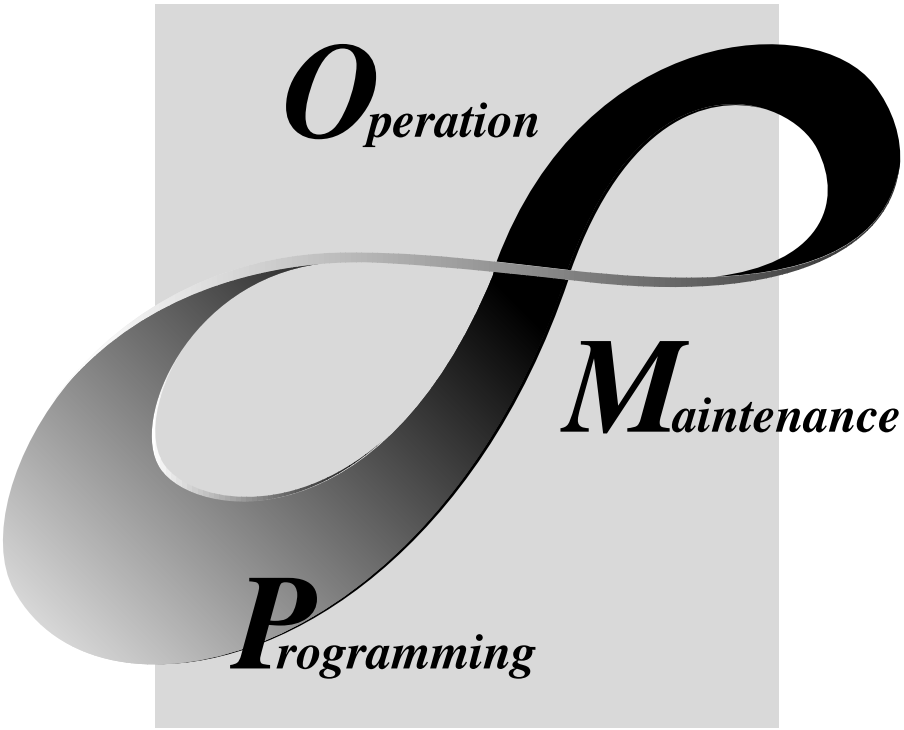
MX Component Version 2

Operating Manual

MITSUBISHI

MELSOFT



MELSOFT
Integrated FA Software

SW2D5C-ACT-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 "DANGER" and "CAUTION".

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

Note that the ⚠CAUTION level may lead to a serious consequence according to the circumstances. Always follow the instructions of both levels because they are important to personal safety.

Please save this manual to make it accessible when required and always forward it to the end user.

[Design Instructions]

⚠ DANGER

- When performing data changes or status control from the personal computer to the running PLC, configure up an interlock circuit outside the PLC system to ensure that the whole system will operate safely.
  In addition, predetermine corrective actions for the system so that you can take measures against any communication error caused by a cable connection fault or the like in online operations performed from the peripheral device to the PLC.

⚠ CAUTION

- Read the manual carefully before performing the online operations (especially forced output and operating status change) which will be executed with the personal computer connected to the running CPU module.
  Not doing so can damage the machine or cause an accident due to misoperation.

A - 1

REVISIONS

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

Print Date	* Manual Number	Revision
Mar., 2001	SH (NA)-080154-A	First edition

Japanese Manual Version SH-080151-A

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Operating Instructions

(1) When using Microsoft® Windows NT® Workstation Operating System Version 4.0 and Microsoft® Windows® 2000 Professional Operating System
When using Windows NT® Workstation 4.0 and Windows® 2000 Professional, MX Component may be installed and used only on the administrator's authority.

(2) About Ethernet communication, computer link communication and CPU COM communication on Microsoft® Windows® 95 Operating System
(a) Making Ethernet communication using TCP/IP and UDP/IP on Windows® 95 of the version older than OSR2 will cause a memory leak. When performing continuous operation on Windows® 95, use Window® 95 OSR2 or later.
(b) On Windows® 95, communication using the COM port, e.g. computer link communication or CPU COM communication, will cause a memory leak. Therefore, do not perform continuous operation.

(3) About installation
(a) When performing overwrite installation, install the software in the folder where it had already been installed.
(b) If you install the MELSEC board driver or GX Developer into the personal computer where MX Component has already been installed, communication using a specific path (e.g. ASCII packet of the AJ71E71) may result in a receive, device number or other error.
If any of these phenomena has occurred, perform overwrite installation of MX Component again.

(4) Precautions for performing installation and uninstallation on a dual boot machine where two different operating systems are installed in a single IBM-PC/AT compatible personal computer

On a dual boot machine having Windows NT® Workstation 4.0 (hereafter referred to as OS1) and Windows® 95/98 (hereafter referred to as OS2), note the following points when MX Component was installed on OS1 first and MX Component was then installed over the same folder on OS2.
(a) If MX Component is uninstalled first on the OS2 side, uninstallation does not delete the control DLLs and ACT folders, and they remain within the IBM-PC/AT compatible.
To delete the control DLLs and ACT folders, perform uninstallation also on the OS1 side.

(b) If MX Component is uninstalled first on the OS1 side, the control DLLs and ACT folders are deleted.
In this case, MX Component may not operate properly or cannot be uninstalled on the OS2 side.
Install MX Component again on the OS2 side to operate MX Component properly or uninstall it on the OS2 side.

(5) About start menu
When you have uninstalled MX Component, the item may remain in the start menu.
In that case, restart the IBM-PC/AT compatible personal computer.

(6) About the resume and other functions of personal computer
A communications error may occur if communications are made with the PLC CPU after setting the resume function, suspend setting, power-saving function and/or standby mode of the personal computer.
Therefore, do not set the above functions when making communications with the PLC CPU.

(7) About transmission speed
As the transmission speed of the QCPU(Q mode) and QCPU(A mode), you can set 9600bps, 19200bps, 38400bps, 57600bps or 11520bps.
For the QnACPU of version 9707B or later, you can set the transmission speed of 9600bps, 19200bps or 38400bps.
For the QnACPU of other versions, you can set 9600bps or 19200bps.
The transmission speeds of the ACPU (except A2USHCPU-S1), FXCPU and motion controller CPU are fixed to 9600bps. (The A2USHCPU-S1 may be set to 19200bps.)

(8) About use of the Q4ARCPU
(a) When using the UDP/IP protocol of Ethernet communication, use the Q4ARCPU whose year and month of manufacture is "0012" or later and the QE71 whose function version is B or later.

(b) The duplexing function cannot be used.

(9) Restrictions on use of the FXCPU
(a) For the index registers (Z, V) of the FXCPU, data cannot be written to 2 or more consecutive points using WriteDeviceBlock(). (Data may be written to only one point.)

(b) When the FXCPU is used, access to the TN devices (timer present values) or CN devices (counter present values) is not permitted if the device numbers specified are split across 199 or earlier and 200 or later.

(10) About clock data of the PLC CPU
(a) For the ACPU (including the motion controller CPU), clock data setting may be made only when the PLC CPU is in the STOP status.
For the QCPU (Q mode), QCPU (A mode), QnACPU and FXCPU, clock data setting may be made if the PLC CPU is in the RUN status.

(b) For the A0J2HCPU, A2CCPU and A2CJCPU, setting cannot be made as they do not have the clock function.

(c) For the ACPU, setting can be made independently of whether the clock setting special relay "M9028" is ON or OFF. (Note that the special relay "M9028" turns OFF after execution.)
For the QCPU (Q mode), QCPU (A mode) and QnACPU, setting can be made independently of whether the clock setting device "SM1028" is ON or OFF.

(d) Among the FXCPUs, setting may be made for only the FX1N (clock built-in), FX1NC (clock built-in), FX1S (clock built-in), FX2N (clock built-in), FX2NC (clock built-in), FX2 (when RTC cassette is fitted) and FX2C (when RTC cassette is fitted).

(e) Note that an error for transfer time will be produced in clock setting.

(11) About simultaneous use of MX Component and GX Developer
When using GX Developer and MX Component together for the same E71 module to make Ethernet communication, make the following settings.
(a) Set the protocol of the communication setting wizard screen to "UDP/IP".

(b) Set "SW2" of the communications setting switches of the E71 module to OFF (binary).

(12) Simultaneous access when using Q series-compatible Ethernet module
The following conditions should be satisfied when communication is to be made simultaneously from multiple IBM-PC/AT compatibles to the same module using the TCP/IP protocol.
• The Q series-compatible Ethernet module is of function version B or later.
• Using GX Developer Version 6.05F or later, set "MELSOFT connection" in the Ethernet parameter "open system".

(13) About target existence check starting interval∗1 of Ethernet module
If close processing (Close) is executed from the IBM-PC/AT compatible, the Ethernet module may not perform close processing (Close).
One of its causes is the open cable.
If open processing (Open) is executed from the IBM-PC/AT compatible with the Ethernet module not performing close processing (Close), open processing (Open) from the IBM-PC/AT compatible is not terminated normally until the Ethernet module makes a target existence check and executes close processing (Close).
If you want to terminate open processing (Open) early from the IBM-PC/AT compatible, shorten the target existence check starting interval setting of the Ethernet module.
(The target existence check starting interval setting of the Ethernet module defaults to 10 minutes.)
∗1: It can be set for the E71 of AJ71E71-S3 or later.

(14) Replacement of Ethernet module
If you changed the Ethernet module during Ethernet communication due to debugging, failure or like, the other node (IBM-PC/AT compatible) must be restarted.
(Since the Ethernet addresses (MAC addresses) differ between devices)

(15) Software version of CC-Link master/local module
As the CC-Link master/local module used in CC-Link communication or CC-Link G4 communication(only when the AJ65BT-G4 is used), use the module of software version "N" or later.
The module of software version "M" or earlier will not operate properly.

(16) Software version of CC-Link G4 module
As the CC-Link G4 module used in CC-Link G4 communication(only when the AJ65BT-G4 is used), use the module of software version "D" or later.
The module of software version "C" or earlier will not operate properly.

(17) About relaying from the MELSECNET/10 loaded station
When the module is loaded to the AnNCPU or AnACPU, it is recognized as a MELSECNET(II) module.
When the connected station is the AnNCPU or AnACPU, set the relayed network as MELSECNET(II).
In addition, set the station number to "0" when making access to the control station.

(18) About computer link communication

(a) If the connected station CPU is the AnUCPU and the computer link module is the UC24 for computer link connection, remote operation will result in an error when access is made to the AnNCPU, AnACPU or QnACPU via the MELSECNET/10.

(b) On any computer link modules other than the UC24 and C24, remote "PAUSE" operation will result in an error for all connections.

(c) For the QC24, note that the illegal case of specifying the first I/O number of a nonexisting module and reading/writing U∗∗\G∗∗ will not return an error if the software version of the module is "k" or earlier.

(d) In any connection form (direct coupling, relaying) where the target station of the UC24 or C24 is the QnACPU, an error is returned if clock data read/write is executed.

(19) Precautions for USB communication

Frequently disconnecting/reconnecting the USB cable or resetting or powering ON/OFF the PLC CPU during communications with the PLC CPU may cause a communications error which cannot be recovered.
If it is not recovered, completely disconnect the USB cable once and then reconnect it after 5 or more seconds have elapsed.
(If this error occurs at the initial communication after the above operation, the function will be performed properly in and after the second communications.)

(20) Precautions for GX Simulator communication

Before executing the monitor utility, communication setting utility or user program, make sure that GX Simulator and GX Developer are operating.
In addition, do not terminate the GX Simulator and GX Developer while the user program is running.
If you do so, you will not be able to terminate the user program normally.

(21) About forced termination of processes during communication

If communication is being made with the same type of control open for multiple processes, forcing one process to be terminated by Task Manager or the like may stop the other processes at the communication function execution area.

(22) About sample programs, test programs and sample sequence programs

(a) Sample programs, test programs

The sample programs are attached for your reference to create user programs.
The test programs are attached to conduct communication tests.
Use these programs on your own responsibility.

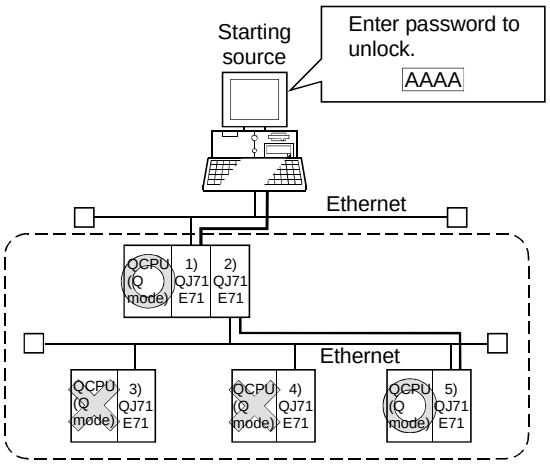
(b) Sample sequence programs

The sample sequence programs attached to MX Component assume that only an IBM-PC/AT compatible personal computer and Ethernet modules exist in the network.
Depending on your system configuration and parameter settings, the programs must be modified. Make corrections to make the programs optimum for your system.
Also, use the sample sequence programs on your own responsibility.

(23) Unlocking password when using QJ71E71

The range where the password can be unlocked by remote operation is up to the connection target station.

If the password is set also on the lower layer, communication cannot be made with the PLC CPU on the lower layer.



No.	Remote Password
1)	With setting (AAAA)
2)	Without setting
3)	With setting (AAAA)
4)	With setting (BBBB)
5)	Without setting

○ : Accessible
× : Inaccessible

1) Unlocking QJ71E71 password enables access to PLC CPUs in this range.

(24) Resetting PLC CPU during TCP/IP connection setting

If you reset the PLC CPU during TCP/IP connection setting (during opening) using MX Component, a communication or receive error will occur at the time of communication after that. In that case, close the application that uses MX Component and then perform open processing again.

(25) Security of the Internet/intranet when using VBScript

MX Component does not have the Internet/intranet security function.
When you need the security function, make setting on the user side.

(26) Precautions for use of Microsoft© Access 2000

(a) When you paste the ACT control to an Access 2000 form and double-click the ACT control or choose the custom control in the property, the following error message will appear but this does not affect the operation of ACT control.
(Other error message may appear.)

(b) When you paste the ACT control and display the properties, the property names displayed may be broken.
As this phenomenon occurs for only the property indication, there will be no problem in the property functions.

(27) Precautions for use of Microsoft® Excel 2000

(a) If you paste the control to Excel 2000, it may sometimes not be pasted. This phenomenon occurs if the cache file (temporary file) of Excel 2000 remains.
In such a case, perform operation in the following procedure.
1) Close Excel 2000.
2) Delete *.exd in the Excel 8.0 folder of the temp folders.
3) Restart Excel 2000.

(b) The size of the ACT control can be changed but this does not affect the operation of MX Component.
To restore the size, set the Height and Width properties of ACT control to "24" again.

(28) Precautions for use of Microsoft® Windows® Millennium Edition Operating System

It is not recommended to use MX Component with the "system restoring function" made invalid by the operating system.
If the free space of the system drive becomes less than 200MB, the "system restoring function" is made invalid by the operating system. When using Windows® Me, reserve a 200MB or more free space for the system drive.

(29) About error at communication start

A communication error may occur within the preset time-out period at a communication start, e.g. when the communication diagnostic button is pressed, at a monitor start, or at the execution of any function.
These errors are assumed to be detected before a time-out error.
(Example: Connection cable not connected, at PLC power-off)

(30) About Ethernet communication

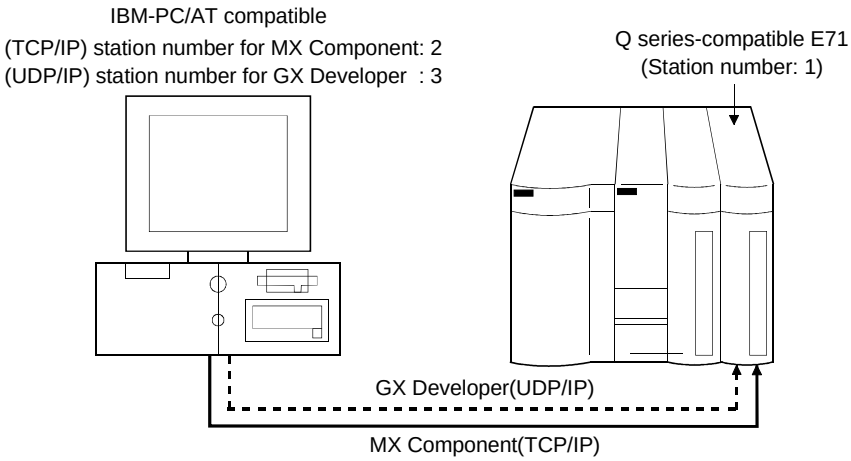
(a) When access is made to the QnACPU, AnUCPU, QCPU (A mode) or motion controller CPU via the E71, the device range is equivalent to that of the AnACPU.

(b) When making access to the PLC CPU through Ethernet communication, the functions may not be executed depending on the PLC CPU status.
1) When the protocol is TCP/IP (target module: E71, QE71)
The functions can be executed only when the communication target PLC CPU is in the RUN mode.
An error is returned if the PLC CPU is in other than the RUN mode.
2) When the protocol is UDP/IP (target module: E71, QE71)
The functions cannot be executed until the communication target PLC CPU is RUN once.
An error is returned if the PLC CPU has not been RUN once.

(c) The communication line is broken if the CPU becomes faulty or the Ethernet module is reset during Ethernet communication (when the protocol is TCP/IP).
In that case, perform line close processing (Close) and then execute reopen processing (Open).

(d) When two different communication systems (protocols) are used to make access from one IBM-PC/AT compatible to one Q series-compatible E71, two station numbers, i.e. for TCP/IP and for UDP/IP, must be set.

(Example) When MX Component uses TCP/IP and GX Developer uses UDP/IP



Set different station numbers as the (TCP/IP) station number for MX Component and (UDP/IP) station number for GX Developer. If they are set to the same station number, an error will occur on the Ethernet module side.

(31) About switch settings of E71 and QE71
If the four lower digits of the error code that occurred during Ethernet communication using the E71 or QE71 is not indicated in the E71 or QE71 manual, check the DIP switch (SW2) setting of the E71 or QE71.
If the DIP switch is not set correctly, a difference has occurred in the packet format (ASCII/binary) and therefore the error code returned from the module cannot be recognized correctly.

(32) Instructions for relaying the MELSECNET(II)
When access is made to the QnACPU, AnUCPU, QCPU (A mode) or motion controller CPU via the MELSECNET(II), the device range is equivalent to that of the AnACPU.

(33) Restrictions on use of the FXCPU
(a) When the FXCPU is used, access to the TN devices (timer present values) or CN devices (counter present values) is not permitted if the device numbers specified are split across 199 or earlier and 200 or later.

(b) As the FXCPU does not have a PAUSE switch as the PLC CPU, an error is returned if remote pause is specified in SetCpuStatus.

(c) Note that specifying the first I/O number of a nonexisting module and executing the WriteBuffer( ) method will not return an error.

(d) For the index registers (Z, V) of the FXCPU, data cannot be written to 2 or more consecutive points using WriteDeviceBlock(). (Data may be written to only one point.)

(34) CheckDeviceString

Do not use the CheckDeviceString method of each ACT control.

(35) About ActUMsg control, ActUWzd control, ActMnet2BD control and ActAFBD control

Installing MX Component registers the ActUMsg control, ActUWzd control, ActMnet2BD control and ActAFBD control, but do not use them.

(36) Precautions for use of Act(ML)QJ71E71TCP, Act(ML)AJ71QE71TCP and Act(ML)AJ71E71TCP controls

(a) Provide an interval longer than the sequence scan time of the Ethernet module loaded station from when the Open method is executed until the Close method is executed.

(b) Provide an interval of at least 500ms from when the Close method is executed until the Open method is executed again.

(37) Precautions for use of EXCEL VBA

Do not set the page feed preview function in the application that uses EXCEL VBA.

Doing so can cause a memory leak or OS basic operation (file operation, printing or other) fault.

(38) Serial communication function of Q00J/Q00/Q01CPU

When the following conditions are all satisfied, communication between the personal computer and the Q00J/Q00/Q01CPU is made at 9600bps speed.

1) The connected CPU is the Q00CPU or Q01CPU

2) The serial communication function of the connected CPU is valid.

3) The personal computer side baud rate setting differs from the Q00J/Q00/Q01CPU side baud rate setting.

To increase the communication speed, match the personal computer side baud rate with the Q00J/Q00/Q01CPU side baud rate.

(39) Precautions for starting multiple Excel files on Windows® Me

Note that Windows® Me has been confirmed to stop if you run multiple Excel files which use many control objects.

* This phenomenon is not attributable to this product.

(a) Conditions on which this phenomenon has been confirmed to occur

Graphic driver : Matrox make MGA Mystique display driver
OS : Windows® Me (English version)
Number of controls pasted to Excel files : A total of 150 or more controls used in the whole BOOK

<Other devices checked by Mitsubishi (reference)>

CPU : Pentium® 166MHz
Memory : 64MB
Hard disk : 8GB (free space 6GB)

(b) Cause
The phenomenon has been confirmed to occur when the Matrox make MGA Mystique graphic card display driver is used.
This is because Version 4.12 of the MGA Mystique graphic card display driver is not compatible with Windows® Me.

(c) How to judge whether the phenomenon is the same or not
After changing the used graphic driver for the standard VGA driver, delete the temporary data (*.emf) left in the temporary folder.
After that, try starting multiple Excel files.
The phenomenon seems to be the same if it does not occur by changing the driver for the standard VGA driver.

(d) Corrective action
If this phenomenon occurs, the temporary data (*.emf) will be left in the temporary folder of the system.
You have to delete the remaining temporary data (*.emf) manually.
The temporary folder of the system is normally in C:\Temp.
After that, take either of the following actions.
1) Use the graphic card and display driver which support Windows® Me.
2) Reduce the number of control objects pasted to the Excel files.

(40) Precautions for COM communication or TCP/IP communication on ASP page and application*1
If the ASP page opens COM or TCP/IP communication earlier than the application, communication in the same path cannot be made on the application until the ASP page is closed. Therefore, note the following points.

(a) COM or TCP/IP communication should be opened on the application earlier.
After it has been opened on the application, communication can be made on both the application and ASP page until it is closed.

(b) When COM or TCP/IP communication has been opened on the ASP page, always close the communication.

*1 The application indicates any of the user applications created using the MX series and MELSOFT products.

(41) Precautions for connecting personal computer and serial communication module

(a) When QJ71C24-R2 of function version A is used
An MX Component application can use only either of CH1 and CH2.
When the MELSOFT product, such as GX Developer or GOT, is using one channel, the application cannot use the other channel.
When the QJ71C24-R2 of function version B is used, the application can use both channels.

(b) When AJ71QC24-R2 or A1SJ71QC4-R2 is used
The MX Component application can use only CH1.
It cannot use CH2.

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 MELSOFT series thoroughly in advance to ensure correct use.

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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)
MX Component Version 2 Operating Manual (Startup) Provides procedures for installing and uninstalling MX Component and for browsing the operating manual. (Sold separetely)	IB-080153 (13JU10)
MX Component Version 2 Programming Manual Provides the programming procedures, detailed explanations and error codes of the ActiveX controls. (Sold separetely)	SH-080155 (13JF65)
Type A70BDE-J71QLP23/A70BDE-J71QLP23GE/A70BDE-J71QBR13/A70BDE-J71QLR23 MELSECNET/10 Interface Board User's Manual(For SW3DNF-MNET10) Describes the features, specifications, part names and setting of the MELSECNET/10 board, and the installation, uninstallation and others of the driver. (Sold separetely)	IB-0800035 (13JL93)
Type A80BDE-J61BT11 Control & Communication Link System Master/Local Interface Board User's Manual (For SW4DNF-CCLINK-B) Describes the features, specifications, part names and setting of the CC-Link master board, and the installation, uninstallation and others of the driver. (Sold separetely)	IB-0800175 (13JR28)
Type A80BDE-J61BT13 Control & Communication Link System Local Interface Board User's Manual (For SW4DNF-CCLINK-B) Describes the features, specifications, part names and setting of the CC-Link local board, and the installation, uninstallation and others of the driver. (Sold separetely)	IB-0800176 (13JR29)
Type A80BDE-A2USH-S1 PLC CPU Board User's Manual (For SW1DNF-ANU-B) Describes the features, specifications, part names and setting of the CPU board, and the installation, uninstallation and others of the driver. (Sold separetely)	IB-0800174 (13JR27)
MELSECNET/H Interface Board User's Manual(For SW0DNC-MNETH-B) Describes the features, specifications, part names and setting of the MELSECNET/H board, and the installation, uninstallation and others of the driver. (Sold separetely)	SH-080128 (13JR24)

Note: The MX Component Version 2 Operating Manual (Startup) and MX Component Version 2 Programming Manual are contained in the CD-ROM together with the software package as a set.
When you want to purchase the manual alone, it is optionally available as the printed matter of the manual number (Model code) in the above table.

How to Use This Manual

"HOW TO USE THIS MANUAL" is given purpose-by-purpose for use of MX Component.
Refer to the following outlines and use this manual.

(1) To know the features (Section 1.1)
Section 1.1 gives the features.

(2) To know the system configurations (Sections 2.1, 2.2)
The system configurations using MX Component are provided.

(3) To know the MX Component operating environment and usable PLC CPUs (Sections 2.3, 2.4)
Section 2.3 gives the operating environment of MX Component and Section 2.4 indicates usable PLC CPUs.

(4) To know the MX Component operating procedures (Chapter 3)
Chapter 3 provides the operation procedures of MX Component.

(5) To know how to operate the utilities (Chapters 4, 5)
Chapter 4 describes operations common to the utilities, and Chapter 5 explains how to operate the utilities.
Read these chapters when using the utilities.

(6) To know the communication setting examples of the utility setting type (Chapter 6)
Chapter 6 gives the setting example of each communication path using the utility setting type.

(7) To know the communication setting examples of the program setting type (Chapter 7)
Chapter 7 provides the setting example of each communication path using the program setting type.

(8) To know the accessible devices and ranges (Chapter 8)
Chapter 8 contains the accessible devices and accessible ranges.

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Abbreviations and Terms in This Manual

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

Generic Term/Abbreviation	Description
MX Component	Generic product name for product types SWnD5C-ATC-E and SWnD5C-ACT-EA. (n denotes version 0 or 2) -EA denotes a multiple 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 compatible PC CPU module (CONTEC CO., LTD. make).
GX Developer	Abbreviation of Type SW□D5C-GPPW-E/SW□D5F-GPPW-E GPP function software package
GX Simulator	Abbreviation of Type SW□D5C-LLT-E/SW□D5F-LLT-E Ladder Logic Test tool function software package
MELSECNET/10 board	Abbreviation of Type A70BDE-J71QLP23/A70BDE-J71QLP23GE/A70BDE-J71QBR13/A70BDE-J71QLR23 MELSECNET/10 interface board
MELSECNET/H board	Abbreviation of Type Q80BD-J71LP21-25/Q80BD-J71LP21G/Q80BD-J71BR11 MELSECNET/H board
CC-Link board	Abbreviation of Type A80BDE-J61BT11 CC-Link system master/local interface board and Type A80BDE-J61BT13 CC-Link interface board
CPU board	Abbreviation of Type A80BDE-A2USH-S1 PLC CPU board
AnNCPU	Generic term of the A0J2HCPU, A1SCPU, A1SCPU-S1, A1SCPUC24-R2, A1SHCPU, A1SJCPU, A1SJHCPU, A1NCPU, A2CCPU, A2CCPUC24, A2CCPUC24-PRF, A2CJCPU, A2NCPU, A2NCPU-S1, A2SCPU, A2SCPU-S1, A2SHCPU, A2SHCPU-S1, A3NCPU and A1FXCPU
AnACPU	Generic term of the A2ACPU, A2ACPU-S1, A2ACPUP21/R21, A2ACPUP21-S1, A3ACPU and A3ACPUP21/R21
AnUCPU	Generic term of the A2UCPU, A2UCPU-S1, A2USCPU, A2USCPU-S1, A2ASCPU, A2ASCPU-S1, A2ASCPU-S30, A2USHCPU-S1, A3UCPU and A4UCPU
QnACPU	Generic term of the Q2ACPU, Q2ACPU-S1, Q2ASCPU, Q2ASCPU-S1, Q2ASHCPU, Q2ASHCPU-S1, Q3ACPU, Q4ACPU and Q4ARCPU
ACPU	Generic term of the AnNCPU, AnACPU and AnUCPU
QCPU (A mode)	Generic term of the Q02CPU-A, Q02HCPU-A and Q06HCPU-A
QCPU (Q mode)	Generic term of the Q00JCPU, Q00CPU, Q01CPU, Q02CPU, Q02HCPU, Q06HCPU, Q12HCPU and Q25HCPU Note that especially when the CPU is indicated as a different model, the Q00JCPU, Q00CPU and Q01CPU are described as the Q00J/Q00/Q01CPU, and the Q02CPU, Q02HCPU, Q06HCPU, Q12HCPU and Q25HCPU as the Q02/Q02H/Q06H/Q12H/Q25HCPU.
FXCPU	Generic term of the FX_0, FX_{0S}, FX_{0N}, FX_1, FX_{1N}, FX_{1NC}, FX_{1S}, FX_2, FX_{2C}, FX_{2N} and FX_{2NC} series
Motion controller CPU	Generic term of the A171SHCPU, A172SHCPU, A173UHCPU, A173UHCPU-S1, A273UHCPU and A273UHCPU-S3
PLC CPU	Generic term of the QCPU(Q mode), QCPU(A mode), QnACPU, ACPU, FXCPU and motion controller CPU
C24	Generic term of the A1SCPUC24-R2, A1SJ71C24-PRF, A1SJ71C24-R2, A1SJ71C24-R4, A2CCPUC24, A2CCPUC24-PRF, AJ71C24-S6 and AJ71C24-S8
UC24	Generic term of the AJ71UC24, A1SJ71UC24-R2, A1SJ71UC24-R4 and A1SJ71UC24-PRF
QC24	Generic term of the AJ71QC24, AJ71QC24-R2, AJ71QC24-R4, A1SJ71QC24-R2 and A1SJ71QC24-R2
QC24N	Generic term of the AJ71QC24N, AJ71QC24N-R2, AJ71QC24N-R4, A1SJ71QC24N and A1SJ71QC24N-R2
QC24(N)	Generic term of the QC24 and QC24N
Q series-compatible C24	Generic term of the QJ71C24 and QJ71C24-R2

Generic Term/Abbreviation	Description
Computer link module (Serial communication module)	Generic term of the C24, UC24, QC24(N) and Q series-compatible C24 Described as the serial communication module especially to indicate the QC24(N) or Q series-compatible C24.
E71	Generic term of the AJ71E71, AJ71E71-S3, A1SJ71E71-B2, A1SJ71E71-B5, A1SJ71E71-B2-S3 and A1SJ71E71-B5-S3
QE71	Generic term of the AJ71QE71, AJ71QE71-B5, A1SJ71QE71-B2 and A1SJ71QE71-B5
Q series-compatible E71	Generic term of the QJ71E71 and QJ71E71-B2
Ethernet module	Generic term of the E71, QE71 and Q series-compatible E71
CC-Link G4 module	Generic term of the AJ65BT-G4 GPP function peripheral connection module and the AJ65BT-G4-S3 GPP function peripheral connection module
Computer link communication (Serial communication)	Abbreviation of communication made with the PLC CPU using the computer link module Described as serial communication especially in communication that uses the QC24(N) or Q series-compatible C24.
Ethernet communication	Abbreviation of communication made with the PLC CPU using the Ethernet module
CPU COM communication	Abbreviation of communication made by connecting the IBM-PC/AT compatible to the RS-232C or RS-422 connector of the PLC CPU
CPU USB communication	Abbreviation of communication made by connecting the IBM-PC/AT compatible to the USB connector of the QCPU (Q mode)
MELSECNET/10 communication	Abbreviation of communication made with the PLC CPU using the MELSECNET/10 board
MELSECNET/H communication	Abbreviation of communication made with the PLC CPU using the MELSECNET/H board
CC-Link communication	Abbreviation of communication made with the PLC CPU using the CC-Link board
CC-Link G4 communication	Abbreviation of communication made with the PLC CPU using the CC-Link G4 module
CPU board communication	Abbreviation of communication made with the PLC CPU using the CPU board
Q series bus communication	Abbreviation of communication made with the PLC CPU on the same base using the PC CPU module
GX Simulator communication	Abbreviation of communication made with the GX Simulator
Utility setting type	Abbreviation of user program creation using the communication settings utility
Program setting type	Abbreviation of user program creation without using the communication settings utility
ACT controls	Generic term of the ActiveX controls offered by MX Component

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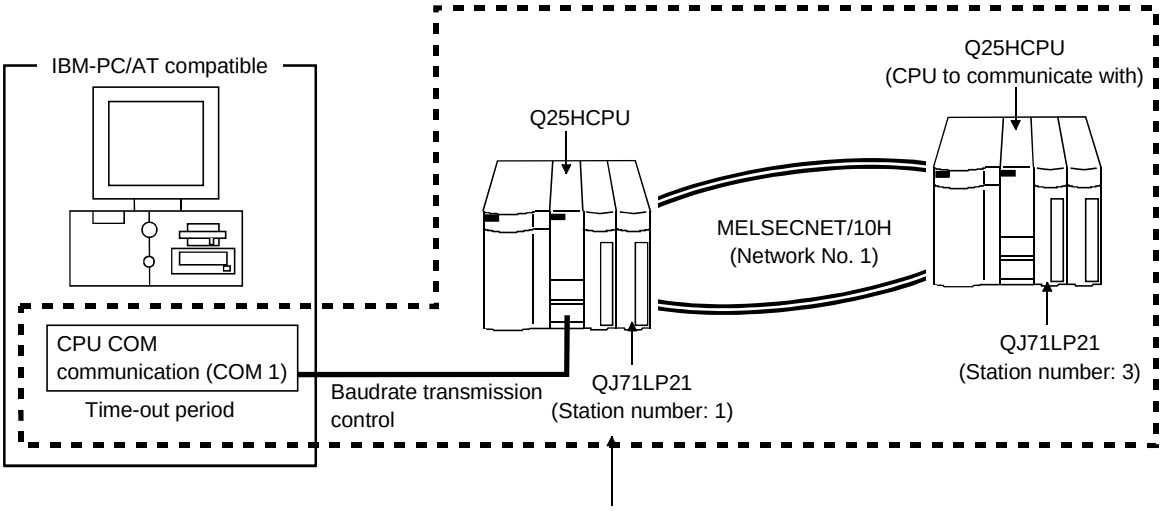
Meanings and Definitions of Terms

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

(1) Logical station number
The connection target information necessary to open the communication line is combined into one data using the communication setup utility, and that data is provided with a logical number.
This number may be used with the utility setting type only.

(Example) For CPU COM communication



(2) Utility setting type
The communication setup utility (logical station number) is used to create a user program.
In the user program, the communication line can be connected easily by simply specifying the logical station number set on the communication setting wizard.
Use ActEasyIF and ActMLEasyIF.

(3) Program setting type
A user program is created without using the communication setup utility.
Make ACT control settings for the corresponding communication in the user program or on the property page or like of Visual Basic® or Visual C++® .
The properties necessary to be set depend on the ACT control.
Use the control other than ActEasyIF and ActMLEasyIF.

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1 OVERVIEW

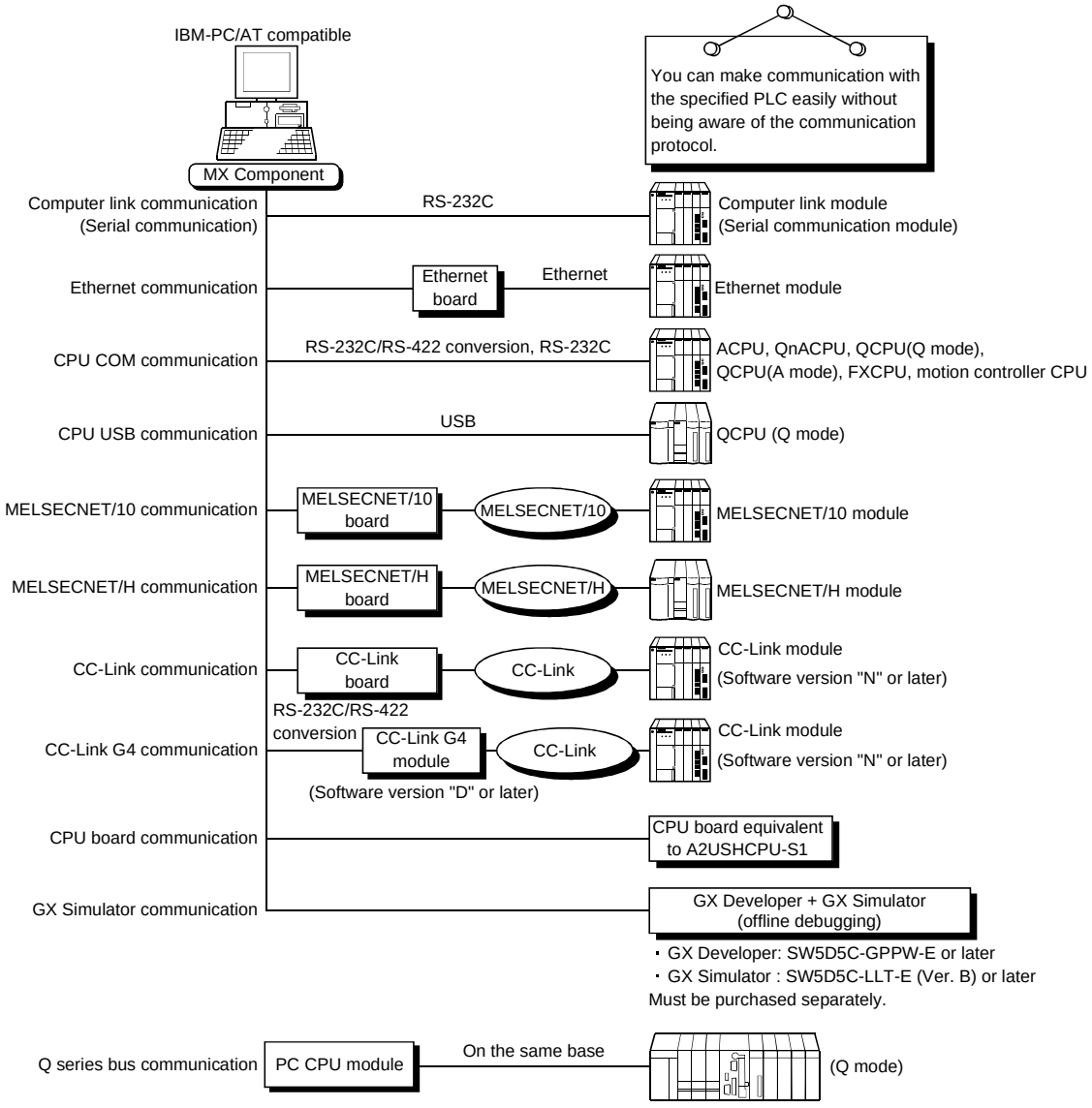
MX Component is a tool designed to implement communication from an IBM-PC/AT compatible personal computer to the PLC without any knowledge of communication protocols and modules.
Use of common functions has made it extremely easy to develop serial communication and Ethernet communication programs which had been troublesome and complex.

1.1 Features

MX Component has the following features.

(1) Support of a wide range of communication paths for PLC

A wide range of communication paths to the PLC are supported to enable the user to configure up a system as desired.



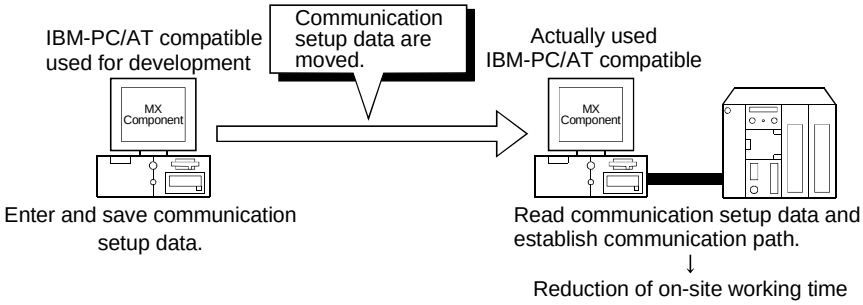
1

(2) Substantial improvement in user's development efficiency

MX Component comes with the wizard type communication setup utility.
By simply making interactive settings on the screen, the user can achieve communication settings to access the PLC CPU to communicate with.
Once the communication settings have been made, access can be made by merely specifying the logical station number of the PLC stored on the communication setup utility.

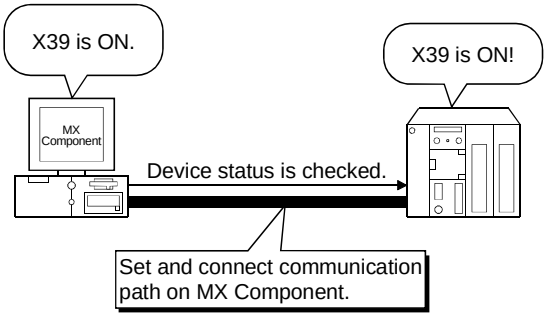
(3) Save and read of communication settings

MX Component has the functions to save and read the communication settings made on the communication setup utility.
You can move the set data easily from the IBM-PC/AT compatible used for development to the actually used IBM-PC/AT compatible.
Note: MX Component must have been installed in both the IBM-PC/AT compatible used for development and the actually used IBM-PC/AT compatible.



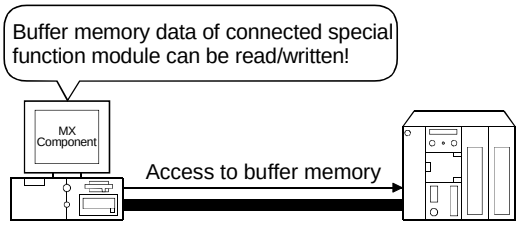
(4) Device monitor function

Utilizing the PLC monitor utility enables you to monitor the status of the specified device and change its data.



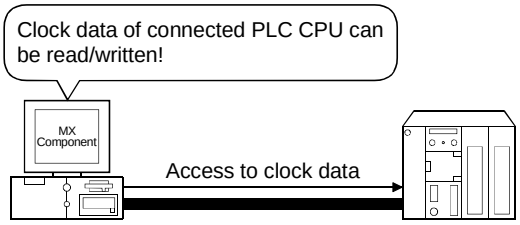
(5) Access to buffer memory of special function module

Access can be made to not only the devices of the PLC CPU but also the buffer memory of a special function module.



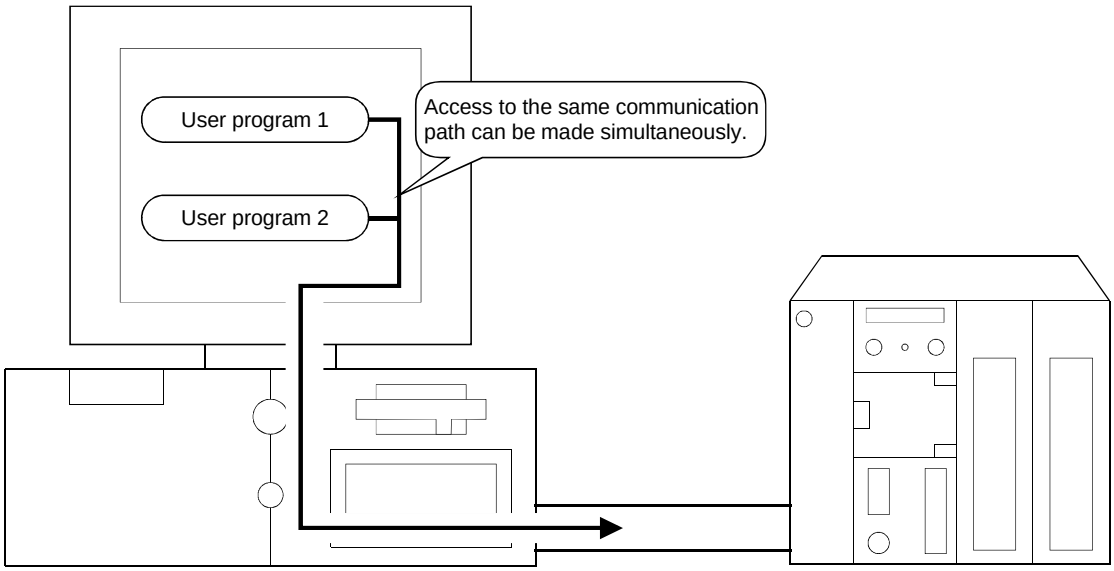
(6) Read/write of PLC CPU clock data

You can read and write the clock data of the PLC CPU connected to the IBM-PC/AT compatible.



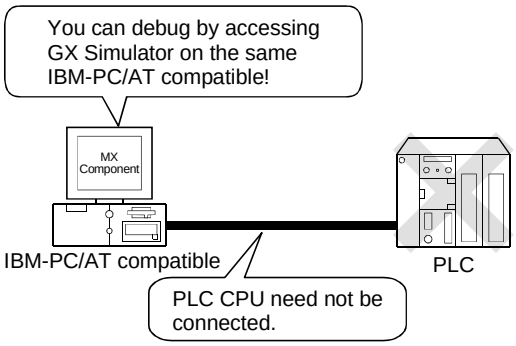
(7) Multithread communication

Access to the same communication path can be made from multiple threads at the same time.



(8) GX Simulator for offline debugging

By using GX Developer and GX Simulator, you can perform debugging on a single IBM-PC/AT compatible without connecting the PLC.



POINT
GX Developer and GX Simulator are separately required to use the GX Simulator.

(9) A wide variety of programming languages supported

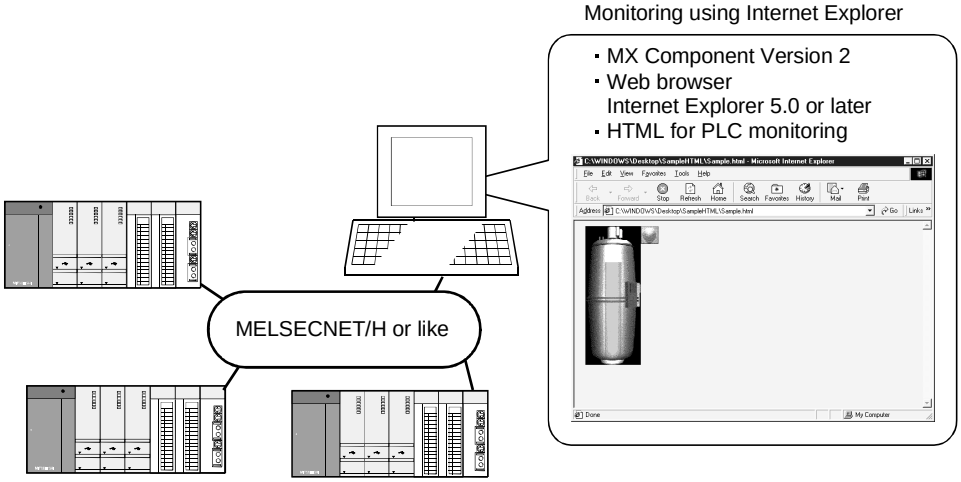
MX Component supports VBScript and VBA as well as Visual Basic® and Visual C++® .

(a) Creation of monitoring page using VBScript

1) Monitoring page can be created in HTML format

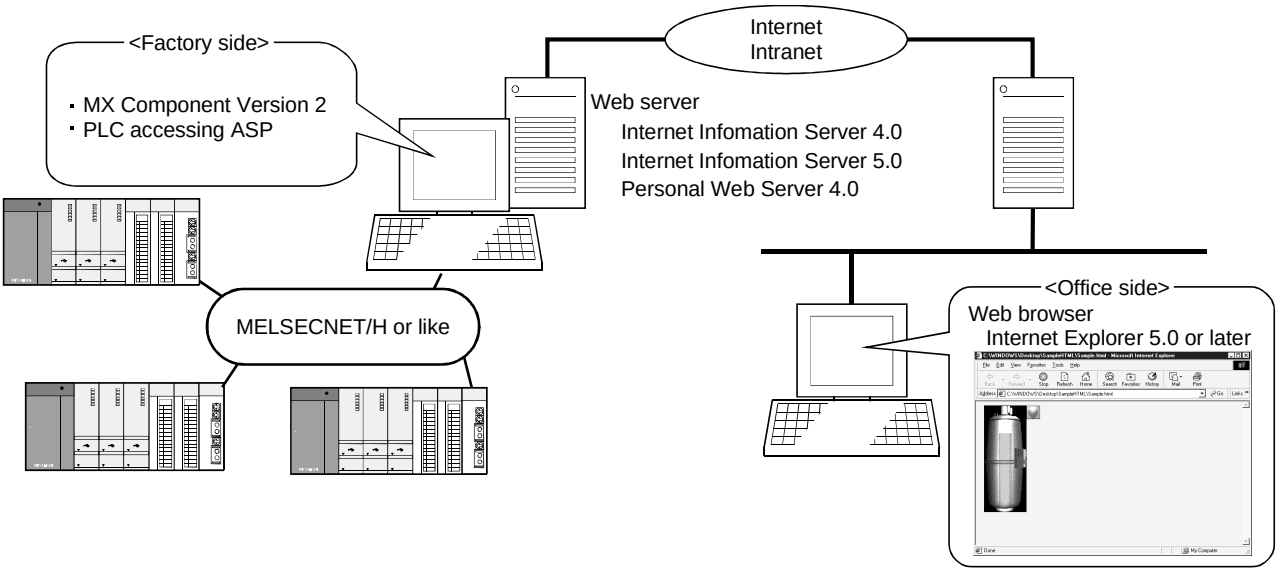
Using the text editor, you can create a graphical monitoring home page (HTML format).

You need not purchase Visual Basic® , Visual C++® or like.



2) Using ASP function for monitoring via Internet/intranet

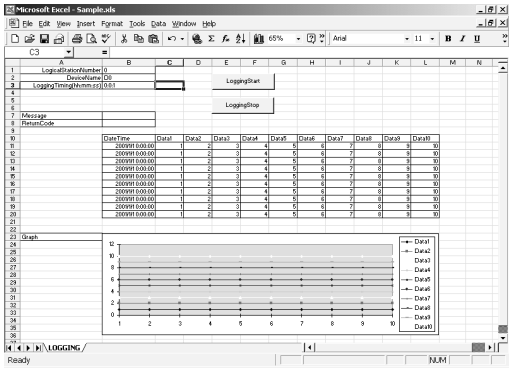
Using the ASP function of VBScript to make public the Web pages on the factory side (side which monitors data using MX Component) enables the PLC device status or fault occurrence-time remote operation to be performed from a remote location or business destination via the Internet/intranet by merely specifying the factory side URL on Internet Explorer.



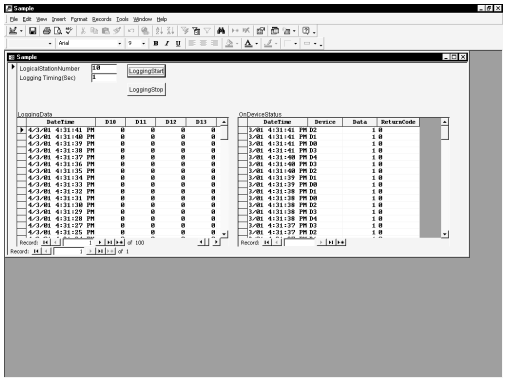
(b) VBA-driven data collection and monitoring function

Programming using VBA allows Excel 2000 or Access 2000 functions to be utilized to create an application for providing a real-time graph display.
You can log the device data of the PLC and collect/save the device data in real time.

<Excel 2000>



<Access 2000>

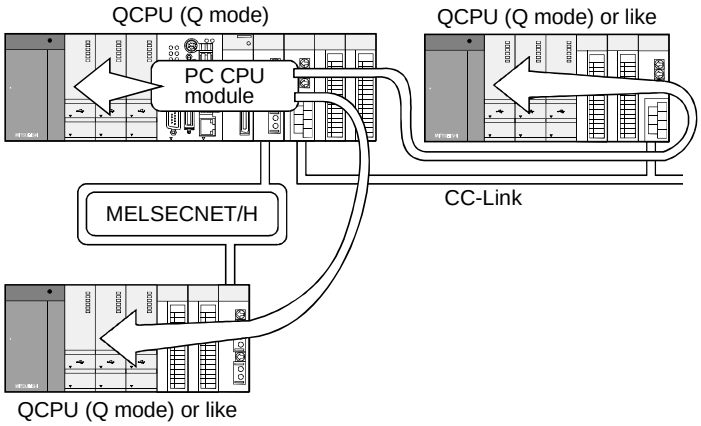


(10) Compatibility with multi-CPU system of QCPU (Q mode)

Setting the communication setting utility or ACT control properties enables access to the multi-CPU system.

(11) Operability on PC CPU module

Q series bus communication from the PC CPU module enables access to the QCPU (Q mode) on the same base.
Using the MELSECNET/H communication control and CC-Link communication control enables access to other stations via the MELSECNET/H module and CC-Link module controlled by the PC CPU module.



2 SYSTEM CONFIGURATIONS

This chapter describes the system configurations, operating environment and usable CPUs of MX Component.

2.1 System Configuration List

This section lists the systems that may be configured for each operating system.

2.1.1 When using Microsoft® Windows NT® Workstation Operating System Version 4.0

The following table lists the systems that may be configured for use of Windows NT® Workstation 4.0.

Item		Description
Computer link communication		○
Ethernet communication		○
CPU COM communication		○
CPU USB communication		× ∗1
MELSECNET/10 communication		○
	Usable board	MELSECNET/10 board
	Usable driver	SW2DNF-MNET10 or later
MELSECNET/H communication		○
	Usable board	MELSECNET/H board
	Usable driver	SW0DNC-MNETH or later
CC-Link communication		○
	Usable board	CC-Link board
	Usable driver	SW2DNF-CCLINK or later
CC-Link G4 communication		○
CPU board communication		○
	Usable board	CPU board
	Usable driver	SW0DNF-ANU-B or later
Q series bus communication (only when PC CPU module is used)		○
GX Simulator communication		○

○: Configurable ×: Not configurable
∗1: Does not support the used OS.

POINT

Use GX Developer and GX Simulator of the following version or later when making GX Simulator communication.
• GX Developer: SW5D5C-GPPW-E
• GX Simulator: SW5D5C-LLT-E (version B or later)

2.1.2 When using Microsoft® Windows® 95 Operating System

The following table lists the systems that may be configured for use of Windows® 95.

Item		Description
Computer link communication		○
Ethernet communication		○
CPU COM communication		○
CPU USB communication		× ∗1
MELSECNET/10 communication		○
	Usable board	MELSECNET/10 board
	Usable driver	SW2DNF-MNET10 or later
MELSECNET/H communication		○
	Usable board	MELSECNET/H board
	Usable driver	SW0DNC-MNETH or later
CC-Link communication		○
	Usable board	CC-Link board
	Usable driver	SW2DNF-CCLINK or later
CC-Link G4 communication		○
CPU board communication		× ∗2
Q series bus communication (only when PC CPU module is used)		×
GX Simulator communication		○

○: Configurable ×: Not configurable
∗1: Does not support the used OS.
∗2: The driver is incompatible.

POINT

(1) On Windows® 95, a memory leak will occur if any of the following communications is made using the COM port. Therefore, do not perform continuous operation.
- Computer link communication
- CPU COM communication
- CC-Link G4 communication

(2) Use GX Developer and GX Simulator of the following version or later when making GX Simulator communication.
- GX Developer: SW5D5C-GPPW-E
- GX Simulator: SW5D5C-LLT-E (version B or later)

2.1.3 When using Microsoft® Windows® 98 Operating System

The following table lists the systems that may be configured for use of Windows® 98.

Item		Description
Computer link communication		○
Ethernet communication		○
CPU COM communication		○
CPU USB communication		○*2
MELSECNET/10 communication		○
	Usable board	MELSECNET/10 board
	Usable driver	SW2DNF-MNET10 or later
MELSECNET/H communication		○
	Usable board	MELSECNET/H board
	Usable driver	SW0DNC-MNETH or later
CC-Link communication		○
	Usable board	CC-Link board
	Usable driver	SW2DNF-CCLINK or later
CC-Link G4 communication		○
CPU board communication		× *1
Q series bus communication (only when PC CPU module is used)		×
GX Simulator communication		○

○: Configurable ×: Not configurable

*1: The driver is incompatible.

*2: Usable only when Q02HCPU, Q06HCPU, Q12HCPU or Q25HCPU is used

POINT

Use GX Developer and GX Simulator of the following version or later when making GX Simulator communication.

- GX Developer: SW5D5C-GPPW-E
- GX Simulator: SW5D5C-LLT-E (version B or later)

2.1.4 When using Microsoft® Windows® 2000 Professional Operating System

The following table lists the systems that may be configured for use of Windows® 2000 Professional.

Item		Description
Computer link communication		○
Ethernet communication		○
CPU COM communication		○
CPU USB communication		○ ＊1
MELSECNET/10 communication		×
MELSECNET/H communication		○
	Usable board	MELSECNET/H board
	Usable driver	SW0DNC-MNETH or later
CC-Link communication		○
	Usable board	CC-Link board
	Usable driver	SW4DNF-CCLINK or later
CC-Link G4 communication		○
CPU board communication		○
	Usable board	CPU board
	Usable driver	SW1DNF-ANU-B or later
Q series bus communication (only when PC CPU module is used)		×
GX Simulator communication		×

○: Configurable ×: Not configurable

＊1: Usable only when Q02HCPU, Q06HCPU, Q12HCPU or Q25HCPU is used

2.1.5 When using Microsoft® Windows® Millennium Edition Operating System

The following table lists the systems that may be configured for use of Windows® Me.

Item	Description
Computer link communication	○
Ethernet communication	○
CPU COM communication	○
CPU USB communication	○ *1
MELSECNET/10 communication	×
MELSECNET/H communication	×
CC-Link communication	×
CC-Link G4 communication	○
CPU board communication	×
Q series bus communication (only when PC CPU module is used)	×
GX Simulator communication	×

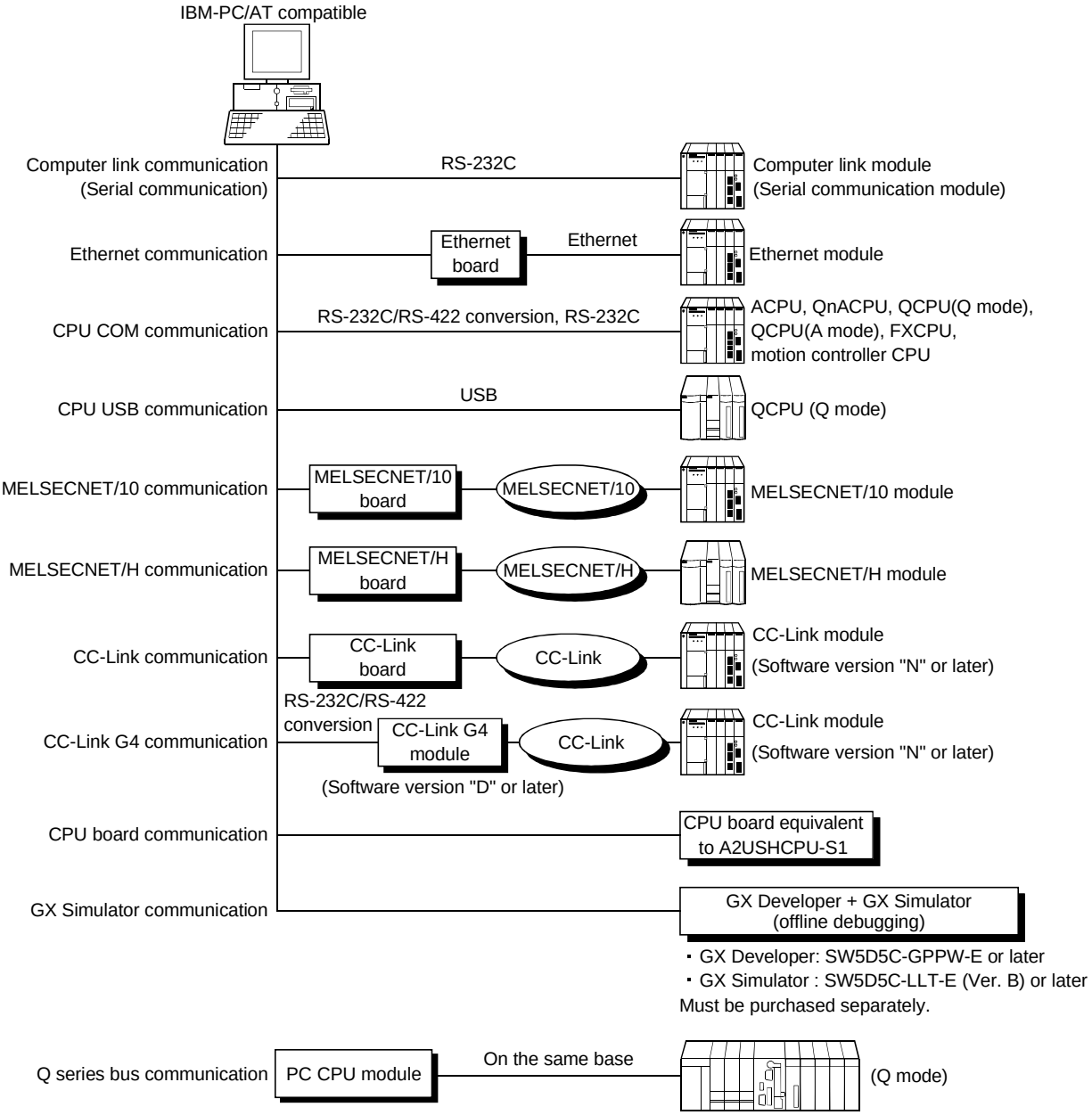
○: Configurable ×: Not configurable

*1: Usable only when Q02HCPU, Q06HCPU, Q12HCPU or Q25HCPU is used

2.2 System Configuration for Use of Each Connection Form

This section provides the system configurations for use of MX Component on a communication form basis.

2.2.1 System configurations



2.2.2 Details of the communication forms

The table at top right of each communication format explanation indicates whether the communication format can be made up when the OSs are used.

(Example) Windows NT® Workstation 4.0 and Windows® 95 are not supported.
Windows® 98, Windows® 2000 Professional and Windows® Me are supported.

NT	95	98	2000	Me
×	×	○	○	○

○: Configurable ×: Not configurable

(1) Computer link communication

NT	95	98	2000	Me
○	○	○	○	○

For the way to make connection to the computer link module, read the manual of your computer link module.

(a) Precaution

Computer link communication made on Windows® 95 will cause a memory leak. Therefore do not perform continuous operation.

(b) Usable modules

1) Any of the following computer link modules may be used to access the PLC ACPU.

	Usable Modules
C24	A1SCPUC24-R2＊1, A1SJ71C24-PRF＊2, A1SJ71C24-R2＊2, A1SJ71C24-R4＊2, A2CCPUC24＊4, A2CCPUC24-PRF＊3, AJ71C24-S6, AJ71C24-S8
UC24	AJ71UC24, A1SJ71UC24-R2, A1SJ71UC24-R4, A1SJ71UC24-PRF
QC24(N)	AJ71QC24, AJ71QC24-R2, AJ71QC24-R4, A1SJ71QC24, A1SJ71QC24-R2, AJ71QC24N, AJ71QC24N-R2, AJ71QC24N-R4, A1SJ71QC24N, A1SJ71QC24N-R2
Q series-compatible C24	QJ71C24, QJ71C24-R2

＊1: Handled as equivalent to the UC24.
＊2: Modules of software version "M" or later are handled as equivalent to the UC24.
＊3: Modules of software version "K" or later are handled as equivalent to the UC24.

2) About connection of usable modules

When a computer link module is used to make access from the IBM-PC/AT compatible to the PLC CPU, note that three are restrictions on the modules connectable directly to the IBM-PC/AT compatible.

If the module cannot be connected directly to the IBM-PC/AT compatible, it may be used as the "n"th module of multidropping.

Type	Interface	1:1 Connection	Multidropping	
			First module	"n"th module
A2CCPUC24	RS-232C	○	○	×
	RS-422	×	×	×
	RS-422/485	×	×	○
A2CCPUC24-PRF	RS-232C	○	○	×
	RS-422	×	×	×
	RS-422/485	×	×	○
AJ71C24-S6	RS-232C	○	○	×
	RS-422	×	×	○
AJ71C24-S8	RS-232C	○	○	×
	RS-422	×	×	○
A1SCPUC24-R2	RS-232C	○	×	×
A1SJ71C24-PRF	RS-232C	○	×	×
A1SJ71C24-R2	RS-232C	○	×	×
A1SJ71C24-R4	RS-422/485	×	×	○
AJ71UC24	RS-232C	○	○	×
	RS-422/485	×	×	○
A1SJ71UC24-R2	RS-232C	○	×	×
A1SJ71UC24-R4	RS-422/485	×	×	○
A1SJ71UC24-PRF	RS-232C	○	×	×
AJ71QC24	RS-232C	○	○	×
	RS-422/485	×	×	○
AJ71QC24-R2	RS-232C	○	×	×
	RS-232C	×	×	×
AJ71QC24-R4	RS-422	×	×	×
	RS-422/485	×	×	○
A1SJ71QC24	RS-232C	○	○	×
	RS-422/485	×	×	○
A1SJ71QC24-R2	RS-232C	○	×	×
	RS-232C	×	×	×
AJ71QC24N	RS-232C	○	○	×
	RS-422/485	×	×	○
AJ71QC24N-R2	RS-232C	○	×	×
	RS-232C	×	×	×
AJ71QC24N-R4	RS-422	×	×	×
	RS-422/485	×	×	○
A1SJ71QC24N	RS-232C	○	○	×
	RS-422/485	×	×	○
A1SJ71QC24N-R2	RS-232C	○	×	×
	RS-232C	×	×	×
QJ71C24	RS-232	○	○	×
	RS-422/485	×	×	○
QJ71C24-R2	RS-232	○	×	×
	RS-232	×	×	×

(c) Switch settings of the computer link module

For the switch settings for use of MX Component, refer to "Section 6.1.1 Switch settings of computer link modules".

(d) Cable for connection

For the connection cable, refer to the manual of your computer link module. Refer to Appendix 3 for cable pin assignment.

POINT
Only the RS-232C connector may be used for connection of the IBM-PC/AT compatible and computer link (serial communication) module. The RS-422 connector or RS-422/485 terminal block cannot be used.

(2) Ethernet communication

NT	95	98	2000	Me
○	○	○	○	○

For the way to make connection to the Ethernet module, read the manual of your Ethernet module.

(a) Precaution

The accessible range for Ethernet communication is the same segment only. Access cannot be made beyond the router and gateway.

(b) Usable modules

Any of the following Ethernet modules may be used to access the PLC CPU.

	Usable Modules
E71＊1	AJ71E71, AJ71E71-S3, A1SJ71E71-B2, A1SJ71E71-B5, A1SJ71E71B2-S3, A1SJ71E71B5-S3
QE71＊2	AJ71QE71, AJ71QE71-B5, A1SJ71QE71-B2, A1SJ71QE71-B5
Q series-compatible E71	QJ71E71, QJ71E71-B2

＊1: Accessible as equivalent to the AnACPU when fitted to the AnUCPU.
＊2: An error will occur if monitoring via QnA Ethernet and monitoring via other communication path are executed for the same CPU simultaneously.

(c) Switch settings of the Ethernet module

For the switch settings for use of MX Component, refer to "Section 6.2.1 Switch settings of Ethernet modules".

(3) CPU COM communication

NT	95	98	2000	Me
○	○	○	○	○

(a) Precaution

CPU COM communication made on Windows® 95 will cause a memory leak. Therefore do not perform continuous operation.

(b) Cables for connection

1) Cable for connection of QCPU(Q mode) and QCPU(A mode)

The following cable is needed to make communications between the IBM-PC/AT compatible and of QCPU(Q mode) and QCPU(A mode).

Cable
QC30R2 (Connector of IBM-PC/AT compatible is D-sub 9-pin)

2) Cables for connection of ACPU, QnACPU or FXCPU

The following cables are needed to make communications between the IBM-PC/AT compatible and ACPU, QnACPU or FXCPU.

<table>
<tr><th>IBM-PC/AT Compatible Side (RS-232C Cable)</th><th>RS-232C/RS422 Converter</th><th>PLC Side (RS-422 Cable)</th></tr>
<tr><td rowspan="2">
F2-232CAB-1＊1
(When connector of IBM-PC/AT compatible is D-sub 9-pin)</td><td rowspan="2">
FX-232AW(C)</td><td>For ACPU, QnACPU or FX1/FX2/FX2CCPU

FX-422CAB (0.3m/0.98feet)
FX-422CAB-150 (1.5m/4.92feet)</td></tr>
<tr><td>For FX0/FX0S/FX0N/FX1N//FX1NC/FX1S/FX2N/FX2NCCPU

FX-422CAB0 (1.5m/4.92feet)</td></tr>
</table>

*1: How to identify compatible product of F2-232CAB-1 cable

Check the indication on the type label attached to the cable.

Incompatible product	Indicates as a compatible product (with indication of F/FX/A)
F2-232CAB-1 Y990C *****	→ F2-232CAB-1(F/FX/A) Y990C *****

POINT

For connection with the FX series, always use the device indicated in the above table.

3) Cables for connection of motion controller CPU

For communications between the IBM-PC/AT compatible and motion controller CPU, use the cables as indicated in 2).

(4) CPU USB communication

NT	95	98	2000	Me
×	×	○	○	○

CPU USB communication may be made only when the Q02HCPU, Q06HCPU, Q12HCPU or Q25HCPU is used.

(a) About the USB cable (QCPU (Q mode) compatible)

1) Windows® 98, Windows® 2000 Professional or Windows® Me may be used when the USB driver has been installed.
2) When using Windows® 2000 Professional, the user must install the USB driver.
3) When the USB cable is used, only one PLC CPU may be connected.
4) Use the USB cable which conforms to the USB Standard Rev. 1.1.
5) Refer to "Operating Instructions" for the precautions for and restrictions on use of the USB cable to make communications.

(5) MELSECNET/10 communication

NT	95	98	2000	Me
○	○	○	×	×

(a) Precautions

1) Always use any of the following communication drivers.
Other communication drivers cannot be used.

Used OS	SW2DNF-MNET10	SW3DNF-MNET10
Windows NT® Workstation 4.0	○	○
Windows® 95	○	○
Windows® 98	○	○
Windows® 2000 Professional	×	×
Windows® Me	×	×

○ : Usable, × : Unusable

2) The following are the CPUs that can be accessed by the communication drivers.

CPU Type	SW2DNF-MNET10	SW3DNF-MNET10
ACPU	○	○
QCPU(A mode)	○	○
QnACPU	○	○
QCPU(Q mode)	×	○

○ : Accessible, × : Inaccessible

(6) MELSECNET/H communication

NT	95	98	2000	Me
○	○	○	○	×

(a) Precautions

As the communication driver, always use SW0DNC-MNETH or later.
Any other communication driver is unusable.

(7) CC-Link communication

NT	95	98	2000	Me
○	○	○	○	×

(a) Precautions

1) Always use any of the following communication drivers.
Other communication drivers cannot be used.

Used OS	SW2DNF-CCLINK	SW3DNF-CCLINK	SW4DNF-CCLINK-B
Windows NT® Workstation 4.0	○	○	○
Windows® 95	○	○	○
Windows® 98	○	○	○
Windows® 2000 Professional	×	×	○
Windows® Me	×	×	×

○ : Usable, × : Unusable

2) The following are the CPUs that can be accessed by the communication drivers.

CPU Type	SW2DNF-MNET10		SW3DNF-MNET10		SW4DNF-CCLINK-B	
	A to V ＊1	W to ＊2	A to V ＊1	W to ＊2	A to V ＊1	W to ＊2
ACPU	○	○	○	○	○	○
QCPU(A mode)	○	○	○	○	○	○
QnACPU	○	○	○	○	○	○
QCPU(Q mode)	×	×	×	○	×	○

○ : Accessible, × : Inaccessible
＊1 For ROM versions "A" to "V" of CC-Link board
＊2 For ROM versions "W" and later of CC-Link board

3) The CC-Link master station module used should be of software version "N" or later.

(8) CC-Link G4 communication

NT	95	98	2000	Me
○	○	○	○	○

(a) Precautions

1) Computer link communication made on Windows® 95 will cause a memory leak. Therefore do not perform continuous operation.
2) The CC-Link G4 module used should be of software version "D" or later.
3) The CC-Link master station module used should be of software version "N" or later.

(b) Switch settings of the CC-Link G4 module

For the switch settings for use of MX Component, refer to "Section 6.7.1 Switch settings of CC-Link G4 module".

(c) About cables

Communications between the IBM-PC/AT compatible and CC-Link G4 module require the RS-232C/RS-422 conversion cables as used in CPU COM communication.
For more information, refer to "(3) 2) Cables for connection of ACPU, QnACPU or FXCPU".

(9) CPU board communication

NT	95	98	2000	Me
○	×	×	○	×

(a) Precautions

1) Always use any of the following communication drivers.
Other communication drivers cannot be used.

Used OS	SW0DNF-ANU-B	SW1DNF-ANU-B
Windows NT® Workstation 4.0	○	○
Windows® 95	×	×
Windows® 98	×	×
Windows® 2000 Professional	×	○
Windows® Me	×	×

○ : Usable, × : Unusable

2) Access to the QCPU (Q mode) and FXCPU cannot be made.

(10) Q series bus communication (only when PC CPU module is used)

NT	95	98	2000	Me
○	×	×	○	×

(a) Precautions

1) Use the MELSECNET/H communication and CC-Link communication controls to make access to other stations via the MELSECNET/H module and CC-Link module controlled by the PC CPU module.

(11) GX Simulator communication

NT	95	98	2000	Me
○	○	○	×	×

When making GX Simulator communication, use GX Developer and GX Simulator of the following versions or later.

Used OS	GX Developer	GX Simulator
Windows NT® Workstation 4.0	SW5D5C-GPPW or later	SW5D5C-LLT (Version B or later)
Windows® 95		
Windows® 98		
Windows® 2000 Professional	SW7D5C-GPPW or later	×
Windows® Me		

POINT

GX Developer and GX Simulator must be purchased separately.

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2.3 Operating Environment

The following table summarizes the operating environment for MX Component.

Item		Description
Personal computer	IBM PC/AT compatible personal computer	133MHz or more Pentium® *1 IBM PC/AT compatible personal computer where the OS operates. *2
	PC CPU module	MELSEC-Q series compatible PC CPU module (CONTEC CO., LTD. make)
O S		Any of Microsoft® Windows® 2000 Professional Operating System (English version), Microsoft® Windows® Millennium Edition Operating System (English version), Microsoft® Windows® 95 Operating System (English version), Microsoft® Windows® 98 Operating System (English version) and Microsoft® Windows NT® Workstation Operating System Version 4.0 (English version)
Required memory		32MB or more
Hard disk free space		100MB or more
Disk drive		CD-ROM disk drive
Display		800 × 600 dot or more resolution
Programming language *4		Programming language / Development software: Visual Basic® / Microsoft® Visual Basic® 6.0 (English version) Visual C++® / Microsoft® Visual C++® 6.0 (English version) VBScript *5 / Text editor and commercially available HTML tool VBA / Microsoft® Excel 2000 (English version) or Microsoft® Access 2000 (English version)

*1: 150MHz or more Pentium® is recommended for use of Windows® Me.
*2: A multiprocessor IBM-PC/AT compatible personal computer cannot be used because of driver incompatibility.
*3: Service Pack 3 or more is needed for use of Windows NT® Workstation 4.0.
*4: User programs created in the English environment may be used in the English environment only. They cannot be used in the Japanese environment.
*5: To operate VBScript, use Internet Explorer (version 5.00.2919.6307 or later).

2.4 Usable PLC CPUs

The usable PLC CPUs are given below.

	PLC CPU Types
ACPU	A0J2HCPU, A1SCPU, A1SCPU-S1, A1SCPUC24-R2, A1SHCPU, A1SJCPU, A1SJHCPU, A1NCPU, A2CCPU, A2CCPUC24, A2CCPUC24-PRF, A2CJCPU, A2NCPU, A2NCPU-S1, A2SCPU, A2SCPU-S1, A2SHCPU, A2SHCPU-S1, A3NCPU, A1FXCPU, A2ACPU, A2ACPU-S1, A2ACPUP21/R21, A2ACPUP21/R21-S1, A3ACPU, A3ACPUP21/R21, A2UCPU, A2UCPU-S1, A2USCPU, A2USCPU-S1,A2ASCPU, A2ASCPU-S1, A2ASCPU-S30, A2USHCPU-S1, A3UCPU, A4UCPU
QnACPU	Q2ACPU, Q2ACPU-S1, Q2ASCPU, Q2ASCPU-S1, Q2ASHCPU, Q2ASHCPU-S1, Q3ACPU, Q4ACPU, Q4ARCPU
QCPU (A mode)	Q02CPU-A, Q02HCPU-A, Q06HCPU-A
QCPU (Q mode)	Q00JCPU, Q00CPU, Q01CPU, Q02CPU, Q02HCPU, Q06HCPU, Q12HCPU, Q25HCPU
FXCPU	FX_0, FX_{0S}, FX_{0N}, FX_1, FX_{1N}, FX_{1NC}, FX_{1S}, FX_2, FX_{2C}, FX_{2N}, FX_{2NC} series
Motion controller CPU	A171SHCPU, A172SHCPU, A173UHCPU, A173UHCPU-S1, A273UHCPU, A273UHCPU-S3

3 OPERATION PROCEDURES

This chapter explains the selection of the MX Component development type and the procedures for creating user applications.

3.1 Selecting the Development Type

When using MX Component to create user applications, choose the utility setting type or program setting type before creating a user application.
The utility setting type and program setting type will be described.

(1) Utility setting type

Make communication settings using the communication setting wizard.
Using the communication setup utility enables you to create a user program without being aware of the complicated parameters of any communication.
In the user program, the communication line can be connected by simply setting the logical station number set on the communication setting wizard to the ACT control property or into a user program.

(2) Program setting type

A user program is created without using the communication setup utility.
Make ACT control settings for the corresponding communication in the property window directly or within the user program.
The properties necessary to be set depend on the ACT control.

(3) Comparison

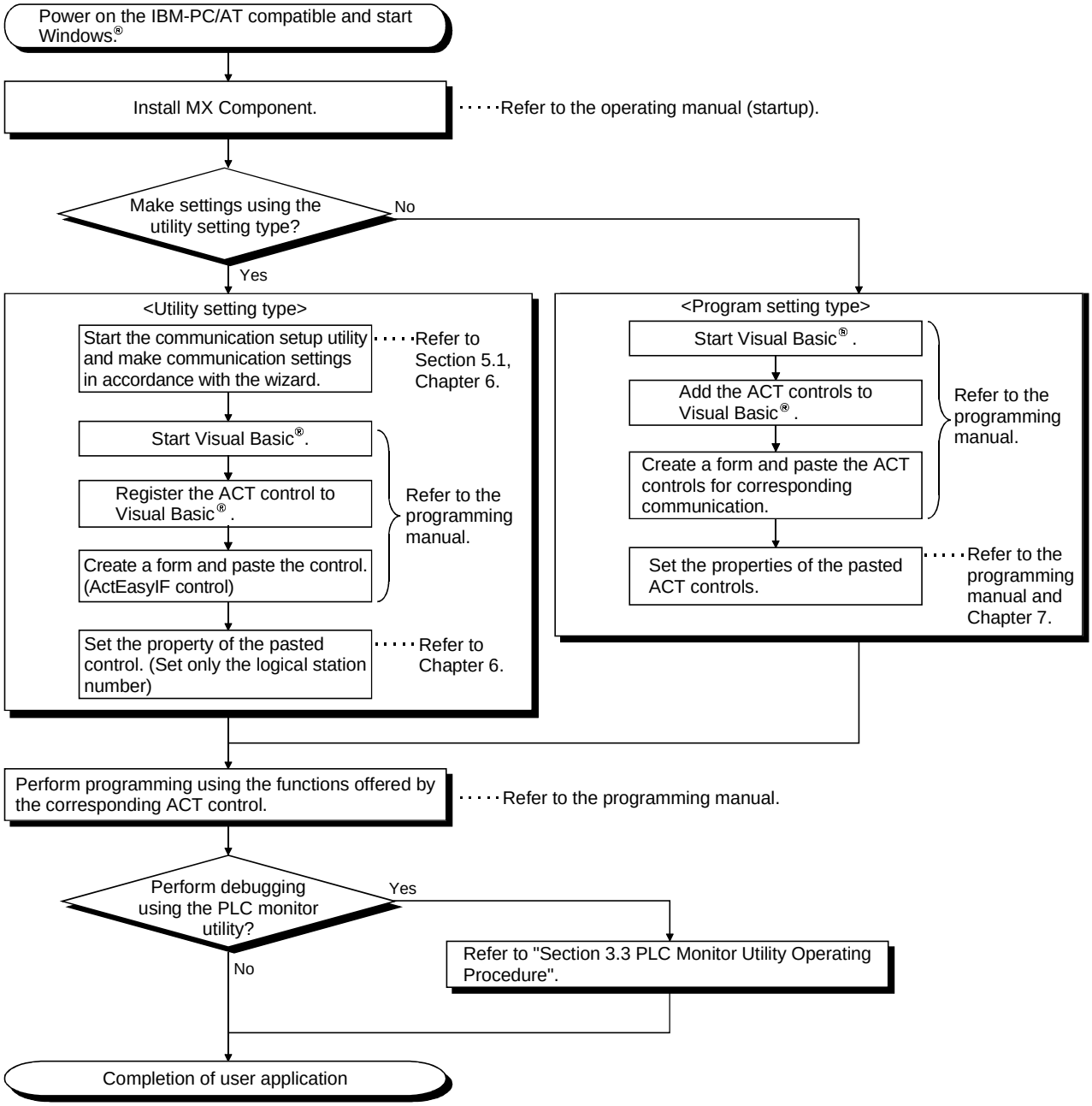
The following table compares the utility setting type and program setting type.

Item \ Setting Type	Utility Setting Type	Program Setting Type
Feature	Communication settings can be made easily using the communication setting wizard. In program creation, communication can be made by merely making the setting (logical station number) on the communication setting wizard. (The number of development processes can be reduced.)	All communication settings can be made in the user program. Communication settings can be changed flexibly in the user program.
Used ACT control	ActEasyIF, ActMLEasyIF	ACT control for corresponding communication
Whether communication setup utility is used or not	Used.	Not used.
How to connect PLC monitor utility	Choose the logical station number.	Change the settings every time you make connection. (Use the wizard)

3.2 User Application Creating Procedures

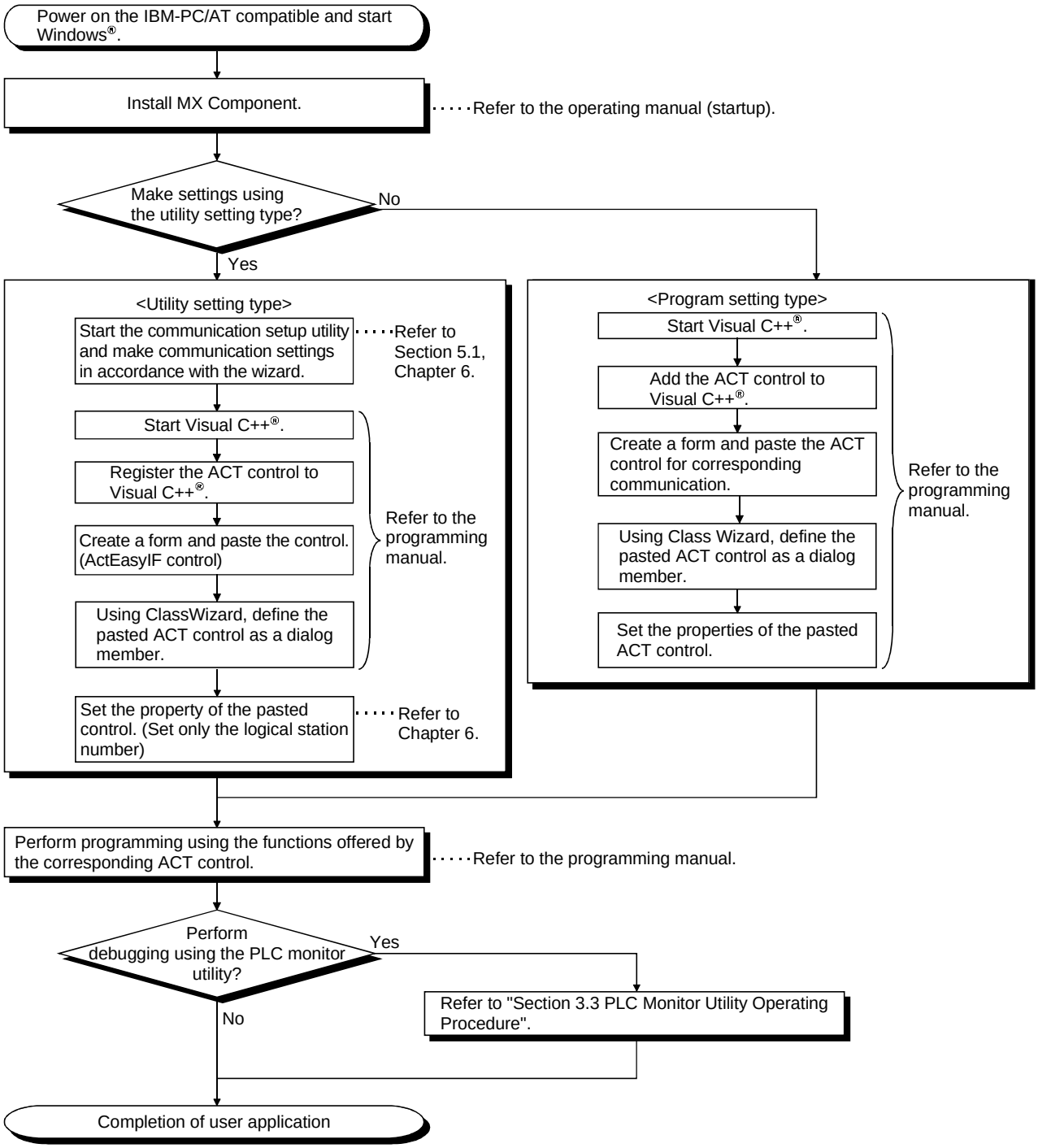
3.2.1 When using Microsoft® Visual Basic®

The following creation procedures assumes use of Visual Basic® .



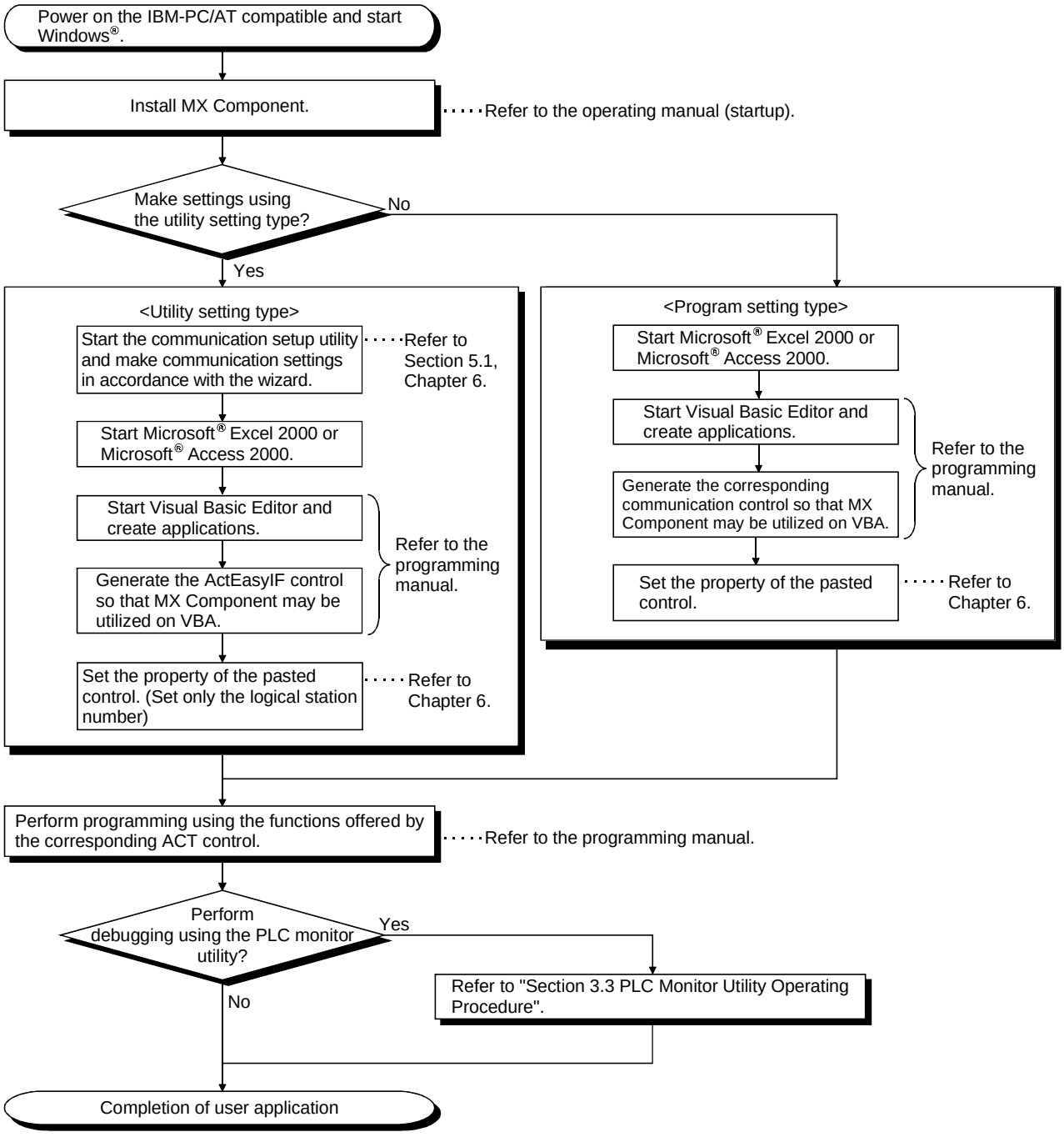
3.2.2 When using Microsoft® Visual C++®

The following creation procedures assumes use of Visual C++® .



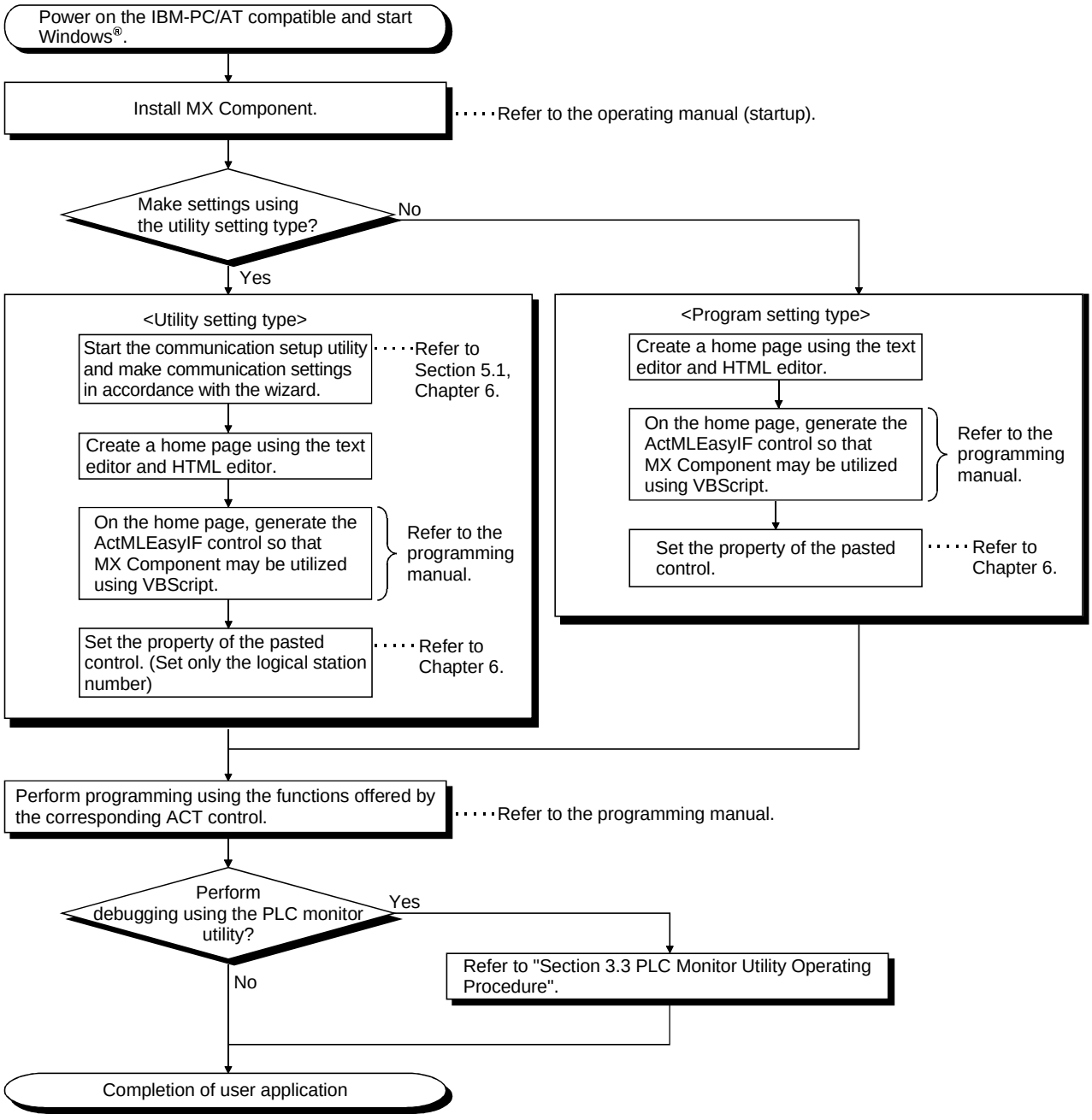
3.2.3 When using VBA

The following creation procedures assumes use of VBA.



3.2.4 When using VBScript

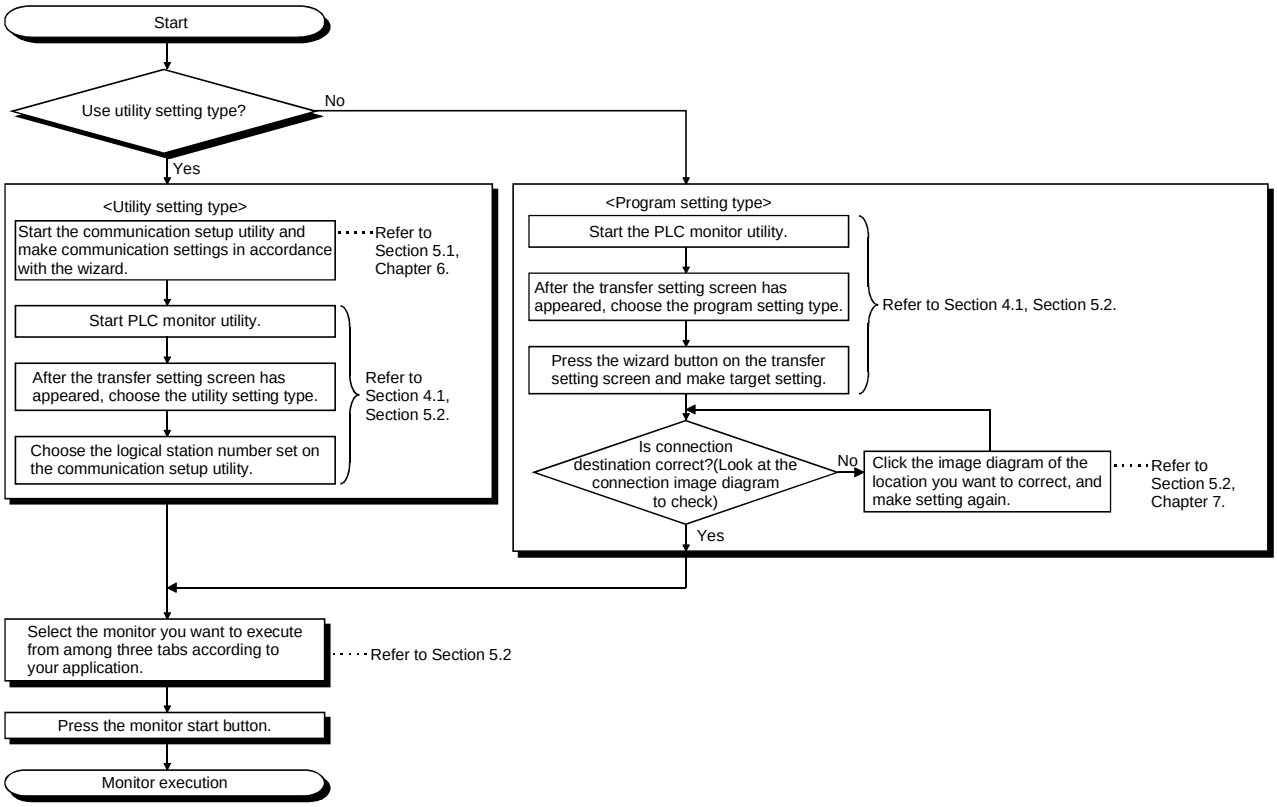
The following creation procedures assumes use of VBScript.



POINT
Refer to Appendix 2 for the way to start the Internet/intranet environment.

3.3 PLC Monitor Utility Operating Procedure

The following is the PLC monitor utility operating procedure.

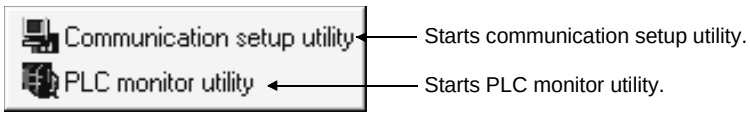


4 OPERATIONS COMMON TO UTILITIES

This chapter explains the operations common to the utilities.

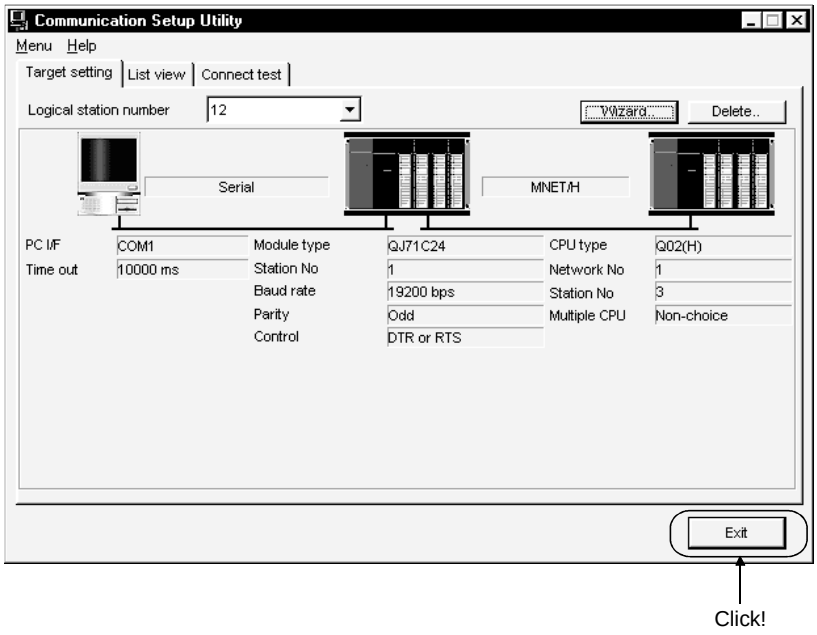
4.1 Starting the Utility

Each utility can be started by clicking the corresponding icon in the [Start]-[Melsec Application]-[ActiveX Communication Support Tool] menu.
For the registered icons, refer to the operating manual (startup).



4.2 Exiting the Utility

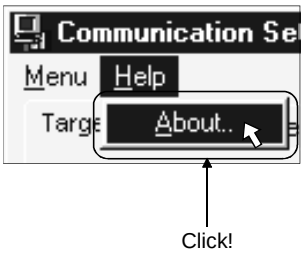
To exit each utility, click the Exit button at bottom right of the screen.
As the dialog box appears, click the Yes button to exit the utility.



4 - 1

4.3 Confirming the Version

To confirm the version of each utility, click the [Help]-[About] menu.



5 UTILITY OPERATIONS

This chapter provides how to operate the communication setup utility and PLC monitor utility.

POINT
Refer to "CHAPTER 6 COMMUNICATION SETTING EXAMPLES OF THE UTILITY SETTING TYPE" for communication setting examples using the communication setup utility.

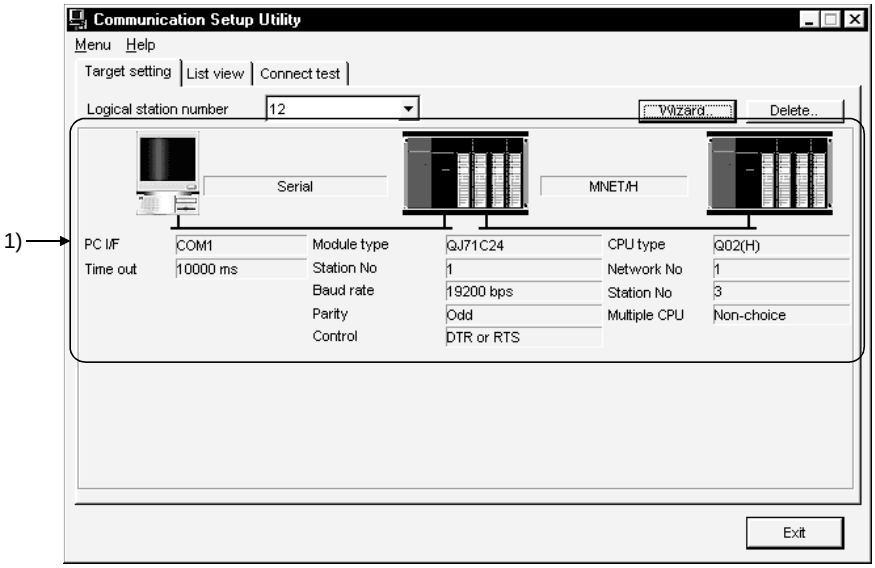
5.1 Communication Setup Utility

This section describes how to operate and set the communication setup utility used to make communication with the utility setting type.

5 - 1

5.1.1 Operations on target setting screen

This screen is used to display the setting details of the logical station number set on the communication setting wizard and to edit the logical station number.



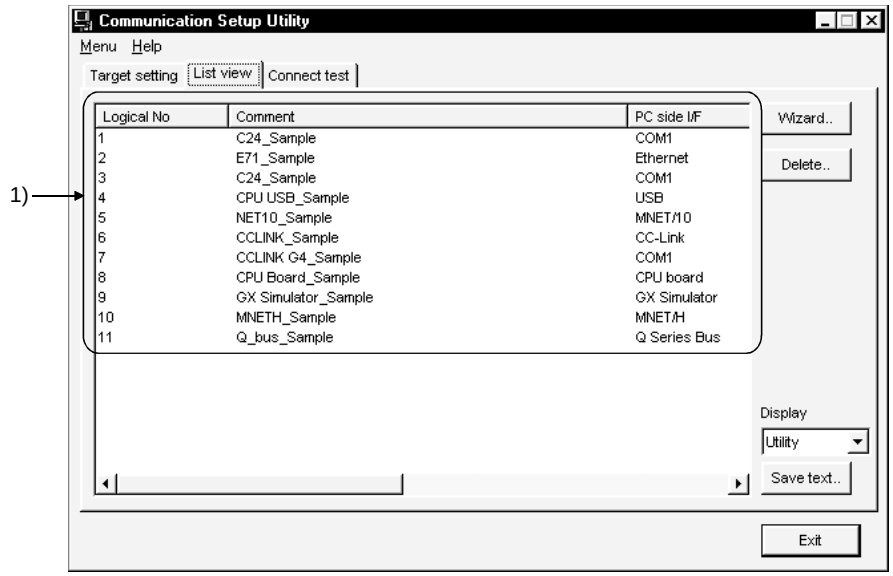
Item	Description
Logical station number	Choosing the logical station number set on the communication setting wizard shows 1) (Connection image diagram).
Wizard	Used to start the communication setting wizard and set the logical station number.
Delete	Used to delete the preset logical station number.
1) (Connection image diagram)	Shows the connection image diagram of the logical station number set on the communication setting wizard. Clicking any sketch (personal computer, PLC CPU) in the connection image diagram starts the communication setting wizard, enabling you to change the settings.

REMARK

For details of the communication setting wizard, refer to "Section 5.1.6 Operations on the communication setting wizard screen".

5.1.2 Operations on list view screen

This screen is used to list the logical station numbers registered, edit the logical station number, and list the properties necessary for the program setting type.



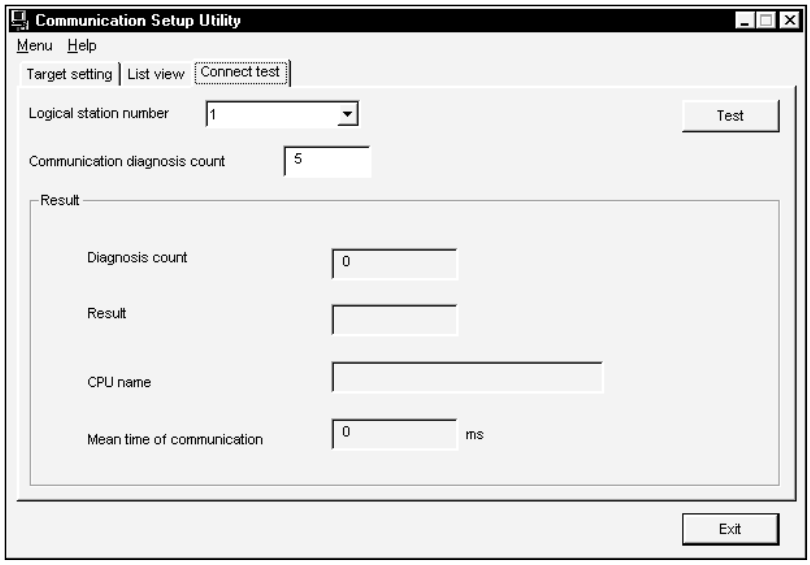
Item	Description
1) (Property list)	Shows the settings of the registered logical station numbers. Double-clicking the logical station number starts the communication setting wizard.
Wizard	Used to start the communication setting wizard and set the logical station number.
Delete	Used to delete the preset logical station number.
Display	Utility.....Shows the settings made for the logical station numbers in 1) (Property list). Program.....Shows the property list necessary for setting with the program setting type in 1) (Property list).
Save text	1) Used to save the settings of 1) (Property file) into a file in the txt format.

REMARK

For details of the communication setting wizard, refer to "Section 5.1.6 Operations on the communication setting wizard screen".

5.1.3 Operations on connection test screen

This screen is used to conduct a communication test on the logical station number registered.



Item	Description
Logical station number	Choose the logical station number on which a communication test will be made.
Communication diagnosis count	Set how many times the communication test will be repeated. (Setting range: 1 to 32767, default value: 5)
Test (Cancel)	Used to start (stop) the communication test.
Result	Shows the result of the communication test.

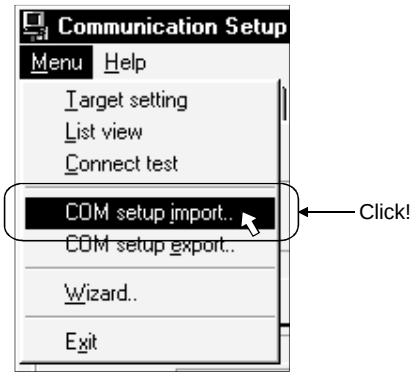
Item	Description
Diagnosis count	Shows the number of connections made during the communication test.
Result	Shows the test result. An error code appears at error occurrence. 0 appears at normal termination, or any value other than 0 appears at abnormal termination.
CPU name	Shows the connected CPU type.
Mean time of communication	Shows the average time taken until one communication test is established. (Unit: ms)

5.1.4 Operations on COM setup import screen

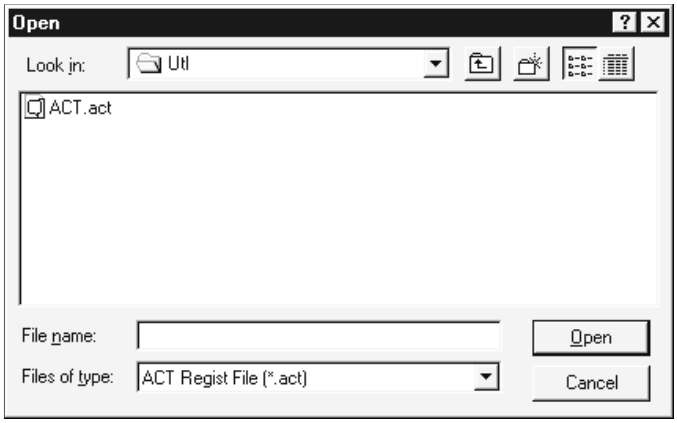
The communication settings saved in the file by the operations in Section 5.1.5 are reflected on the utility.
This screen is used when the communication settings made on the other IBM-PC/AT compatible are to be reflected on the IBM-PC/AT compatible being used.

(1) Selected menu item

Choose the [Menu]-[COM setup inport] on the menu bar.



(2) Dialog box



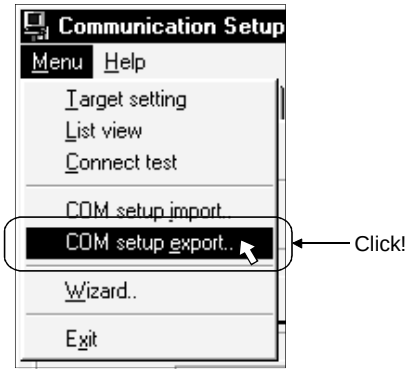
Item	Description
Look in	Specify the place where the file to be imported exists.
File name	Enter the file name to be imported.
Files of type	Set the type of the file to be imported.
Open	Used to execute import.
Cancel	Used to cancel importing the communication settings.

5.1.5 Operations on COM setup export screen

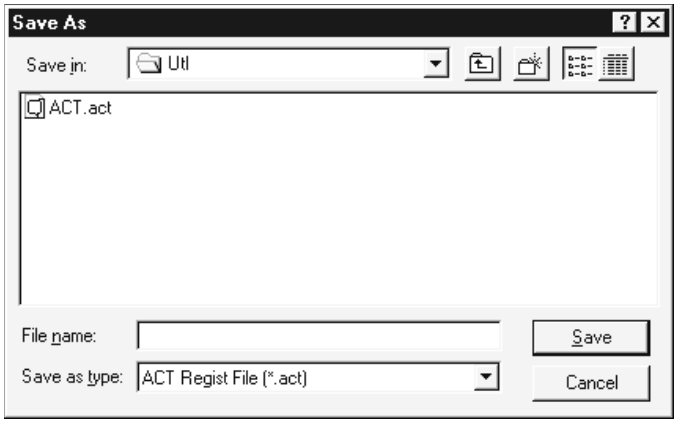
The communication settings being made on the IBM-PC/AT compatible are saved in a file. (The file where data are saved is called the ACT registered file.)
This screen is used to save the communication settings before uninstalling MX Component or to reflect the communication settings on the other IBM-PC/AT compatible.

(1) Selected menu item

Choose the [Menu]-[COM setup export] on the menu bar.



(2) Dialog box



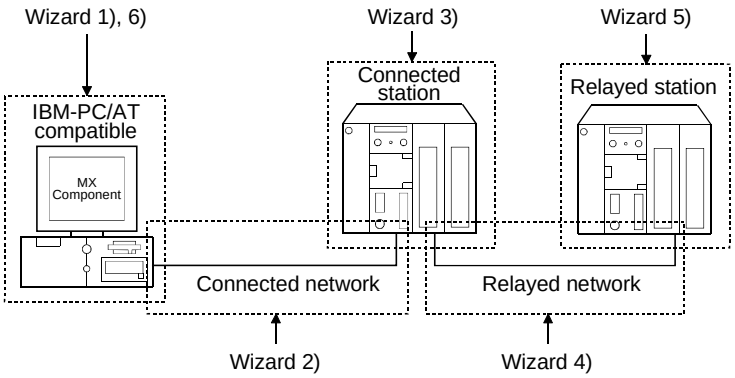
Item	Description
Save in	Specify the place where the file will be exported.
File name	Enter the file name to be saved.
Save as type	Set the type of the file to be saved.
Save	Used to export the communication settings.
Cancel	Used to cancel exporting the communication settings.

5.1.6 Operations on communication setting wizard screens

These screens are used to set the logical station number necessary to make communication with the utility setting type.

(1) Outline of the communication setting wizard

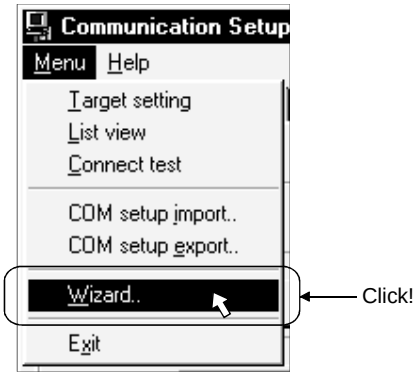
The logical station number necessary to make communication with the utility setting type is set in the wizard format.
The places and descriptions of the settings made on the communication setting wizard screens will be given below.
For the wizard screen settings, refer to "(3) Explanation of the communication setting wizard screens".



Screen Name	Description
Wizard 1)	Used to set the logical station number.
Wizard 2)	Used to set the connected network between the IBM-PC/AT compatible and connected station (PLC CPU and module).
Wizard 3)	Used to set the connected station (PLC CPU and module).
Wizard 4)	Used to set the relayed network between the connected station (PLC CPU and module) and relayed station (PLC CPU and module).
Wizard 5)	Used to set the relayed station PLC CPU.
Wizard 6)	Used to comment the logical station number.

(2) Starting procedure

Choose the [Menu]-[Wizard] on the menu bar.
(You can also start by clicking the Wizard button displayed on the utility screen.)



(3) Explanation of the communication setting wizard screens

Communication setting wizard screens are shown from wizard 1) to wizard 6) in this order.

Explanation will be made in the order of the displayed communication setting wizard screens.

POINT

(1) The displays or available setting items of the communication setting wizard screens change with the communication settings.
Set all available setting items being displayed.

(2) Some of the communication setting wizard screens may not appear depending on the settings.

(3) If you repeat starting the communication setting wizard limitlessly, a memory shortage error may occur.
This fault is attributable to MS-IME95 or MS-IME97 of Microsoft Corporation. If the memory shortage error has occurred, change MS-IME95 or MS-IME97 for MS-IME2000.

Start the communication setting wizard.

↓

Wizard 1)

1) Type or choose the logical station number and click the Next> button.

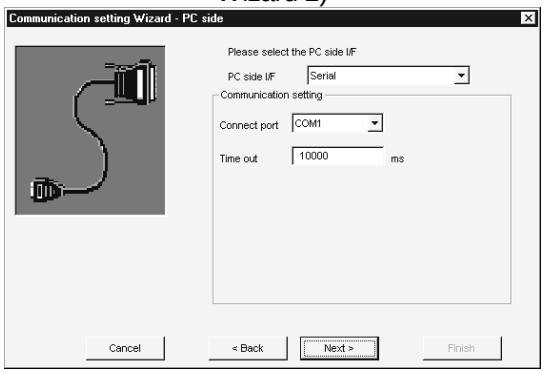
↓

(To the next page)

(From the preceding page)

↓

Wizard 2)



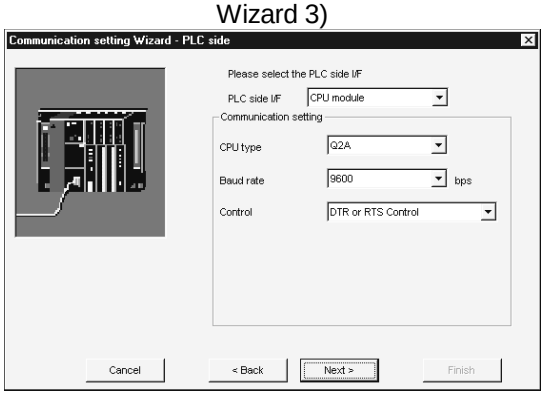
2) Choose the "PC side I/F" to communicate with.
The items shown in "Communication setting" change with the setting made in "PC side I/F".
Set all available setting items and click the Next> button.

The choices corresponding to the communications in "PC side I/F" are indicated below.

Setting Item	Communication Name
Serial	Computer link communication, CPU COM communication, CPU USB communication, CC-Link G4 communication
MELSECNET/10 board	MELSECNET/10 communication
MELSECNET/H board	MELSECNET/H communication
Q Series Bus	Q Series bus communication
CC-Link board	CC-Link communication
Ethernet board	Ethernet communication
CPU board	CPU board communication
GX Simulator	GX Simulator communication

↓

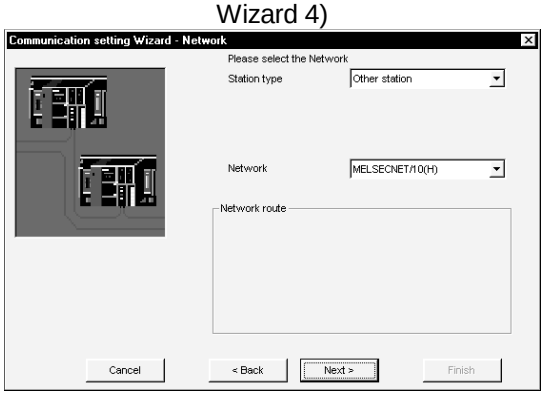
Wizard 3)



3) Wizard 3) differs in available setting items depending on the settings on Wizard 2).
Set all available setting items and click the Next> button.

↓

Wizard 4)



4) Wizard 4) differs in available setting items depending on the settings on Wizard 2) and Wizard 3).
Set all available setting items and click the Next> button.

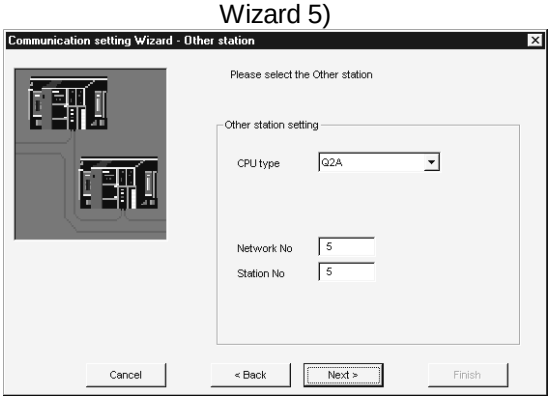
↓

(To the next page)

(From the preceding page)

↓

Wizard 5)



5) Wizard 5) differs in available setting items depending on the settings on Wizard 2), Wizard 3) and Wizard 4).
Set all available setting items and click the Next> button.

↓

Wizard 6)

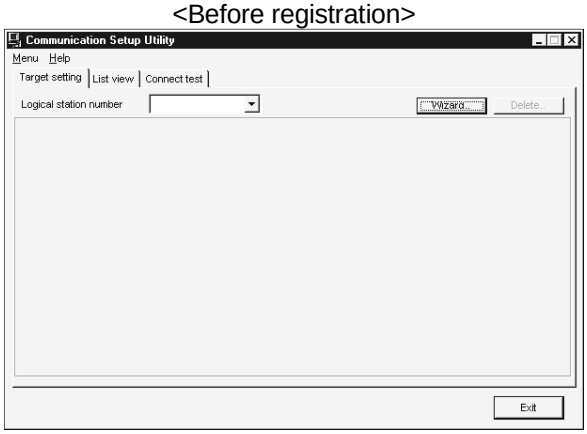
6) Comment the logical station number that was set.
A comment may be entered using up to 32 characters.
Enter a comment and click the Finish button.
When you do not need a comment, click the Finish button without entering it.

↓

(Registration complete)

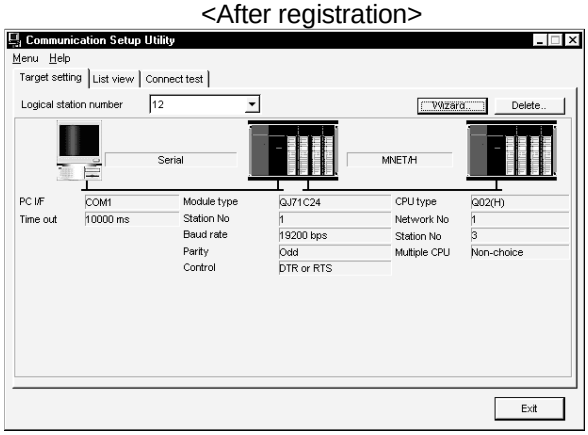
When the registration of the logical station number is completed on the communication setting wizard, the settings are displayed on the target setting screen.

<Before registration>



→

<After registration>



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5.2 PLC Monitor Utility

This section explains how to operate and set the PLC monitor utility.

5.2.1 Operations on transfer setting screen

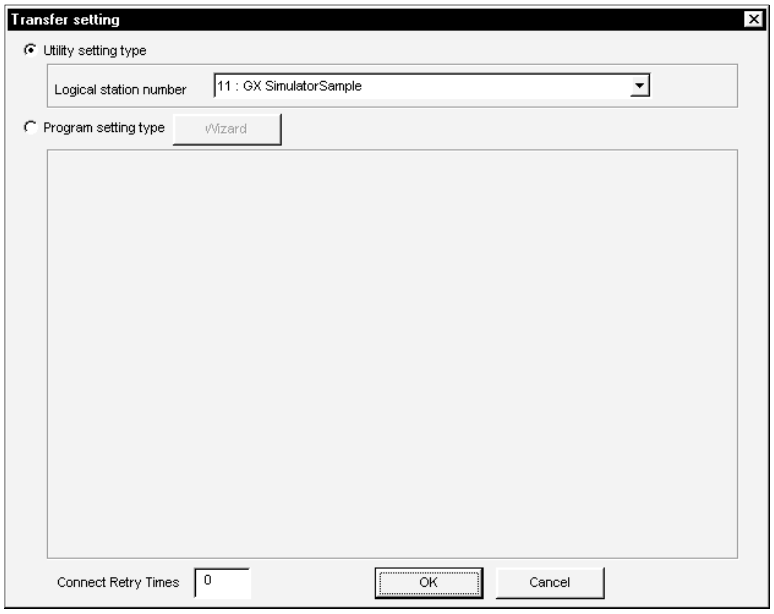
This screen is used to set connection from the IBM-PC/AT compatible to the PLC CPU.

(1) Selected menu item

Choose [Online]-[Transfer setting] on the menu bar.
(This screen also appears when the PLC monitor utility is started.)

(2) Dialog box

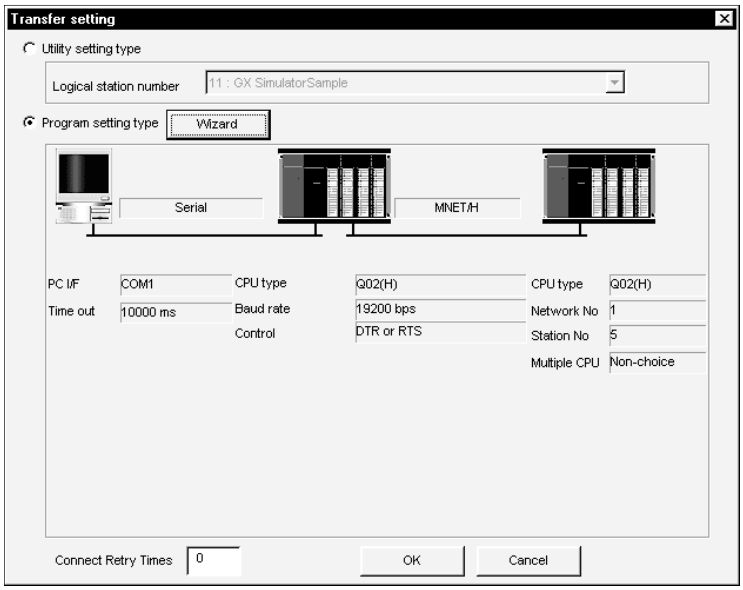
(a) When choosing the utility setting type



Item	Description
Utility setting type	Choose when using the logical station number set on the communication setup utility to make transfer setting.
Logical station number	Choose the logical station number set on the communication setup utility.
Connect Retry times	Set the number of retries to be made when an error occurs during monitoring with the PLC monitor utility.(default : 0, setting range : 0 to 9)

POINT
Before specifying the logical station number, confirm that the settings of the logical station number, such as the CPU type and station number, are correct on the communication setup utility.

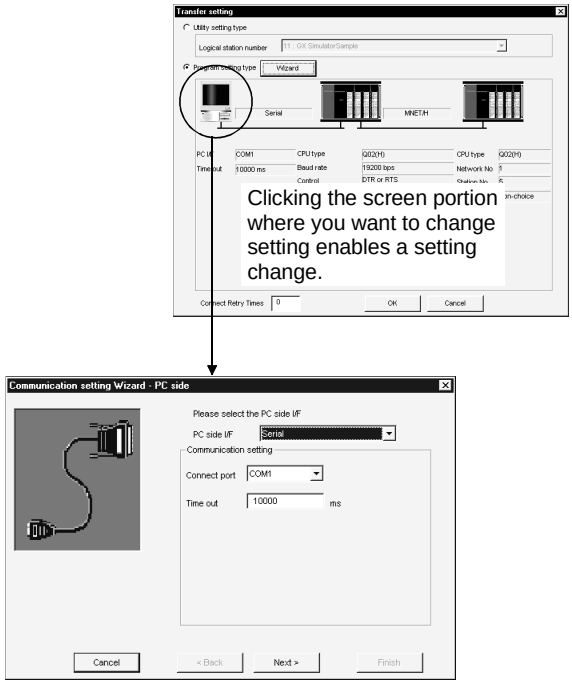
(b) When choosing the program setting type



Item	Description
Program setting type	Choose when the program setting type is used to create programs.
Wizard	Used to start the communication setting wizard and make transfer setting.
Connect Retry times	Set the number of retries to be made when an error occurs during monitoring with the PLC monitor utility.(default : 0, setting range : 0 to 9)

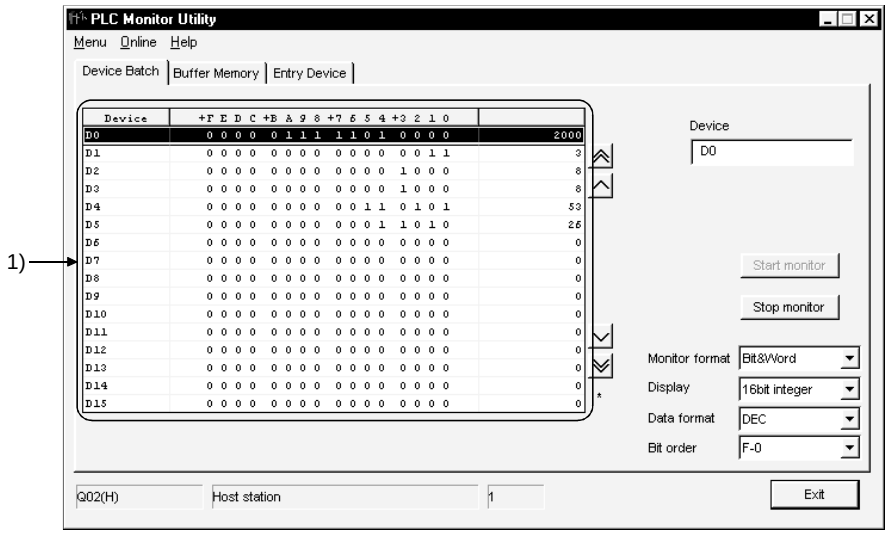
POINT

When the program setting type is selected, clicking the PLC or personal computer sketch enables you to change the details of the transfer setting.



5.2.2 Operations on device batch screen

This screen is used to monitor only the specified one type of devices.



Item	Description
Device	Enter the device name to be batch-monitored.
Start monitor (Stop monitor)	Used to start (stop) monitor.
Monitor format	Set the monitor format. (Default: Bit & Word) Item: Bit & Word — Description: Sets the monitor screen to the bit and word display. Item: Bit — Description: Sets the monitor screen to the bit display only. Item: Word — Description: Sets the monitor screen to the word display only.
Display	Set the display format of the device values to be displayed when the monitor format is "Bit & Word" or "Word". (Default: 16 bit integer) Item: 16 bit integer — Description: Sets to the 16-bit integer display. Item: 32 bit integer — Description: Sets to the 32-bit integer display. Item: Real number — Description: Sets to the real number display. Item: ASCII character — Description: Sets to the ASCII character string display.
Data format	Set the radix when the display is "16 bit integer" or "32 bit integer". (Default: DEC) Item: DEC — Description: Sets to the decimal display. Item: HEX — Description: Sets to the hexadecimal display.

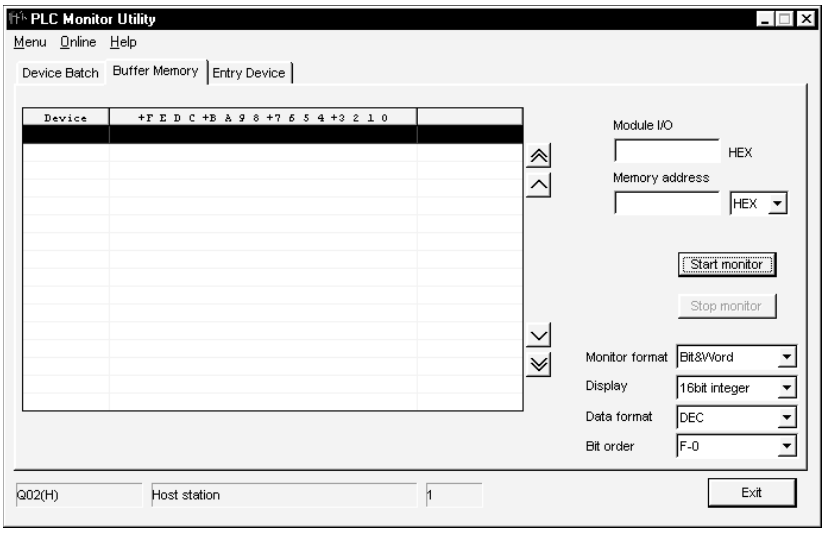
<table>
<tr><th>Item</th><th>Description</th></tr>
<tr><td>Bit order</td><td>Set the order in which the bit devices being monitored are arranged.
<table>
<tr><th>Item</th><th>Description</th></tr>
<tr><td>F-0</td><td>Arranged in order of F, E, ... 1, 0 from left to right.</td></tr>
<tr><td>0-F</td><td>Arranged in order of 0, 1, ... E, F from left to right.</td></tr>
</table></td></tr>
<tr><td>1) (Monitor screen)</td><td>Shows the device statuses.
Clicking the device name shows the device write screen.
For details of the device write screen, refer to "Section 5.2.5 Operations on device write screen".</td></tr>
<tr><td>2) (Target CPU name)</td><td>Shows the communication target CPU name specified on the communication setting wizard screen.</td></tr>
<tr><td>3) (Communication path information)</td><td>Shows such information as the network type, network number, first I/O address and station number.</td></tr>
<tr><td>4) (Logical station number)</td><td>Shows the logical station number set for the utility setting type.
This does not appear when the program setting type is used.</td></tr>
</table>

POINT

(1) For the bit device statuses, 1 indicates an ON status and 0 an OFF status.
(2) Bit devices are monitored in units of 16 points.
If any device outside the range supported by the PLC CPU is included in the 16 points, its value is displayed "0".
(3) Specifying the device memory in the U✻\G✻ format enables the buffer memory to be monitored.
(4) When monitoring the set values of the timers and counters, indirectly specify the data registers.
(5) For the X and Y devices of the FXCPU, type their device numbers in octal.
(6) For the C devices of the FXCPU, C0 to C199 (16 bit) and C200 and later (32 bit) are displayed separately.
(7) Devices cannot be monitored if the connection destination is not established.
(8) During monitoring, you cannot make transfer setting.
(9) During monitoring, "✻" flickers under the scroll button.

5.2.3 Operations on buffer memory screen

This screen is used to monitor only the specified one type of buffer memory.



Item	Description
Module I/O	Type the first address of the module to be monitored.
Memory address	Enter the address of the buffer memory to be monitored in hexadecimal or decimal.
Start monitor (Stop monitor)	Used to start (stop) monitor.
Monitor format	Set the monitor format. (Default: Bit & Word) Item: Bit & Word — Description: Sets the monitor screen to the bit and word display. Item: Bit — Description: Sets the monitor screen to the bit display only. Item: Word — Description: Sets the monitor screen to the word display only.
Display	Set the display format of the device values to be displayed when the monitor format is "Bit & Word" or "Word". (Default: 16 bit integer) Item: 16 bit integer — Description: Sets to the 16-bit integer display. Item: 32 bit integer — Description: Sets to the 32-bit integer display. Item: Real number — Description: Sets to the real number display. Item: ASCII character — Description: Sets to the ASCII character string display.
Data format	Set the radix when the display is "16 bit integer" or "32 bit integer". (Default: DEC) Item: DEC — Description: Sets to the decimal display. Item: HEX — Description: Sets to the hexadecimal display.

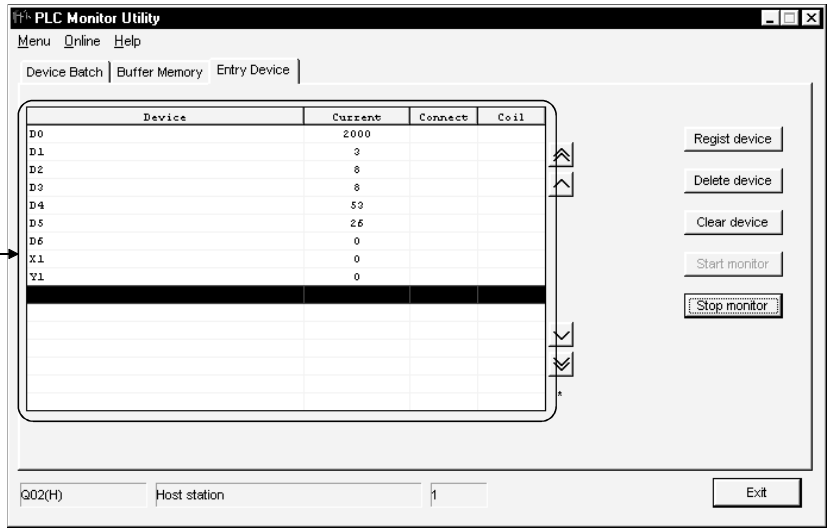
<table>
<tr><th>Item</th><th>Description</th></tr>
<tr><td>Bit order</td><td>Set the order in which the bit devices being monitored are arranged.
<table>
<tr><th>Item</th><th>Description</th></tr>
<tr><td>F-0</td><td>Arranged in order of F, E, ... 1, 0 from left to right.</td></tr>
<tr><td>0-F</td><td>Arranged in order of 0, 1, ... E, F from left to right.</td></tr>
</table></td></tr>
<tr><td>1) (Monitor screen)</td><td>Shows the buffer memory status.</td></tr>
<tr><td>2) (Target CPU name)</td><td>Shows the communication target CPU name specified on the communication setting wizard screen.</td></tr>
<tr><td>3) (Communication path information)</td><td>Shows such information as the network type, network number, first I/O address and station number.</td></tr>
<tr><td>4) (Logical station number)</td><td>Shows the logical station number set for the utility setting type.
This does not appear when the program setting type is used.</td></tr>
</table>

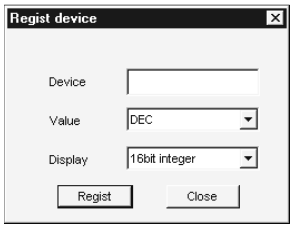
POINT

(1) For the bit device statuses, 1 indicates an ON status and 0 an OFF status.
(2) For access to the FXCPU, enter the block number of the special expansion equipment into Module I/O.
(3) Devices cannot be monitored if the connection destination is not established.
(4) During monitoring, you cannot make transfer setting.
(5) During monitoring, "*" flickers under the scroll button.

5.2.4 Operation on entry device screen

This screen is used to monitor the specified devices on a single screen at the same time.



Item	Description
Regist device	Used to register the device to be monitored. Clicking the [Regist device] button shows the following screen. 
Delete device	Used to delete the device to be monitored.
Clear device	Used to delete all devices registered in device entry monitor from the monitor screen.
Start monitor ([Stop monitor])	Used to start (stop) monitor.

Item	Description
Device	Type the device to be registered.
Value	Set the value to be entered when a word device is specified. (Default: DEC)
Display	Set the display format when a word device is specified. (Default: 16 bit integer)
[Regist]	Used to register the device.
[Close]	Used to close the dialog box.

Item	Description
DEC	Sets to decimal.
HEX	Sets to hexadecimal.

Item	Description
16 bit integer	Sets to the 16-bit integer display.
32 bit integer	Sets to the 32-bit integer display.
Real number	Sets to the real number display.
ASCII character	Sets to the ASCII character string display.

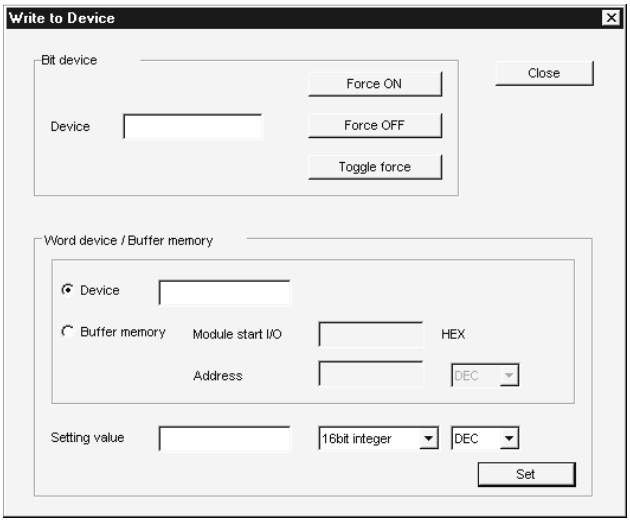
Item	Description
1) (Monitor screen)	Shows the device statuses. Clicking the device name shows the device write screen. For details of the device write screen, refer to "Section 5.2.5 Operations on device write screen".
2) (Target CPU name)	Shows the communication target CPU name specified on the communication setting wizard screen.
3) (Communication path information)	Shows such information as the network type, network number, first I/O address and station number.
4) (Logical station number)	Shows the logical station number set for the utility setting type. This does not appear when the program setting type is used.

POINT

(1) When monitoring the set values of the timers and counters, indirectly specify the data registers.
(2) Devices cannot be monitored if the connection destination is not established.
(3) During monitoring, you cannot make transfer setting.
(4) During monitoring, "*" flickers under the scroll button.

5.2.5 Operations on device write screen

This screen is used to change the ON/OFF of a bit device or the present value of a word device or buffer memory.
This screen is displayed by double-clicking the monitor screen of the corresponding tab.



Item		Description
Bit device	Device	Enter the device name.
	Force ON	Used to forcibly change the specified device to the ON status.
	Force OFF	Used to forcibly change the specified device to the OFF status.
	Toggle force	Used to forcibly change the specified device from the ON to OFF status or from the OFF to ON status.
Word device/Buffer memory	Device	Choosing "Device" enables you to enter the word device to which write will be performed.
	Buffer memory	Choosing "Buffer memory" enables you to enter the module's first I/O and buffer memory address.
	Setting value	Type the value to be written. The input range is as indicated below. 16 bit integer: –32768 to 32767 32 bit integer: –2147483648 to 2147483647 Real number: 1.175494351e–38 to 3.402823466e+33, Number of valid digits: 13 digits (max. 13 characters displayed)
	Set	Used to write the set data.

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5.2.6 Operations on clock setting screen

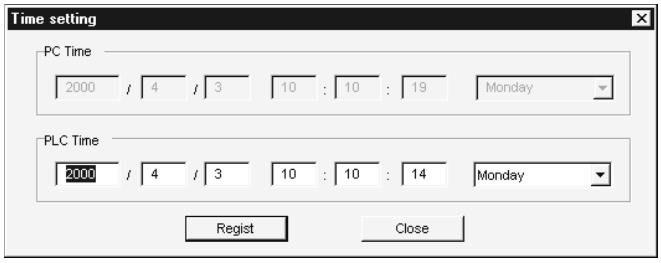
This screen is used to read or change the clock data of the PLC.

(1) Selected menu item

Choose [Online]-[Time setting] on the menu bar.

(2) Dialog box

The screen provided for explanation is the one displayed when the QCPU (Q mode) is connected.



Item	Description
PC Time	Shows the time of the personal computer. (Write disabled)
PLC Time	Shows the time of the PLC.
Regist	Used to write the "PLC Time" information to the PLC CPU.
Close	Used to close the clock setting screen.

POINT

Clock setting cannot be made for GX Simulator communication.
Only the personal computer time is displayed.

6 COMMUNICATION SETTING EXAMPLES OF THE UTILITY SETTING TYPE

This chapter explains the setting procedure and setting example of each communication path when the utility setting type is used for programming.

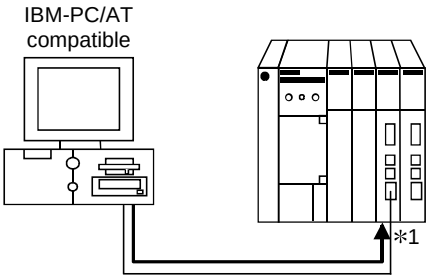
6.1 Computer Link Communication

This section provides the computer link communication procedure and its setting example using the utility setting type.

6.1.1 Switch settings of computer link modules

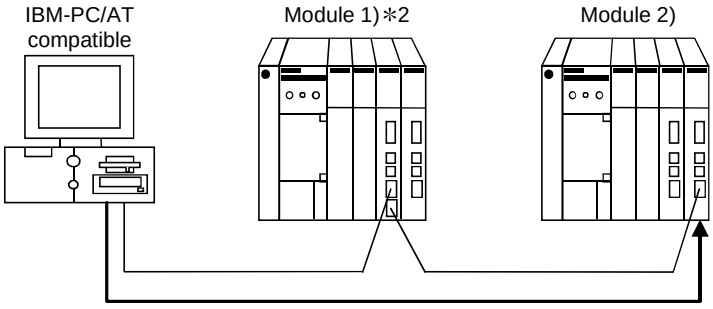
This section gives the switch settings of computer link modules for use of MX Component. The following sketches are used to explain each module.

<For 1:1 communication>



∗1: Limited for use of only CH1

<For 1:n communication>



∗2: Limited for use of both CH1 and CH2

6 - 1

POINT

When using MX Component, the settings other than "As set by user" in the tables are fixed as given in the tables.

(1) C24, UC24

Switch*1		Settings		
		For 1:1 communication	For 1:n communication	
			Module 1)	Module 2)
Mode setting switch		1 (format 1)	A (format 1)	5 (format 1)
Station number setting switches		0	As set by user	
Transmission specifications setting switches	Main channel setting	OFF(RS-232C)	OFF(RS-232C)	OFF(RS-422)
	Data bit setting	As set by user	As set by user *2	
	Transmission speed setting	As set by user	As set by user *2	
	Parity bit yes/no setting	As set by user	As set by user *2	
	Stop bit setting	As set by user	As set by user *2	
	Sum check yes/no setting	As set by user	As set by user *2	
	Online change enable/disable setting	As set by user		
	Computer link/multidrop setting	ON (computer link)	ON (computer link)	ON (computer link)

*1: For switch numbers, refer to the computer link module manual.

*2: Make the same settings to Module 1 and Module 2.

(2) QC24(N)

Switch (Switch Number)		Settings					
		For 1:1 communication		For 1:n communication			
				Module 1)		Module 2)	
		CH1 side	CH2 side	CH1 side	CH2 side	CH1 side	CH2 side
Mode setting switch		5(format 5)		0 or 5 (format 5)	5(format 5)	5(format 5)	
Station number setting switches		0		As set by user			
Transmission specifications setting switches	Operation setting switch (SW01)	OFF (independent operation)		OFF (independent operation)	ON or OFF *1	OFF (independent operation)	
	Data bit setting (SW02)	As set by user		As set by user *2			
	Parity bit yes/no setting (SW03)	As set by user		As set by user *2			
	Even parity/odd parity setting (SW04)	As set by user		As set by user *2			
	Stop bit setting (SW05)	As set by user		As set by user *2			
	Sum check yes/no setting (SW06)	As set by user		As set by user *2			
	Online change enable/disable setting (SW07)	As set by user					
	Setting change enable/disable setting (SW08)	As set by user		As set by user *2			
	Transmission speed setting (SW09 to SW12)	As set by user		As set by user *2			
	— (SW13 to SW15)	All OFF					

*1: Set to ON if the CH1 side mode setting switch setting is 0 or to OFF if the setting is 5 (format 5).

*2: Make the same settings to Module 1 and Module 2.

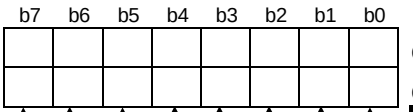
(3) Q series-compatible C24

(a) For 1:1 communication

Item	Settings		Set Value
	b15 to b8	b7 to b0	
Switch 1	CH1 communication speed	CH1 transmission setting∗1	0000H
Switch 2	—	CH1 communications protocol	0000H
Switch 3	CH2 communication speed	CH2 transmission setting∗1	0000H∗2
Switch 4	—	CH2 communications protocol	0000H∗2
Switch 5	Module station number		0000H

∗1: Settings of CH1 and CH2 are indicated below.

∗2: When using CH2, enter any value set by the user.



Bit	Description	Settings	
		CH1 transmission setting	CH2 transmission setting
b0	Operation setting	0 (independent)	0 (independent)
b1	Data bit	0 (1)	0 (1)
b2	Parity bit	0 (no)	0 (no)
b3	Odd/even parity	0 (odd)	0 (odd)
b4	Stop bit	0 (1)	0 (1)
b5	Sum check code	0 (no)	0 (no)
b6	Online change ∗3	0 (disable)	0 (disable)
b7	Setting change	0 (disable)	0 (disable)

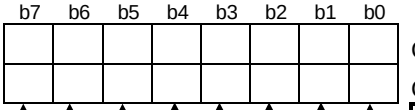
∗3: When the communication protocol is set to GX Developer connection (0H), the online change bit (b6) setting is made invalid to enable online change regardless of the online change setting.
Refer to the Q series-compatible C24 manual for details.

(b) For 1:n communication

Module 1)

Item	Settings		Set Value
	b15 to b8	b7 to b0	Synchronous operation
Switch 1	CH1 communication speed	CH1 transmission setting∗1	0726H
Switch 2	—	CH1 communications protocol	0008H
Switch 3	CH2 communication speed	CH2 transmission setting∗1	0727H
Switch 4	—	CH2 communications protocol	0000H
Switch 5	Module station number		As set by user

∗1: Settings of CH1 and CH2 are indicated below.

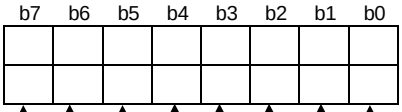


Bit	Description	Settings	
		Synchronous operation	
		CH1 transmission setting	CH2 transmission setting
b0	Operation setting	Match to module 2) setting.	
b1	Data bit	Match to module 2) setting.	
b2	Parity bit	Match to module 2) setting.	
b3	Odd/even parity	Match to module 2) setting.	
b4	Stop bit	Match to module 2) setting.	
b5	Sum check code	Match to module 2) setting.	
b6	Online change	Match to module 2) setting.	
b7	Setting change	Match to module 2) setting.	

Module 2)

Item	Settings		Set Value
	b15 to b8	b7 to b0	Synchronous operation
Switch 1	CH1 communication speed	CH1 transmission setting∗1	0726H
Switch 2	—	CH1 communications protocol	0008H
Switch 3	CH2 communication speed	CH2 transmission setting∗1	0727H
Switch 4	—	CH2 communications protocol	0000H
Switch 5	Module station number		As set by user

∗1: Settings of CH1 and CH2 are indicated below.

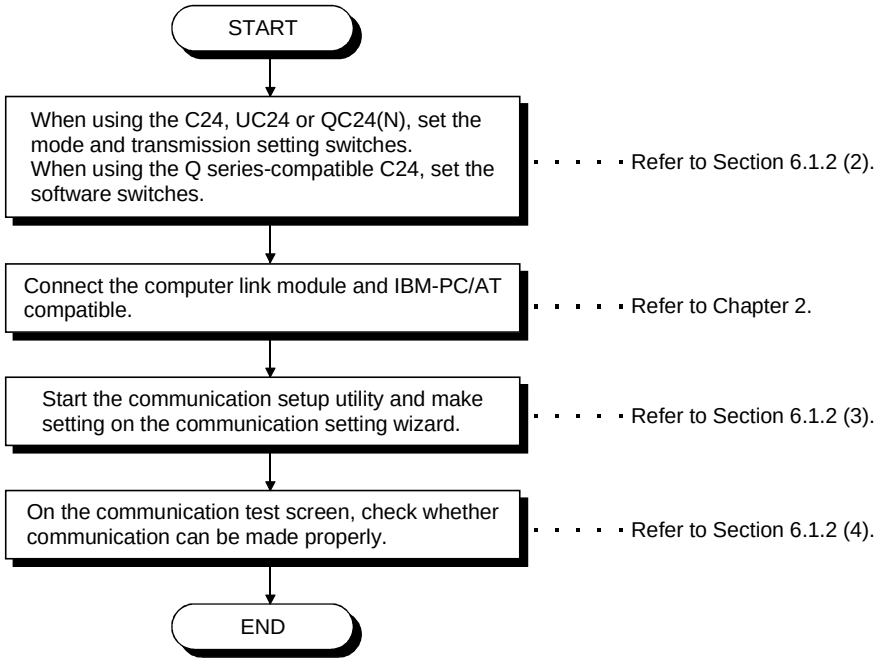


Bit	Description	Settings	
		Synchronous operation	
		CH1 transmission setting	CH2 transmission setting
b0	Operation setting	0 (independent)	1 (synchronous)
b1	Data bit	1 (8)	1 (8)
b2	Parity bit	1 (yes)	1 (yes)
b3	Odd/even parity	0 (odd)	0 (odd)
b4	Stop bit	0 (1)	0 (1)
b5	Sum check code	1 (yes)	1 (yes)
b6	Online change ∗2	0 (disable)	0 (disable)
b7	Setting change	0 (disable)	0 (disable)

∗2: When the communication protocol is set to GX Developer connection (0H), the online change bit (b6) setting is made invalid to enable online change regardless of the online change setting.
Refer to the Q series-compatible C24 manual for details.

6.1.2 Accessing procedure

The procedure for making access to the PLC CPU using computer link communication will be explained in the following order.

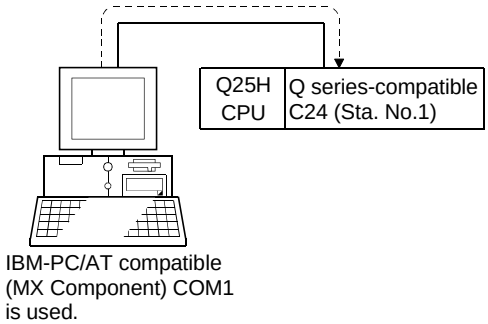


(1) System examples

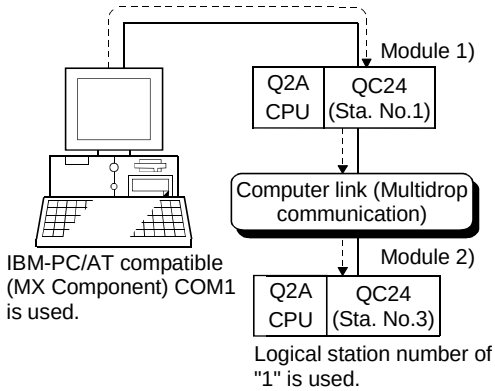
The following system examples are used in this section.

The explanation given in "(3) Setting the logical station number (Setting on communication setting wizard)" and later uses the system example for 1:n communication.

<For 1:1 communication>



<For 1:n communication>

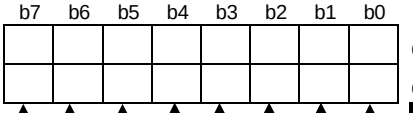


(2) Making the switch settings of the computer link module

(a) For 1:1 communication

Item	Settings		Set Value
	b15 to b8	b7 to b0	
Switch 1	CH1 communication speed	CH1 transmission setting∗1	0000H
Switch 2	—	CH1 communications protocol	0000H
Switch 3	CH2 communication speed	CH2 transmission setting∗1	0000H
Switch 4	—	CH2 communications protocol	0000H
Switch 5	Module station number		0000H

∗1: Settings of CH1 and CH2 are indicated below.



Bit	Description	Settings	
		CH1 transmission setting	CH2 transmission setting
b0	Operation setting	0 (independent)	0 (independent)
b1	Data bit	0 (1)	0 (1)
b2	Parity bit	0 (no)	0 (no)
b3	Odd/even parity	0 (odd)	0 (odd)
b4	Stop bit	0 (1)	0 (1)
b5	Sum check code	0 (no)	0 (no)
b6	Online change ∗2	0 (disable)	0 (disable)
b7	Setting change	0 (disable)	0 (disable)

∗2: When the communication protocol is set to GX Developer connection (0H), the online change bit (b6) setting is made invalid to enable online change regardless of the online change setting.
Refer to the Q series-compatible C24 manual for details.

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(b) For 1:n communication

<table>
<tr><td colspan="2" rowspan="3">Switch (Switch Number)</td><td colspan="4">Settings</td></tr>
<tr><td colspan="2">Module 1)</td><td colspan="2">Module 2)</td></tr>
<tr><td>CH1 side</td><td>CH2 side</td><td>CH1 side</td><td>CH2 side</td></tr>
<tr><td colspan="2">Mode setting switch</td><td>0</td><td>5 (format 5)</td><td colspan="2">5 (format 5)</td></tr>
<tr><td colspan="2">Station number setting switches</td><td colspan="2">1</td><td colspan="2">3</td></tr>
<tr><td rowspan="10">Transmission specifications setting switches</td><td>Operation setting switch (SW01)</td><td>OFF (independent operation)</td><td>ON (synchronous operation)</td><td colspan="2">OFF (independent operation)</td></tr>
<tr><td>Data bit setting (SW02)</td><td colspan="2">ON (8 bit)</td><td colspan="2">ON (8 bit)</td></tr>
<tr><td>Parity bit yes/no setting (SW03)</td><td colspan="2">ON (yes)</td><td colspan="2">ON (yes)</td></tr>
<tr><td>Even parity/odd parity setting (SW04)</td><td colspan="2">OFF (odd)</td><td colspan="2">OFF (odd)</td></tr>
<tr><td>Stop bit setting (SW05)</td><td colspan="2">OFF (1 bit)</td><td colspan="2">OFF (1 bit)</td></tr>
<tr><td>Sum check yes/no setting (SW06)</td><td colspan="2">ON (yes)</td><td colspan="2">ON (yes)</td></tr>
<tr><td>Online change enable/disable setting (SW07)</td><td colspan="2">ON (enable)</td><td colspan="2">ON (enable)</td></tr>
<tr><td>Setting change enable/disable setting (SW08)</td><td colspan="2">OFF (disable)</td><td colspan="2">OFF (disable)</td></tr>
<tr><td>Transmission speed setting (SW09 to SW12)</td><td colspan="2">19200bps
<table><tr><td>SW</td><td>Setting</td></tr><tr><td>SW09</td><td>OFF</td></tr><tr><td>SW10</td><td>ON</td></tr><tr><td>SW11</td><td>ON</td></tr><tr><td>SW12</td><td>OFF</td></tr></table></td><td colspan="2">19200bps
<table><tr><td>SW</td><td>Setting</td></tr><tr><td>SW09</td><td>OFF</td></tr><tr><td>SW10</td><td>ON</td></tr><tr><td>SW11</td><td>ON</td></tr><tr><td>SW12</td><td>OFF</td></tr></table></td></tr>
<tr><td>— (SW13 to SW15)</td><td colspan="2">All OFF</td><td colspan="2">All OFF</td></tr>
</table>

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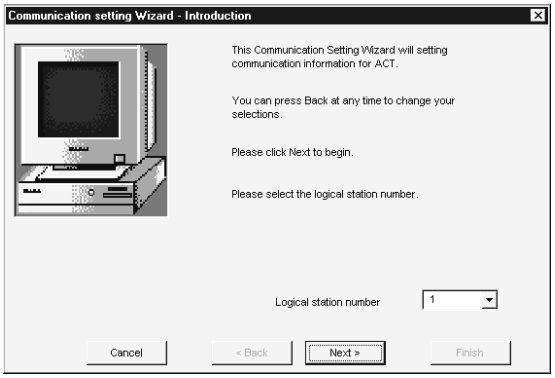
(3) Setting the logical station number (Setting on communication setting wizard)

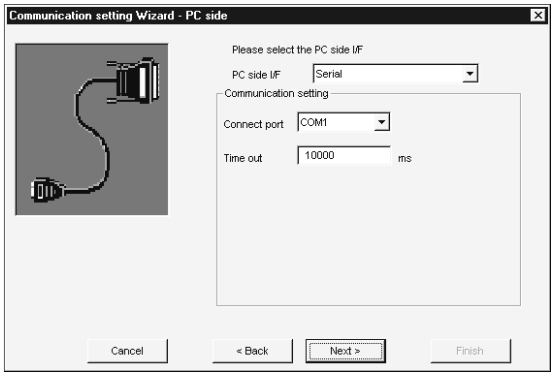
Logical station number setting will be described using the system example for 1:n communication.

1) Start the communication setup utility and choose the communication setting wizard.



2) Type "1" in Logical station number and click the Next> button.

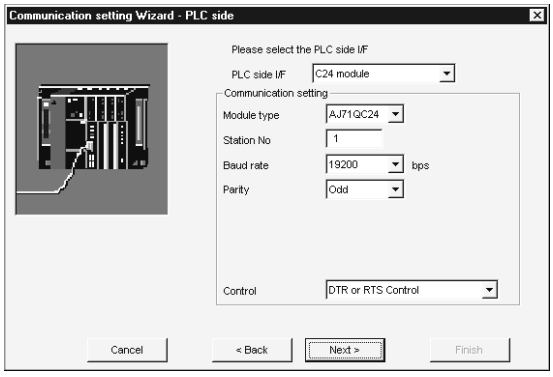
↓



3) Make settings as indicated below and click the Next> button.

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

↓



4) Make settings as indicated below and click the Next> button.

PLC side I/F : C24 module
Module type : AJ71QC24
Station No : 1
Baud rate : 19200
Parity : Odd
Control : DTR or RTS Control

↓

(To the next page)

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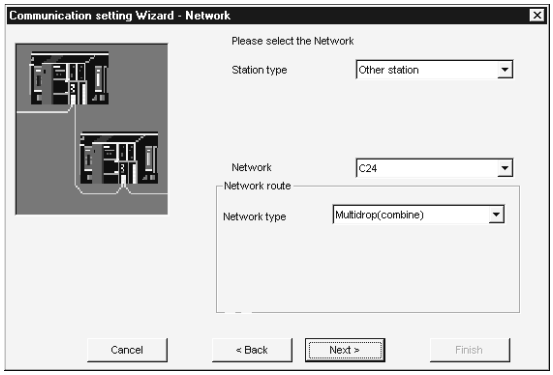
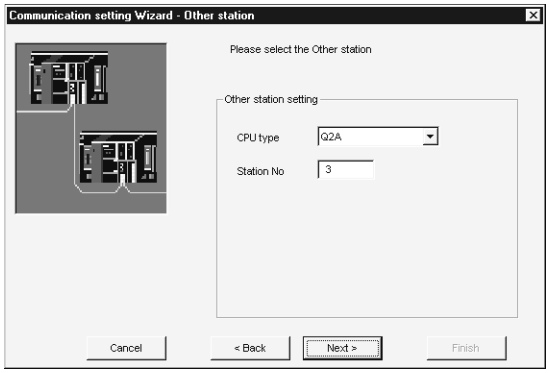
↓



5) Make settings as indicated below and click the Next> button.

Station type : Other station
Network route : C24
Network type : Multidrop(combine)

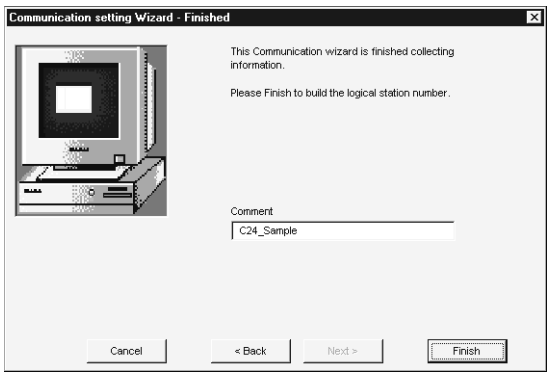
↓



6) Make settings as indicated below and click the Next> button.

CPU type : Q2A
Station No : 3

↓



7) Enter a comment and click the Finish button.

↓

(Registration complete)

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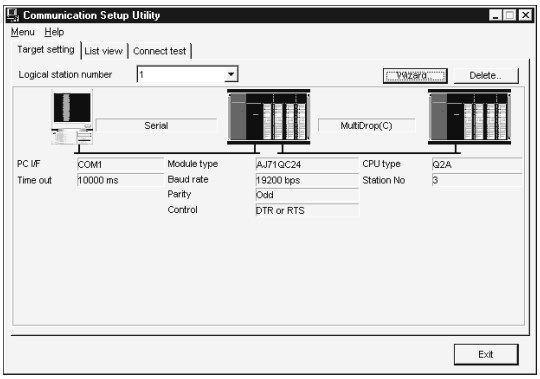
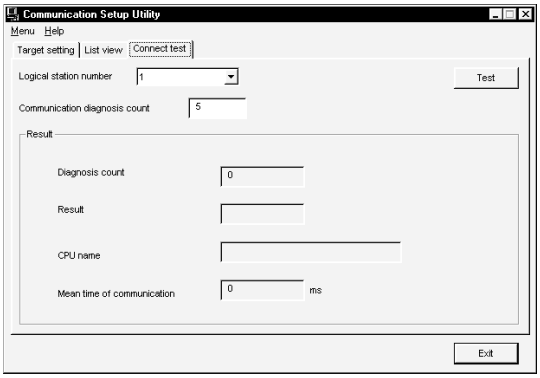
(4) Checking the logical station number settings (Conducting a communication test)

Using the logical station number set in (3), check whether the computer link communication settings are correct or not.



↓

1) Display the target setting screen and choose the logical station number "1".
Check whether the logical station number settings are correct or not.



↓

2) Show the connection test screen and set the logical station number "1".

Click!

↓

3) Click the Test button to check that communication is being made properly.
If an error occurred, check the error code and remove the error.
The error code appears in Result. (At normal termination, "0x00000000" appears in Result.)
Refer to the programming manual for error code details.

↓

(Communication test complete)

4) Through the above steps, you could confirm that the logical station number settings were correct.
Using the set logical station number, you can create user programs and collect device information using the PLC monitor utility.

6.2 Ethernet Communication

This section provides the Ethernet communication procedure and its setting example using the utility setting type.

6.2.1 Switch settings of Ethernet modules

This section gives the switch settings of Ethernet modules for use of MX Component.

POINT
When using MX Component, the settings other than "As set by user" in the tables are fixed as given in the tables.

(1) Q series-compatible E71

Set the Q series-compatible E71 in "MNET/10H Ethernet module count setting" of GX Developer.

(2) QE71

Switch (Switch Number)		Setting	
		When ASCII packet is used	When binary packet is used
Operation mode setting switch		0 (online)	0 (online)
Communications condition setting switches	Line processing selection for TCP time-out error (SW1)	OFF	OFF
	Data code setting (SW2)	ON (ASCII code)	As set by user
	Automatic start mode setting (SW3)	OFF	OFF or ON*1
	— (SW4 to SW6)	All OFF	All OFF
	CPU communications timing setting (SW7)	ON	ON
	Initial timing setting (SW8)	OFF	OFF

*1: Set to "ON" when parameter setting was made on GX Developer or the like, or to "OFF" when a sequence program is used for setting.

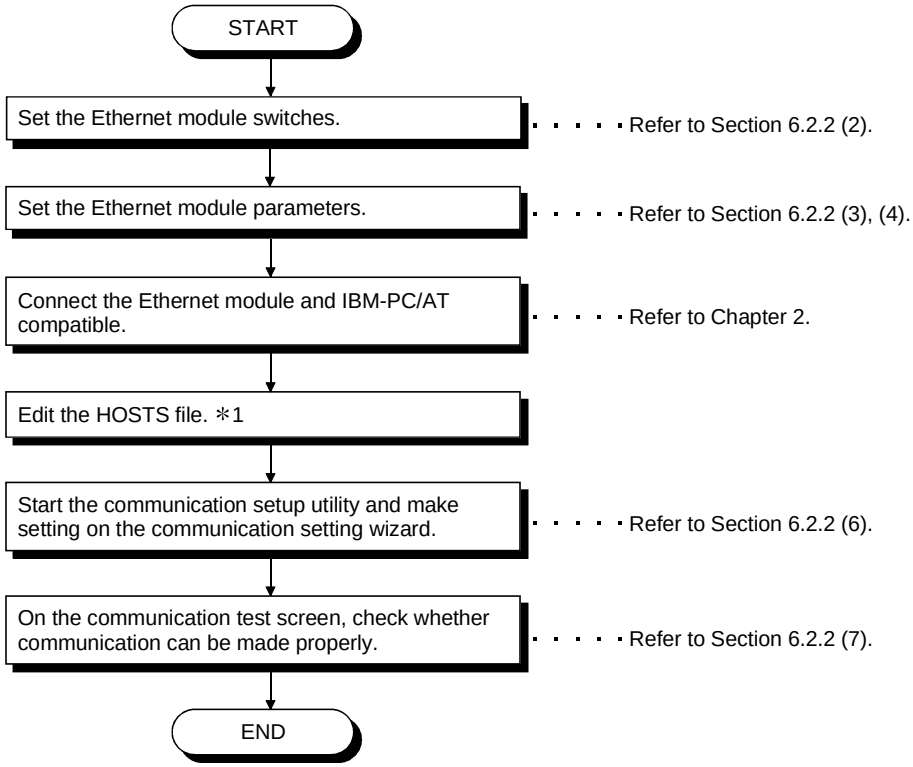
(3) E71

Switch*1		Setting	
		When ASCII packet is used	When binary packet is used
Operation mode setting switch		0 (online)	0 (online)
Communications condition setting switches	Line processing selection for TCP time-out error	OFF	OFF
	Data code setting	ON (ASCII code)	OFF (binary code)
	CPU communications timing setting	ON	ON
	Initial timing setting	OFF	OFF

*1: For switch numbers, refer to the E71 module manual.

6.2.2 Accessing procedure

The procedure for making access to the PLC CPU using Ethernet communication will be explained in the following order.



*1 You need not edit the HOSTS file when entering the IP address in the host name of the communication setting utility and the ActHostAddress property of the Ethernet communication control.

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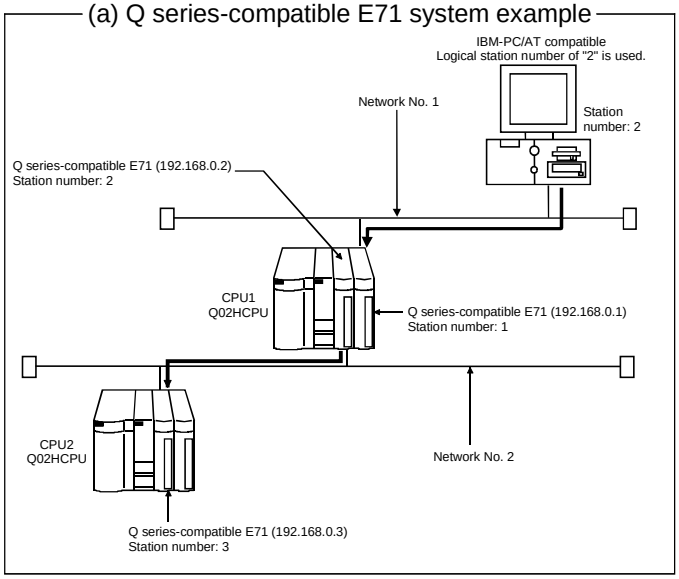
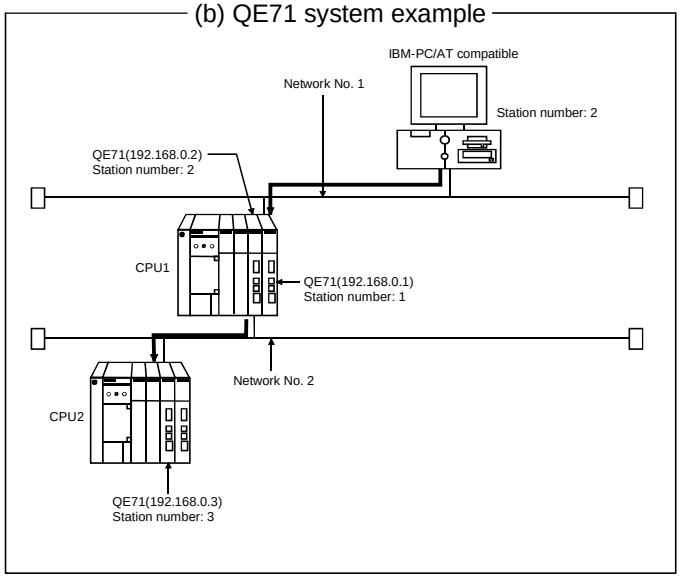
(1) System examples

The following system examples are used in this section.
The explanation given in "(6) Setting the logical station number (Setting on communication setting wizard)" and later uses the system example for Q series-compatible E71.

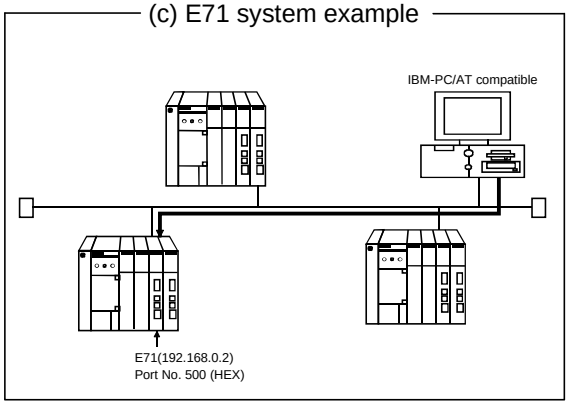
(a) Q series-compatible E71 system example



(b) QE71 system example



(c) E71 system example



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(2) Making the switch settings of the Ethernet modules

(a) Q series-compatible E71

Set the Q series-compatible E71 in "MNET/10H Ethernet module count setting" of GX Developer.

(b) QE71

Switch (Switch Number)		Setting	
		When ASCII packet is used	When binary packet is used
Operation mode setting switch		0 (online)	0 (online)
Communications condition setting switches	Line processing selection for TCP time-out error (SW1)	OFF	OFF
	Data code setting (SW2)	ON (ASCII code)	OFF (binary code)
	Automatic start mode setting (SW3)	OFF	ON
	— (SW4 to SW6)	All OFF	All OFF
	CPU communications timing setting (SW7)	ON	ON
	Initial timing setting (SW8)	OFF	OFF

(c) E71

Switch*1		Setting	
		When ASCII packet is used	When binary packet is used
Operation mode setting switch		0 (online)	0 (online)
Communications condition setting switches	Line processing selection for TCP time-out error	OFF	OFF
	Data code setting	ON (ASCII code)	OFF (binary code)
	CPU communications timing setting	ON	ON
	Initial timing setting	OFF	OFF

*1: For switch numbers, refer to the E71 module manual.

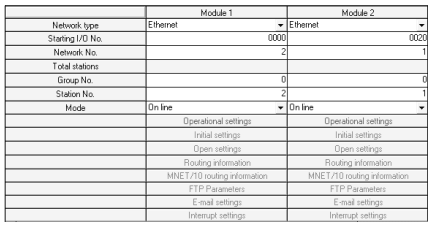
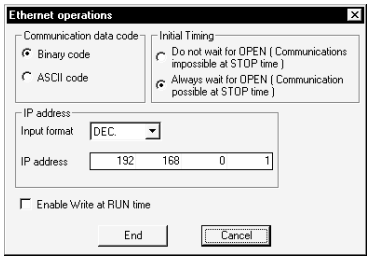
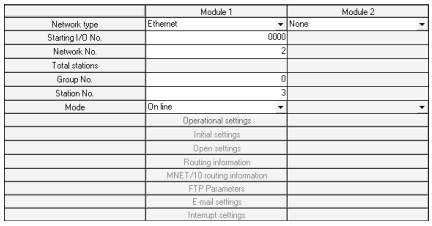
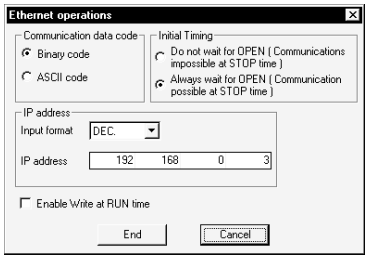
(3) Making parameter setting

Parameter setting may either be made from the network parameter "MELSECNET/ETHERNET setting screen" of GX Developer or from a sequence program.

The network parameters of GX Developer must be used to set the Q series-compatible E71 (TCP/IP) or QE71 (UDP/IP), or a sequence program used to set the QE71 (TCP/IP) or E71 (TCP/IP, UDP/IP).

(a) Q series-compatible E71

In the network parameters, set the network type, first I/O No., network No., station number, mode and operational settings.

<table>
<tr><th>CPU to Be Set</th><th>Setting Screen Example</th></tr>
<tr><td rowspan="2">CPU1</td><td>Ethernet parameters
 
</td></tr>
<tr><td>Operational settings
 
</td></tr>
<tr><td rowspan="2">CPU2</td><td>Ethernet parameters
 
</td></tr>
<tr><td>Operational settings
 
</td></tr>
</table>

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(b) QE71

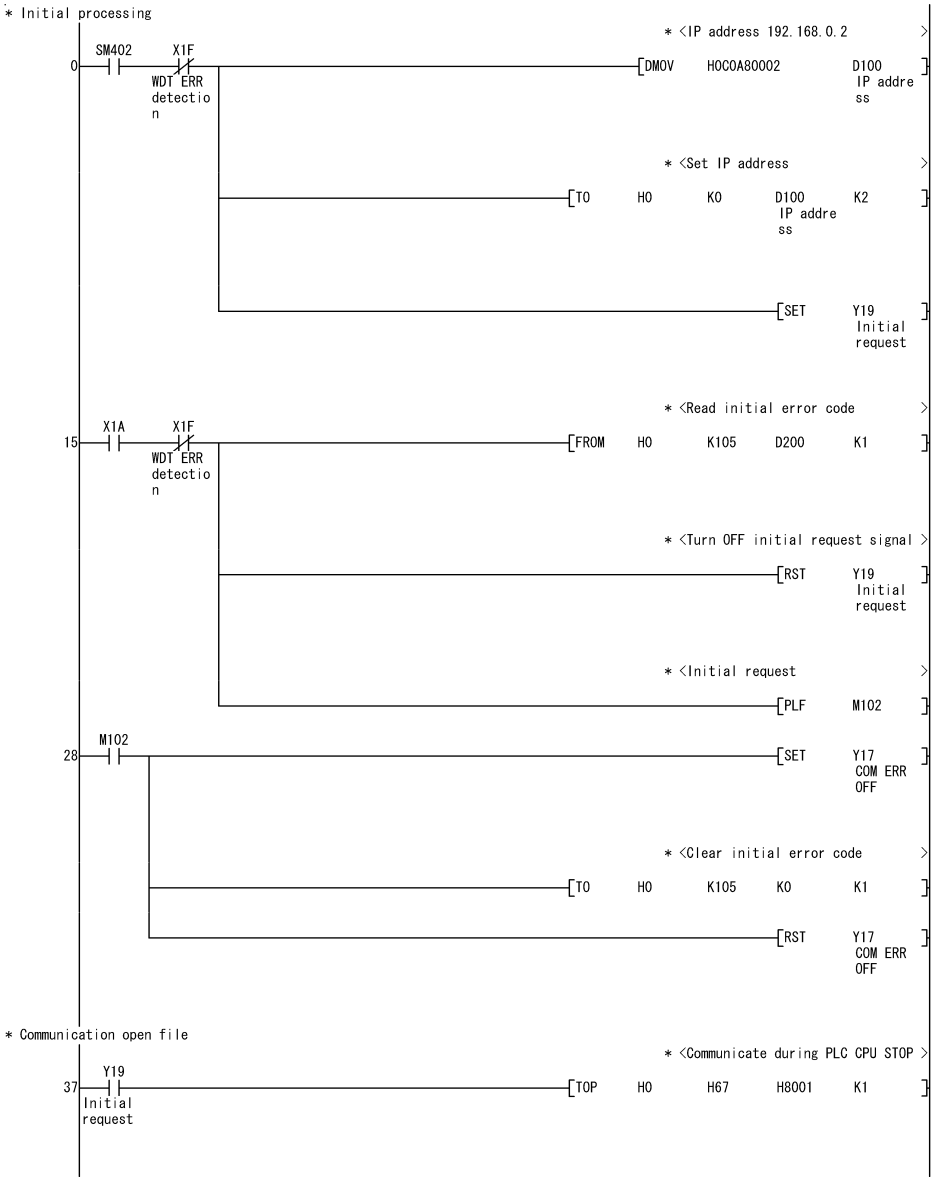
1) For TCP/IP

The QE71 requires an initial processing and communication line open processing sequence program for use of TCP/IP.

The sequence program example is given below.

Setting Item	Set Value
TCP/IP open system	8000H (TCP, fixed buffer send)
QE71's IP address	192.168.0.2

Setting Item	Set Value
QE71's port number	500H



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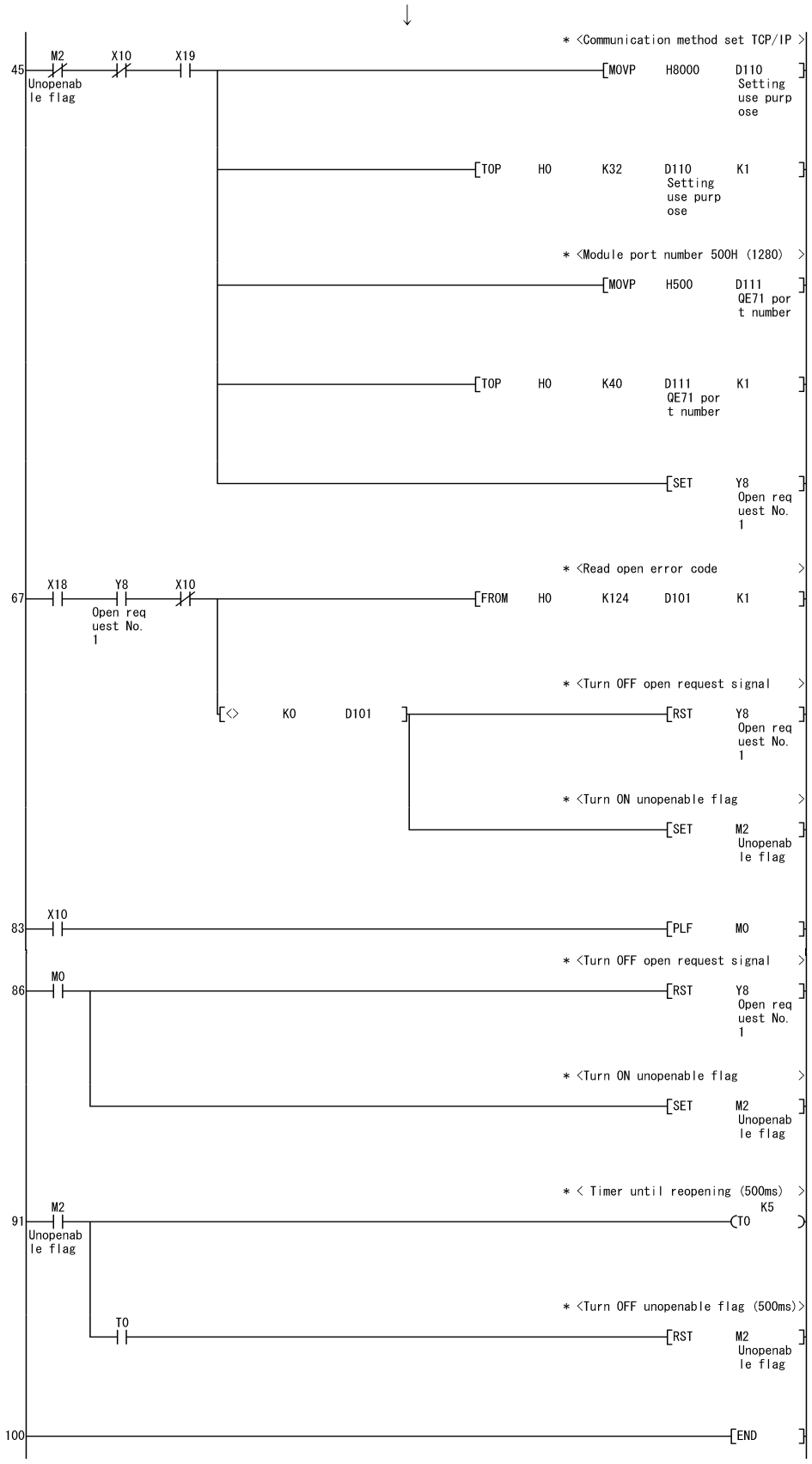
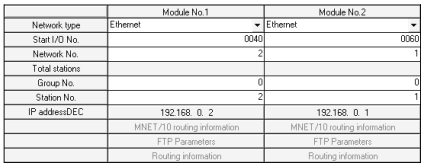
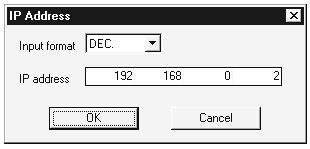
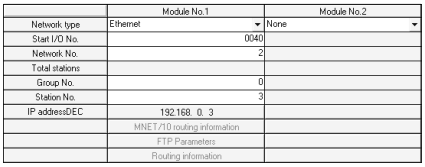
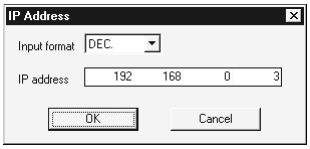


2) For UDP/IP

For the QE71, set the network type, first I/O No., network No., group No., station number and IP address on the Ethernet parameter setting screen of GX Developer when using UDP/IP.

<table>
<tr><th>CPU to Be Set</th><th>Setting Screen Example</th></tr>
<tr><td rowspan="2">CPU1</td><td>Ethernet parameters
 
</td></tr>
<tr><td>Operational settings
 
</td></tr>
<tr><td rowspan="2">CPU2</td><td>Ethernet parameters
 
</td></tr>
<tr><td>Operational settings
 
</td></tr>
</table>

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(c) E71

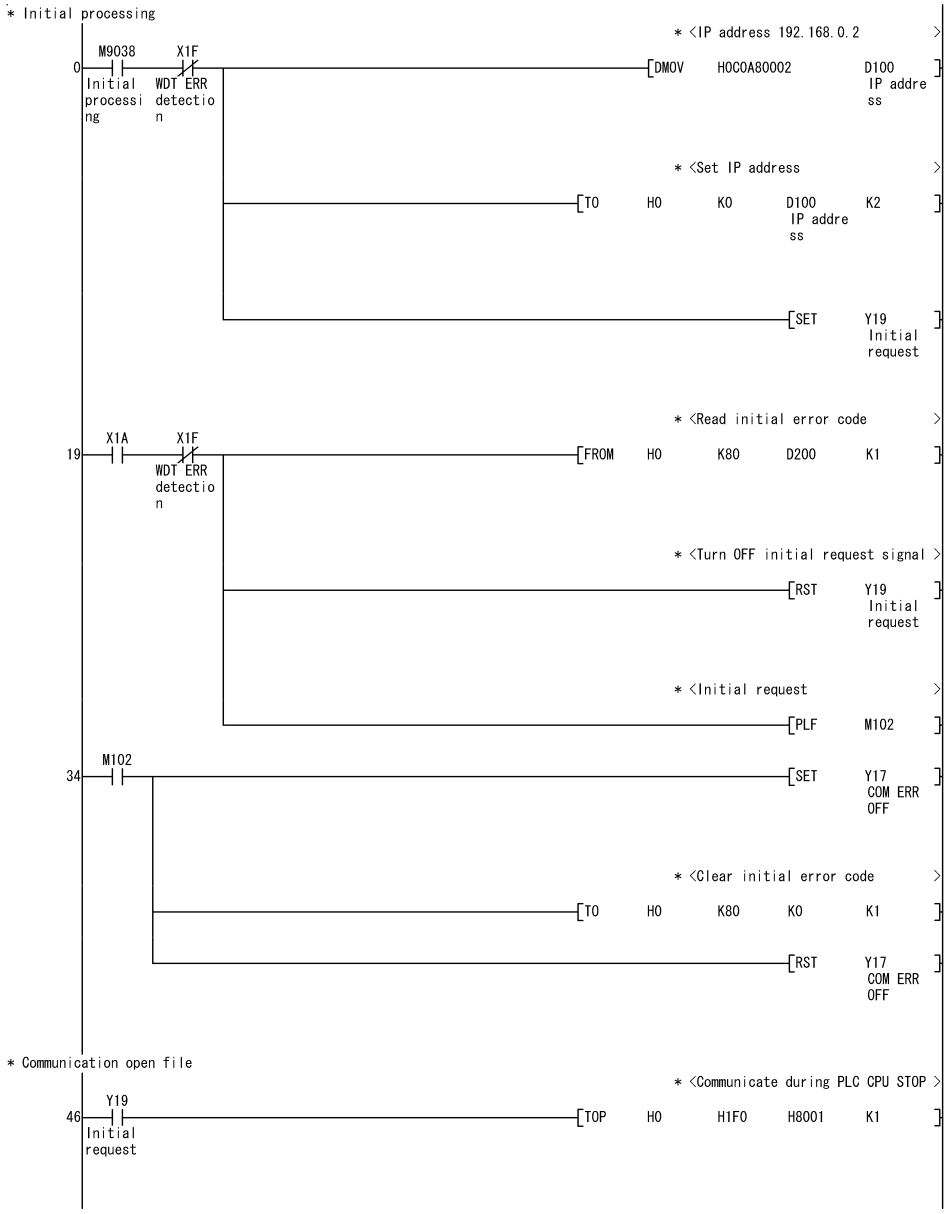
The E71 requires an initial processing and communication line open processing sequence program.

The sequence program example is given below.

1) For TCP/IP

Setting Item	Set Value
TCP/IP open system	8000H (TCP, fixed buffer send)
E71's IP address	192.168.0.2

Setting Item	Set Value
E71's port number	500H



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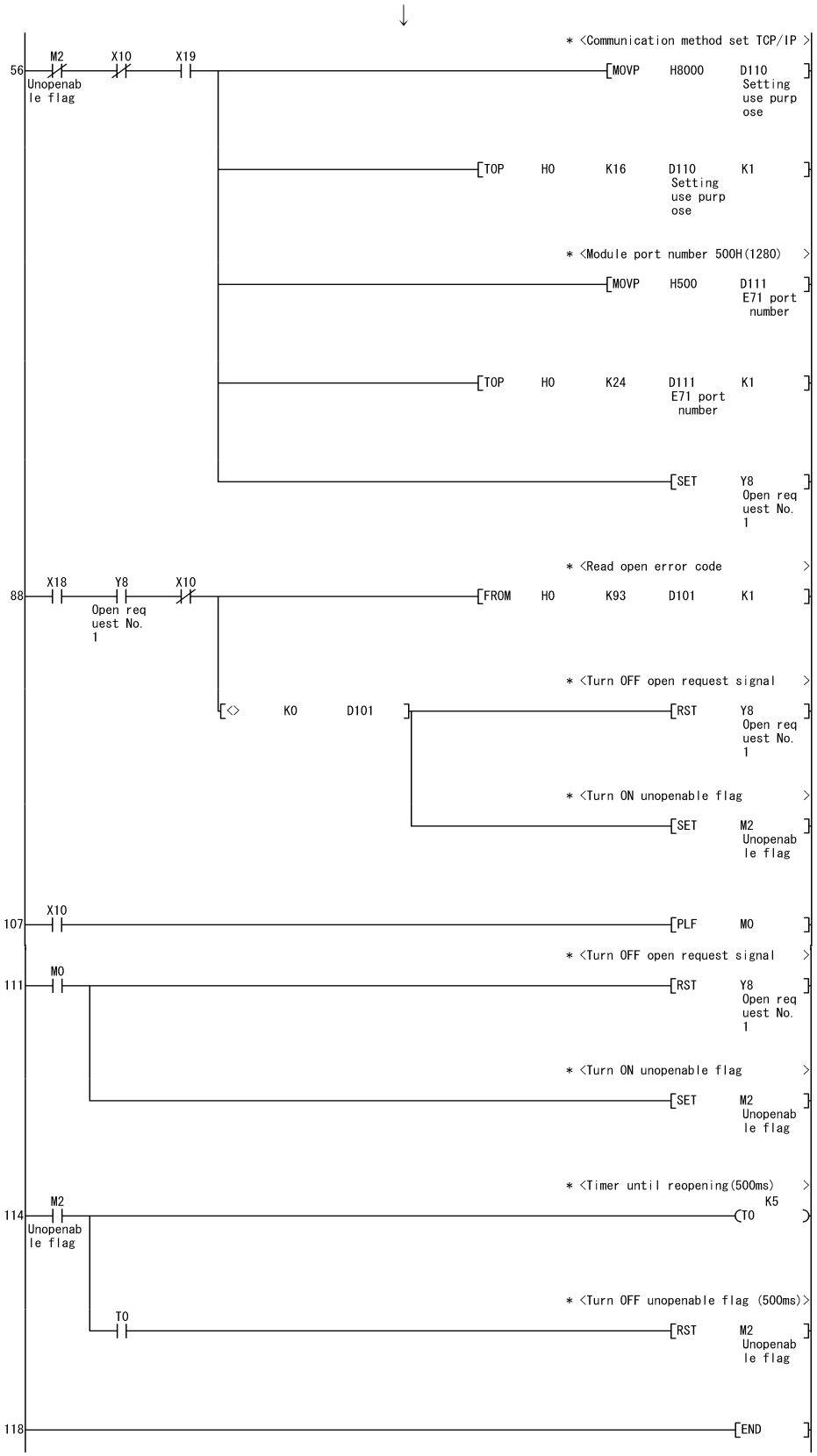

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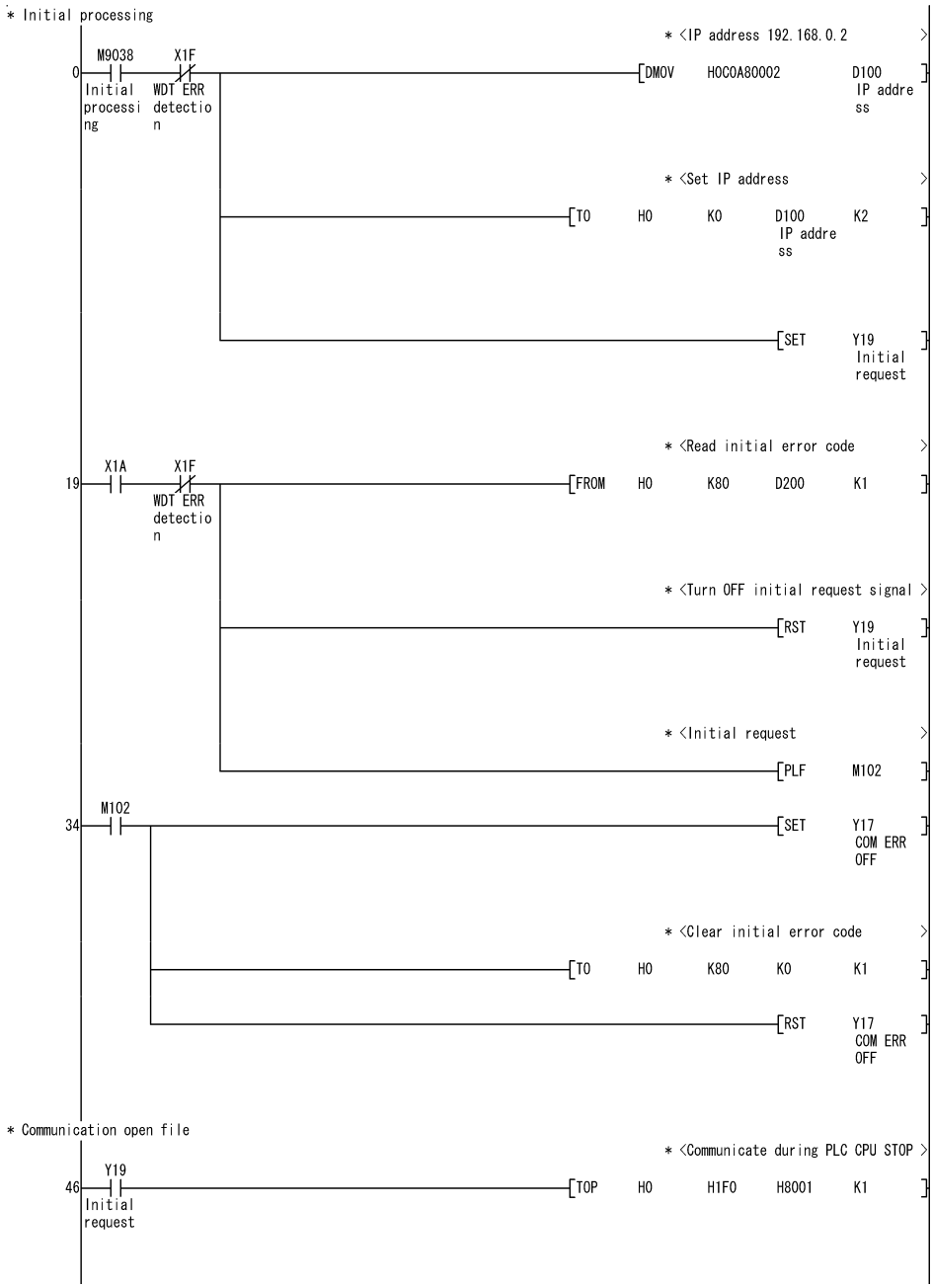
2) For UDP/IP

Setting Item	Set Value
UDP/IP open system	100H (UDP, fixed buffer send)
E71's IP address	192.168.0.2
E71's port number	500H

Setting Item	Set Value
Other node IP address	FFFFFFFF
Other node port number	FFFF



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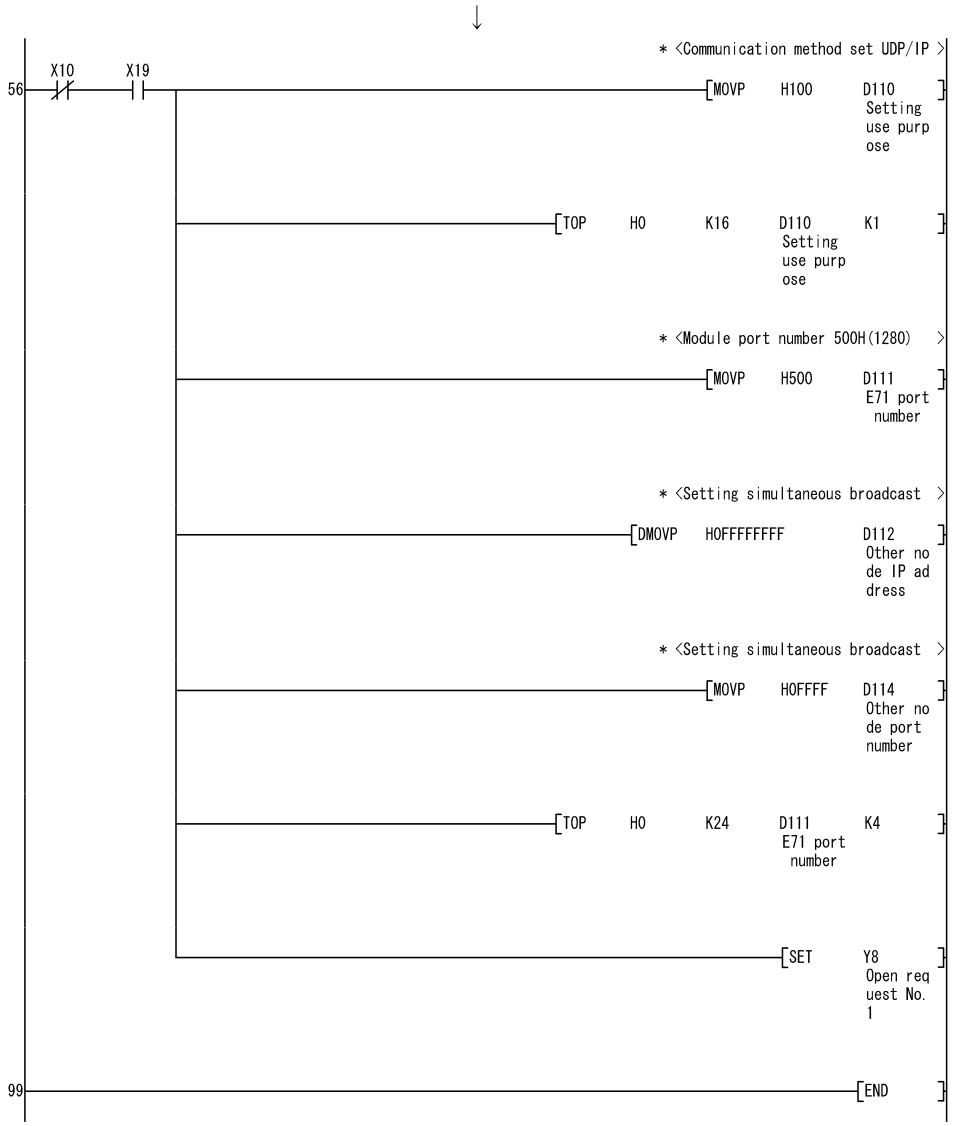


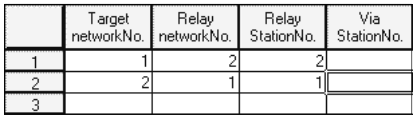
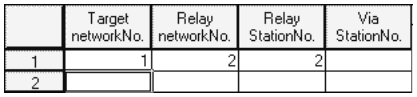
In the communications enabled status, the E71's RUN LED is lit and the RDY LED flickers.

(4) Making routing parameter setting

(a) Q series-compatible E71

Set the routing parameters on the Ethernet parameter setting screen of GX Developer.

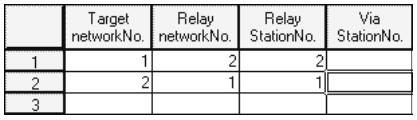
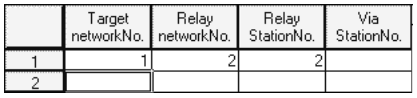
For the concept of the routing parameters, refer to "Appendix 1 Concept of Routing Parameters".

CPU to Be Set	Setting Screen Example
CPU1	
CPU2	

(b) QE71

Set the routing parameters on the Ethernet parameter setting screen of GX Developer.

For the concept of the routing parameters, refer to "Appendix 1 Concept of Routing Parameters".

CPU to Be Set	Setting Screen Example
CPU1	
CPU2	

(5) Making communications check

After completion of preparations for Ethernet communication, execute ping in the MS-DOS mode to check connection before starting communications on MX Component.

When normal

C:\>ping 192.168.0.2

Reply from 192.168.0.2:bytes=32 time<10ms TTL=32

When abnormal

C:\>ping 192.168.0.2

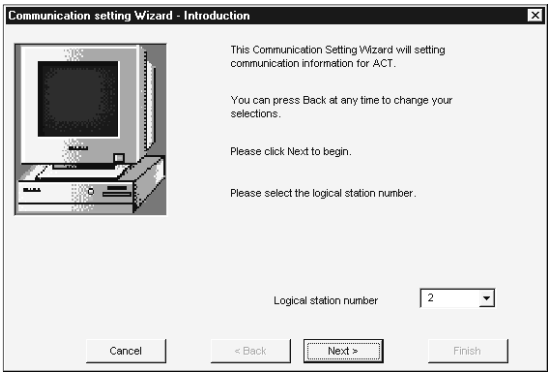
Request timed out.

If ping does not pass through, check module connections and Windows® side IP address and other settings.

(6) Setting the logical station number (Setting on communication setting wizard)

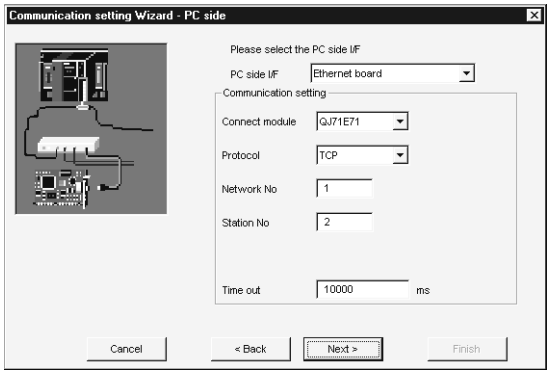
Logical station number setting will be described using the system example for Q series-compatible E71.

1) Start the communication setup utility and choose the communication setting wizard.



2) Type "2" in Logical station number and click the Next> button.

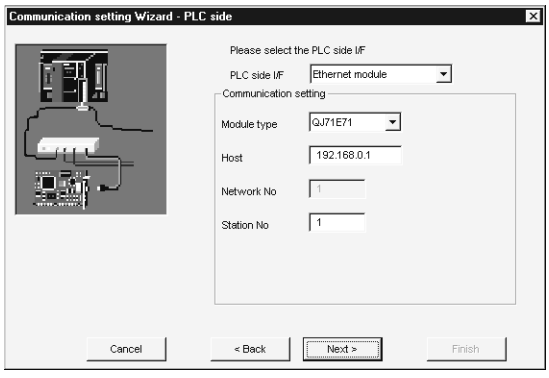
↓



3) Make settings as indicated below and click the Next> button.

PC side I/F : Ethernet board
Connect module : QJ71E71
Protocol : TCP
Network No. : 1
Station No. : 2
Time out : 10000

↓



4) Make settings as indicated below and click the Next> button.

PLC side I/F : Ethernet unit
Module type : QJ71E71
Host : 192.168.0.1
Station No. : 1

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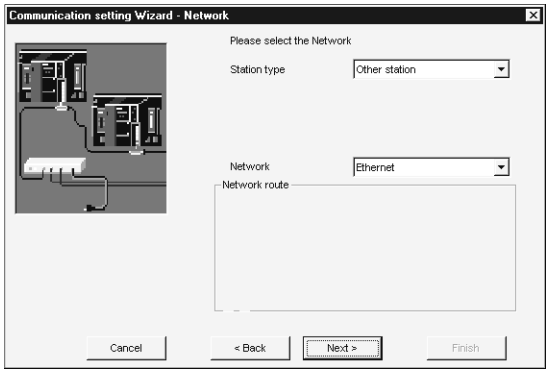
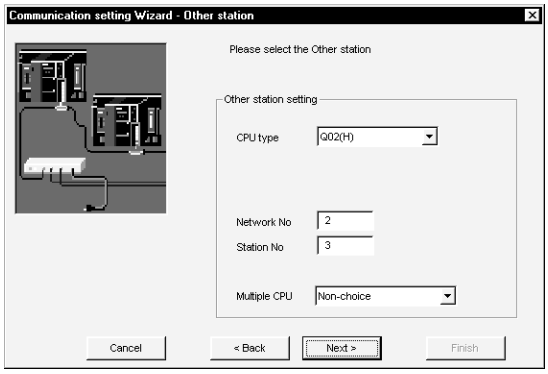


5) Make settings as indicated below and click the Next> button.

Station type : Other station
Network : Ethernet

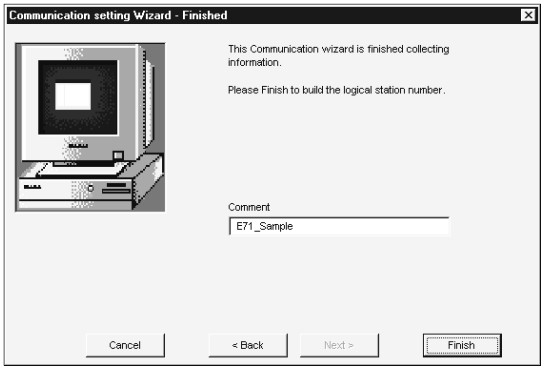
↓



6) Make settings as indicated below and click the Next> button.

CPU type : Q02(H)
Netwoerk No. : 2
Station No. : 3
Multiple CPU : Non-choice

↓



7) Enter a comment and click the Finish button.

↓

(Registration complete)

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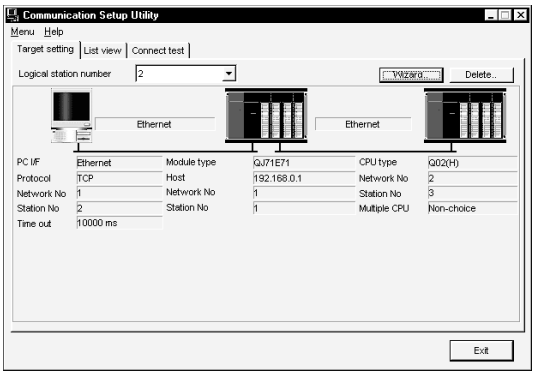
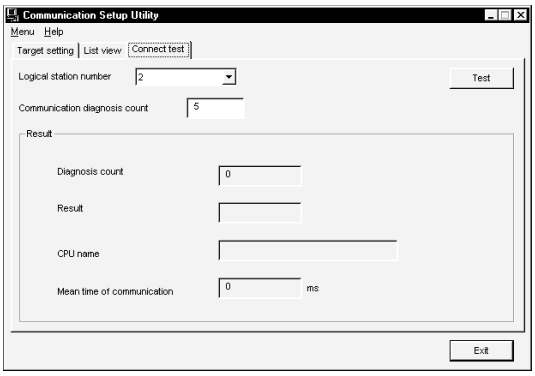
(7) Checking the logical station number settings (Conducting a communication test)

Using the logical station number set in (6), check whether the computer link communication settings are correct or not.



↓



↓

↓

(Communication test complete)

1) Display the target setting screen and choose the logical station number "2".
Check whether the logical station number settings are correct or not.

2) Show the connection test screen and set the logical station number "2".

3) Click the Test button to check that communication is being made properly.
If an error occurred, check the error code and remove the error.
The error code appears in Result. (At normal termination, "0x00000000" appears in Result.)
Refer to the programming manual for error code details.

4) Through the above steps, you could confirm that the logical station number settings were correct.
Using the set logical station number, you can create user programs and collect device information using the PLC monitor utility.

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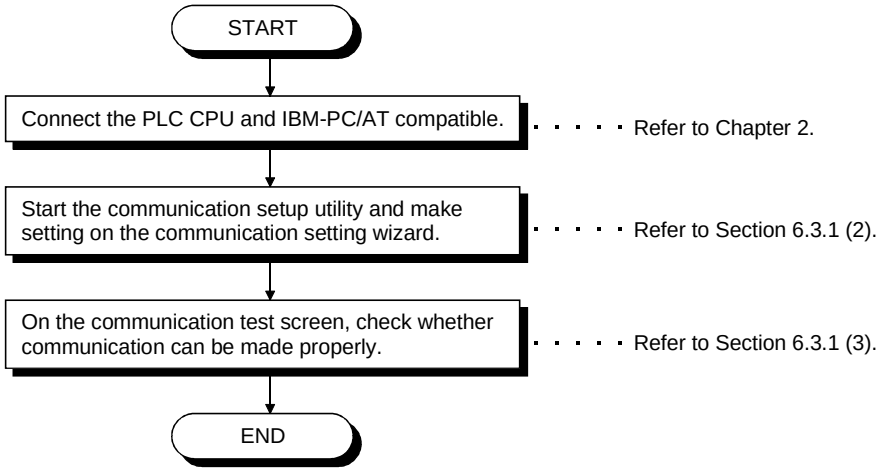
6.3 CPU COM Communication

This section provides the CPU COM communication procedure and its setting example using the utility setting type.

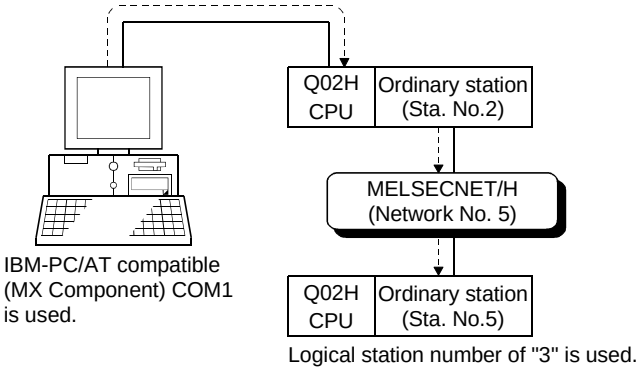
6.3.1 Accessing procedure

The procedure for making access to the PLC CPU using CPU COM communication will be explained in the following order.



(1) System example

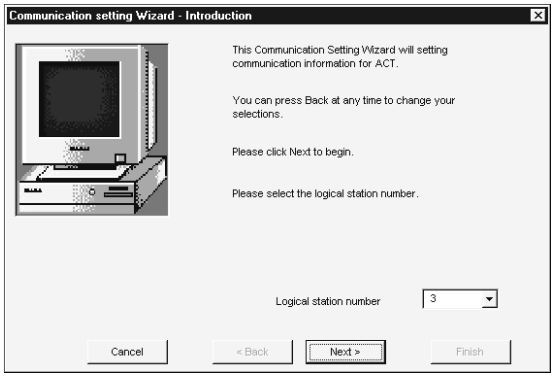
The following system example is used in this section.



(2) Setting the logical station number (Setting on communication setting wizard)

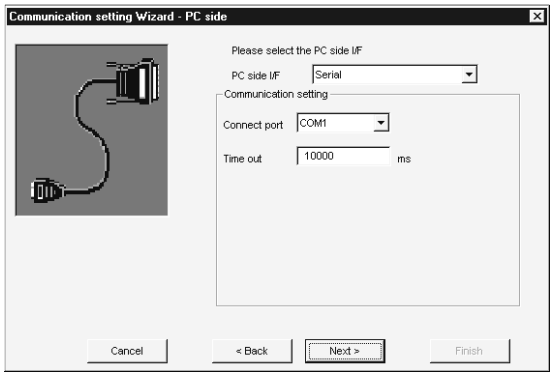
Logical station number setting will be described using the system example for (1).

1) Start the communication setup utility and choose the communication setting wizard.



2) Type "3" in Logical station number and click the Next> button.

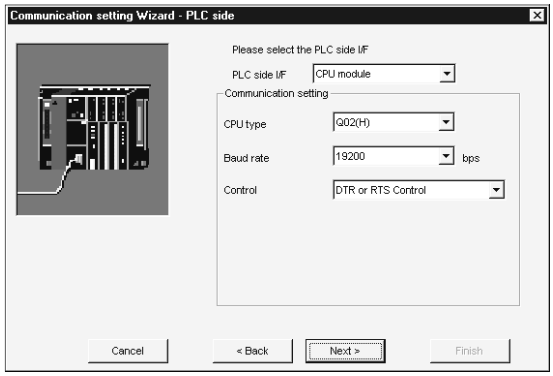
↓



3) Make settings as indicated below and click the Next> button.

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

↓



4) Make settings as indicated below and click the Next> button.

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

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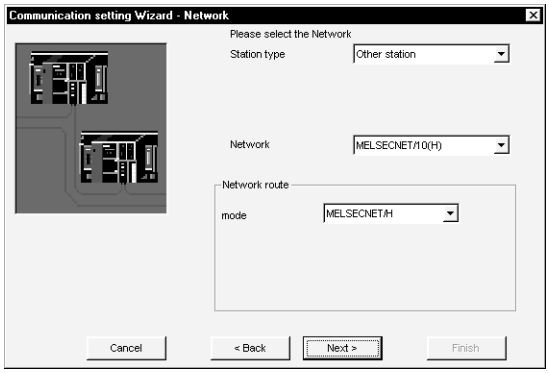
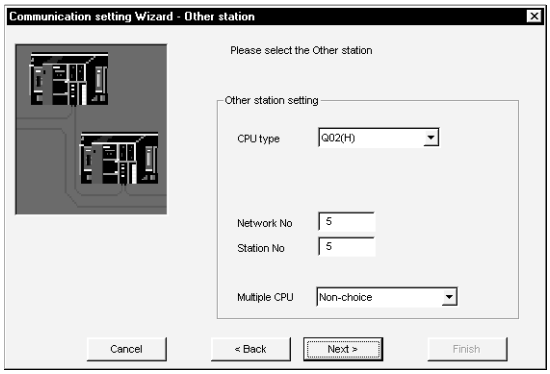


5) Make settings as indicated below and click the Next> button.

Station type : Other station
Network : MELSECNET/10(H)
Mode : MELSECNET/H

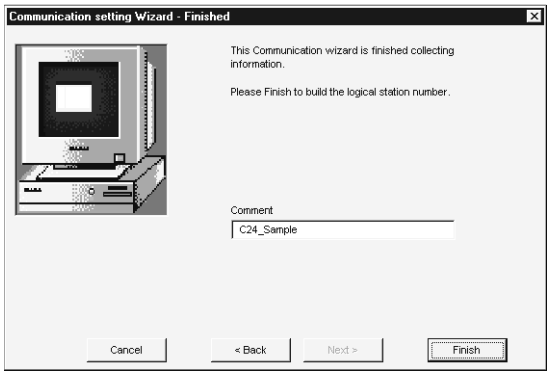
↓



6) Make settings as indicated below and click the Next> button.

CPU type : Q02(H)
Network No. : 5
Station No. : 5
Multiple CPU : Non-choice

↓



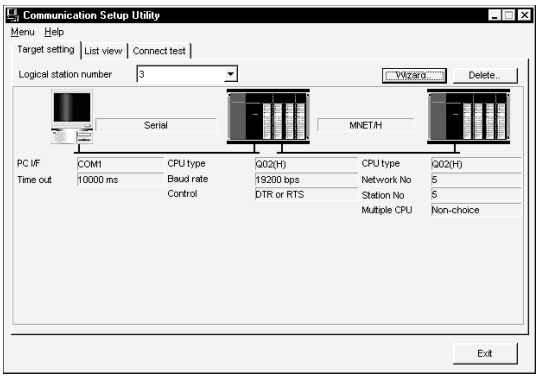
7) Enter a comment and click the Finish button.

↓

(Registration complete)

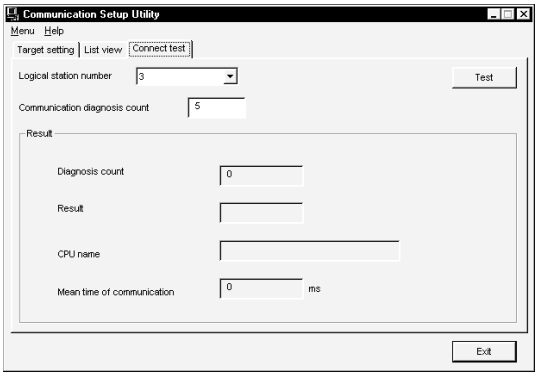
(3) Checking the logical station number settings (Conducting a communication test)

Using the logical station number set in (2), check whether the CPU COM communication settings are correct or not.



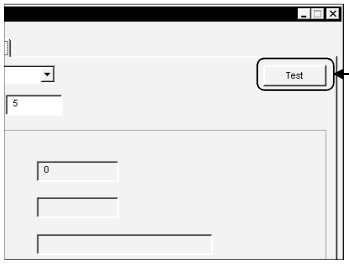
1) Display the target setting screen and choose the logical station number "3".
Check whether the logical station number settings are correct or not.

↓



2) Show the connection test screen and set the logical station number "3".

↓



Click!

3) Click the Test button to check that communication is being made properly.
If an error occurred, check the error code and remove the error.
The error code appears in Result. (At normal termination, "0x00000000" appears in Result.)
Refer to the programming manual for error code details.

↓

(Communication test complete)

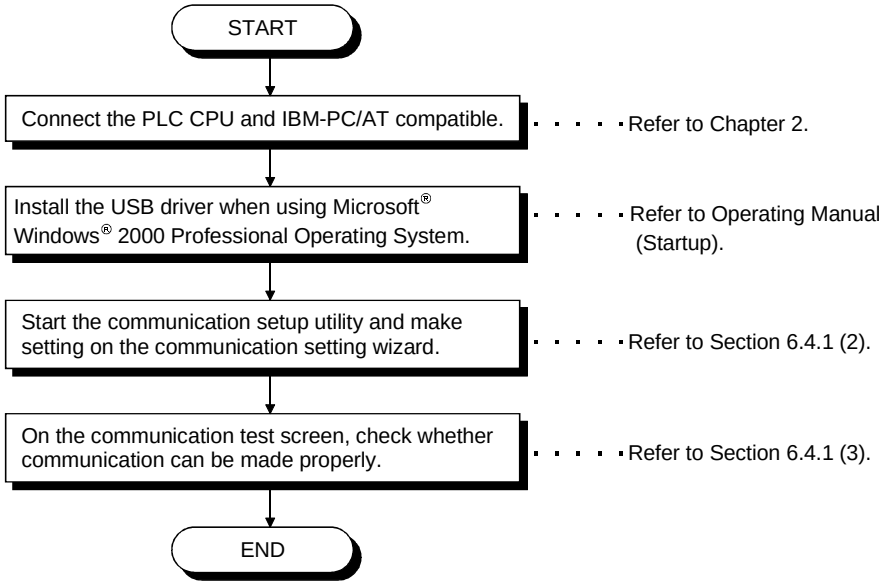
4) Through the above steps, you could confirm that the logical station number settings were correct.
Using the set logical station number, you can create user programs and collect device information using the PLC monitor utility.

6.4 CPU USB Communication

This section provides the CPU USB communication procedure and its setting example using the utility setting type.

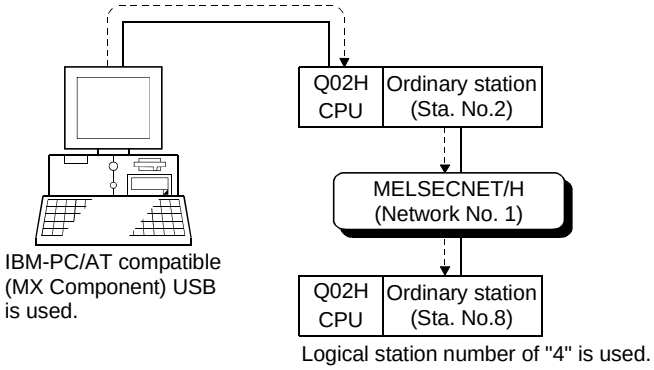
6.4.1 Accessing procedure

The procedure for making access to the PLC CPU using CPU USB communication will be explained in the following order.



(1) System example

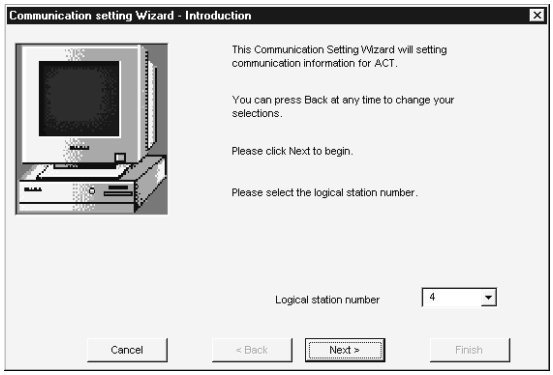
The following system example is used in this section.



(2) Setting the logical station number (Setting on communication setting wizard)

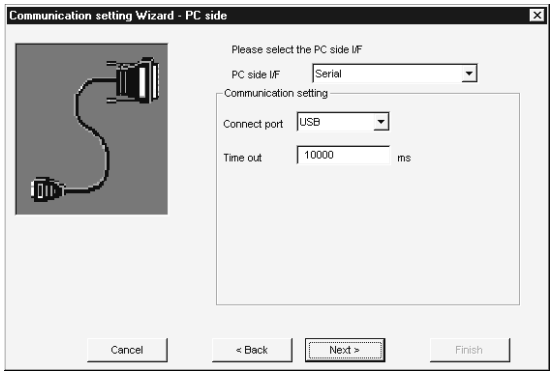
Logical station number setting will be described using the system example for (1).

1) Start the communication setup utility and choose the communication setting wizard.



2) Type "4" in Logical station number and click the Next> button.

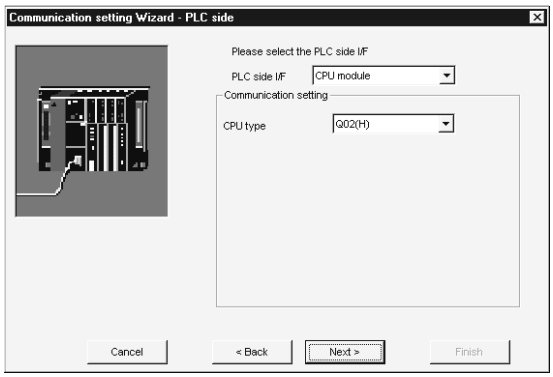
↓



3) Make settings as indicated below and click the Next> button.

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

↓



4) Make settings as indicated below and click the Next> button.

PLC side I/F : CPU module
Cpu type : Q02(H)

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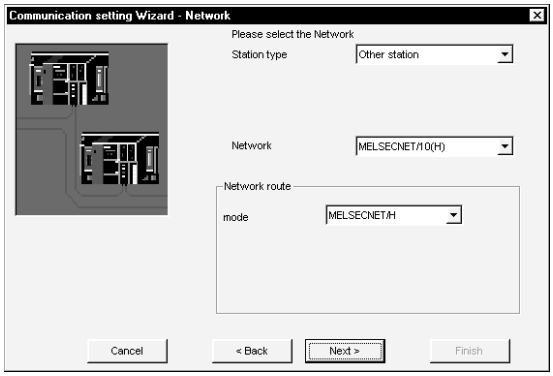
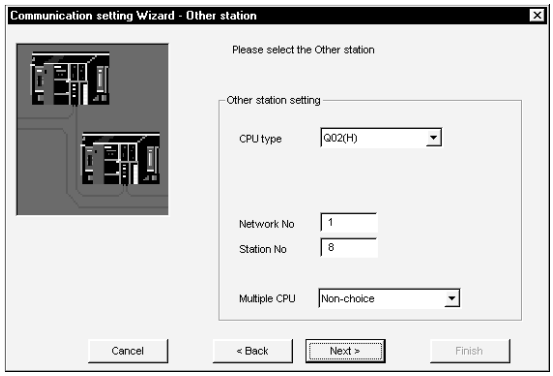
↓



5) Make settings as indicated below and click the Next> button.

Station type : Other station
Network : MELSECNET/10(H)
Mode : MELSECNET/H

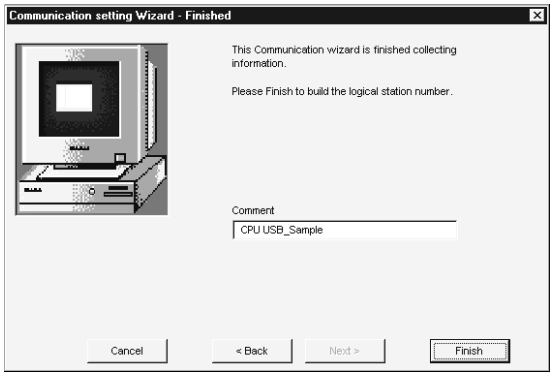
↓



6) Make settings as indicated below and click the Next> button.

CPU type : Q02(H)
Network No. : 1
Station No. : 8
Multiple CPU : Non-choice

↓



7) Enter a comment and click the Finish button.

↓

(Registration complete)

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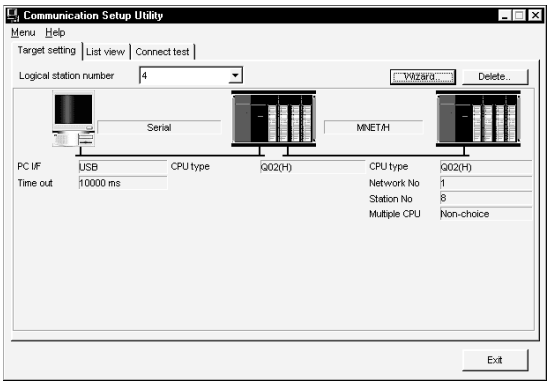
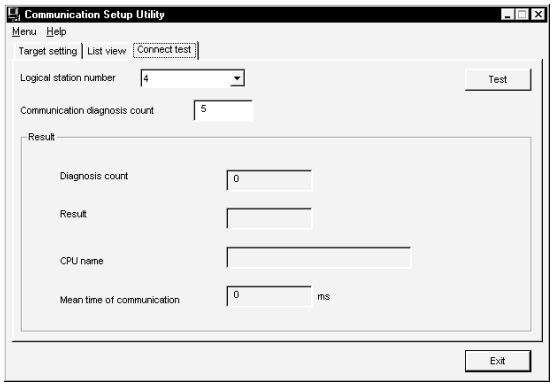
(3) Checking the logical station number settings (Conducting a communication test)

Using the logical station number set in (2), check whether the CPU USB communication settings are correct or not.



1) Display the target setting screen and choose the logical station number "4".
Check whether the logical station number settings are correct or not.

↓



2) Show the connection test screen and set the logical station number "4".

↓

3) Click the Test button to check that communication is being made properly.
If an error occurred, check the error code and remove the error.
The error code appears in Result. (At normal termination, "0x00000000" appears in Result.)
Refer to the programming manual for error code details.

↓

(Communication test complete)

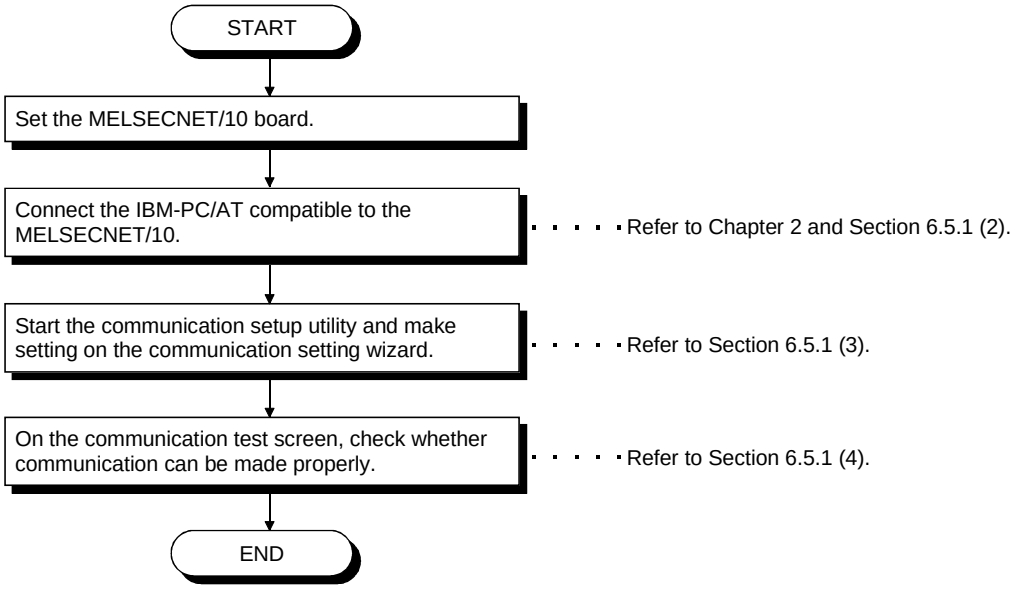
4) Through the above steps, you could confirm that the logical station number settings were correct.
Using the set logical station number, you can create user programs and collect device information using the PLC monitor utility.

6.5 MELSECNET/10 Communication

This section provides the MELSECNET/10 communication procedure and its setting example using the utility setting type.

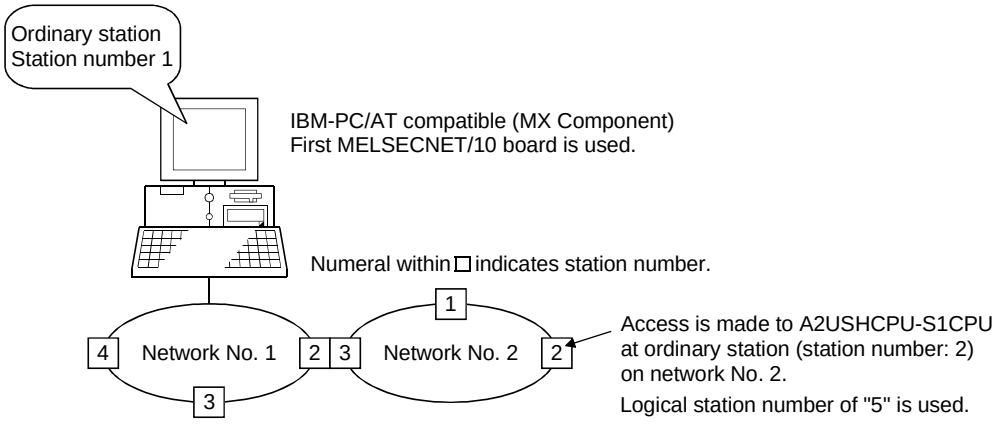
6.5.1 Accessing procedure

The procedure for making access to the PLC CPU using MELSECNET/10 communication will be explained in the following order.



(1) System example

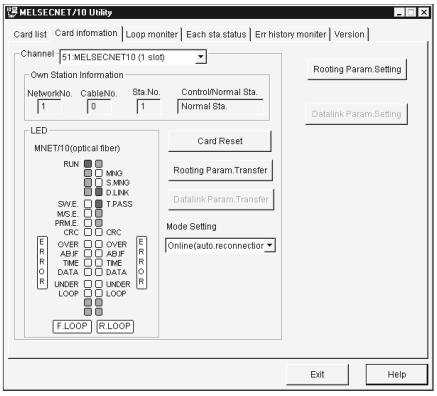
The following system example is used in this section.



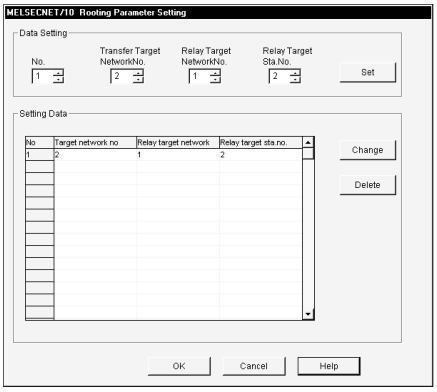
(2) Checking the MELSECNET/10 board

Check whether the IBM-PC/AT compatible is connected properly to the MELSECNET/10.

1) Click [Start]-[Programs]-[Melsec application]-[Communication support (CSKP-E)]-[MELSECNET10 Utility] to start the MELSECNET/10 utility.



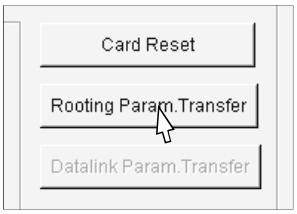
2) Click the "Card information" tab and set the channel to "51:MELSECNET10 (1 slot)".
After that, set the mode to "On-line automatic return" and click the Routing Param. Setting button.



3) Set the routing parameters and click the Set button.

Target network No. : 2
Relay target network No. : 1
Relay target Sta. No. : 2

After that, click the OK button to close the dialog box.



4) Click the Routing Param. Transfer button to transfer the routing parameters to the MELSECNET/10 card.

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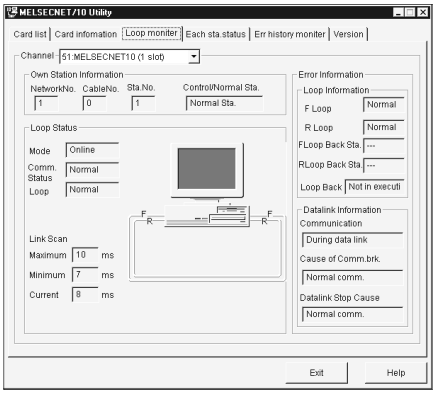
↓



↓

(Check complete)

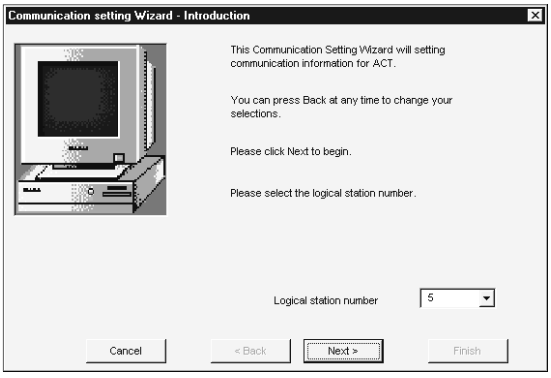
5) Click the "Loop monitor" tab and make sure that the loop is normal.

6) Click the Exit button to exit from the utility.

(3) Setting the logical station number (Setting on communication setting wizard)

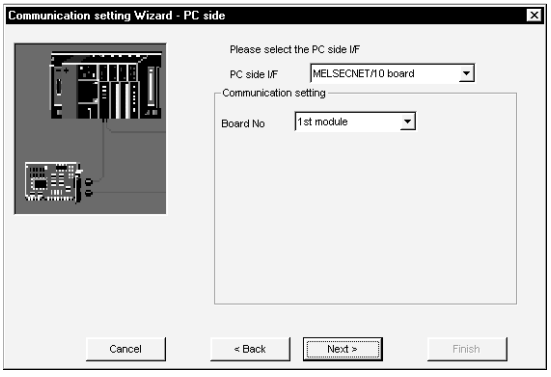
Logical station number setting will be described using the system example for (1).

1) Start the communication setup utility and choose the communication setting wizard.



2) Type "5" in Logical station number and click the Next> button.

↓



3) Make settings as indicated below and click the Next> button.

PC side I/F : MELSECNET/10 board
Board No : 1st module

↓

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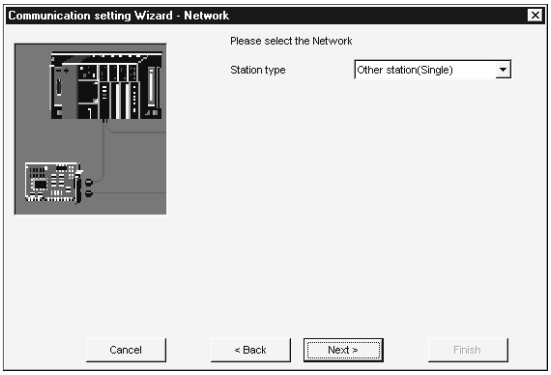
(From the preceding page)

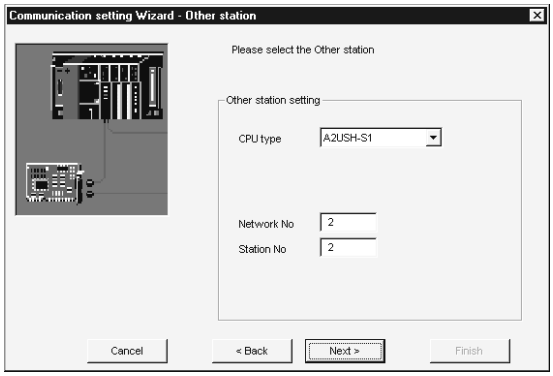
↓



4) Make settings as indicated below and click the Next> button.

Station type : Other station(Single)

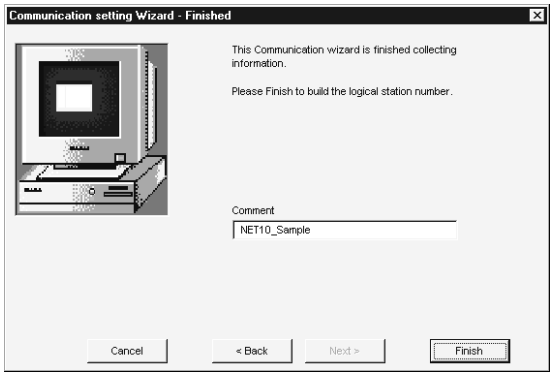
↓



5) Make settings as indicated below and click the Next> button.

CPU type : A2USH-S1
Network No. : 2
Station No. : 2

↓



6) Enter a comment and click the Finish button.

↓

(Registration complete)

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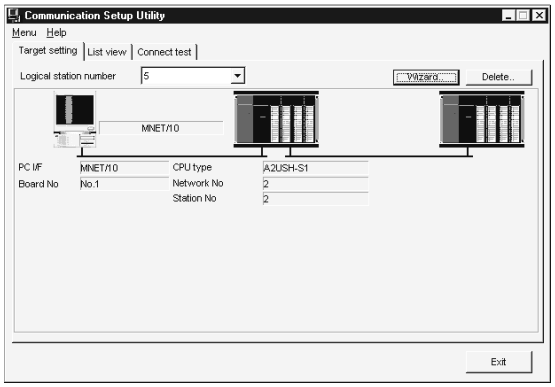
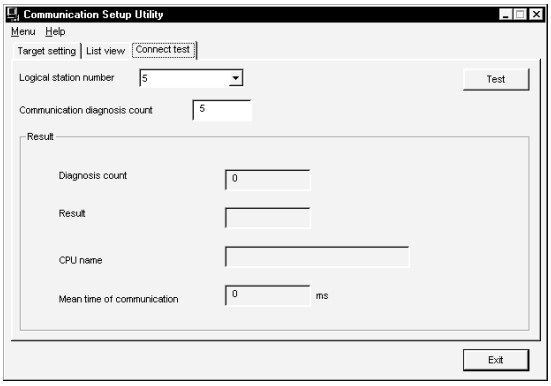
(4) Checking the logical station number settings (Conducting a communication test)

Using the logical station number set in (3), check whether the MELSECNET/10 communication settings are correct or not.



1) Display the target setting screen and choose the logical station number "5".
Check whether the logical station number settings are correct or not.

↓



2) Show the connection test screen and set the logical station number "5".

↓

3) Click the Test button to check that communication is being made properly.
If an error occurred, check the error code and remove the error.
The error code appears in Result. (At normal termination, "0x00000000" appears in Result.)
Refer to the programming manual for error code details.

↓

(Communication test complete)

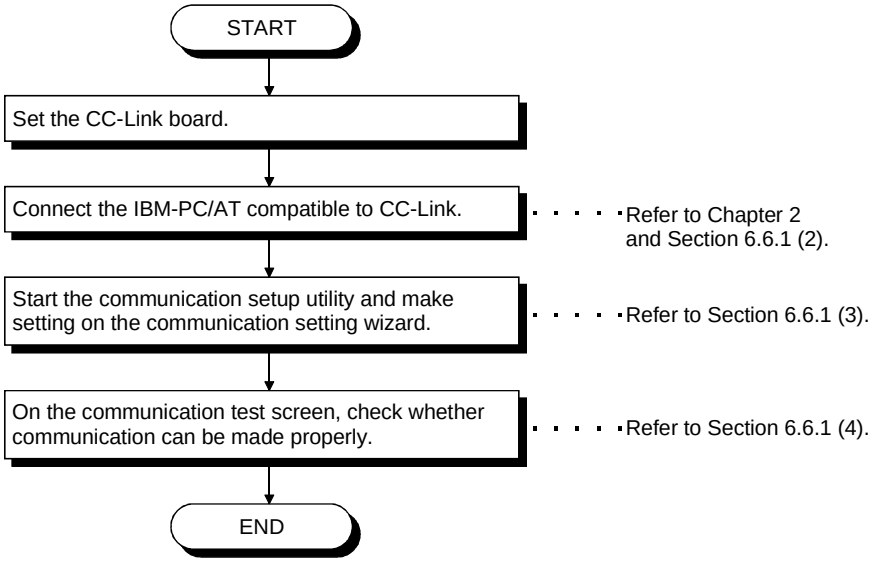
4) Through the above steps, you could confirm that the logical station number settings were correct.
Using the set logical station number, you can create user programs and collect device information using the PLC monitor utility.

6.6 CC-Link Communication

This section provides the CC-Link communication procedure and its setting example using the utility setting type.

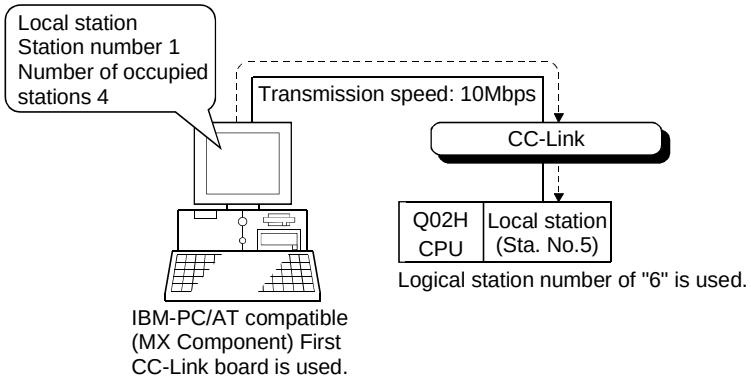
6.6.1 Accessing procedure

The procedure for making access to the PLC CPU using CC-Link communication will be explained in the following order.



(1) System example

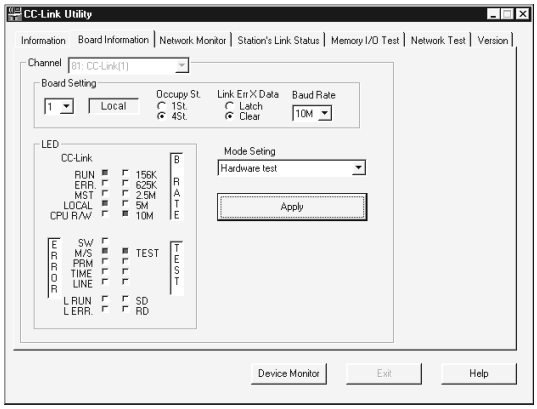
The following system example is used in this section.



(2) Checking the CC-Link board

Check whether the IBM-PC/AT compatible is connected properly to CC-Link.

1) Click [Start]-[Programs]-[Melsec application]-[Communication support (CSKP-E)]-[CC-Link Board Utility] to start the CC-Link utility.

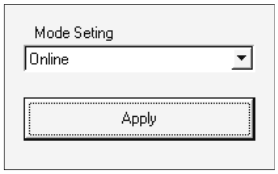


2) Click the "Board Information" tab and set the channel to "81:CC-Link (1)", and set the own station.

Station No.	: 1
Occupy St.	: 4 St.
Link Err X Data	: Clear
Baud Rate	: 10M

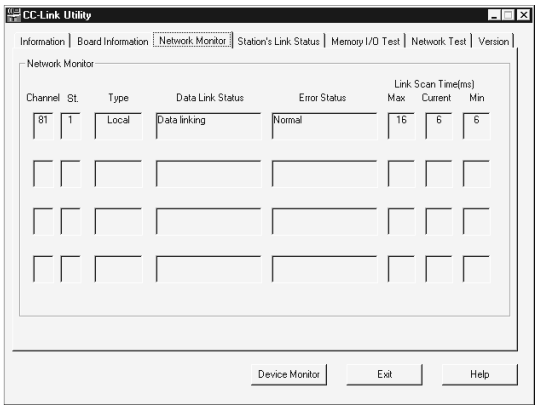
Set the mode to "Hardware test", click the Apply button, and check whether the CC-Link card is normal or not.

↓



3) Set the mode to "Online" and click the Apply button.

↓



4) Click the "Network Monitor" tab and make sure that the loop of the own station is normal.

↓

(Check complete)

5) Click the Exit button to exit from the utility.

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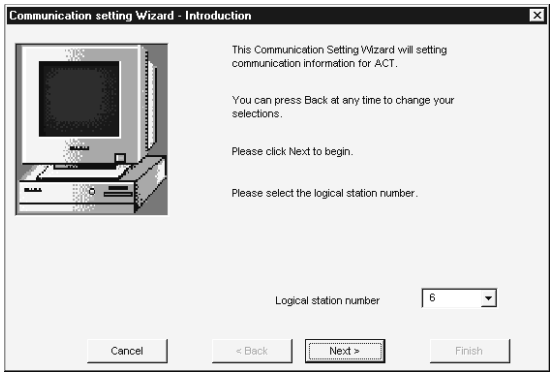
(3) Setting the logical station number (Setting on communication setting wizard)

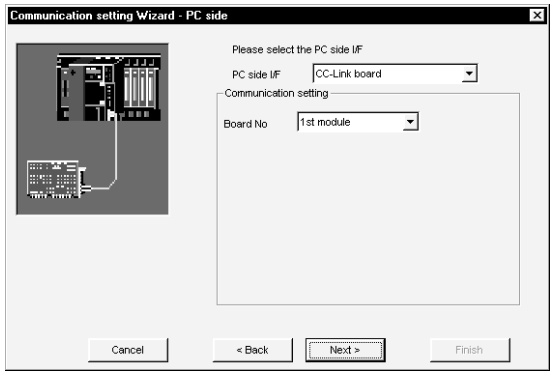
Logical station number setting will be described using the system example for (1).

1) Start the communication setup utility and choose the communication setting wizard.



2) Type "6" in Logical station number and click the Next> button.

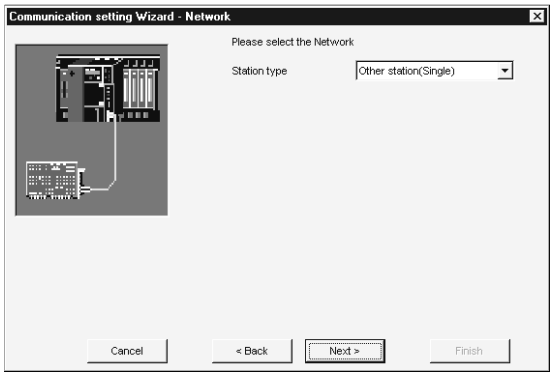
↓



3) Make settings as indicated below and click the Next> button.

PC side I/F : CC-Link board
Board No : 1st module

↓



4) Make settings as indicated below and click the Next> button.

Station type : Other station(Single)

↓

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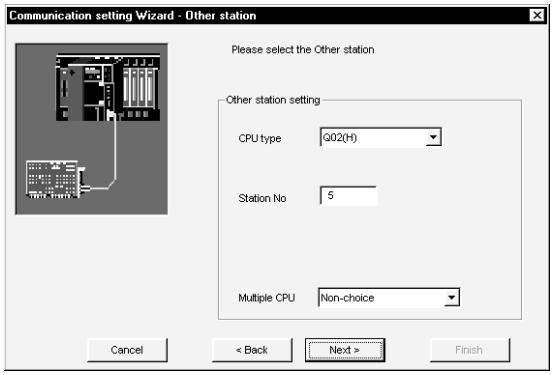
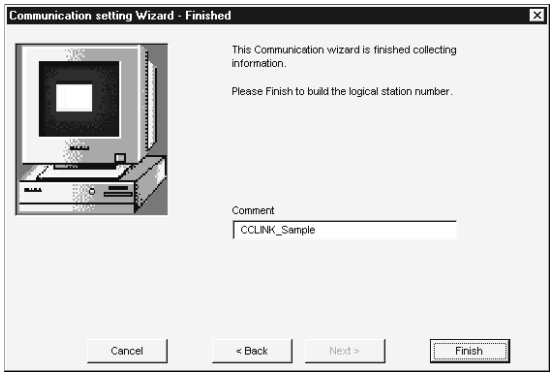
↓



5) Make settings as indicated below and click the Next> button.

CPU type : Q02(H)
Station No : 5
Multiple CPU : Non-choice

↓



7) Enter a comment and click the Finish button.

↓

(Registration complete)

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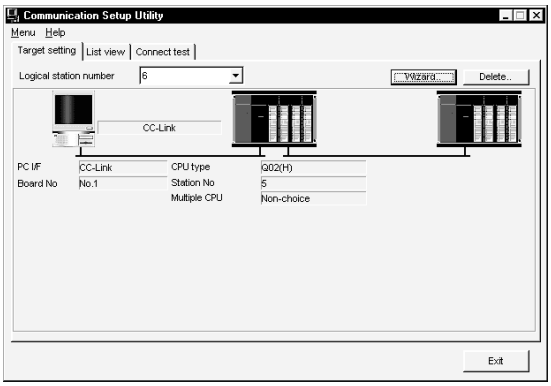
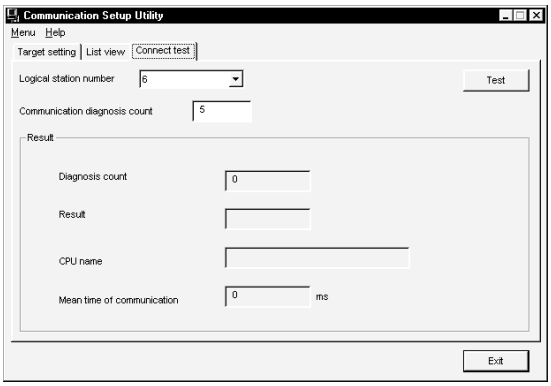
(4) Checking the logical station number settings (Conducting a communication test)

Using the logical station number set in (3), check whether the CC-Link communication settings are correct or not.



1) Display the target setting screen and choose the logical station number "6".
Check whether the logical station number settings are correct or not.

↓



2) Show the connection test screen and set the logical station number "6".

↓

3) Click the Test button to check that communication is being made properly.
If an error occurred, check the error code and remove the error.
The error code appears in Result. (At normal termination, "0x00000000" appears in Result.)
Refer to the programming manual for error code details.

↓

(Communication test complete)

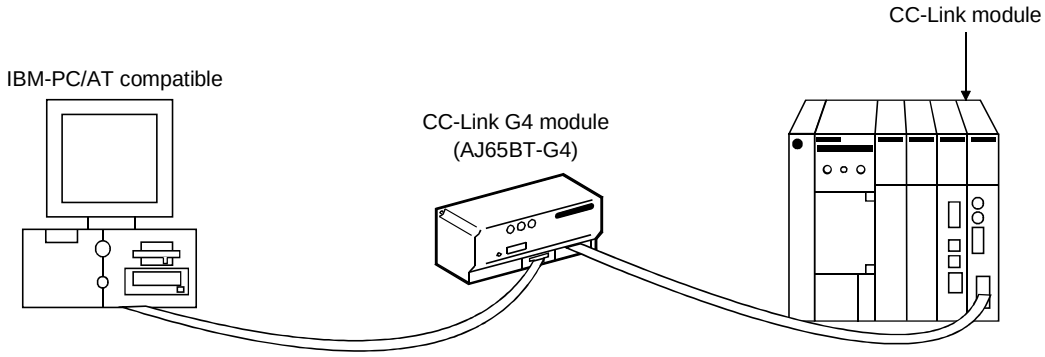
4) Through the above steps, you could confirm that the logical station number settings were correct.
Using the set logical station number, you can create user programs and collect device information using the PLC monitor utility.

6.7 CC-Link G4 Communication

This section provides the CC-Link G4 communication procedure and its setting example using the utility setting type.

6.7.1 Switch settings of CC-Link G4 module

This section gives the switch settings of the CC-Link G4 module for use of MX Component in the following system configuration.



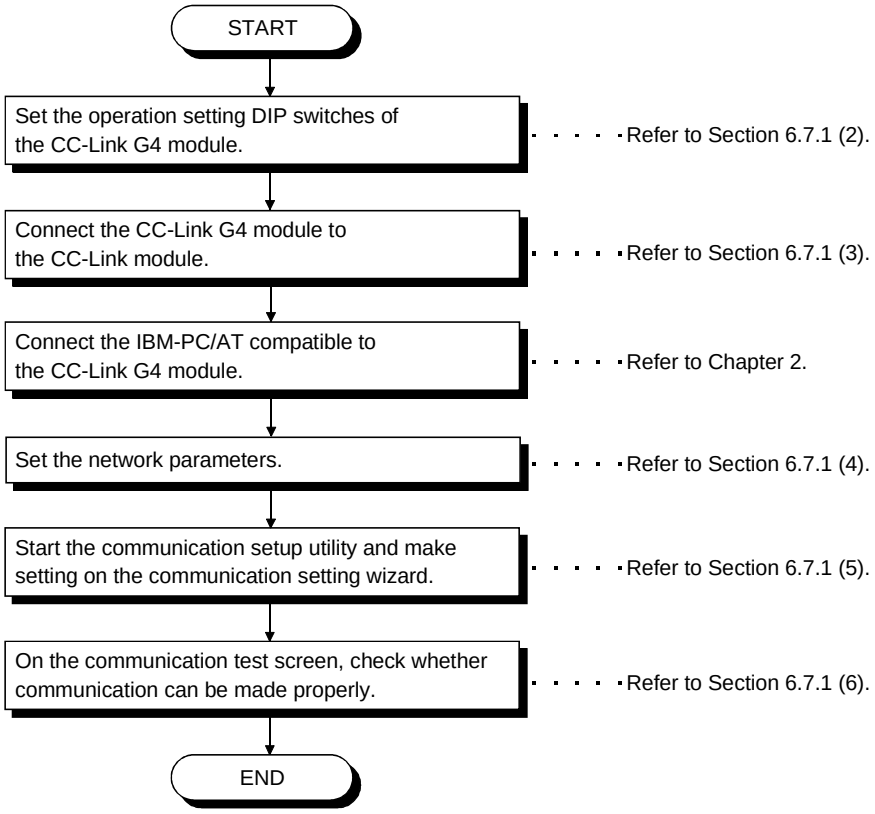
POINT

When using MX Component, the settings other than "As set by user" in the tables are fixed as given in the tables.

<table>
<tr><th colspan="2" rowspan="2">Switch (Switch Number)</th><th colspan="2">Setting</th></tr>
<tr><th>In QnA mode</th><th>In A mode</th></tr>
<tr><td colspan="2">Station number setting switches</td><td colspan="2">As set by user</td></tr>
<tr><td colspan="2">Data link transmission speed setting switch</td><td colspan="2">As set by user
(match to the transmission speed of the CC-Link module)</td></tr>
<tr><td rowspan="6">Operation setting DIP switches</td><td>Operation mode setting (SW1)</td><td>ON (QnA mode)</td><td>OFF (A mode)</td></tr>
<tr><td>Inter-peripheral transmission speed setting (SW2, SW3)</td><td>As set by user
(Match to the baudrate of MX Component)</td><td>9600bps
<table><tr><th>SW</th><th>Setting</th></tr><tr><td>SW2</td><td>OFF</td></tr><tr><td>SW3</td><td>OFF</td></tr></table></td></tr>
<tr><td>Parity bit yes/no setting (SW4, SW5)</td><td><table><tr><th>SW</th><th>Setting</th></tr><tr><td>SW4</td><td>OFF</td></tr><tr><td>SW5</td><td>OFF</td></tr></table></td><td><table><tr><th>SW</th><th>Setting</th></tr><tr><td>SW4</td><td>OFF</td></tr><tr><td>SW5</td><td>OFF</td></tr></table></td></tr>
<tr><td>— (SW6)</td><td>OFF</td><td>OFF</td></tr>
<tr><td>— (SW7)</td><td>OFF</td><td>OFF</td></tr>
<tr><td>Test mode setting (SW8)</td><td>OFF (online mode)</td><td>OFF (online mode)</td></tr>
</table>

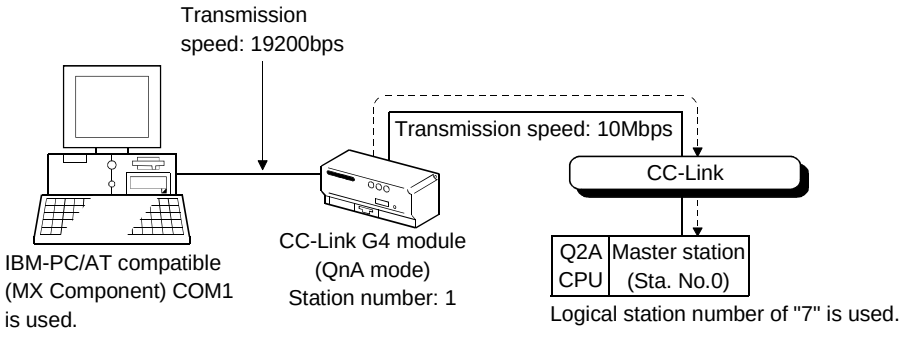
6.7.2 Accessing procedure

The procedure for making access to the PLC CPU using CC-Link G4 communication will be explained in the following order.



(1) System example

The following system example is used in this section.



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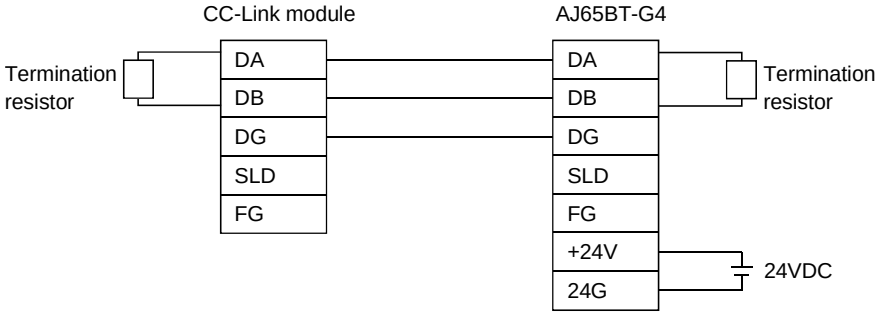
(2) Making switch settings of the CC-Link G4 module

The switch settings of the CC-Link G4 module are indicated below.

<table>
<tr><th colspan="2">Switch (Switch Number)</th><th>Setting</th></tr>
<tr><td colspan="2">Station number setting switches</td><td>01 (station number 1)</td></tr>
<tr><td colspan="2">Data link transmission speed setting switch</td><td>4 (10Mbps)</td></tr>
<tr><td rowspan="5">Operation setting DIP switches</td><td>Operation mode setting (SW1)</td><td>ON (QnA mode)</td></tr>
<tr><td>Inter-peripheral transmission speed setting (SW2, SW3)</td><td>19200bps
<table><tr><th>SW</th><th>Setting</th></tr><tr><td>SW2</td><td>ON</td></tr><tr><td>SW3</td><td>OFF</td></tr></table></td></tr>
<tr><td>Parity bit yes/no setting (SW4, SW5)</td><td><table><tr><th>SW</th><th>Setting</th></tr><tr><td>SW4</td><td>OFF</td></tr><tr><td>SW5</td><td>OFF</td></tr></table></td></tr>
<tr><td>— (SW6)</td><td>OFF</td></tr>
<tr><td>— (SW7)</td><td>OFF</td></tr>
<tr><td>Test mode setting (SW8)</td><td>OFF (online mode)</td></tr>
</table>

(3) Wiring the CC-Link G4 module

The diagram of wiring the CC-Link G4 module to the CC-Link module is shown below.



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(4) Setting the network parameters

Parameter setting may either be made from the network parameter "CC-Link setting screen" of GX Developer or from a sequence program.

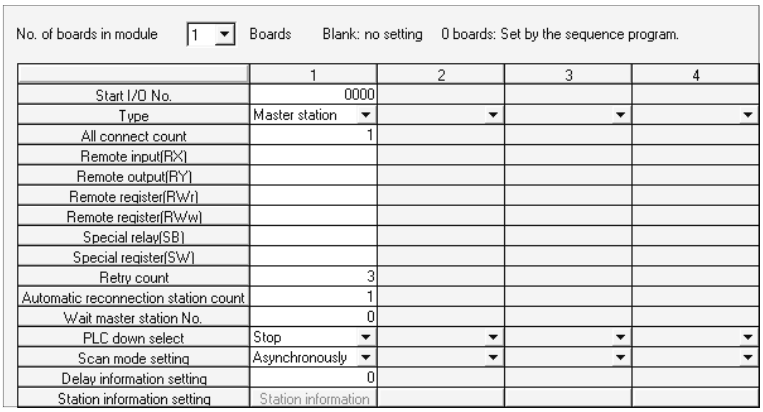
POINT
When using the CC-Link G4 module in the A mode, set the parameters in accordance with "(b) Making parameter setting in sequence program".

(a) Making parameter setting on CC-Link setting screen

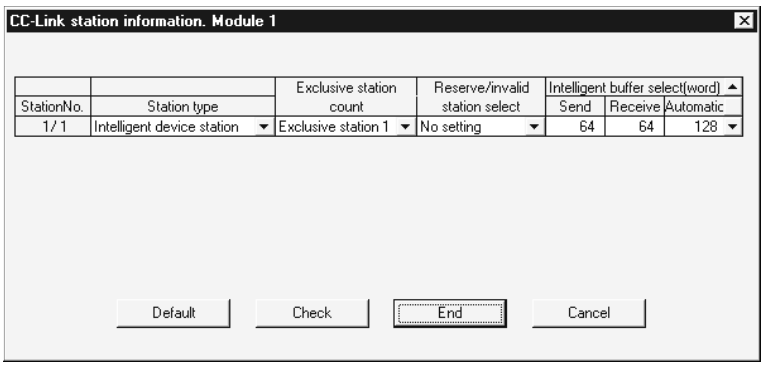
Set the first I/O No., type, total number of modules connected, and station information.

Set other setting items as required.

<CC-Link parameter setting screen>



<Station information setting screen>



After setting the CC-Link parameters, write them to the PLC CPU.

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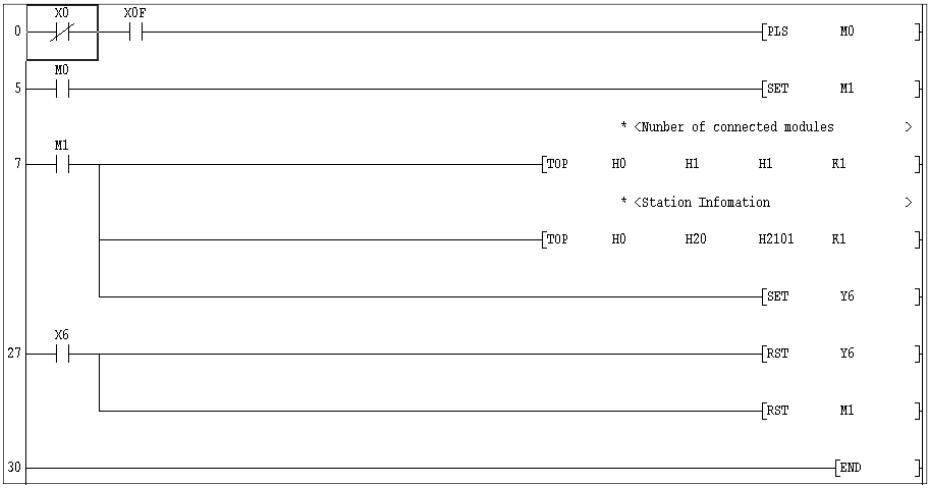
(b) Making parameter setting in sequence program

The parameter setting items for data link and the sequence program example are given below.

<Parameter setting items>

Address	Item	Description	Set Value
1H	Number of connected modules	Set the number of modules on the remote/local stations connected.	1H
20H	Station information	AJ65BT-G4	2101H

<Sequence program>



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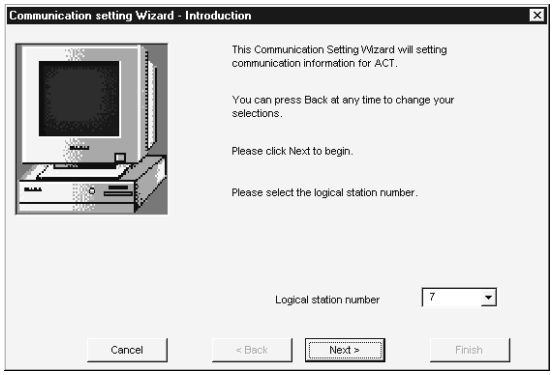
(5) Setting the logical station number (Setting on communication setting wizard)

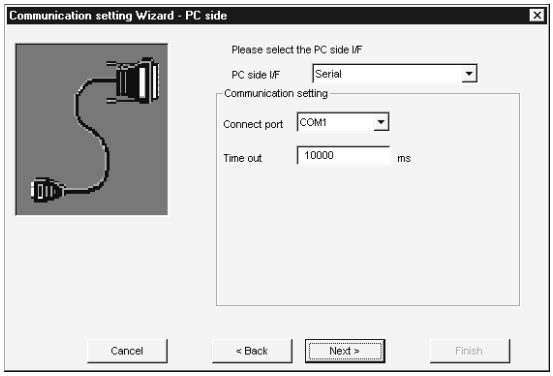
Logical station number setting will be described using the system example for (1).

1) Start the communication setup utility and choose the communication setting wizard.



2) Type "7" in Logical station number and click the Next> button.

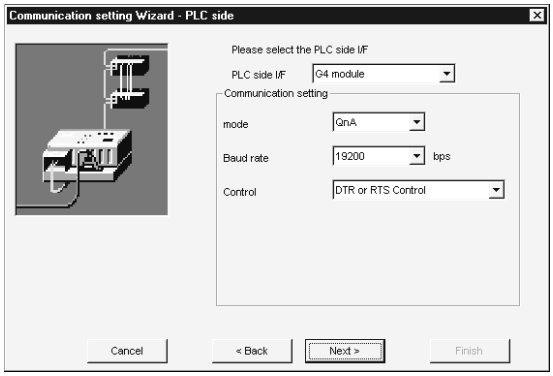
↓



3) Make settings as indicated below and click the Next> button.

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

↓



4) Make settings as indicated below and click the Next> button.

PLC side I/F : G4 module
Mode : QnA
Baud rate : 19200
Control : DTR or RTS Control

↓

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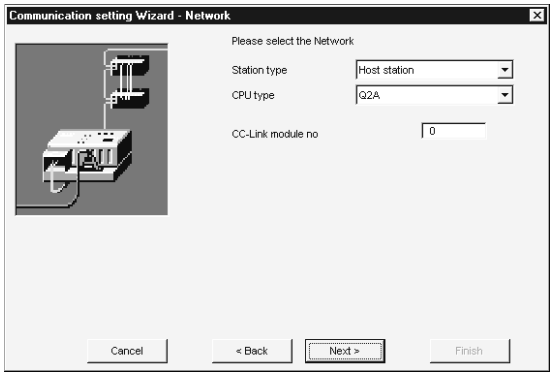
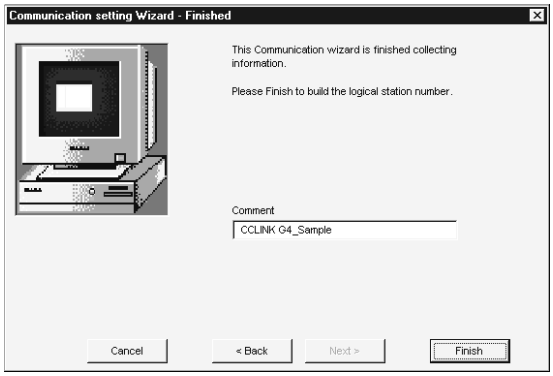
↓



5) Make settings as indicated below and click the Next> button.

Staion type : Host station
CPU type : Q2A
CC-Link module no. : 0

↓



7) Enter a comment and click the Finish button.

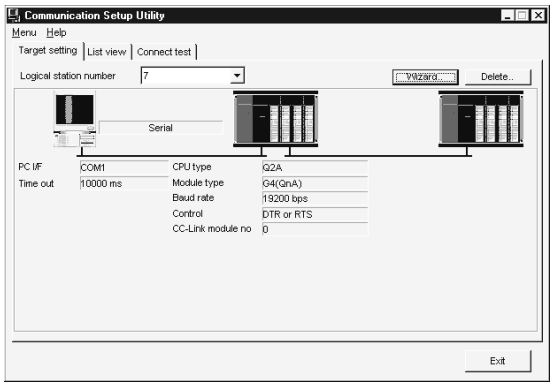
↓

(Registration complete)

6 - 52

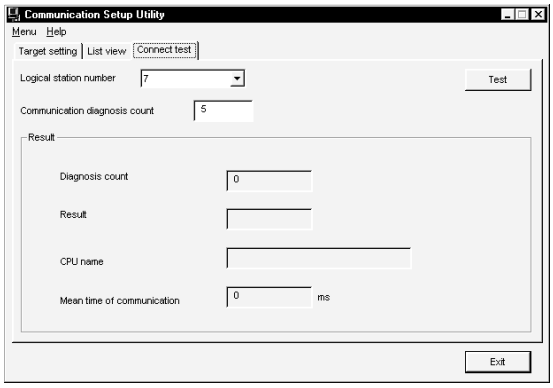
(6) Checking the logical station number settings (Conducting a communication test)

Using the logical station number set in (5), check whether CC-Link G4 communication settings are correct or not.



1) Display the target setting screen and choose the logical station number "7".
Check whether the logical station number settings are correct or not.

↓



2) Show the connection test screen and set the logical station number "7".

↓

3) Click the Test button to check that communication is being made properly.
If an error occurred, check the error code and remove the error.
The error code appears in Result. (At normal termination, "0x00000000" appears in Result.)
Refer to the programming manual for error code details.

↓

(Communication test complete)

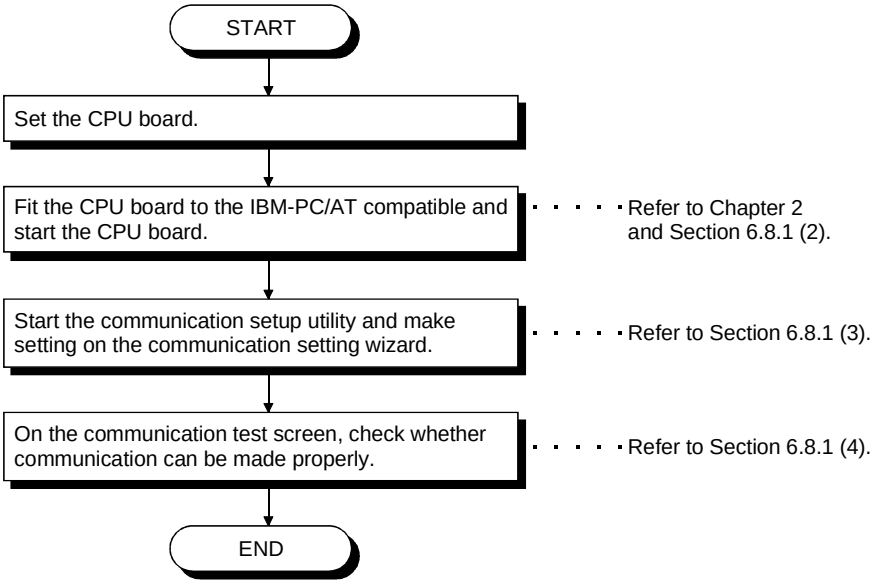
4) Through the above steps, you could confirm that the logical station number settings were correct.
Using the set logical station number, you can create user programs and collect device information using the PLC monitor utility.

6.8 CPU Board Communication

This section provides the CPU board communication procedure and its setting example using the utility setting type.

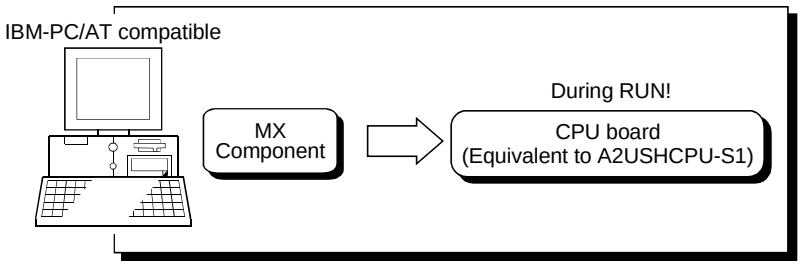
6.8.1 Accessing procedure

The procedure for making access to the CPU board using CPU board communication will be explained in the following order.



(1) System example

The following system example is used in this section.

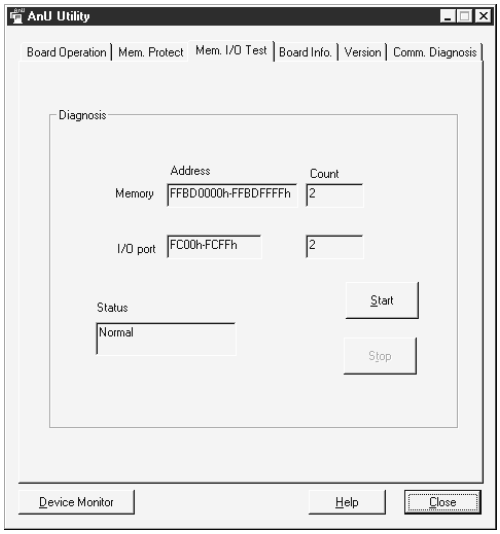


Logical station number of "8" is used.

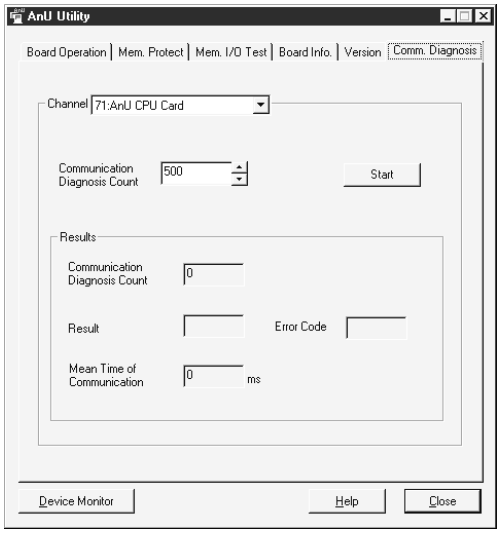
6 - 54

(2) Checking and starting the CPU board

Check whether the CPU board is connected to the IBM-PC/AT compatible properly and start the CPU board.



↓



↓

(To the next page)

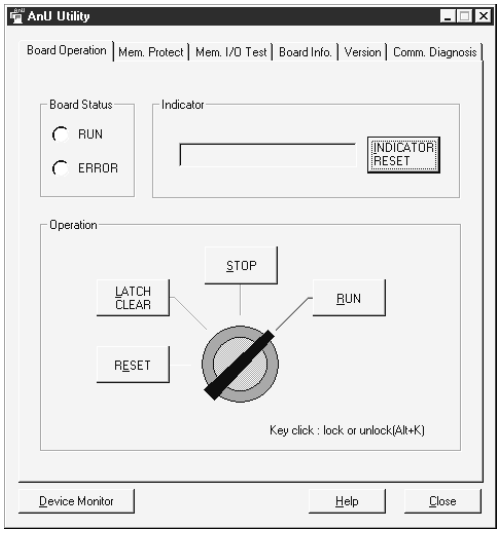
1) Click [Start]-[Programs]-[Melsec]-[AnU Utility] to start the AnU utility.
2) Check whether the CPU board is operating properly.
   Display the memory I/O test screen and click the Start button to perform the test any number of times.
   Then, click the Stop button to stop the test and make sure that the CPU board is normal.

3) Display the communication diagnosis screen and click the Start button to make sure that communication is made properly.
   If an error has occurred, check the error code and remove the error. (Refer to the CPU board manual.)

6 - 55

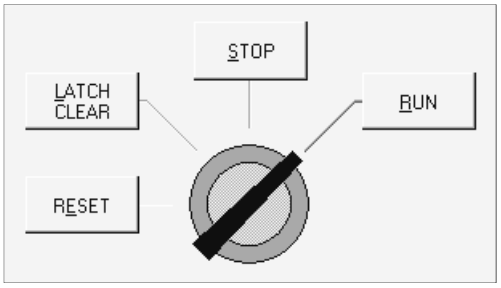
(From the preceding page)

↓



4) In this section, you must perform setting to make the CPU board running on the board operation screen since access is made while the CPU board is running.
The board operation screen appears.

↓



5) Click the CPU operation key to choose the unlock status. After choosing the unlock status, click the RUN button to make the CPU board running.

↓

6) Click the Close button to store the AnU utility into the taskbar.

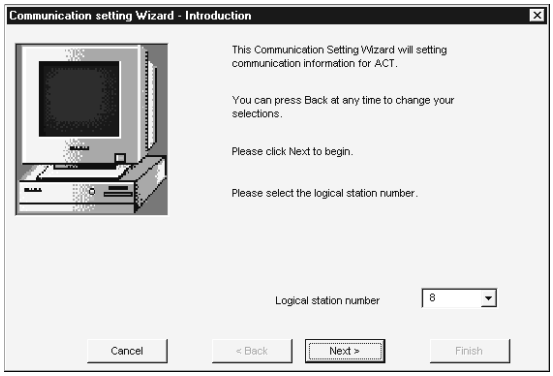
(Check complete)

6 - 56

(3) Setting the logical station number (Setting on communication setting wizard)

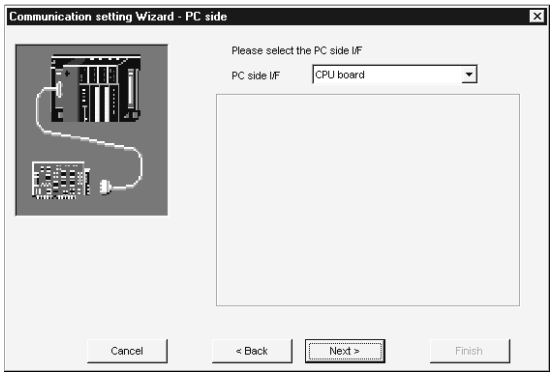
Logical station number setting will be described using the system example for (1).

1) Start the communication setup utility and choose the communication setting wizard.



2) Type "8" in Logical station number and click the Next> button.

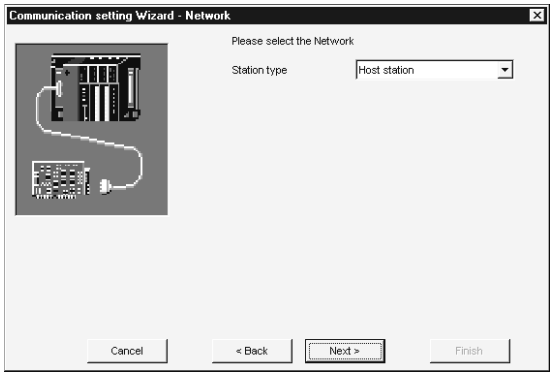
↓



3) Make settings as indicated below and click the Next> button.

PC side I/F : CPU board

↓



4) Make settings as indicated below and click the Next> button.

Station type : Host station

↓

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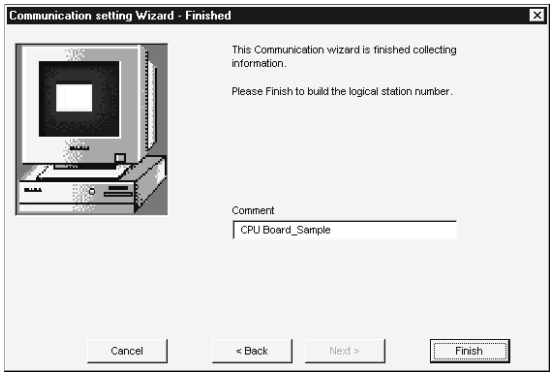
↓



7) Enter a comment and click the Finish button.

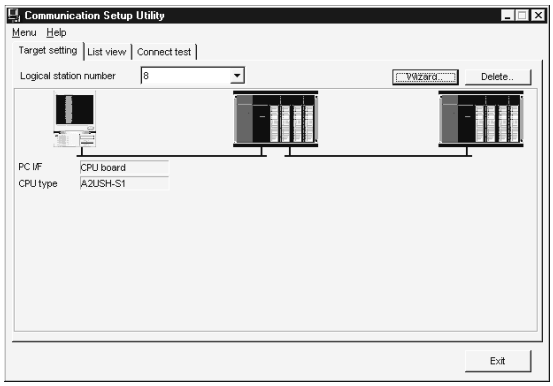
↓

(Registration complete)

6 - 58

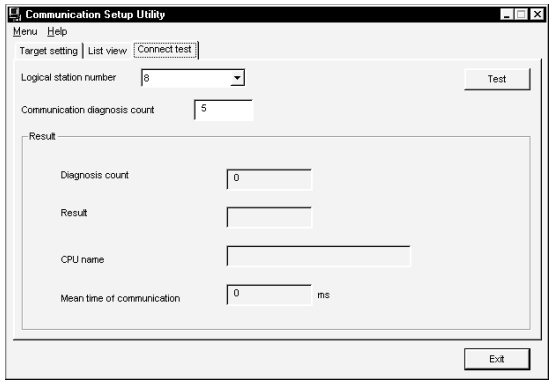
(4) Checking the logical station number settings (Conducting a communication test)

Using the logical station number set in (3), check whether CPU board communication settings are correct or not.



1) Display the target setting screen and choose the logical station number "8".
Check whether the logical station number settings are correct or not.

↓



2) Show the connection test screen and set the logical station number "8".

↓

3) Click the Test button to check that communication is being made properly.
If an error occurred, check the error code and remove the error.
The error code appears in Result. (At normal termination, "0x00000000" appears in Result.)
Refer to the programming manual for error code details.

↓

(Communication test complete)

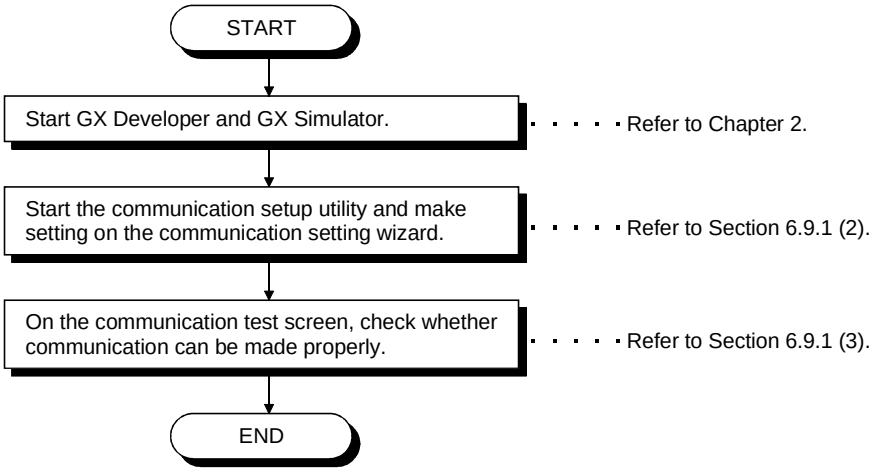
4) Through the above steps, you could confirm that the logical station number settings were correct.
Using the set logical station number, you can create user programs and collect device information using the PLC monitor utility.

6.9 GX Simulator Communication

This section provides the GX Simulator communication procedure and its setting example using the utility setting type.

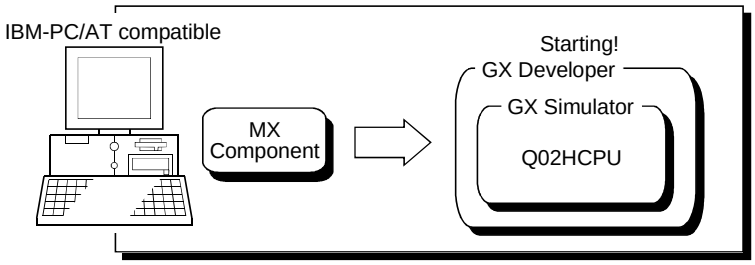
6.9.1 Accessing procedure

The procedure for making access to the GX Simulator using ladder logic communication will be explained in the following order.



(1) System example

The following system example is used in this section.



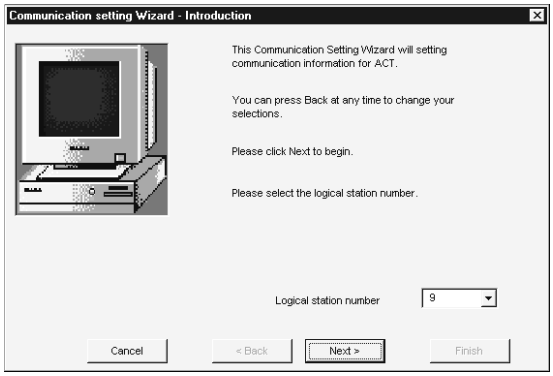
Logical station number of "9" is used.

6 - 60

(2) Setting the logical station number (Setting on communication setting wizard)

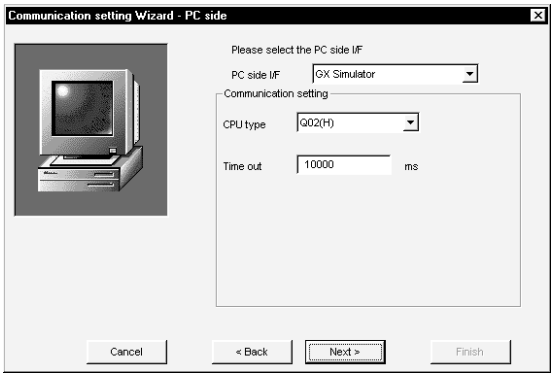
Logical station number setting will be described using the system example for (1).

1) Start the communication setup utility and choose the communication setting wizard.



2) Type "9" in Logical station number and click the Next> button.

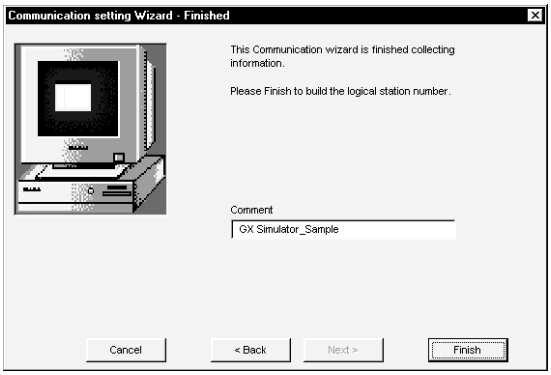
↓



3) Make settings as indicated below and click the Next> button.

PC side I/F : GX Simulator
CPU type : Q02(H)
Time out : 10000

↓



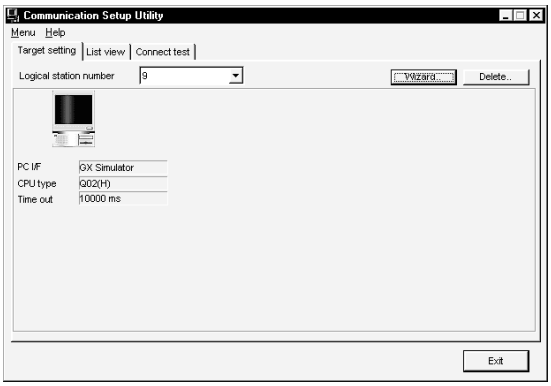
4) Enter a comment and click the Finish button.

↓

(Registration complete)

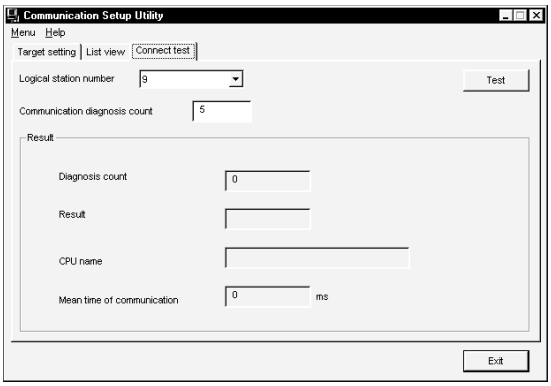
(3) Checking the logical station number settings (Conducting a communication test)

Using the logical station number set in (2), check whether ladder logic communication settings are correct or not.



1) Display the target setting screen and choose the logical station number "9".
Check whether the logical station number settings are correct or not.

↓



2) Show the connection test screen and set the logical station number "9".

↓

3) Click the Test button to check that communication is being made properly.
If an error occurred, check the error code and remove the error.
The error code appears in Result. (At normal termination, "0x00000000" appears in Result.)
Refer to the programming manual for error code details.

↓

(Communication test complete)

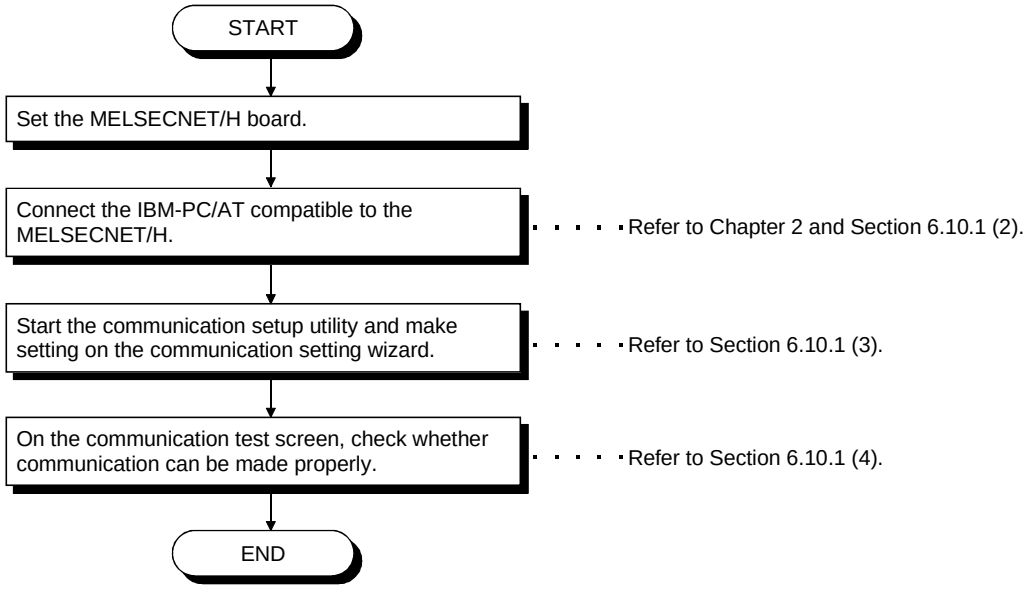
4) Through the above steps, you could confirm that the logical station number settings were correct.
Using the set logical station number, you can create user programs and collect device information using the PLC monitor utility.

6.10 MELSECNET/H Communication

This section provides the MELSECNET/H communication procedure and its setting example using the utility setting type.

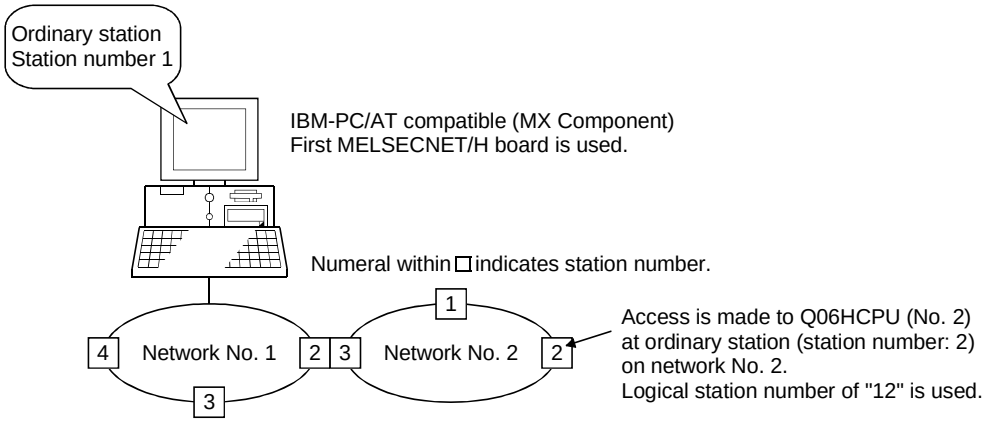
6.10.1 Accessing procedure

The procedure for making access to the PLC CPU using MELSECNET/H communication will be explained in the following order.



(1) System example

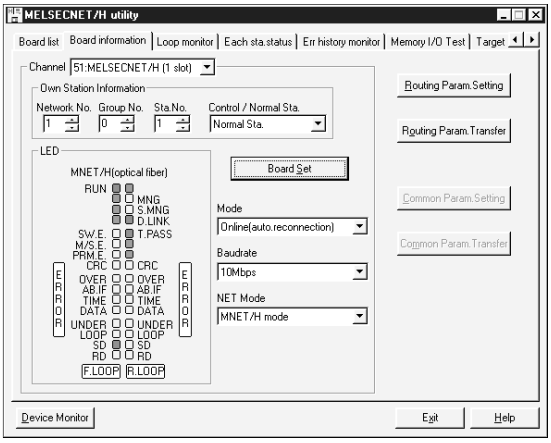
The following system example is used in this section.



(2) Checking the MELSECNET/H board

Check whether the IBM-PC/AT compatible is connected properly to the MELSECNET/H.

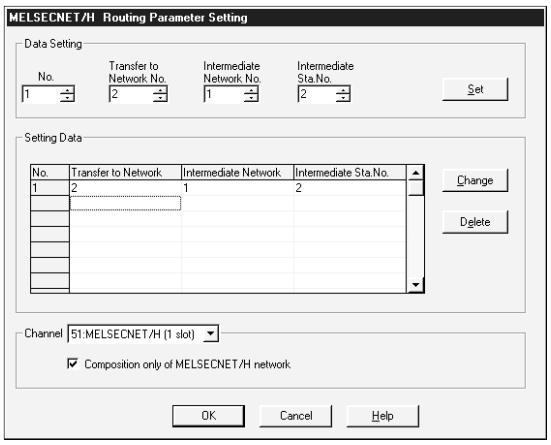
1) Click [Start]-[Programs]-[Melsec application]-[Communication support (CSKP-E)]-[MELSECNETH Utility] to start the MELSECNET/10 utility.



↓

2) Call the board information screen and make the following settings. After that, click the Routing Param Setting button.

Channel	: Set "51:MELSECNET/H (1 slot)".
Mode	: Set "Online (automatic reconnector)".
Baud rate	: Any (10Mbps here)
NET mode	: MNET/H mode



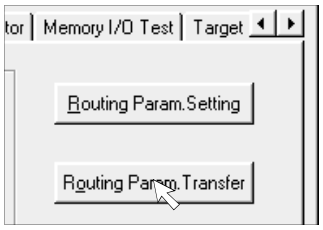
↓

3) Set the routing parameters and click the Set button.

Target network No. : 2
Relay target network No. : 1
Relay target Sta. No. : 2

After that, click the OK button to close the dialog box.

↓



4) Click the Routing Param. Transfer button to transfer the routing parameters to the MELSECNET/H card.

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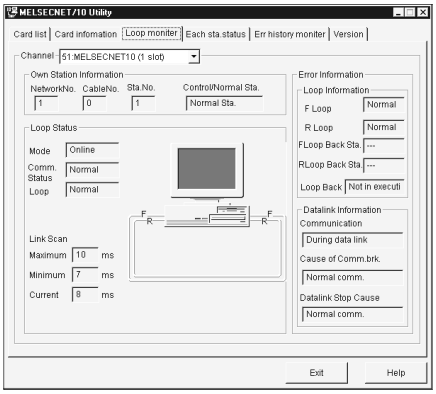


↓

5) Click the "Loop monitor" tab and make sure that the loop is normal.

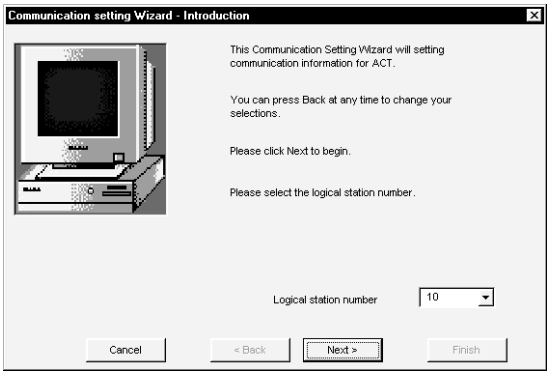
(Check complete)

6) Click the Exit button to exit from the utility.

(3) Setting the logical station number (Setting on communication setting wizard)

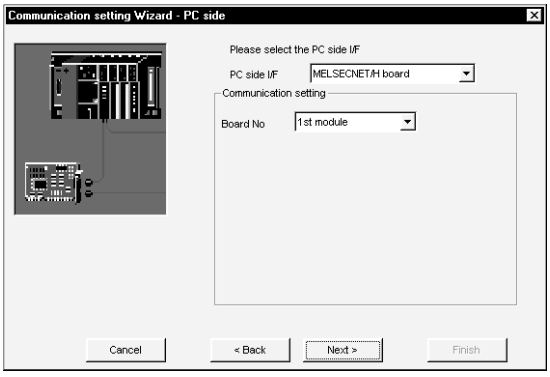
Logical station number setting will be described using the system example for (1).

1) Start the communication setup utility and choose the communication setting wizard.



2) Type "10" in Logical station number and click the Next> button.

↓



3) Make settings as indicated below and click the Next> button.

PC side I/F : MELSECNET/H board
Board No : 1st module

↓

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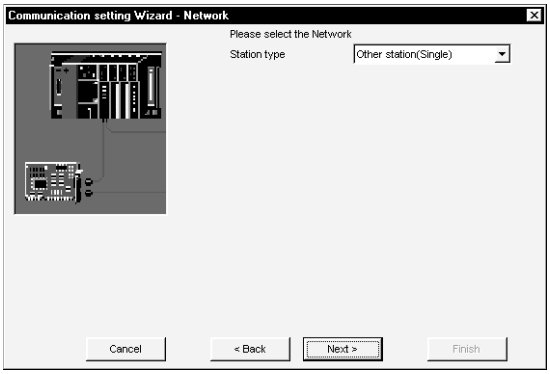
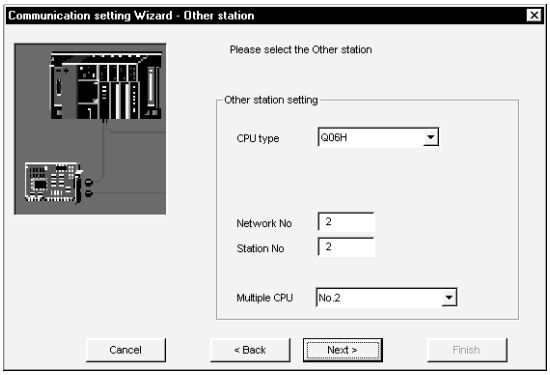
↓



4) Make settings as indicated below and click the Next> button.

Station type : Other station(Single)

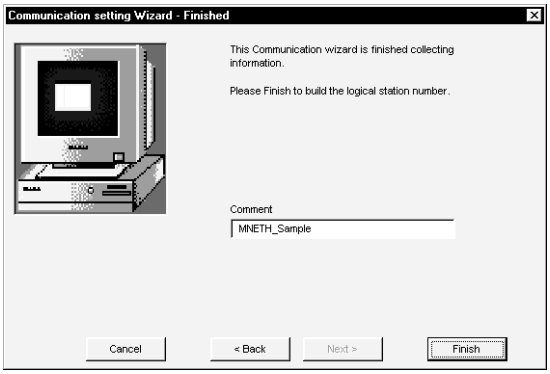
↓



5) Make settings as indicated below and click the Next> button.

CPU type : Q06H
Network No. : 2
Station No. : 2
Multiple CPU : No.2

↓



6) Enter a comment and click the Finish button.

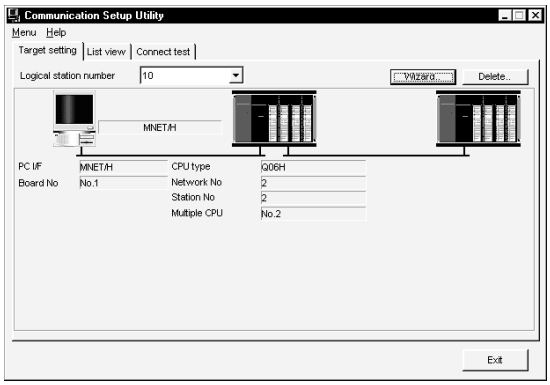
↓

(Registration complete)

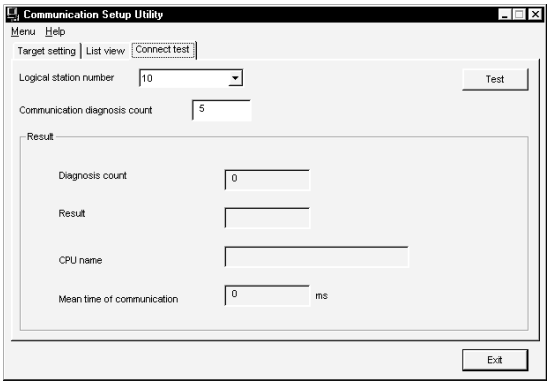
6 - 66

(4) Checking the logical station number settings (Conducting a communication test)

Using the logical station number set in (3), check whether the MELSECNET/H communication settings are correct or not.



↓



↓

↓

(Communication test complete)

1) Display the target setting screen and choose the logical station number "10".
Check whether the logical station number settings are correct or not.

2) Show the connection test screen and set the logical station number "10".

3) Click the Test button to check that communication is being made properly.
If an error occurred, check the error code and remove the error.
The error code appears in Result. (At normal termination, "0x00000000" appears in Result.)
Refer to the programming manual for error code details.

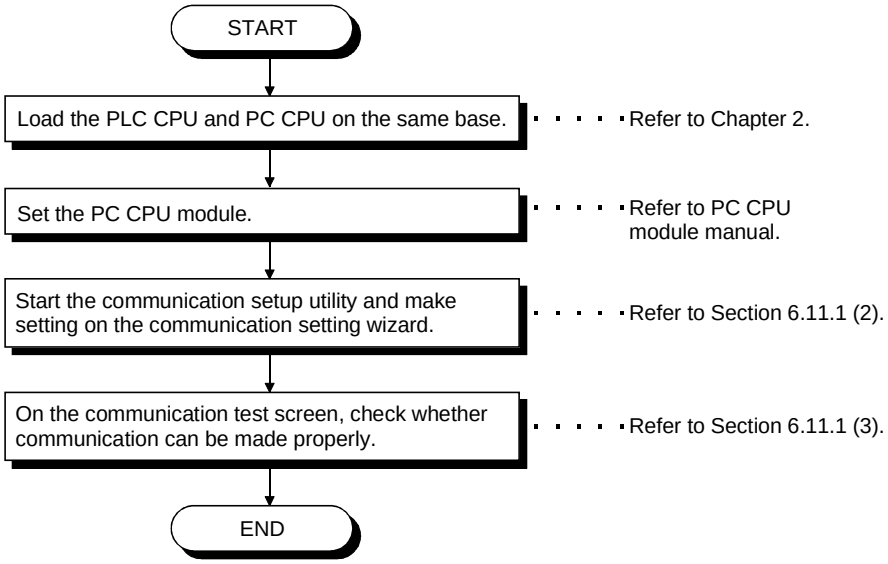
4) Through the above steps, you could confirm that the logical station number settings were correct.
Using the set logical station number, you can create user programs and collect device information using the PLC monitor utility.

6.11 Q Series Bus Communication

This section provides the Q series bus communication procedure and its setting example using the utility setting type.

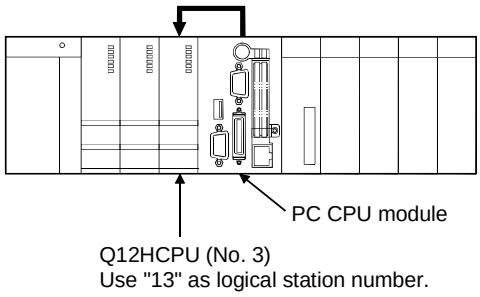
6.11.1 Accessing procedure

The procedure for making access to the PLC CPU using Q series bus communication will be explained in the following order.



(1) System example

The following system example is used in this section.

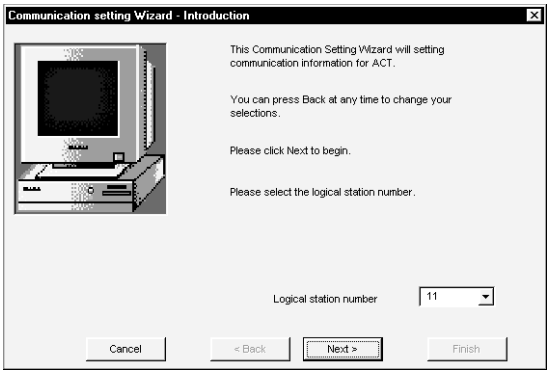


6 - 68

(2) Setting the logical station number (Setting on communication setting wizard)

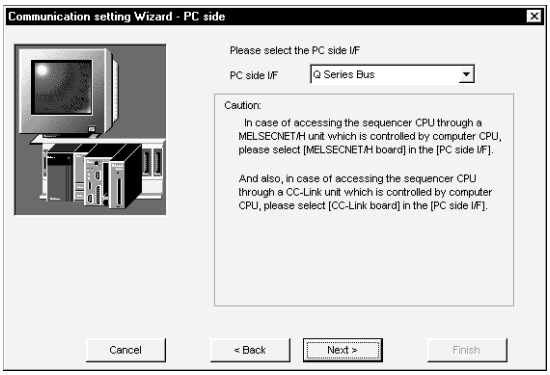
Logical station number setting will be described using the system example for (1).

1) Start the communication setup utility and choose the communication setting wizard.



2) Type "11" in Logical station number and click the Next> button.

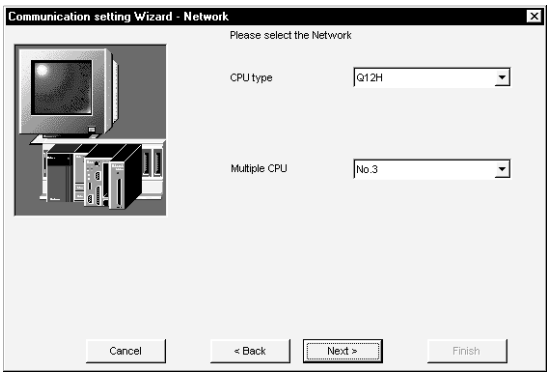
↓



3) Make settings as indicated below and click the Next> button.

PC side I/F : Q Series Bus

↓



4) Make settings as indicated below and click the Next> button.

CPU type : Q12H
Multiple CPU : No.3

↓

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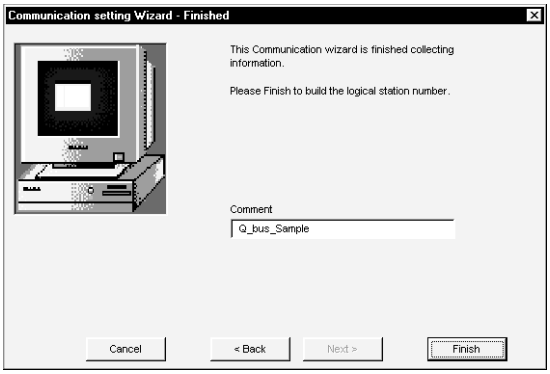
(From the preceding page)

↓



5) Enter a comment and click the Finish button.

↓

(Registration complete)

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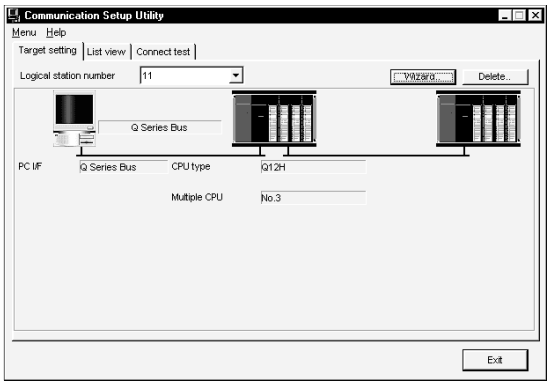
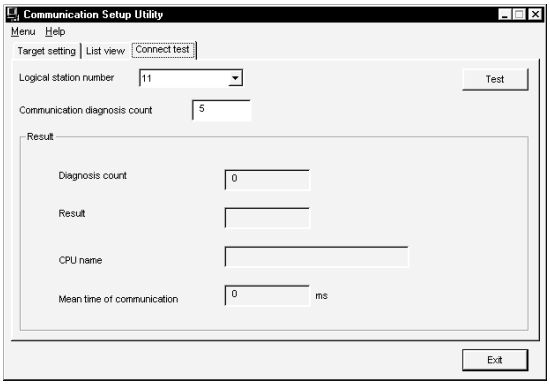
(3) Checking the logical station number settings (Conducting a communication test)

Using the logical station number set in (2), check whether the Q series bus communication settings are correct or not.



1) Display the target setting screen and choose the logical station number "11".
Check whether the logical station number settings are correct or not.

↓



2) Show the connection test screen and set the logical station number "11".

↓

3) Click the Test button to check that communication is being made properly.
If an error occurred, check the error code and remove the error.
The error code appears in Result. (At normal termination, "0x00000000" appears in Result.)
Refer to the programming manual for error code details.

↓

(Communication test complete)

4) Through the above steps, you could confirm that the logical station number settings were correct.
Using the set logical station number, you can create user programs and collect device information using the PLC monitor utility.

7 COMMUNICATION SETTING EXAMPLES OF THE PROGRAM SETTING TYPE

To make communication using the program setting type, you must set the properties of the corresponding ACT controls.
For the properties of the corresponding ACT controls, directly enter them in the property window or change their settings in the user program. the user program.
Refer to the MX Component programming manual for details of the properties which must be set for the corresponding ACT controls.

POINT

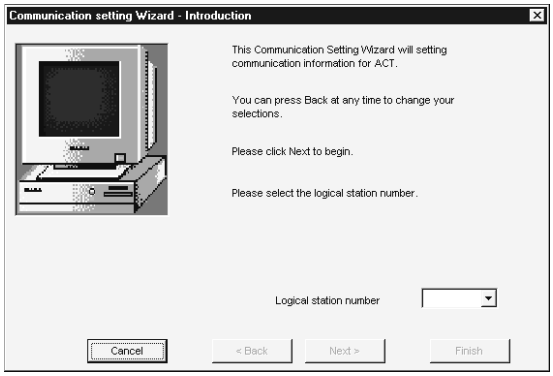
Refer to the following sections for the switch settings of the computer link, Ethernet and CC-Link G4 modules for use of MX Component.

- Computer link module ..... Section 6.1.1 Switch settings of computer link modules
- Ethernet module ..... Section 6.2.1 Switch settings of Ethernet modules
- CC-Link G4 module ..... Section 6.7.1 Switch settings of CC-Link G4 module

REMARK

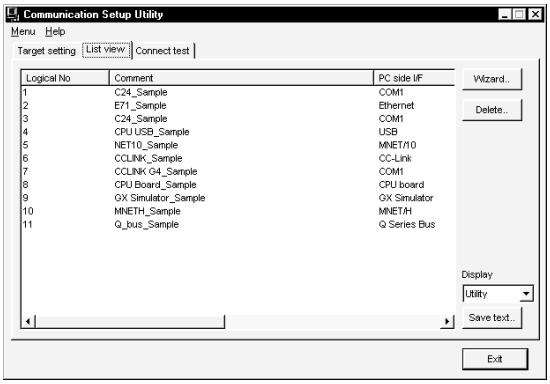
On MX Component, the following property setting method is available for those who are not familiar with property setting.

<Property setting changing procedure>



1) Specify the communication path where you want to make property setting using the "Communication setting Wizard" on the communication setup utility.
For details of the communication setting wizard, refer to "Section 5.1.6 Operations on the communication setting wizard screen".

↓



2) Display the "List view" screen of the communication setup utility.
For details of the "List view" screen, refer to "Section 5.1.2 Operations on list view screen".

↓

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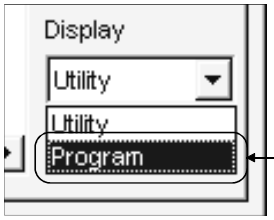
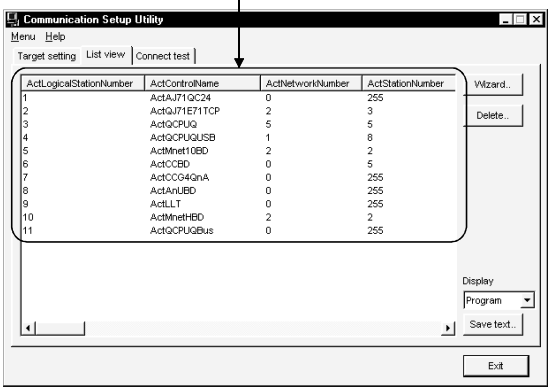
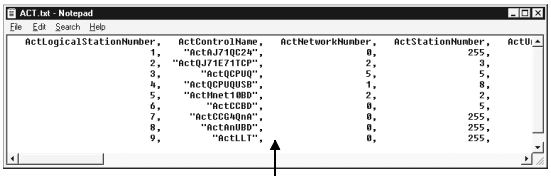


3) Choose "Program" in "Display" on the "List view" screen.

Control names to be used and properties to be set appear.

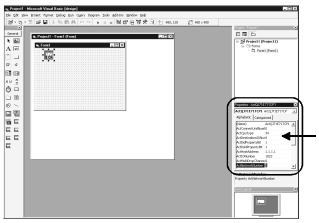


4) Control the scroll bar on the "List view" screen to confirm the properties.
The "List view" screen shows the properties that are needed for setting using the program setting type.



Clicking the Save text button on the "List view" screen enables you to save the data into a file in the txt format.

Saved into file in txt format.



Directly enter properties in property window or change property setting in user program.

5) When creating a user program, directly enter the confirmed property values into Properties of the property window or change the property setting in the user program.
The screen used for explanation uses Visual Basic© .

8 ACCESSIBLE DEVICES AND RANGES

This chapter describes the accessible devices and accessible ranges in each communication form.

8.1 Precautions for Device Access

(1) About accessible devices

For accessible devices, the devices not given or devices marked × (inaccessible) in the accessible device list indicated in Sections 8.2 and later are not supported by MX Component.
Do not specify the inaccessible devices.

(2) Precautions for making access to extended file registers

It is possible (depending on the type of memory cassette mounted on the PLC CPU) that no errors will occur even when a device is read and written by specifying a block number which does not exist. In such a case, the data read is not correct. Further, writing to that device may destroy the user memory of the PLC CPU.
Make sure to use the function described here, after fully confirming the kind of memory cassette, details of parameter setting, etc.
For details, refer to the AnACPU and AnUCPU User's Manual.

8.2 For Computer Link Communication

This section provides the accessible devices and accessible ranges for computer link communication.

8.2.1 Accessible devices

The following table indicates the accessible devices for computer link communication.

Device (Device Name)		Access Target							
		A1N	A0J2H A1S(-S1) A1SH(-S1) A1SJH A1SJ A2C(J) A2N(-S1) A2S(-S1) A2SH(-S1) A1FX	A2A(-S1) A2U(-S1) A2US(-S1) A2AS (-S1/-S30) A2USH-S1 Q02(H)-A Q06H-A	A3N A3A A3U	A4U	Q2A(-S1) Q3A Q4A Q4AR Q2AS(-S1) Q2ASH(-S1) Q00(J) Q01 Q02(H) Q06H Q12H Q25H	FX_0 FX_{0S} FX_{0N} FX_1 FX_{1N} FX_{1NC} FX_{1S} FX_2 FX_{2C} FX_{2N} FX_{2NC}	A273UH(-S3) A171SH A172SH A173UH (-S1)
Function input (FX)		×	×	×	×	×	○	×	×
Function output (FY)		×	×	×	×	×	○	×	×
Function register (FD)		×	×	×	×	×	○	×	×
Special relay (SM)		○	○	○	○	○	○	×	○
Special register (SD)		○	○	○	○	○	○	×	○
Input relay (X)		○	○	○	○	○	○	×	○
Output relay (Y)		○	○	○	○	○	○	×	○
Internal relay (M)		○	○	○	○	○	○	×	○
Latch relay (L)		○	○	○	○	○	○	×	○
Annunciator (F)		○	○	○	○	○	○	×	○
Edge relay (V)		×	×	×	×	×	○	×	×
Link relay (B)		○	○	○	○	○	○	×	○
Data register (D)		○	○	○	○	○	○	×	○
Link register (W)		○	○	○	○	○	○	×	○
Timer	Contact (TS)	○	○	○	○	○	○	×	○
	Coil (TC)	○	○	○	○	○	○	×	○
	Present value (TN)	○	○	○	○	○	○	×	○
Counter	Contact (CS)	○	○	○	○	○	○	×	○
	Coil (CC)	○	○	○	○	○	○	×	○
	Present value (CN)	○	○	○	○	○	○	×	○
Retentive timer	Contact (SS)	×	×	×	×	×	○	×	×
	Coil (SC)	×	×	×	×	×	○	×	×
	Present value (SN)	×	×	×	×	×	○	×	×
Link special relay (SB)		×	×	×	×	×	○	×	×
Link special register (SW)		×	×	×	×	×	○	×	×
Step relay (S)		○	○	○	○	○	×	×	○
Direct input (DX)		×	×	×	×	×	×	×	×
Direct output (DY)		×	×	×	×	×	×	×	×
Accumulator (A)		○	○	○	○	○	×	×	○
Index register	(Z)	○	○	○	○	○	○	×	○
	(V)	○	○	○	○	○	×	×	○
File register	(R)	○	○	○	○	○	○ ＊1	×	○
	(ZR)	×	×	×	×	×	○ ＊1	×	×
Extended file register (ER＊\R)		○	○	○	○	○	×	×	○

＊1: Disabled for use of Q00JCPU

(To next page)

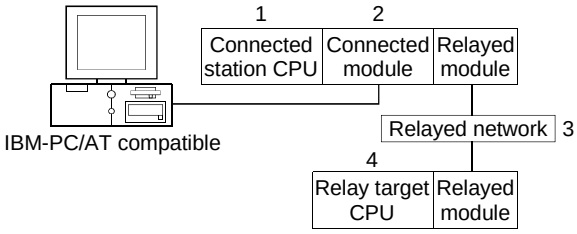
Device (Device Name)		Access Target							
		A1N	A0J2H A1S(-S1) A1SH(-S1) A1SJH A1SJ A2C(J) A2N(-S1) A2S(-S1) A2SH(-S1) A1FX	A2A(-S1) A2U(-S1) A2US(-S1) A2AS (-S1/-S30) A2USH-S1 Q02(H)-A Q06H-A	A3N A3A A3U	A4U	Q2A(-S1) Q3A Q4A Q4AR Q2AS(-S1) Q2ASH(-S1) Q00(J) Q01 Q02(H) Q06H Q12H Q25H	FX_0 FX_{0S} FX_{0N} FX_1 FX_{1N} FX_{1NC} FX_{1S} FX_2 FX_{2C} FX_{2N} FX_{2NC}	A273UH(-S3) A171SH A172SH A173UH (-S1)
Direct link	Link input (J＊\X)	×	×	×	×	×	○	×	×
	Link output (J＊\Y)	×	×	×	×	×	○	×	×
	Link relay (J＊\B)	×	×	×	×	×	○	×	×
	Link special relay (J＊\SB)	×	×	×	×	×	○	×	×
	Link register (J＊\W)	×	×	×	×	×	○	×	×
	Link special register (J＊\SW)	×	×	×	×	×	○	×	×
Special direct buffer memory (U＊\G)		×	×	×	×	×	○ ＊2	×	×

＊2: In a multi-CPU configuration, read from the shared memory of the host CPU cannot be performed.
In addition, write to the shared memory cannot be performed independently of the host or other CPU.

8.2.2 Accessible ranges

This section indicates the accessible ranges for computer link communication.

(1) Configuration



(2) Accessibility list

The following table indicates whether access can be made or not.
The connected station CPUs are all accessible.
Whether the relay target CPU is accessible or not is indicated by ○ (accessible) or × (inaccessible).

Connected Station		3. Relayed Network	4. Relay Target CPU					
1. CPU	2. Connected module (Usable control name)		QCPU (Q mode)	QCPU (A mode)	QnACPU	ACPU	FXCPU	Motion controller CPU＊4
QCPU (Q mode)	Q series-compatible C24＊1 (ActQJ71C24, ActMLQJ71C24)	MELSECNET/H	○	×	×	×	×	×
		MELSECNET/10	○	○	○	○	×	○
		MELSECNET(II)	×	×	×	×	×	×
		Ethernet	○ ＊2	×	○ ＊2	×	×	×
		Computer link	○	×	○	×	×	×
		CC-Link	○	○	○	○	×	○
		Multidrop (Independent mode)	○	×	○	×	×	×
		Multidrop (Synchronous mode) ＊1	○	×	×	×	×	×
QnACPU	QC24(N) (ActAJ71QC24, ActMLAJ71QC24)	MELSECNET/H	×	×	×	×	×	×
		MELSECNET/10	×	×	○	×	×	×
		MELSECNET(II)	×	×	○	×	×	×
		Ethernet	×	×	○ ＊2	×	×	×
		Computer link	×	×	○	×	×	×
		CC-Link	×	×	○	×	×	×
		Multidrop (Independent mode)	×	×	○	×	×	×
		Multidrop (Synchronous mode)	×	×	○	×	×	×

＊1: Always set the transmission specifications software switch setting "SW6 (sumcheck)" of the Q series-compatible C24 parameters to ON.

＊2: Set the parameter-set values of the target station side QE71 to the network number and station number.
Also set the "MNET/10 routing information" of the QE71 parameter setting.
At that time, specify any of the IP address calculation system, table conversion system and combined system as the "MNET/10 routing system".

＊4: Accessible to the A171SHCPU, A172SHCPU, A173UHCPU(-S1) or A273UHCPU(-S3) only

(To next page)

Connected Station		3. Relayed Network	4. Relay Target CPU					
1. CPU	2. Connected module (Usable control name)		QCPU (Q mode)	QCPU (A mode)	QnACPU	ACPU	FXCPU	Motion controller CPU＊4
QCPU (A mode), QnACPU ＊3, ACPU, motion controller CPU	UC24 (ActAJ71UC24, (ActMLAJ71UC24)	MELSECNET/H	×	×	×	×	×	×
		MELSECNET/10	×	○	○ ＊3	○	×	○
		MELSECNET(II)	×	○	○ ＊3	○	×	○
		Ethernet	×	×	×	×	×	×
		Computer link	×	×	×	×	×	×
		CC-Link	×	×	×	×	×	×
		Multidrop	×	○	○ ＊3	○	×	○
QCPU (A mode), QnACPU ＊3, ACPU, motion controller CPU	C24 (ActAJ71C24, ActMLAJ71C24)	MELSECNET/H	×	×	×	×	×	×
		MELSECNET/10	×	○	○ ＊3	○	×	○
		MELSECNET(II)	×	○	○ ＊3	○	×	○
		Ethernet	×	×	×	×	×	×
		Computer link	×	×	×	×	×	×
		CC-Link	×	×	×	×	×	×
		Multidrop	×	○	○ ＊3	○	×	○

＊3: Operates as the one equivalent to AnACPU.

＊4: Accessible to the A171SHCPU, A172SHCPU, A173UHCPU(-S1) or A273UHCPU(-S3) only

8.3 For Ethernet Communication

This section provides the accessible devices and accessible ranges for Ethernet communication.

8.3.1 Accessible devices

The following table indicates the accessible devices for Ethernet communication.

Device (Device Name)		Access Target							
		A1N	A0J2H A1S(-S1) A1SH(-S1) A1SJH A1SJ A2C(J) A2N(-S1) A2S(-S1) A2SH(-S1) A1FX	A2A(-S1) A2U(-S1) A2US(-S1) A2AS (-S1/-S30) A2USH-S1 Q02(H)-A Q06H-A	A3N A3A A3U	A4U	Q2A(-S1) Q3A Q4A Q4AR Q2AS(-S1) Q2ASH(-S1) Q00(J) Q01 Q02(H) Q06H Q12H Q25H	FX_0 FX_{0S} FX_{0N} FX_1 FX_{1N} FX_{1NC} FX_{1S} FX_2 FX_{2C} FX_{2N} FX_{2NC}	A273UH(-S3) A171SH A172SH A173UH (-S1)
Function input (FX)		×	×	×	×	×	○ ＊2	×	×
Function output (FY)		×	×	×	×	×	○ ＊2	×	×
Function register (FD)		×	×	×	×	×	○ ＊2	×	×
Special relay (SM)		○	○	○	○	○	○	×	○
Special register (SD)		○	○	○	○	○	○	×	○
Input relay (X)		○	○	○	○	○	○	×	○
Output relay (Y)		○	○	○	○	○	○	×	○
Internal relay (M)		○	○	○	○	○	○	×	○
Latch relay (L)		○	○	○	○	○	○	×	○
Annunciator (F)		○	○	○	○	○	○	×	○
Edge relay (V)		×	×	×	×	×	○	×	×
Link relay (B)		○	○	○	○	○	○	×	○
Data register (D)		○	○	○	○	○	○	×	○
Link register (W)		○	○	○	○	○	○	×	○
Timer	Contact (TS)	○	○	○	○	○	○	×	○
	Coil (TC)	○	○	○	○	○	○	×	○
	Present value (TN)	○	○	○	○	○	○	×	○
Counter	Contact (CS)	○	○	○	○	○	○	×	○
	Coil (CC)	○	○	○	○	○	○	×	○
	Present value (CN)	○	○	○	○	○	○	×	○
Retentive timer	Contact (SS)	×	×	×	×	×	○	×	×
	Coil (SC)	×	×	×	×	×	○	×	×
	Present value (SN)	×	×	×	×	×	○	×	×
Link special relay (SB)		×	×	×	×	×	○	×	×
Link special register (SW)		×	×	×	×	×	○	×	×
Step relay (S)		○	○	○	○	○	×	×	○
Direct input (DX)		×	×	×	×	×	×	×	×
Direct output (DY)		×	×	×	×	×	×	×	×
Accumulator (A)		○ ＊1	○ ＊1	○ ＊1	○ ＊1	○ ＊1	×	×	○ ＊1
Index register	(Z)	○ ＊1	○ ＊1	○ ＊1	○ ＊1	○ ＊1	○	×	○ ＊1
	(V)	○ ＊1	○ ＊1	○ ＊1	○ ＊1	○ ＊1	×	×	○ ＊1
File register	(R)	○	○	○	○	○	○ ＊3	×	○
	(ZR)	×	×	×	×	×	○ ＊3	×	×
Extended file register (ER＊\R)		○	○	○	○	○	×	×	○

＊1: Disabled when E71 (TCP/IP) is used.
＊2: Disabled when QE71 (TCP/IP) is used.
＊3: Disabled for use of Q00JCPU

(To next page)

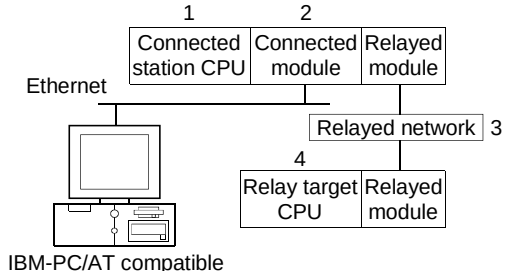
Device (Device Name)		Access Target							
		A1N	A0J2H A1S(-S1) A1SH(-S1) A1SJH A1SJ A2C(J) A2N(-S1) A2S(-S1) A2SH(-S1) A1FX	A2A(-S1) A2U(-S1) A2US(-S1) A2AS (-S1/-S30) A2USH-S1 Q02(H)-A Q06H-A	A3N A3A A3U	A4U	Q2A(-S1) Q3A Q4A Q4AR Q2AS(-S1) Q2ASH(-S1) Q00(J) Q01 Q02(H) Q06H Q12H Q25H	FX_0 FX_{0S} FX_{0N} FX_1 FX_{1N} FX_{1NC} FX_{1S} FX_2 FX_{2C} FX_{2N} FX_{2NC}	A273UH(-S3) A171SH A172SH A173UH (-S1)
Direct link	Link input (J＊\X)	×	×	×	×	×	○	×	×
	Link output (J＊\Y)	×	×	×	×	×	○	×	×
	Link relay (J＊\B)	×	×	×	×	×	○	×	×
	Link special relay (J＊\SB)	×	×	×	×	×	○	×	×
	Link register (J＊\W)	×	×	×	×	×	○	×	×
	Link special register (J＊\SW)	×	×	×	×	×	○	×	×
Special direct buffer memory (U＊\G)		×	×	×	×	×	○ ＊4	×	×

＊4: In a multi-CPU configuration, read from the shared memory of the host CPU cannot be performed.
In addition, write to the shared memory cannot be performed independently of the host or other CPU.

8.3.2 Accessible ranges

This section indicates the accessible ranges for Ethernet communication.

(1) Configuration



(2) Accessibility list

The following table indicates whether access can be made or not.
The connected station CPUs are all accessible.
Whether the relay target CPU is accessible or not is indicated by ○ (accessible) or × (inaccessible).

POINT

When using the Q series-compatible E71 or QE71 (when UDP/IP is used), you must set the Ethernet parameters in GX Developer parameter setting.

Connected Station		3. Relayed Network	4. Relay Target CPU					
1. CPU	2. Connected module (Usable control name)		QCPU (Q mode)	QCPU (A mode)	QnACPU	ACPU	FXCPU	Motion controller CPU ＊6
QCPU (Q mode)	Q series-compatible E71 (ActQJ71E71TCP, ActMLQJ71E71TCP)	MELSECNET/H ＊1	○	×	×	×	×	×
		MELSECNET/10 ＊1	○	○	○	○	×	○
		MELSECNET(II)	×	×	×	×	×	×
		Ethernet	○ ＊2	×	○ ＊2	×	×	×
		Computer link	○	×	×	×	×	×
		CC-Link	○	×	×	×	×	×
QCPU (Q mode)	Q series-Compatible E71 (ActQJ71E71UDP, ActMLQJ71E71UDP)	MELSECNET/H ＊1	○	×	×	×	×	×
		MELSECNET/10 ＊1	○	○	○	○	×	○
		MELSECNET(II)	×	×	×	×	×	×
		Ethernet	○ ＊2	×	○ ＊2	×	×	×
		Computer link	○	×	×	×	×	×
		CC-Link	○	×	×	×	×	×

＊1: On the connected station side (Q series-compatible E71), always specify the station number set in the Ethernet parameter.

＊2: Set the parameter-set values of the target station side QE71 to the network number and station number.
Also set the "MNET/10 routing information" of the QE71 parameter setting.
At that time, specify any of the IP address calculation system, table conversion system and combined system as the "MNET/10 routing system".

＊6: Accessible to the A171SHCPU, A172SHCPU, A173UHCPU(-S1) or A273UHCPU(-S3) only

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Connected Station		3. Relayed Network	4. Relay Target CPU					
1. CPU	2. Connected module (Usable control name)		QCPU (Q mode)	QCPU (A mode)	QnACPU	ACPU	FXCPU	Motion controller CPU ＊6
QnACPU ＊5	QE71 (ActAJ71QE71TCP, ActMLAJ71QE71TCP)	MELSECNET/H	×	×	×	×	×	×
		MELSECNET/10	×	×	○ ＊5	×	×	×
		MELSECNET(II)	×	×	×	×	×	×
		Ethernet	×	×	×	×	×	×
		Computer link	×	×	×	×	×	×
		CC-Link	×	×	×	×	×	×
QnACPU	QE71 (ActAJ71QE71UDP, ActMLAJ71QE71UDP)	MELSECNET/H	×	×	×	×	×	×
		MELSECNET/10	×	×	○	×	×	×
		MELSECNET(II)	×	×	×	×	×	×
		Ethernet	×	×	○ ＊2＊3	×	×	×
		Computer link	×	×	○ ＊3	×	×	×
		CC-Link	×	×	×	×	×	×
QCPU (A mode), QnACPU ＊4, ACPU, motion controller CPU	E71 (ActAJ71E71TCP, ActMLAJ71E71TCP)	MELSECNET/H	×	×	×	×	×	×
		MELSECNET/10	×	○	○ ＊4	○	×	○
		MELSECNET(II)	×	○	○ ＊4	○	×	○
		Ethernet	×	×	×	×	×	×
		Computer link	×	×	×	×	×	×
		CC-Link	×	×	×	×	×	×
QCPU (A mode), QnACPU ＊4, ACPU, motion controller CPU	E71 (ActAJ71E71UDP, ActMLAJ71E71UDP)	MELSECNET/H	×	×	×	×	×	×
		MELSECNET/10	×	○	○ ＊4	○	×	○
		MELSECNET(II)	×	○	○ ＊4	○	×	○
		Ethernet	×	×	×	×	×	×
		Computer link	×	×	×	×	×	×
		CC-Link	×	×	×	×	×	×

＊2: Set the parameter-set values of the target station side QE71 to the network number and station number.
Also set the "MNET/10 routing information" of the QE71 parameter setting.
At that time, specify any of the IP address calculation system, table conversion system and combined system as the "MNET/10 routing system".

＊3: Inaccessible when TCP/IP is selected.

＊4: Operates as the one equivalent to AnACPU.

＊5: CPU codes acquired are all 0x21.

＊6: Accessible to the A171SHCPU, A172SHCPU, A173UHCPU(-S1) or A273UHCPU(-S3) only

8.4 For CPU COM Communication

This section provides the accessible devices and accessible ranges for CPU COM communication.

8.4.1 Accessible devices

The following table indicates the accessible devices for CPU COM communication.

Device (Device Name)		Access Target							
		A1N	A0J2H A1S(-S1) A1SH(-S1) A1SJH A1SJ A2C(J) A2N(-S1) A2S(-S1) A2SH(-S1) A1FX	A2A(-S1) A2U(-S1) A2US(-S1) A2AS (-S1/-S30) A2USH-S1 Q02(H)-A Q06H-A	A3N A3A A3U	A4U	Q2A(-S1) Q3A Q4A Q4AR Q2AS(-S1) Q2ASH(-S1) Q00(J) Q01 Q02(H) Q06H Q12H Q25H	FX_0 FX_{0S} FX_{0N} FX_1 FX_{1N} FX_{1NC} FX_{1S} FX_2 FX_{2C} FX_{2N} FX_{2NC}	A273UH(-S3) A171SH A172SH A173UH (-S1)
Function input (FX)		×	×	×	×	×	○	×	×
Function output (FY)		×	×	×	×	×	○	×	×
Function register (FD)		×	×	×	×	×	○	×	×
Special relay (SM)		○	○	○	○	○	○	×	○
Special register (SD)		○	○	○	○	○	○	×	○
Input relay (X)		○	○	○	○	○	○	○	○
Output relay (Y)		○	○	○	○	○	○	○	○
Internal relay (M)		○	○	○	○	○	○	○	○
Latch relay (L)		○	○	○	○	○	○	×	○
Annunciator (F)		○	○	○	○	○	○	×	○
Edge relay (V)		×	×	×	×	×	○	×	×
Link relay (B)		○	○	○	○	○	○	×	○
Data register (D)		○	○	○	○	○	○	○	○
Link register (W)		○	○	○	○	○	○	×	○
Timer	Contact (TS)	○	○	○	○	○	○	○	○
	Coil (TC)	○	○	○	○	○	○	○	○
	Present value (TN)	○	○	○	○	○	○	○	○
Counter	Contact (CS)	○	○	○	○	○	○	○	○
	Coil (CC)	○	○	○	○	○	○	○	○
	Present value (CN)	○	○	○	○	○	○	○	○
Retentive timer	Contact (SS)	×	×	×	×	×	○	×	×
	Coil (SC)	×	×	×	×	×	○	×	×
	Present value (SN)	×	×	×	×	×	○	×	×
Link special relay (SB)		×	×	×	×	×	○	×	×
Link special register (SW)		×	×	×	×	×	○	×	×
Step relay (S)		○	○	○	○	○	×	○	○
Direct input (DX)		×	×	×	×	×	×	×	×
Direct output (DY)		×	×	×	×	×	×	×	×
Accumulator (A)		○	○	○	○	○	×	×	○
Index register	(Z)	○	○	○	○	○	○	○ ＊1	○
	(V)	○	○	○	○	○	×	○ ＊1	○
File register	(R)	○	○	○	○	○	○ ＊3	× ＊2	○
	(ZR)	×	×	×	×	×	○ ＊3	×	×
Extended file register (ER＊\R)		○	○	○	○	○	×	×	○

＊1: Data cannot be written to 2 or more consecutive points using WriteDeviceBlock(). (Data may be written to only one point.)
＊2: When specifying the file register, specify the data register (D).
＊3: Disabled for use of Q00JCPU

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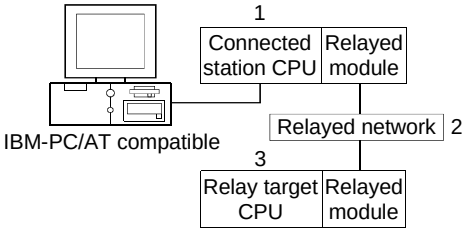
Device (Device Name)		Access Target							
		A1N	A0J2H A1S(-S1) A1SH(-S1) A1SJH A1SJ A2C(J) A2N(-S1) A2S(-S1) A2SH(-S1) A1FX	A2A(-S1) A2U(-S1) A2US(-S1) A2AS (-S1/-S30) A2USH-S1 Q02(H)-A Q06H-A	A3N A3A A3U	A4U	Q2A(-S1) Q3A Q4A Q4AR Q2AS(-S1) Q2ASH(-S1) Q00(J) Q01 Q02(H) Q06H Q12H Q25H	FX_0 FX_{0S} FX_{0N} FX_1 FX_{1N} FX_{1NC} FX_{1S} FX_2 FX_{2C} FX_{2N} FX_{2NC}	A273UH(-S3) A171SH A172SH A173UH (-S1)
Direct link	Link input (J＊\X)	×	×	×	×	×	○	×	×
	Link output (J＊\Y)	×	×	×	×	×	○	×	×
	Link relay (J＊\B)	×	×	×	×	×	○	×	×
	Link special relay (J＊\SB)	×	×	×	×	×	○	×	×
	Link register (J＊\W)	×	×	×	×	×	○	×	×
	Link special register (J＊\SW)	×	×	×	×	×	○	×	×
Special direct buffer memory (U＊\G)		×	×	×	×	×	○ ＊4	×	×

＊4: In a multi-CPU configuration, read from the shared memory of the host CPU cannot be performed.
In addition, write to the shared memory cannot be performed independently of the host or other CPU.

8.4.2 Accessible ranges

This section indicates the accessible ranges for CPU COM communication.

(1) Configuration



(2) Accessibility list

The following table indicates whether access can be made or not.
The connected station CPUs are all accessible.
Whether the relay target CPU is accessible or not is indicated by ○ (accessible) or × (inaccessible).

1. Connected Station CPU (Usable control name)	2. Relayed Network	3. Relay Target CPU					
		QCPU (Q mode)	QCPU (A mode)	QnACPU	ACPU	FXCPU	Motion controller CPU ＊3
QCPU(Q mode) (ActQCPUQ, ActMLQCPUQ) ＊4	MELSECNET/H	○	×	×	×	×	×
	MELSECNET/10	○	○	○	○	×	○
	MELSECNET(II)	×	×	×	×	×	×
	Ethernet	○ ＊1	×	○ ＊1	×	×	×
	Computer link	○	×	○	×	×	×
	CC-Link	○	○ ＊2	○ ＊2	○ ＊2	×	○ ＊2
QCPU(A mode) (ActQCPUA, ActMLQCPUA)	MELSECNET/H	×	×	×	×	×	×
	MELSECNET/10	×	○	×	○	×	○
	MELSECNET(II)	×	○	×	○	×	○
	Ethernet	×	×	×	×	×	×
	Computer link	×	×	×	×	×	×
	CC-Link	×	×	×	×	×	×
QnACPU (ActQnACPU, ActMLQnACPU)	MELSECNET/H	×	×	×	×	×	×
	MELSECNET/10	×	×	○	×	×	×
	MELSECNET(II)	×	×	○	×	×	×
	Ethernet	×	×	○ ＊1	×	×	×
	Computer link	×	×	○	×	×	×
	CC-Link	×	×	×	×	×	×

＊1: Set the parameter-set values of the target station side Q series-compatible E71 or QE71 to the network number and station number. Also set the "MNET/10 routing information" of the Q series-compatible E71 or QE71 parameter setting. At that time, specify any of the IP address calculation system, table conversion system and combined system as the "MNET/10 routing system".

＊2: As the relayed station CPU side CC-Link system master/local module, use the module of software version "S" or later.

＊3: Accessible to the A171SHCPU, A172SHCPU, A173UHCPU(-S1) or A273UHCPU(-S3) only

＊4: For the Q00J/Q00/Q01CPU, some network cards have restrictions on the number of loadable cards. Refer to Appendix 5 for details.

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1. Connected Station CPU (Usable control name)	2. Relayed Network	3. Relay Target CPU					
		QCPU (Q mode)	QCPU (A mode)	QnACPU	ACPU	FXCPU	Motion controller CPU ＊3
ACPU, Motion controller CPU (ActACPU, ActMLACPU)	MELSECNET/H	×	×	×	×	×	×
	MELSECNET/10	×	○	×	○	×	○
	MELSECNET(II)	×	○	×	○	×	○
	Ethernet	×	×	×	×	×	×
	Computer link	×	×	×	×	×	×
	CC-Link	×	×	×	×	×	×
FXCPU (ActFXCPU, ActMLFXCPU)	MELSECNET/H	×	×	×	×	×	×
	MELSECNET/10	×	×	×	×	×	×
	MELSECNET(II)	×	×	×	×	×	×
	Ethernet	×	×	×	×	×	×
	Computer link	×	×	×	×	×	×
	CC-Link	×	×	×	×	×	×

＊3: Accessible to the A171SHCPU, A172SHCPU, A173UHCPU(-S1) or A273UHCPU(-S3) only

8.5 For CPU USB Communication

This section provides the accessible devices and accessible ranges for CPU USB communication.

8.5.1 Accessible devices

The following table indicates the accessible devices for CPU USB communication.

Device (Device Name)		Access Target							
		A1N	A0J2H A1S(-S1) A1SH(-S1) A1SJH A1SJ A2C(J) A2N(-S1) A2S(-S1) A2SH(-S1) A1FX	A2A(-S1) A2U(-S1) A2US(-S1) A2AS (-S1/-S30) A2USH-S1 Q02(H)-A Q06H-A	A3N A3A A3U	A4U	Q2A(-S1) Q3A Q4A Q4AR Q2AS(-S1) Q2ASH(-S1) Q00(J) Q01 Q02(H) Q06H Q12H Q25H	FX_0 FX_{0S} FX_{0N} FX_1 FX_{1N} FX_{1NC} FX_{1S} FX_2 FX_{2C} FX_{2N} FX_{2NC}	A273UH(-S3) A171SH A172SH A173UH (-S1)
Function input (FX)		×	×	×	×	×	○	×	×
Function output (FY)		×	×	×	×	×	○	×	×
Function register (FD)		×	×	×	×	×	○	×	×
Special relay (SM)		○	○	○	○	○	○	×	○
Special register (SD)		○	○	○	○	○	○	×	○
Input relay (X)		○	○	○	○	○	○	×	○
Output relay (Y)		○	○	○	○	○	○	×	○
Internal relay (M)		○	○	○	○	○	○	×	○
Latch relay (L)		○	○	○	○	○	○	×	○
Annunciator (F)		○	○	○	○	○	○	×	○
Edge relay (V)		×	×	×	×	×	○	×	×
Link relay (B)		○	○	○	○	○	○	×	○
Data register (D)		○	○	○	○	○	○	×	○
Link register (W)		○	○	○	○	○	○	×	○
Timer	Contact (TS)	○	○	○	○	○	○	×	○
	Coil (TC)	○	○	○	○	○	○	×	○
	Present value (TN)	○	○	○	○	○	○	×	○
Counter	Contact (CS)	○	○	○	○	○	○	×	○
	Coil (CC)	○	○	○	○	○	○	×	○
	Present value (CN)	○	○	○	○	○	○	×	○
Retentive timer	Contact (SS)	×	×	×	×	×	○	×	×
	Coil (SC)	×	×	×	×	×	○	×	×
	Present value (SN)	×	×	×	×	×	○	×	×
Link special relay (SB)		×	×	×	×	×	○	×	×
Link special register (SW)		×	×	×	×	×	○	×	×
Step relay (S)		○	○	○	○	○	×	×	○
Direct input (DX)		×	×	×	×	×	×	×	×
Direct output (DY)		×	×	×	×	×	×	×	×
Accumulator (A)		○	○	○	○	○	×	×	○
Index register	(Z)	○	○	○	○	○	○	×	○
	(V)	○	○	○	○	○	×	×	○
File register	(R)	○	○	○	○	○	○ ＊1	×	○
	(ZR)	×	×	×	×	×	○ ＊1	×	×
Extended file register (ER＊\R)		○	○	○	○	○	×	×	○

＊1: Disabled for use of Q00JCPU

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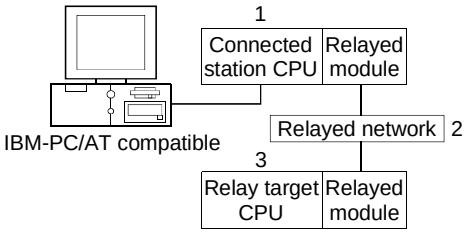
Device (Device Name)		Access Target							
		A1N	A0J2H A1S(-S1) A1SH(-S1) A1SJH A1SJ A2C(J) A2N(-S1) A2S(-S1) A2SH(-S1) A1FX	A2A(-S1) A2U(-S1) A2US(-S1) A2AS (-S1/-S30) A2USH-S1 Q02(H)-A Q06H-A	A3N A3A A3U	A4U	Q2A(-S1) Q3A Q4A Q4AR Q2AS(-S1) Q2ASH(-S1) Q00(J) Q01 Q02(H) Q06H Q12H Q25H	FX_0 FX_{0S} FX_{0N} FX_1 FX_{1N} FX_{1NC} FX_{1S} FX_2 FX_{2C} FX_{2N} FX_{2NC}	A273UH(-S3) A171SH A172SH A173UH (-S1)
Direct link	Link input (J＊\X)	×	×	×	×	×	○	×	×
	Link output (J＊\Y)	×	×	×	×	×	○	×	×
	Link relay (J＊\B)	×	×	×	×	×	○	×	×
	Link special relay (J＊\SB)	×	×	×	×	×	○	×	×
	Link register (J＊\W)	×	×	×	×	×	○	×	×
	Link special register (J＊\SW)	×	×	×	×	×	○	×	×
Special direct buffer memory (U＊\G)		×	×	×	×	×	○ ＊2	×	×

＊2: In a multi-CPU configuration, read from the shared memory of the host CPU cannot be performed.
In addition, write to the shared memory cannot be performed independently of the host or other CPU.

8.5.2 Accessible ranges

This section indicates the accessible ranges for CPU USB communication.

(1) Configuration



(2) Accessibility list

The following table indicates whether access can be made or not.
The connected station CPUs are all accessible.
Whether the relay target CPU is accessible or not is indicated by ○ (accessible) or × (inaccessible).

1. Connected Station CPU (Usable control name)	2. Relayed Network	3. Relay Target CPU					
		QCPU (Q mode)	QCPU (A mode)	QnACPU	ACPU	FXCPU	Motion controller CPU
QCPU(Q mode) (ActQCPUQUSB, ActMLQCPUQUSB)	MELSECNET/H	○	×	×	×	×	×
	MELSECNET/10	○	○	○	○	×	○
	MELSECNET(II)	×	×	×	×	×	×
	Ethernet	○ ＊1	×	○ ＊1	×	×	×
	Computer link	○	×	○	×	×	×
	CC-Link	○	○ ＊2	○ ＊2	○ ＊2	×	○ ＊2

＊1: Set the parameter-set values of the target station side Q series-compatible E71 or QE71 to the network number and station number.
Also set the "MNET/10 routing information" of the Q series-compatible E71 or QE71 parameter setting.
At that time, specify any of the IP address calculation system, table conversion system and combined system as the "MNET/10 routing system".

＊2: As the relayed station CPU side CC-Link system master/local module, use the module of software version "S" or later.

8.6 For MELSECNET/10 Communication

This section provides the accessible devices and accessible ranges for MELSECNET/10 communication.

8.6.1 Accessible devices

The following table indicates the accessible devices for MELSECNET/10 communication.

Device (Device Name)		Access Target								
		A1N	A0J2H A1S(-S1) A1SH(-S1) A1SJH A1SJ A2C(J) A2N(-S1) A2S(-S1) A2SH(-S1) A1FX	A2A(-S1) A2U(-S1) A2US(-S1) A2AS (-S1/-S30) A2USH-S1 Q02(H)-A Q06H-A	A3N A3A A3U	A4U	Q2A(-S1) Q3A Q4A Q4AR Q2AS(-S1) Q2ASH(-S1) Q00(J) Q01 Q02(H) Q06H Q12H Q25H	FX_0 FX_{0S} FX_{0N} FX_1 FX_{1N} FX_{1NC} FX_{1S} FX_2 FX_{2C} FX_{2N} FX_{2NC}	A273UH(-S3) A171SH A172SH A173UH (-S1)	Own board
Function input (FX)		×	×	×	×	×	○	×	×	×
Function output (FY)		×	×	×	×	×	○	×	×	×
Function register (FD)		×	×	×	×	×	○	×	×	×
Special relay (SM)		○	○	○	○	○	○	×	○	○
Special register (SD)		○	○	○	○	○	○	×	○	○
Input relay (X)		○	○	○	○	○	○	×	○	○
Output relay (Y)		○	○	○	○	○	○	×	○	○
Internal relay (M)		○	○	○	○	○	○	×	○	×
Latch relay (L)		○	○	○	○	○	○	×	○	×
Annunciator (F)		○	○	○	○	○	○	×	○	×
Edge relay (V)		×	×	×	×	×	○	×	×	×
Link relay (B)		○	○	○	○	○	○	×	○	○
Data register (D)		○	○	○	○	○	○	×	○	×
Link register (W)		○	○	○	○	○	○	×	○	○
Timer	Contact (TS)	○	○	○	○	○	○	×	○	×
	Coil (TC)	○	○	○	○	○	○	×	○	×
	Present value (TN)	○	○	○	○	○	○	×	○	×
Counter	Contact (CS)	○	○	○	○	○	○	×	○	×
	Coil (CC)	○	○	○	○	○	○	×	○	×
	Present value (CN)	○	○	○	○	○	○	×	○	×
Retentive timer	Contact (SS)	×	×	×	×	×	○	×	×	×
	Coil (SC)	×	×	×	×	×	○	×	×	×
	Present value (SN)	×	×	×	×	×	○	×	×	×
Link special relay (SB)		×	×	×	×	×	○	×	×	○
Link special register (SW)		×	×	×	×	×	○	×	×	○
Step relay (S)		○	○	○	○	○	×	×	○	×
Direct input (DX)		×	×	×	×	×	×	×	×	×
Direct output (DY)		×	×	×	×	×	×	×	×	×
Accumulator (A)		○	○	○	○	○	×	×	○	×
Index register	(Z)	○	○	○	○	○	○	×	○	×
	(V)	○	○	○	○	○	×	×	○	×
File register	(R)	○	○	○	○	○	○ ＊1	×	○	×
	(ZR)	×	×	×	×	×	○ ＊1	×	×	×
Extended file register (ER＊\R)		○	○	○	○	○	×	×	○	×

＊1: Disabled for use of Q00JCPU

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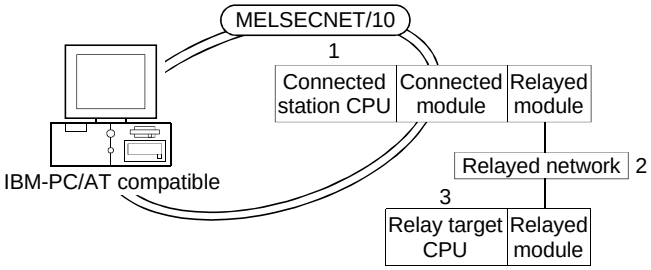
Device (Device Name)		Access Target								
		A1N	A0J2H A1S(-S1) A1SH(-S1) A1SJH A1SJ A2C(J) A2N(-S1) A2S(-S1) A2SH(-S1) A1FX	A2A(-S1) A2U(-S1) A2US(-S1) A2AS (-S1/-S30) A2USH-S1 Q02(H)-A Q06H-A	A3N A3A A3U	A4U	Q2A(-S1) Q3A Q4A Q4AR Q2AS(-S1) Q2ASH(-S1) Q00(J) Q01 Q02(H) Q06H Q12H Q25H	FX_0 FX_{0S} FX_{0N} FX_1 FX_{1N} FX_{1NC} FX_{1S} FX_2 FX_{2C} FX_{2N} FX_{2NC}	A273UH(-S3) A171SH A172SH A173UH (-S1)	Own board
Direct link	Link input (J＊\X)	×	×	×	×	×	○	×	×	×
	Link output (J＊\Y)	×	×	×	×	×	○	×	×	×
	Link relay (J＊\B)	×	×	×	×	×	○	×	×	×
	Link special relay (J＊\SB)	×	×	×	×	×	○	×	×	×
	Link register (J＊\W)	×	×	×	×	×	○	×	×	×
	Link special register (J＊\SW)	×	×	×	×	×	○	×	×	×
Special direct buffer memory (U＊\G)		×	×	×	×	×	○ ＊2	×	×	×

＊2: In a multi-CPU configuration, read from the shared memory of the host CPU cannot be performed.
In addition, write to the shared memory cannot be performed independently of the host or other CPU.

8.6.2 Accessible ranges

This section indicates the accessible ranges for MELSECNET/10 communication.

(1) Configuration



(2) Accessibility list

The following table indicates whether access can be made or not.
The connected station CPUs and own board (MELSECNET/10 board) are all accessible.
Whether the relay target CPU is accessible or not is indicated by ○ (accessible) or × (inaccessible).

1. Connected Station CPU (Usable control name)	2. Relayed Network	3. Relay Target CPU					
		QCPU (Q mode)	QCPU (A mode)	QnACPU	ACPU	FXCPU	Motion controller CPU ＊2
QCPU(Q mode) (ActMnet10BD, ActMLMnet10BD)	MELSECNET/H	×	×	×	×	×	×
	MELSECNET/10	○	○	○	○	×	○
	MELSECNET(II)	×	×	×	×	×	×
	Ethernet	○	×	×	×	×	×
	Computer link	○	×	×	×	×	×
	CC-Link	○	×	×	×	×	×
QnACPU＊1, (ActMnet10BD, ActMLMnet10BD)	MELSECNET/H	×	×	×	×	×	×
	MELSECNET/10	○	○	○	○	×	○
	MELSECNET(II)	×	×	×	×	×	×
	Ethernet	×	×	○	×	×	×
	Computer link	×	×	○	×	×	×
	CC-Link	×	×	×	×	×	×
QCPU(A mode), ACPU, Motion controller CPU (ActMnet10BD, ActMLMnet10BD)	MELSECNET/H	×	×	×	×	×	×
	MELSECNET/10	○	○	○	○	×	○
	MELSECNET(II)	×	×	×	×	×	×
	Ethernet	×	×	×	×	×	×
	Computer link	×	×	×	×	×	×
	CC-Link	×	×	×	×	×	×

＊1: Operates as the one equivalent to AnACPU.
＊2: Accessible to the A171SHCPU, A172SHCPU, A173UHCPU(-S1) or A273UHCPU(-S3) only

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8.7 For CC-Link Communication

This section provides the accessible devices and accessible ranges for CC-Link communication.

8.7.1 Accessible devices

The following table indicates the accessible devices for CC-Link communication.

(1) For another station access

Device (Device Name)		Access Target							
		A1N	A0J2H A1S(-S1) A1SH(-S1) A1SJH A1SJ A2C(J) A2N(-S1) A2S(-S1) A2SH(-S1) A1FX	A2A(-S1) A2U(-S1) A2US(-S1) A2AS (-S1/-S30) A2USH-S1 Q02(H)-A Q06H-A	A3N A3A A3U	A4U	Q2A(-S1) Q3A Q4A Q4AR Q2AS(-S1) Q2ASH(-S1) Q00(J) Q01 Q02(H) Q06H Q12H Q25H	FX_0 FX_{0S} FX_{0N} FX_1 FX_{1N} FX_{1NC} FX_{1S} FX_2 FX_{2C} FX_{2N} FX_{2NC}	A273UH(-S3) A171SH A172SH A173UH (-S1)
Function input (FX)		×	×	×	×	×	○	×	×
Function output (FY)		×	×	×	×	×	○	×	×
Function register (FD)		×	×	×	×	×	○	×	×
Special relay (SM)		○	○	○	○	○	○	×	○
Special register (SD)		○	○	○	○	○	○	×	○
Input relay (X)		○	○	○	○	○	○	×	○
Output relay (Y)		○	○	○	○	○	○	×	○
Internal relay (M)		○	○	○	○	○	○	×	○
Latch relay (L)		○	○	○	○	○	○	×	○
Annunciator (F)		○	○	○	○	○	○	×	○
Edge relay (V)		×	×	×	×	×	○	×	×
Link relay (B)		○	○	○	○	○	○	×	○
Data register (D)		○	○	○	○	○	○	×	○
Link register (W)		○	○	○	○	○	○	×	○
Timer	Contact (TS)	○	○	○	○	○	○	×	○
	Coil (TC)	○	○	○	○	○	○	×	○
	Present value (TN)	○	○	○	○	○	○	×	○
Counter	Contact (CS)	○	○	○	○	○	○	×	○
	Coil (CC)	○	○	○	○	○	○	×	○
	Present value (CN)	○	○	○	○	○	○	×	○
Retentive timer	Contact (SS)	×	×	×	×	×	○	×	×
	Coil (SC)	×	×	×	×	×	○	×	×
	Present value (SN)	×	×	×	×	×	○	×	×
Link special relay (SB)		×	×	×	×	×	○	×	×
Link special register (SW)		×	×	×	×	×	○	×	×
Step relay (S)		○	○	○	○	○	×	×	○
Direct input (DX)		×	×	×	×	×	×	×	×
Direct output (DY)		×	×	×	×	×	×	×	×
Accumulator (A)		○	○	○	○	○	×	×	○
Index register	(Z)	○	○	○	○	○	○	×	○
	(V)	○	○	○	○	○	×	×	○
File register	(R)	○	○	○	○	○	○ ＊1	×	○
	(ZR)	×	×	×	×	×	○ ＊1	×	×
Extended file register (ER＊\R)		○	○	○	○	○	×	×	○

＊1: Disabled for use of Q00JCPU

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Device (Device Name)		Access Target							
		A1N	A0J2H A1S(-S1) A1SH(-S1) A1SJH A1SJ A2C(J) A2N(-S1) A2S(-S1) A2SH(-S1) A1FX	A2A(-S1) A2U(-S1) A2US(-S1) A2AS (-S1/-S30) A2USH-S1 Q02(H)-A Q06H-A	A3N A3A A3U	A4U	Q2A(-S1) Q3A Q4A Q4AR Q2AS(-S1) Q2ASH(-S1) Q00(J) Q01 Q02(H) Q06H Q12H Q25H	FX_0 FX_{0S} FX_{0N} FX_1 FX_{1N} FX_{1NC} FX_{1S} FX_2 FX_{2C} FX_{2N} FX_{2NC}	A273UH(-S3) A171SH A172SH A173UH (-S1)
Direct link	Link input (J＊\X)	×	×	×	×	×	○	×	×
	Link output (J＊\Y)	×	×	×	×	×	○	×	×
	Link relay (J＊\B)	×	×	×	×	×	○	×	×
	Link special relay (J＊\SB)	×	×	×	×	×	○	×	×
	Link register (J＊\W)	×	×	×	×	×	○	×	×
	Link special register (J＊\SW)	×	×	×	×	×	○	×	×
Special direct buffer memory (U＊\G)		×	×	×	×	×	○ ＊2	×	×

＊2: In a multi-CPU configuration, read from the shared memory of the host CPU cannot be performed.
In addition, write to the shared memory cannot be performed independently of the host or other CPU.

(2) For own board access

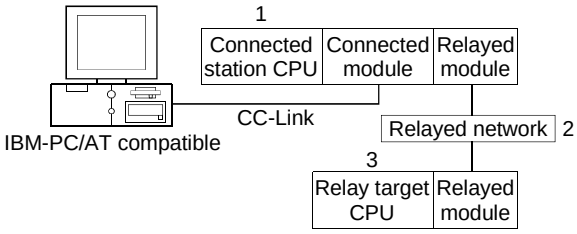
The following devices are usable only for own board access.

Device	Device Name	Remarks
Special relay	SM	Special relay of own board
Special register	SD	Special register of own board
Link special relay (for CC-Link)	SB	Link special relay of own board
Link special register (for CC-Link)	SW	Link special register of own board
Remote input	X	RX
Remote output	Y	RY
Link register	W	——
Remote register (write area for CC-Link)	WW	RWw
Remote register (read area for CC-Link)	WR	RWr
Buffer memory	ML	Buffer memory of own station CC-Link module
Random access buffer	MC	Random access buffer in buffer memory of own station CC-Link module
Automatic refresh buffer	MF	Automatic refresh buffer of own station CC-Link module

8.7.2 Accessible ranges

This section indicates the accessible ranges for CC-Link communication.

(1) Configuration



(2) Accessibility list

The following table indicates whether access can be made or not.
The connected station CPUs and own board (CC-Link board) are all accessible.
Whether the relay target CPU is accessible or not is indicated by ○ (accessible) or × (inaccessible).

1. Connected Station CPU (Usable control name)	2. Relayed Network	3. Relay Target CPU					
		QCPU (Q mode)	QCPU (A mode)	QnACPU	ACPU	FXCPU	Motion controller CPU
QCPU(Q mode), (ActCCBD, ActMLCCBD)	MELSECNET/H	○	×	×	×	×	×
	MELSECNET/10	○	×	×	×	×	×
	MELSECNET(II)	×	×	×	×	×	×
	Ethernet	○	×	×	×	×	×
	Computer link	×	×	×	×	×	×
	CC-Link	×	×	×	×	×	×
QnACPU (ActCCBD, ActMLCCBD)	MELSECNET/H	×	×	×	×	×	×
	MELSECNET/10	×	×	○	×	×	×
	MELSECNET(II)	×	×	×	×	×	×
	Ethernet	×	×	○	×	×	×
	Computer link	×	×	×	×	×	×
	CC-Link	×	×	×	×	×	×
QCPU(A mode), ACPU, Motion controller CPU (ActCCBD, ActMLCCBD)	MELSECNET/H	×	×	×	×	×	×
	MELSECNET/10	×	×	×	×	×	×
	MELSECNET(II)	×	×	×	×	×	×
	Ethernet	×	×	×	×	×	×
	Computer link	×	×	×	×	×	×
	CC-Link	×	×	×	×	×	×

8.8 For CC-Link G4 Communication

This section provides the accessible devices and accessible ranges for CC-Link G4 communication.

8.8.1 Accessible devices

The following table indicates the accessible devices for CC-Link G4 communication.

Device (Device Name)		Access Target							
		A1N	A0J2H A1S(-S1) A1SH(-S1) A1SJH A1SJ A2C(J) A2N(-S1) A2S(-S1) A2SH(-S1) A1FX	A2A(-S1) A2U(-S1) A2US(-S1) A2AS (-S1/-S30) A2USH-S1 Q02(H)-A Q06H-A	A3N A3A A3U	A4U	Q2A(-S1) Q3A Q4A Q4AR Q2AS(-S1) Q2ASH(-S1) Q00(J) Q01 Q02(H) Q06H Q12H Q25H	FX_0 FX_{0S} FX_{0N} FX_1 FX_{1N} FX_{1NC} FX_{1S} FX_2 FX_{2C} FX_{2N} FX_{2NC}	A273UH(-S3) A171SH A172SH A173UH (-S1)
Function input (FX)		×	×	×	×	×	○ ＊1	×	×
Function output (FY)		×	×	×	×	×	○ ＊1	×	×
Function register (FD)		×	×	×	×	×	○ ＊1	×	×
Special relay (SM)		○	○	○	○	○	○ ＊1	×	○
Special register (SD)		○	○	○	○	○	○ ＊1	×	○
Input relay (X)		○	○	○	○	○	○ ＊1	×	○
Output relay (Y)		○	○	○	○	○	○ ＊1	×	○
Internal relay (M)		○	○	○	○	○	○ ＊1	×	○
Latch relay (L)		○	○	○	○	○	○ ＊1	×	○
Annunciator (F)		○	○	○	○	○	○ ＊1	×	○
Edge relay (V)		×	×	×	×	×	○ ＊1	×	×
Link relay (B)		○	○	○	○	○	○ ＊1	×	○
Data register (D)		○	○	○	○	○	○ ＊1	×	○
Link register (W)		○	○	○	○	○	○ ＊1	×	○
Timer	Contact (TS)	○	○	○	○	○	○ ＊1	×	○
	Coil (TC)	○	○	○	○	○	○ ＊1	×	○
	Present value (TN)	○	○	○	○	○	○ ＊1	×	○
Counter	Contact (CS)	○	○	○	○	○	○ ＊1	×	○
	Coil (CC)	○	○	○	○	○	○ ＊1	×	○
	Present value (CN)	○	○	○	○	○	○ ＊1	×	○
Retentive timer	Contact (SS)	×	×	×	×	×	○ ＊1	×	×
	Coil (SC)	×	×	×	×	×	○ ＊1	×	×
	Present value (SN)	×	×	×	×	×	○ ＊1	×	×
Link special relay (SB)		×	×	×	×	×	○ ＊1	×	×
Link special register (SW)		×	×	×	×	×	○ ＊1	×	×
Step relay (S)		○	○	○	○	○	×	×	○
Direct input (DX)		×	×	×	×	×	×	×	×
Direct output (DY)		×	×	×	×	×	×	×	×
Accumulator (A)		○	○	○	○	○	×	×	○
Index register	(Z)	○	○	○	○	○	○ ＊1	×	○
	(V)	○	○	○	○	○	×	×	○
File register	(R)	○	○	○	○	○	○ ＊1＊2	×	○
	(ZR)	×	×	×	×	×	○ ＊1＊2	×	×
Extended file register (ER＊\R)		○	○	○	○	○	×	×	○

＊1: Access to QCPU (Q mode) cannot be made.

＊2: Disabled for use of Q00JCPU

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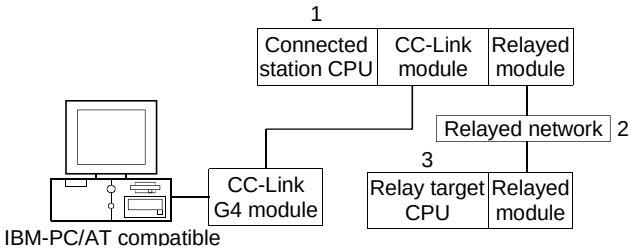
Device (Device Name)		Access Target							
		A1N	A0J2H A1S(-S1) A1SH(-S1) A1SJH A1SJ A2C(J) A2N(-S1) A2S(-S1) A2SH(-S1) A1FX	A2A(-S1) A2U(-S1) A2US(-S1) A2AS (-S1/-S30) A2USH-S1 Q02(H)-A Q06H-A	A3N A3A A3U	A4U	Q2A(-S1) Q3A Q4A Q4AR Q2AS(-S1) Q2ASH(-S1) Q00(J) Q01 Q02(H) Q06H Q12H Q25H	FX_0 FX_{0S} FX_{0N} FX_1 FX_{1N} FX_{1NC} FX_{1S} FX_2 FX_{2C} FX_{2N} FX_{2NC}	A273UH(-S3) A171SH A172SH A173UH (-S1)
Direct link	Link input (J＊\X)	×	×	×	×	×	○ ＊1	×	×
	Link output (J＊\Y)	×	×	×	×	×	○ ＊1	×	×
	Link relay (J＊\B)	×	×	×	×	×	○ ＊1	×	×
	Link special relay (J＊\SB)	×	×	×	×	×	○ ＊1	×	×
	Link register (J＊\W)	×	×	×	×	×	○ ＊1	×	×
	Link special register (J＊\SW)	×	×	×	×	×	○ ＊1	×	×
Special direct buffer memory (U＊\G)		×	×	×	×	×	○ ＊1	×	×

＊1: Access to QCPU (Q mode) cannot be made.

8.8.2 Accessible ranges

This section indicates the accessible ranges for CC-Link G4 communication.

(1) Configuration



(2) Accessibility list

The following table indicates whether access can be made or not.
The connected station CPUs and own board (CC-Link board) are all accessible.
Whether the relay target CPU is accessible or not is indicated by ○ (accessible) or × (inaccessible).

(a) When CC-Link G module is in QnA mode

1. Connected Station CPU (Usable control name)	2. Relayed Network	3. Relay Target CPU					
		QCPU (Q mode)	QCPU (A mode)	QnACPU	ACPU	FXCPU	Motion controller CPU
QnACPU (ActCCG4QnA, ActMLCCG4QnA)	MELSECNET/H	×	×	×	×	×	×
	MELSECNET/10	×	×	○	×	×	×
	MELSECNET(II)	×	×	○	×	×	×
	Ethernet	×	×	○	×	×	×
	Computer link	×	×	○	×	×	×
	CC-Link	×	×	×	×	×	×

(b) When CC-Link G module is in A mode

1. Connected Station CPU (Usable control name)	2. Relayed Network	3. Relay Target CPU					
		QCPU (Q mode)	QCPU (A mode)	QnACPU	ACPU	FXCPU	Motion controller CPU
QCPU(A mode), ACPU, Motion controller CPU (ActCCG4A, ActMLCCG4A)	MELSECNET/H	×	×	×	×	×	×
	MELSECNET/10	×	×	×	×	×	×
	MELSECNET(II)	×	×	×	×	×	×
	Ethernet	×	×	×	×	×	×
	Computer link	×	×	×	×	×	×
	CC-Link	×	×	×	×	×	×

8.9 For CPU Board Communication

This section provides the accessible devices and accessible ranges for CPU board communication.

8.9.1 Accessible devices

The following table indicates the accessible devices for CPU board communication.

Device (Device Name)		Access Target							
		A1N	A0J2H A1S(-S1) A1SH(-S1) A1SJH A1SJ A2C(J) A2N(-S1) A2S(-S1) A2SH(-S1) A1FX	A2A(-S1) A2U(-S1) A2US(-S1) A2AS (-S1/-S30) A2USH-S1 Q02(H)-A Q06H-A	A3N A3A A3U	A4U	Q2A(-S1) Q3A Q4A Q4AR Q2AS(-S1) Q2ASH(-S1) Q00(J) Q01 Q02(H) Q06H Q12H Q25H	FX_0 FX_{0S} FX_{0N} FX_1 FX_{1N} FX_{1NC} FX_{1S} FX_2 FX_{2C} FX_{2N} FX_{2NC}	A273UH(-S3) A171SH A172SH A173UH (-S1)
Function input (FX)		×	×	×	×	×	○ ＊1	×	×
Function output (FY)		×	×	×	×	×	○ ＊1	×	×
Function register (FD)		×	×	×	×	×	○ ＊1	×	×
Special relay (SM)		○	○	○	○	○	○ ＊1	×	○
Special register (SD)		○	○	○	○	○	○ ＊1	×	○
Input relay (X)		○	○	○	○	○	○ ＊1	×	○
Output relay (Y)		○	○	○	○	○	○ ＊1	×	○
Internal relay (M)		○	○	○	○	○	○ ＊1	×	○
Latch relay (L)		○	○	○	○	○	○ ＊1	×	○
Annunciator (F)		○	○	○	○	○	○ ＊1	×	○
Edge relay (V)		×	×	×	×	×	○ ＊1	×	×
Link relay (B)		○	○	○	○	○	○ ＊1	×	○
Data register (D)		○	○	○	○	○	○ ＊1	×	○
Link register (W)		○	○	○	○	○	○ ＊1	×	○
Timer	Contact (TS)	○	○	○	○	○	○ ＊1	×	○
	Coil (TC)	○	○	○	○	○	○ ＊1	×	○
	Present value (TN)	○	○	○	○	○	○ ＊1	×	○
Counter	Contact (CS)	○	○	○	○	○	○ ＊1	×	○
	Coil (CC)	○	○	○	○	○	○ ＊1	×	○
	Present value (CN)	○	○	○	○	○	○ ＊1	×	○
Retentive timer	Contact (SS)	×	×	×	×	×	○ ＊1	×	×
	Coil (SC)	×	×	×	×	×	○ ＊1	×	×
	Present value (SN)	×	×	×	×	×	○ ＊1	×	×
Link special relay (SB)		×	×	×	×	×	○ ＊1	×	×
Link special register (SW)		×	×	×	×	×	○ ＊1	×	×
Step relay (S)		○	○	○	○	○	×	×	○
Direct input (DX)		×	×	×	×	×	×	×	×
Direct output (DY)		×	×	×	×	×	×	×	×
Accumulator (A)		○	○	○	○	○	×	×	○
Index register	(Z)	○	○	○	○	○	○ ＊1	×	○
	(V)	○	○	○	○	○	×	×	○
File register	(R)	○	○	○	○	○	○ ＊1＊2	×	○
	(ZR)	×	×	×	×	×	○ ＊1＊2	×	×
Extended file register (ER＊\R)		○	○	○	○	○	×	×	○

＊1: Access to QCPU (Q mode) cannot be made.
When making access to QnACPU, the range is equivalent to that of AnACPU.

＊2: Disabled for use of Q00JCPU

(To next page)

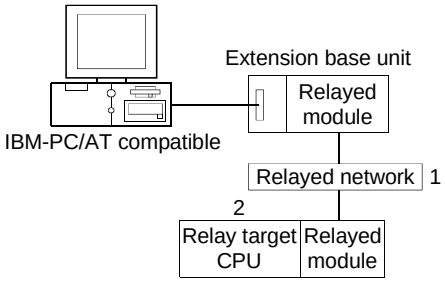
Device (Device Name)		Access Target							
		A1N	A0J2H A1S(-S1) A1SH(-S1) A1SJH A1SJ A2C(J) A2N(-S1) A2S(-S1) A2SH(-S1) A1FX	A2A(-S1) A2U(-S1) A2US(-S1) A2AS (-S1/-S30) A2USH-S1 Q02(H)-A Q06H-A	A3N A3A A3U	A4U	Q2A(-S1) Q3A Q4A Q4AR Q2AS(-S1) Q2ASH(-S1) Q00(J) Q01 Q02(H) Q06H Q12H Q25H	FX_0 FX_{0S} FX_{0N} FX_1 FX_{1N} FX_{1NC} FX_{1S} FX_2 FX_{2C} FX_{2N} FX_{2NC}	A273UH(-S3) A171SH A172SH A173UH (-S1)
Direct link	Link input (J＊\X)	×	×	×	×	×	○ ＊1	×	×
	Link output (J＊\Y)	×	×	×	×	×	○ ＊1	×	×
	Link relay (J＊\B)	×	×	×	×	×	○ ＊1	×	×
	Link special relay (J＊\SB)	×	×	×	×	×	○ ＊1	×	×
	Link register (J＊\W)	×	×	×	×	×	○ ＊1	×	×
	Link special register (J＊\SW)	×	×	×	×	×	○ ＊1	×	×
Special direct buffer memory (U＊\G)		×	×	×	×	×	○ ＊1	×	×

＊1: Access to QCPU (Q mode) cannot be made.
When making access to QnACPU, the range is equivalent to that of AnACPU.

8.9.2 Accessible ranges

This section indicates the accessible ranges for CPU board communication.

(1) Configuration



(2) Accessibility list

The following table indicates whether access can be made or not.
The own board (CPU board) is accessible.
Whether the relay target CPU is accessible or not is indicated by ○ (accessible) or × (inaccessible).

Network Board	1. Relayed Network	3. Relay Target CPU					
		QCPU (Q mode)	QCPU (A mode)	QnACPU	ACPU	FXCPU	Motion controller CPU ＊2
CPU board (ActAnUBD, ActMLAnUBD)	MELSECNET/H	×	×	×	×	×	×
	MELSECNET/10	×	○	○ ＊1	○	×	○
	MELSECNET(II)	×	○	○ ＊1	○	×	○
	Ethernet	×	×	×	×	×	×
	Computer link	×	×	×	×	×	×
	CC-Link	×	×	×	×	×	×

＊1: Operates as the one equivalent to AnACPU.

＊2: Accessible to the A171SHCPU, A172SHCPU, A173UHCPU(-S1) or A273UHCPU(-S3) only

8.10 For MELSECNET/H Communication

This section provides the accessible devices and accessible ranges for MELSECNET/H communication.

8.10.1 Accessible devices

The following table indicates the accessible devices for MELSECNET/H communication.

Device (Device Name)		Access Target								
		A1N	A0J2H A1S(-S1) A1SH(-S1) A1SJH A1SJ A2C(J) A2N(-S1) A2S(-S1) A2SH(-S1) A1FX	A2A(-S1) A2U(-S1) A2US(-S1) A2AS (-S1/-S30) A2USH-S1 Q02(H)-A Q06H-A	A3N A3A A3U	A4U	Q2A(-S1) Q3A Q4A Q4AR Q2AS(-S1) Q2ASH(-S1) Q00(J) Q01 Q02(H) Q06H Q12H Q25H	FX_0 FX_{0S} FX_{0N} FX_1 FX_{1N} FX_{1NC} FX_{1S} FX_2 FX_{2C} FX_{2N} FX_{2NC}	A273UH(-S3) A171SH A172SH A173UH (-S1)	Own board
Function input (FX)		×	×	×	×	×	○	×	×	×
Function output (FY)		×	×	×	×	×	○	×	×	×
Function register (FD)		×	×	×	×	×	○	×	×	×
Special relay (SM)		○	○	○	○	○	○	×	○	○
Special register (SD)		○	○	○	○	○	○	×	○	○
Input relay (X)		○	○	○	○	○	○	×	○	○
Output relay (Y)		○	○	○	○	○	○	×	○	○
Internal relay (M)		○	○	○	○	○	○	×	○	×
Latch relay (L)		○	○	○	○	○	○	×	○	×
Annunciator (F)		○	○	○	○	○	○	×	○	×
Edge relay (V)		×	×	×	×	×	○	×	×	×
Link relay (B)		○	○	○	○	○	○	×	○	○
Data register (D)		○	○	○	○	○	○	×	○	×
Link register (W)		○	○	○	○	○	○	×	○	○
Timer	Contact (TS)	○	○	○	○	○	○	×	○	×
	Coil (TC)	○	○	○	○	○	○	×	○	×
	Present value (TN)	○	○	○	○	○	○	×	○	×
Counter	Contact (CS)	○	○	○	○	○	○	×	○	×
	Coil (CC)	○	○	○	○	○	○	×	○	×
	Present value (CN)	○	○	○	○	○	○	×	○	×
Retentive timer	Contact (SS)	×	×	×	×	×	○	×	×	×
	Coil (SC)	×	×	×	×	×	○	×	×	×
	Present value (SN)	×	×	×	×	×	○	×	×	×
Link special relay (SB)		×	×	×	×	×	○	×	×	○
Link special register (SW)		×	×	×	×	×	○	×	×	○
Step relay (S)		○	○	○	○	○	×	×	○	×
Direct input (DX)		×	×	×	×	×	×	×	×	×
Direct output (DY)		×	×	×	×	×	×	×	×	×
Accumulator (A)		○	○	○	○	○	×	×	○	×
Index register	(Z)	○	○	○	○	○	○	×	○	×
	(V)	○	○	○	○	○	×	×	○	×
File register	(R)	○	○	○	○	○	○ ＊1	×	○	×
	(ZR)	×	×	×	×	×	○ ＊1	×	×	×
Extended file register (ER＊\R)		○	○	○	○	○	×	×	○	×

＊1: Disabled for use of Q00JCPU

(To next page)

Device (Device Name)		Access Target								
		A1N	A0J2H A1S(-S1) A1SH(-S1) A1SJH A1SJ A2C(J) A2N(-S1) A2S(-S1) A2SH(-S1) A1FX	A2A(-S1) A2U(-S1) A2US(-S1) A2AS (-S1/-S30) A2USH-S1 Q02(H)-A Q06H-A	A3N A3A A3U	A4U	Q2A(-S1) Q3A Q4A Q4AR Q2AS(-S1) Q2ASH(-S1) Q00(J) Q01 Q02(H) Q06H Q12H Q25H	FX_0 FX_{0S} FX_{0N} FX_1 FX_{1N} FX_{1NC} FX_{1S} FX_2 FX_{2C} FX_{2N} FX_{2NC}	A273UH(-S3) A171SH A172SH A173UH (-S1)	Own board
Direct link	Link input (J＊\X)	×	×	×	×	×	○	×	×	×
	Link output (J＊\Y)	×	×	×	×	×	○	×	×	×
	Link relay (J＊\B)	×	×	×	×	×	○	×	×	×
	Link special relay (J＊\SB)	×	×	×	×	×	○	×	×	×
	Link register (J＊\W)	×	×	×	×	×	○	×	×	×
	Link special register (J＊\SW)	×	×	×	×	×	○	×	×	×
Special direct buffer memory (U＊\G)		×	×	×	×	×	○ ＊2	×	×	×

＊2: In a multi-CPU configuration, read from the shared memory of the host CPU cannot be performed.
In addition, write to the shared memory cannot be performed independently of the host or other CPU.

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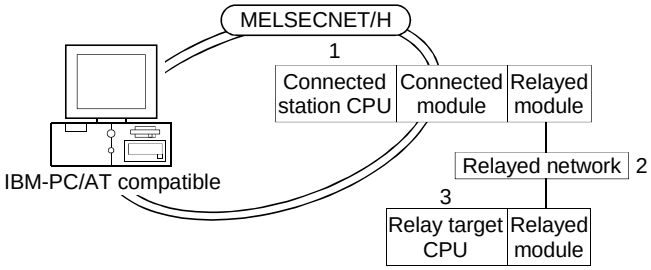
8.10.2 Accessible ranges

This section indicates the accessible ranges for MELSECNET/H communication.

(1) Configuration



(2) Accessibility list

The following table indicates whether access can be made or not.
The connected station CPUs and own board (MELSECNET/H board) are all accessible.
Whether the relay target CPU is accessible or not is indicated by ○ (accessible) or × (inaccessible).

1. Connected Station CPU (Usable control name)	2. Relayed Network	3. Relay Target CPU					
		QCPU (Q mode)	QCPU (A mode)	QnACPU	ACPU	FXCPU	Motion controller CPU ＊3
QCPU(Q mode) (ActMnetHBD, ActMLMnetHBD)	MELSECNET/H ＊1	○	×	×	×	×	×
	MELSECNET/10 ＊2	○	○	○	○	×	○
	MELSECNET(II)	×	×	×	×	×	×
	Ethernet	○	×	×	×	×	×
	Computer link	○	×	×	×	×	×
	CC-Link	○	×	×	×	×	×
QnACPU＊1, (ActMnetHBD, ActMLMnetHBD)	MELSECNET/H	×	×	×	×	×	×
	MELSECNET/10	○	○	○	○	×	○
	MELSECNET(II)	×	×	×	×	×	×
	Ethernet	×	×	○	×	×	×
	Computer link	×	×	○	×	×	×
	CC-Link	×	×	×	×	×	×
QCPU(A mode), ACPU, Motion controller CPU (ActMnetHBD, ActMLMnetHBD)	MELSECNET/H	×	×	×	×	×	×
	MELSECNET/10	○	○	○	○	×	○
	MELSECNET(II)	×	×	×	×	×	×
	Ethernet	×	×	×	×	×	×
	Computer link	×	×	×	×	×	×
	CC-Link	×	×	×	×	×	×

＊1: Accessible when the MELSECNET/10(H) module of the connected station is in the MELSECNET/H mode
＊2: Accessible when the MELSECNET/10(H) module of the connected station is in the MELSECNET/10 mode
＊3: Accessible to the A171SHCPU, A172SHCPU, A173UHCPU(-S1) or A273UHCPU(-S3) only

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8.11 For Q Series Bus Communication

This section provides the accessible devices and accessible ranges for Q series bus communication.

8.11.1 Accessible devices

The following table indicates the accessible devices for Q series bus communication.

Device (Device Name)		Access Target Q02(H), Q06H, Q12H, Q25H	Device (Device Name)		Access Target Q02(H), Q06H, Q12H, Q25H
Function input (FX)		○	Retentive timer	Coil (SC)	○
Function output (FY)		○		Present value (SN)	○
Function register (FD)		○	Link special relay (SB)		○
Special relay (SM)		○	Link special register (SW)		○
Special register (SD)		○	Step relay (S)		×
Input relay (X)		○	Direct input (DX)		×
Output relay (Y)		○	Direct output (DY)		×
Internal relay (M)		○	Accumulator (A)		×
Latch relay (L)		○	Index register	(Z)	○
Annunciator (F)		○		(V)	×
Edge relay (V)		○	File register	(R)	○
Link relay (B)		○		(ZR)	○
Data register (D)		○	Extended file register (ER＊\R)		×
Link register (W)		○	Direct link	Link input(J＊\X)	○
Timer	Contact (TS)	○		Link output(J＊\Y)	○
	Coil (TC)	○		Link relay(J＊\B)	○
	Present value (TN)	○		Link special relay(J＊\SB)	○
Counter	Contact (CS)	○		Link register(J＊\W)	○
	Coil (CC)	○		Link special register (J＊\SW)	○
	Present value (CN)	○	Special direct buffer memory(U＊\G)		○ ＊1
Retentive timer	Contact (SS)	○			

＊1: In a multi-CPU configuration, read from the shared memory of the host CPU cannot be performed.
In addition, write to the shared memory cannot be performed independently of the host or other CPU.

8.11.2 Accessible ranges

There are the following three accessible ranges for Q series bus communication.

(1) Access can be made to another CPU on the same base.
However, access cannot be made to another CPU via the network of another CPU.

(2) Access can be made to another CPU via the MELSECNET/H module controlled by the PC CPU module.
In this case, the accessible ranges are as in MELSECNET/H communication. Refer to Section 8.12.2.

The IBM-PC/AT compatible used for MELSECNET/H communication corresponds to the PC CPU module, and the MELSECNET/H board to the MELSECNET/H module.

(3) Access can be made to another CPU via the CC-Link module controlled by the PC CPU module.
In this case, the accessible ranges are as in CC-Link communication. Refer to Section 8.8.2.

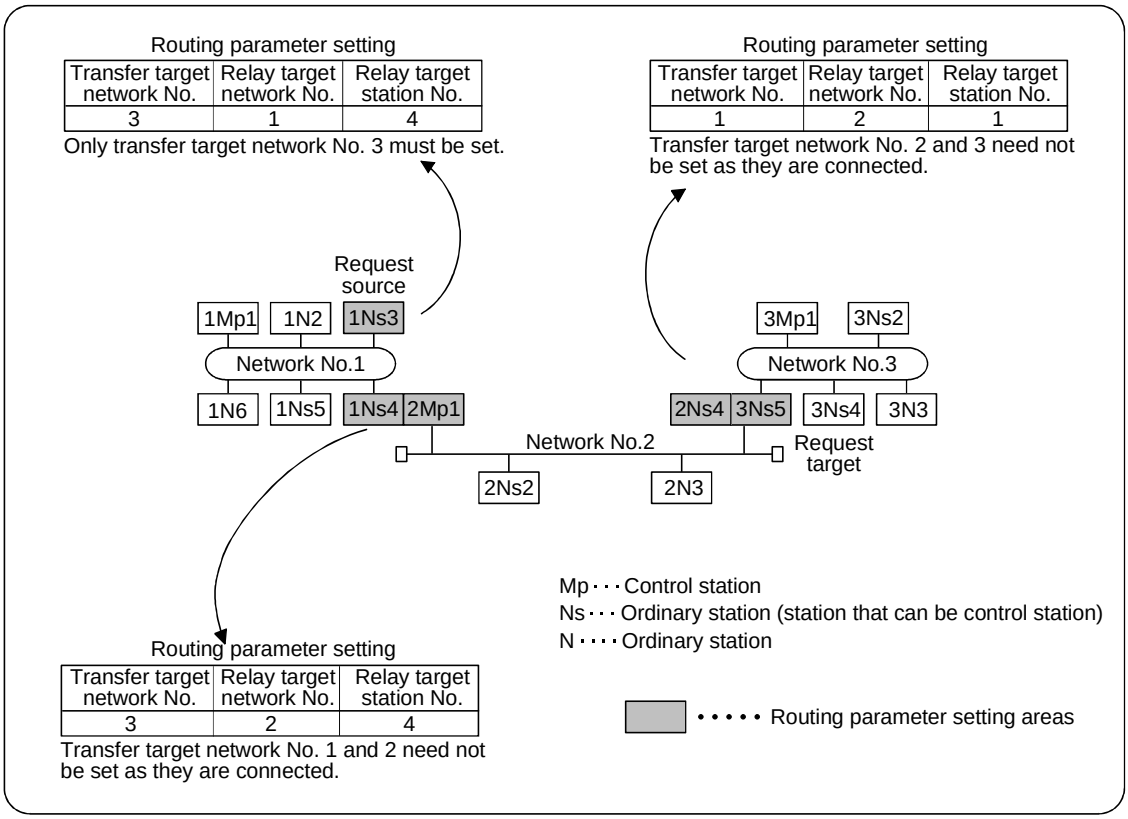
The IBM-PC/AT compatible used for CC-Link communication corresponds to the PC CPU module, and the CC-Link board to the CC-Link module.

Appendix 1 Concept of the Routing Parameters

The routing function is used by the station of the PLC in a multi-level system to make transient transmission to the station of another network No.
To perform the routing function, the "Routing parameters" must be set to associate the network No.s and stations acting as bridges.
For communication via the MELSECNET II, the routing function cannot be used.

(1) The routing parameters must be set to the request source and relay station of the PLC.
  (a) The request source must be set to make access to the request target.
  (b) The relay station must be set to make access from the request source to the request target and to make access from the request target to the request source.
  (c) The request target needs no setting.

For example, to make transient transmission from 1Ns3 to 3Ns4 in the following diagram, the routing parameters must be set to the PLC 1Ns3 which makes transient transmission, to the PLCs 1Ns4 and 2Mp1 which serve as bridges, and to the PLCs 2Ns4 and 3Ns5.



(2) Up to 16 "transfer target network No.s" can be set to the PLC. 16 different network No.s allow the own station to be a request source or other stations to be accessed via the own station.

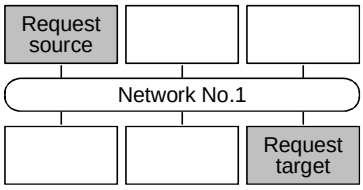
APP

(3) Routing parameter setting areas and data

For transient transmission, the routing parameter setting areas depend on the system.

(a) Two-level system

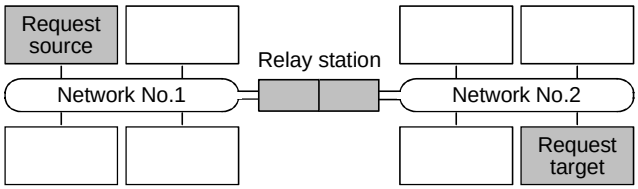
The routing parameters need not be set because transient transmission is made to within the same network.



(b) Multi-level 1 (two networks)

Set the routing parameters only to the station of the request source.

To the request source, set the data to access the request target (network No. 2).



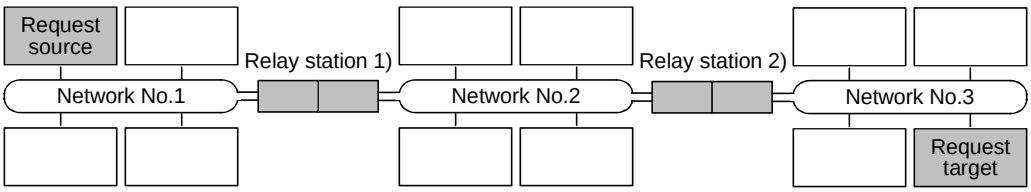
(c) Multi-level 2 (three networks)

Set the routing parameters to the request source and relay stations.

To the request source, set the data to access the request target (network No. 3).

To the relay station 1), set the data to access the request target (network No. 3).

To the relay station 2), set the data to access the request source (network No. 1).



(d) Multi-level 3 (four or more networks)

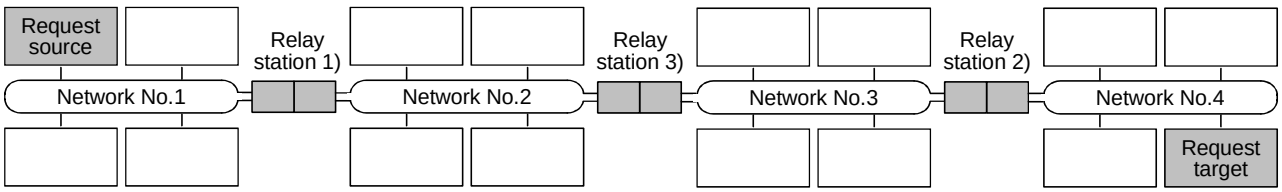
Set the routing parameters to the request source and relay stations.

To the request source, set the data to access the request target (network No. 4).

To the relay station 1) (the nearest relay station to the request source), set the data to access the request target (network No. 4).

To the relay station 2) (the nearest relay station to the request target), set the data to access the request source (network No. 1).

To the relay station 3) (relay station other than 1) and 2)), set the data to access the request target (network No. 4) and request source (network No. 1).



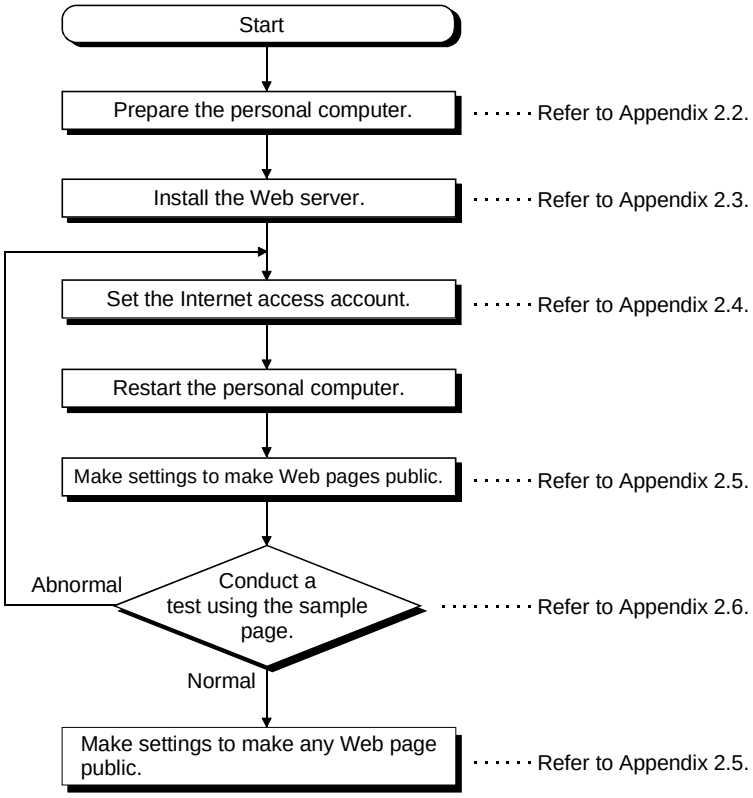
APP

Appendix 2 How to Start the Internet/Intranet Environment

This section describes an example of configuring a system that uses MX Component to create a home page (HTML, ASP) for communication with the PLC CPU and display it using the browser (Internet Explorer) via the Internet/intranet.

Appendix 2.1 Operating procedure

The following is the procedure to start the Internet/intranet environment.



POINT

Web pages using MX Component will not operate in the environment where a test using the sample page is not conducted properly.
Check the traffic, noise and others of the communication line to operate the sample page properly.

Appendix 2.2 Conditions of usable personal computers

The following are the conditions of the personal computers that may be used as a Web server and a Web client.

(1) Personal computer usable as Web server (factory side)

The following are the conditions of the personal computer that may be used as a Web server.

	Description
Condition 1	Any of the following Operating Systems is operating on the personal computer. • Microsoft® Windows NT® Workstation Operating System Version 4.0 • Microsoft® Windows® 2000 Professional Operating System Version 4.0 • Microsoft® Windows® 98 Operating System
Condition 2	The personal computer can be connected to the Internet or intranet.
Condition 3	When Web pages are to be made public on the Internet, external access must not be inhibited by a firewall or like.
Condition 4	MX Component has been installed and settings have been made for communication with the PLC.

(2) Personal computer usable as Web client (office side)

The following are the conditions of the personal computer that may be used as a Web client.

	Description
Condition 1	Any of the following Operating Systems is operating on the personal computer. • Microsoft® Windows NT® Workstation Operating System Version 4.0 • Microsoft® Windows® 2000 Professional Operating System Version 4.0 • Microsoft® Windows® 98 Operating System • Microsoft® Windows® 95 Operating System • Microsoft® Windows® Millennium Edition Operating System
Condition 2	The personal computer can be connected to the Internet or intranet.

Appendix 2.3 How to install Web server

Install the Web server in the following method.

(1) When using Windows NT®

Get "Windows NT® Option Pack 4.0" and install Personal Web Server 4.0.
It can be installed using the CD drive: \setup.exe.

(2) When using Windows® 2000

Choose [Control Panel]-[Add/Remove Programs] and install the Windows component "Internet Information Service (IIS)".
The Windows® 2000 setup CD is required for installation.

(3) When using Windows® 98

Install Personal Web Server stored on the Windows® 98 setup CD.
It can be installed using the CD drive: \add-ons\pws\setup.exe.

POINT
For detailed Web server installation method corresponding to the OS, refer to the installation procedure attached to the corresponding OS.

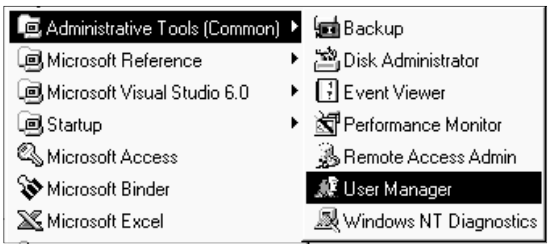
Appendix 2.4 Setting the Internet access account

When the OS of the personal computer where the Web server is operating is Windows NT® or Windows® 2000, a special right must be set to the Internet access account.

POINT
The settings in this section are not needed when the OS of the personal computer where the Web server is operating is Windows® 98.

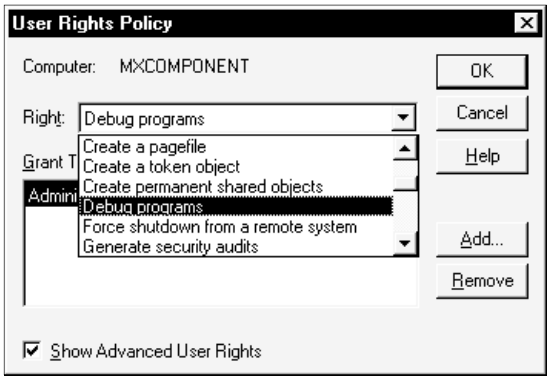
(1) When using Windows NT®

When the Active Server Pages (ASP) pages using MX Component are to be made public, the IUSR_Name (Internet Server Anonymous Access) must be given the "Debug programs" right.
Make settings in the following procedure.



1) Choose the [Start]-[Programs]-[Administrative Tool(Common)]-[User Manager] menu.

2) As User Manager starts, choose the [Policies]-[User Rights] menu.



3) Check "Show Advanced User Rights" and choose "Debug programs" from the "Right" list box.

4) Click the Add button.

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(From preceding page)

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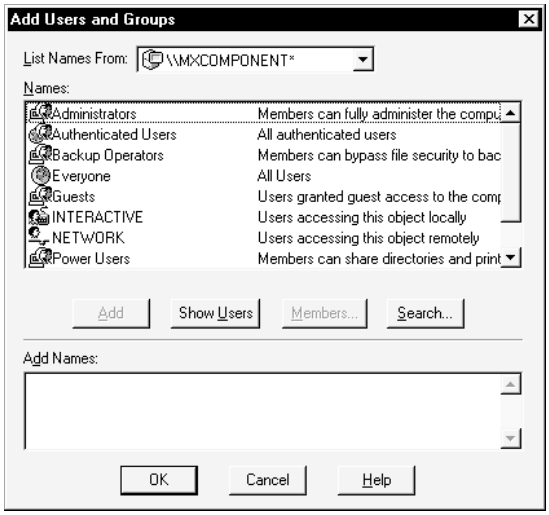
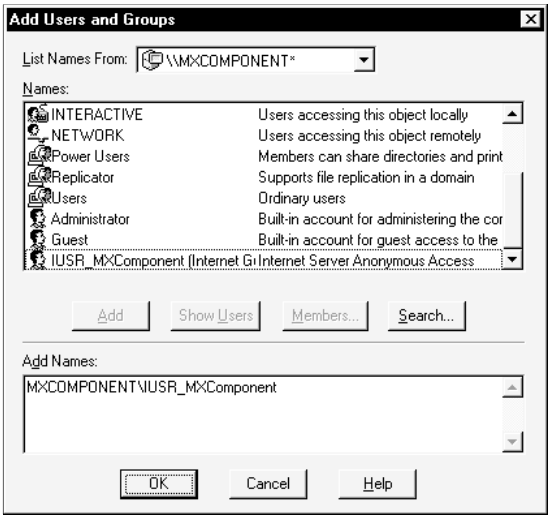


5) The "Add User and Groups" dialog box appears.
At this time, if the computer name (name of the computer where Personal Web Server 4.0 has been set up) is not displayed in "List Names Form", select the computer name.

6) With the computer name selected, click the Show Users button.

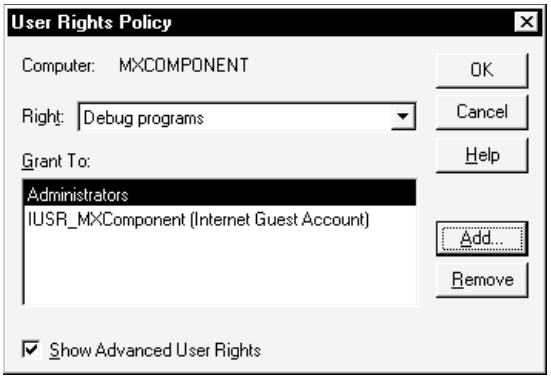
↓



7) Choose the "IUSR_ computer name (Internet Server Anonymous Access)" account from the "Names" list box, and click the Add button.

8) Click the OK button.

↓



9) After making sure that the account has been added, reboot the personal computer.

↓

(Setting completion)

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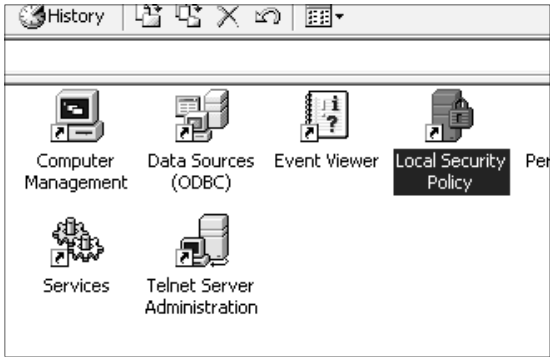
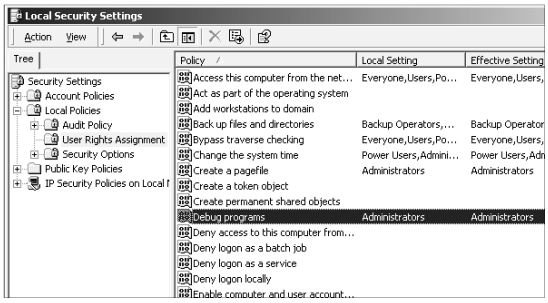
(2) When using Windows® 2000

When the Active Server Pages (ASP) pages using MX Component are to be made public, the IUSR_Name(Internet Server Anonymous Access) must be given the "Debug programs" right.
Make settings in the following procedure.



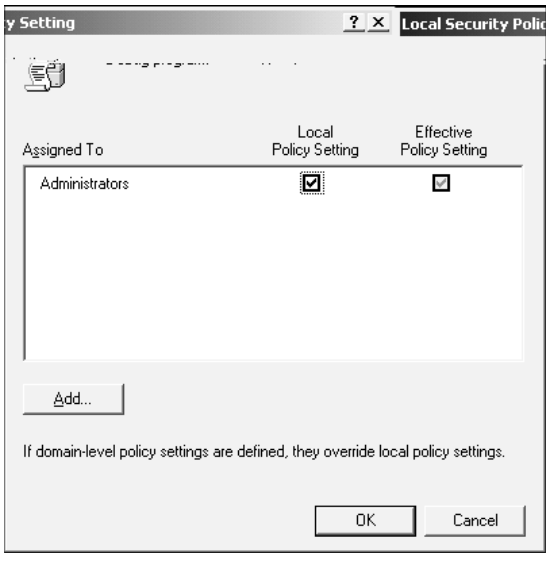
1) Choose [Administrative Tools]-[Local Security Policy].

↓



2) Choose [Local Policies]-[User Rights Assignment] in the tree structure and double-click "Debug programs".

↓



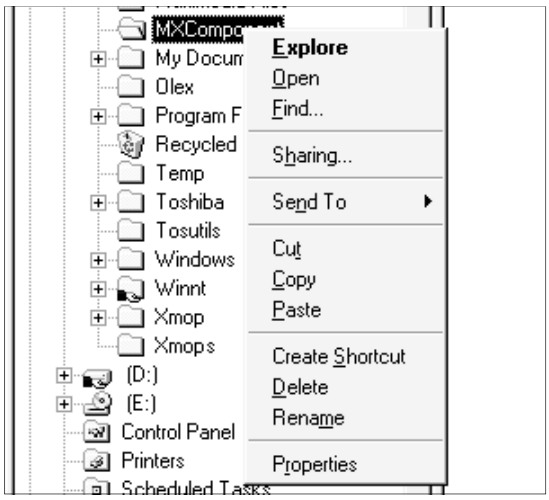
3) As the "Local Security Policy Setting" dialog box appears, click the Add button.

↓

(To next page)

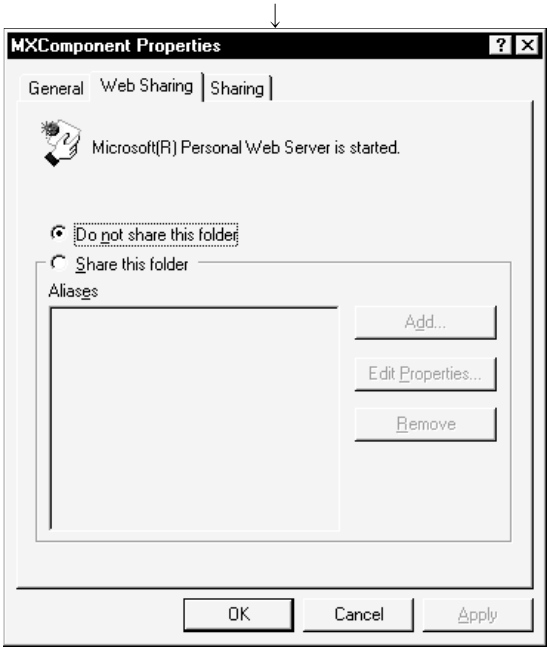
Appendix 2.5 Making Web pages public

To make Web pages public on the Internet/intranet, the folder must be Web shared.
The following is the procedure to make the folder Web shared.
Though the screen slightly varies with the Web server OS, the setting procedure is the same.



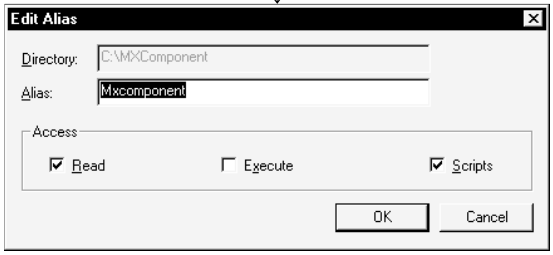
1) Boot Explorer and right-click any folder that contains the Web file (*.html, *.asp) to be made public to display the folder properties.

↓



2) As the properties screen appears, choose the "Web Sharing" tab and select "Share this folder".

↓



3) As the "Edit Alias" dialog box appears, change the alias here if you change it.

The alias is the underlined part of the URL to be specified on the Web browser.
http://**.**.**.**/MX Component/NetTest.asp

↓

(Setting completion)

Appendix 2.6 Checking whether access can be made to Web server properly or not

When a check is to be made via the Internet, the personal computer where the Web server has been installed must be connected to the Internet.
After confirming that the Web server is connected to the Internet/intranet, boot the Web browser (Internet Explorer) on the Web client side personal computer, enter the URL as indicated below, and make sure that the Web page is displayed properly.

(URL input example) http://[IP address of Web server]/[Alias set in Appendix 2.5]/
NetTest.asp

NetTest.asp is the Web server operation checking test page offered by MX Component.
Make sure that the system date and system time of the server are displayed on the Web browser.

POINT

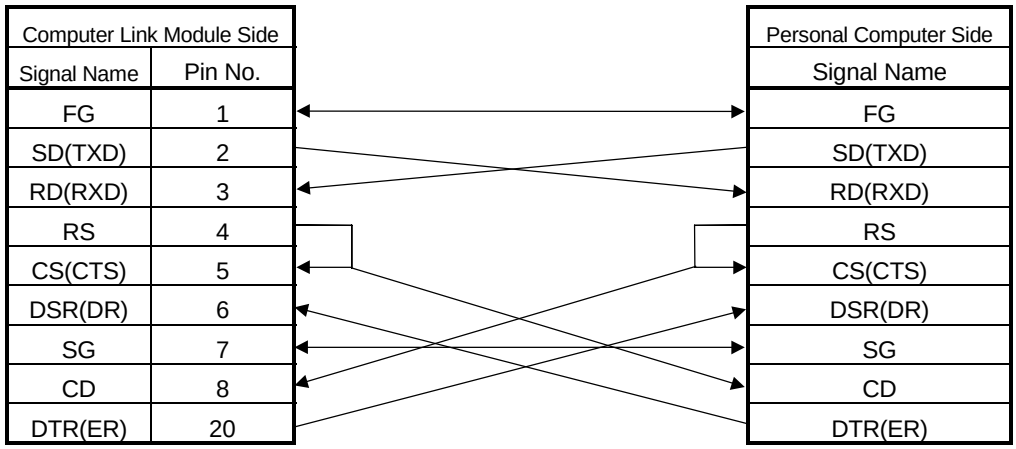
- If access to NetTest.asp cannot be made properly, access cannot be made to the Web pages using MX Component, either.
  In such a case, reconfirm the Web server settings and Web client browser settings.
  If the settings are correct, the Web pages may not be displayed because communication cannot be made properly due to dense traffic or like of the communication line.
  In this case, check the status of the communication line.
- NetTest.asp is stored in the following folder.
  (Example: When the installation destination is D:\MELSEC)
  D:\MELSEC\Act\Sample\VBScript\SampleASP

Appendix 3 Examples of Wiring RS-232C Cable for Connection of C24 and Personal Computer

Appendix 3.1 A Series

(1) When a 25-pin connector is used in a C24(computer link module)

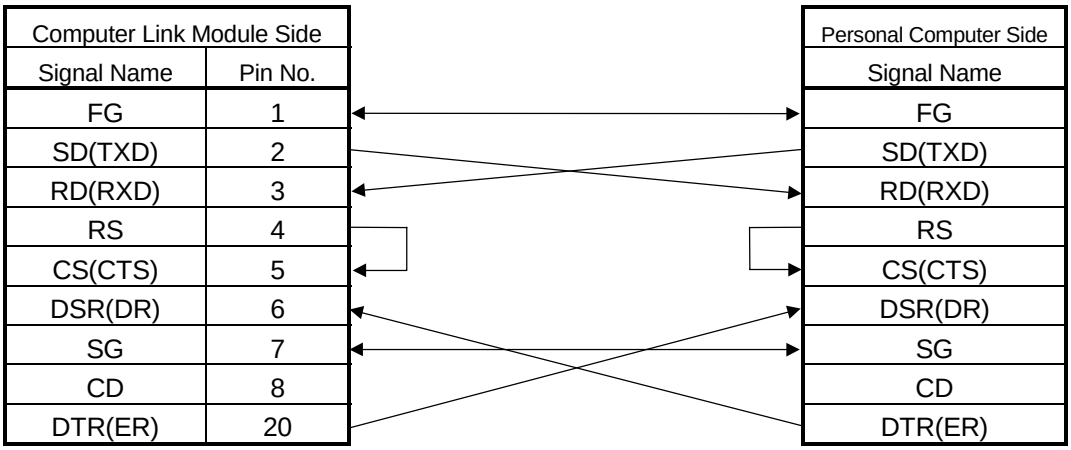
(Example of connection 1)



Computer Link Module Side		Personal Computer Side
Signal Name	Pin No.	Signal Name
FG	1	FG
SD(TXD)	2	SD(TXD)
RD(RXD)	3	RD(RXD)
RS	4	RS
CS(CTS)	5	CS(CTS)
DSR(DR)	6	DSR(DR)
SG	7	SG
CD	8	CD
DTR(ER)	20	DTR(ER)

The CD signal need not be connected when the following connection is used for communication. Choose no CD terminal check (write 1) as the RS-232C CD terminal check setting (setting made at buffer memory address 10BH).

(Example of connection 2)



Computer Link Module Side		Personal Computer Side
Signal Name	Pin No.	Signal Name
FG	1	FG
SD(TXD)	2	SD(TXD)
RD(RXD)	3	RD(RXD)
RS	4	RS
CS(CTS)	5	CS(CTS)
DSR(DR)	6	DSR(DR)
SG	7	SG
CD	8	CD
DTR(ER)	20	DTR(ER)

(2) When a 9-pin connector is used in a C24(computer link module)

(Example of connection 1)

Computer Link Module Side		Personal Computer Side
Signal Name	Pin No.	Signal Name
CD	1	CD
RD(RXD)	2	RD(RXD)
SD(TXD)	3	SD(TXD)
DTR(ER)	4	DTR(ER)
SG	5	SG
DSR(DR)	6	DSR(DR)
RS(RTS)	7	RS(RTS)
CS(CTS)	8	CS(CTS)

(Example of connection 2)

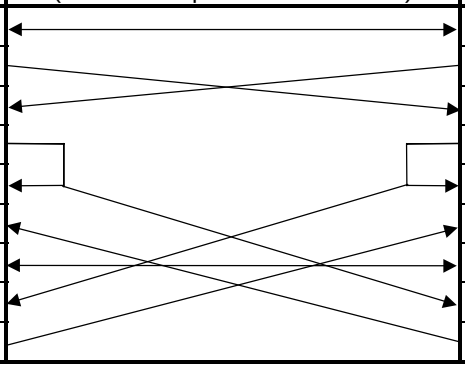
Computer Link Module Side		Personal Computer Side
Signal Name	Pin No.	Signal Name
CD	1	CD
RD(RXD)	2	RD(RXD)
SD(TXD)	3	SD(TXD)
DTR(ER)	4	DTR(ER)
SG	5	SG
DSR(DR)	6	DSR(DR)
RS(RTS)	7	RS(RTS)
CS(CTS)	8	CS(CTS)

* Connecting the DTR and DSR signals of the C24 (computer link module) to the external device as shown above enables DC code control or DTR/DSR control.

Appendix 3.2 QnA Series

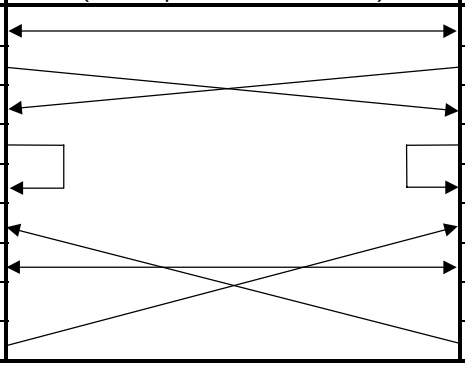
(1) For large-scale QC24(N)

(a) Example of connection to an external device that allows the CD signal(No.8 pin) to be turned ON/OFF

Large-scale QC24(N) Side		Cable Connection and Signal Direction (Full-/Half-Duplex Communication)	Personal Computer Side
Signal Name	Pin No.		Signal Name
FG	1		FG
SD(TXD)	2		SD(TXD)
RD(RXD)	3		RD(RXD)
RS	4		RS
CS(CTS)	5		CS(CTS)
DSR(DR)	6		DSR(DR)
SG	7		SG
CD	8		CD
DTR(ER)	20		DTR(ER)

DC code control or DTR/DSR control is enabled by connecting the QC24(N) to an external device as shown above.

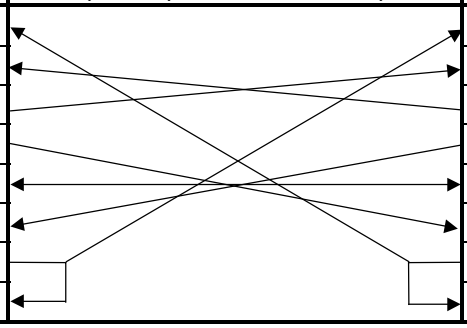
(b) Example of connection to an external device that dose not allow the CD signal(No.8 pin) to be turned ON/OFF

Large-scale QC24(N) Side		Cable Connection and Signal Direction (Full-Duplex Communication)	Personal Computer Side
Signal Name	Pin No.		Signal Name
FG	1		FG
SD(TXD)	2		SD(TXD)
RD(RXD)	3		RD(RXD)
RS	4		RS
CS(CTS)	5		CS(CTS)
DSR(DR)	6		DSR(DR)
SG	7		SG
CD	8		CD
DTR(ER)	20		DTR(ER)

DC code control or DTR/DSR control is enabled by connecting the QC24(N) to an external device as shown above.

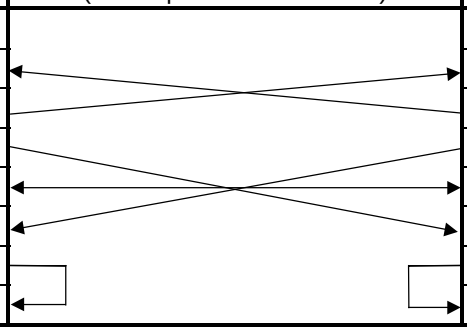
(2) For compact QC24(N)

(a) Example of connection to an external device that allows the CD signal(No.1 pin) to be turned ON/OFF

Compact QC24(N) Side		Cable Connection and Signal Direction (Full-Duplex Communication)	Personal Computer Side
Signal Name	Pin No.		Signal Name
CD	1		CD
RD(RXD)	2		RD(RXD)
SD(TXD)	3		SD(TXD)
DTR(ER)	4		DTR(ER)
SG	5		SG
DSR(DR)	6		DSR(DR)
RS(RTS)	7		RS(RTS)
CS(CTS)	8		CS(CTS)

DC code control or DTR/DSR control is enabled by connecting the QC24(N) to an external device as shown above.

(b) Example of connection to an external device that dose not allows the CD signal(No.1 pin) to be turned ON/OFF

Compact QC24(N) Side		Cable Connection and Signal Direction (Full-Duplex Communication)	Personal Computer Side
Signal Name	Pin No.		Signal Name
CD	1		CD
RD(RXD)	2		RD(RXD)
SD(TXD)	3		SD(TXD)
DTR(ER)	4		DTR(ER)
SG	5		SG
DSR(DR)	6		DSR(DR)
RS(RTS)	7		RS(RTS)
CS(CTS)	8		CS(CTS)

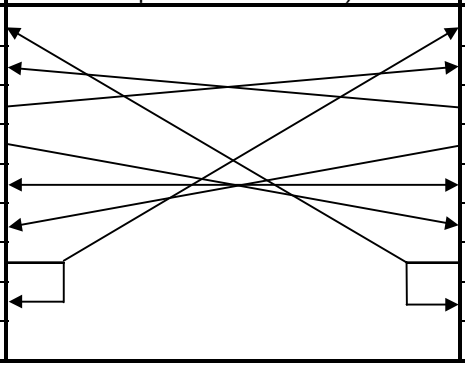
DC code control or DTR/DSR control is enabled by connecting the QC24(N) to an external device as shown above.

Appendix 3.3 Q Series

The connector specifications are indicated below.

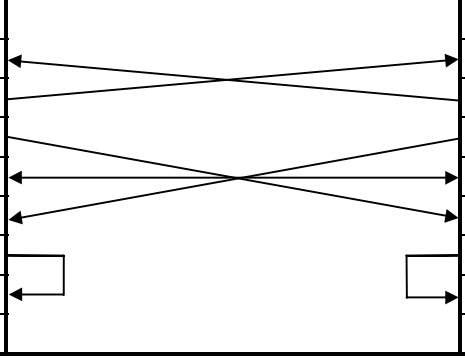
Pin No.	Signal Code	Signal Name	Signal Direction Q series-compatible C24↔external device
1	CD	Receive carrier detection	←
2	RD(RXD)	Receive data	←
3	SD(TXD)	Send data	→
4	DTR(ER)	Data terminal ready	→
5	SG	Send ground	←
6	DSR(DR)	Data set ready	←
7	RS(RTS)	Request to send	→
8	CS(CTS)	Clear to send	←
9	RI(CI)	Call indication	←

(1) Connection example which can turn ON/OFF CD signal (No.1 pin)

Q series -compatible C24		Cable Connection and Signal Direction (Connection example for full duplex/half duplex communication)	Personal Computer Side
Signal Name	Pin No.		Signal Name
CD	1		CD
RD(RXD)	2		RD(RXD)
SD(TXD)	3		SD(TXD)
DTR(ER)	4		DTR(ER)
SG	5		SG
DSR(DR)	6		DSR(DR)
RS(RTS)	7		RS(RTS)
CS(CTS)	8		CS(CTS)
RI(CI)	9		

(2) Connection example which cannot turn ON/OFF CD signal (No.1 pin)

Connection example for exercising DC code control or DTR/DSR control

Q series -compatible C24		Cable Connection and Signal Direction (Connection example for full duplex communication)	Personal Computer Side
Signal Name	Pin No.		Signal Name
CD	1		CD
RD(RXD)	2		RD(RXD)
SD(TXD)	3		SD(TXD)
DTR(ER)	4		DTR(ER)
SG	5		SG
DSR(DR)	6		DSR(DR)
RS(RTS)	7		RS(RTS)
CS(CTS)	8		CS(CTS)
RI(CI)	9		

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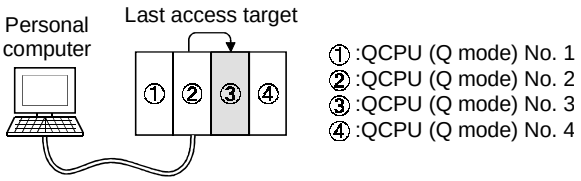
Appendix 4 Multi-CPU System

The valid CPU number specified for a multi-CPU system is that of the last accessed station only.
When making access to the non-control CPU of the relay module on the accessed station, use the modules of function version B as the relay modules and QCPUs (Q mode) on the own station, all relay stations and accessed station.

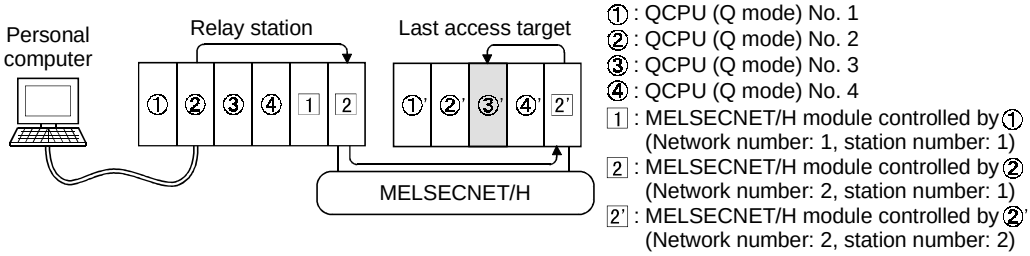
(Example 1) CPU COM communication

When the PLC CPU No. 3 (0x3E2) is specified for access, access is made to the CPU ③.



(Example 2) CPU COM communication (via MELSECNET/H)

When the PLC CPU No. 3 (0x3E2), network number 2 and station number 2 are specified for access, access is made to the CPU ③'.
The CPU number cannot be specified for the relay station.
Therefore, if access is made to the network No. 1 in the following case, an error will occur since the network number controlled by the CPU ② is only "2".



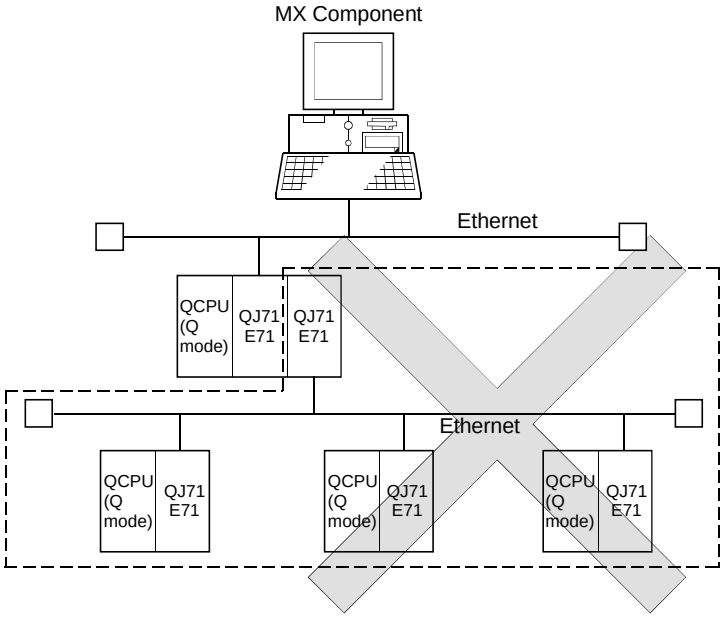
Appendix 5 Number of Loadable Network Modules When Q00JCPU, Q00CPU or Q01CPU Is Used

The following indicates the number of loadable network modules that may be connected when the Q00JCPU, Q00CPU or Q01CPU is used.

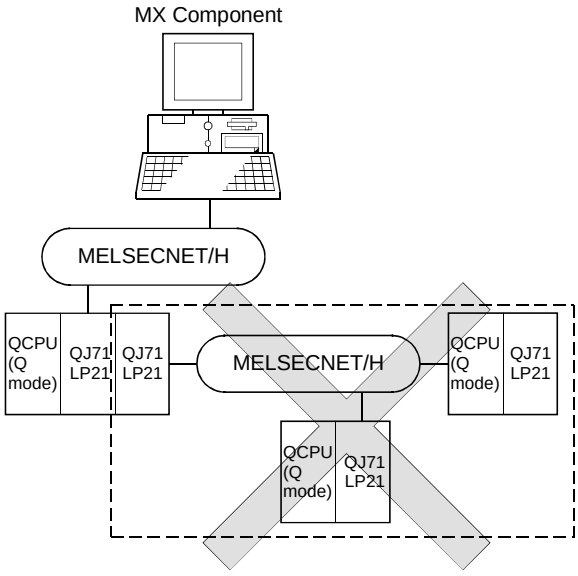
Network Module	Number of Loadable Modules
MELSECNET/H module	1 module
Ethernet module	1 module
CC-Link module(Function version B or later)	2 modules

Therefore, the following systems cannot be configured.

(Example 1) Since the number of loadable Ethernet modules is 1, the part of the system indicated by the dotted line cannot be configured.



(Example 2) Since the number of loadable MELSECNET/H modules is one, the part of the system indicated by the dotted line cannot be configured.



MEMO

APP - 19

MX Component Version 2

Operating Manual

MODEL	MELS2-ACTE-O-E
MODEL CODE	13JU11
SH(NA)-080154-A(0104)MEE	

MITSUBISHI ELECTRIC CORPORATION

HEAD OFFICE : MITSUBISHI DENKI BLDG MARUNOUCHI TOKYO 100-8310 TELEX : J24532 CABLE MELCO TOKYO
NAGOYA WORKS : 1-14 , YADA-MINAMI 5 , HIGASHI-KU, NAGOYA , JAPAN

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Specifications subject to change without notice.