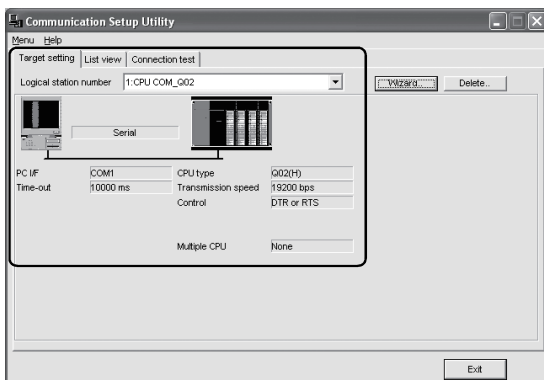


10) Selecting the communication path
Make the following settings and click **Next>**.

Station type : Host station
Multiple CPU : None



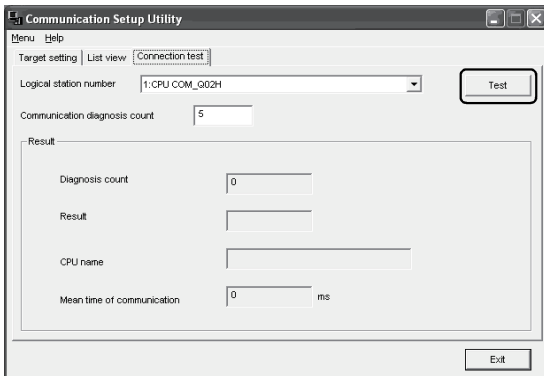
11) Enter any word (CPU COM_Q02H in this example) and click **Finish**.



12) Check whether the logical station number settings displayed on the <<Target setting>> tab of the Communication Setup Utility are correct or not. After checking, click the <<Connection test>> tab.

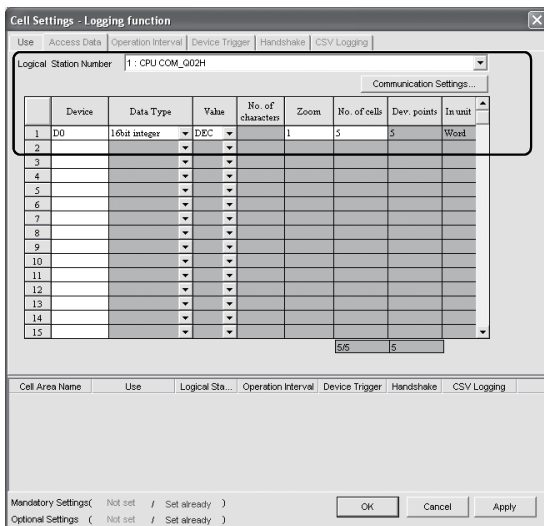
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13) Connection test

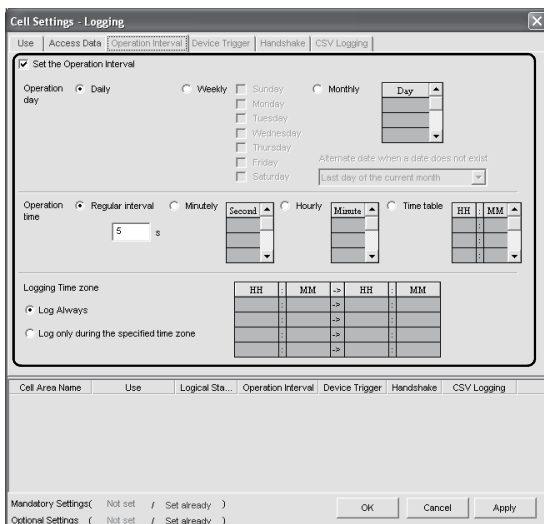
Click **Test** to make sure that the PLC and personal computer are normally communicating. After confirmation, click **Exit** to close the Communication Setup Utility. An error message appears if they are not communicating normally. Check the error definition and remove the error.



14) Setting the <<Access Data>> tab

Set the device of which data to be logged. Make the following settings. After setting, click the <<Operation time>> tab.

- Logical Station Number : 1
- Device : D0
- Data type : 16bit integer
- Value : DEC
- Zoom : 1
- No. of cells : 5

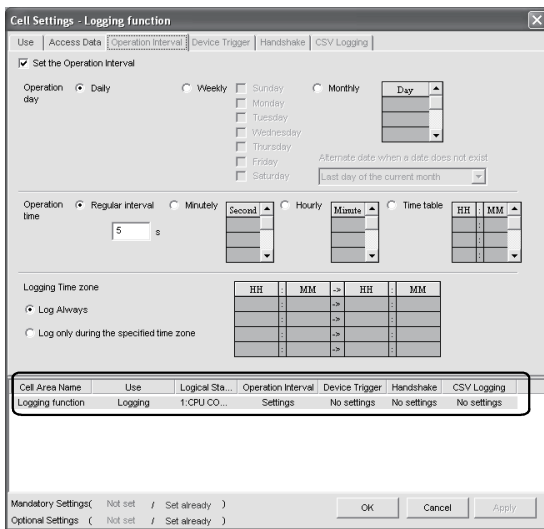


15) Setting the <<Operation Interval>> tab

Set the logging operation interval. Make the following settings. Set the Operation Interval : Check
 Operation day : Daily
 Operation time : Regular interval (5 seconds)
 Logging Time Zone : Log Always

(To the next page)

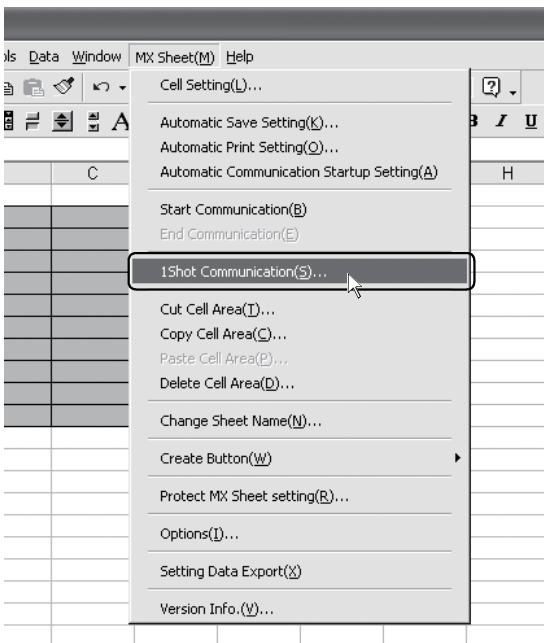
(From the previous page)



16) Applying the settings

Click **Apply** to enable the settings of the "Cell Setting" dialog box.

After clicking **Apply**, check that the cell area has been registered as shown on the left screen, and click **OK**.

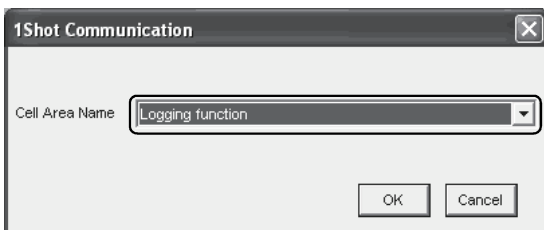


17) Checking the settings

Check whether the settings in steps 1) to 16) are correct or not by using the 1 shot communication function of MX Sheet.

Make 1 shot communication in the following procedure.

1. Choose [MX Sheet] → [1 Shot Communication] from the menu bar.
2. As the "1 Shot Communication" dialog box appears, select the cell area name set in step 4) (logging function in this example) as the "Cell Area Name".
3. Click **OK** to start 1 shot communication.



(To the next page)

TERM

What is 1 shot communication?

This function executes the function set to the selected cell area at any timing.

(From the previous page)



<Before adjustment>

	A	B	C	D	E	F	G	H
1								
2		#####	37	18	0	0	0	
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								

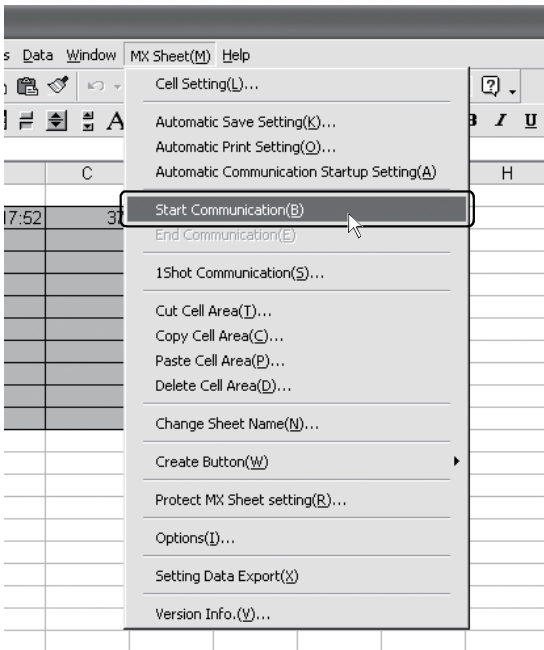
18) Adjusting the display

After 1 shot communication, "#####" is displayed in the date/time cell as shown on the left screen.

Adjust the cell width of Column B so that the date and time can be displayed.

<After adjustment>

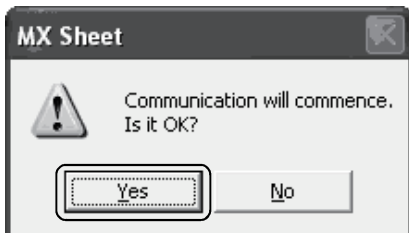
	A	B	C	D	E	F	G	H
1								
2		2004/07/14 Wed 16:17:52	37	18	0	0	0	
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								



19) Starting communication

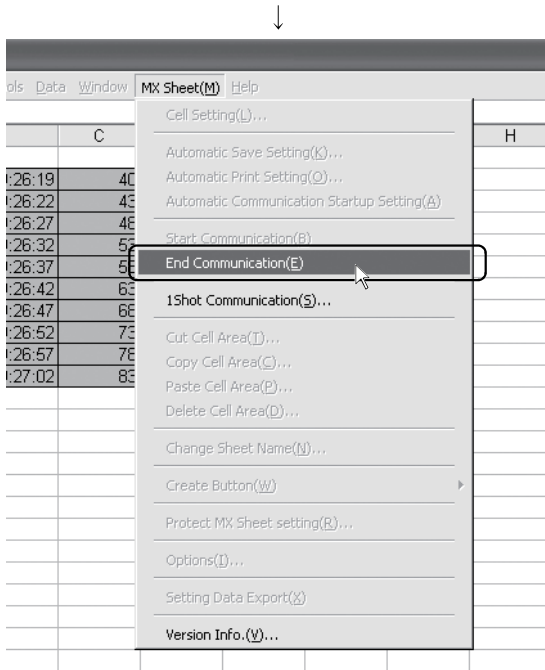
Choose [MX Sheet] → [Start Communication] from the menu bar to start logging.

As the confirmation dialog box appears, click **Yes**.



(To the next page)

(From the previous page)



20) Ending communication

Choose [MX Sheet] → [End Communication] from the menu bar to end logging.

Complete!

The Excel sheet for logging function is now completed.

6.2 Monitor

This section provides an example of creating an Excel sheet using the monitor function.

(1) Creation example

Set the following Excel sheet as instructed in (2).

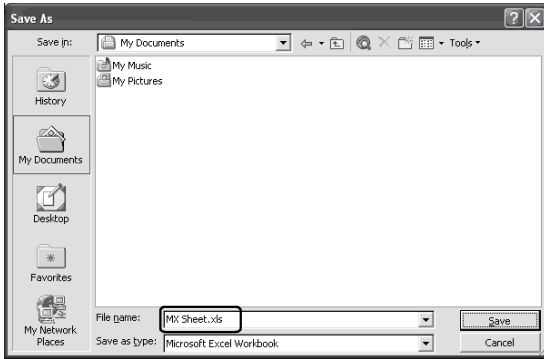
The screenshot shows a Microsoft Excel window titled "Microsoft Excel - MX Sheet". The menu bar includes File, Edit, View, Insert, Format, Tools, Data, Window, MX Sheet(M), and Help. The toolbar contains various icons for file operations and data manipulation. The active sheet is named "L20". The data table is as follows:

	A	B	C	D	E	F	G	H
1								
2		16	8	0	0	0		
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								

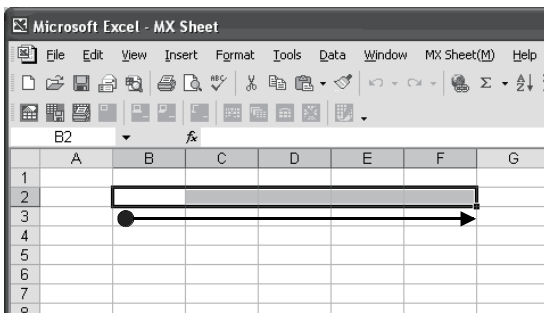
Access data D0 to D4 are displayed in order from left to right .

(2) Setting MX Sheet

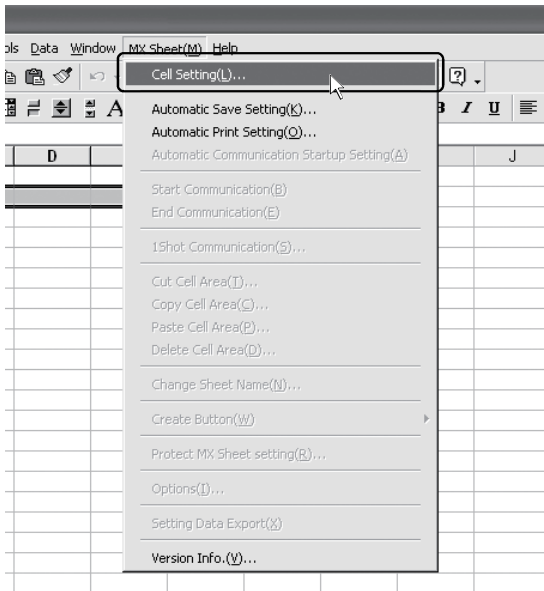
This section explains the procedure of creating an Excel sheet for monitor function.



- 1) Saving the Excel book
Start Excel and save the Excel book.



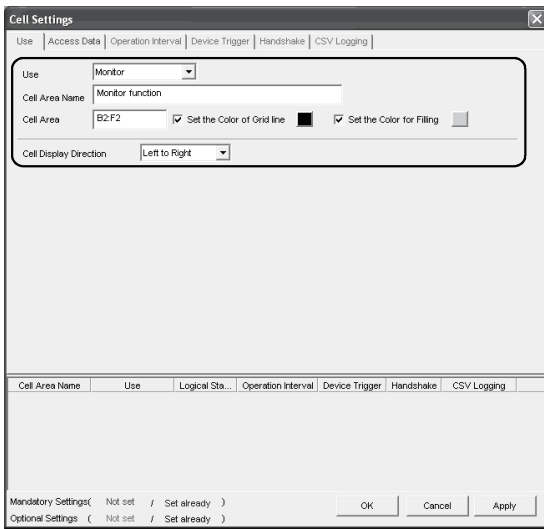
- 2) Specifying the cell area
Drag the cell (B2 to F2 in this example) on the left screen to specify the cell area in which monitor data will be displayed.



- 3) Displaying the "Cell Setting" dialog box
Choose [MX Sheet] → [Cell Setting] from the menu bar to display the "Cell Setting" dialog box.

(To the next page)

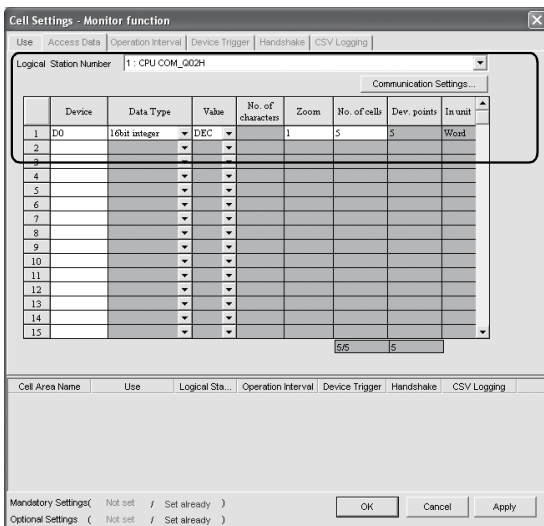
(From the previous page)



4) Setting the <<Use>> tab

Set the setting items of the <<Use>> tab as follows:
After setting, click the <<Access Data>> tab.

Use : Monitor
Cell Area Name : Monitor function
Cell Area : B2:F2
Cell Display Direction : Left to Right

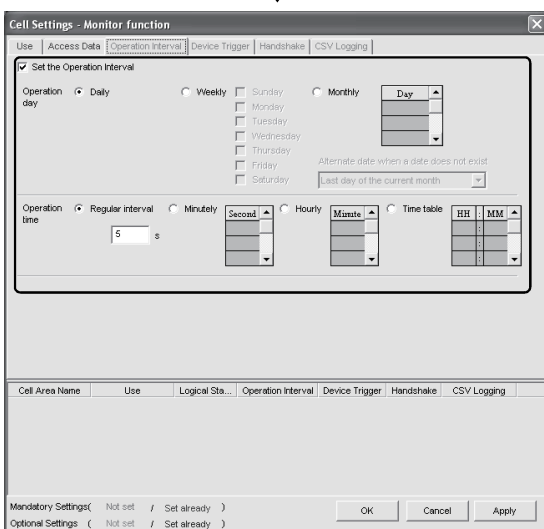


5) Setting the <<Access Data>> tab

Set the device of which data to be monitored.
Make the following settings.
After setting, click the <<Operation Interval>> tab.

Logical Station Number*1 : 1
Device : D0
Data type : 16bit integer
Value : DEC
Zoom : 1
No. of cells : 5

*1: Refer to Section 6.1 for the logical station number setting method.



6) Setting the <<Operation Interval>> tab

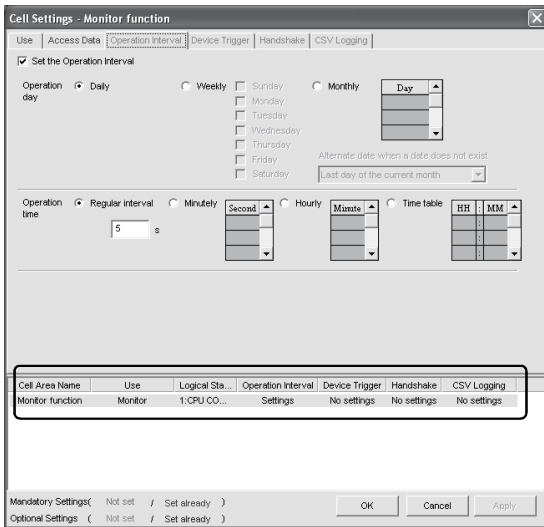
Set the monitor operation interval.
Make the following settings.

Set the Operation Interval : Check
Operation day : Daily
Operation time : Regular interval (5 seconds)



(To the next page)

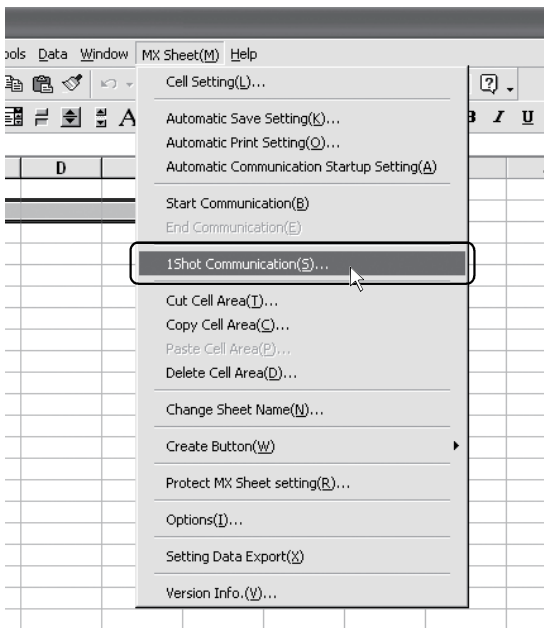
(From the previous page)



7) Applying the settings

Click **Apply** to enable the settings of the "Cell Setting" dialog box.

After clicking **Apply**, check that the cell area has been registered as shown on the left screen, and click **OK**.

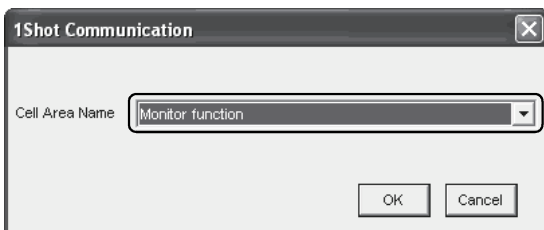


8) Checking the settings

Check whether the settings in steps 1) to 7) are correct or not by using the 1 shot communication function of MX Sheet.

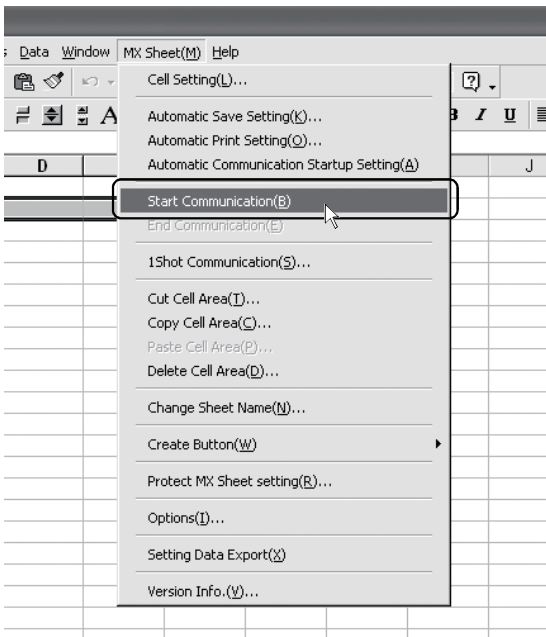
Make 1 shot communication in the following procedure.

1. Choose [MX Sheet] → [1 Shot Communication] from the menu bar.
2. As the "1 Shot Communication" dialog box appears, select the cell area name set in step 4) (monitor function in this example) as the "Cell Area Name".
3. Click **OK** to start 1 shot communication.



(To the next page)

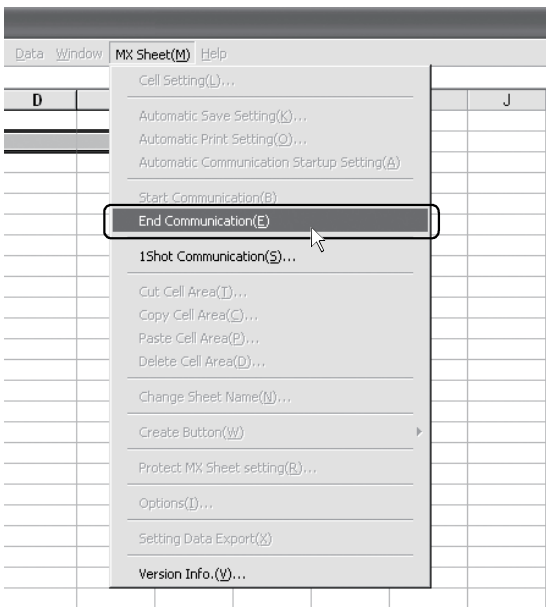
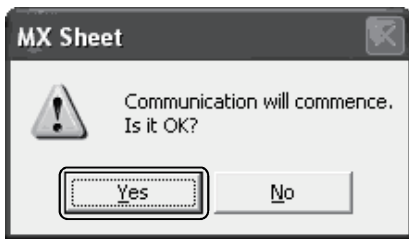
(From the previous page)



9) Starting communication

Choose [MX Sheet] → [Start Communication] from the menu bar to start monitor.

As the confirmation dialog box appears, click **Yes**.



10) Ending communication

Choose [MX Sheet] → [End Communication] from the menu bar to exit monitor.

After ending the communication, delete the monitor data.

Complete!

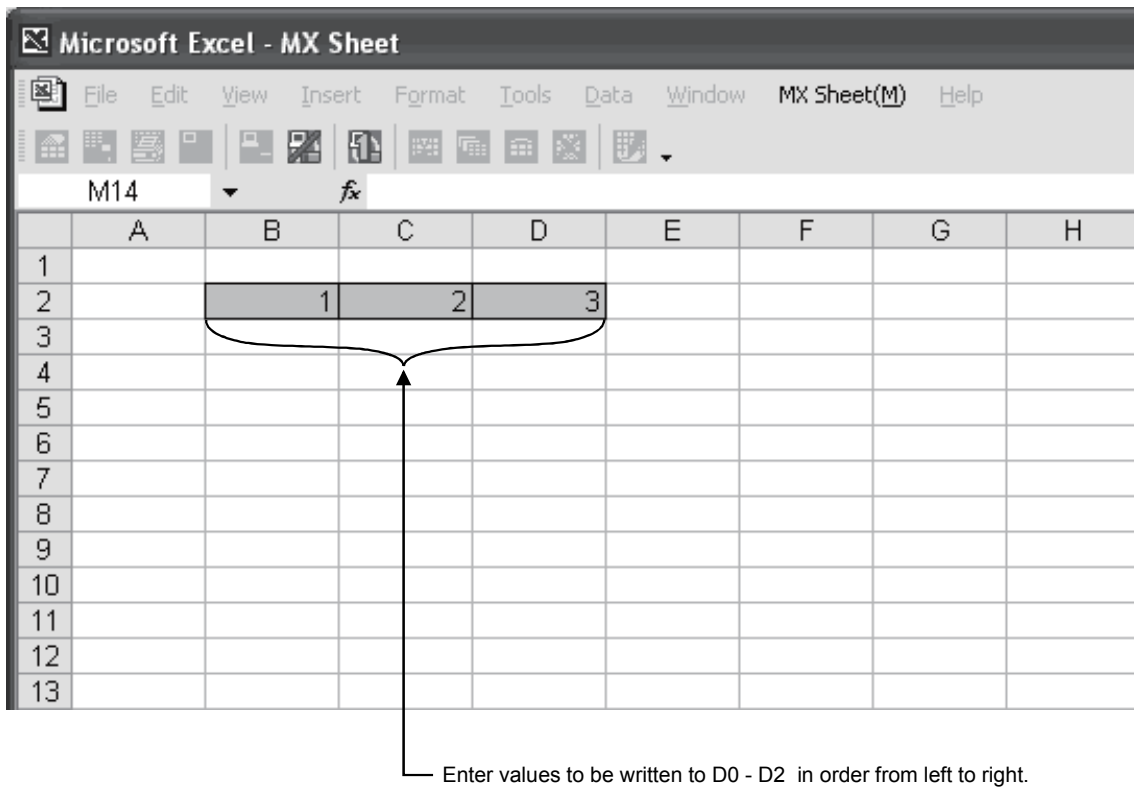
The Excel sheet for monitor function is now completed.

6.3 Data Write

This section provides an example of creating an Excel sheet using the write function.

(1) Creation example

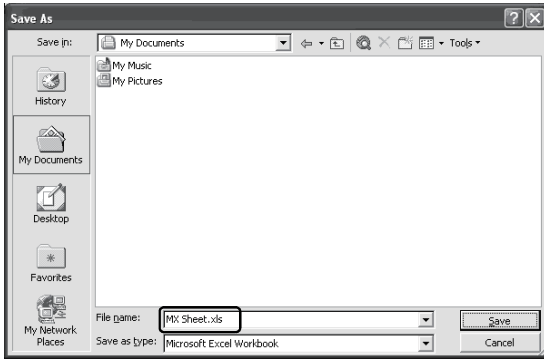
Set the following Excel sheet as instructed in (2).



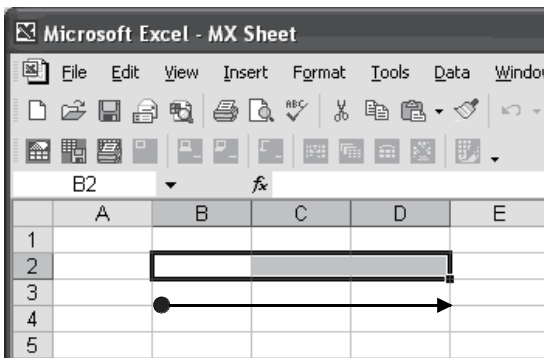
(2) Setting MX Sheet

This section explains the procedure of creating an Excel sheet for monitor function.

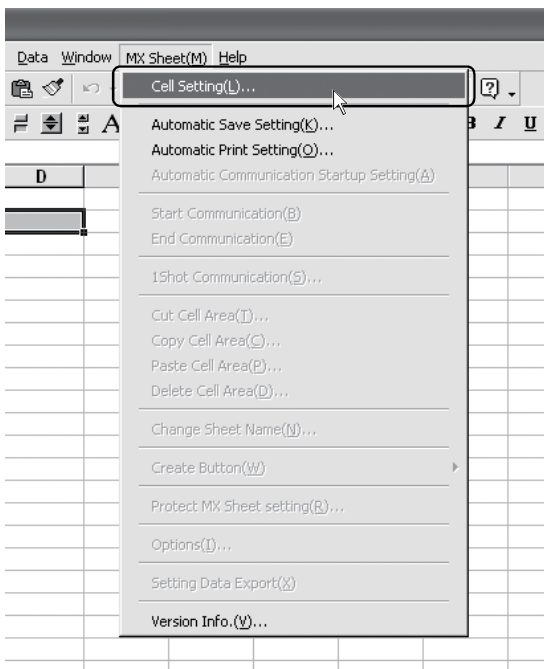
- 1) Saving the Excel book
Start Excel and save the Excel book.



- 2) Specifying the cell area
Drag the cell (B2 to D2 in this example) on the left screen to specify the cell area in which written data will be entered.

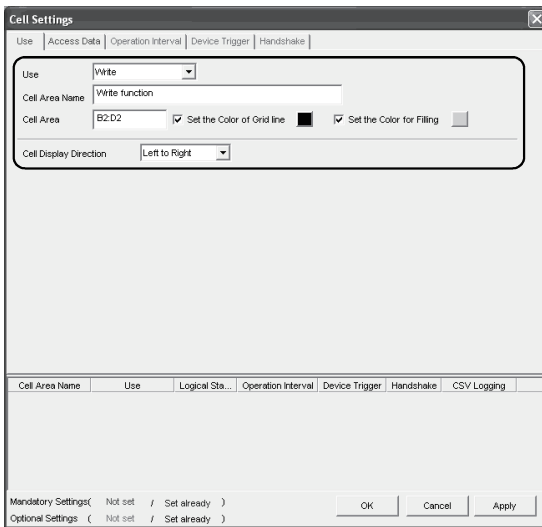


- 3) Displaying the "Cell Setting" dialog box
Choose [MX Sheet] → [Cell Setting] from the menu bar to display the "Cell Setting" dialog box.



(To the next page)

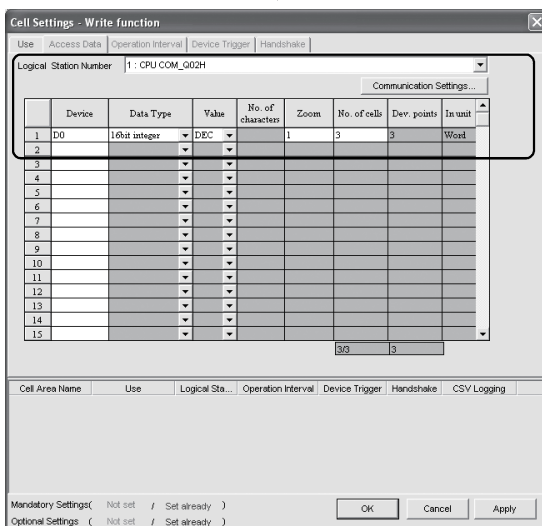
(From the previous page)



4) Setting the <<Use>> tab

Set the setting items of the <<Use>> tab as follows:
After setting, click the <<Access Data>> tab.

Use : Write
Cell Area Name : Write function
Cell Area : B2:D2
Cell Display Direction : Left to Right

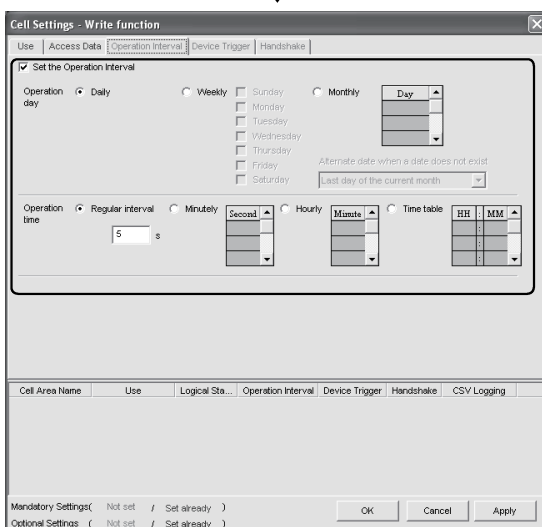


5) Setting the <<Access Data>> tab

Set the device where data will be written.
Make the following settings.
After setting, click the <<Operation Interval>> tab.

Logical Station Number^{*1} : 1
Device : D0
Data type : 16bit integer
Value : DEC
Zoom : 1
No. of cells : 3

*1: Refer to Section 6.1 for the logical station number setting method.



6) Setting the <<Operation Interval>> tab

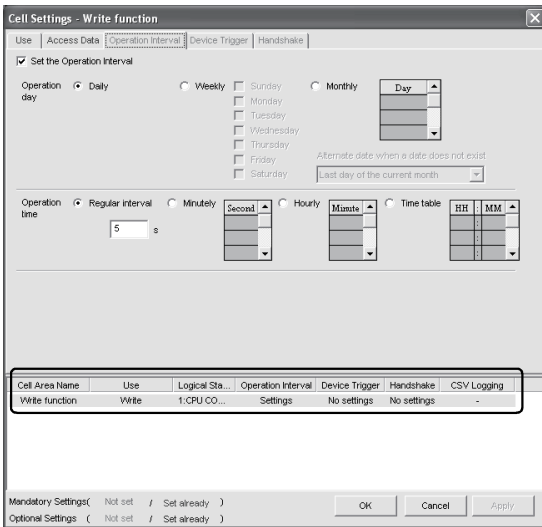
Set the write operation interval.
Make the following settings.

Set the Operation Interval : Check
Operation day : Daily
Operation time : Regular interval (5 seconds)



(To the next page)

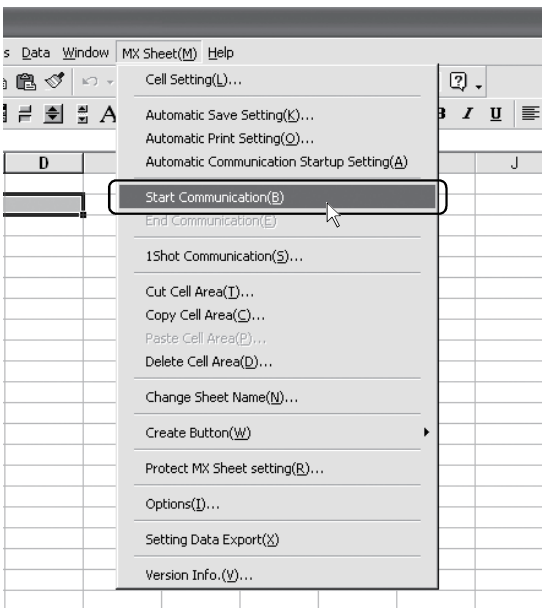
(From the previous page)



7) Applying the settings

Click **Apply** to enable the settings of the "Cell Setting" dialog box.

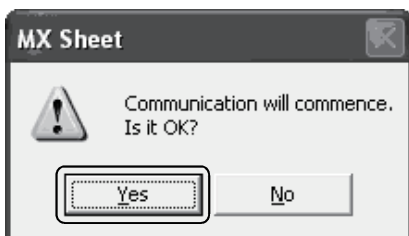
After clicking **Apply**, check that the cell area has been registered as shown on the left screen, and click **OK**.



8) Starting communication

Choose [MX Sheet] → [Start Communication] from the menu bar to start writing.

As the confirmation dialog box appears, click **Yes**.



(To the next page)

(From the previous page)

↓

	A	B	C	D	E
1					
2		1	2	3	
3					
4					
5					

9) Entering the written values

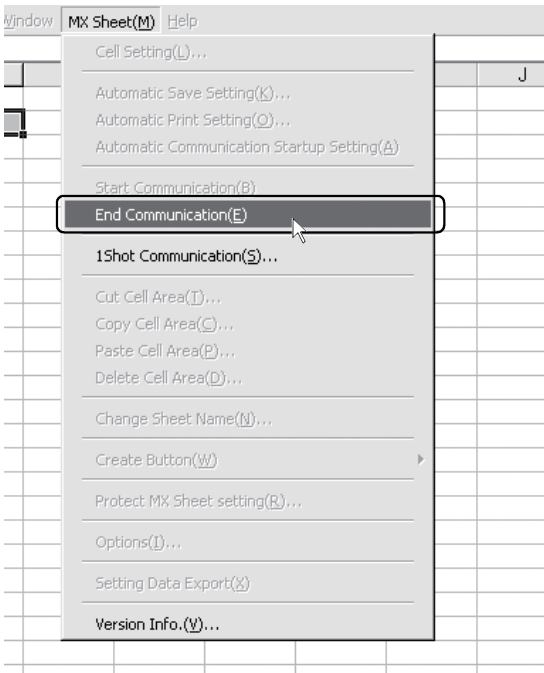
Enter the values to be written to devices into the cell area specified in step 2).

Cell B2 : 1 (value to be written to D0)

Cell C2 : 2 (value to be written to D1)

Cell D2 : 3 (value to be written to D2)

Make sure that the data on Excel are written to the PLC devices.



10) Ending communication

Choose [MX Sheet] → [End Communication] from the menu bar to end writing.

↓

Complete!

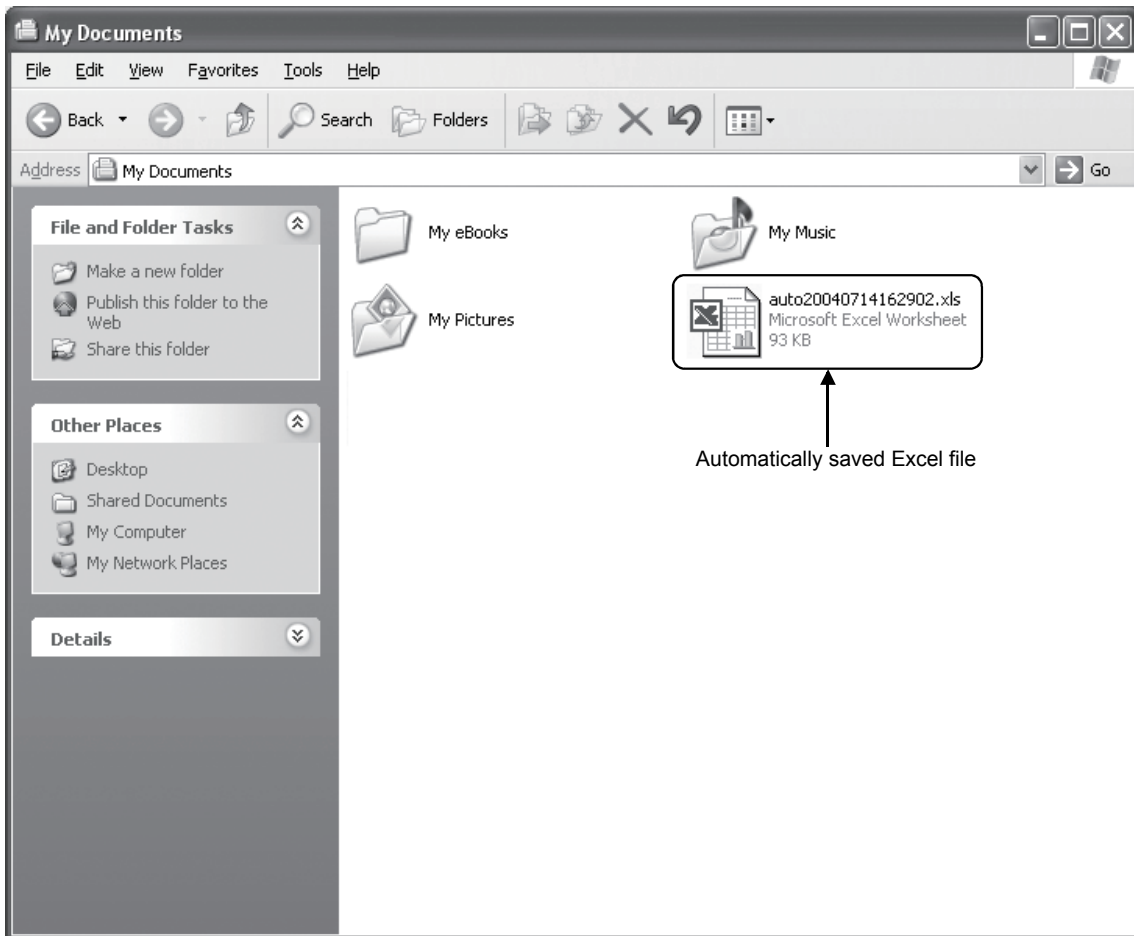
The Excel sheet for write function is now completed.

6.4 Automatic Save

This section explains a setting procedure for automatically saving the Excel book during MX Sheet operation.

(1) Setting example

- Automatic save condition : Saved when the device (Y0) turns on.
- Automatically saved file name : Date and time are added to the file auto.xls.

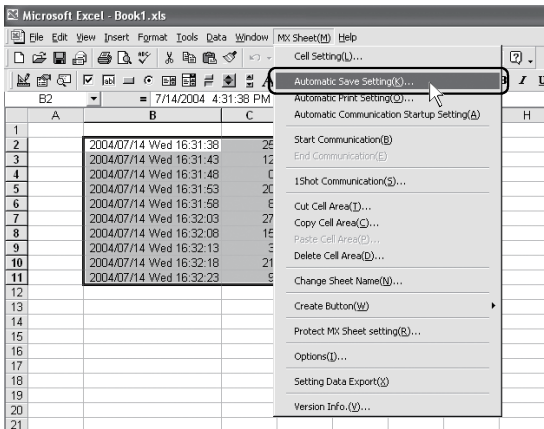


(2) Setting automatic save

This section explains an Excel book automatic save setting procedure.

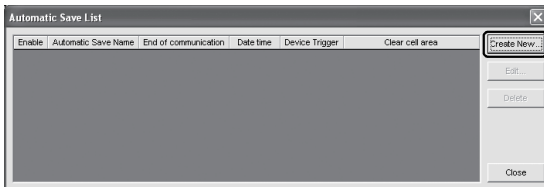
1) Selecting automatic save setting

Start Excel and choose [MX Sheet] → [Automatic Save Setting] from the menu bar to display the "Automatic Save" dialog box.



2) Creating new automatic save conditions

Create new automatic save conditions. Click **Create New**.



3) Setting the automatic save conditions

Set the automatic save conditions as follows:

- Automatic Save Name : Line 1 (Lot completion)
- Set the Device trigger : Check
- Logical Station Number *1 : 1
- Bit device : Check
- Device : Y0
- Condition : When ON
- Add date and time to File name : Check

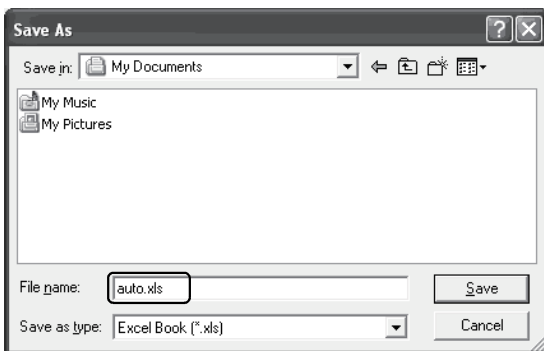
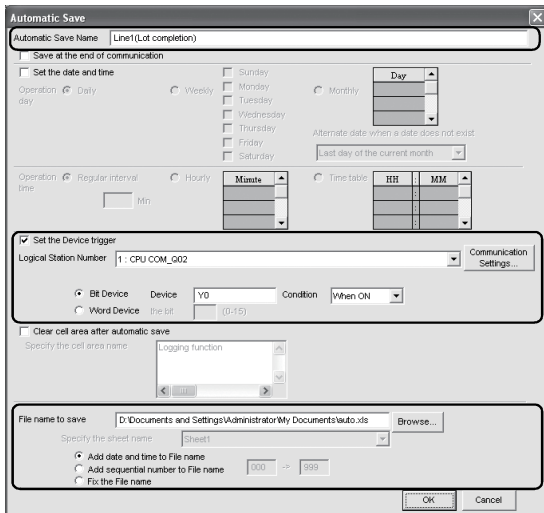
*1: Refer to Section 6.1 for the logical station number setting method.

Set the file name to be saved automatically. Clicking **Browse...** displays the "Save As" dialog box. Specify any save place and file name.

- File name : auto.xls
- Save as type : Excel book (*.xls)

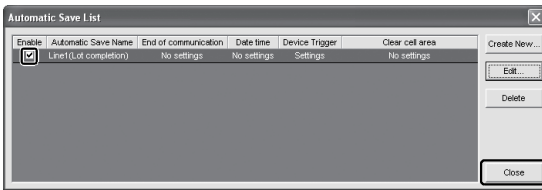
After specifying the file name, click **Save**.

After making the above settings, click **OK**.



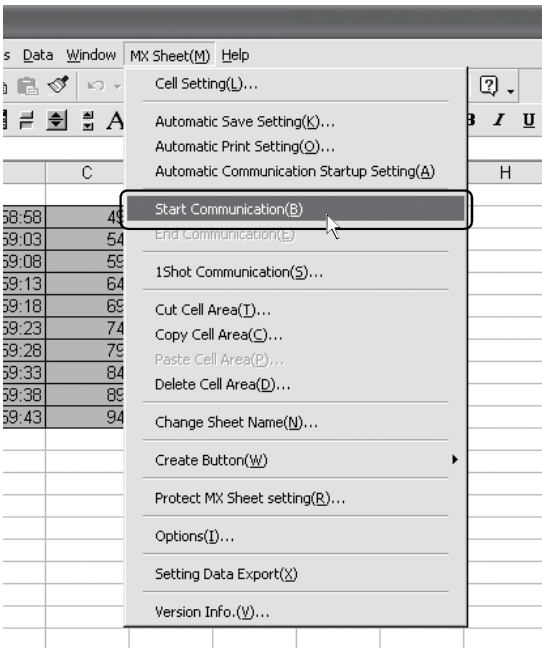
(To the next page)

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4) Specifying the automatic save conditions

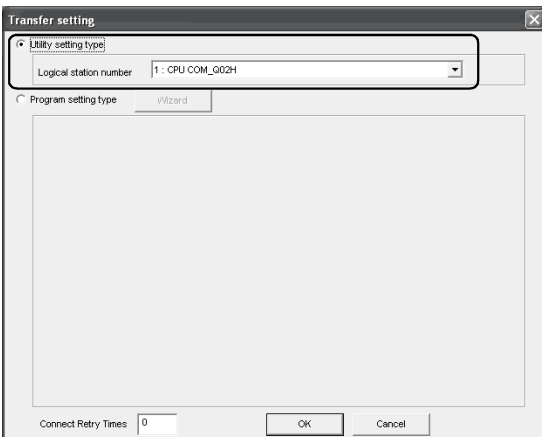
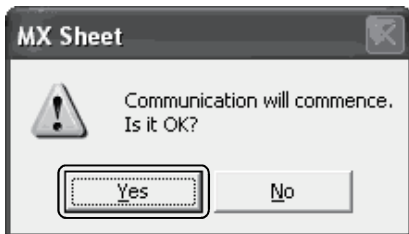
After making sure that the automatic save name has been added to the list and the Enable filed has a check mark, click **Close** to close the Automatic save list.



5) Starting communication

Choose [MX Sheet] → [Start Communication] from the menu bar to start communication.

As the confirmation dialog box appears, click **Yes**.



6) Starting the PLC Monitor Utility

From the [Start] menu, choose [All Programs] → [MELSOFT Application] → [MX Component] → [PLC Monitor Utility] to start the PLC Monitor Utility.

As the "Transfer setting" dialog box appears, make the following settings.

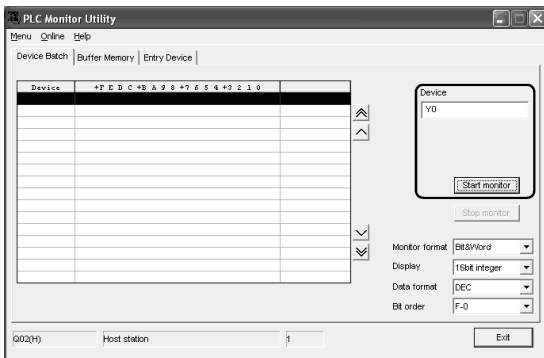
Utility setting type : Check

Logical station number : 1

After making the above settings, click **OK**.

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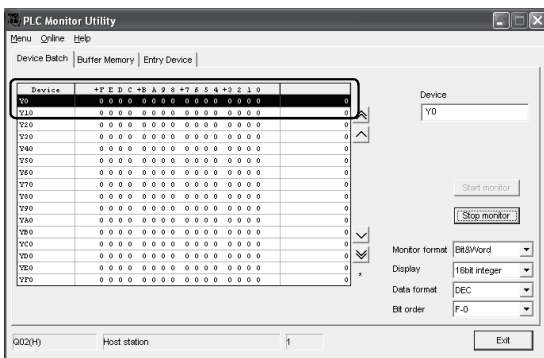


7) Specifying the monitor device

Choose the <<Device Batch>> tab of the PLC Monitor Utility and make the following setting.

Device : Y0

After making the above settings, click **Start monitor**.



8) Writing to device

Change the Y0 device status.

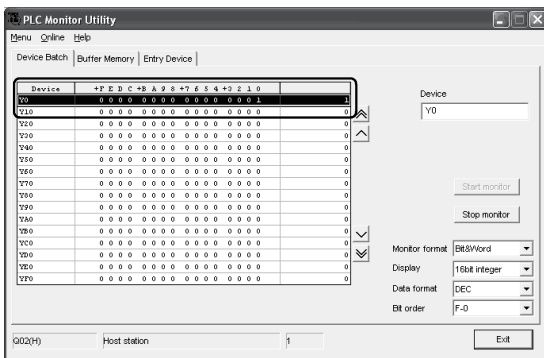
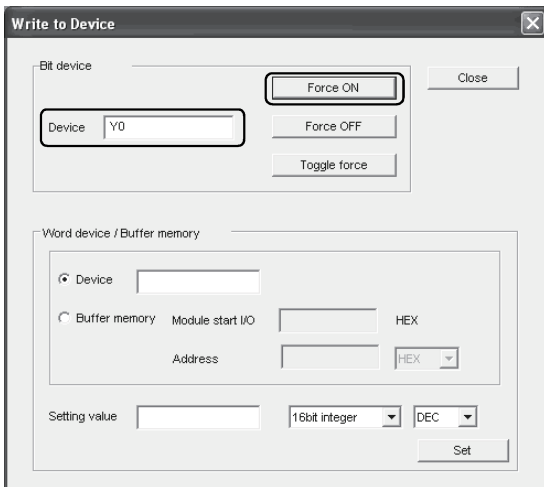
Double-click the monitor display area of the <<Device Batch>> tab.

The "Write to Device" dialog box appears.

Forcibly turn on Y0 in the following procedure.

1. Type "Y0" in "Device" in "Bit Device".
2. Click **Force ON**.

After making the above settings, click **Close**.



9) Checking the device status

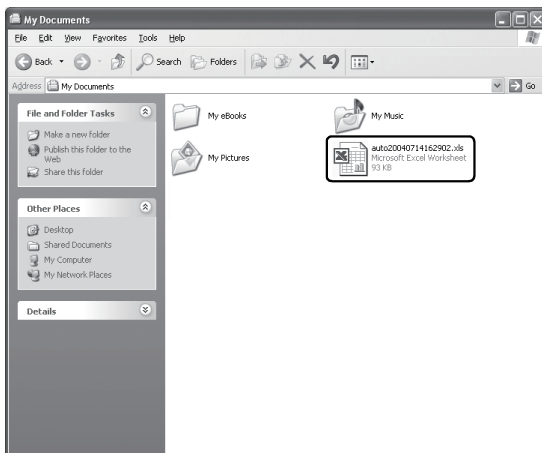
The Y0 device status has been changed as set in step 8).

Check whether it has been changed or not.

After checking, click **Stop monitor** and then **Exit**.

(To the next page)

(From the previous page)



Setting complete!

10) Checking the saved file

The operation in step 8) activates the automatic save setting function and saves the Excel book automatically. Start Explorer and check whether the file specified in step 3) has been saved correctly.

After checking the file, choose [MX Sheet] → [End Communication] from the menu bar to end communication.

The automatic save setting is now completed.

6.5 Automatic Print

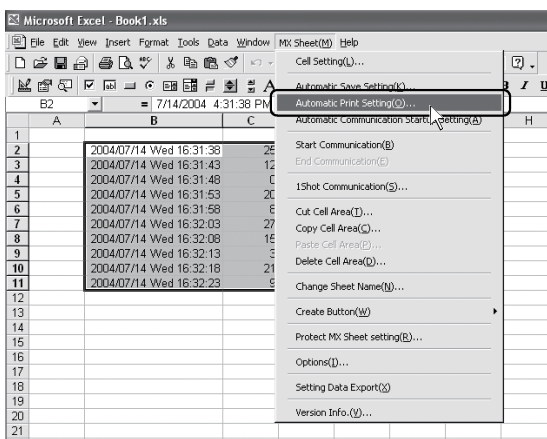
This section explains a setting procedure for automatically printing the whole Excel book or specified Excel sheets during MX Sheet operation.

(1) Setting example

- Automatic print condition : Printed at 17:00 every day.
- Print area : Sheet 1 and Sheet 3 are printed.

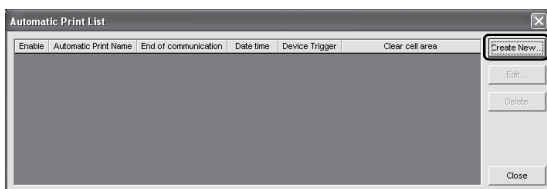
(2) Setting automatic print

This section explains an Excel sheet automatic print setting procedure.



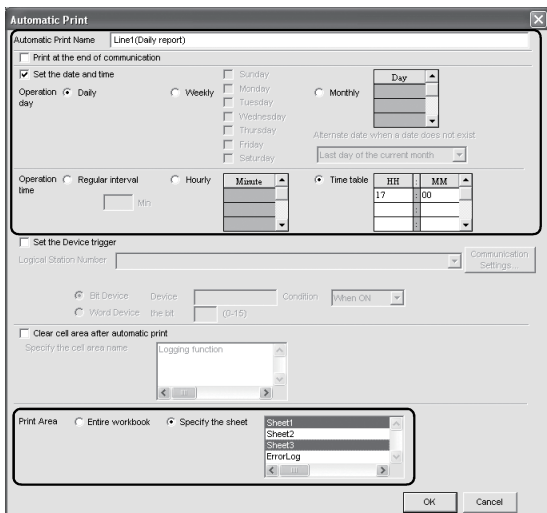
1) Selecting automatic print setting

Start Excel and choose [MX Sheet] → [Automatic Print Setting] on the menu bar to display the "Automatic Print" dialog box.



2) Creating new automatic print conditions

Create new automatic print conditions. Click **Create New**.



3) Setting the automatic print conditions

Set the automatic print conditions. Set as indicated below.

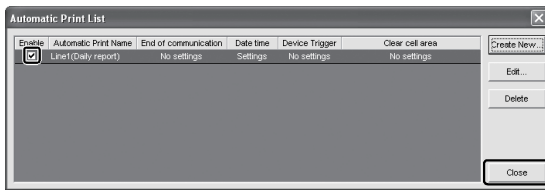
- Automatic Print Name : Line 1 (Daily report)
- Set the date and time : Check
- Operation day : Daily
- Operation time : Time table (17:00)
- Print Area : Specify the sheet (Sheet 1 and Sheet 3) *1

After making the above setting, click **OK**.

*1: Multiple sheets can be specified. Specify the corresponding sheet only.

(To the next page)

(From the previous page)



4) Specifying the automatic print conditions

After making sure that the automatic print name has been added to the list and the Enable filed has a check mark, click **Close** to close the Automatic print list.

Setting complete!

POINT

If multiple printers are set within the personal computer, the default printer (set within [My Computer] → [Printers]) is used to print the Excel sheet, when "Automatic Print" setting is selected.

6.6 Using the Button

This section explains a convenient communication starting method by Create Button.

(1) Setting example

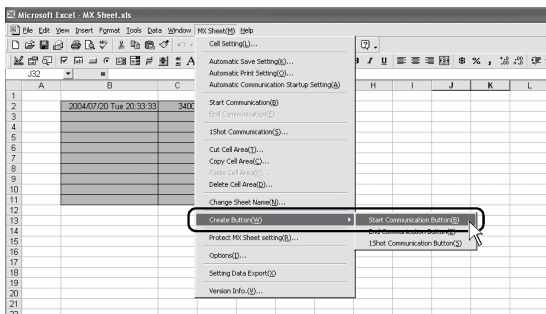
Button type*1 : Start Communication button

MX Sheet setting condition : Logging setting (Refer to Section 6.1)

*1: The End Communication or 1 Shot Communication button is also available.

(2) Creating the button and starting communication

The following describes a procedure from button creation to a communication start using the button.



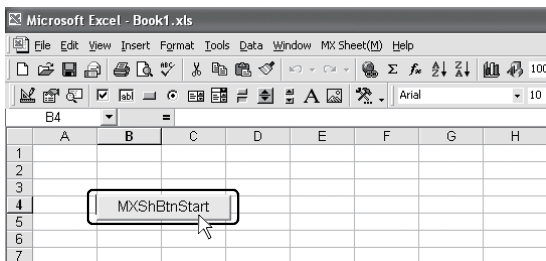
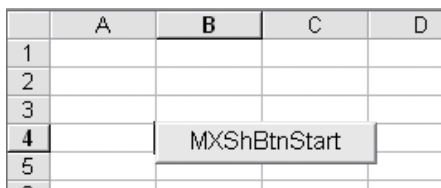
1) Choosing Create Button

Start Excel and specify the cell where the button will be placed.

Choose [MX Sheet] - [Create Button] - [Start Communication Button] on the menu bar.

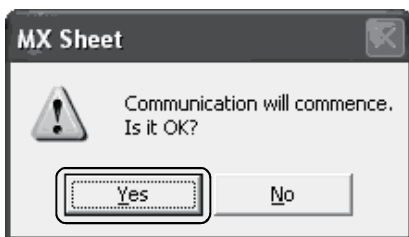
The Start Communication Button is placed in the specified cell position. *2

*2: The display characters and character font of the created button can be changed. Refer to the MX Sheet Version 1 Operating Manual for details.



2) Starting communication

Click the Start Communication Button created in Step 1).



Complete!

APPENDICES

Appendix 1 Useful Functions of MX Sheet

In addition to the functions explained in this manual (Chapter 6), MX Sheet has useful functions. This section provides the outlines and brief explanations of the functions. For more details, refer to the MX Sheet Version 1 Operating Manual.

Appendix 1.1 Alarm summary

The alarm summary function converts the ON/OFF information into the corresponding alarm comment character strings and accumulates them on an Excel sheet as an alarm history.

The followings are available by specifying in advance when the alarm history reaches the last line.

- Scrolling
- Printing Excel sheet
- Saving Excel book

The line operation ratio and other conditions can be checked easily by accumulating the alarm data history.

Generation	2002/07/31 Wed 16:57:30	Material storange	Minor failure
Generation	2002/07/31 Wed 16:57:30	Material storange	Minor failure
Restoration	2002/07/31 Wed 16:59:35	Material storange	Minor failure

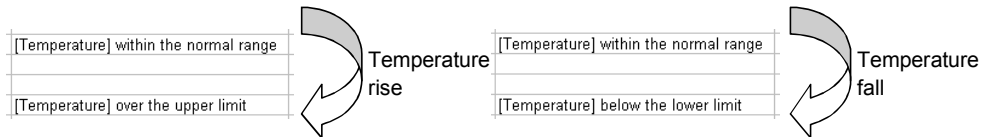


Alarm data are accumulated as bit devices turn on/off.

Appendix 1.2 Comment display

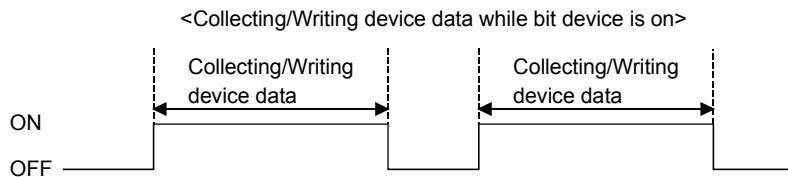
The comment display function converts a bit device value or word device value into the corresponding comment character strings and displays them on an Excel sheet. (A comment is displayed according to the change of device value.)

In the following example, the upper and lower limit values are set for a device so that the corresponding warning message will appear when the device value falls outside the range.



Appendix 1.3 Device trigger

The device trigger function sets the device condition for device data collection/write, and collects or writes the device data when the set device condition holds.



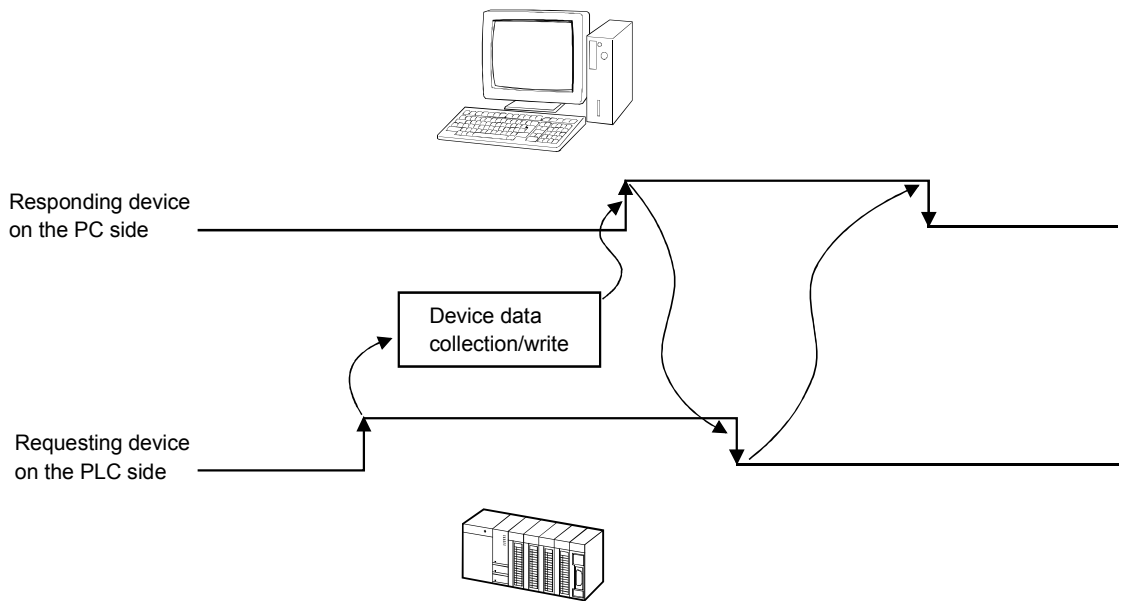
- | | |
|-------------------|------------------|
| Target functions | |
| • Logging | • Monitor |
| • Write | • Alarm summary |
| • Comment display | • Automatic save |
| • Automatic print | |

Appendix 1.4 Handshake

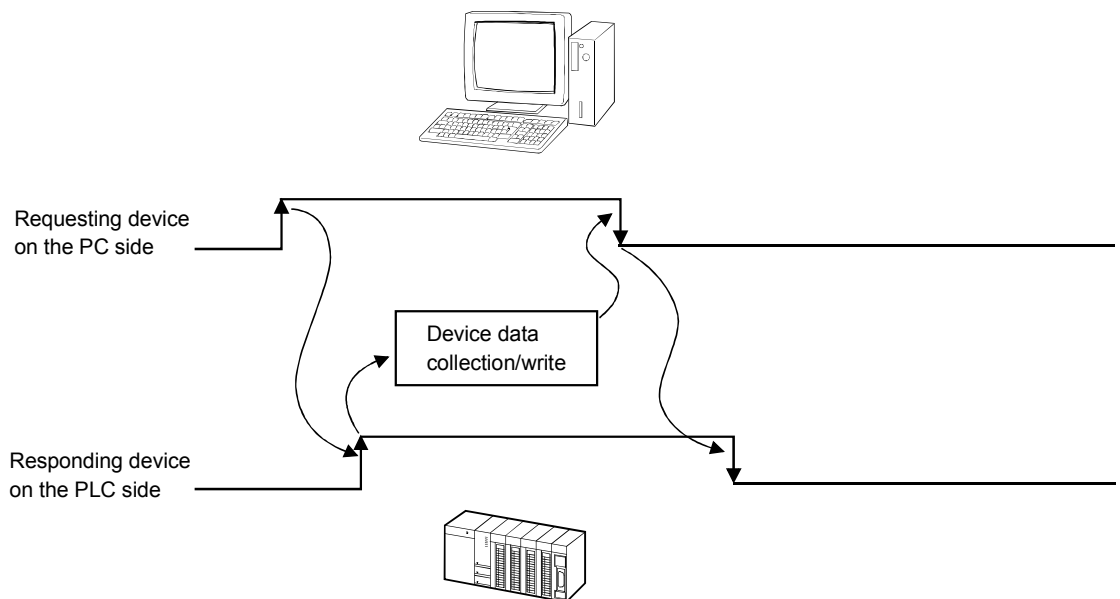
Setting a handshake between the PLC and personal computer ensures the device data collection/write.

The handshake function determines whether to send data or not, based on the send request and receive response signals exchanged between the personal computer and PLC, before data updating.

When handshake begins with PLC side request

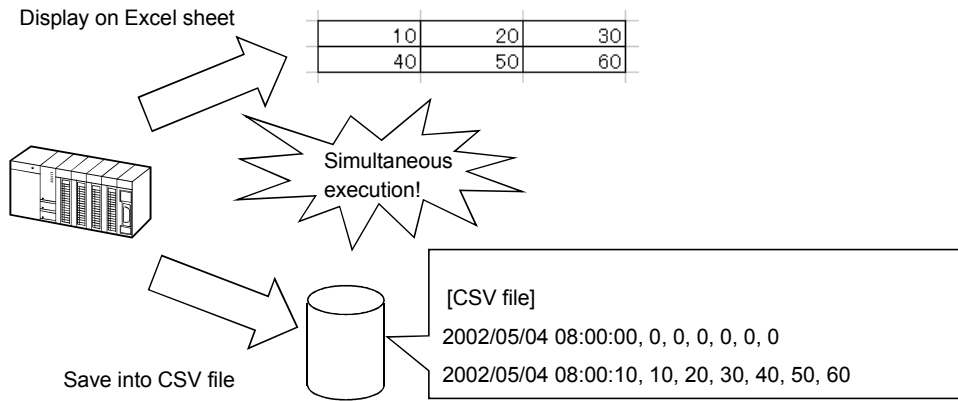


When handshake begins with PC side request



Appendix 1.5 CSV logging

The CSV logging function simultaneously displays device data on an Excel sheet using the logging or monitor function, and saves collected data as a CSV file. Using a single CSV file enables long-term data collection file.



Appendix 1.6 Automatic Communication Startup Setting

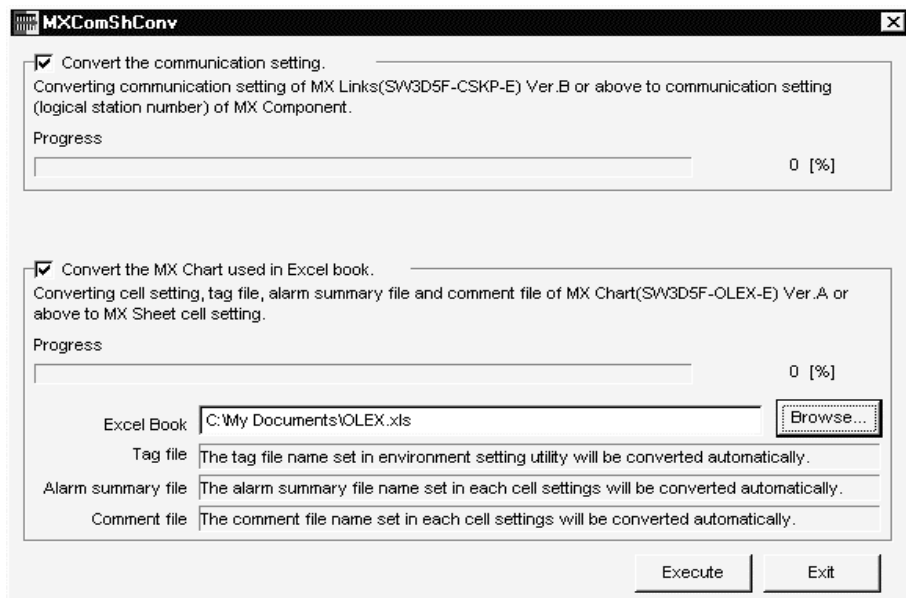
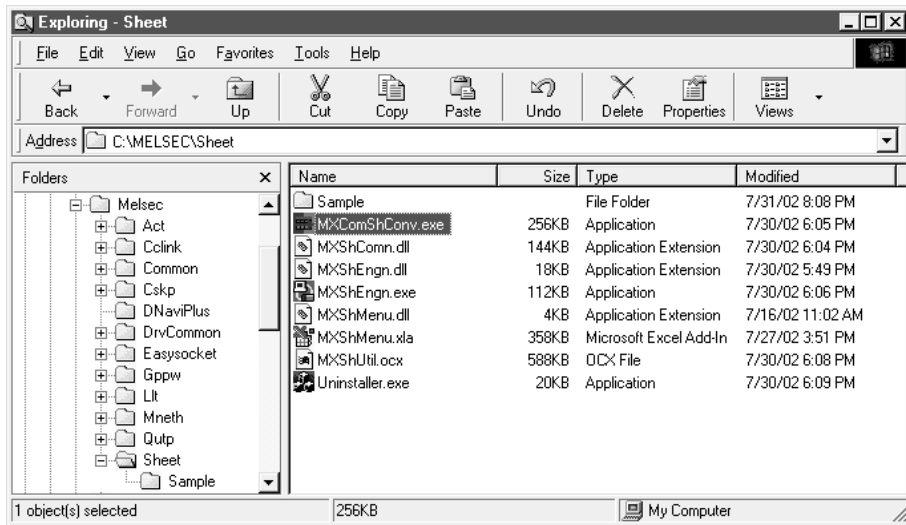
Automatic Communication Startup Setting automatically starts communication with the PLC when the Excel book where MX Sheet settings have been made is started. This setting eliminates the need of selecting [Start Communication] from the MX Sheet menu.

Appendix 1.7 Data conversion function

The data conversion function converts the communication settings of MX Links (SW3D5F-CSKP-E) and various settings of MX Chart (SW3D5F-OLEX-E) into the logical station number of MX Component and cell settings of MX Sheet, respectively. This function ensures efficient utilization of the conventional assets.

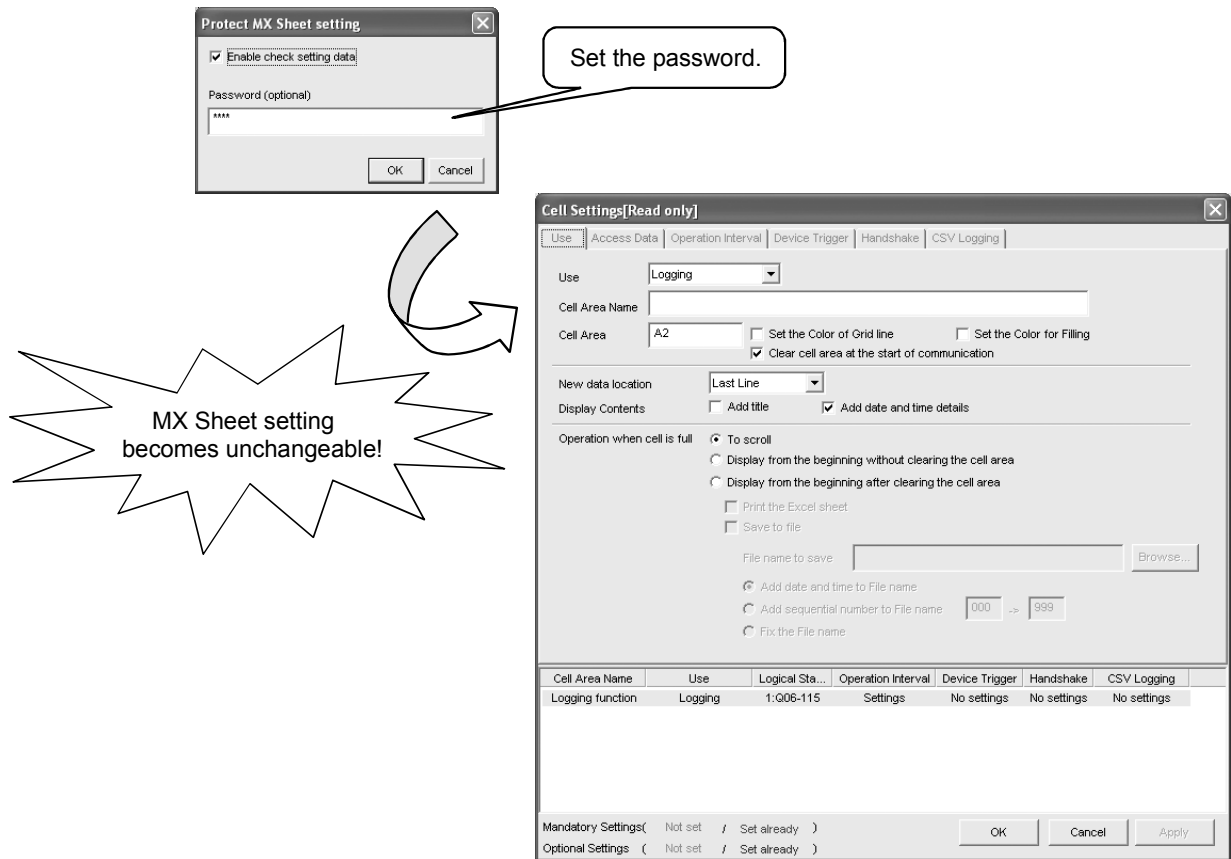
<Starting method>

[Explorer] → [MELSEC] → [Sheet] → [MXComShConv.exe]



Appendix 1.8 Protect MX Sheet setting

The MX Sheet setting can be protected by a password. *1
 The user settings can be made unchangeable.



*1: The password can be set or cancelled by choosing [MX Sheet] - [Protect MX Sheet setting]/[Unprotect MX Sheet setting] on the menu bar.

Appendix 1.9 Error log setting

When communication is started, an Error Log sheet that indicates the communication status of MX Sheet is created, and the communication status, error information and corrective actions are output.

To this Error Log sheet, the following error log setting can be made by Option setting.

(1) Setting the error log types to be output

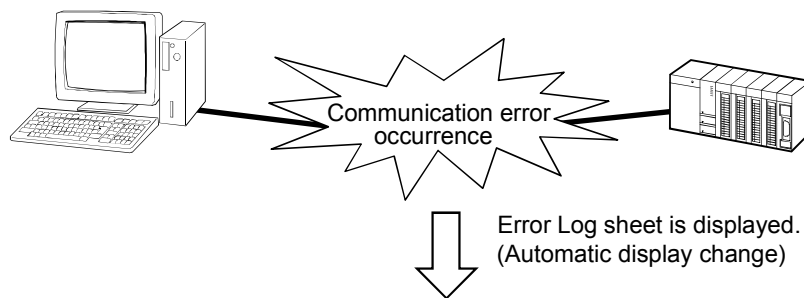
The error log types (Information, Warning, Error) to be output can be specified.

(Setting for outputting all error log)

	A	B	C	D	E
1	Kind	Date	Cell Area Name	ErrorNo	Contents
2	Information	2004/07/14 Wed 17:31:05		00000000	Communication was started.
	Error	2004/07/14 Wed 17:31:06	Monitor function	e1000009	The specified logical station number is not set.
3					The corrective action is as follows: Create the logical station number after performing communication setting.
	Warning	2004/07/14 Wed 17:31:08	Logging function	e1000021	Communication error has occurred in the open/close of communication. <00010003[Hex],0180840b[Hex]>
					Time-out error Though the time-out period had elapsed, data could not be received. The corrective action is as follows: Review the time-out value of the property. Set it again on the communication settings utility. Review the system, e.g. PLC CPU, module setting and cable status. Retry the method. Perform Close once and execute Open again. Exit the program and restart the IBM-PC/AT compatible.
4					<ErrorCode:180840b[Hex]>
5	Information	2004/07/14 Wed 17:31:40		00000002	Communication was completed.
6					
7					

(2) Automatic Error Log sheet display change setting

At error occurrence, the Error Log sheet displayed can be automatically changed.



	A	B	C	D	E
1	Kind	Date	Cell Area Name	ErrorNo	Contents
2	Information	2004/07/14 Wed 17:34:35		00000000	Communication was started.
	Warning	2004/07/14 Wed 17:34:36	Logging function	e1000021	Communication error has occurred in the open/close of communication. <00010003[Hex],0180840b[Hex]>
					Time-out error Though the time-out period had elapsed, data could not be received. The corrective action is as follows: Review the time-out value of the property. Set it again on the communication settings utility. Review the system, e.g. PLC CPU, module setting and cable status. Retry the method. Perform Close once and execute Open again. Exit the program and restart the IBM-PC/AT compatible.
3					<ErrorCode:180840b[Hex]>

(3) Error log clear setting at communication start

At the start of communication, the error log can be cleared.

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MX Sheet Version 1

Operating Manual (Introduction)

MODEL	MELS1-SHEET-NY-E
MODEL CODE	13JU34
SH(NA)-080347E-J(1105)MEE	

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