MITSUBISHI

Type SW2D5F-CSKP-E Basic Communication Support Tool
Operating Manual

MELSEC

MODEL	SW2D5F-CSKP-E-0-E
MODEL CODE	1LMS42
IB(NA)66888-A(9812)MEE	

• SAFETY INSTRUCTIONS •

(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 data change or status control is to be performed from a peripheral device to the running PLC, configure up an interlock circuit in the outside of the PLC system to ensure that the whole system will always operate safely.
Also, determine corrective actions to be taken for the system when a communication error occurs due to a cable connection fault or the like in online operation performed from the peripheral device to the PLC CPU.

[Design Instructions]

△ CAUTION

• Online operation performed with a peripheral device connected to the running CPU module (especially forced output or operating status change) should be started after carefully reading the manual and fully ensuring safety.
Not doing so can cause machine damage or accident due to an operation mistake.

REVISIONS

Print Date	* Manual Number	Revision
Dec., 1998	IB (NA) 66888-A	

Operating Instructions

(1) When using Windows NT 4.0
    When using Windows NT 4.0, CSKP may be installed and used only on the
    administrator's authority.

(2) Shared devices on Windows 95 and Windows 98
    Having been implemented by using the service function of Windows NT 4.0, the
    shared devices do not support any OS other than Windows NT 4.0.
    However, the shared devices of the personal computer which uses Windows NT
    4.0 can be accessed from the personal computer which uses Windows 95 or
    Windows 98.

(3) Computer link communication and PLC RS422 communication on Windows 95
    On Windows 95, communication using the COM port, e.g. computer link
    communication or PLC RS422 communication, will cause a memory leak.
    Therefore, do not perform continuous operation.

(4) Multithreading communication
    Multithreading communication cannot be made.

(5) Simultaneous use of CSKP and GPPW
    When using GPPW and CSKP together on the same E71 module to make Ethernet
    communication, make the following settings.
    • Set the protocol of the "Target" screen of the Ethernet utility to "UDP/IP".
    • Set SW2 of the communication status setting switches of the E71 module to "OFF
      (binary)".

    For this reason, if SW1D5F-CSKP-E had been used to make Ethernet
    communication, the utility must be set and the E71 module's switch settings
    changed.

(6) Installation
    (a) When using SW2D5F-CSKP-E
        After uninstalling SW1D5F-CSKP-E, install SW2D5F-CSKP-E.
        At this time, all settings made in each utility are erased and the settings must
        therefore be made again.

    (b) When using SW2D5F-CSKP-EV
        With SW1D5F-CSKP-E installed, install SW2D5F-CSKP-EV.
        Unless SW1D5F-CSKP-E has been installed, SW2D5F-CSKP-EV can not be
        installed.
        At this time, all settings made in each utility are erased and the settings must
        therefore be made again.

(7) Overwrite installation
    When performing overwrite installation, install the software in the folder where it
    had already been installed.

(8) Start menu
   When you have uninstalled CSKP, the item may remain in the start menu.
   In such a case, restart the personal computer.

(9) Software version of CC-Link master and local modules
   The CC-Link master and local modules used in CC-Link communication or CC-Link
   G4 communication should be those of software version "N" or later.
   Modules of software version "M" or earlier will not operate properly.

(10) Software version of CC-Link G4 modules
   The CC-Link G4 modules used in CC-Link G4 communication should be those of
   software version "D" or later.
   Modules of software version "C" or earlier will not operate properly.

(11) About access to FXCPU CN devices
   The FXCPU CN devices with the number "200" and after can not be accessed for
   writing or reading.

INTRODUCTION

Thank you for choosing Type SW2D5F-CSKP-E Basic Communication Support Tool
Before using this product, please read this manual carefully to use Type SW2D5F-CSKP-E Basic
Communication Support Tool to its optimum.
Please forward this manual to the end user.

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The following manuals are related to this product.
Refer to this list and request the required manuals.

Relevant Manuals

Manual Name	Manual Number (Model Code)
Type SW2D5F-CSKP-E Basic Communication Support Tool Programming Manual 　Provides the programming procedure, detailed explanations, and error codes of the 　MELSEC data link library.　　　　　　　　　　　(Included in the product package)	IB-66889 (1LMS43)
Type A70BDE-J71QLP23GE/A70BDE-J71QLP23/A70BDE-J71QBR13 MELSECNET/10 Interface Board User's Manual (For SW2DNF-MNET10) 　Describes the features, specifications, part names and settings, and driver installation and 　uninstallation, etc. of the MELSECNET/10 card.　　　　(Included in the product package)	IB-66894 (13JL81)
Type A80BDE-J61BT13 CC-Link Interface Board User's Manual (For SW2DNF- CCLINK) 　Describes the features, specifications, part names and settings, and driver installation and 　uninstallation, etc. of the CC-Link card.　　　　　　　(Included in the product package)	IB-66895 (13JL82)

"How to Use This Manual" is described by purposes of using CSKP.
Refer to the following and use this manual.

(1) To know the features and utility list (Sections 1.1 and 1.2)
    Features are given in Section 1.1 and a utility list in Section 1.2.

(2) To know compatibility with the existing software (Section 1.3)
    Section 1.3 presents compatibility with the existing software.

(3) To know the system configuration (Sections 2.1 and 2.2)
    These sections provide system configurations available by use of CSKP.

(4) To know CSKP's operating environment and usable PLC CPUs (Sections 2.3 and
    2.4)
    CSKP's operating environment is given in Section 2.3 and usable PLC CPUs in
    Section 2.4.

(5) To install or uninstall CSKP (Chapter 3)
    Read Chapter 3 which describes how to install and uninstall CSKP.

(6) To know the operation procedures of CSKP (Chapters 4 to 6)
    Chapter 4 provides the operation procedures of CSKP, and Chapters 5 and 6 give
    simple operation procedures for communication by actually using the
    corresponding utilities.

(7) To know the operation methods of the utilities (Chapters 7 to 9)
    Chapter 7 provides operations common to the utilities, and Chapters 8 and 9
    describe how to perform operation on a utility basis.
    Read these chapters when using the utilities.

(8) To know the specifications of the shared devices and the contents of the system
    area information region (Chapter 10)
    Chapter 10 gives the specifications of the shared devices and the data stored in the
    system area information region.

(9) To know the accessible devices and ranges (Chapter 11)
    Chapter 11 provides the accessible devices and ranges.

About the Generic Terms and Abbreviations

Unless otherwise specified, this manual uses the following generic terms and abbreviations to describe Type SW2D5F-CSKP-E Basic Communication Support Tool.

Generic Term/Abbreviation	Description
CSKP	Abbreviation of Type SW2D5F-CSKP-E Basic Communication Support Tool
Windows NT 4.0	Abbreviation of Microsoft Windows NT Workstation 4.0
Windows 95	Abbreviation of Microsoft Windows 95
Windows 98	Abbreviation of Microsoft Windows 98
Windows	Generic term of Microsoft Windows 95, Microsoft Windows 98 and Microsoft Windows NT Workstation 4.0
Personal computer	DOS/V-compatible personal computer of IBM PC/AT and its compatibles
CC-Link G4 module	Abbreviation of Type AJ65BT-G4 GPP function peripheral device connection module
GPPW	Abbreviation of GPP Function Software for Windows SW☐D5C-GPPW-E/SW☐D5F-GPPW-E
Ladder Logic Test Tool (LLT)	Abbreviation of Ladder Logic Test Function Tool Software for Windows SW☐D5C-LLT-E/SW☐D5F-LLT-E
MELSECNET/10 card	Abbreviation of Type A70BDE-J71QLP23GE/A70BDE-J71QLP23/A70BDE-J71QBR13 MELSECNET/10 interface card
CC-Link card	Abbreviation of Type A80BDE-J61BT13 CC-Link interface card
AnNCPU	Generic term of the A0J2HCPU, A1SCPU, A1SCPU-S1, A1SCPUC24-R2, A1SHCPU, A1SJCPU, A1SJCPU-S3, A1SJHCPU, A1SJHCPU-S8, A1NCPU, A2CCPU, A2CCPUC24, A2CCPUC24-PRF, A2CJCPU, A2NCPU, A2NCPU-S1, A2SCPU, A2SCPU-S1, A2SHCPU, A2SHCPU-S1 and A1FXCPU
AnACPU	Generic term of the A2ACPU, A2ACPU-S1, A2ACPUP21/R21, A2ACPUP21/R21-S1, A3ACPUP21/R21, A3NCPU and A3ACPU
AnUCPU	Generic term of the A2UCPU, A2UCPU-S1, A2ASCPU, A2ASCPU-S1, A2ASCPU-S30, 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
FXCPU	Generic term of the FX$_0$, FX$_{0S}$, FX$_{0N}$, FX$_1$, FX$_2$, FX$_{2C}$, FX$_{2N}$ and FX$_{2NC}$ series
C24	Generic term of the A1SCPUC24-R2, A1SJ71C24-PRF, A1SJ71C24-R2, A2CCPUC24, A2CCPUC24-PRF, AJ71C24-S6 and AJ71C24-S8
UC24	Generic term of the AJ71UC24, AJ71UC24-PRF, A1SJ71UC24-R2 and A1SJ71UC24-PRF
QC24	Generic term of the AJ71QC24, AJ71QC24-R2, AJ71QC24-R4, A1SJ71QC24, A1SJ71QC24-R2, AJ71QC24N, AJ71QC24N-R2, AJ71QC24N-R4, A1SJ71QC24N and A1SJ71C24N-R2
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

<u>Term Definitions</u>

This section describes the meaning of the main terms in this manual.

(1) Channel
   Refers to a medium for personal computer communication.
   This term also indicates a form of connection in personal computer communication.
   (Example)
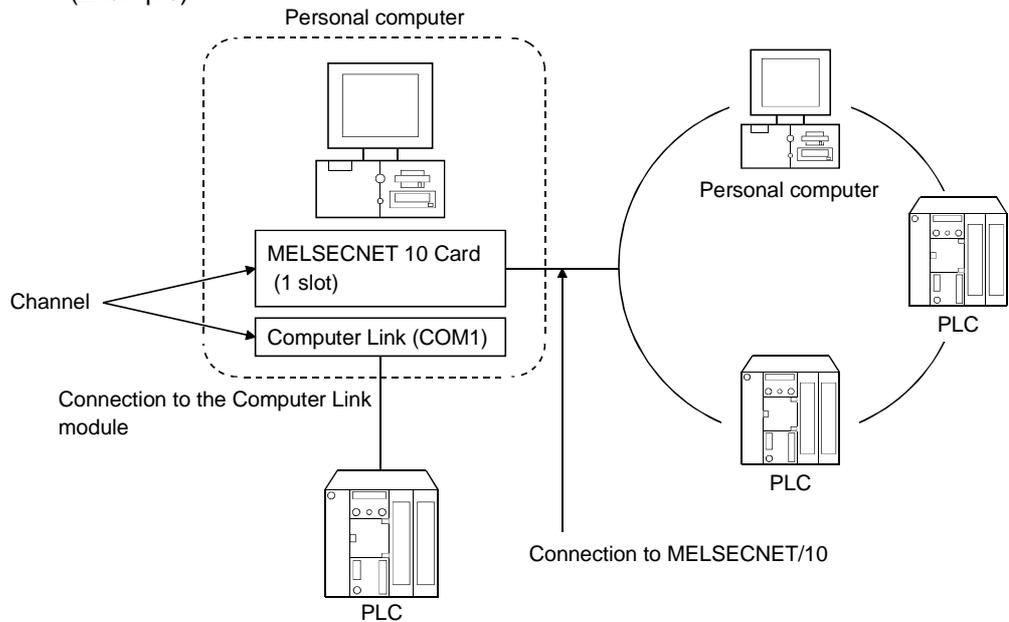
(2) Logical station number
   Information about destinations in computer link communication or Ethernet communication.

   (Example) During computer link communication
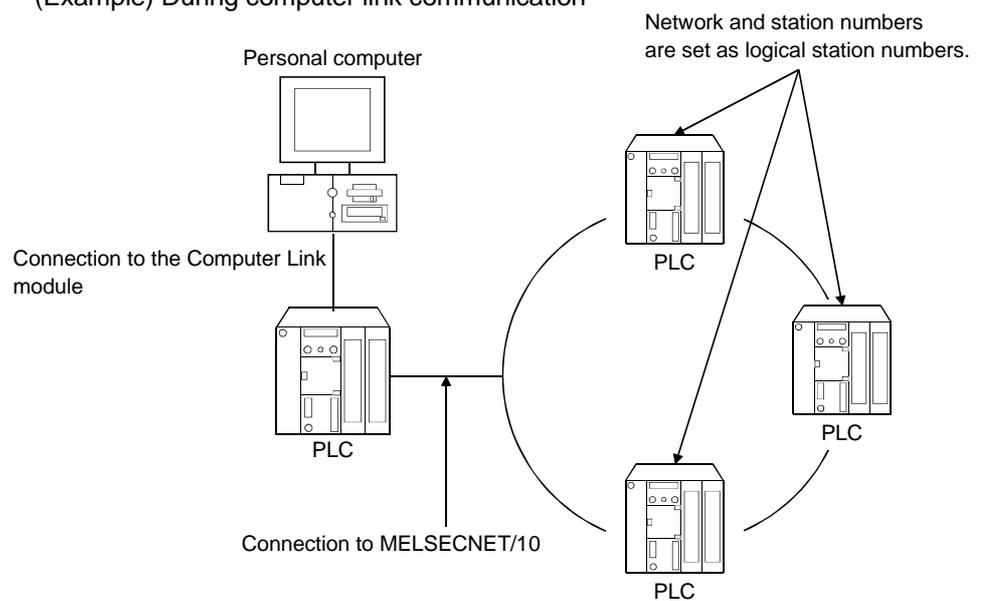
(3) Shared device

Refers to virtual devices on personal computers.

Shared devices are classified as EM (bit device) or ED (word device).

However, they can be used only with the Windows NT 4.0 operating system.

EM (Bit device)		ED (Word device)	
No. of blocks (0 to 255)	Device range (0 to 8191)	No. of blocks (0 to 255)	Device range (0 to 8191)
EM0 *1	EM0(0) to EM0(8191)	ED0 *1	ED0(0) to ED0(8191)
EM1	EM1(0) to EM1(8191)	ED1	ED1(0) to ED1(8191)
EM2	EM2(0) to EM2(8191)	ED2	ED2(0) to ED2(8191)
⋮	⋮	⋮	⋮
EM255	EM255(0) to EM255(8191)	ED255	ED255(0) to ED255(8191)

*1 System information area

Product Components

The following components are included in the package.

(1) SW2D5F-CSKP-E Basic Communication Support Tool

(1/4) (2/4) (3/4) (4/4)

4FDs, total

(2) Manual

Operating Manual   Programming Manual   2 manuals, total

(3) Others

Software License Agreement

Reply envelope   1 pcs, each
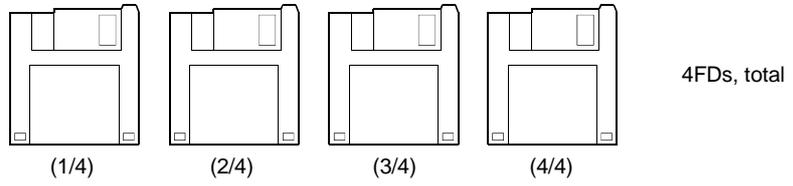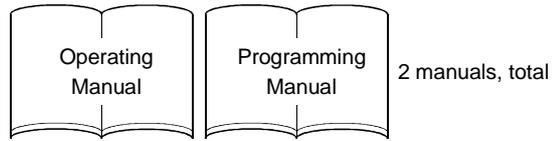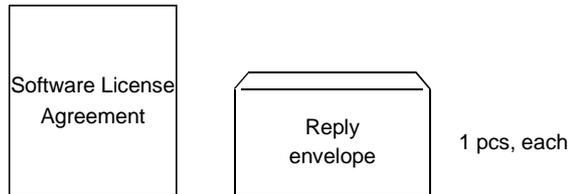
1 OVERVIEW

CSKP is a tool which achieves several protocol communications between a personal computer and PLC using common functions.

The use of the common functions has facilitated the program development of serial and Ethernet communications, which were troublesome and complex so far.

Also, the same bit and word devices as in a PLC have been implemented in a personal computer.

Device data can be handled unchanged within a personal computer.

REMARKS

The screens given in this manual are those of Windows 95 or Windows NT Workstation 4.0.

Therefore, please acknowledge that they are slightly different from the screens of Windows 98.

1.1 Features

CSKP has the following features.

(1) Communications can be made indifferently to the communication path (communication protocol)

By utilizing any communication utility, you will have no trouble in using the communication program since CSKP controls all of the communication part.

Personal computer

Bit device (EM)
Word device (ED)
(Only when using Windows NT 4.0)

CSKP
(Basic Communication Support Tool)

Computer Link communication	RS232C	Computer Link Module
Ethernet communication	Ethernet Card ——— Ethernet	Ethernet Module
PLC RS422 communication	RS-232C/RS-422 conversion	ACPU, QnACPU, FXCPU
MELSECNET/10 communication	MELSECNET/10 Card —— MELSECNET/10	MELSECNET/10 Module
CC-Link communication	CC-Link Card —— CC-Link	CC-Link Module Software version "N" and after
CC-Link G4 communication	RS-232C/ RS-422conversion CC-Link G4 Module —— CC-Link	CC-Link Module Software version "N" and after
	Software version "D" and after	
LLT communication		GPPW + Ladder Logic Test Tool (LLT) (offline debugging)
		Available as option.

(2) Many useful utilities
The utilities available on a communication protocol basis facilitate settings made for communications.

GPPW + ladder logic test tool (LLT)

Access on the same personal computer

Use any utility to make communication settings.

Communication path supplied by CSKP (e.g. computer link, Ethernet)

Personal computer

Use the MELSEC data link library to make communication.

PLC
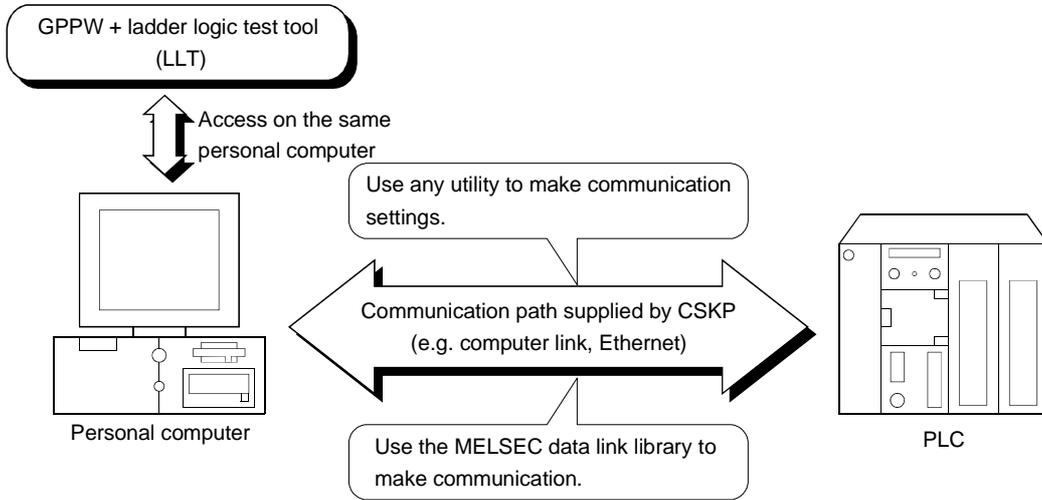
(3) Device monitor function
Use of the device monitor utility allows the status monitoring and data changing of the specified devices.

X39 is on

Device status checking

Communication path supplied by CSKP

X39 is on!
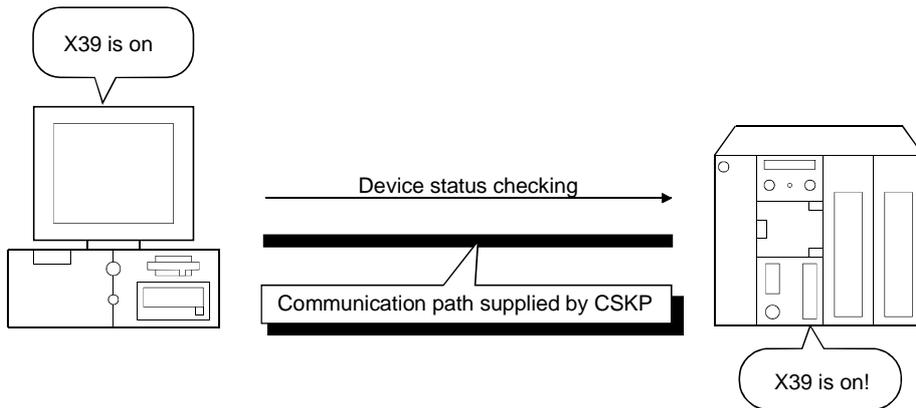
(4) Error viewer function
The error viewer gives you a quick view of the errors that occurred.
Also, it leaves a history to tell you when errors had occurred.

Error occurred in user application or the like!!

Error viewer shows the iccurrence dates,source names, error numbers and messages.
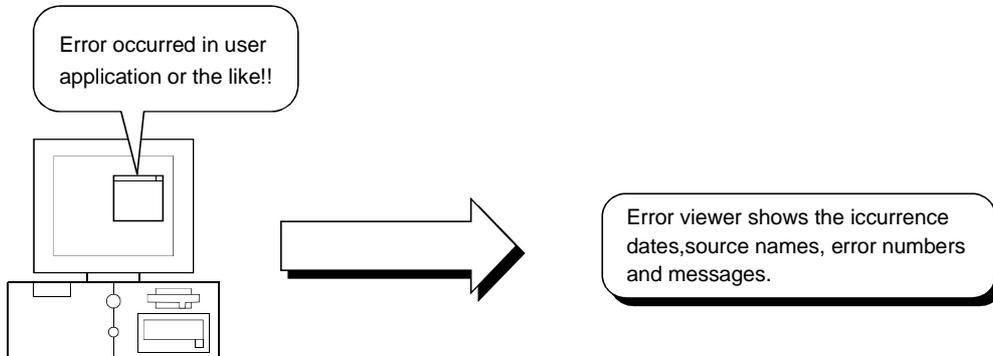
(5) Shared devices usable (EM, ED) (only when using Windows NT 4.0)

The shared devices (EM: bit device, ED: word device) are accessible between personal computers having the same OS and from a personal computer on the MELSECNET/10.

Also, since they are accessible from several programs, you can configure a high value-added system, e.g. data gathered from a PLC can be operated/processed with the other program to monitor and display its result.
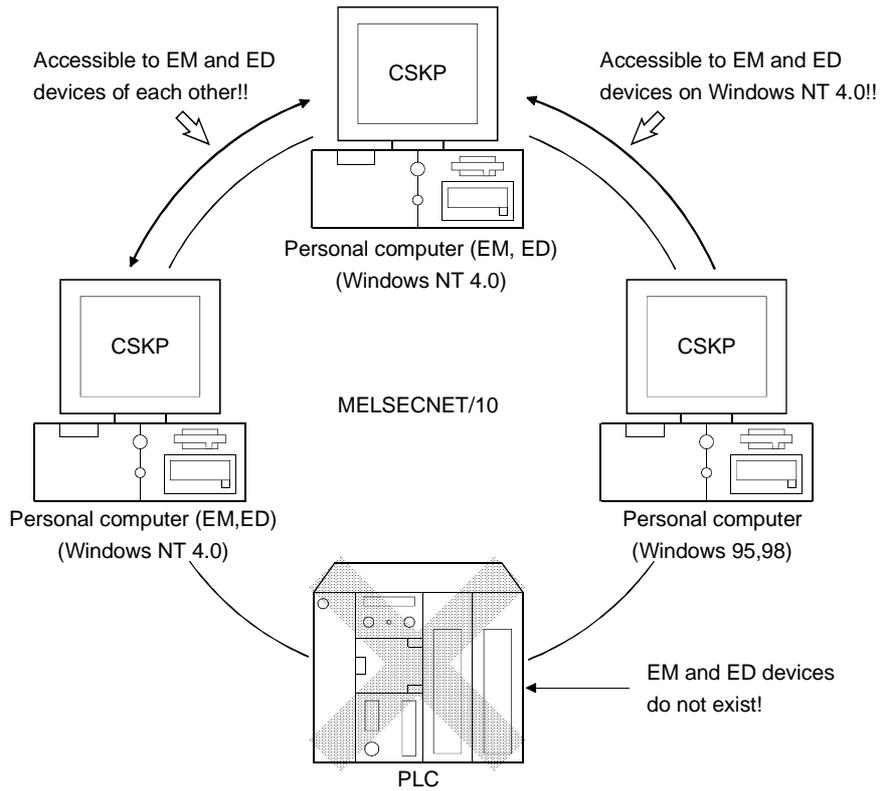
	EM (Bit Device)	ED (Word Device)
Block range	0 to 255 (No. 0 indicates system region)	
Device range	0 to 8191 per block (8192 points)	

```
POINT

The shared devices can be set when the Operating System is Windows NT 4.0.
They cannot be set when you use Windows 95 or Windows 98.
However, the shared devices on Windows NT 4.0 are accessible from Windows 95
and Windows 98.
```

(6) Device refreshes (only when using Windows NT 4.0)

By use of the shared device server utility, device values can be transferred between personal computers or between a personal computer and PLC without any program.

(a) Between personal computers

Device values can be transferred between personal computers on the MELSECNET/10.
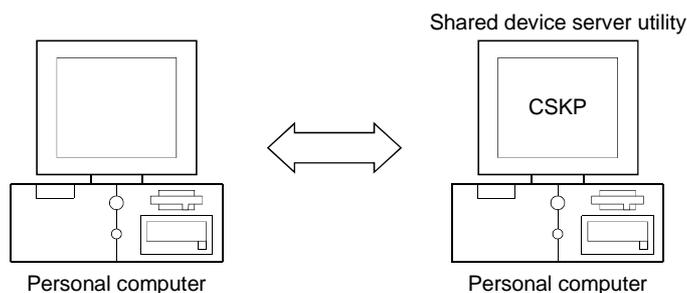
(b) Between PLC and personal computer

Device values of the specified PLC can be transferred.
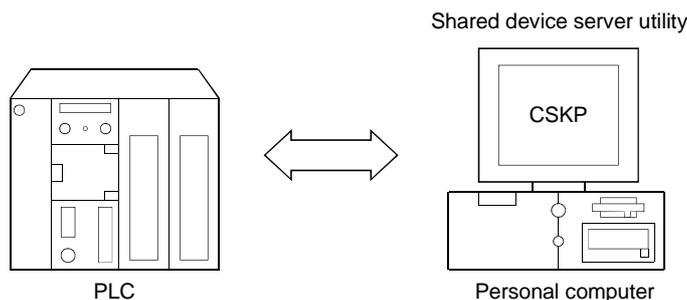
(c) Between PLCs (application)

Device values can be transferred between PLCs via a personal computer where CSKP has been installed.
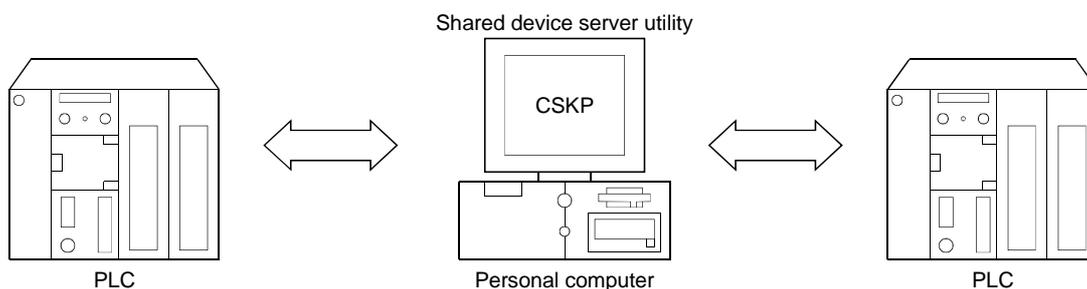
POINT
The shared device server utility can be utilized when the OS is Windows NT 4.0. It cannot be utilized when you use Windows 95 or Windows 98.

(7) Ladder logic test tool (LLT) can be used for offline debugging
   By use of GPPW and ladder logic test tool (LLT), debugging can be made on a single personal computer without the PLC being connected.

Debugging can be made by making access to the ladder logic test tool (LLT) on the same personal computer!

CSKP

Personal computer

PLC CPU need not be connected.

PLC
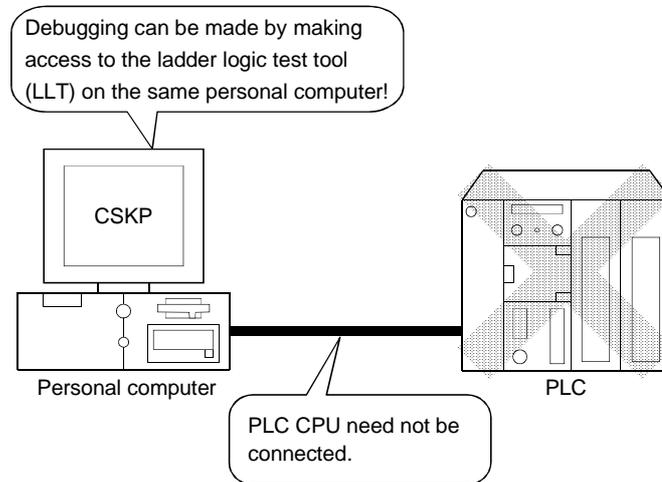
POINT
When using the ladder logic test tool (LLT), GPPW and ladder logic test tool (LLT) are required separately.

1.2 Utility List

The following table lists the utilities of CSKP.

○: Installed when CSKP is installed
×: Not installed when CSKP is installed

Utility Name	Description	Used OS Win [*1]	Used OS WinNT [*2]	Refer To
Computer link utility	Used to make settings for communication by use of the computer link module.	○	○	Section 8.1
Ethernet utility	Used to make settings for communication by use of the Ethernet module.	○	○	Section 8.2
PLC RS422 utility	Used to make settings for communication by direct connection of the personal computer with the PLC.	○	○	Section 8.3
MELSECNET/10 utility	Used to make settings for communication by use of the MELSECNET/10 card.	○	○	Section 8.4
CC-Link utility	Used to make settings for communication by use of the CC-Link card.	○	○	Section 8.5
CC-Link G4 utility	Used to make settings for communication by use of the CC-Link G4 module.	○	○	Section 8.6
Shared device utility	Used to make settings for use of EM and ED.	×	○	Section 9.1
Shared device server utility	Used to make settings for refreshing devices between personal computers or between personal computer and PLC.	×	○	Section 9.2
LLT utility	Used to make settings for utilizing the ladder logic test tool (LLT).	○	○	Section 9.3
Device monitor utility	Used to monitor the statuses of devices via a network.	○	○	Section 9.4
Error viewer	Used to display a history of errors, which occurred so far.	○	○	Section 9.5

*1 Windows 95, Windows 98
*2 Windows NT 4.0

MEMO

2 SYSTEM CONFIGURATION

This chapter deals with the system configuration, operating environment and usable CPU.

2.1 System Configuration List

This section lists systems which can be configured up on an operating system basis.

2.1.1 When using Windows NT Workstation 4.0

The following table lists systems which can be made up when using Windows NT Workstation 4.0.

		Personal Computer Used
Computer link communication		○
Ethernet communication		○
PLC RS422 communication		○
MELSECNET/10 communication		○
	Usable card	Optical loop : A70BDE-J71LP23GE A70BDE-J71QLP23 Coaxial bus : A70BDE-J71QBR13
	Usable driver	SW2DNF-MNET10
CC-Link communication		○
	Usable card	A80BDE-J61BT13
	Usable driver	SW2DNF-CCLINK
CC-Link G4 communication		○
Shared device communication		○
LLT communication		○

○: Configurable ×: Not configurable

2.1.2 When using Windows 95

The following table lists systems which can be configured when using Windows 95.

		Personal Computer Used
Computer link communication		○
Ethernet communication		○
PLC RS422 communication		○
MELSECNET/10 communication		○
	Usable card	Optical loop : A70BDE-J71LP23GE A70BDE-J71QLP23 Coaxial bus : A70BDE-J71QBR13
	Usable driver	SW2DNF-MNET10
CC-Link communication		○
	Usable card	A80BDE-J61BT13
	Usable driver	SW2DNF-CCLINK
CC-Link G4 communication		○
Shared device communication		×^{*1}
LLT communication		○

○: Configurable ×: Not configurable

*1 Does not support the used OS.

POINT
A memory leak will take place if any of the following communications is made using the COM port on Windows 95. Therefore, do not perform continuous operation. • Computer link communication • PLC RS422 communication • CC-Link G4 communication

2.1.3 When using Windows 98

The following table lists systems, which can be configured when using Windows 98.

		Personal Computer Used
Computer link communication		O
Ethernet communication		O
PLC RS422 communication		O
MELSECNET/10 communication		O
	Usable card	Optical loop : A70BDE-J71LP23GE A70BDE-J71QLP23 Coaxial bus : A70BDE-J71QBR13
	Usable driver	SW2DNF-MNET10
CC-Link communication		O
	Usable card	A80BDE-J61BT13
	Usable driver	SW2DNF-CCLINK
CC-Link G4 communication		O
Shared device communication		×[*1]
LLT communication		×[*1]

O: Configurable ×: Not configurable

*1 Does not support the used OS.

2.2 System Configurations for Use of Various Communication Formats

This section gives system configurations for use of CSKP on a communication format basis.
The table at top right of each section indicates whether the communication format can be made up when the OSs is used.

Win NT	Win 95	Win 98
○	×	×

○ : Configurable
× : Not configurable

POINT
Software other than CSKP and system equipment should be purchased separately as required.

2.2.1 Computer link communication

Win NT	Win 95	Win 98
○	○	○

(1) System configuration

The system configuration for computer link communication is shown below.

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

CSKP   Windows

Personal computer

*1
Connection to computer link module
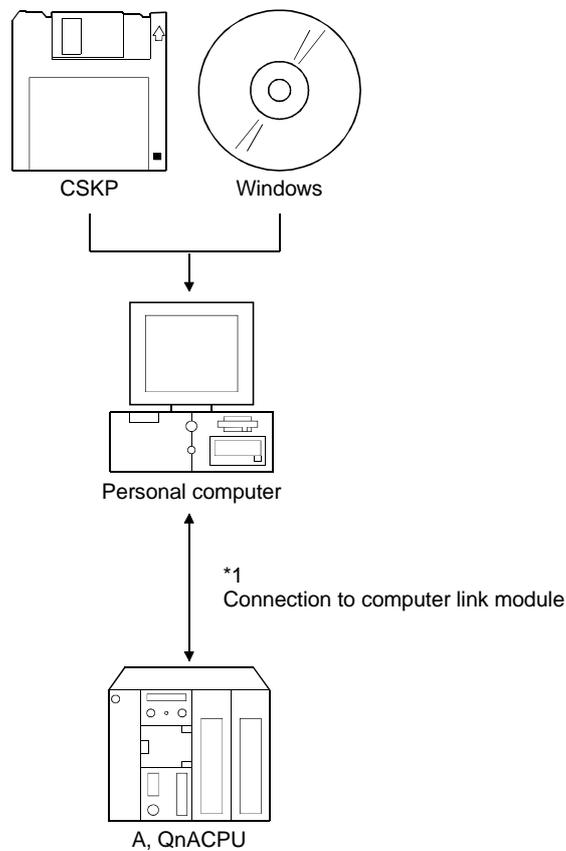
A, QnACPU

*1 For the connection method, read the manual of the computer link module used.

(2) Usable modules

Any of the following computer link modules may be used to access the A or QnACPU.

	Usable Modules
C24	A1SCPUC24-R2[*1], A1SJ71C24-PRF[*2], A1SJ71C24-R2[*2], A2CCPUC24[*3], A2CCPUC24-PRF[*3], AJ71C24-S6, AJ71C24-S8
UC24	AJ71UC24, AJ71UC24-PRF, A1SJ71UC24-R2, A1SJ71UC24-PRF
QC24	AJ71QC24, AJ71QC24-R2, AJ71QC24-R4[*4], A1SJ71QC24, A1SJ71QC24-R2, AJ71QC24N, AJ71QC24N-R2, AJ71QC24N-R4[*4], A1SJ71QC24N, A1SJ71QC24N-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.

*4 The terminal block port cannot be used.

2.2.2 Ethernet communication

Win NT	Win 95	Win 98
○	○	○

(1) System configuration

The system configuration for Ethernet communication is shown below.

> POINT
> The accessible range for Ethernet communication is the same segment only.

CSKP   Driver for Ethernet   Windows

Personal computer

Commercially available Ethernet card

Ethernet

*1
Connection to Ethernet module
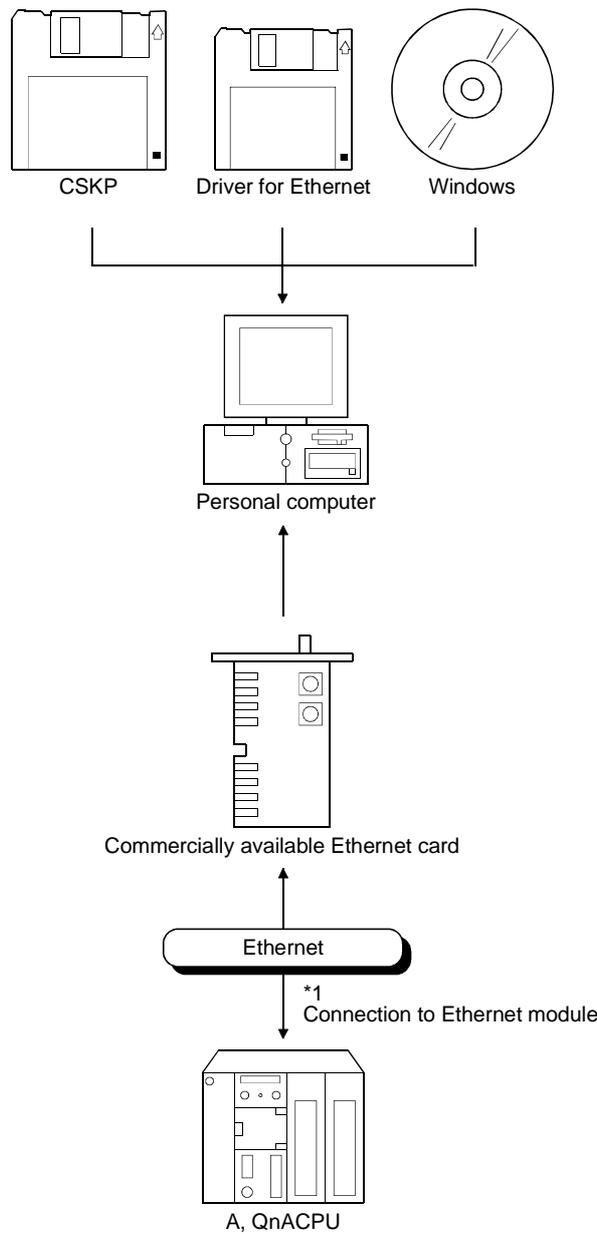
A, QnACPU

*1 For the connection method, read the manual of the Ethernet module used.

(2) Usable modules

Any of the following Ethernet modules may be used to access the A or QnACPU.

	Usable Modules
E71[1]	AJ71E71, AJ71E71-S3, A1SJ71E71-B2, A1SJ71E71-B5, A1SJ71E71-B2-S3, A1SJ71E71-B5-S3
QE71[2]	AJ71QE71, AJ71QE71-B5, A1SJ71QE71-B2, A1SJ71QE71-B5

[1] Accessible as equivalent to the AnA when fitted to the AnU.

[2] An error will occur if monitoring via QnA Ethernet and monitoring via other communication path are executed for the same CPU simultaneously.

2.2.3 PLC RS422 communication

Win NT	Win 95	Win 98
○	○	○

(1) System configuration

The system configuration for PLC RS422 communication is shown below.

> POINT
>
> PLC RS422 communication made on Windows 95 will cause a memory leak.
> Therefore do not perform continuous operation.

CSKP

Windows

Personal computer

Connection with A or QnACPU   Connection with FXCPU

RS-232C cable   RS-232C cable

FX-232AW(C)   FX-232AW(C)

Connection to RS-422 connector of A or QnACPU

Connection to RS-422 connector of FXCPU

A, QnACPU

FXCPU
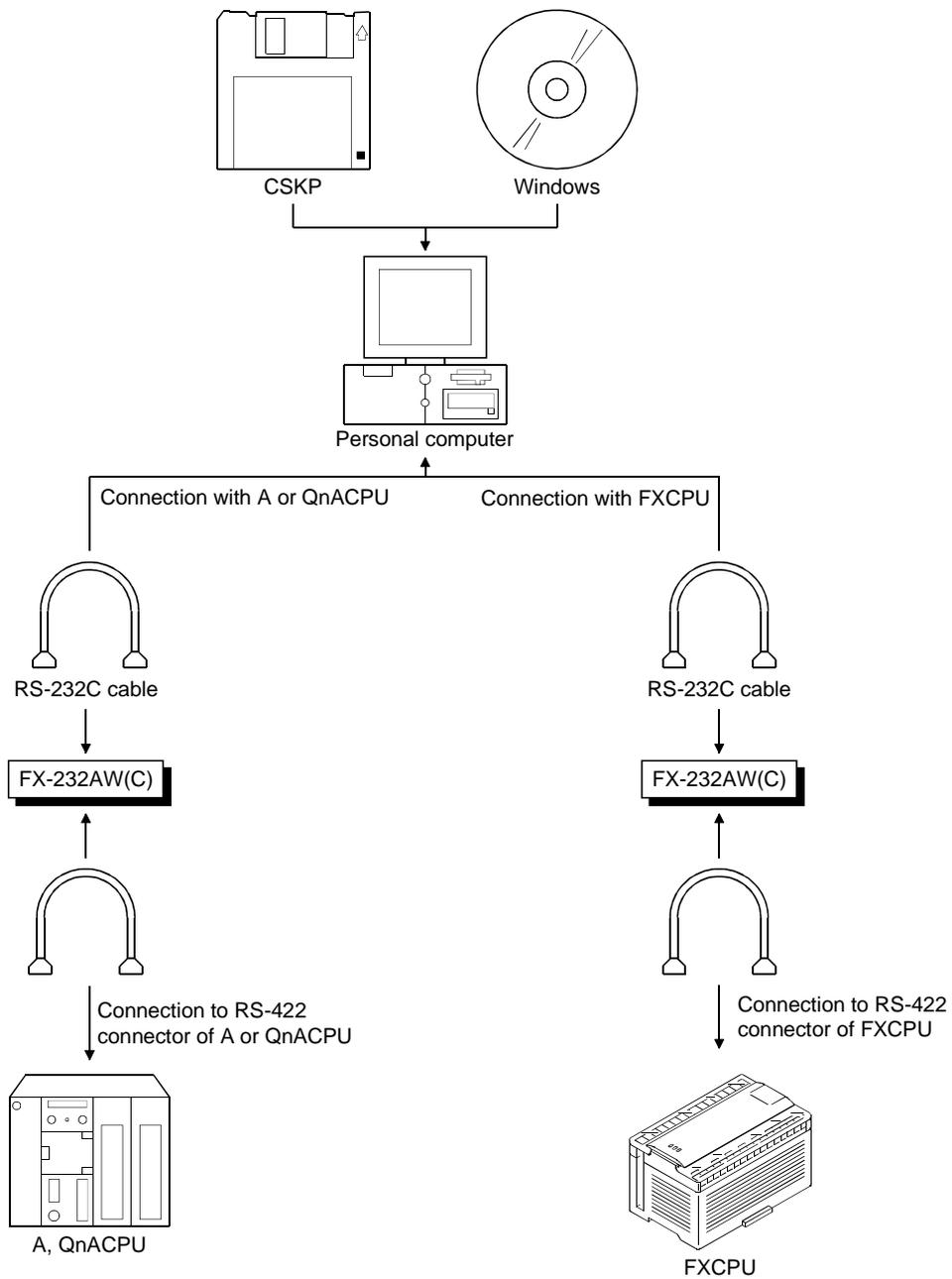
(2) Cables used for connection

The following cable(s) is (are) required for communication between the personal computer and PLC CPU.

(a) RS-232C cable

RS-232C Cable	Maker
• F2-232CAB-1(9pin – 25pin)	Mitsubishi Electric

(b) RS-422 cable

RS-422 Cable	Maker
• FX-422CAB (0.3m) for ACPU, QnACPU, FX$_1$, FX$_2$, FX$_{2C}$ series	Mitsubishi Electric
• FX-422CAB-150 (1.5m) for FX$_1$, FX$_2$, FX$_{2C}$ series	
• FX-422CAB0 (1.5m) for FX$_0$, FX$_{0S}$, FX$_{0N}$, FX$_{2N}$, FX$_{2NC}$ series	

2.2.4 MELSECNET/10 communication

Win NT	Win 95	Win 98
○	○	○

The system configuration for MELSECNET/10 communication is shown below.

> **POINT**
>
> The communication driver used must be SW2DNF-MNET10.
> Any other communication driver cannot be used.

CSKP   SW2DNF-MNET10   Windows

Personal computer

(Optical loop): A70BDE-J71LP23GE
               A70BDE-J71QLP23
(Coaxial bus): A70BDE-J71QBR13

MELSECNET/10 card

MELSECNET/10

A, QnACPU
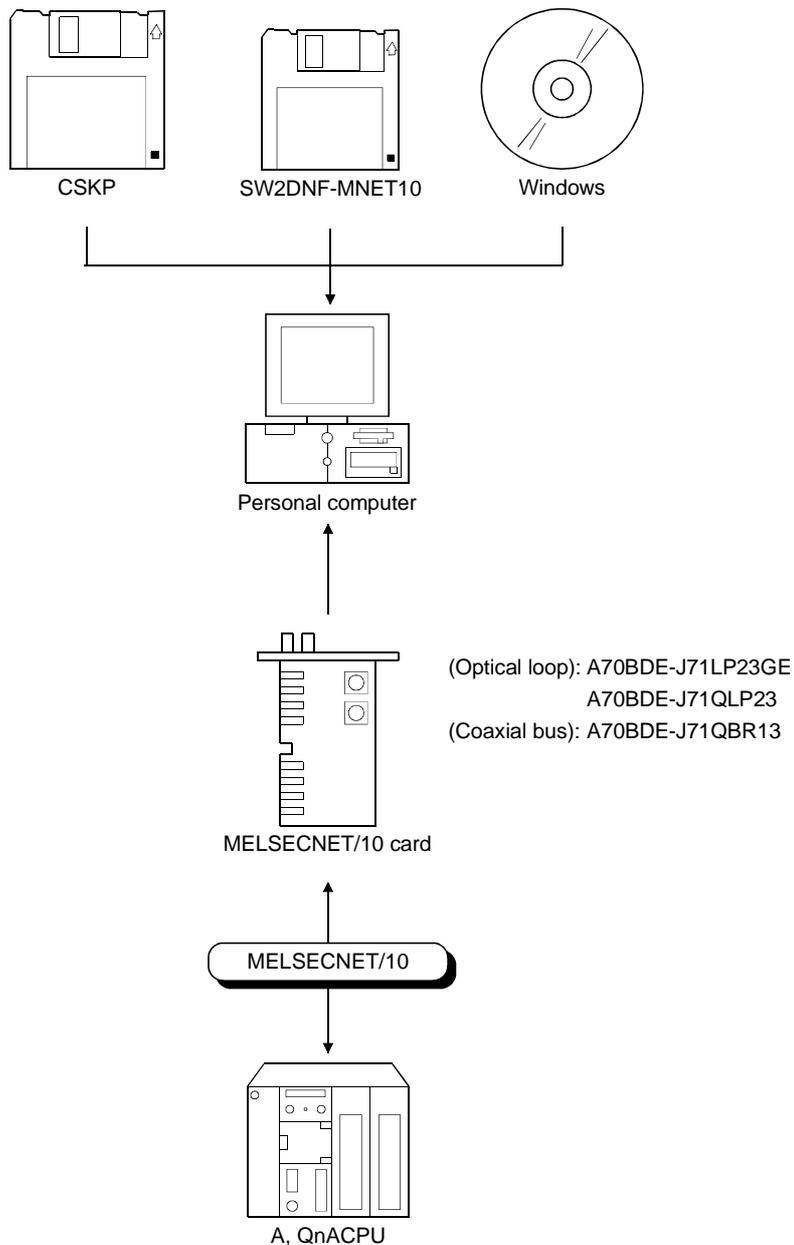
2.2.5 CC-Link communication

Win NT	Win 95	Win 98
○	○	○

The system configuration for CC-Link communication is shown below.

```
┌─────────────────────────────────────────────────────────┐
│  POINT                                                    │
│  The communication driver used must be SW2DNF-CCLINK.     │
│  Any other communication driver cannot be used.           │
└─────────────────────────────────────────────────────────┘
```

CSKP   SW2DNF-CCLINK   Windows

Personal computer

A80BDE-J61BT13

CC-Link card

CC-Link

A, QnACPU
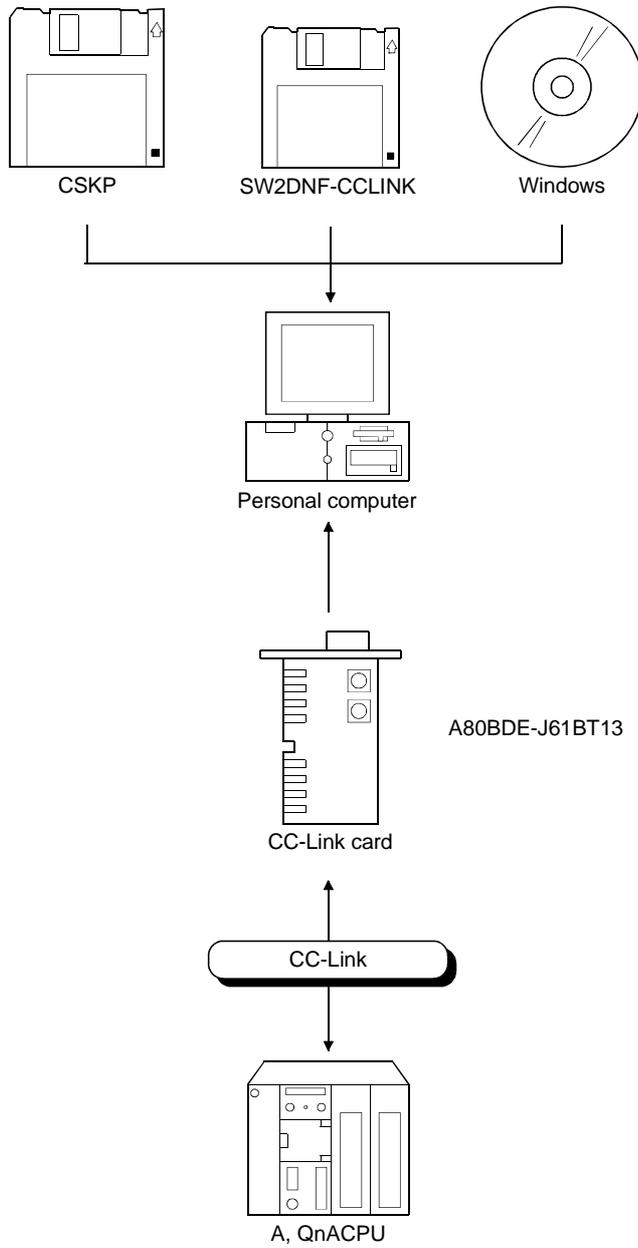
2.2.6 CC-Link G4 communication

Win NT	Win 95	Win 98
○	○	○

The system configuration for CC-Link G4 communication is shown below.

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

CSKP   Windows

Personal computer

RS-232C cable

FX-232AW(C)

Connection to CC-Link G4 module

Software version "D" and after

CC-Link G4 module

CC-Link

A, QnACPU
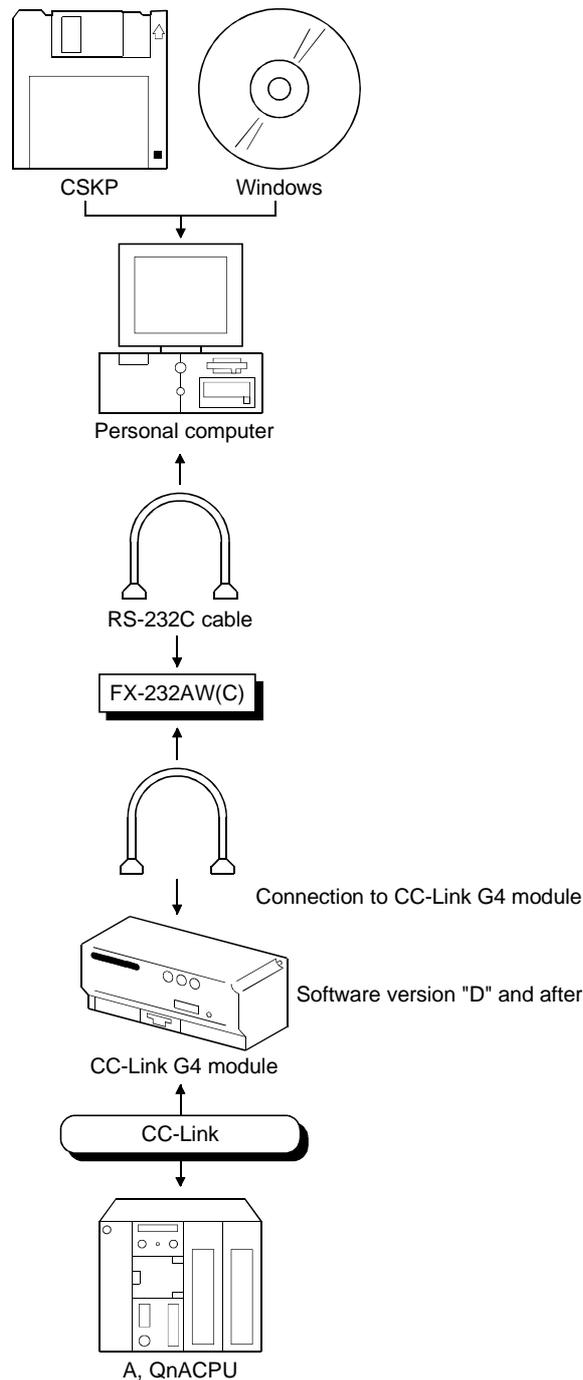
2.2.7 Shared device communication

Win NT	Win 95	Win 98
○	×	×

The system configuration for shared device communication is shown below.

CSKP   Windows
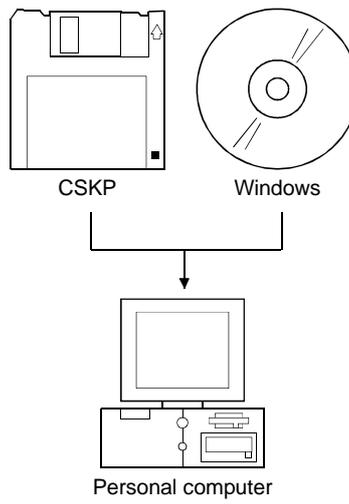
Personal computer

2.2.8 LLT communication

Win NT	Win 95	Win 98
○	○	×

The system configuration for LLT communication is shown below.

CSKP   GPPW   Ladder Logic Test Tool (LLT)   Windows
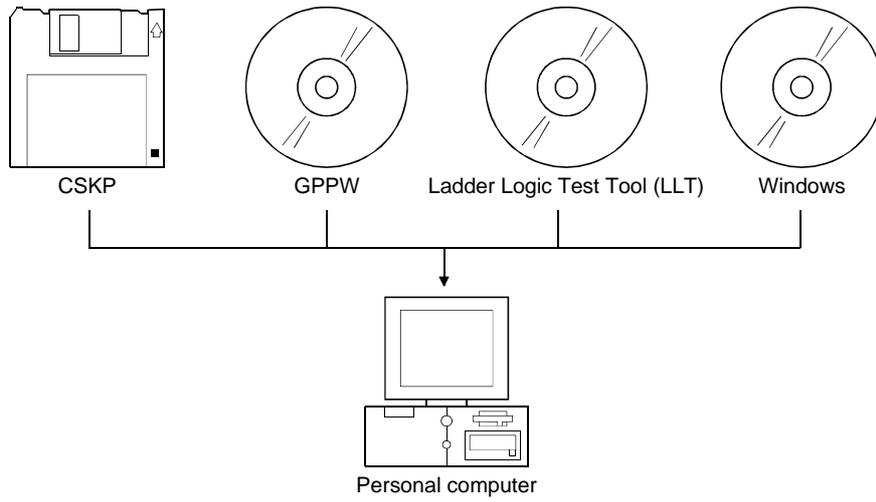
Personal computer

2.3 Operating Environment

The operating environment of CSKP-E is indicated below.

Item	Description
Model	Personal computer on which Windows 95, Windows 98 or Windows NT Workstation 4.0 [*1] operates
Operating System	Windows 95, Windows 98, Windows NT Workstation 4.0 [*1]
CPU	Pentium 100MHz or more (multiprocessor incompatible)
Display	Resolution 800×600 dots or more (recommended 1024×768 dots)
Required memory capacity	32MB or more
Hard disk free space	15MB or more
Disk drive	3.5 inch (1.44MB) floppy disk drive
Programming language	Visual Basic 4.0 [*2], Visual Basic 5.0 Visual C++ 4.2 [*2], Visual C++ 5.0

*1 Service Pack 3 or higher is required for use of Windows NT Workstation 4.0.

*2 Can not be used for CC-Link communication.

2.4 Usable PLC CPU

The following PLC CPUs are usable.

	PLC CPU
ACPU	A0J2HCPU, A1SCPU, A1SCPU-S1, A1SCPUC24-R2, A1SHCPU, A1SJCPU, A1SJCPU-S3, A1SJHCPU, A1SJHCPU-S8, A1NCPU, A2CCPU, A2CCPUC24, A2CCPUC24-PRF, A2CJCPU, A2NCPU, A2NCPU-S1, A2SCPU, A2SCPU-S1. A2SHCPU, A2SHCPU-S1, A2ACPU, A2ACPU-S1, A2ACPUP21/R21, A2ACPUP21/R21-S1, A3ACPUP21/R21, A2UCPU, A2UCPU-S1, A2ASCPU, A2ASCPU-S1, A2ASCPU-S30, A3NCPU, A3ACPU, A3UCPU, A4UCPU, A1FXCPU
QnACPU	Q2ACPU, Q2ACPU-S1, Q2ASCPU, Q2ASCPU-S1, Q2ASHCPU, Q2ASHCPU-S1, Q3ACPU, Q4ACPU, Q4ARCPU
FXCPU	FX$_0$, FX$_{0S}$, FX$_{0N}$, FX$_1$, FX$_2$, FX$_{2C}$, FX$_{2N}$, FX$_{2NC}$ series

MEMO

3 INSTALL AND UNINSTALL

This chapter describes how to install and uninstall CSKP.

3.1 Install

This section describes how to install CSKP.

```
┌─────────────────────────────────────────────────────────────────────┐
│  POINTS                                                              │
│  (1) When using SW2D5F-CSKP-E                                        │
│      After uninstalling SW1D5F-CSKP-E, install SW2D5F-CSKP-E.        │
│  (2) When using SW2D5F-CSKP-EV                                       │
│      With SW1D5F-CSKP-E installed, install SW2D5F-CSKP-EV.           │
│      Unless SW1D5F-CSKP-E has been installed, SW2D5F-CSKP-EV cannot be│
│      installed.                                                      │
│  (3) When SW2D5F-CSKP-E(V) is installed, all settings made in the utilities of│
│      SW1D5F-CSKP-E are erased and the settings must therefore be made again.│
│  (4) Installation decreases the number of licenses by one.          │
│  (5) When the OS is Windows NT 4.0, log on as a user who has an administrator│
│      attribute.                                                      │
│  (6) Start installation after removing all applications included in Startup and│
│      restarting Windows.                                            │
│  (7) Make the first floppy disk write-enabled.                      │
│  (8) When adding the communication path after installation, perform overwrite│
│      installation.                                                  │
└─────────────────────────────────────────────────────────────────────┘
```

1. Switch on your personal computer, and Windows will start.

2. Choose [Start]-[Setting]-[Control Panel].
   When the Control Panel has opened, choose "Add/Remove Programs".

↓

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↓

3. Click the "Install..." button.

↓

4. When the screen on the left appears, insert the first
   floppy disk into the FDD and click the "Next>" button.

↓
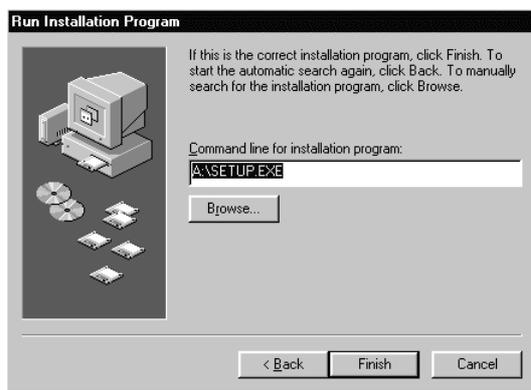
5. When the screen on the left appears, click the "Finish"
   button.
   If you could not find "SETUP.EXE", click the "Browse..."
   button and find "SETUP.EXE" of the FDD.

↓

(To the next page)
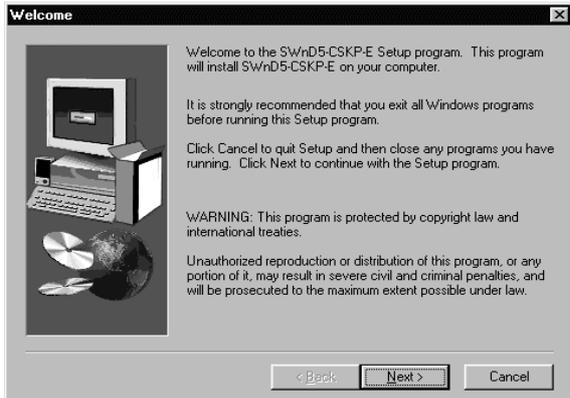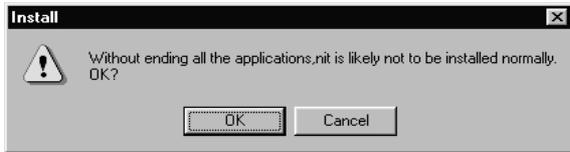
(Continued from the previous page)

↓

6. After a while, the left-hand screen is displayed.
   Check the remaining number of licenses, then click the "OK" button.
   If the number of licenses has decreased to zero (0), you can not perform the installation.
   * The actual number of licenses is the number of licenses plus one preliminary license.

↓

7. Confirm that all the applications have terminated then click the "OK" button.
   When one or more applications are running, terminate all the applications.

↓

8. Check the display text, then click the "Next>" button.

↓

9. Enter your name and company name, then click the "Next>" button.

↓

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3. INSTALL AND UNINSTALL

MELSEC

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↓

10. Check if the registered name and company name are correct.
    If they are correct, click the "Yes" button.
    To make changes, click the "No" button to display the preceding screen.

↓

11. Input the product ID and click "Next>" button.
    The product ID is listed on the Software User Registration Card.

↓

12. Designate a directory for installation.
    The CSKP default directory is "C:\MELSEC. "
    When using the default directory, click the "Next>" button.
    When not using the default directory for installation, click the "Browse..." button, then select another directory.

↓

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↓
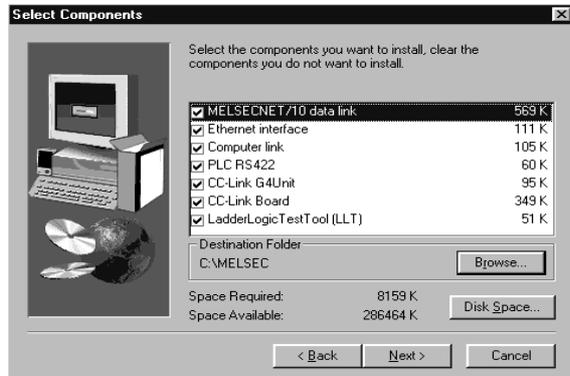
13. After setting an installation component and a directory for installation, click the "Next>" button.

  * If any software package for communication card has not been installed, you can not select the component of that communication.

- "Browse…" button
  Change the target folder
- "Disk Space…" button
  Confirms the free space of the hard disk.

↓
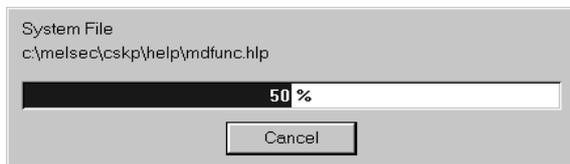
14. Installation starts. Insert the floppy disks in order according to the instructions displayed.

↓

15. Installation is completed when the dialog box shown on the left appears.
To restart, confirm that "Yes, I want to restart my computer now." is checked and click the "Finish" button.
To restart later, check "No, I will restart my computer later" and click the "Finish" button.

  * When installation is completed, the number of licenses decreases by one.

POINT	
If you failed in installation at any point and can uninstall CSKP, uninstall it. If you do not uninstall it, the number of licenses will decrease by one.	

3.2 Icons Registered

When you have installed CSKP, the following icons are registered.

> POINT
> The icons corresponding to the utilities of the communication paths unselected at the time of installation will not be registered.

(1) COMMUNICATION SUPPORT (CSKP-E)
   The following icons are registered in [Start]-[Programs]-[MELSEC APPLICATION]-[COMMUNICATION SUPPORT (CSKP-E)].

   (a) CC-Link G4 Utility

   Starts the CC-Link G4 utility.

   (b) CC-Link Board Utility

   Starts the CC-Link utility.

   (c) LLT Utility

   Starts the LLT utility.

   (d) MELSECNET10 Utility

   Starts the MELSECNET/10 utility.

   (e) Ethernet Utility

   Starts the Ethernet utility.

   (f) Error Viewer

   Starts the Error Viewer.

   (g) RS422 Utility

   Starts the PLC RS422 utility.

   (h) Device Monitor Utility

   Starts the device monitor utility.

   (i) Computer Link Utility

   Starts the computer link utility.

(2) Shared devices (created only when Windows NT 4.0 is used)
The following icons are registered in [Start]-[Programs]-[MELSEC APPLICATION]-
[COMMUNICATION SUPPORT (CSKP-E)]-[Shared Device].

(a) EM ED Server Process

Starts the shared device server process.

(b) EM ED Server Utility

Starts the shared device server utility.

(c) EM ED Utility

Stars the shared device utility.

3.3 Uninstall

This section describes how to uninstall CSKP.

POINTS
(1) The uninstaller should always be accessed from the Control Panel. Do not directly activate the installed program "Uninstaller.exe. " (2) When software uninstallation occurs, the number of licenses decreases by one. To prevent this, be sure to uninstall the CSKP software prior to CSKP deletion. Once the CSKP directory and files are deleted via the Windows Explorer, the number of licenses cannot be restored. (3) Don't set the write protect tab of the first floppy disk.

1. Click [Start]-[Settings]-[Control Panel] menu in order.

2. If the Control Panel appears, double-click "Add/Remove Programs. "

↓

3. "Select SW2D5-CSKP-E", then click the "Add/Remove ... " button.

↓

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↓

Uninstaller

Start Uninstall.
Please insert Install disk.   A:\
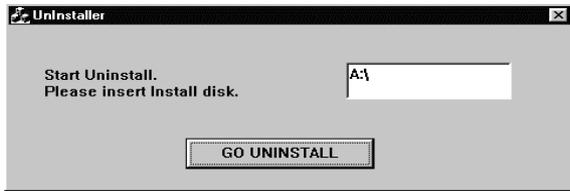
GO UNINSTALL

4. When the left-hand screen is displayed, insert the first floppy disk in the drive, then click the "GO UNINSTALL" button.

↓

UNINSTALLER

⚠ Start uninstall.
Are you sure?

OK   Cancel

5. Click the "OK" button to start uninstallation.

↓

Remove Shared File?

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

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

File name: mdFunc32.lib

Located in: C:\MELSEC\Common\Lib\

Yes | Yes To All | No | No to All

6. When the left-hand screen is displayed, click the "No to All" button.
When the "Yes" or "Yes To All" button is clicked, the shared files of the MELSEC software package are deleted and the other software package may not start normally.

↓

Remove Programs From Your Computer

unInstallShield will remove the software 'SW2D5-CSKP-E' from your computer. Please wait while each of the following components is removed...

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

■■■■■■■■■■■■■■■■■

Uninstall successfully completed.

OK
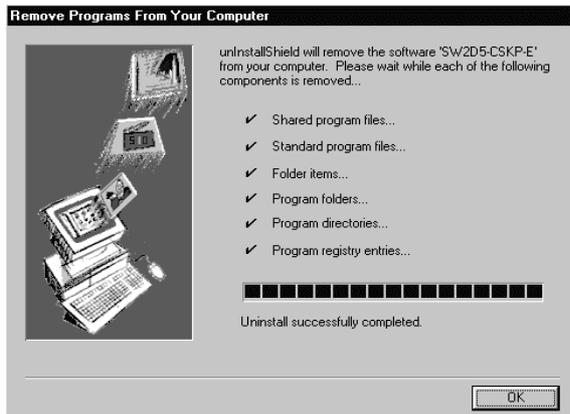
7. When uninstallation is complete, click the "OK" button.
   * After uninstallation, the number of licenses decreases by one.

MEMO

4 OPERATION PROCEDURE

This chapter explains the operation procedure of CSKP.

```
                    ( START )
┌─────────────────────────────────────────┐
│ When using any communication card, set the│       Refer to the manual of the
│ communication card.                        │ ----- corresponding communication
└─────────────────────────────────────────┘       card.
                       │
┌─────────────────────────────────────────┐
│ Install CSKP.                              │ ----- Refer to Section 3.1.
└─────────────────────────────────────────┘
                       │
┌─────────────────────────────────────────┐
│ <Set the communication path and utility>  │
│  1) To make computer link communication    │
│     ......................................... Refer to Section 8.1.1 │
│  2) To make Ethernet communication         │
│     ......................................... Refer to Section 8.2.1 │
│  3) To make PLC RS422 communication        │
│     ......................................... Refer to Section 8.3.1 │
│  4) To make MELSECNET/10 communication     │
│     ......................................... Refer to Section 8.4.1 │
│  5) To make CC-Link communication          │
│     ......................................... Refer to Section 8.5.1 │
│  6) To make CC-Link G4 communication       │
│     ......................................... Refer to Section 8.6.1 │
│  7) To make shared device communication    │
│     ......................................... Refer to Section 9.1.1 │
│  8) To refresh devices                     │
│     ......................................... Refer to Section 9.2.1 │
│  9) To make LLT communication              │
│     ......................................... Refer to Section 9.3.1 │
└─────────────────────────────────────────┘
```

To perform any of 1 to 6 and 9.   To perform either of 7 and 8.

```
┌─────────────────────────────────────────┐
│ <Select the software used for accessing>  │
│ • To use the device monitor utility.       │
│   (Refer to Section 9.4.1)                 │
│ •To use the MELSEC data link library.      │
│   (Refer to the programming manual)        │
└─────────────────────────────────────────┘
                       │
                    ( END )
```

MEMO

5 MAKING ACCESS TO PLC CPU

This chapter briefly explains the procedures for making access to the PLC CPU by use of CSKP.

5.1 Using Computer Link Communication for Making Access

This section describes the operation for making access to the PLC CPU by computer link communication.

(1) Example used in this section

The following example assumes that the computer link module of UC24 is used to access the ACPU via the MELSECNET/10.

Personal computer (CSKP)
COM1 is used.

Logical station No. 32 is used.
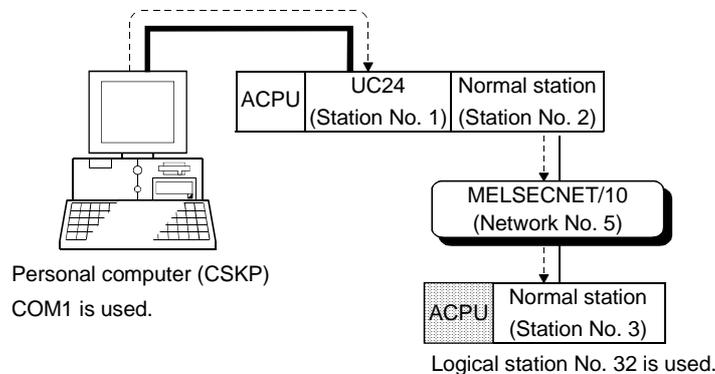
(2) Accessing procedure

1. Set the computer link module.
   (Refer to the computer link module manual.)

2. To enable communication with CSKP, set the switches of the computer link module.
   (Refer to Section 8.1.2.)

3. Connect the computer link module and personal computer.
   (Refer to Section 2.2.1.)

4. Click [Start]-[Programs]-[MELSEC APPLICATION]-[COMMUNICATION SUPPORT (CSKP-E)]-[Computer Link Utility] to start the computer link utility.

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5 - 1

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↓
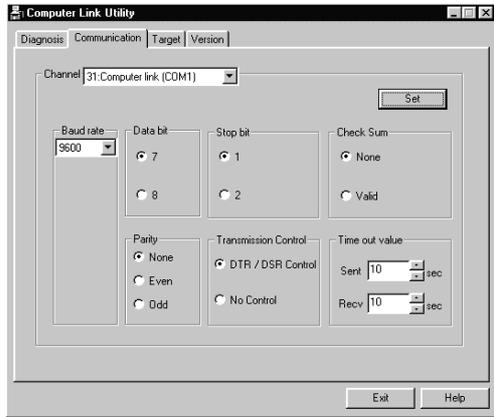
5. Click the "Communication" tab and set Baud rate, Data bit, etc.
   Here, set the channel to "31: Computer link (COM1)".
   Also, each item must be set to the same as that on the module side.

6. Click the "Set" button.

↓
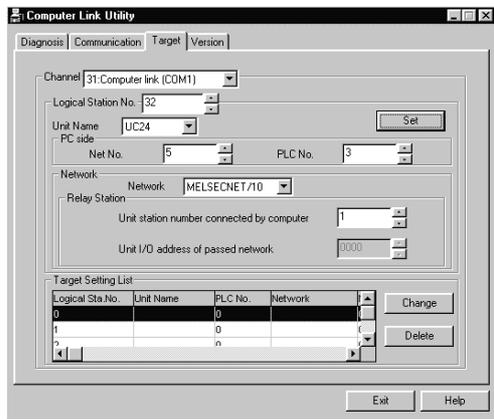
7. Click the "Target" tab and make settings for the channel "31: Computer link (COM1) ".
   Logical Station No.   : 32
   Unit Name   : UC24
   Network   : MELSECNET/10
   Net No.   : 5
   PLC No.   : 3
   Relay Station   : 1 (station number of UC24)

8. Click the "Set" button.

↓
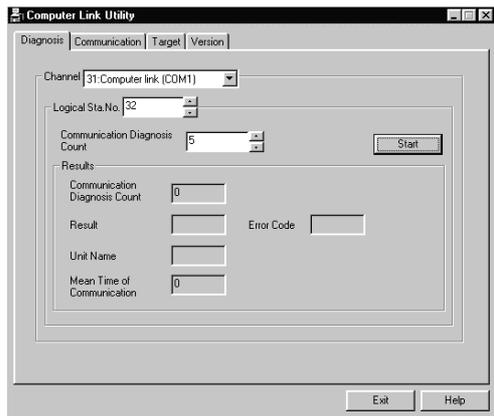
9. Click the "Diagnosis" tab and set the logical station No. for the channel "31: Computer link (COM1) ".
   Logical Station No.   : 32

10. Click the "Start" button and confirm that communication being made is normal.
    If an error has occurred, check the error code and remove the error.
    (Refer to the programming manual.)

↓
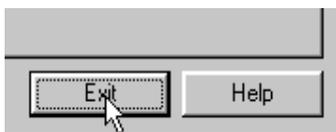
11. Click the "Exit" button to exit from the utility.

12. Using the MELSEC data link library or device monitor utility, gather the device data.

5.2 Using Ethernet Communication for Making Access

This section describes the operation for making access to the PLC CPU by Ethernet communication.

(1) Example used in this section
The following example assumes that the Ethernet module of E71 is used to access the ACPU via the MELSECNET/10.

Logical station No. 10 is used.
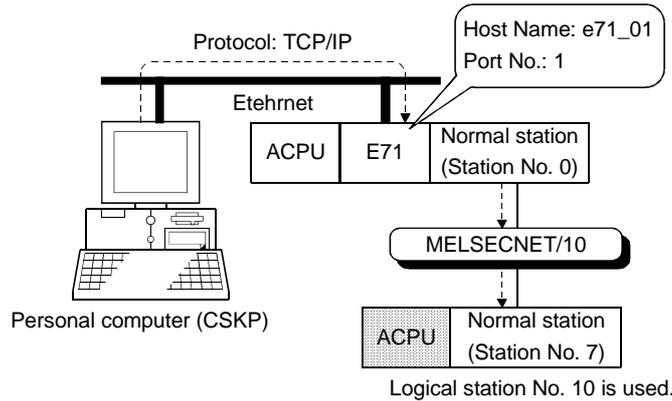
(2) Accessing procedure

1. Set the Ethernet module.
(Refer to the Ethernet module manual.)

2. To enable communication with CSKP, set the switches of the Ethernet module.
(Refer to Section 8.2.2.)

3. Edit the HOSTS file.

4. Connect the Ethernet module and personal computer to Ethernet.
(Refer to Section 2.2.2.)

5. Click [Start]-[Programs]-[MELSEC APPLICATION]-[COMMUNICATION SUPPORT (CSKP-E)]-[Ethernet Utility] to start the Ethernet utility.

↓
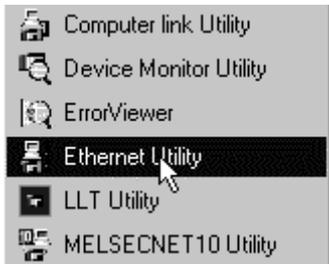
(To the text page)

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↓
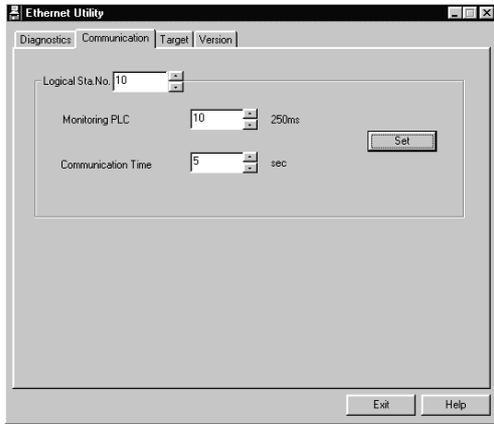
6. Click the "Communication" tab and set Monitoring PLC and Communication Time for the logical station No.
   Logical Station No.   : 10
   Monitoring PLC   : 10
   Communication Time : 5

7. Click the "Set" button.

↓
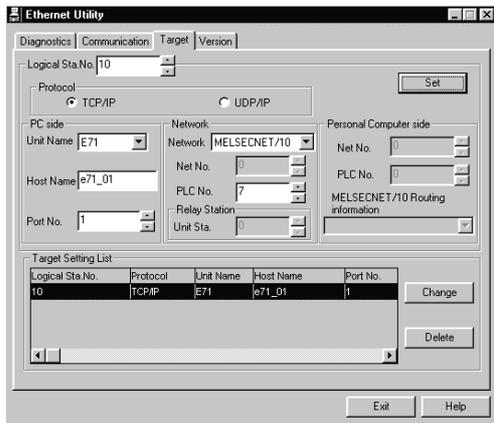
8. Click the "Target" tab and make settings for the logical station No. "10".
   Logical Station No.   : 10
   Protocol   : TCP/IP
   Unit Name   : E71
   Host Name   : e71_01
   Port No.   : 1
   Network   : MELSECNET/10
   PLC No.   : 7

9. Click the "Set" button.

↓
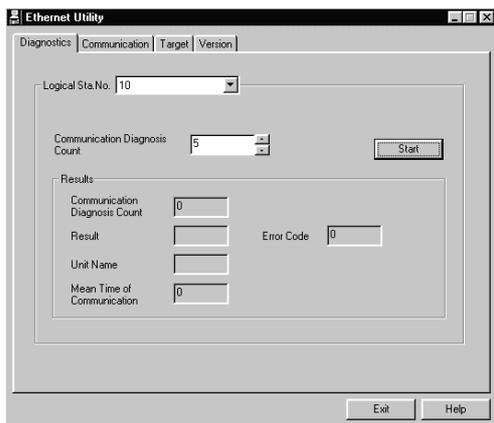
10. Click the "Diagnostics" tab and make sure that the logical station No. is "10".

11. Click the "Start" button and confirm that communication being made is normal.
    If an error has occurred, check the error code and remove the error.
    (Refer to the programming manual.)

↓
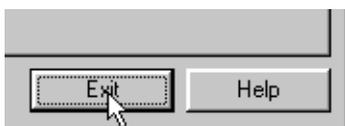
12. Click the "Exit" button to exit from the utility.

13. Using the MELSEC data link library or device monitor utility, gather the device data.

5.3 Using PLC RS422 Communication for Making Access

This section describes the operation for making access to the PLC CPU by PLC RS422 communication.

(1) Example used in this section

The following example assumes that the personal computer and QnACPU are connected to make access.

Personal computer
(CSKP)
COM1 is used.

QnACPU
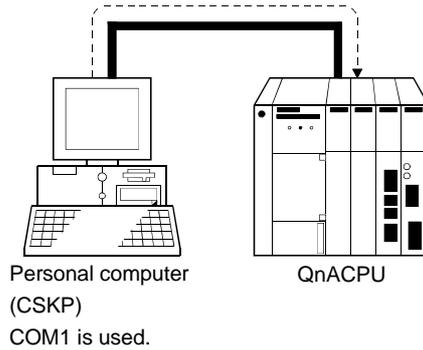
(2) Accessing procedure

1. Connect the personal computer and PLC CPU.
   (Refer to Section 2.2.3.)

2. Click [Start]-[Programs]-[MELSEC APPLICATION]-[COMMUNICATION SUPPORT (CSKP-E)]-[RS422 Utility] to start the PLC RS422 utility.

↓
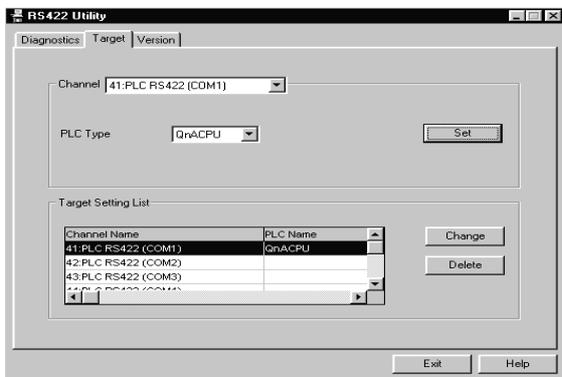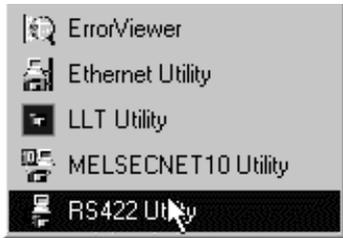
3. Click the "Target" tab and set the PLC Type for the channel "PLC RS422 (COM1)".
   PLC Type: QnACPU

4. Click the "Set" button.

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↓
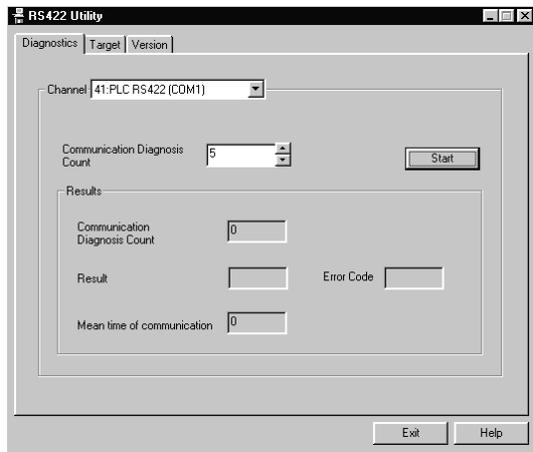
5. Click the "Diagnostics" tab and make sure that the channel is "PLC RS422 (COM1)".

6. Click the "Start" button and confirm that communication being made is normal.
   If an error has occurred, check the error code and remove the error.
   (Refer to the programming manual.)

↓
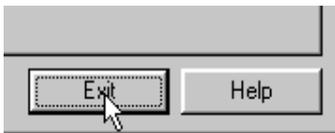
7. Click the "Exit" button to exit from the utility.

8. Using the MELSEC data link library or device monitor utility, gather the device data.

5.4 Using MELSECNET/10 Communication for Making Access

This section describes the operation for making access to the PLC CPU by MELSECNET/10 communication.

(1) Example used in this section
The following example assumes that the MELSECNET/10 card in 1 slot is used to access the ACPU of a normal station (station No.: 3) on the network No. 3.
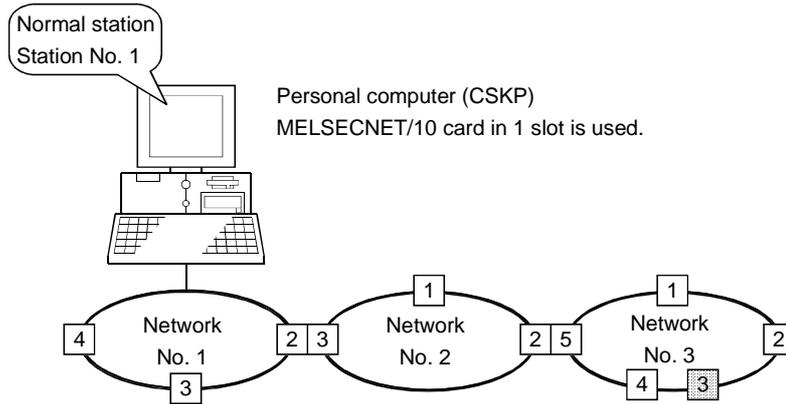
Numerals enclosed in squares indicate station numbers.

(2) Accessing procedure

1. Set the MELSECNET/10 card.
   (Refer to the manual of the MELSECNET/10 card.)

2. Connect the personal computer to the MELSECNET/10.
   (Refer to Section 2.2.5.)

3. Click [Start]-[Programs]-[MELSEC APPLICATION]-[COMMUNICATION SUPPORT (CSKP-E)]-[MELSECNET/10 Utility] to start the MELSECNET/10 utility.

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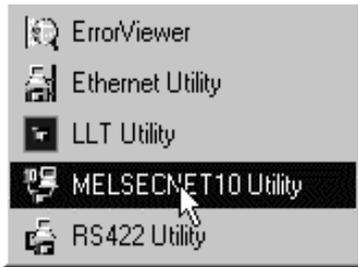
(Continued from the previous page)

↓
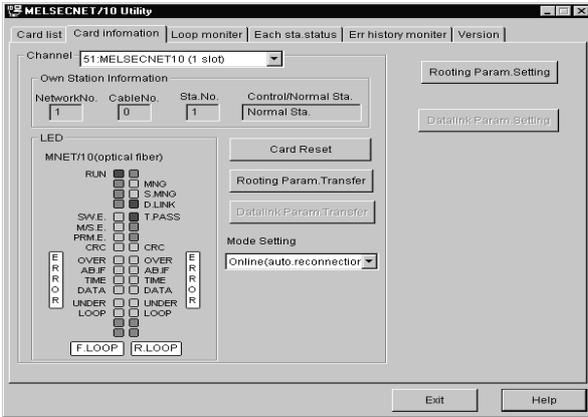
4. Click the "Card information" tab and set the channel to "51:MELSECNET10 (1 slot)".

5. Set the mode to "On-line automatic return".

6. Click the "Rooting Param. Setting" button.

↓
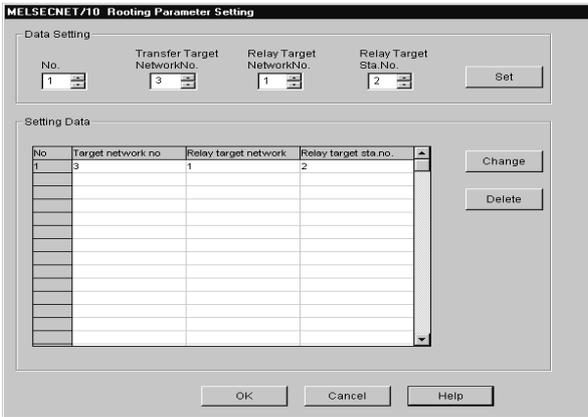
7. Set the routing parameters and click the "Set" button.
   Transfer Target Network No.   : 3
   Relay Target Network No.   : 1
   Relay Target Sta. No.   : 2

8. Click the "OK" button to close the dialog box.

↓
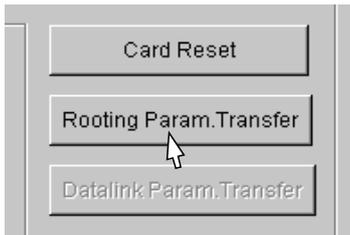
9. Click the "Rooting Param. Transfer" button to transfer the rooting parameters to the MELSECNET/10 card.

↓

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↓
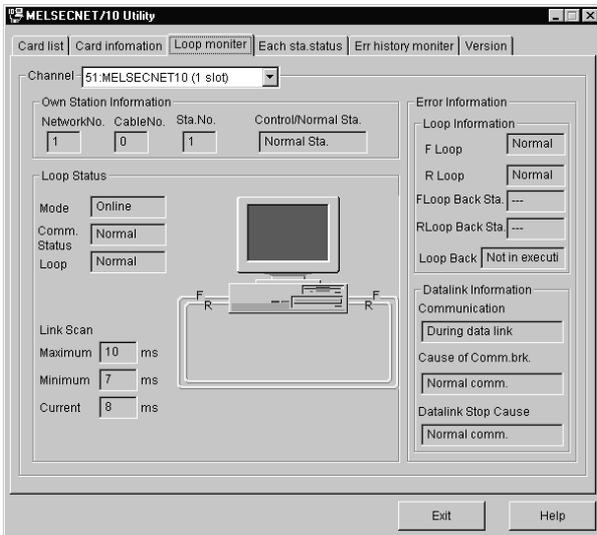
10. Click the "Loop monitor" tab and make sure that the loop is normal.

↓

11. Click the "Exit" button to exit from the utility.

12. Using the MELSEC data link library or device monitor utility, gather the device data of the PLC CPU connected to the normal station (station No. 3).

5.5 Using CC-Link Communication for Making Access

This section describes the operation for making access to the PLC CPU by CC-Link communication.

(1) Example used in this section
The following example assumes that the CC-Link card in 1 slot is used to access the ACPU of a local station (station No.: 5) via CC-Link.

Local station
Station No. 1
Number of stations occupied: 4

Transmission speed: 10Mbps

CC-Link

ACPU | Local Station
(Station No. 5)

Personal computer (CSKP)
CC-Link Card in 1 slot is used.
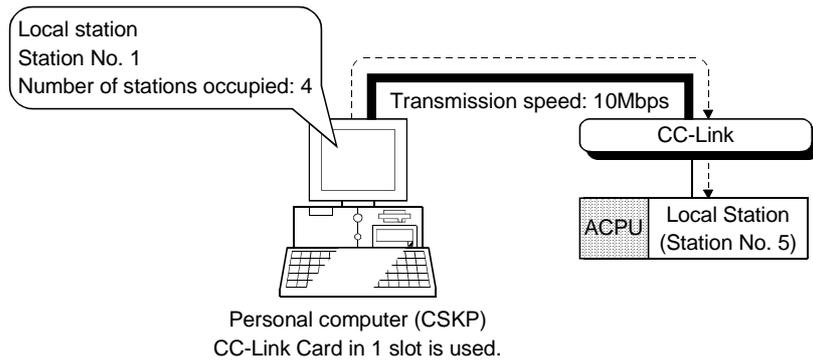
(2) Accessing procedure

1. Set the CC-Link card.
   (Refer to the manual of the CC-Link card.)

2. Connect the personal computer to CC-Link.
   (Refer to Section 2.2.5.)

3. Click [Start]-[Programs]-[MELSEC APPLICATION]-[COMMUNICATION SUPPORT (CSKP-E)]-[CC-Link Board Utility] to start the CC-Link utility.

Shared Device   ▶
CC-Link Board Utility
CC-Link G4 Utility
Computer link Utility
Device Monitor Utility

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↓
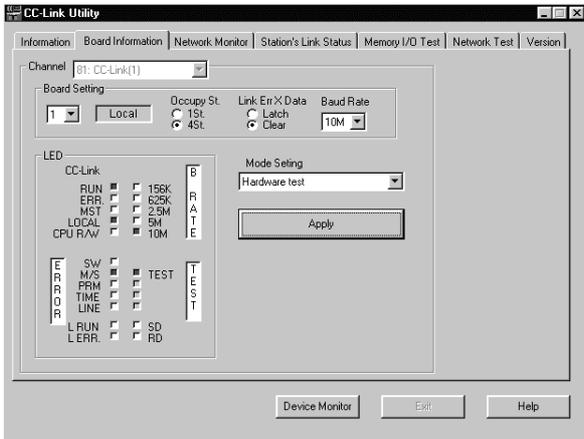
4. Click the "Board Information" tab and set the channel to "81:CC-Link (1)".

5. Set the own station.
   Station No.   : 1
   Occupy S.   : 4 st.
   Link Err X Data   : Clear
   Baud Rate   : 10M

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

↓
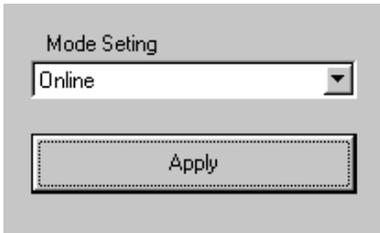
7. Set the mode to "Online" and click the "Apply" button.

↓
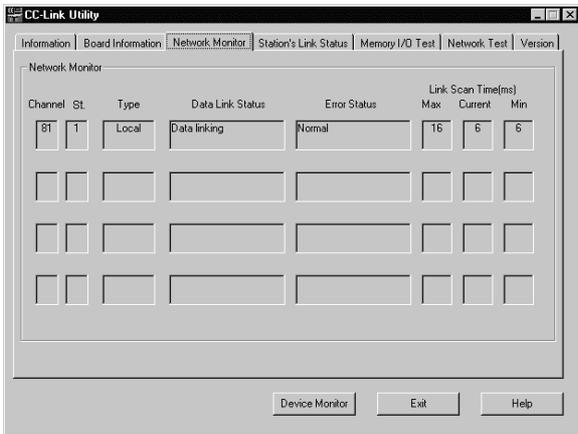
8. Clicks the "Network Monitor" tab and make sure that the loop of the own station is normal.

↓
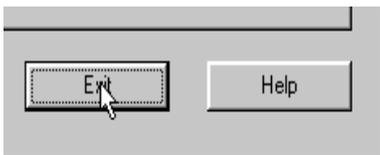
9. Click the "Exit" button to exit from the utility.

10. Using the MELSEC data link library or device monitor utility, gather the device data of the PLC CPU connected to the local station (station No. 5).

5.6 Using CC-Link G4 Communication for Making Access

This section describes the operation for making access to the PLC CPU by CC-Link G4 communication.

(1) Example used in this section

The following example assumes that the personal computer is connected to the CC-Link G4 module to access the QnACPU via the MELSECNET/10.

Transmission speed: 10Mbps

CC-Link

Station No.: 2

CC-Link G4 Module
(QnA mode)

QnA CPU | Local Station (Station No. 5) | Normal Station (Station No. 0)

Personal computer (CSKP)
COM1 is used.

Transmission speed: 19200bps

MELSECNET/10
Network No.1

QnA CPU | Normal Station (Station No. 8)

Logical Station No. 65
is used.
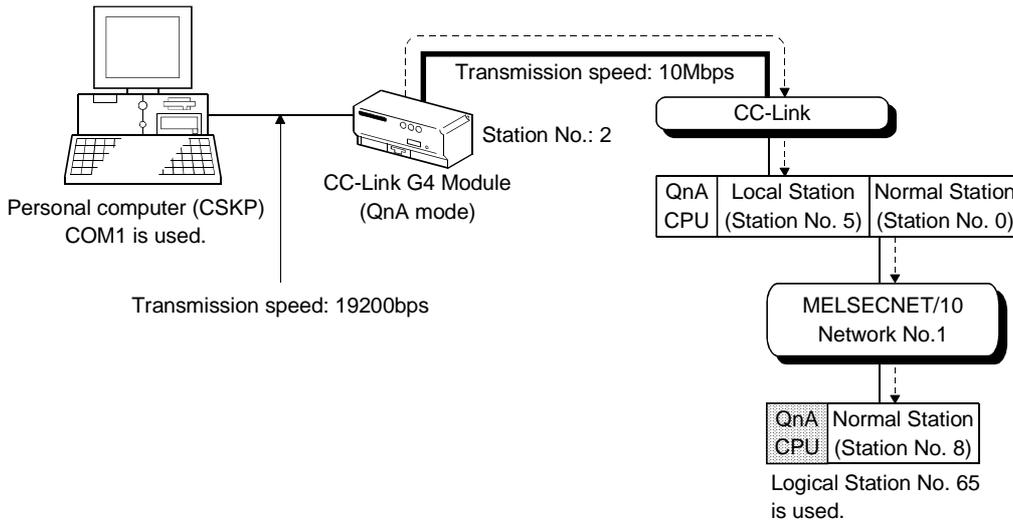
(2) Accessing procedure

1. Set the CC-Link G4 module.
   (Refer to the manual of the CC-Link G4 module.)

2. To enable communication with CSKP-E, set the switches of the CC-Link G4 module.
   (Refer to Section 8.6.2.)

3. Connect the CC-Link G4 module and personal computer.
   (Refer to Section 2.2.7.)

4. Click [Start]-[Programs]-[MELSEC APPLICATION]-[COMMUNICATION SUPPORT (CSKP-E)]-[CC-Link G4 Utility] to start the CC-Link G4 utility.

Shared Device
CC-Link Board Utility
CC-Link G4 Utility
Computer link Utility
Device Monitor Utility

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↓
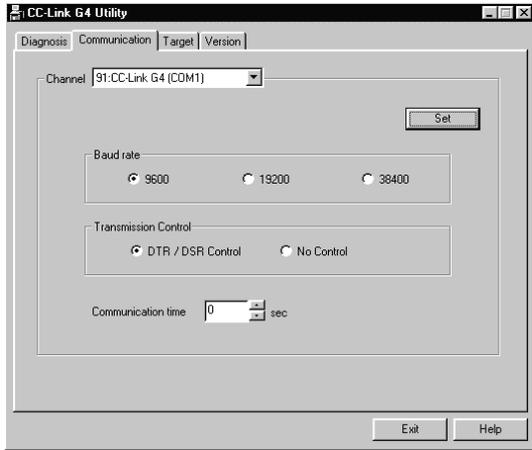
5. Click the "Communication" tab and set Baud rate, Transmission Control, etc.
   Here, set the channel to "91: CC-Link G4 (COM1)".
   Also, each item must be set to the same as that on the module side.
   Baud rate   : 19200
   Transmission Control   : DTR/DSR control
   Communication time   : 5

6. Click the "Set" button.

↓
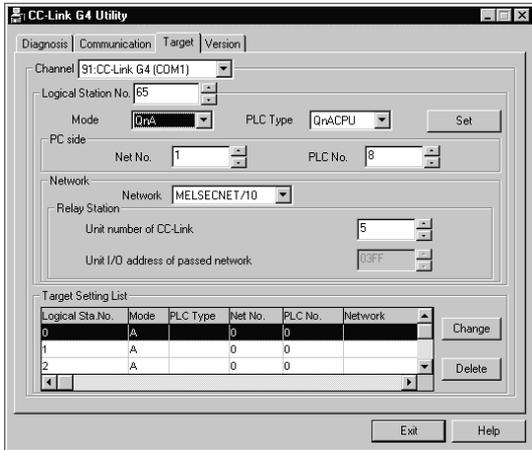
7. Click the "Target" tab and make settings for the channel "91:CC-Link G4 (COM1)".
   Logical Station No.   : 65
   Mode   : QnA mode
   PLC Type   : QnA
   Network   : MELSECNET/10
   Network No.   : 1
   PLC No.   : 8
   Relay Station   : 5 (CC-Link local station)

8. Click the "Set" button.

↓
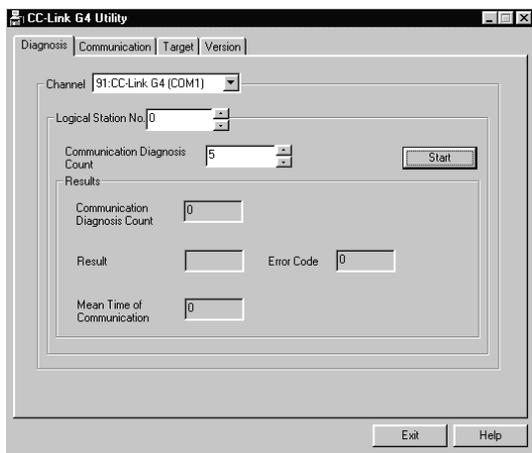
9. Click the "Diagnosis" tab and set the logical station No. for the channel "91:CC-Link G4 (COM1)".
   Logical Station No.   : 65

10. Click the "Start" button and confirm that communication being made is normal.
    If an error has occurred, check the error code and remove the error.
    (Refer to the programming manual.)

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↓
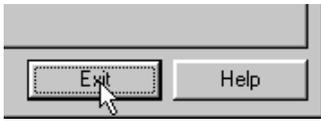
11. Click the "Exit" button to exit from the utility.

12. Using the MELSEC data link library or device monitor utility, gather the device data.

6 USING VARIOUS FUNCTIONS

This chapter briefly describes the procedures for using the shared devices of CSKP, refreshing the devices, and using the function of communication with the ladder logic test tool (LLT).

6.1 Using the Shared Devices

This section explains the operation for using the shared devices.

(1) Example used in this section
The following example assumes that the shared devices of personal computer B are accessed from personal computer A via the MELSECNET/10.

Number of Shared device blocks: 10

MELSECNET/10

Personal computer A (CSKP)
MELSECNET/10 Card in 1 slot is used.

Personal computer B (CSKP)
MELSECNET/10 Card in 1 slot is used.
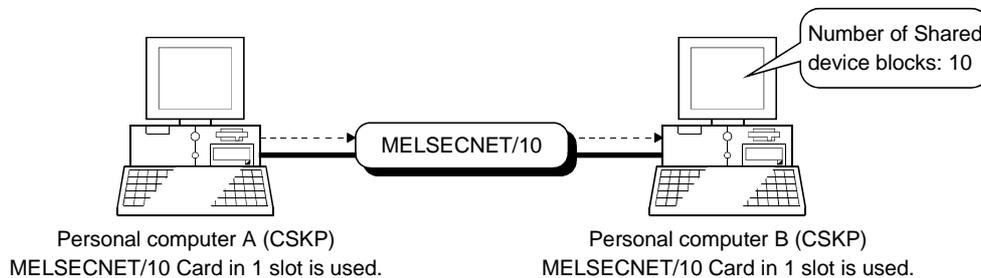
(2) Accessing procedure

1. Set the MELSECNET/10 cards of the personal computer A, B.
   Refer to the MELSECNET/10 card manual.)

2. Connect the personal computers A, B to the MELSECNET/10.
   (Refer to Section 2.2.5.)

3. Click [Start]-[Programs]-[MELSEC APPLICATION]-[COMMUNICATION SUPPORT (CSKP-E)]-[Shared Device]-[EM ED Utility] to start the shared device utility.

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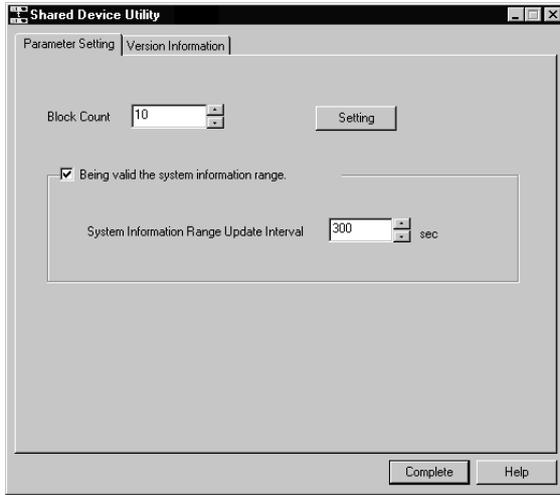
4. Set the Block Count of the "Parameter Setting" to "10".

5. Click the "Setting" button.

6. After clicking the "Complete" button, restart Windows NT 4.0 to make the settings valid.

7. Using the MELSEC data link library or device monitor utility on the personal computer A, gather the device data of the personal computer B.

POINT

When accessing the shared devices of the other station, the channel used should be the one of the MELSECNET/10 card, which is connected to the other station.
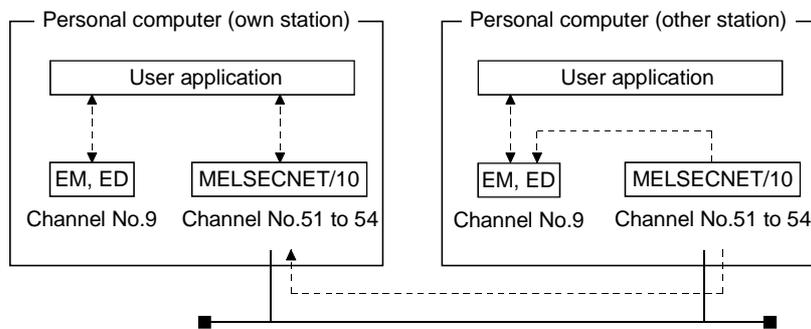
6.2 Refreshing the Devices

This section explains the operation for refreshing the devices using the shared device server process and shared device server utility.

(1) Example used in this section

The following example assumes that "X0 to X7 (decimal)" of PLC A are continually refreshed to "M8 to M15 (decimal)" of PLC B.
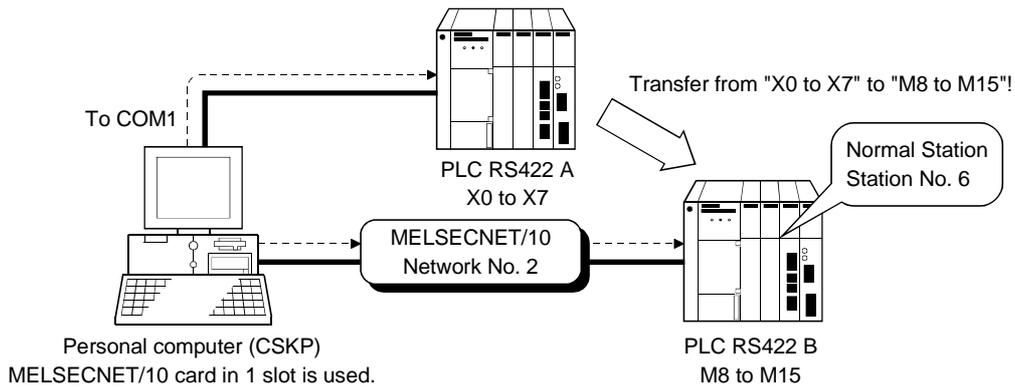
(2) Accessing procedure

1. Click [Start]-[Programs]-[MELSEC APPLICATION]-[COMMUNICATION SUPPORT (CSKP-E)]-[Shared Device]-[EM ED Server Process] to start the shared device server process.

↓

2. Click [Start]-[Programs]-[MELSEC APPLICATION]-[COMMUNICATION SUPPORT (CSKP-E)]-[Shared Device]-[EM ED Server Utility] to start the shared device server utility.

↓
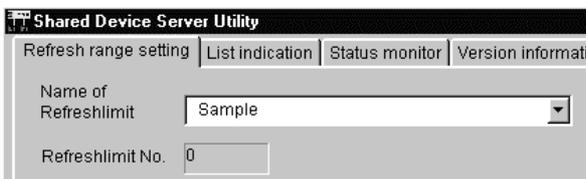
3. Set the Name of Refresh limit to any name.
   Here set it to "Sample".

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4. Set "Source" as indicated on the left.
  Channel   : PLC RS422 (COM1)
  Network Setting : Own Sta.
  Device Type   : DEC, X (input)
  Front Device No. : 0

↓

5. Set "Target" as indicated on the left.
  Channel   : MELSECNET/10 (1 slot)
  Network Setting : Other Sta.
  Network No.   : 2
  Sta. No.   : 6
  Device Type   : DEC, M (Inside relay)
  Front Device No. : 8

↓

6. Set Transfer Size to "8".

↓

7. Click the "Add" button.

↓

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ng	List indication	Status monitor	Version information

op

Sample	▼		Start up

Statu	Setting	Current	Source	Target comm.err	Trigger co
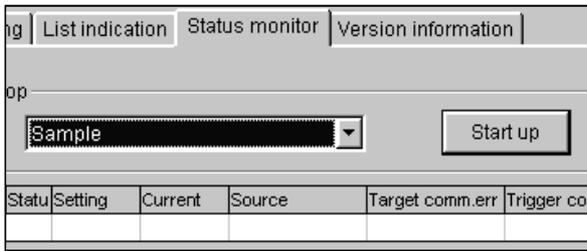
8. Click the "Status monitor" tab and set the Name of Refresh Limit to "Sample".

9. Clicking the "Start up" button starts device refresh.

↓

Exit	Help
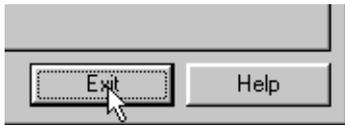
10. Click the "Exit" button to exit from the utility.

6.3 Making Offline Debugging by LLT Communication

This section describes the operation for accessing the ladder logic test tool (LLT) by LLT communication.

(1) Example used in this section
The following example assumes that the PC type of the GPPW project is "A2U (S1)".
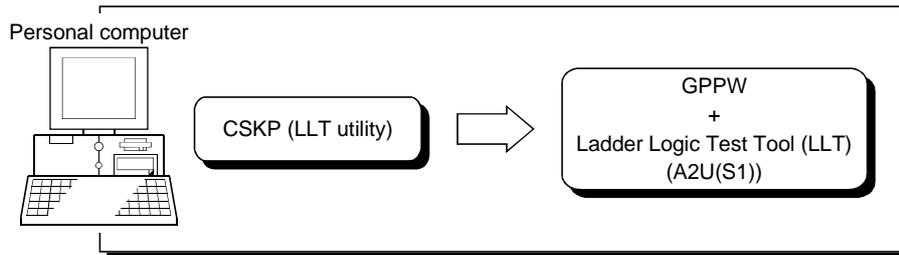
(2) Accessing procedure

1. Start GPPW and open the project.
   Here open the project whose PC type is "A2U (S1)".

2. Start the ladder logic test tool (LLT).
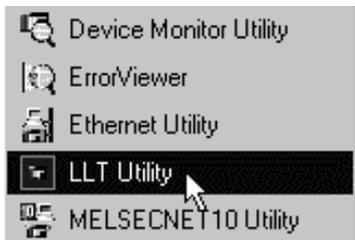
3. Click [Start]-[Programs]-[MELSEC APPLICATION]-[COMMUNICATION SUPPORT (CSKP-E)]-[LLT Utility] to start the LLT utility.

↓
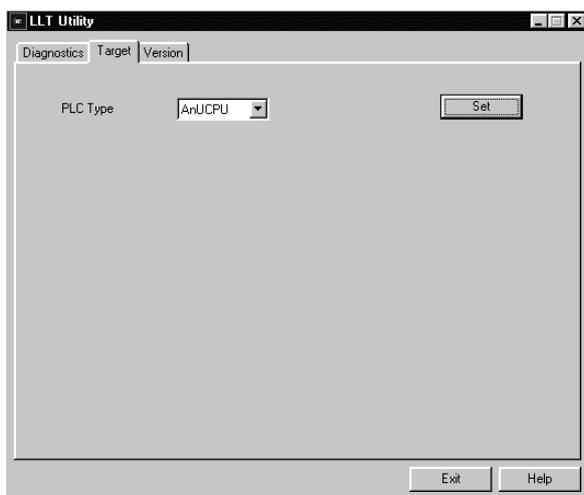
4. Click the "Target" tab and set the PLC Type.
   Here, set "AnUCPU" as the PC type of the GPPW project is "A2U (S1)".

5. Click the "Set" button.

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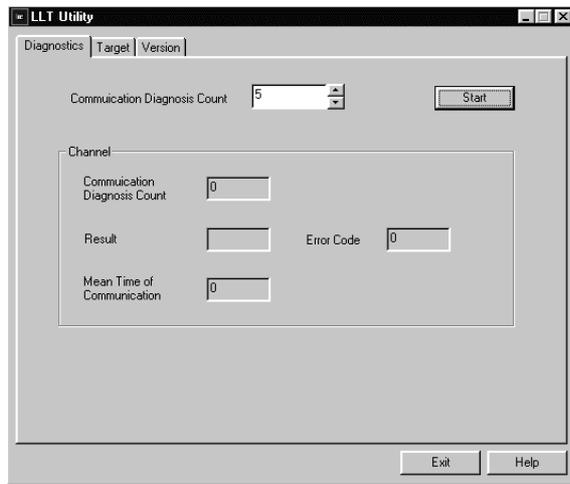
6. Click the "Diagnostics" tab.

7. Click the "Start" button and confirm that communication
   being made is normal.
   If an error has occurred, check the error code and
   remove the error.
   (Refer to the programming manual.)

↓
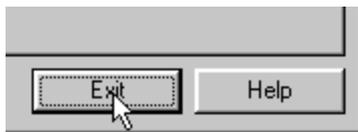
8. Click the "Exit" button to exit from the utility.

9. Using the MELSEC data link library or device monitor
   utility, gather the device data.

MEMO

7 OPERATIONS COMMON TO UTILITIES

This chapter explains operations common to the utilities.

7.1 Starting the Utilities

Any utility can be started by clicking the corresponding one of the following items 1) to 12) in the [Start]-[Programs]-[MELSEC APPLICATION]-[COMMUNICATION SUPPORT (CSKP-E)] menu.
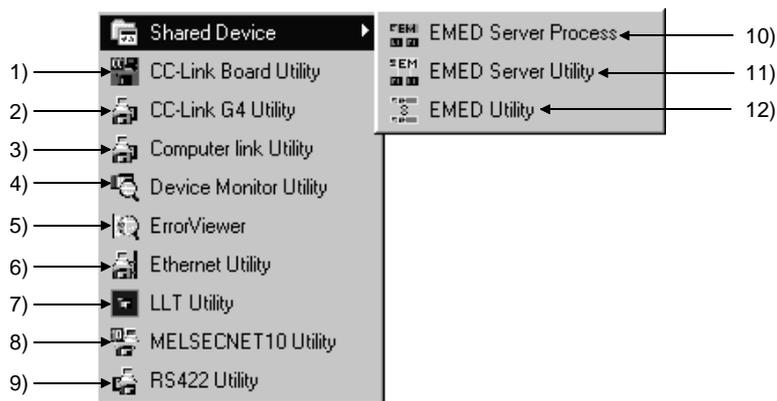
1) Starts the CC-Link utility.
2) Starts the CC-Link G4 utility.
3) Starts the computer link utility.
4) Starts the device monitor utility.
5) Starts the error viewer.
6) Starts the Ethernet utility.
7) Starts the LLT utility.
8) Starts the MELSECNET/10 utility.
9) Starts the PLC RS422 utility.
10) Starts the shared device server process.
    (This must be running when the shared device server utility is used to refresh devices. For full information, refer to Section 9.2.)
11) Starts the shared device server utility.
12) Starts the shared device utility.

7.2 Exiting from the Utilities

This section provides how to exit from the utilities.

(1) When exiting from any of the following utilities, click the "Exit" button at the bottom of the corresponding utility screen.
As the dialog box appears, click the "Yes" button to exit from the utility.

- Computer link utility
- Ethernet utility
- PLC RS422 utility
- MELSECNET/10 utility
- CC-Link utility
- CC-Link G4 utility
- Shared device utility
- Shared device server utility
- LLT utility

Click!

↓
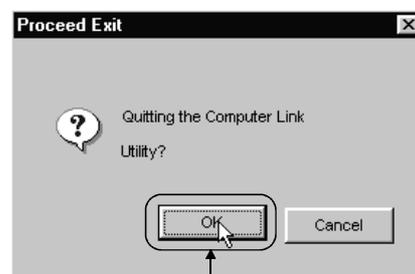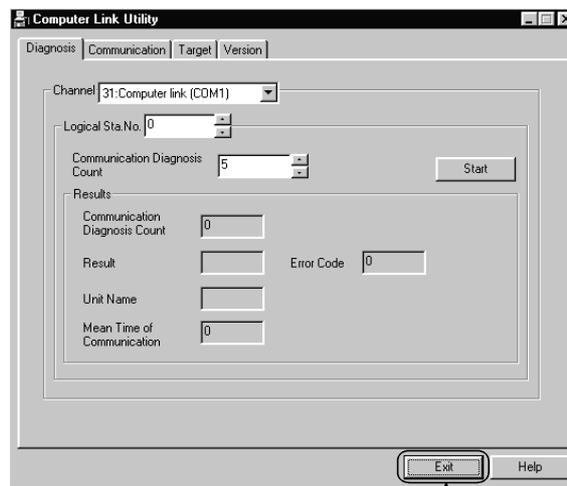
Click!

(2) To exit from the device monitor utility, click the [Menu]-[Close] menu on the menu
bar.
As the dialog box appears, click the "Yes" button to exit from the device monitor
utility.

```
Device Monitor Utility
Menu  Setting  Device Write  Data Forma
  Batch monitor
  16-point register monitor
  Close
```

Click!

↓

```
Device Monitor Utility            ×
  ?   Exit Device monitor utility.
      All right?
     Yes              No
```
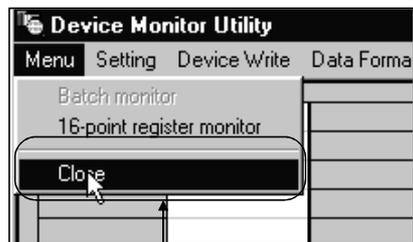
Click!

(3) To exit from the error viewer, click the [Log]-[Exit] menu on the menu bar.

```
ErrorViewer
Log(L)  View(V)  Help(H)
  Driver(D)
  Basic Middle Ware(B)
  Applied Middle Ware(A)
  Others(T)

  Open the Selected File(O)...
  Save with a Name(V)...

  Delete(C)...

  Log Setting(S)...

  Exit(X)
```
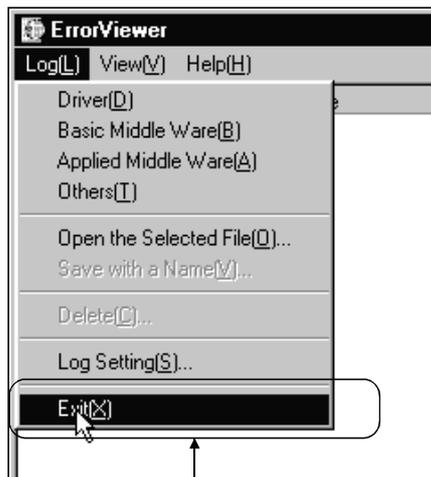
Click!

7.3 About the System Menu

Opening the system menu of any of the following utility displays the "Save as..." menu, which is unavailable for the ordinary system menu.
Clicking this menu allows the settings on the "Target" screen to be saved in a text file.

- Computer link utility
- Ethernet utility
- CC-Link G4 utility

(1) Operation method
The operation method for saving the settings of the Target screen in a text file is described below.
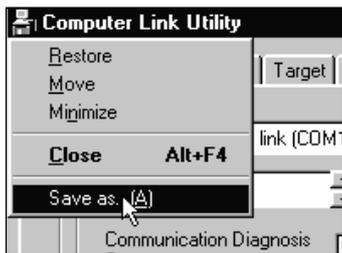
1. Click the icon at top left of the utility screen and click the "Save as..." menu.

↓

2. As the dialog box as shown on the left appears, set the place to save and the file name, and click the "Save" button.

(2) File data

The data of the text file created are explained below.

(a) Communication link utility

The data of the text file created in the system menu of the communication link utility are indicated below.
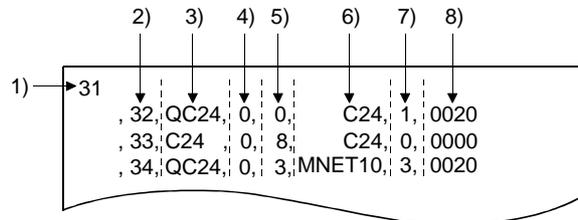
1) Indicates the channel number.

2) Indicates the logical station No.

3) Indicates the type of the computer link module.

4) Indicates the network No.

5) Indicates the unit station No.

6) Indicates the network.
   C24: Computer link   MNET10: MELSECNET/10

7) Indicates the module station No. connected to the personal computer.

8) Indicates the module I/O address of the network.

(b) Ethernet utility

The data of the text file created in the system menu of the Ethernet utility are indicated below.

```
1) 2)   3)    4)      5)        6)     7) 8)  9) 10) 11) 12)


  3, 5, QE71, sample,        1, MNET10, 1,  1, 0, 0, 0, 0
 12, 8, QE71, sample, 20481,         ,0,255, 0, 1, 0, 0
```
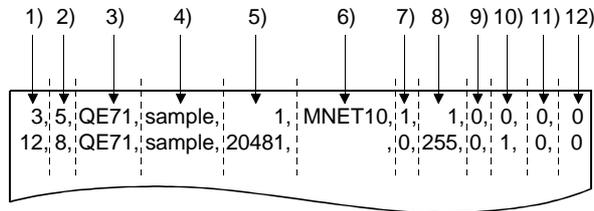
1) Indicates the logical station No.

2) Indicates the protocol.

3) Indicates the unit station No.

4) Indicates the host name.

5) Indicates the port No.
   Fixed to "20481" when the protocol is UDP/IP.

6) Indicates the network.
   MNET10: MELSECNET/10   NONE: No network

7) Indicates the network No.

8) Indicates the PLC No.

9) Indicates the relay station unit station No.

10) Indicates the personal computer side network No.

11) Indicates the personal computer side PLC No.

12) Indicates the routing system.
   1: Automatic response system   2: IP address calculation system
   3: Table change system   4: Use-together system

(c) CC-Link G4 utility

The data of the text file created in the system menu of the CC-Link G4 utility are indicated below.

```
         2)  3)    4)     5) 6)    7)     8) 9)
1) → 91
         , 70, 14, QnACPU, 2,  1, MNET10, 0, 03FF
         , 71, 14, QnACPU, 0,  0, MNET2 , 0, 03FF
         , 72, 14, QnACPU, 0, 30, QC24  , 0, 0000
```
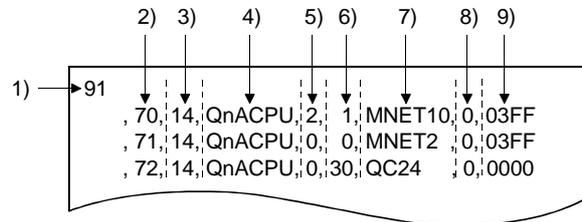
1) Indicates the channel number.

2) Indicates the logical station No.

3) Indicates the mode.
    13: A   14: QnA

4) Indicates the PLC type.

5) Indicates the network No.

6) Indicates the PLC No.

7) Indicates the network.
    QC24: Computer link   MNET10: MELSECNET/10

8) Indicates the CC-Link unit station No.

9) Indicates the module I/O address of the network..

7.4 Displaying the Help Screen

This section describes how to display the help screen of the utility.

(1) To exit from any of the following utilities, click the "Help" button at bottom right of the corresponding utility screen.

- Computer link utility
- Ethernet utility
- PLC RS422 utility
- MELSECNET/10 utility
- CC-Link utility
- CC-Link G4 utility
- Shared device utility
- Shared device server utility
- LLT utility
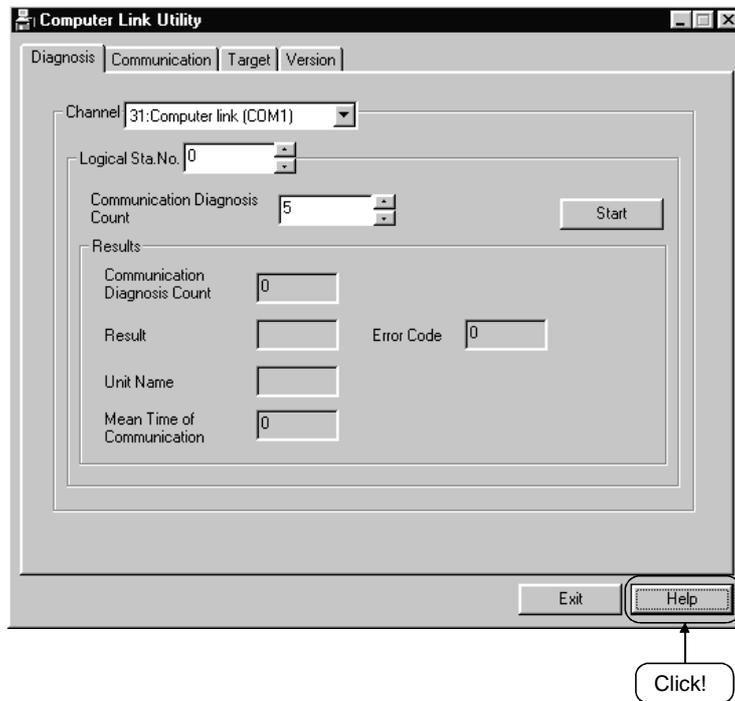
Click!

(2) To display the help screen of the device monitor utility or error viewer, click the [Help]-[Help] menu on the menu bar.
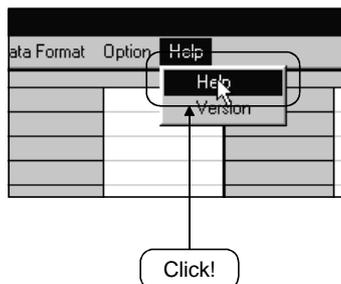
Click!

7.5 Starting the Device Monitor Utility

This section explains how to start the device monitor utility from the other utility.

(1) Clicking the "Device Monitor" button at the bottom of the following utility screen starts the device monitor utility.

• CC-Link utility

↓
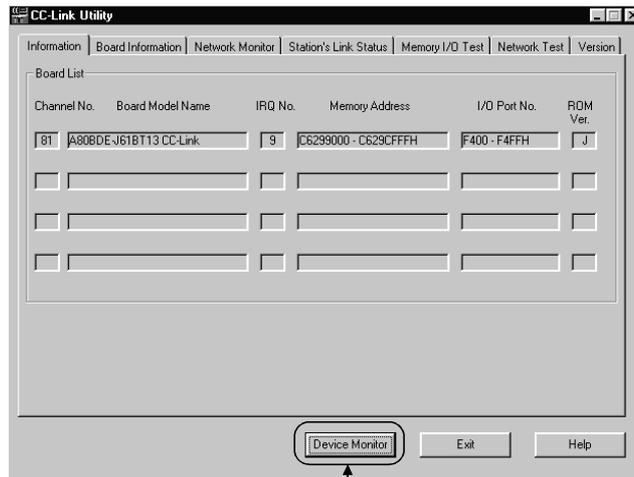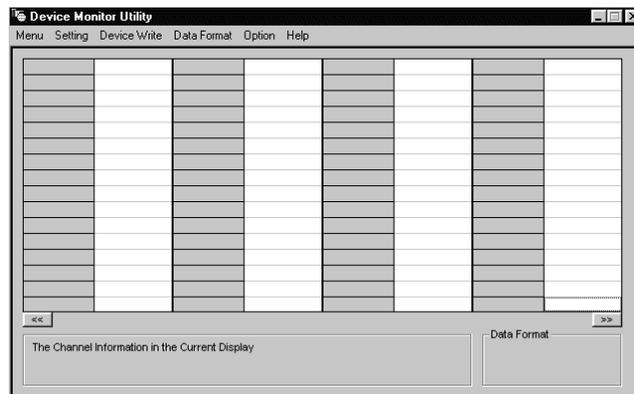
7.6 Confirming the Version

This section gives how to confirm the version of the utility.

(1) To confirm the version of any of the following utilities, click the "Version" tab.

- Computer link utility
- Ethernet utility
- PLC RS422 utility
- MELSECNET/10 utility
- CC-Link utility
- CC-Link G4 utility
- Shared device utility
- Shared device server utility
- LLT utility
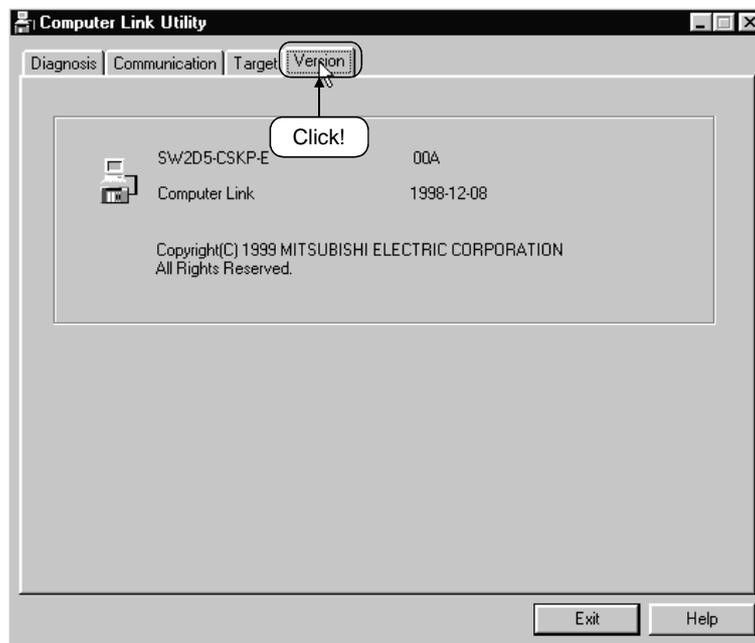
(2) To display the help screen of the device monitor utility or error viewer, click the [Help]-[Version] menu on the menu bar.
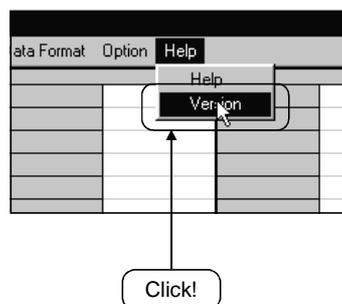
8 OPERATIONS OF MELSEC DATA LINK UTILITIES

This chapter describes the operations of the MELSEC data link utilities.

8.1 Computer Link Utility

This section explains the operation of the computer link utility.

8.1.1 Operation procedure

The following is the operation procedure of the computer link utility.

```
        ( START )
            │
            ▼
┌───────────────────────────────────────────┐
│ Set the mode setting switch and transfer   │ ········· Refer to Section 8.1.2.
│ specification setting switches of the       │
│ computer link module.                       │
└───────────────────────────────────────────┘
            │
            ▼
┌───────────────────────────────────────────┐
│ Connect the computer link module and        │ ········· Refer to Section 2.2.1.
│ personal computer.                          │
└───────────────────────────────────────────┘
            │
            ▼
┌───────────────────────────────────────────┐
│ Make settings on the computer link utility. │
│  ┌──────────────────────────────────────┐  │
│  │ Make settings on the Communication     │  │ ········· Refer to Section 8.1.4.
│  │ screen.                                │  │
│  └──────────────────────────────────────┘  │
│                 │                           │
│                 ▼                           │
│  ┌──────────────────────────────────────┐  │
│  │ Make settings on the Target screen.    │  │ ········· Refer to Section 8.1.5.
│  └──────────────────────────────────────┘  │
│                 │                           │
│                 ▼                           │
│  ┌──────────────────────────────────────┐  │
│  │ Check whether communication can be     │  │ ········· Refer to Section 8.1.3.
│  │ made properly or not on the Diagnosis  │  │
│  │ screen.                                │  │
│  └──────────────────────────────────────┘  │
└───────────────────────────────────────────┘
            │
            ▼
        ( END )
```

8.1.2 Computer link module switch settings

To use CSKP, make the following switch settings of the computer link module.

(1) QC24 settings

Mode setting switch		Set the switch number to 5 (type 5).
Transfer specification setting switches	SW1	OFF
	SW2	ON
	SW3	ON
	SW4	OFF
	SW5	OFF
	SW6	ON
	SW7	ON
	SW8	OFF
	SW9 to SW12	ON OFF ON OFF, OFF ON ON OFF, (ON ON ON OFF [*1])
	SW13 to SW15	All OFF

*1 May be set for the QC24N only.

(2) C24 or UC24 settings

    (a) Mode setting switch

        Set the switch number to type 1.

        This causes the switch number selected to be any of 1, 5 and A according to the port used.

        There are no other restrictions.

    (b) Transfer specification-setting switches

        There are no specific fixed values to be set for the switches.

        Since the switch settings depend on the module types, refer to the computer link module user's manual and make settings.

8.1.3 Operations on Diagnosis screen

Communication is made with the PLC via the computer link module to diagnose whether communication is normal or abnormal.

1) Channel
   Set the channel to be used.

2) Logical Sta. No.
   Set the logical station number.

3) Communication Diagnosis Count
   Set the number of times the communication diagnosis is to be made.

4) Results
   Shows the results of the communication diagnosis.
   • Communication Diagnosis Count............... Shows the number of times the communication diagnosis was made.
   • Result .... Shows the result of the communication diagnosis.
   • Unit Name .... Shows the type of the module currently connected.
   • Mean Time of Communication .... Shows the mean time taken for communication.
   • Error Code... Shows the error code of the diagnosis result.
   (For the definitions of the error codes, refer to the programming manual.)

5) "Start" button
   Starts the communication diagnosis.

8.1.4 Operations on Communication screen

Set the communication conditions of the COM port connected to the computer link module.

POINT

The settings on this screen must be the same as those on the computer link module side.
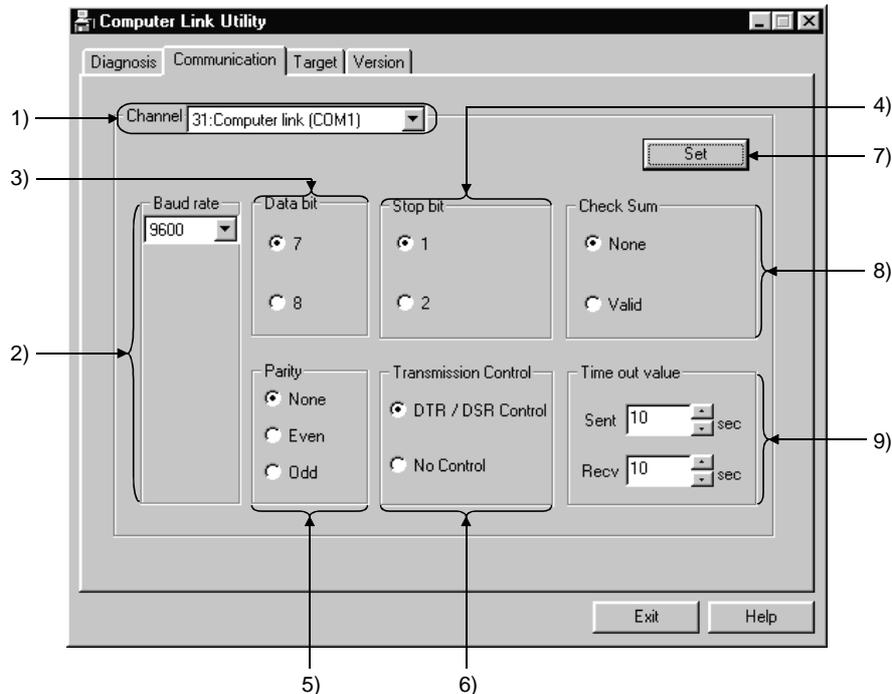
---

1) Channel

Set the channel to be used.

2) Baud rate

Set the transmission speed for communication with the computer link module.

3) Data bit

Set the data bit length for communication with the computer link module.
When using the QC24, set it to "8".

4) Stop bit

Set the stop bit for communication with the computer link module.
When using the QC24, set it to "1".

5) Parity

Set the parity bit for communication with the computer link module.
When using the QC24, set it to "Odd".

6) Transmission Control

Set the flow control for communication with the computer link module.
When using the QC24, set it to "DTR/DSR control".

7) "Set" button
The settings currently made are registered.

8) Check Sum
Set whether a sum check is to be made or not for communication with the computer link module.
When using the QC24, set it to "Valid".

9) Time out value
Set the time-out period when communication is not normal at the time of sending or receiving.

8.1.5 Operations on Target screen

Set the logical station number used for computer link communication.
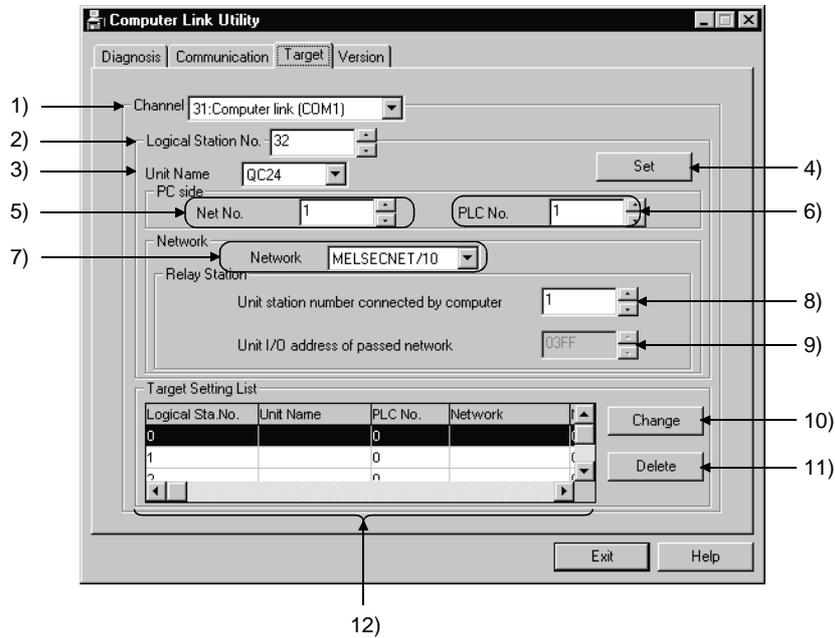
1) Channel
  Set the channel to be used.

2) Logical Station No.
  0 to 31   : Since this number is the same as the module station No. and has already been set, the user need not set the module station number.
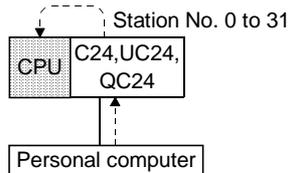
  32 to 255: Set the logical station number when making communication with the PLC CPU of the other station linked via a network from the PLC CPU where the computer link module is loaded.
            Refer to Network in 7).

3) Unit Name
  Set the type of the computer link module used.

4) "Set" button
  The settings currently made are registered.

5) Net No.
  Set the network number of the MELSECNET/10.
  (1 to 239)

6) PLC No.

Set the station number of "computer link" or "MELSECNET/10".
(Computer link: 0 to 31, MELSECNET/10: 1 to 64)

7) Network

Select the network form from "computer link" and "MELSECNET/10".

• Computer link (when C24 or UC24 is used)
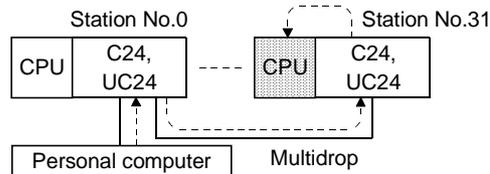
• Computer link (when QC24 is used)
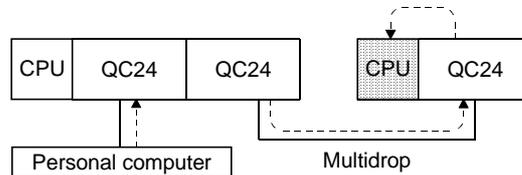
• MELSECNET/10
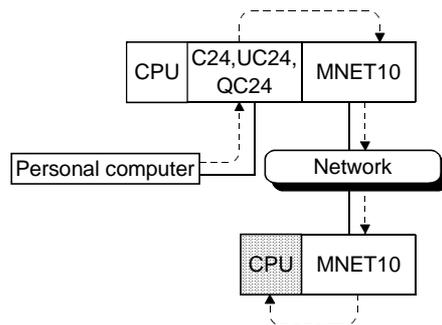
8) Unit station number connected by computer

Set the module station number of the computer link module that is
connected with the personal computer.
May be set only when QC24 is used.
(0 to 31)
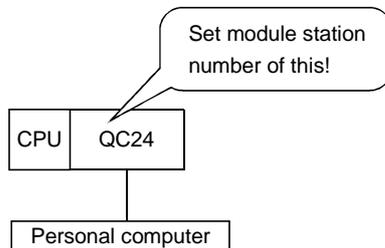
9) Unit I/O address of passed network

When the network used is computer link, set the first I/O number of the computer link module on the base which is loaded with the module specified in 8).

Set the first I/O number in hexadecimal using a multiple of 16.

• Computer link (only when QC24 is used)
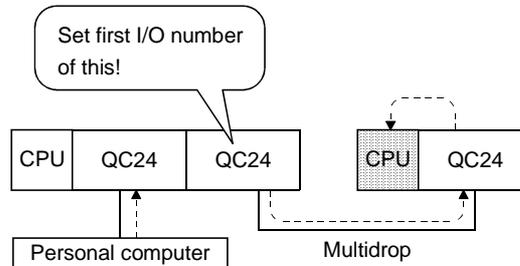
10) "Change" button

The data on the line currently selected can be displayed in the setting column and changed.

11) "Delete" button

Deletes the line currently selected.

12) Target Setting List

Shows a list of data registered so far.

8.2 Ethernet Utility

This section gives the operation and setting methods of the Ethernet utility.

8.2.1 Operation procedure

The following is the operation procedure of the Ethernet utility.

```
                    ┌──────────┐
                    │  START   │
                    └────┬─────┘
                         ▼
    ┌─────────────────────────────────────────┐
    │ Set the communication status setting     │ ··········· Refer to Section 8.2.2.
    │ switches of the Ethernet module.          │
    └─────────────────┬───────────────────────┘
                      ▼
    ┌─────────────────────────────────────────┐
    │ Connect the Ethernet module and personal │ ··········· Refer to Section 2.2.2.
    │ computer.                                 │
    └─────────────────┬───────────────────────┘
                      ▼
    ┌─────────────────────────────────────────┐
    │ Edit the HOSTS file.                      │
    └─────────────────┬───────────────────────┘
                      ▼
    ┌─────────────────────────────────────────┐
    │ Make settings on the Ethernet utility.    │
    │  ┌───────────────────────────────────┐   │
    │  │ Make settings on the Communication │   │ ··········· Refer to Section 8.2.4.
    │  │ screen.                            │   │
    │  └──────────────┬────────────────────┘   │
    │                 ▼                         │
    │  ┌───────────────────────────────────┐   │
    │  │ Make settings on the Target screen.│   │ ··········· Refer to Section 8.2.5.
    │  └──────────────┬────────────────────┘   │
    │                 ▼                         │
    │  ┌───────────────────────────────────┐   │
    │  │ Check whether communication can be │   │ ··········· Refer to Section 8.2.3.
    │  │ made properly or not on the        │   │
    │  │ Diagnostics screen.                │   │
    │  └───────────────────────────────────┘   │
    └─────────────────┬───────────────────────┘
                      ▼
                 ┌──────────┐
                 │   END    │
                 └──────────┘
```

8.2.2 Ethernet module switch settings

To use CSKP, make the following switch settings of the Ethernet module.

(1) When TCP/IP is used

		QE71	Large E71	Small E71
Communication status setting switches	SW1	OFF	OFF	OFF
	SW2	ON	ON	ON
	SW3	OFF	OFF	ON
	SW4	OFF	OFF	OFF
	SW5	OFF	OFF	
	SW6	OFF	OFF	
	SW7	ON	ON	
	SW8	OFF	OFF	

(2) When UDP/IP is used

		QE71	Large E71	Small E71
Communication status setting switches	SW1	OFF	OFF	OFF
	SW2	OFF	OFF	OFF
	SW3	OFF, ON *1	OFF	ON
	SW4	OFF	OFF	OFF
	SW5	OFF	OFF	
	SW6	OFF	OFF	
	SW7	ON	ON	
	SW8	OFF	OFF	

*1 "ON" when GPPW or the like is used to set the parameters.

"OFF" when the sequence program is used to set the parameters.

8.2.3 Operations on Diagnostics screen

Communication is made with the PLC via the Ethernet module to diagnose whether communication is normal or abnormal.
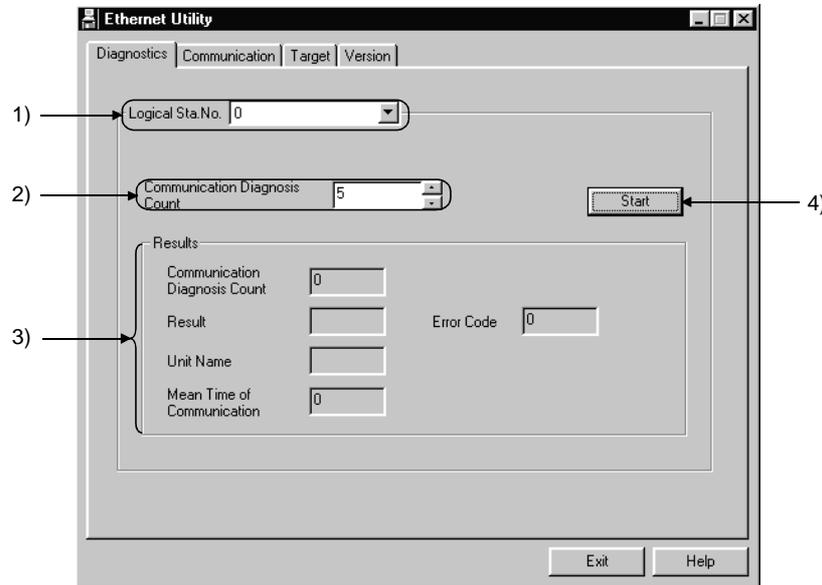
1) Logical Sta. No.
   Set the logical station number.

2) Communication Diagnosis Count
   Set the number of times the diagnostics is to be made.

3) Results
   Shows the results of the communication diagnosis.
   - Communication Diagnosis Count............... Shows the number of times the communication diagnosis was made.
   - Results .... Shows the result of the communication diagnosis.
   - Unit Name .... Shows the type of the module currently connected.
   - Mean Time of Communication .... Shows the mean time taken for communication.
   - Error Code.. Shows the error code of the diagnosis result.
     (For the definitions of the error codes, refer to the programming manual.)

4) "Start" button
   Starts the communication diagnosis.

8. OPERATIONS OF MELSEC DATA LINK UTILITIES

MELSEC

8.2.4 Operations on Communication screen

Set Monitoring PLC and Communication Time for the logical station No.
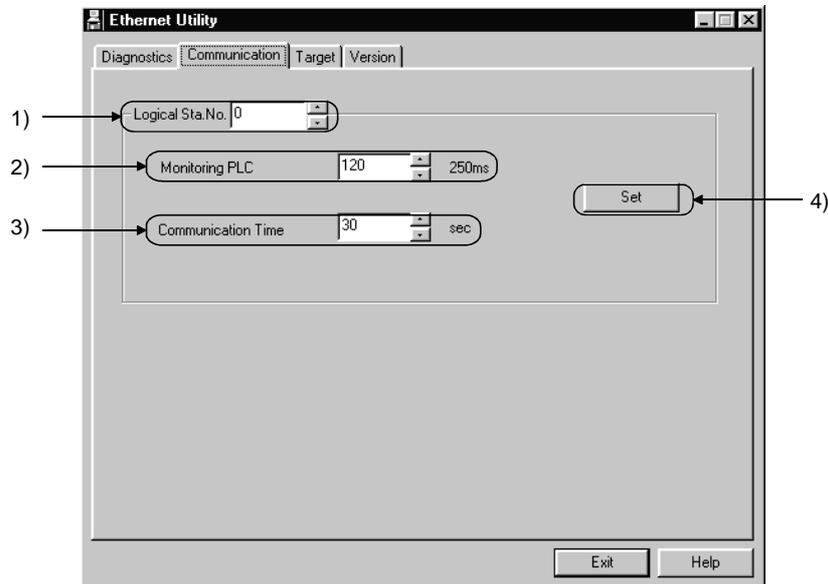
1) Logical Sta. No.
   Specify the logical station number for which Monitoring PLC and
   Communication Time will be set.

2) Monitoring PLC
   Set the response waiting time when access is made from the PLC CPU
   loaded with the Ethernet module to the other PLC CPU connected to the
   network.
   This value is the processing time setting on the PLC CPU side only.
   It does not include the processing time on the Internet.
   (May be set between 1 and 65535)

3) Communication Time
   Set the time-out value of response time to a single communication request.
   For this value, set the value which includes the access time on the PLC
   CPU side and the communication time on the Ethernet loop.
   For this reason, set Communication Time to a value longer than Monitoring
   PLC.
   (0 to 32767 seconds)

4) "Set" button
   The settings currently made are registered.

8 - 12

8.2.5 Operations on Target screen

Set the logical station number used for Ethernet communication.
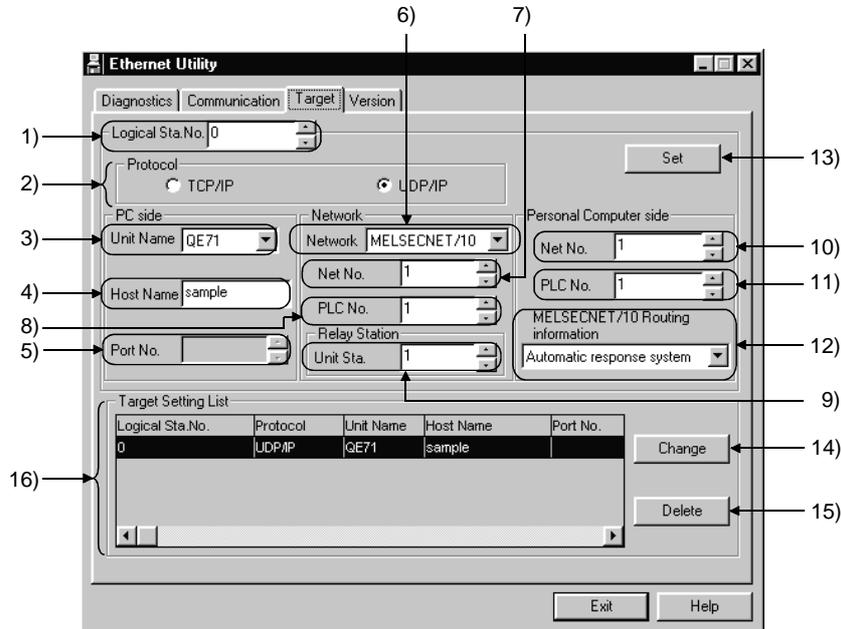
1) Logical Station No.

Set the logical station number.

2) Protocol

Choose the protocol to be used.

TCP/IP ....Select when using TCP/IP.

UDP/IP ....Select when using UDP/IP.

3) Unit Name

Set the type of the Ethernet module to be used.

4) Host Name

Set the host name corresponding to the IP address of the communication target station.

The host name corresponding to the IP address is set to the HOSTS file.

5) Port No.

When using the E71, set the port No. of the Ethernet module.

6) Network

Select the network form from "MELSECNET/10" and "NONE".

- MELSECNET/10

| CPU | (Q)E71 | MNET10 |

Personal computer

MELSECNET10

| CPU | MNET10 |

- NONE

| CPU | (Q)E71 |

Personal computer
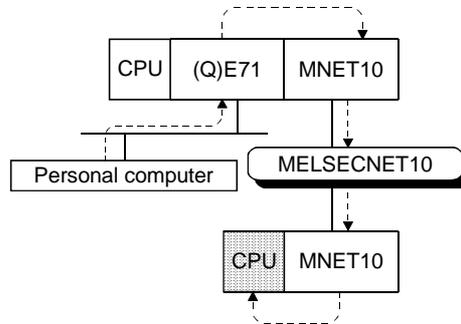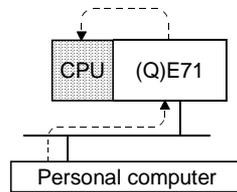
7) Net No.

Set the network number of the MELSECNET/10.

(1 to 239)

8) PLC No.

Set the PLC No. of the MELSECNET/10.

(MELSECNET/10: 1 to 64)

9) Unit Sta. No.

When using the QE71 and UDP/IP protocol to make communication via the MELSECNET/10, set the station number of the PLC loaded with the Ethernet module.

(1 to 64)

| CPU | (Q)E71 | MNET10 |

Module station No.

Personal computer

MELSECNET10

| CPU | MNET10 |

Set network No. and PC No. of this!
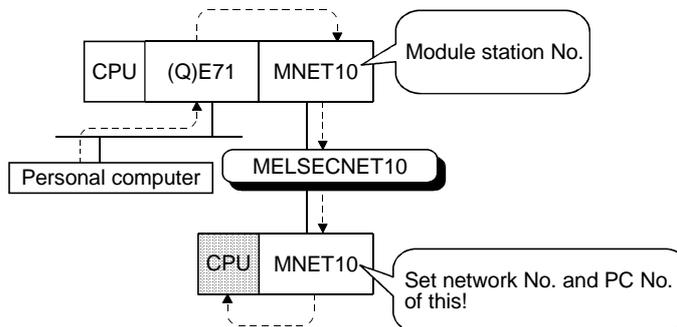
10) Net No.

Set the network number set to the Ethernet module.

(1 to 239)

11) PLC No.

Set the station numbers other than the PLC No. set to the Ethernet module.
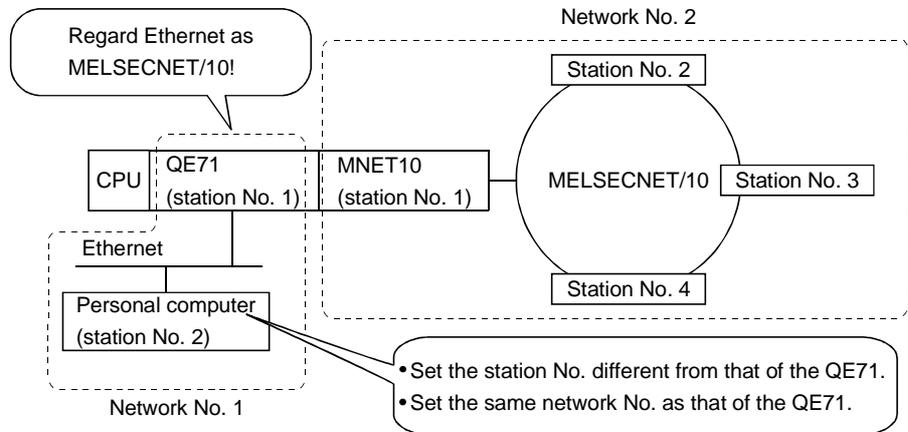
12) MELSECNET/10 routing information

Set the routing system set to the Ethernet module.

13) "Set" button

The settings currently made are registered.

14) "Change" button

The data on the line currently selected can be displayed in the setting column and changed.

15) "Delete" button

Deletes the line currently selected.

16) Target Setting List

Shows a list of data registered so far.

8.3 PLC RS422 Utility

This section explains the operation and setting methods of the PLC RS422 utility.

8.3.1 Operation procedure

The following is the operation procedure of the PLC RS422 utility.

```
           ┌─────────┐
           │  START  │
           └────┬────┘
                │
   ┌────────────────────────────────────┐
   │ Connect the PLC CPU and personal    │ ·········· Refer to Section 2.2.3.
   │ computer.                           │
   └────────────────┬───────────────────┘
                    │
   ┌────────────────────────────────────────┐
   │ Make settings on the PLC RS422 utility. │
   │  ┌──────────────────────────────────┐   │
   │  │ Make settings on the Target      │   │ ·········· Refer to Section 8.3.3.
   │  │ screen.                          │   │
   │  └───────────────┬──────────────────┘   │
   │                  │                       │
   │  ┌──────────────────────────────────┐   │
   │  │ Check whether communication can be│  │
   │  │ made properly or not on the       │   │ ·········· Refer to Section 8.3.2.
   │  │ Diagnostics screen.               │   │
   │  └──────────────────────────────────┘   │
   └────────────────┬───────────────────────┘
                    │
              ┌──────────┐
              │   END    │
              └──────────┘
```
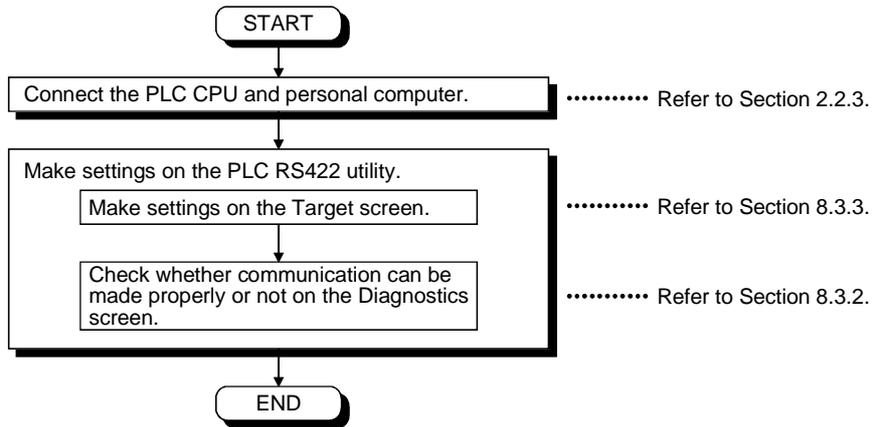
8.3.2 Operations on Diagnostics screen

Communication is made with the PLC to diagnose whether communication is normal or abnormal.
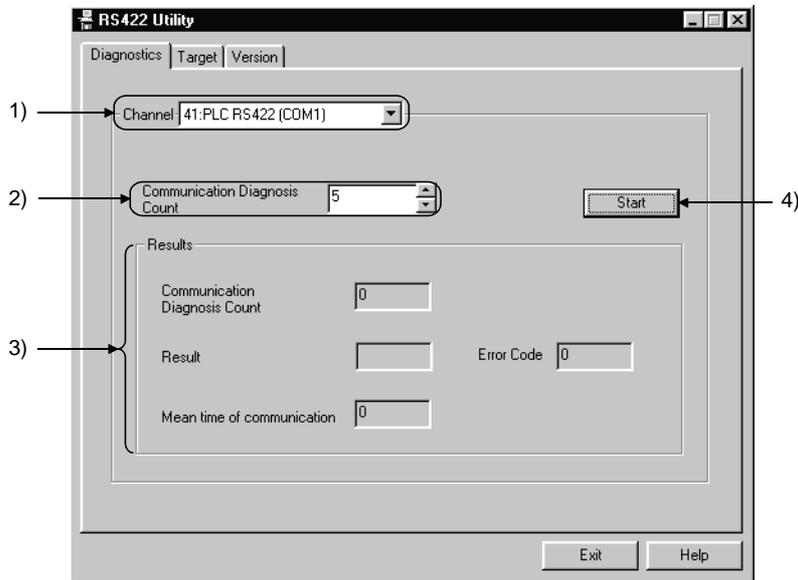
1) Channel
Set the channel to be diagnosed.

2) Communication Diagnosis Count
Set the number of times the communication diagnosis is to be made.

3) Results
Shows the results of the communication diagnosis.
- Communication Diagnosis Count............... Shows the number of times the communication diagnosis was made.
- Results .... Shows the result of the communication diagnosis.
- Mean Time of Communication .... Shows the mean time taken for communication.
- Error Code... Shows the error code of the diagnosis result.
(For the definitions of the error codes, refer to the programming manual.)

4) "Start" button
Starts the communication diagnosis.

8.3.3 Operations on Target screen

Set the type of the PLC CPU connected.
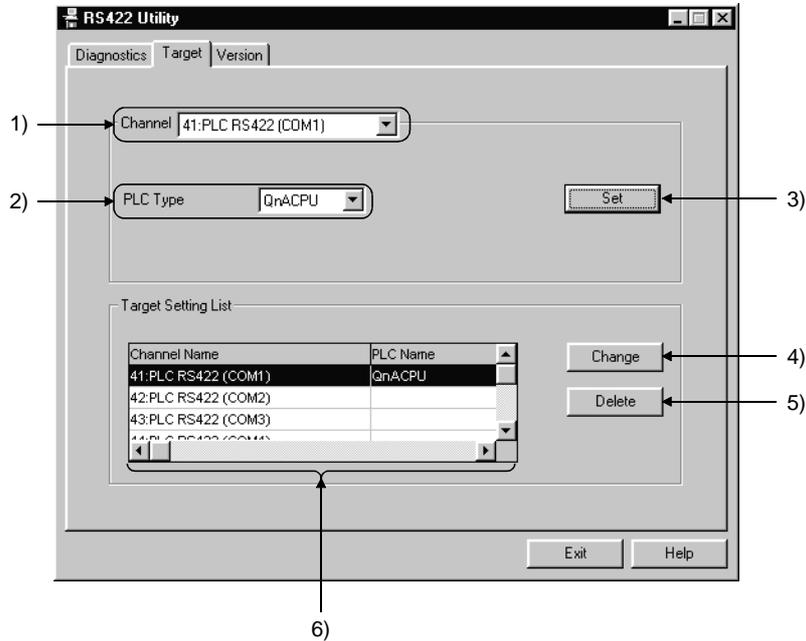
1) Channel

Set the channel to be used.

2) PLC Type

Set the target PLC CPU type.

PLC CPU Type	Target PLC CPU Type
QnA	Q2ACPU, Q2ACPU-S1, Q2ASCPU, Q2ASCPU-S1, Q2ASHCPU, Q2ASHCPU-S1, Q3ACPU, Q4ACPU, Q4ARCPU
AnU	A2UCPU, A2UCPU-S1, A2ASCPU, A2ASCPU-S1, A2ASCPU-S30, A3UCPU, A4UCPU
AnA	A2ACPU, A2ACPU-S1, A2ACPUP21/R21, A2ACPUP21/R21-S1, A3ACPUP21/R21, A3NCPU, A3ACPU
AnN	A0J2HCPU, A1SCPU, A1SCPU-S1, A1SCPUC24-R2, A1SHCPU, A1SJCPU, A1SJCPU-S3, A1SJHCPU, A1SJHCPU-S8, A1NCPU, A2CCPU, A2CCPUC24, A2CCPUC24-PRF, A2CJCPU, A2NCPU, A2NCPU-S1, A2SCPU, A2SHCPU, A2SHCPU-S1, A1FXCPU
FXCPU	FX0, FX0S, FX0N, FX1, FX2, FX2C, FX2N, FX2NC series

3) "Set" button

The settings currently made are registered.

4) "Change" button

The data on the line currently selected can be displayed in the setting column and changed.

5) "Delete" button

Deletes the line currently selected.

6) Target Setting List

Shows a list of data registered on a channel basis.

8.4 MELSECNET/10 Utility

This section explains the operation and setting methods of the MELSECNET/10 utility.

8.4.1 Operation procedure

The following is the operation procedure of the MELSECNET/10 utility.

Flowchart	Reference
START	
Connect the personal computer to the MELSECNET/10.	Refer to the MELSECNET/10 card manual.
Make settings on the MELSECNET/10 utility.	
Make mode setting on the Card list screen.	Refer to Section 8.4.3.
When rooting parameters are needed, make setting on the Rooting Parameter Setting screen.	Refer to Section 8.4.4.
Confirm the loop status of the own station on the Loop Monitor screen.	Refer to Section 8.4.5.
When confirming the card list, confirm it on the Card List screen.	Refer to Section 8.4.2.
When confirming the status of each station, confirm it on the Each Sta. Status screen.	Refer to Section 8.4.6.
When confirming the error history, confirm it on the Err. History Monitor screen.	Refer to Section 8.4.7.
END	

8.4.2 Card List screen

This screen displays the hardware information set on the MELSECNET/10 card.
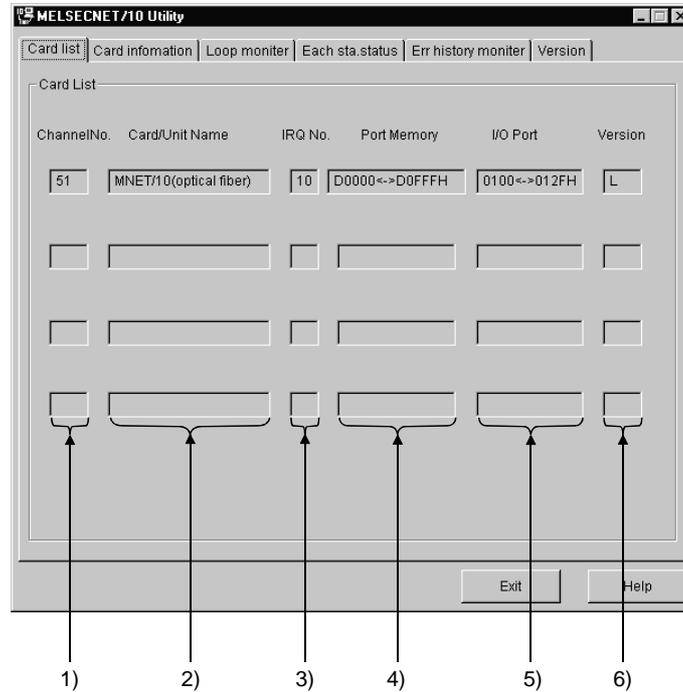
1) Channel No.
   Indicates a channel No.

2) Card/unit name
   Indicates the model name of the MELSECNET/10 card installed.

3) IRQ No.
   Indicates the IRQ number to be used by the MELSECNET/10 card.

4) port memory
   Indicates a range of port memory occupied by the MELSECNET/10 card.

5) I/O port
   Indicates a range of I/O ports occupied by the MELSECNET/10 card.

6) Version
   Indicates the version of ROM installed on the MELSECNET/10 card.

8.4.3 Operations on Card information screen

This screen displays various kinds of information on the MELSECNET/10 card installed and permits you to make settings.
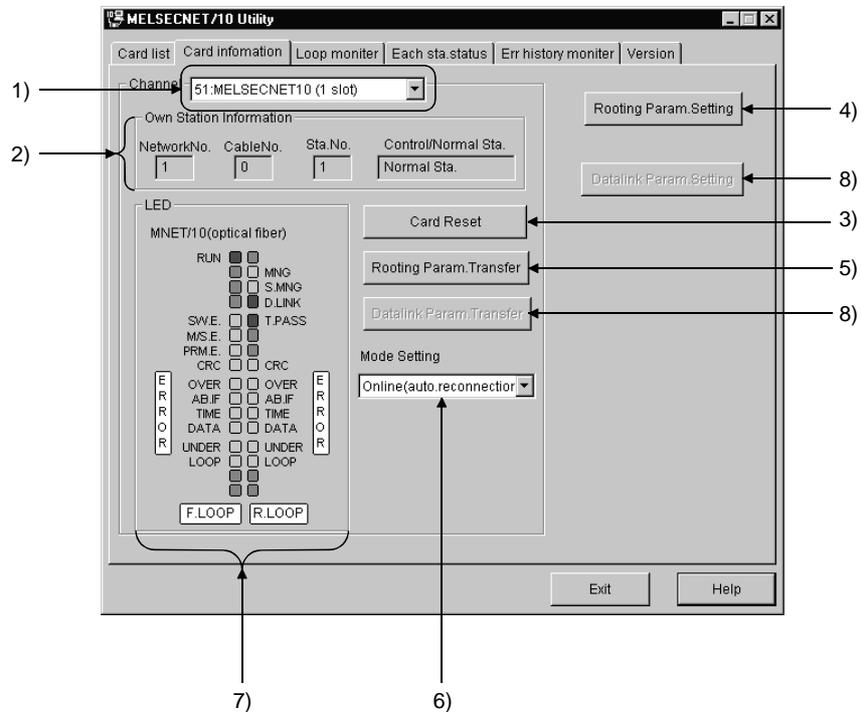
1) Channel
   Set a channel to be used.

2) Own station information
   Indicates information concerning the local station.

3) "Card Reset" button
   Resets the MELSECNET/10 card of the channel selected in step 1).

4) "Rooting Param. Setting" button
   Displays the Rooting Parameter Setting screen to set data.

5) "Rooting Param. Transfer" button
   Transfers the settings made in Subsection 8.4.4 to the MELSECNET/10 card selected in 1).

6) Mode setting

Sets the mode of the MELSECNET/10 card and indicates the current values.

Mode	Explanation
On-line automatic return	Used for normal communication.
Off-line	Disconnects a network.
Forward loop test	Conducts a forward loop test.
Reverse loop test	Conducts a reverse loop test.
Inter-station test (master station)	Conducts a master-to-local station test.
Inter-station test (slave station)	Conducts a local-to-local station test.
Self loop-back test	Conducts a test on hardware including transmitting and receiving circuits in the transmission system for a single I/F card.
Self loop-back test (inside)	Conducts a test on hardware including transmitting and receiving circuits in the transmission system for a single I/F card.
Hardware test	Tests the hardware.

7) LED status

Indicates the status of the current I/F card.

LED Name	LED being Lit
RUN	Data link normal
SW.E.	Switch setting error
M/S.E.	Duplication of station numbers or management stations
PRM.E.	Parameter error
MNG	Management station
S.MNG	Sub management station
D.LINK	Under data linking
T.PASS	Executing baton pass
CRC	Code check error
OVER	Error of data read delay
AB.IF	All data received is 1.
TIME	Time elapsed
DATA	Receiving data error
UNDER	Transmitting data error
LOOP	Forward/Reverse loop receiving error [1]

For MELSECNET/10
(coaxial)
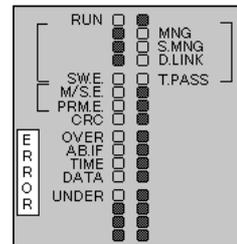
*1 Indicated for
MELSECNET/10
(optical) only.

8) Setting is not available.

8.4.4 Operations on Rooting Parameter Setting screen

This screen displays the destination network number, relay network number, and relay station number.
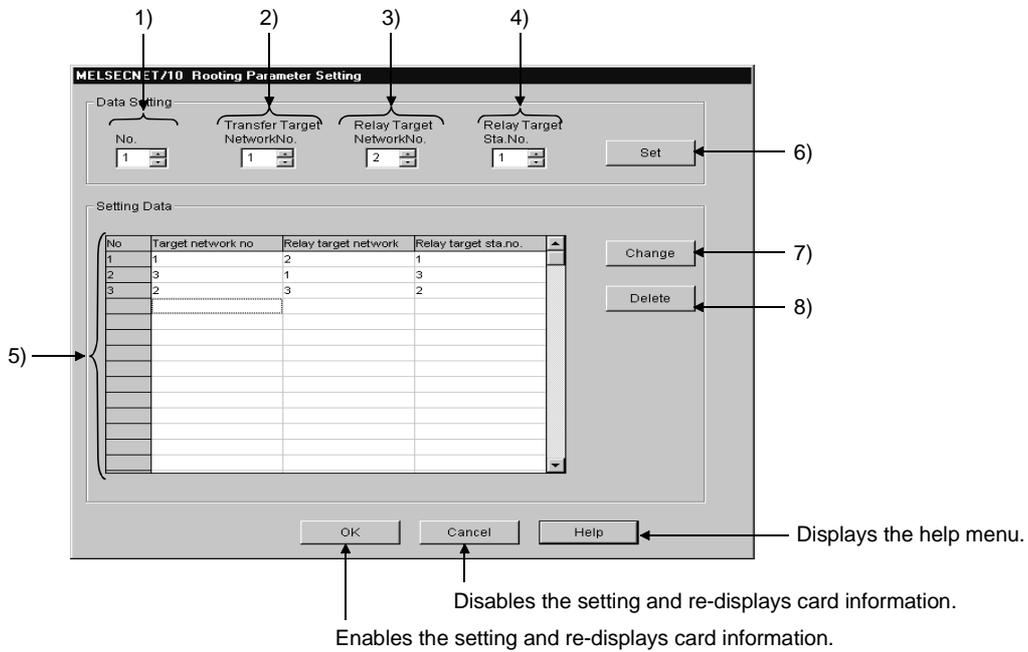
1) No.
   Specifies the number of a line to be set or changed.

2) Transfer Target Network No.
   Specifies the number of a transfer target network.

3) Relay Target Network No.
   Specifies the number of a relay network.

4) Relay Target Sta. No.
   Specifies the number of a relay target station.

5) Setting Data
   Lists the settings made so far for data.

6) "Set" button
   Registers the settings made in 1) to 4) in 5) (Setting Data).

7) "Change" button
   When changing the settings registered, select the line to be changed and click this button.
   (The same operation can be performed by double-clicking the line to be changed.)

8) "Delete" button
   When deleting the settings registered, select the line to be deleted and click this button.

8.4.5 Operations on Loop Monitor screen

This screen monitors the line conditions of a local station.
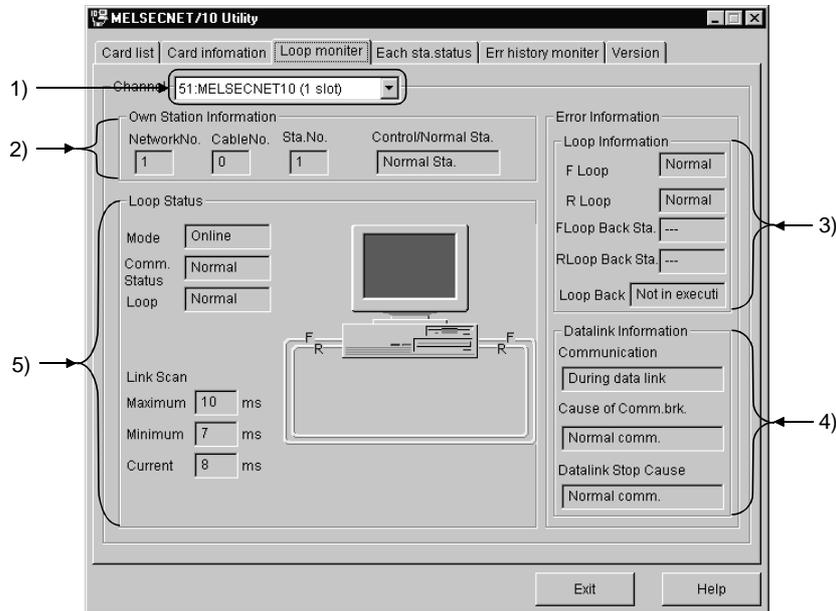
1) Channel

Specifies a channel to be used.

2) Local Station Information

Indicates the local station information.

3) Loop Information

Indicates the status of the current loop.

4) Data Link Information

Indicates the status of the current data link.

5) Loop Status

Indicates the loop status of a local station with characters and a figure. The figure can be changed as follows depending on the conditions of connection.

Forward loop : Normal
Reverse loop : Normal
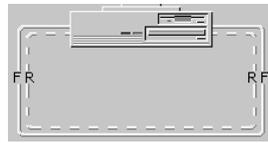
Forward loop : Normal
Reverse loop : Abnormal

Forward loop : Abnormal
Reverse loop : Normal

Data link by loop-back
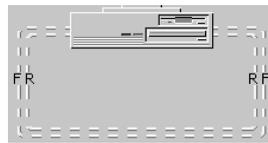
Forward loop : Abnormal
Reverse loop : Abnormal

<For MELSECNET/10 coaxial bus system>

Display is the same independently of the loop status.

8.4.6 Operations on Each Sta. Status screen

This screen indicates the communication status between stations and the loop status.
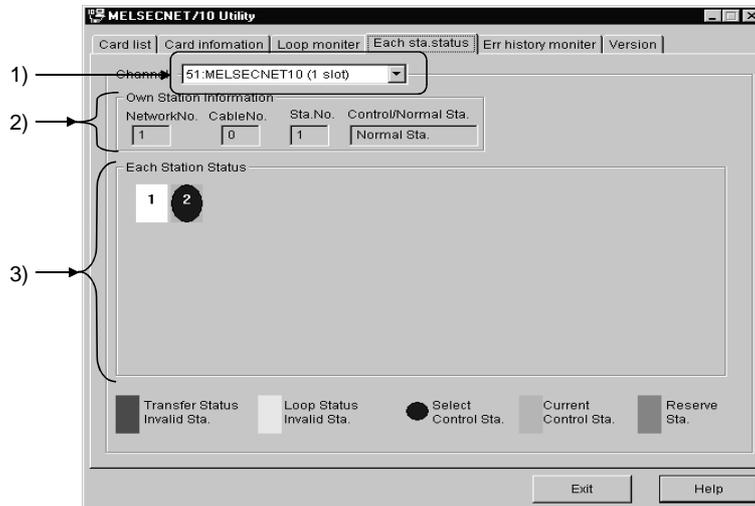
1) Channel
   Specifies a channel to be used.

2) Own Station Information
   Indicates information on a local station.

3) Each Station Status
   Indicates the communications status and loop status for stations as many as the total number of link stations designated by the parameters.

(Red)	■	Transfer Status Invalid Sta..................	Indicates a baton pass error.
(Yellow)	□	Loop Status Invalid Sta.	Indicates a forward/reverse loop error.
(Blue)	●	Select Control Sta.	Indicates a station which has been set as a control station by the Card switch.
(Light Blue)	■	Current Control Sta.	Indicates a station actually working as a control station.
(Gray)	■	Reserved Sta.	Indicates a reserved station. It is valid only when a local station is in cyclic communication.

8.4.7 Operations on Err. History Monitor screen

This screen displays the history of loop errors, communication errors, and transient transmission errors.
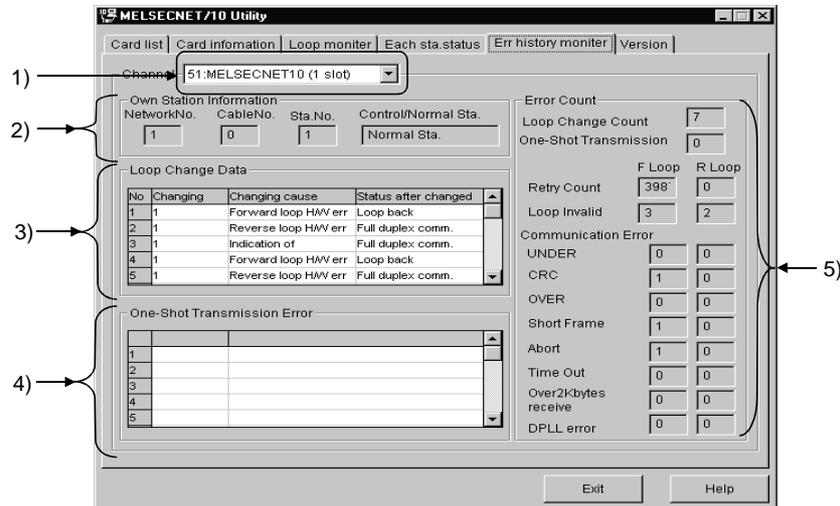
1) Channel
   Specifies a channel to be used.

2) Own Station Information
   Indicates information on a local station.

3) Loop Change Data
   Indicates a loop change cause and the status after loop change (for optical loop only).

   • Changing...................Indicates the number of a station which requested a loop change or loop-back.

   • Changing cause........Indicates the cause for which a loop change or loop-back was performed.

   Normal return : Returned to the normal state after error correction.
   Hardware error: Error in cable or optical module
   Forced error : Forced error for loop-back
   Continual
   Communications
   Error : Communication is not stable because the normal and abnormal states arise alternate.

   • Status after ....Indicates the data link status after loop change.
     changed

   ┌───┐
   │   POINT   │
   │ Up to 16 history files can be created.   │
   │ When the number of history files exceeds 16, the oldest one is deleted. │
   │ (Old No.1 ——— No.16 New)   │
   └───┘

4) One-Shot Transmission Error
Indicates an error in transient transmission by a local station.

- Error code ....Indicates an error code occurred during transient transmission.
- Error type ....Indicates the type of error occurred during transient transmission.

POINT

For details of error codes and error types, refer to the MELSECNET/10 Network System Reference Manual (PC-to-PC Network).

---

5) Error Count
Indicates the number of errors occurred.

- Loop Change Count ....Indicates the number of loop change or loop back tries.
- One-Shot............................Indicates the number of transient
  Transmission   transmission errors.
- Retry Count.........................Indicates the number of retries (repeated com-munications during communication error).
- Loop Invalid.........................Indicates the number of line errors.
- Communication Error
  - UNDER ....Indicates the number of UNDER errors.
  - CRC ....Indicates the number of CRC errors.
  - OVER...............................Indicates the number of OVER errors.
  - Short Frame.....................Indicates the number of short frame errors.
  - Abort...............................Indicates the number of AB.IF errors.
  - Time Out ....Indicates the number of TIME errors.
  - Over 2K Bytes Receive...Indicates the number of DATA errors.
  - DPLL Error ....Indicates the number of DPLL errors (Data cannot be recognized normally during sync-hronization or modulation)

8.5 CC-Link Utility

This section explains the operation of the CC-Link utility.

8.5.1 Operation procedure

The following is the operation procedure of the CC-Link utility.

```
                    ( START )
                        │
  ┌──────────────────────────────────────┐
  │ Connect the personal computer to CC-Link. │ ············ Refer to the CC-Link card manual.
  └──────────────────────────────────────┘
                        │
  ┌──────────────────────────────────────┐
  │ Make settings on the CC-Link utility.   │
  │  ┌────────────────────────────────┐    │
  │  │ Make settings on the Board Information screen. │ ············ Refer to Section 8.5.3.
  │  └────────────────────────────────┘    │
  │               │                         │
  │  ┌────────────────────────────────┐    │
  │  │ Confirm the loop status of the own station on │ ············ Refer to Section 8.5.4.
  │  │ the Network Monitor screen.    │    │
  │  └────────────────────────────────┘    │
  │               │                         │
  │  ┌────────────────────────────────┐    │
  │  │ When confirming the card list, confirm it on the │ ············ Refer to Section 8.5.2.
  │  │ Information screen.            │    │
  │  └────────────────────────────────┘    │
  │               │                         │
  │  ┌────────────────────────────────┐    │
  │  │ When confirming the statuses of the other │ ············ Refer to Section 8.5.5.
  │  │ stations, confirm it on the Station's Link Status │
  │  │ screen.                        │    │
  │  └────────────────────────────────┘    │
  │               │                         │
  │  ┌────────────────────────────────┐    │
  │  │ When performing memory I/O test or card │ ············ Refer to Section 8.5.6.
  │  │ reset, do it on the Memory I/O Test screen. │
  │  └────────────────────────────────┘    │
  │               │                         │
  │  ┌────────────────────────────────┐    │
  │  │ When conducting a network test, do it on the │ ············ Refer to Section 8.5.7.
  │  │ Network Test screen.           │    │
  │  └────────────────────────────────┘    │
  └──────────────────────────────────────┘
                        │
                    ( END )
```

8.5.2 Information screen

Used to display the information on the hardware set to the CC-Link card.
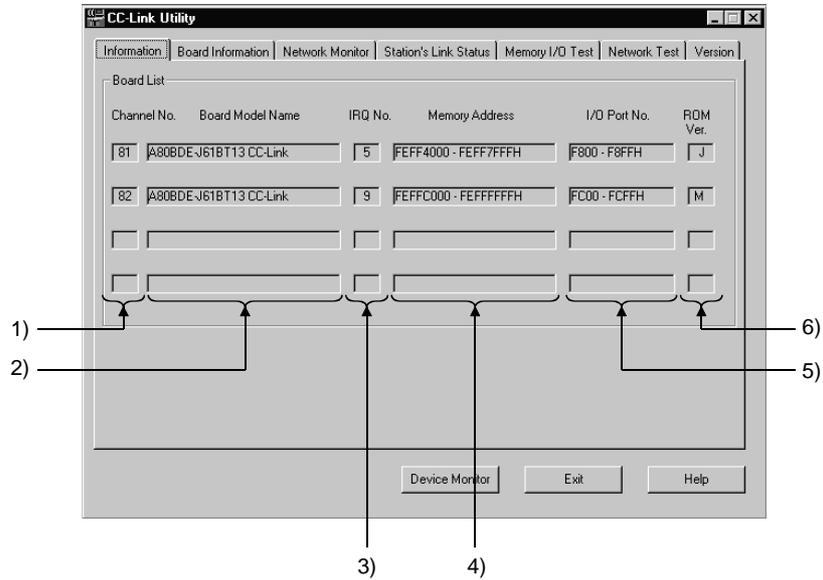
1) Channel No.
Displays the channel No.

2) Card Model Name
Displays the type of the card connected.

3) IRQ No.
Shows the IRQ number used by the CC-Link card.

4) Memory Address
Shows the range of the two-port memory occupied by CC-Link card.

5) I/O Port No.
Shows the range of the I/O ports occupied by the CC-Link card.

6) ROM Ver.
Shows the version of the ROM in the CC-Link card.

8.5.3 Operations on Board Information screen

Used to display and set various data on the CC-Link card loaded.
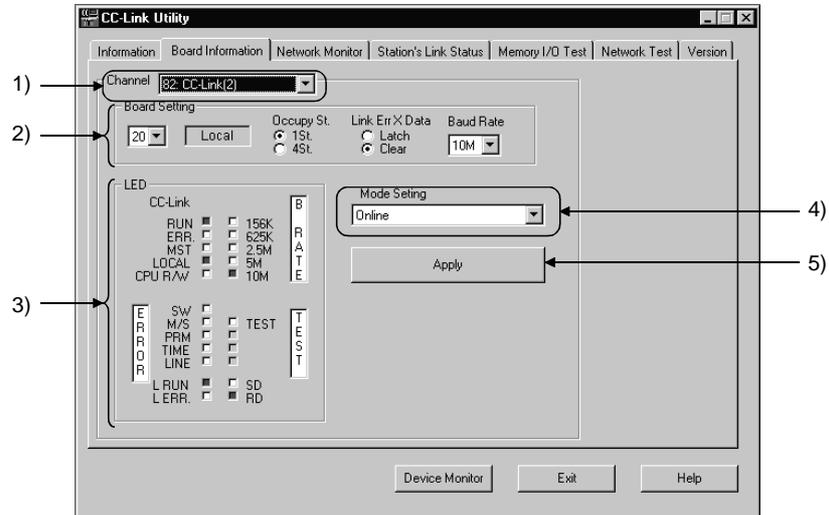

```
POINT
```
When changing the screen, set the mode to "online" or "offline".

1) Channel
Shows the channel used.

2) Board Setting
Set the information on the host station.

Item	Description
Station number	Station 1 to 64
Number of stations occupied	1 station/4 stations
Data entered at fault	Held/cleared
Transmission speed	156k/625k/2.5M/5M/10Mbps

3) LED status

The LEDs indicate the operating information on the CC-Link card.

LED Name	LED Lit to Indicate
RUN	CC-Link system normal
ERR.	Communication abnormal
MST	Master station
LOCAL	Local station
CPU R/W	Communicating
SW	Switch setting error
M/S	Repeated master station error
PRM	Parameter error
TIME	Time-out
LINE	Open cable error
L RUN	Data link in progress
L ERR.	Communication error
156k	
625k	
2.5M	LED corresponding to the preset baudrate is lit.
5M	
10M	
TEST	Offline test in progress
SD	Data being transmitted
RD	Data being received

4) Mode setting

Set the mode of the CC-Link card.

Shows the current mode.

Mode	Description
Online (Automatic return yes)	Used for ordinary communication.
Offline	The state in which the board is not connected to the network.
H/W test mode	Hardware operation check mode tests the hardware with the CC-Link card. [Procedure] Connect a terminal resistor across terminals DA-DB. Set to the "H/W test mode" and press the "Apply" button.

5) "Update" button

Used to update the setting to the CC-Link card on the channel chosen at 1).

8.5.4 Operations on Network Monitor screen

Used to monitor the line status of the host station.
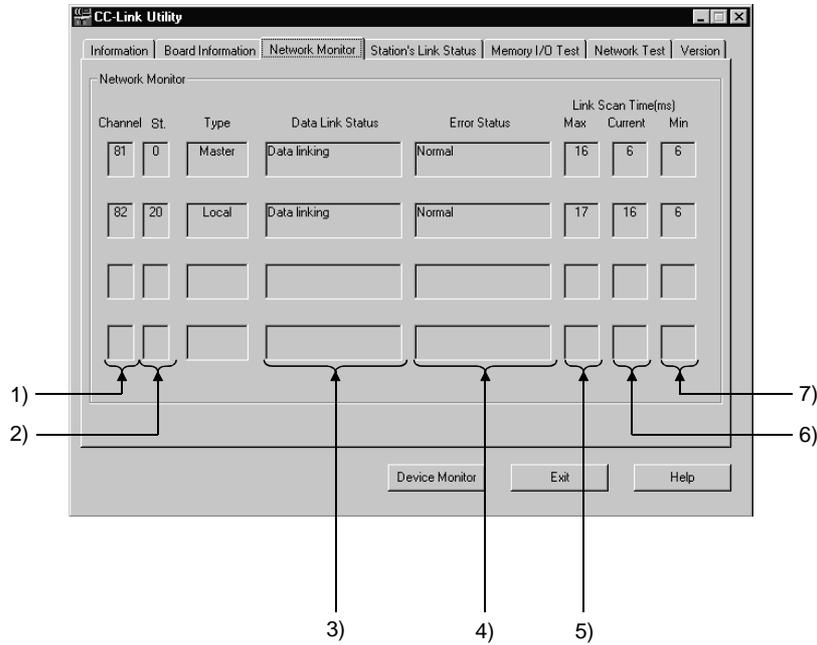
1) Channel
   Shows the channel No.

2) St.
   Displays the station number of the host station.

3) Data Link Status
   Monitors and shows the starting status of the data link.

Status	Description
Initial	Initial state
No Parameter	Parameters not received.
Data linking	Data link is being executed.
Data link stopping	Data link is at a stop.
Disconnecting(Not Poking)	Disconnection state with no inquiry from the master station.
Disconnecting(Line Error)	Disconnection state due to line fault.
Disconnecting	Disconnection state due to other factor.
Line Testing	Line test is being conducted.
Parameter Set Testing	Parameter setting test is being made from the master station.
Automatic Returning	Return processing is being performed automatically.
Resetting	Card reset processing is being performed.

4) Error Status

Monitors and shows the error status.

Indication	Description
Normal	Normal state.
Transmission Error	Transmission path fault was detected.
Parameter Error	Parameter error was detected.
CRC Error	CRC error was detected.
Time Out Error	Time-out error was detected.
Abort Error	CC-Link card (gate array) fault was detected.
Setting Error	Setting error was detected.
Other Error	Other fault was detected.

5) Link Scan Time (Max)

Displays the maximum value of link scan time. (1ms increments)

6) Link Scan Time (Current)

Displays the current value of link scan time. (1ms increments)

7) Link Scan Time (Min)

Displays the minimum value of link scan time. (1ms increments)

8.5.5 Operations on Station's Link Status screen

Shows the line statuses of the other stations.
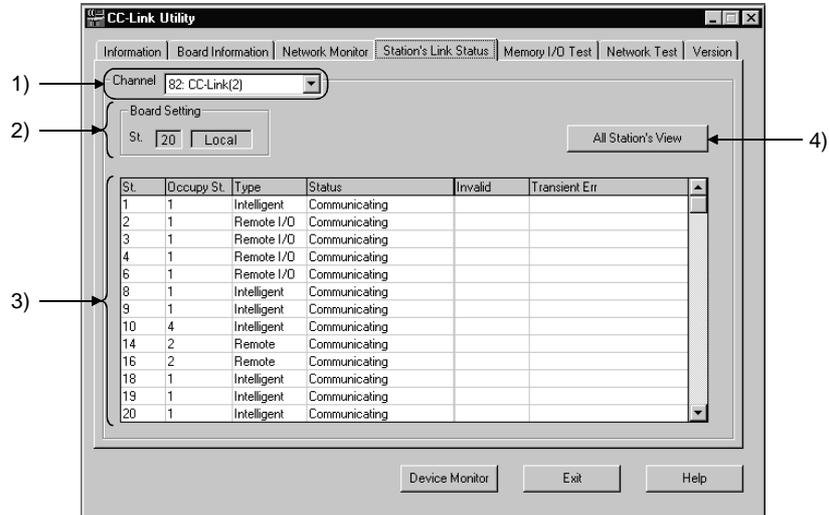
POINT
Line monitor (other stations) is carried out only when the host station in the "Communicating" state.

1) Channel
Set the channel used.

2) Board Setting
Shows the data of the host station.

3) Other Station Status
Shows the states of the other stations.

St.   : Displays the set station number.
Occupy St.: Displays the number of stations occupied.
Type   : Displays the type of the set station.

Indication	Description
Remote Device	Remote device station
Remote I/O	Remote I/O station
Intelligent	Intelligent station, local station

Status: Shows the status of the other station.

Indication	Description
Communicating	Normal
Communication interrupted	Communication interrupted
Link error	Link error occurred
WDT error	Watchdog timer error occurred
Fuse brake off	There is a fuse-blown station
Repeated station	Same station number was repeated
Moved switch	Switch was moved

Invalid: Shows the stations set to make error invalid.

Indication	Description
Invalid	Yes
(Free)	No

Transient Err: Displays the status of transient error.

Indication	Description
Transient Err	With error
(Free)	Without error

4) All Station's View

Lists the communication statuses of the other stations.
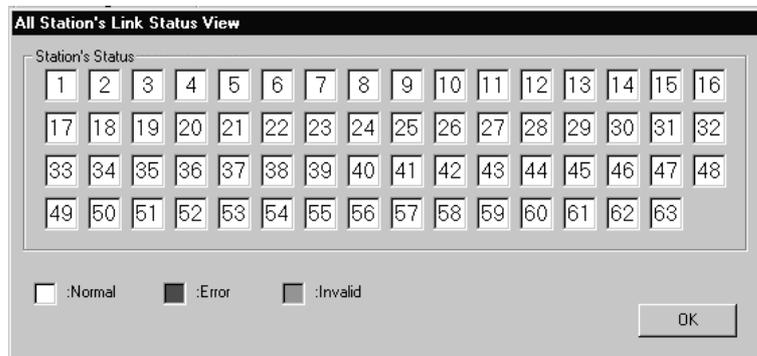
8.5.6 Operations on Memory I/O Test screen

Diagnoses the 2-port memory and I/O ports used by the CC-Link card.
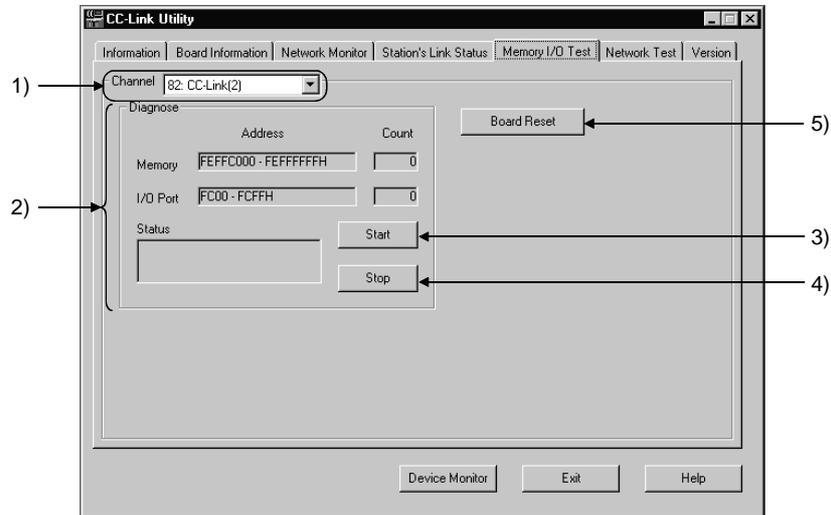
POINTS
(1) Before starting the test, disconnect the external cable.
(2) Before changing the screen, click the "STOP" button to stop the test

1) Channel
   Set the channel used.

2) Diagnose
   Shows the addresses and count of diagnosis.

3) "Start" button
   Used to start memory and I/O diagnosis.

4) "Stop" button
   Used to stop memory and I/O diagnosis.

5) "Card reset" button
   Used to reset the CC-Link card.

8.5.7 Operations on Network Test screen

Used to test the CC-Link card loaded.
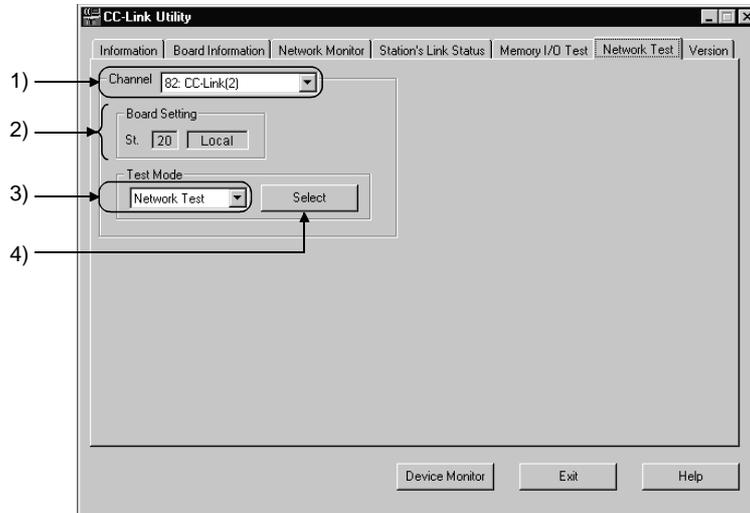
1) Channel
   Set the channel used.

2) Board Setting
   Shows the data of the host station.

3) Test Mode
   Set the item of the test.

Test	Description
Network Test	Makes the link start and stop test.

4) "Select" button
   Clicking the button shows the following dialog box.

Select when starting data link.

Select when stopping data link.

Closes the dialog box without performing the test.

Clicking this starts the test.
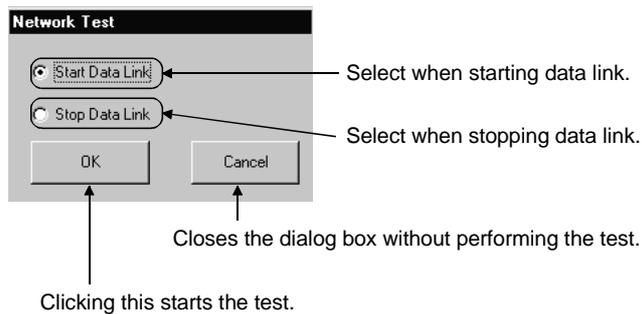
8.6 CC-Link G4 Utility

This section explains the operation of the CC-Link G4 utility.

POINT
The CC-Link G4 module should be the one of software version "D" or later.
A module of software version "C" or earlier will not operate properly.

8.6.1 Operation procedure

The following is the operation procedure of the CC-Link G4 utility.

```
                ┌─────────┐
                │  START  │
                └─────────┘
                     │
┌──────────────────────────────────────────┐
│ Set the operation setting DIP switches of │ ·········· Refer to Section 8.6.2.
│ the CC-Link G4 module.                     │
└──────────────────────────────────────────┘
                     │
┌──────────────────────────────────────────┐
│ Connect the personal computer to the       │ ·········· Refer to Section 2.2.6.
│ CC-Link G4 module.                          │
└──────────────────────────────────────────┘
                     │
┌──────────────────────────────────────────┐
│ Make settings on the CC-Link G4 utility.    │
│  ┌────────────────────────────────────┐    │
│  │ Make settings on the Communication  │    │ ·········· Refer to Section 8.6.4.
│  │ screen.                              │    │
│  └────────────────────────────────────┘    │
│                  │                          │
│  ┌────────────────────────────────────┐    │
│  │ Make settings on the Target screen.  │    │ ·········· Refer to Section 8.6.5.
│  └────────────────────────────────────┘    │
│                  │                          │
│  ┌────────────────────────────────────┐    │
│  │ Check whether communication can be  │    │ ·········· Refer to Section 8.6.3.
│  │ made properly or not on the          │    │
│  │ Diagnosis screen.                    │    │
│  └────────────────────────────────────┘    │
└──────────────────────────────────────────┘
                     │
                ┌─────────┐
                │   END   │
                └─────────┘
```

8.6.2 CC-Link G4 module switch settings

To use CSKP, make the following switch settings of the CC-Link G4 module.

(1) When using the A mode

Operation setting DIP switches	SW1	OFF
	SW2	OFF
	SW3	OFF
	SW4	OFF
	SW5	OFF
	SW6	OFF
	SW7	OFF
	SW8	OFF

(2) When using the QnA mode

Operation setting DIP switches	SW1	ON
	SW2, SW3	OFF OFF(9600bps), ON OFF(19200bps), OFF ON(38400bps)
	SW4	OFF
	SW5	OFF
	SW6	OFF
	SW7	OFF
	SW8	OFF

8.6.3 Operations on Diagnosis screen

Communication is made with the PLC via the CC-Link G4 module to diagnose whether communication is normal or abnormal.

1) Channel

Set the channel to be used.

2) Logical Sta. No.

Set the logical station number.

3) Communication Diagnosis Count

Set the number of times the communication diagnosis is to be made.

4) Results

Shows the results of the communication diagnosis.

- Communication ....Shows the number of times the communication
  Diagnosis Count   diagnosis was made.
- Result ....Shows the result of the communication diagnosis.
- Mean Time of ....Shows the mean time taken for communication.
  Communication
- Error Code ....Shows the error code of the diagnosis result.
                          (For the definitions of the error codes, refer to the
                          programming manual.)

5) "Start" button

Starts the communication diagnosis.

8.6.4 Operations on Communication screen

Set the communication conditions of the COM port connected to the CC-Link G4 module.
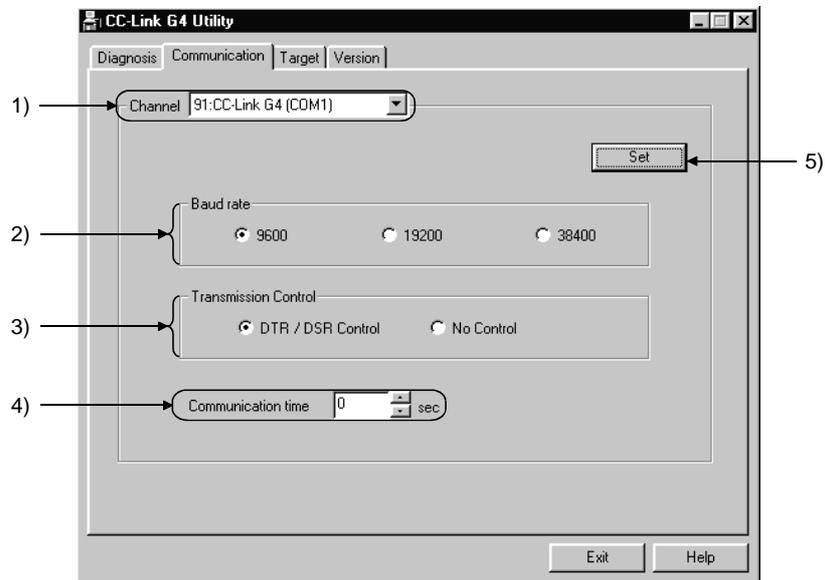
1) Channel

Set the channel to be used.

2) Baud rate

Set the transmission speed for communication with the CC-Link G4 module.

This setting must be the same as that on the CC-Link G4 module side.

Also, when using the A mode, set this value to 9600bps.

3) Transmission Control

Set the flow control for communication with the CC-Link G4 module.

4) Communication time

Set the time-out period when communication is not normal at the time of sending or receiving.

5) "Set" button

The settings currently made are registered.

8.6.5 Operations on Target screen

Set the logical station number used for CC-Link G4 communication.
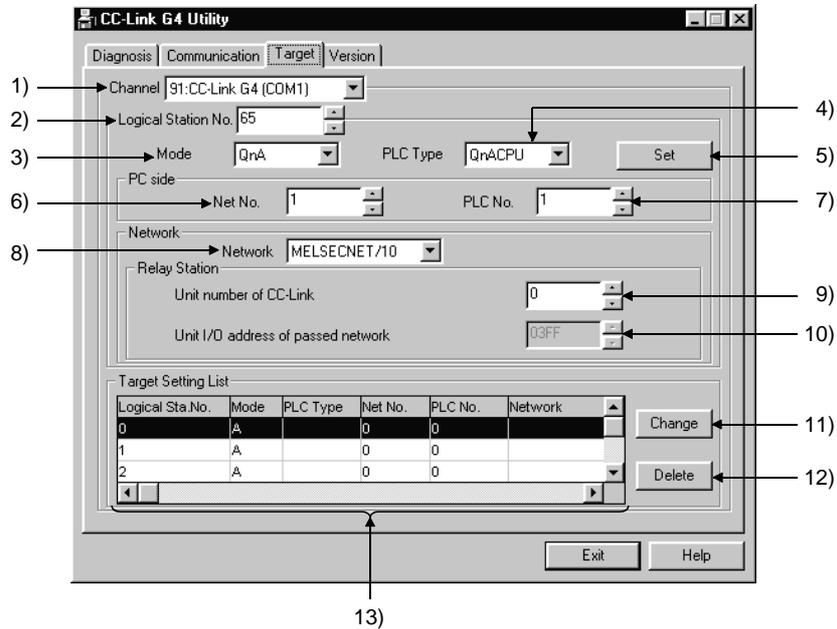
1) Channel

Set the channel to be used.

2) Logical Station No.

0 to 64 : Since this number is the same as the module station number and has already been set, the user need not set the module station number.
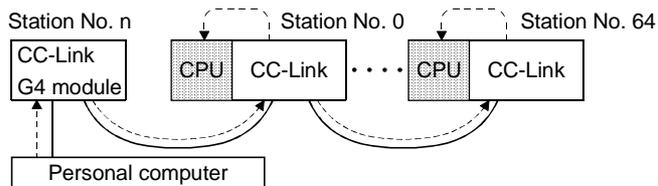
65 to 255: Set the logical station number when making communication with the PLC CPU of the other station linked via a network from the master/local station on CC-Link.
Refer to Network in 8).

3) Mode

Set the operation mode of the CC-Link G4 module.
This setting should be the same as that on the CC-Link G4 module side.

4) PLC Type

Set the type of the target PLC CPU.

PLC CPU Type	Target PLC CPU
AnA	A2ACPU, A2ACPU-S1, A2ACPUP21/R21, A2ACPUP21/R21-S1, A3ACPUP21/R21, A3NCPU, A3ACPU
AnN	A0J2HCPU, A1SCPU, A1SCPU-S1, A1SCPUC24-R2, A1SHCPU, A1SJCPU, A1SJCPU-S3, A1SJHCPU, A1NCPU, A2CCPU, A2CCPUC24, A2CCPUC24-PRF, A2CJCPU, A2NCPU, A2NCPU-S1, A2SCPU, A2SCPU-S1, A2SHCPU, A2SHCPU-S1, A1FXCPU
AnU	A2UCPU, A2UCPU-S1, A2ASCPU, A2ASCPU-S1, A2ASCPU-S30, A3UCPU, A4UCPU
QnA	Q2ACPU, Q2ACPU-S1, Q2ASCPU, Q2ASCPU-S1, Q2ASHCPU, Q2ASHCPU-S1, Q3ACPU, Q4ACPU, Q4ARCPU

5) "Set" button

The settings currently made are registered.

6) Net No.

Set the network number of the MELSECNET/10.

(1 to 239)

7) PLC No.

Set the station number of "computer link" or "MELSECNET/10".

(Computer link: 0 to 31, CC-Link: 0 to 64, MELSECNET/10: 1 to 64)

8) Network

Select the network form from "computer link" and "MELSECNET/10".

This selection may be made only when QnA has been chosen in Mode.

• Computer link
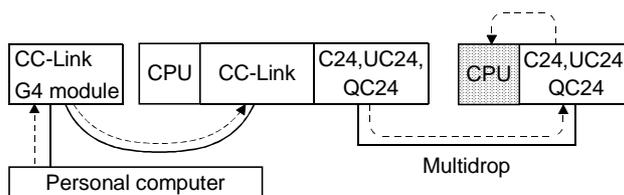
• MELSECNET/10
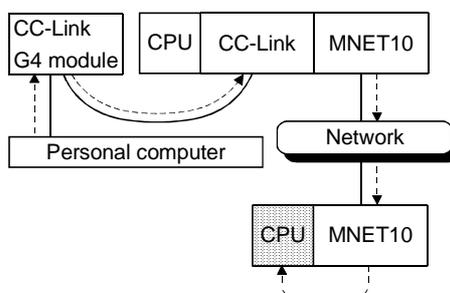
9) Unit number of CC-Link

Set the CC-Link master/local module station number which relays access to the other network.

(0 to 64)
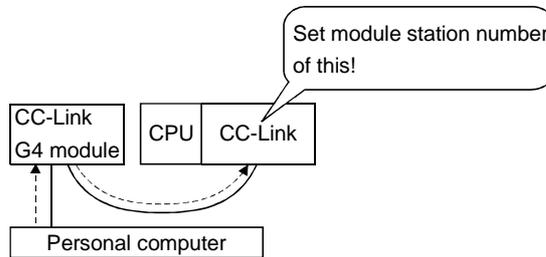
10) Unit I/O address of passed network

When the network used is computer link, set the first I/O number of the computer link module on the base which is loaded with the module specified in 9).

Set the first I/O number in hexadecimal using a multiple of 16.

• Computer link
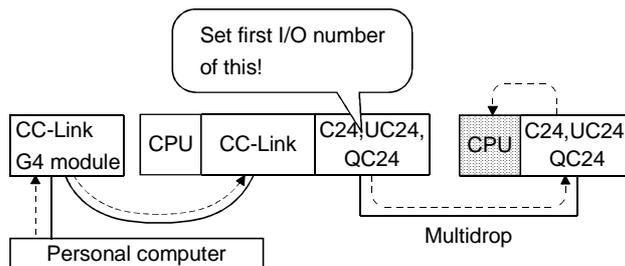
11) "Change" button

The data on the line currently selected can be displayed in the setting column and changed.

12) "Delete" button

Deletes the line currently selected.

13) Target Setting List

Shows a list of data registered so far.

MEMO

9 OPERATIONS OF OTHER UTILITIES

This chapter describes the operations of the utilities other than the MELSEC data link utilities.

9.1 Shared Device Utility

This section explains the operation of the shared device utility.

> **POINT**
>
> When the OS is Windows NT 4.0, using the shared device utility allows the shared devices to be used.
> The shared devices cannot be used on Windows 95 or Windows 98.

9.1.1 Operation procedure

The following is the operation procedure for access to the shared devices.

```
                    ( START )
                        |
  +---------------------------------------------+
  | Make settings on the Parameter Setting screen. |·············· Refer to Section 9.1.2.
  +---------------------------------------------+
                        |
                    ( END )
```
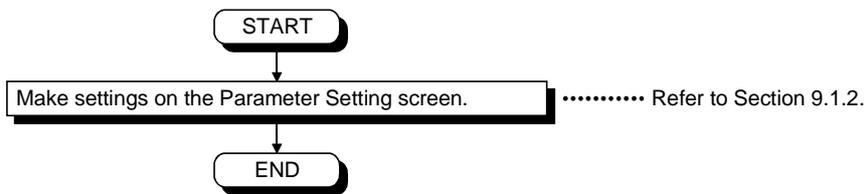
9.1.2 Operations on Parameter Setting screen

This screen allows you to specify the total number of shared devices and the validity of system information areas.
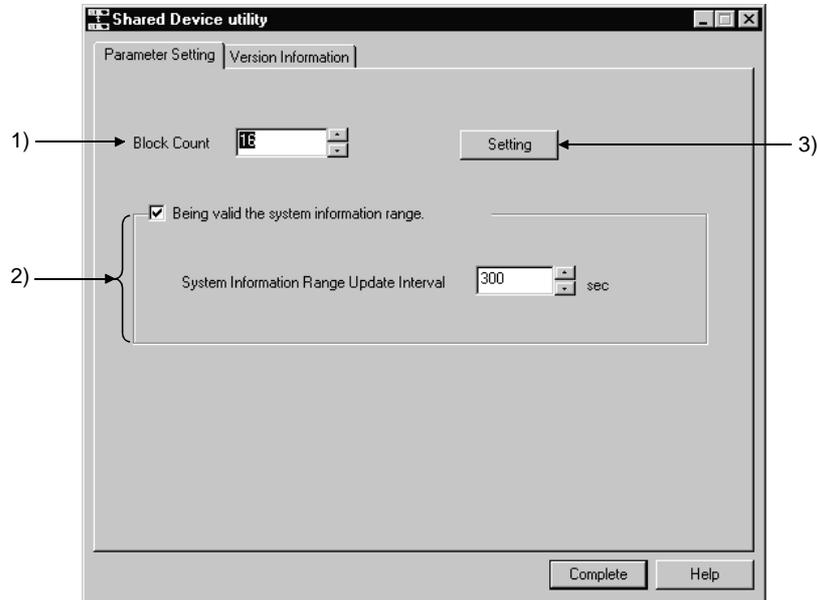
1) Block Count
   Displays and sets the current total number of shared device blocks.
   (Values from 0 to 256 can be set.)

2) System Information Area
   Determines whether to use the area of ED block number 0 of a shared device as a system information area.

   • Checked...................The area of ED block number 0 of a shared device is used as a system information area.
                               Set a system information update interval because the system information range update interval will be effective.
                               (Settings can be within a range of 60 to 32767 seconds.)
   • Not checked.............The area of ED block number 0 of a shared device is used as a user area rather than the system information area.

3) "Setting" button

    Specifies whether to make the current settings effective on the dialogue
box displayed by clicking this button.
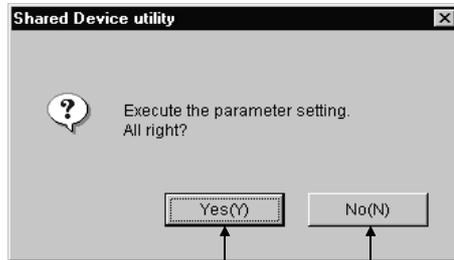
The Parameter Setting screen is redisplayed without parameter setting.

The Parameter Setting screen is redisplayed after parameter setting.

POINT
Parameter settings will be effective after system restart.

9.2 Shared Device Server Utility

This section explains the operation and setting methods of the shared device server utility.

> **POINT**
> The shared device server utility may be used when the OS is Windows NT 4.0.
> It cannot be used on Windows 95 or Windows 98.

9.2.1 Operation procedure

The following is the operation procedure of the shared device server utility.

```
              ┌─────────┐
              │  START  │
              └─────────┘
                   │
 ┌─────────────────────────────────────┐
 │ Start the shared device server process. │ ············ Refer to Section 9.2.2.
 └─────────────────────────────────────┘
                   │
 ┌───────────────────────────────────────────────┐
 │ Make settings on the shared device server utility. │
 │   ┌─────────────────────────────────────┐        │
 │   │ Make settings on the Refresh range setting │   │ ············ Refer to Section 9.2.3.
 │   │ screen.                              │        │
 │   └─────────────────────────────────────┘        │
 │                   │                               │
 │   ┌─────────────────────────────────────┐        │
 │   │ When confirming the refresh range setting, │   │ ············ Refer to Section 9.2.4.
 │   │ confirm it on the List indication screen. │   │
 │   └─────────────────────────────────────┘        │
 │                   │                               │
 │   ┌─────────────────────────────────────┐        │
 │   │ Make settings on the Status monitor screen. │   │ ············ Refer to Section 9.2.5.
 │   └─────────────────────────────────────┘        │
 └───────────────────────────────────────────────┘
                   │
              ┌─────────┐
              │   END   │
              └─────────┘
```
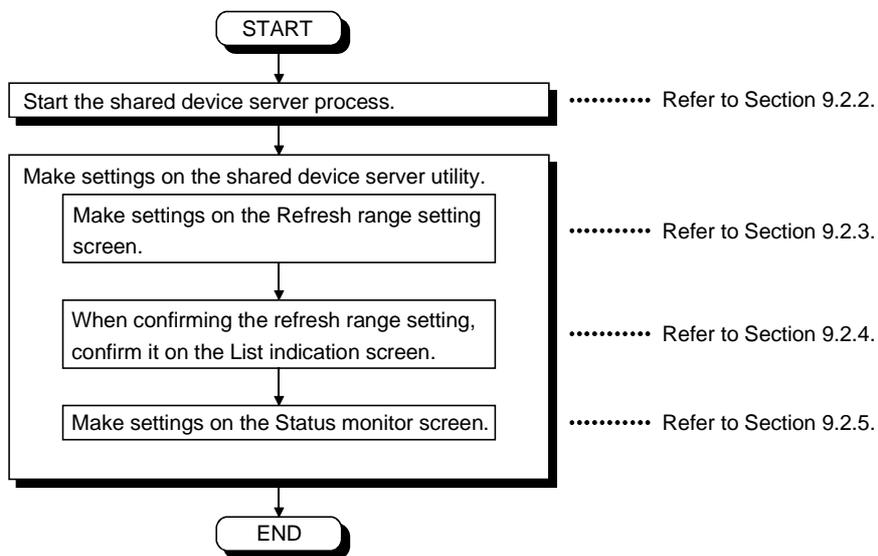
9.2.2 About the Shared Device Server Process

The shared device server process is designed to refresh the specified devices on the basis of the information set on the shared device server utility.
It must always be running when starting/stopping refresh on the "Status monitor" screen of the shared device server utility.

(1) Starting method
    Click [Start]-[Programs]-[MELSEC APPLICATION]-[COMMUNICATION SUPPORT (CSKP-E)]-[Shared Device]-[EM ED Server Process].

(2) Ending method
    To terminate the shared device server process, force it to end.
    Alternatively, choose "Shared Device Server" on the task bar and press the "Alt" + "F4" keys.

9.2.3 Operations on Refresh range setting screen

This screen allows you to set the source and target devices for refreshing the size and timing of transfer.
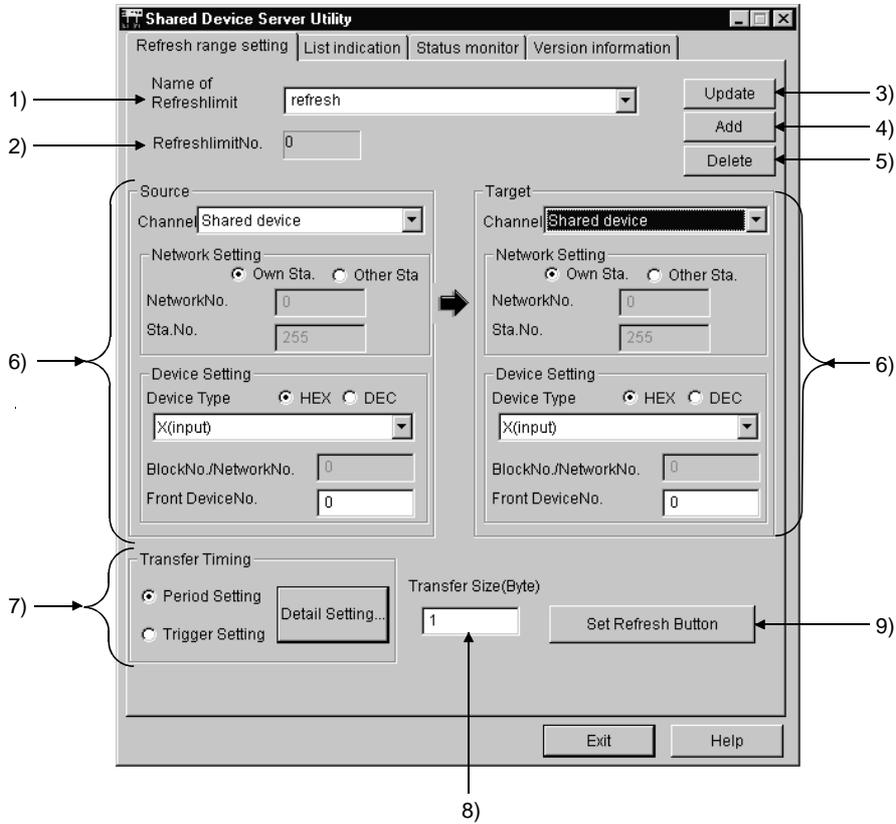
1) Name of Refresh Limit

Assigns a name for the current refresh range.
(Only half-size alphanumeric characters can be entered.)

2) Refresh Limit No.

Unique number to be used for control by the utility.
It is transparent to users.

3) "Update" button

Updates the settings made on this screen.

4) "Add" button

Newly adds a refresh range.

5) "Delete" button

Deletes the name of the current refresh range.

6) Source/Target Device Setting

Specifies a source or target device to be refreshed.

Choose a channel to use.

Choose Own Sta. or Other Sta..

Set a Network No. and a Sta.No..
(It's available only when Other station is choosen.)

Choose a device type.

Specify a decimal(DEC)/ hexadecimal(HEX) numeral for a devaice.

Enter a Block No. or a Network No..

Enter a head device number for a source or destination device.
(Specify with a multiple of 8 if a bit device is choosen.)

7) Transfer Timing

Sets the timing for data transfer.

Click the Detail Setting button, and the following screen will be displayed.

Click either "Period Setting" or "Trigger Setting".

• Check "Period Setting", then click the Detail Setting button

Set a period for data transfer.
(Any Number from 1 to 36000 can be specified.)

• Check "Trigger Setting", then click the Detail Setting button

Indicate a station number.
(Fixed to Local station)

Choose a channel to use.

Set a block number and a network number that are used when EM or L* device is specified.

Set a bit device to be specified as a trigger.

Specify a decimal(DEC) or hexadecimal(HEX) numeral for a device number.

Set a bit device number.

Set a period for checking the status of a specified bit device.
(Any number from 1 to 36000 can be specified.)

8) Transfer Size
   Specifies how many bytes of transfer device data (starting from the head device) will be transferred.
   (Any byte from 1 to 16384 bytes can be set.)

9) "Set Refresh" button
   Sets a condition to stop a refresh action when the dialogue box below is displayed.

Specify whether to stop refreshing.
(To continue refreshing , do not specify a Stop Condition.)

Indicate a station number.
(Fixed to Local station)

Set a block number and a network number that are used when EM or L* device is specified.

Enter a bit device number.

Set a bit position for a word device as its specification.

Choose a channel to use.

Set a device type to be specified as a stop condition.

Specify a decimal(DEC) or hexadecimal(HEX) numeral for a device number.

A target device is cleared if clicked when refreshing is stopped.

Refresh Setting

- ○ Unconditional Refres
- ● Stopping Refreshment under the Condition below

Stopping Condition

Channel	MELSECNET/10 (1 slot) ▼
Sta.No.	Own Sta.
Device Type	EM(Shared device) ▼
BlockNo./NetworkNo.	0
DeviceNo.	0
Bit Position	0

○ HEX ● DEC

● Stopping at setting bit ON   □ Target Clear at stopping
○ Stopping at setting bit OFF

OK   Cancel

Specify the bit status to stop refreshing.

9.2.4 Operations on List indication screen

This screen lists the settings made as a refresh range.

2)   3)   4)

```
┌─────────────────────────────────────────────────────────┐
│ 🖥 Shared Device Server Utility                 _ □ ×    │
├─────────────────────────────────────────────────────────┤
│ Refresh range setting │ List indication │ Status monitor │ Version information │
│                                                           │
│ ┌───────────┐   □ Trigger Device Information  □ Refresh Condition Information │
│ │ Text Save...│                                          │
│ └───────────┘                                            │
│ ┌──┬─────────────┬──────┬───────┬─────┬────┬──┬──────┬───────┬─────┬──────┬──┬────┐ │
│ │No│Refresh range│Source│Network│Trans│Device│No│Target│Network│Sta.N│Device│No│Tran│ │
│ ├──┼─────────────┼──────┼───────┼─────┼────┼──┼──────┼───────┼─────┼──────┼──┼────┤ │
│ │  │             │      │       │     │    │  │      │       │     │      │  │    │ │
│ │  │                                                        │ │
│ │                                                          │ │
│ │                                                          │ │
│ │                                                          │ │
│ │                                                          │ │
│ │                                                          │ │
│ │ ◄ │                                                    ► │ │
│ └──────────────────────────────────────────────────────┘ │
│                                    ┌──────┐    ┌──────┐   │
│                                    │ Exit │    │ Help │   │
│                                    └──────┘    └──────┘   │
└─────────────────────────────────────────────────────────┘
```

1)
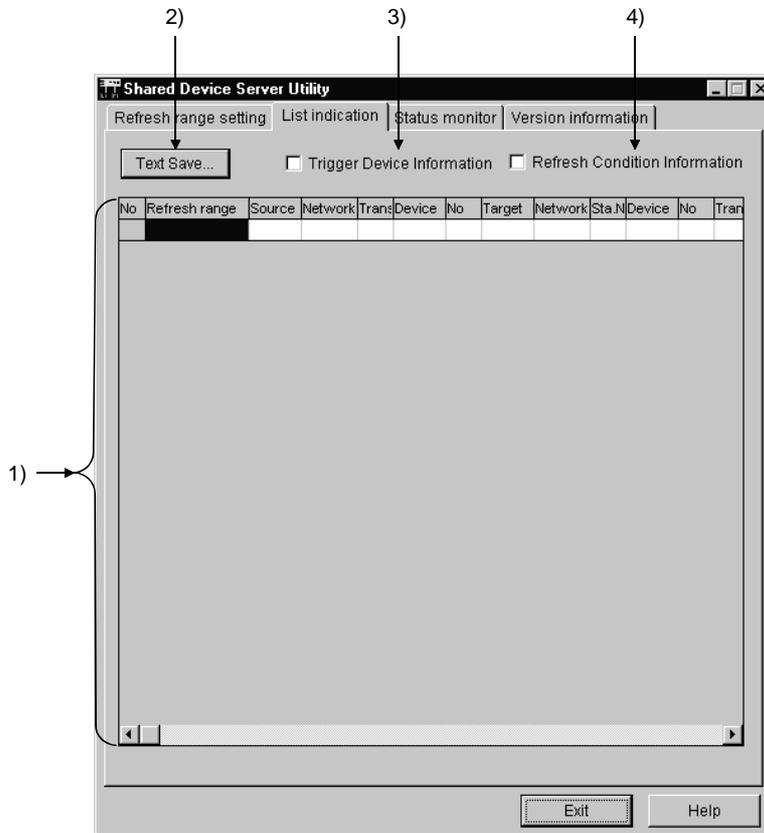
1) List of Settings

Lists the names of refresh ranges specified so far.

2) "Text Save" button

Saves the listed settings in the file.

3) Trigger Device information

Adds the trigger device items to the table by checking here.

4) Refresh Condition Information

Sets the refreshing items in the table by clicking here.

9.2.5 Operations on Status monitor screen

This screen displays or specifies the start/stop status in each refresh range and also lists the communications errors.

2)
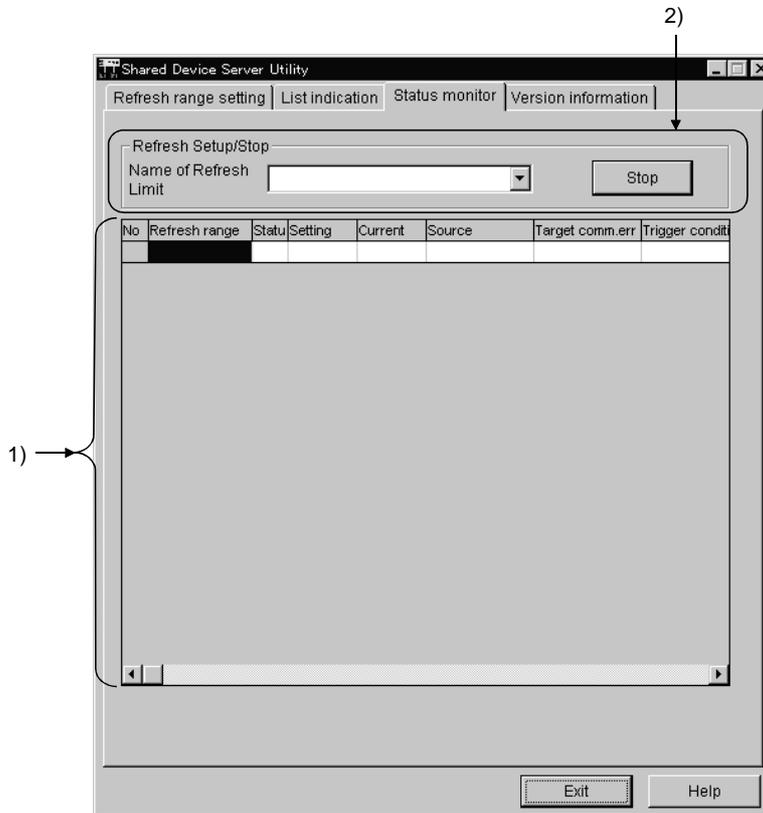
1) List of Refresh Range Status

Lists and displays the status of a refresh range specified.

2) Refresh Setup/Stop

Starts or stops a refresh range specified.

Choose the name of a refresh range in which start or stop is specified.

This button allows you to make start/stop settings for refreshing. When refreshing is being performed, it displays 'Stop'. When refreshing is stopped, it displays 'Run'.

9.3 LLT Utility

This section describes the operation of the LLT utility.

9.3.1 Operation procedure

The following is the operation procedure of the LLT utility.

```
                        ┌─────────────┐
                        │    START    │
                        └──────┬──────┘
                               ↓
    ┌──────────────────────────────────────┐
    │ Install GPPW.                          │
    └──────────────────┬───────────────────┘
                       ↓
    ┌──────────────────────────────────────┐
    │ Install the ladder logic test tool (LLT). │
    └──────────────────┬───────────────────┘
                       ↓
    ┌──────────────────────────────────────┐
    │ After starting GPPW, start LLT.        │
    └──────────────────┬───────────────────┘
                       ↓
    ┌──────────────────────────────────────┐
    │ Make settings on the LLT utility.      │
    │   ┌──────────────────────────────┐     │
    │   │ Make settings on the Target  │     │ ·········· Refer to Section 9.3.3.
    │   │ screen.                      │     │
    │   └──────────────┬───────────────┘     │
    │                  ↓                      │
    │   ┌──────────────────────────────┐     │
    │   │ Check whether communication  │     │ ·········· Refer to Section 9.3.2.
    │   │ can be made properly or not  │     │
    │   │ on the Diagnostics screen.   │     │
    │   └──────────────────────────────┘     │
    └──────────────────┬───────────────────┘
                       ↓
                ┌─────────────┐
                │     END     │
                └─────────────┘
```
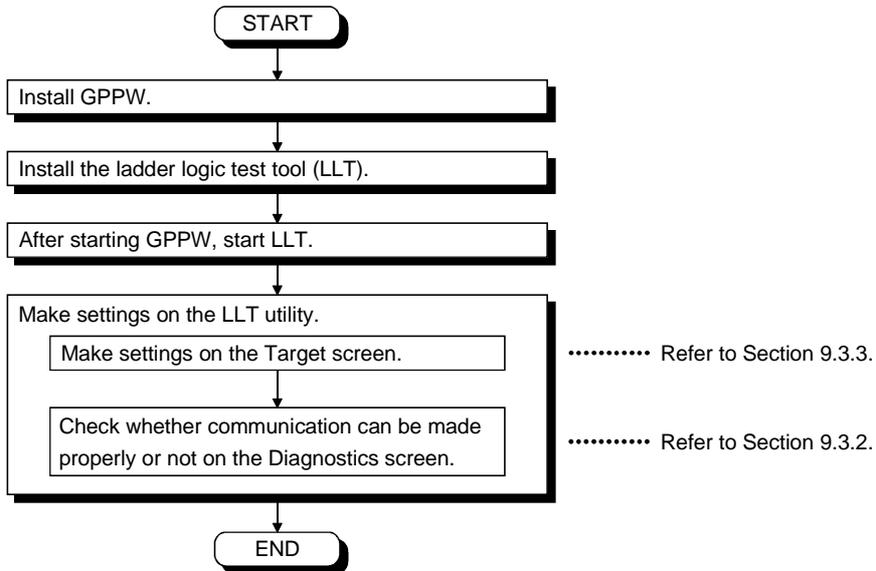
9.3.2 Operations on Diagnostics screen

Communication is made with LLT to diagnose whether communication is normal or abnormal.
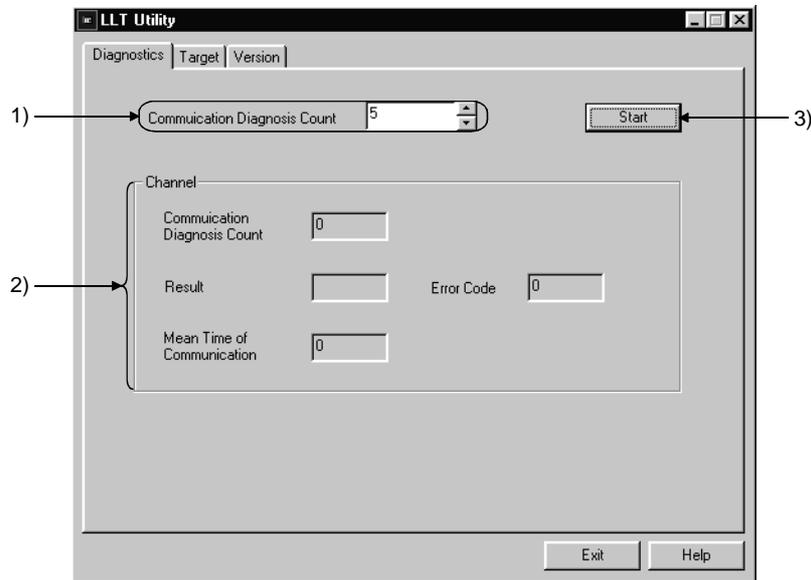
1) Communication Diagnosis Count
    Set the number of times the communication diagnosis is to be made.

2) Results
    Shows the results of the communication diagnosis.
    - Communication.........Shows the number of times the communication
      Diagnosis Count   diagnosis was made.
    - Result ....Shows the result of the communication diagnosis.
    - Mean Time of............Shows the mean time taken for communication.
      Communication
    - Error Code ....Shows the error code of the diagnosis result.
                               (For the definitions of the error codes, refer to the
                               programming manual.)

3) "Start" button
    Starts the communication diagnosis.

9.3.3 Operations on Target screen

Set the PLC type for LLT communication.
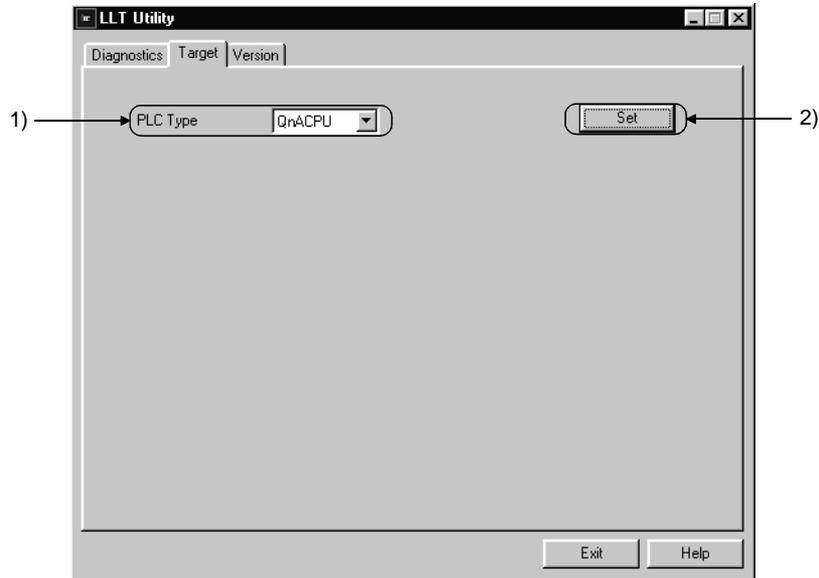
1) PLC Type

Set the type of the PLC CPU corresponding to the PC type set to the project of GPPW.

PLC CPU Type	PC Type of GPPW
QnA	Q2A, Q2AS(H), Q2AS1, Q2AS(H)S1, Q3A, Q4A,Q4AR
AnU	A2U(S1), A2AS(S1), A2AS-S30, A3U, A4U
AnA	A2A(S1), A3A
AnN	A0J2H, A1FX, A1S(S1), A1SJ, A1SH, A1SJH, A1N, A2C, A2CJ, A2N(S1), A2S(S1), A2SH(S1), A3N
FXCPU	FX0(S), FX0N, FX1, FXU/FX2C, FX2N(C)

2) "Set" button

The settings currently made are registered.

9 - 14

9.4 Device Monitor Utility

This section describes the operation and setting methods of the device monitor utility.

9.4.1 Operation procedure

The following is the operation procedure of the device monitor utility.

```
            ( START )
                |
+-------------------------------------+
| Click the [Setting]-[Network setting] menu and set the |  ·········· Refer to Section 9.4.4.
| channel to be used.                 |
+-------------------------------------+
                |
+-------------------------------------+
| Set the devices to be monitored.    |  ·········· Refer to Section 9.4.5.
+-------------------------------------+
                |
+-------------------------------------+
| Perform monitoring method changing, device value |  ·········· Refer to Sections 9.4.2, 9.4.3, and 9.4.6 to 9.4.10.
| changing, display format switching, etc. |
+-------------------------------------+
                |
            ( END )
```
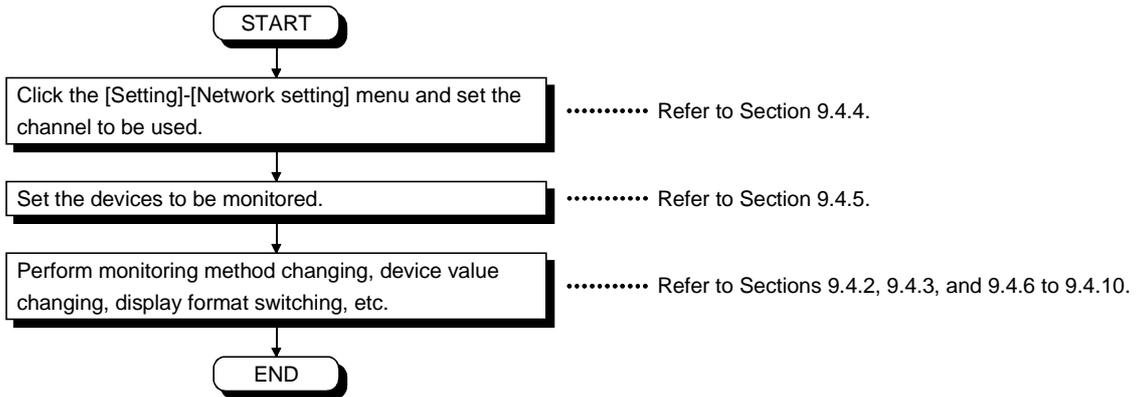
9.4.2 Selecting batch monitor

This function allows you to monitor only one specified device.

(1) Menu Selection
Click [Menu]-[Batch monitor] in order on the menu bar.
(It can be chosen only when monitoring 16-point register.)
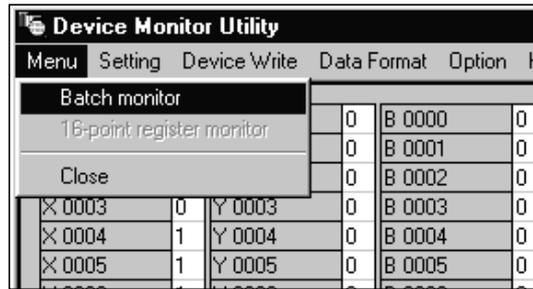
(2) Device Screen
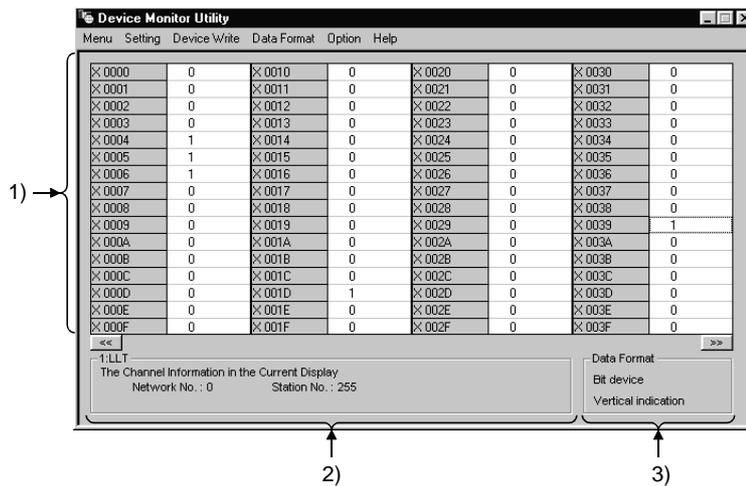
1) Device Information
Indicates the current status of a device.
See Subsection 9.4.9 for how to change a display type.

2) Network Status
Indicates the status of the current network.
See Subsection 9.4.4 for how to specify a network.

3) Data Format
Indicates the type (word device or bit device) and display format of a device being displayed.
See Subsection 9.4.5 for how to change the type of a device and see Subsection 9.4.9 for how to change a display format.

9.4.3 Selecting 16-point registration monitor

This function allows you to monitor a maximum of 5 bit devices and one word device at the same time.

(1) Menu Selection

Click [Menu]-[16-point register monitor] in order.

(This menu can be selected in batch monitoring.)
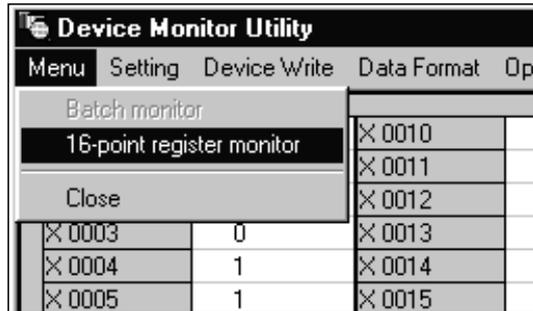
(2) Display Screen
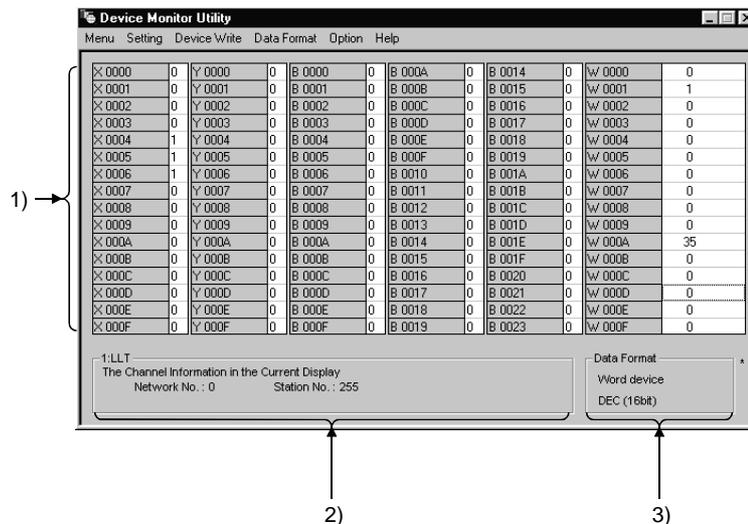
1) Device Information

Indicates the current status of a device.

See Subsection 9.4.9 for how to change a display format.

2) Network Status

Indicates the status of the current network.

See Subsection 9.4.4 for how to specify a network.

3) Data Format

Indicates the type (word device or bit device) and display format of a device being displayed.

See Subsection 9.4.5 for how to change the type of a device and see Subsection 9.4.9 for how to change a display format.

9.4.4 Setting the monitor target

This screen allows you to set the network to be used for device monitoring.
Make settings at the start of the Device Monitor utility.

(1) Menu Selection
Click [Setting]-[Network setting] in order on the menu bar.
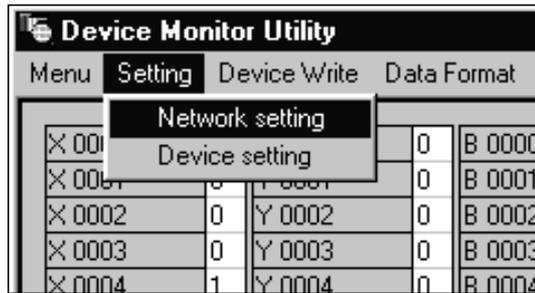
(2) Dialogue Box
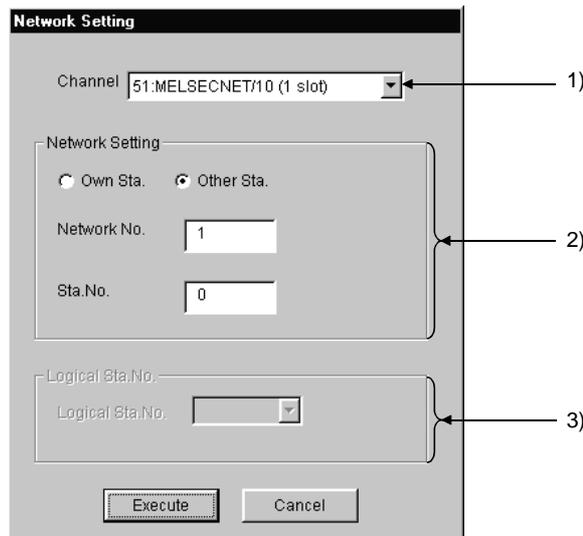
1) Channel
Sets a channel to be used.

2) Network Setting
Sets a local or other station, a network number, and a station number.

3) Logical Sta. No.
Sets a logical station number.

```
  POINT
As a monitor target, do not specify the remote I/O station or intelligent device
station of CC-Link.
Doing so will cause an error.
```

9.4.5 Setting the devices to be monitored

This screen allows you to specify a device to be monitored.

(1) Menu Selection
Click [Setting]-[Device setting] in order on the menu bar.

(2) Dialogue Box

Batch monitoring   16-point registration monitoring
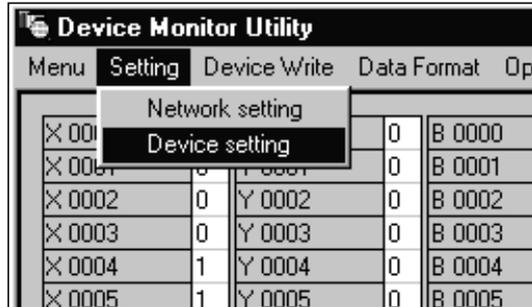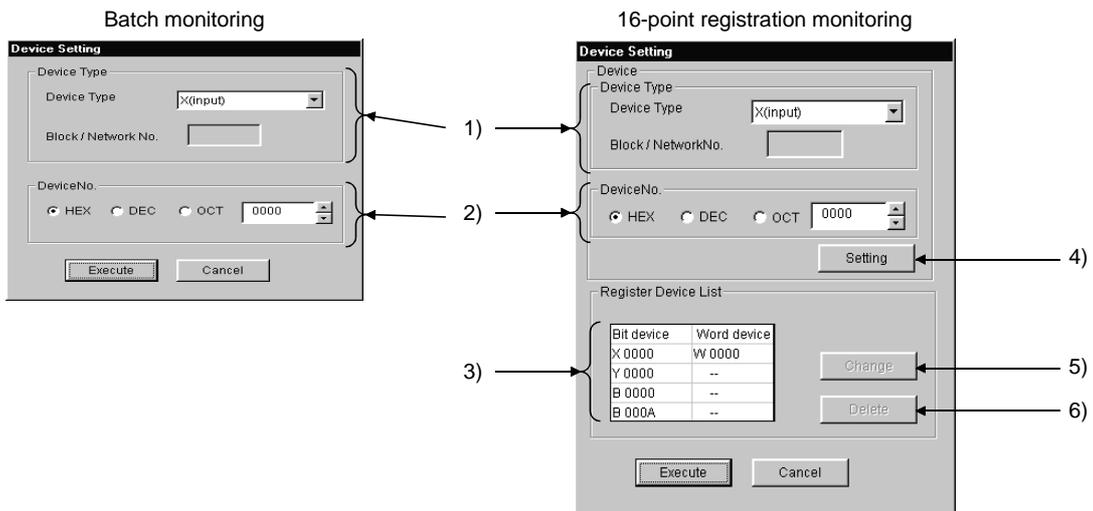
1) Device Type
Specifies the type and block number of a device to be monitored and a network number.
When monitoring the own station device of the CC-Link card, set the device as indicated below.

Own Station Device to Be Monitored	Device Type to Be Specified
RX	X
RY	Y
SB	SM
SW	SD
RWw	Ww
RWr	Wr
Random access buffer	RAB
Buffer memory	SPB

2) Device No.

Specifies a head number of a device to be monitored.
(HEX: Hexadecimal numeral, DEC: Decimal numeral, OCT: Octal numeral)

3) Register Device List

Lists the devices registered.

4) "Setting" button

Registers the settings made in 1) and 2) above, then adds them to 3)
(Register Device List) above.

5) "Change" button

Changes the setting registered by clicking this button after choosing a
device to be changed.

6) "Delete" button

Deletes a device from the Register Device List when clicking this button
after choosing a device to be deleted.

9.4.6 Changing the word device values

This screen allows you to change the data of the specified word device.

(1) Menu Selection
Click [Device Write]-[Data changing] in order on the menu bar.
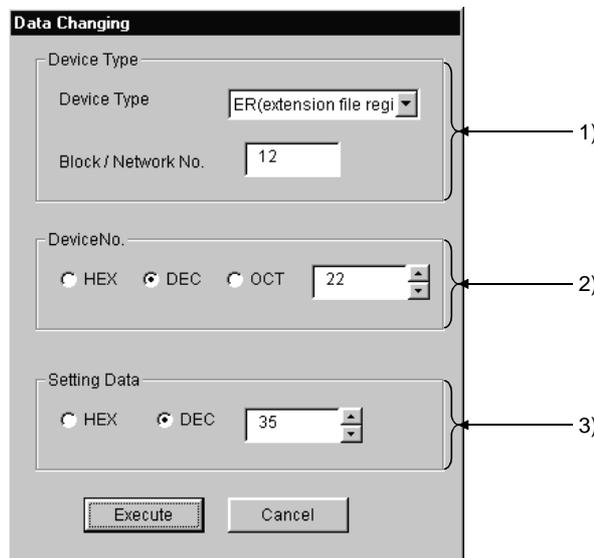
(2) Dialogue Box

1) Device Type
Specifies the type and block number of a device whose data will be changed and a network number.

2) Device No.
Specifies the number of a device whose data will be changed.
(HEX: Hexadecimal numeral, DEC: Decimal numeral, OCT: Octal numeral)

3) Setting Data
Sets data to be changed.
(HEX: Hexadecimal numeral, DEC: Decimal numeral)

⚠DANGER • Make sure to provide an interlock circuit in a sequence program so that the overall system always operates safely for data change control to the PLC in operation. Also, make sure to designate corrective actions or countermeasures for data communication errors between the personal computer and the PLC CPU.

9.4.7 Changing the word device values consecutively

This screen allows you to change the specified word device into the specified data according to the specified number of points.

(1) Menu Selection

Click [Device Write]-[Continuous change in data] in order on the menu bar.
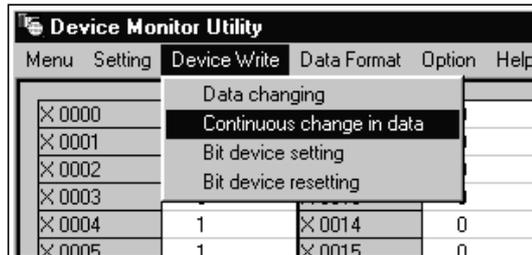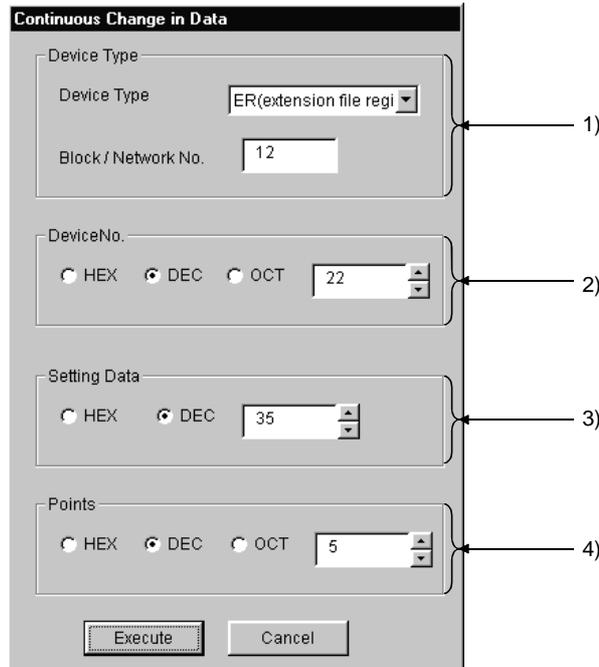
(2) Dialogue Box

1) Device Type

Specifies the type and block number of a device whose data will be changed and a network number.

2) Device No.

Specifies the head number of a device whose data will be changed.
(HEX: Hexadecimal numeral, DEC: Decimal numeral, Oct: Octal numeral)

3) Setting Data

Sets data to be changed.
(HEX: Hexadecimal numeral, DEC: Decimal numeral)

4) Points

Sets the number of points whose data will be changed.

(HEX: Hexadecimal numeral, DEC: Decimal numeral, Oct: Octal numeral)

⚠ DANGER	• Make sure to provide an interlock circuit in a sequence program so that the overall system always operates safely for data change control to the PLC in operation. Also, make sure to designate corrective actions or countermeasures for data communication errors between the personal computer and the PLC CPU.

9.4.8 Switching the bit devices ON/OFF

This screen allows you to switch a specified bit device ON/OFF.

(1) Menu Selection
Click [Device Write]-[Bit device setting (resetting)] in order on the menu bar.
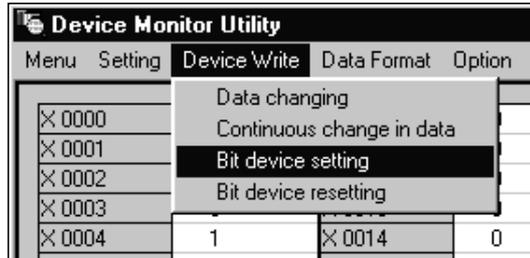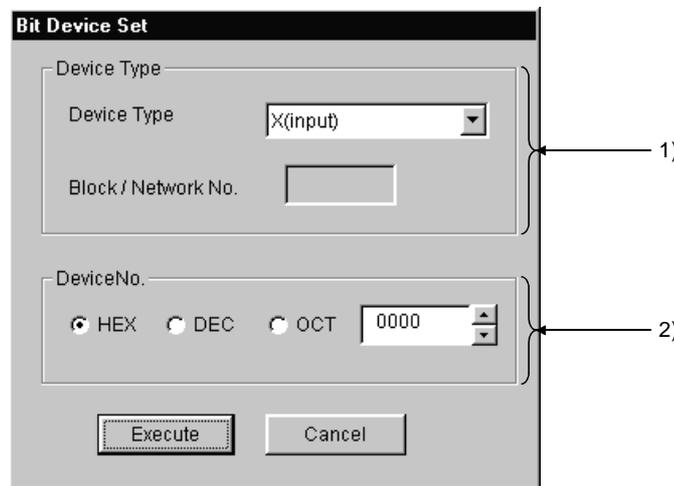
(2) Dialogue Box

1) Device Type
Specifies the type and block number of a device to be activated or deactivated and a network number.

2) Device No.
Specifies the number of a device to be activated or deactivated.
(HEX: Hexadecimal numeral, DEC: Decimal numeral, Oct: Octal numeral)

⟨!⟩DANGER
• Make sure to provide an interlock circuit in a sequence program so that the overall system always operates safely for data change control to the PLC in operation. Also, make sure to designate corrective actions or countermeasures for data communication errors between the personal computer and the PLC CPU.

9.4.9 Switching between display formats

This screen allows you to switch a display format in device monitoring to a specified format.
The menu selection differs depending on the monitor type (batch monitor or 16-point register monitor).

(1) Menu Selection
Click [Data Format]-[Word (Bit) device] in order on the menu bar.
(a) Batch monitoring

[Word Device]   [Bit Device]
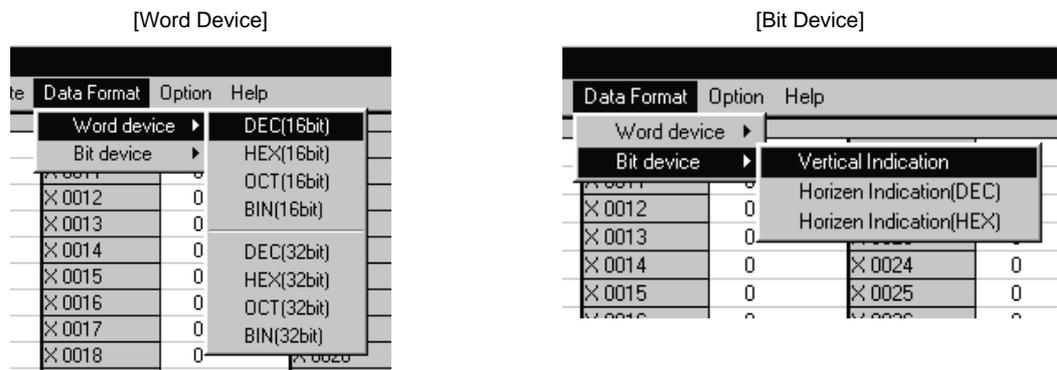
(b) 16-point register monitoring

[Word Device]   [Bit Device]
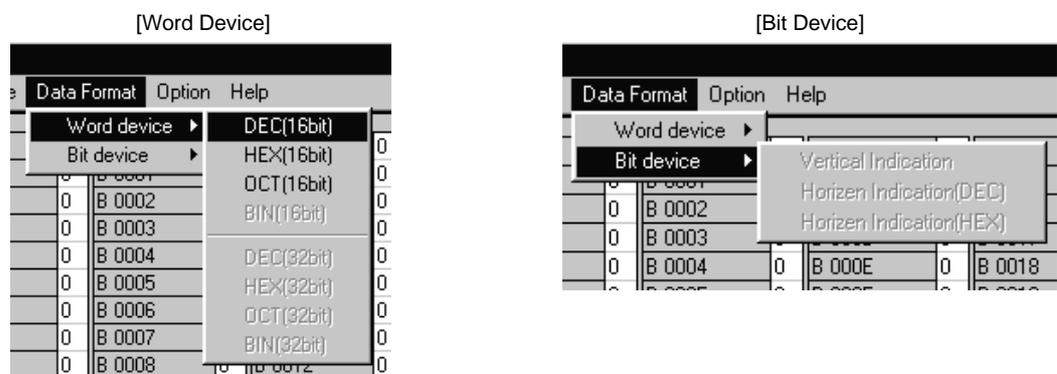
9.4.10 About the Numerical Pad

By choosing [Option]-[Numerical Pad] on the menu bar, you can use the numerical pad when setting the device value, etc.
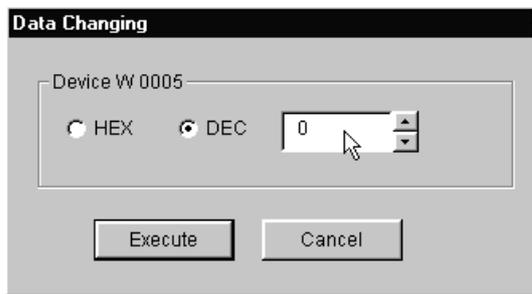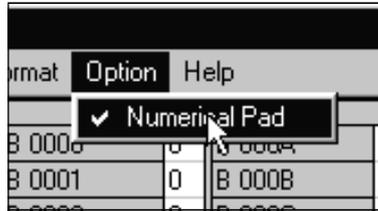
1. Click the numerical input column.

↓
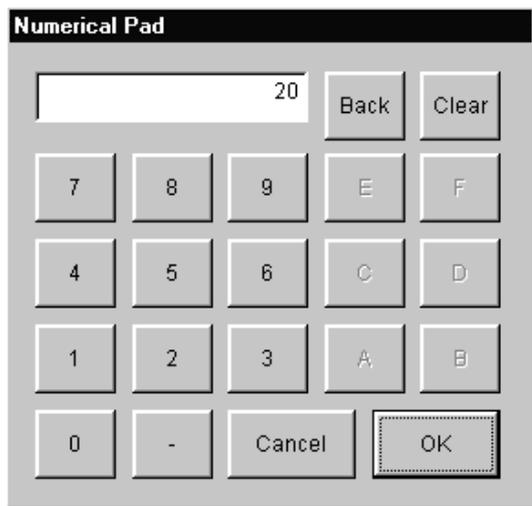
2. As the Numerical Pad appears, enter the value with the buttons.

3. Click the "OK" button.

↓
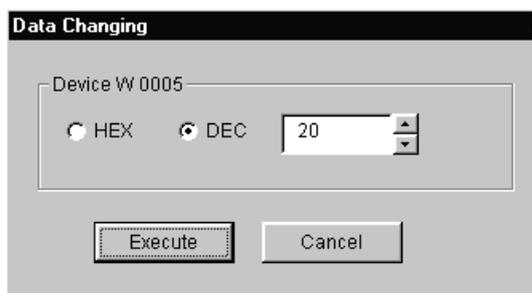
4. The value is entered.

9.4.11 Other Operations

Double-clicking a device number on the screen during device monitoring changes the word device data or activates or deactivates the bit device.

(1) Word Device

The following shows the operations to be performed for word device change (only for 16-bit display format).
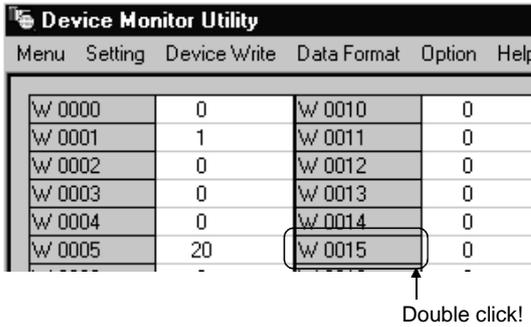
Double click!

1. Double-click the number of a word device to be changed.

↓
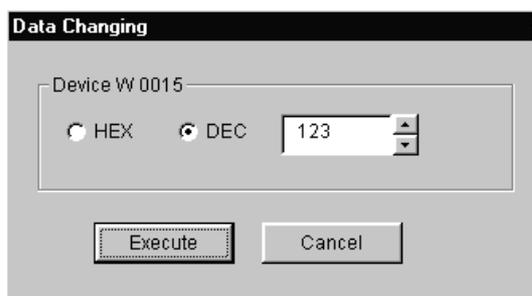
2. Enter a desired value on the dialogue box shown at left.

3. Click the "Execute" button.

↓
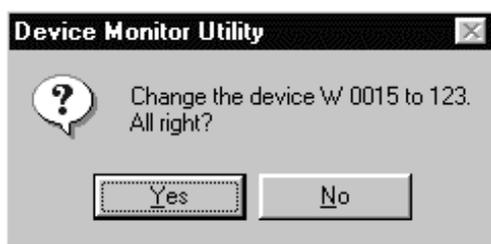
4. Select "Yes" on the dialogue box at left or "No" to cancel.

↓

Data change completed

⚠ DANGER	• Make sure to provide an interlock circuit in a sequence program so that the overall system always operates safely for data change control to the PLC in operation. Also, make sure to designate corrective actions or countermeasures for data communication errors between the personal computer and the PLC CPU.

(2) Bit Device

The following shows the operations to be performed for bit device activation or deactivation.

Note that these operations can be performed only for display in descending order.

| | | 1. Double-click the number of a bit device number to be changed. |

Device Monitor Utility

Menu Setting Device Write Data Format Option Help

B 0000	0	B 0010	0
B 0001	0	B 0011	0
B 0002	0	B 0012	0
B 0003	0	B 0013	0
B 0004	0	B 0014	0
B 0005	0	B 0015	0

Double click!

↓

The selected bit device is ON.

Device Monitor Utility

? Change the device B 0015 to ON.
All right?

[Yes]   [No]

2. Select "Yes" on the dialogue box at left or "No" to cancel.

The selected bit device is OFF.

Device Monitor Utility

? Change the device B 0015 to OFF.
All right?

[Yes]   [No]

↓

Data change completed

⟨!⟩DANGER   • Make sure to provide an interlock circuit in a sequence program so that the overall system always operates safely for data change control to the PLC in operation. Also, make sure to designate corrective actions or countermeasures for data communication errors between the personal computer and the PLC CPU.

9.5 Error Viewer

This section describes the operation and setting methods of the device monitor utility.

9.5.1 Screen explanation

This section describes the Error Viewer screen.
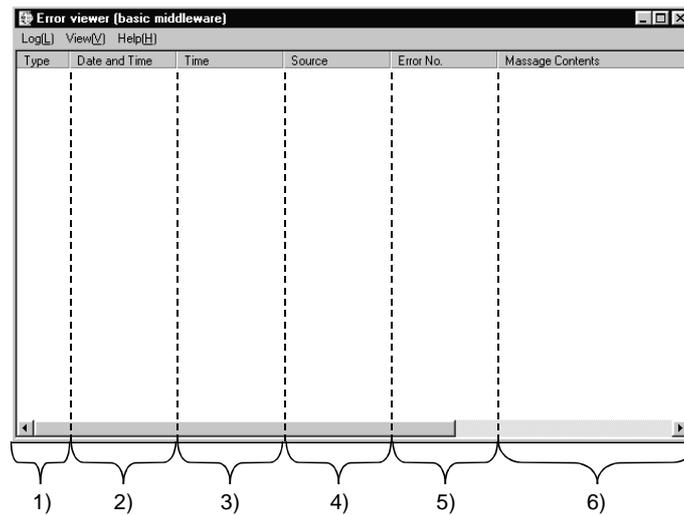
1) Type

Indicates the types of errors by the following symbols.

🛈 Normal message

(Informational message concerning a normal operation.)

⚠ Warning message

(Message signaling a caution rather than an error)

⊗ Error message

(Explains the error that occurred in each module. Double-click it and see the detailed explanations of this error so as to immediately solve the error for the line to which this message has been given.)

2) Date and Time

Indicates the date at which an error occurred.

3) Time

Indicates the time at which an error occurred.

4) Source

Indicates the source of an error.

5) Error No.

Indicates the number of the error that occurred. For details of error number, see Error List Manual.

6) Message Contents

Explains the error.

9.5.2 Log menu

This subsection describes the items of the log menu
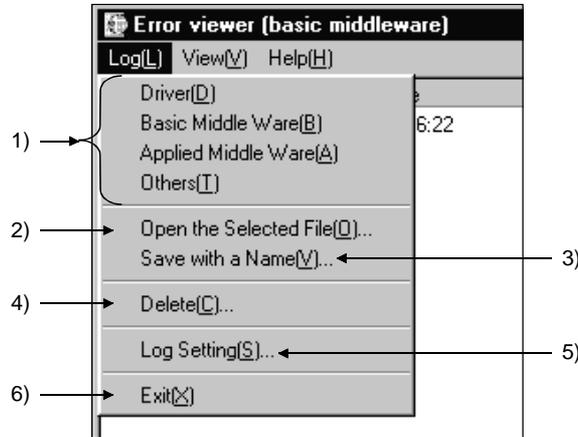
1) Selection of Type of Error Register Source

Chooses a type of error register source displayed in Error Viewer.

- Driver ....Displays messages from a driver for a shared
  memory device, etc.
- Basic Middle Ware...Displays messages from a shared device server
  process.
- Applied Middle ....Displays messages from an applied middle ware.
  Ware
- Others ....Displays messages from an application package.

2) Open the Selected File

Use the dialogue box below to open the error log file (*ELF).

Select an error log file to be opened.

Click this button to open the selected
error log file.
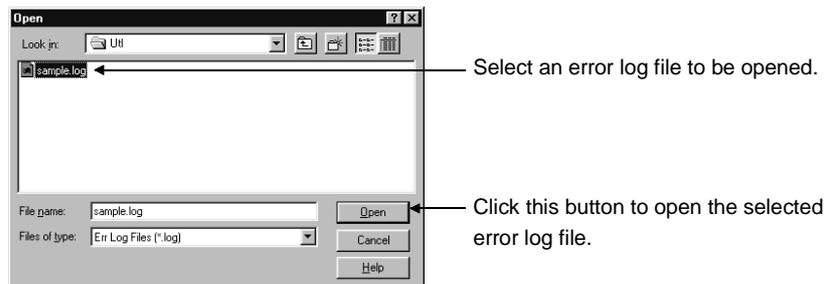
3) Save with a Name

Saves the error log information of an error register source (driver, basic middle ware, etc.) currently chosen in the file specified in the dialogue box below.

Specify the name of a file to save the error log.

Click here to save error log information in the specified file.
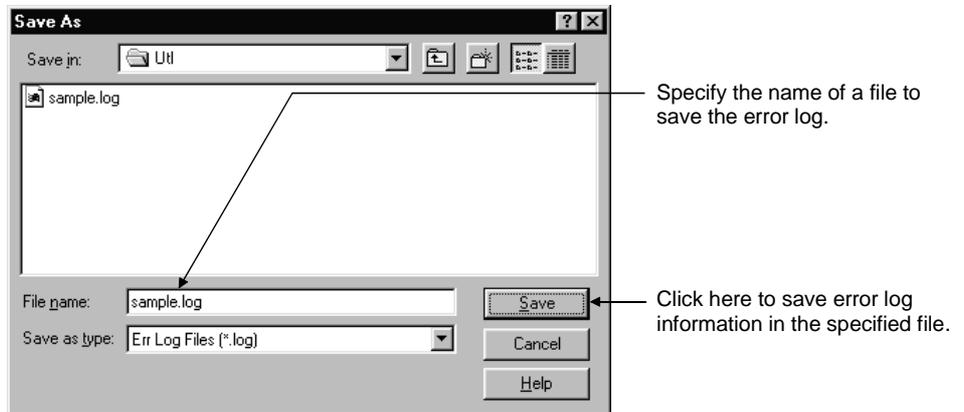
4) Delete

Deletes error log information on an error register source (driver, basic middle ware, etc.) currently displayed.

Delete the error log information according to the instructions in the dialogue box.

5) Log Setting

Chooses action taken when the number of error logs exceeds the maximum register number.

Overwrite in historical order.

Do not register information unless space is reserved by old information deletion.
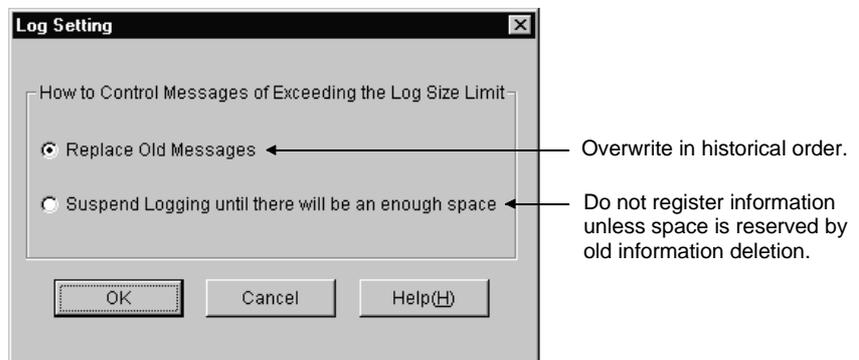
6) Exit

Terminates the Error Viewer.

9.5.3 Display menu

This section describes the items of the viewer.
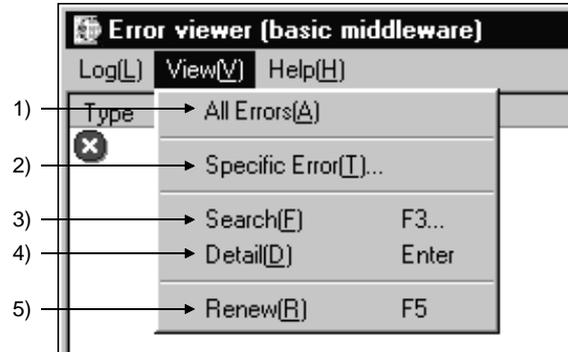
1) All Errors
   Displays the errors by the type of error register source.

2) Specific Error
   Displays the errors on the screen according to the conditions specified in the dialogue box below.
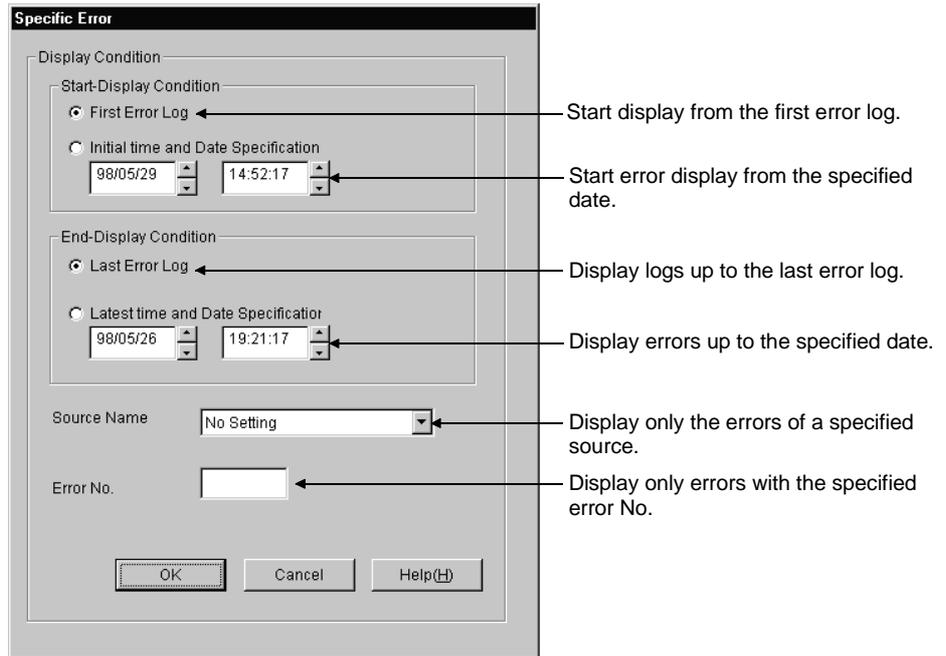
3) Search

The dialogue box below allows you to find the source names and error
information of an error code by referring to the details of the error log
currently displayed.

(Pressing the "F3" key does this as well.)

Set a source file name to find.
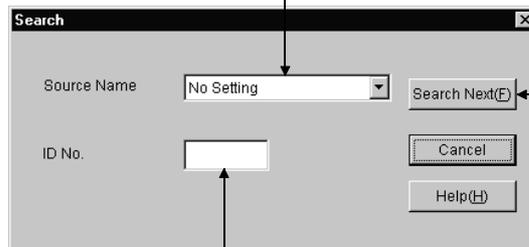
Find the next error information.

Input an error code to find.

4) Detail

Displays the detailed information about the current error log.

(You can also do this by pressing the "ENTER" key after the items
displayed are chosen.)
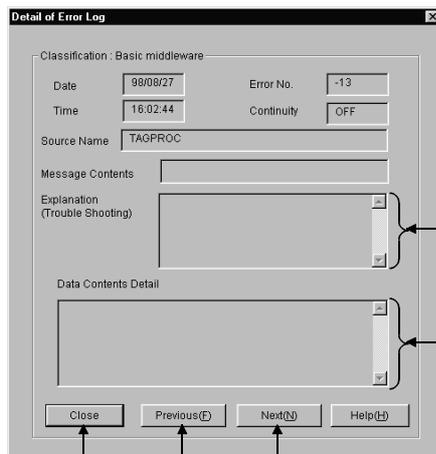
Displays the details of an error. No details are
given according to the type of the source.

List data when the contents of a driver or buffer
memory are referenced. No data may be displ-
ayed according to the type of the source.

Display the details of error log information.

Display the details of the next error log information.

Close this dialogue box.

5) Renew

Renews the current information.

10 SHARED DEVICES

This chapter describes the shared devices (EM, ED) available when the CSKP is installed.

10.1 Specifications

The following table lists the specifications of the shared devices (EM, ED).

EM (Bit Device)		ED (Word Device)	
Number of Blocks (0 to 255)	Device Range (0 to 8191)	Number of Blocks (0 to 255)	Device Range (0 to 8191)
EM0 [*1]	EM0(0) to EM0(8191)	ED0 [*1]	ED0(0) to ED0(8191)
EM1	EM1(0) to EM1(8191)	ED1	ED1(0) to ED1(8191)
EM2	EM2(0) to EM2(8191)	ED2	ED2(0) to ED2(8191)
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
EM255	EM255(0) to EM255(8191)	ED255	ED255(0) to ED255(8191)

*1 System Information Area

POINTS
(1) The shared devices can be used only when the operating system (OS) is Windows NT 4.0. They cannot be used under Windows 95 and Windows 98.
(2) The number of blocks to be used differs depending on how the Shared Device Utility is set.
(3) The shared devices exist only in the personal computers rather than PC.

10.2 System Area Information

The system area information is stored in the block No. 0 of the shared devices (EM, ED).

	ED0	EM0
0 to 99	Personal computer system information	Reserved
100 to 199	Information on machine basic configuration	
200 to 399	Reserved	
400 to 599	Drive information	
600 to 999	Printer information	
1000 to 8191	Reserved	

POINT
System area information is all read-only information.
No data can be written to this system area.

(1) Personal Computer System Information

The following table lists the personal computer system information that is stored in up to the ED block 0.

Device number	Name	Explanation
0 to 1	Shared device identifier	EMED is stored as a 4-character shared device identifier.
2	Number of shared device blocks	The number of blocks of a shared device (EM or ED) is stored.
3 to 4	Shared device driver version	The driver version ("00A", "10B", "20C", etc.) of a shared device is stored in 3 letters.
5 to 99	Reserved	Unused areas

(2) Machine Basic Configuration Information

The following table lists the machine basic configuration information that is stored in up to the ED block 0 (device No. 100 to device No. 199).

Device number	Name	Explanation
100 to 101	CPU type	Information about the processor mounted on a personal computer is stored in numerals as follows: 386: i386CPU 486: i486CPU 586: Pentium CPU
102 to 103	Main memory size	The overall physical size of main memory is stored in four bytes as shown below. Device No.102: Lower 2 bytes of overall physical size (Data: 0 to 0xFFFF) Device No.103: Upper 2 bytes of overall physical size (Data: 0 to 0xFFFF)
104 to 199	Reserved	Unused areas

(3) Drive Information

The following table lists the drive information that is stored in up to the ED block 0 (device No. 400 to device No. 599).

Device No.	Name	Explanations
400	Number of Drives	The total number of drives existing in a personal computer is stored.
401 to 530	Drive Information	Each type of drive, total disc capacity, and free disk capacity existing in a personal computer are stored in the following format: A Drive Information Device No. 401: Type of drive 　　　　　2···Changeable drive 　　　　　3···Fixed drive 　　　　　4···Network drive 　　　　　5···CD-ROM drive Data listed below are stored in No. 402 to 405 only when a fixed drive is used Device No. 402: Lower two bytes of total disk capacity Device No. 403: Upper two bytes of total disk capacity Device No. 404: Lower two bytes of vacant disk capacity Device No. 405: Upper two bytes of vacant disk capacity to Z Drive Information Device No. 401: Type of drive 　　　　　2···Changeable drive 　　　　　3···Fixed drive 　　　　　4···Network drive 　　　　　5···CD-ROM drive Data listed below is stored in No. 527 to 530 only when a fixed drive is used Device No. 527: Lower two bytes of total disk capacity Device No. 528: Upper two bytes of total disk capacity Device No. 529: Lower two bytes of vacant disk capacity Device No. 530: Upper two bytes of vacant disk capacity
531 to 599	Reserved	Unused areas

(4) Printer Information

The following table lists the printer information that is stored in up to the ED block 0 (device No. 600 to device No. 999).

Device No.	Name	Explanation
600	Number of Printers Connected	The total number of printers specified in the printer port of a personal computer is stored. (Network printers not included)
601 to 984	Information on Printers Connected	Information on a printer connected to the printer port of a personal computer is stored in the following format. LPT1: Information Device No. 601 to 664: Printer name (128 characters) Device No. 665 to 728: Driver name (128 names) LPT2: Information Device No. 729 to 792: Printer name (128 characters)) Device No. 793 to 856: Driver name (128 names) LPT3: Information Device No. 857 to 920: Printer name (128 characters) Device No. 921 to 984: Driver name (128 names)
985 to 999	Reserved	Unused areas

MEMO

11 ACCESSIBLE DEVICES AND ACCESSIBLE RANGE

This chapter describes the accessible devices and accessible range in each communication mode.

POINT
"Batch" or "Random" in the table implies the following
"Batch"   Batch read/Batch write
"Random"   Random read/Random write/Bit set/Bit reset

11.1 Cautions on Device Access

This section explains the cautions on extended file register access.

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.

11.2 Computer Link Communication

This section describes the accessible devices and accessible range in the Computer Link Communication.

11.2.1 Accessible Devices

The following lists the accessible devices in the Computer Link Communication.

Device		A1N	A0J2H A1S(-S1) A1SH A1SJH(-S8) A1SJ(-3) A2C(J) A2N(-S1) A2S(-S1) A2SH(-S1) A1FX	A2A(-S1) A2U(-S1) A2AS(-S1) A2AS-S30	A3N A3A A3U	A4U	Q2A(-S1) Q3A Q4A Q4AR Q2AS(-S1) Q2ASH(-S1)	FX0 FX0S FX0N FX1 FX2 FX2C FX2N FX2NC
				Destination				
X	Batch	○	○	○	○	○	○	×
	Random							
Y	Batch	○	○	○	○	○	○	×
	Random							
L	Batch	○	○	○	○	○	○	×
	Random							
M	Batch	○	○	○	○	○	○	×
	Random							
Special M(SM), SB	Batch	○	○	○	○	○	○	×
	Random							
F	Batch	○	○	○	○	○	○	×
	Random							
T (Contact Point)	Batch	○	○	○	○	○	○	×
	Random						×	
T(Coil)	Batch	○	○	○	○	○	○	×
	Random						×	
C (Contact Point)	Batch	○	○	○	○	○	○	×
	Random						×	
C (Coil)	Batch	○	○	○	○	○	○	×
	Random						×	
T (Current Value)	Batch	○	○	○	○	○	○	×
	Random							
C (Current Value)	Batch	○	○	○	○	○	○	×
	Random							
D	Batch	○	○	○	○	○	○	×
	Random							
Special D(SD), SW	Batch	○	○	○	○	○	○	×
	Random							
T (Main Set Value)	Batch	○	○	○	○	○	×	×
	Random	×	×	×	×	×		
T (Sub Set Value 1)	Batch	○	○	○ *1	○	○	×	×
	Random			×	×	×		
T (Sub Set Value 2)	Batch	×	×	×	×	○	×	×
	Random					×		
T (Sub Set Value 3)	Batch	×	×	×	×	○	×	×
	Random					×		
C (Main Set Value)	Batch	○	○	○	○	○	×	×
	Random	×	×	×	×	×		
C (Sub Set Value 1)	Batch	○	○	○ *1	○	○	×	×
	Random			×	×	×		

*1 A2A(-S1)CPU is not allowed access.

Device		Destination						
		A1N	A0J2H A1S(-S1) A1SH A1SJH(-S8) A1SJ(-3) A2C(J) A2N(-S1) A2S(-S1) A2SH(-S1) A1FX	A2A(-S1) A2U(-S1) A2AS(-S1) A2AS-S30	A3N A3A A3U	A4U	Q2A(-S1) Q3A Q4A Q4AR Q2AS(-S1) Q2ASH(-S1)	FX0 FX0S FX0N FX1 FX2 FX2C FX2N FX2NC
C (Sub Set Value 2)	Batch	×	×	×	×	O	×	×
	Random					×		
C (Sub Set Value 3)	Batch	×	×	×	×	O	×	×
	Random					×		
A	Batch	×	×	×	×	×	×	×
	Random							
Z	Batch	×	×	×	×	×	×	×
	Random							
V (Index Register)	Batch	×	×	×	×	×	×	×
	Random							
R (File Register)	Batch	×	O	O	O	O	O	×
	Random							
ER (Extended File Register)	Batch	O	O	O	O	O	O	×
	Random							
B	Batch	O	O	O	O	O	O	×
	Random							
W	Batch	O	O	O	O	O	O	×
	Random							
QnA Link Special Relay (on QnA CPU)	Batch	×	×	×	×	×	O	×
	Random							
Integrating Timer (Contact Point)	Batch	×	×	×	×	×	O	×
	Random						×	
Integrating Timer (Coil)	Batch	×	×	×	×	×	O	×
	Random						×	
QnA Link Special Register (on QnA CPU)	Batch	×	×	×	×	×	O	×
	Random							
QnA Edge Relay (on QnA CPU)	Batch	×	×	×	×	×	O	×
	Random							
Own station random access buffer	Batch	×	×	×	×	×	×	×
	Random							
Integrating Timer (Current Value)	Batch	×	×	×	×	×	O	×
	Random							
Own station link register (For sending)	Batch	×	×	×	×	×	×	×
	Random							
Own station link register (For receiving)	Batch	×	×	×	×	×	×	×
	Random							
S device of FXCPU	Batch	×	×	×	×	×	×	×
	Random							
Own station buffer memory	Batch	×	×	×	×	×	×	×
	Random							
QnA SEND function (with confirmation of arrival)	Batch	×	×	×	×	×	×	×
	Random							
QnA SEND function (without confirmation of arrival)	Batch	×	×	×	×	×	×	×
	Random							

Device		A1N	A0J2H A1S(-S1) A1SH A1SJH(-S8) A1SJ(-3) A2C(J) A2N(-S1) A2S(-S1) A2SH(-S1) A1FX	A2A(-S1) A2U(-S1) A2AS(-S1) A2AS-S30	A3N A3A A3U	A4U	Q2A(-S1) Q3A Q4A Q4AR Q2AS(-S1) Q2ASH(-S1)	FX0 FX0S FX0N FX1 FX2 FX2C FX2N FX2NC
					Destination			
Direct Link Input	Batch	×	×	×	×	×	O *2	×
	Random							
Direct Link Output	Batch	×	×	×	×	×	O *2	×
	Random							
Direct Link Relay	Batch	×	×	×	×	×	O *2	×
	Random							
Direct Link Register	Batch	×	×	×	×	×	O *2	×
	Random							
Direct Link Special Relay (on Network Unit)	Batch	×	×	×	×	×	O *2	×
	Random							
Direct Link Special Register (on Network Unit)	Batch	×	×	×	×	×	O *2	×
	Random							
Special Direct Buffer Register	Batch	×	×	×	×	×	O	×
	Random							
Other station buffer memory	Batch	×	×	×	×	×	×	×
	Random							
Other station random access buffer	Batch	×	×	×	×	×	×	×
	Random							
Other station RX	Batch	×	×	×	×	×	×	×
	Random							
Other station RY	Batch	×	×	×	×	×	×	×
	Random							
Other station link register	Batch	×	×	×	×	×	×	×
	Random							
Other station SB	Batch	×	×	×	×	×	×	×
	Random							
Other station SW	Batch	×	×	×	×	×	×	×
	Random							

*2 Access is not allowed unless there's a network module available.

11.2.2 Accessible range

The accessible range for computer link communication is as follows.

(1) Multidrop connection

All station numbers are accessible if the personal computer (CSKP) is connected to the computer link module of any station number.

(2) Via MELSECNET/10

```
┌─────────────────────────────────────────────────────────────────┐
│  POINTS                                                           │
│  (1) When using the C24                                          │
│      When the AnUCPU or QnACPU is accessed, it is handled as the AnACPU. │
│      The range of the accessible network is only its own network. │
│  (2) When using the UC24                                         │
│      When the QnACPU is accessed, it is handled as the AnACPU.   │
│  (3) When using the QC24                                         │
│      Access may be made to the QnACPU only.                      │
└─────────────────────────────────────────────────────────────────┘
```

(a) Inter-PC network

Mp: Control station
Ns: Normal station (AnUCPU, QnACPU)
N: Normal station (CPU other than above)
*1 Computer link module

Number	Target						
	1Mp1	1N2	1Ns3/2Mp1	1Ns4	2N2	2Ns3	2Ns4
1)	○	○	○	○	○	○	○
2)	○	○	×	×	×	×	×
3)	○	○	○	○	○	○	○
4)	×	×	○	×	○	×	×
5)	○	○	○	○	○	○	○

○: Accessible, ×: Inaccessible

(b) Remote I/O network

| CSKP 2) | | | CSKP 1) | | Network No. |
| *1 | 1N2 | | *1 | 1Mp1 | Station No. |

MELSECNET/10 Network No.1

| 1Ns4 | | *1 | 1Ns3 | 2MR | | CSKP 4) | *1 | 2R1 |

CSKP 3)

MELSECNET/10 Network No.2

| 2R3 | | *1 | 2R2 |

CSKP 5)

Mp: Control station
Ns: Normal station (AnUCPU, QnACPU)
N: Normal station (CPU other than above)
MR: Master station (AnUCPU, QnACPU)
R: Remote station

*1 Computer link module

Number	Target						
	1Mp1	1N2	1Ns3/ 2MR	1Ns4	2R1	2R2	2R3
1)	○	○	○	○	○	○	○
2)	○	○	×	×	×	×	×
3)	○	○	○	○	○	○	○
4)	○	○	○	○	○	×	×
5)	○	○	○	○	×	○	×

○: Accessible, ×: Inaccessible

11.3 Ethernet Communication

This section describes the accessible devices and accessible range in the Ethernet Communication.

11.3.1 Accessible Devices

The following lists the accessible devices in the Ethernet Communication.

Device		A1N	A0J2H A1S(-S1) A1SH A1SJH(-S8) A1SJ(-3) A2C(J) A2N(-S1) A2S(-S1) A2SH(-S1) A1FX	A2A(-S1) A2U(-S1) A2AS(-S1) A2AS-S30	A3N A3A A3U	A4U	Q2A(-S1) Q3A Q4A Q4AR Q2AS(-S1) Q2ASH(-S1)	FX0 FX0S FX0N FX1 FX2 FX2C FX2N FX2NC
				Destination				
X	Batch	○	○	○	○	○	○	×
	Random							
Y	Batch	○	○	○	○	○	○	×
	Random							
L	Batch	○	○	○	○	○	○	×
	Random							
M	Batch	○	○	○	○	○	○	×
	Random							
Special M(SM), SB	Batch	○	○	○	○	○	○	×
	Random							
F	Batch	○	○	○	○	○	○	×
	Random							
T (Contact Point)	Batch	○	○	○	○	○	○	×
	Random						×	
T(Coil)	Batch	○	○	○	○	○	○	×
	Random						×	
C (Contact Point)	Batch	○	○	○	○	○	○	×
	Random						×	
C (Coil)	Batch	○	○	○	○	○	○	×
	Random						×	
T (Current Value)	Batch	○	○	○	○	○	○	×
	Random							
C (Current Value)	Batch	○	○	○	○	○	○	×
	Random							
D	Batch	○	○	○	○	○	○	×
	Random							
Special D(SD), SW	Batch	○	○	○	○	○	○	×
	Random							
T (Main Set Value)	Batch	○	○	○	○	○	×	×
	Random	×	×	×	×	×		
T (Sub Set Value 1)	Batch	○	○	○ *1	○	○	×	×
	Random			×	×	×		
T (Sub Set Value 2)	Batch	×	×	×	×	×	×	×
	Random							
T (Sub Set Value 3)	Batch	×	×	×	×	×	×	×
	Random							
C (Main Set Value)	Batch	○	○	○	○	○	×	×
	Random	×	×	×	×	×		
C (Sub Set Value 1)	Batch	○	○	○ *1	○	○	×	×
	Random			×	×	×		

*1 A2A(-S1)CPU is not allowed access.

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Device		Destination						
		A1N	A0J2H A1S(-S1) A1SH A1SJH(-S8) A1SJ(-3) A2C(J) A2N(-S1) A2S(-S1) A2SH(-S1) A1FX	A2A(-S1) A2U(-S1) A2AS(-S1) A2AS-S30	A3N A3A A3U	A4U	Q2A(-S1) Q3A Q4A Q4AR Q2AS(-S1) Q2ASH(-S1)	FX0 FX0S FX0N FX1 FX2 FX2C FX2N FX2NC
C (Sub Set Value 2)	Batch	×	×	×	×	×	×	×
	Random							
C (Sub Set Value 3)	Batch	×	×	×	×	×	×	×
	Random							
A	Batch	×	×	×	×	×	×	×
	Random							
Z	Batch	×	×	×	×	×	×	×
	Random							
V (Index Register)	Batch	×	×	×	×	×	×	×
	Random							
R (File Register)	Batch	×	○	○	○	○	○	×
	Random							
ER (Extended File Register)	Batch	○	○	○	○	○	○	×
	Random							
B	Batch	○	○	○	○	○	○	×
	Random							
W	Batch	○	○	○	○	○	○	×
	Random							
QnA Link Special Relay (on QnA CPU)	Batch	×	×	×	×	×	○	×
	Random							
Integrating Timer (Contact Point)	Batch	×	×	×	×	×	○	×
	Random						×	
Integrating Timer (Coil)	Batch	×	×	×	×	×	○	×
	Random						×	
QnA Link Special Register (on QnA CPU)	Batch	×	×	×	×	×	○	×
	Random							
QnA Edge Relay (on QnA CPU)	Batch	×	×	×	×	×	○	×
	Random							
Own station random access buffer	Batch	×	×	×	×	×	×	×
	Random							
Integrating Timer (Current Value)	Batch	×	×	×	×	×	○	×
	Random							
Own station link register (For sending)	Batch	×	×	×	×	×	×	×
	Random							
Own station link register (For receiving)	Batch	×	×	×	×	×	×	×
	Random							
S device of FXCPU	Batch	×	×	×	×	×	×	×
	Random							
Own station buffer memory	Batch	×	×	×	×	×	×	×
	Random							
QnA SEND function (with confirmation of arrival)	Batch	×	×	×	×	×	×	×
	Random							
QnA SEND function (without confirmation of arrival)	Batch	×	×	×	×	×	×	×
	Random							

Device		Destination						
		A1N	A0J2H A1S(-S1) A1SH A1SJH(-S8) A1SJ(-3) A2C(J) A2N(-S1) A2S(-S1) A2SH(-S1) A1FX	A2A(-S1) A2U(-S1) A2AS(-S1) A2AS-S30	A3N A3A A3U	A4U	Q2A(-S1) Q3A Q4A Q4AR Q2AS(-S1) Q2ASH(-S1)	FX0 FX0S FX0N FX1 FX2 FX2C FX2N FX2NC
Direct Link Input	Batch	×	×	×	×	×	×	×
	Random							
Direct Link Output	Batch	×	×	×	×	×	×	×
	Random							
Direct Link Relay	Batch	×	×	×	×	×	×	×
	Random							
Direct Link Register	Batch	×	×	×	×	×	×	×
	Random							
Direct Link Special Relay (on Network Unit)	Batch	×	×	×	×	×	×	×
	Random							
Direct Link Special Register (on Network Unit)	Batch	×	×	×	×	×	×	×
	Random							
Special Direct Buffer Register	Batch	×	×	×	×	×	×	×
	Random							
Other station buffer memory	Batch	×	×	×	×	×	×	×
	Random							
Other station random access buffer	Batch	×	×	×	×	×	×	×
	Random							
Other station RX	Batch	×	×	×	×	×	×	×
	Random							
Other station RY	Batch	×	×	×	×	×	×	×
	Random							
Other station link register	Batch	×	×	×	×	×	×	×
	Random							
Other station SB	Batch	×	×	×	×	×	×	×
	Random							
Other station SW	Batch	×	×	×	×	×	×	×
	Random							

11.3.2 Accessible range

The accessible range for Ethernet communication is as follows.
During Ethernet communication, only the same segment may be accessed.
Access cannot be made beyond the router and gateway.

(1) Via MELSECNET/10

```
┌──────────────────────────────────────────────────────────────────┐
│  POINTS                                                            │
│ (1) When using the E71                                             │
│    • When the QnACPU or AnUCPU is accessed, it is handled as the   │
│      AnACPU.                                                       │
│    • The range of the accessible network is only its own network.  │
│ (2) When using the QE71 (TCP/IP)                                   │
│    • Access may be made to the QnACPU only.                        │
│    • When UDP/IP is used, the AnACPU, AnNCPU, AnUCPU or QnACPU can  │
│      be accessed.                                                  │
└──────────────────────────────────────────────────────────────────┘
```

(a) Inter-PC network

Mp: Control station
Ns: Normal station (AnUCPU, QnACPU)
N: Normal station (CPU other than above)

*1 Ethernet module

Number	Target						
	1Mp1	1N2	1Ns3/ 2Mp1	1Ns4	2N2	2Ns3	2Ns4
1)	○	○	○	○	○	○	○
2)	○	○	×	×	×	×	×
3)	○	○	○	○	○	○	○
4)	×	×	○	×	○	×	×
5)	○	○	○	○	○	○	○

○: Accessible, ×: Inaccessible

(b) Remote I/O network

Mp: Control station
Ns: Normal station (AnUCPU, QnACPU)
N: Normal station (CPU other than above)
MR: Master station (AnUCPU, QnACPU)
R: Remote station

*1 Ethernet module
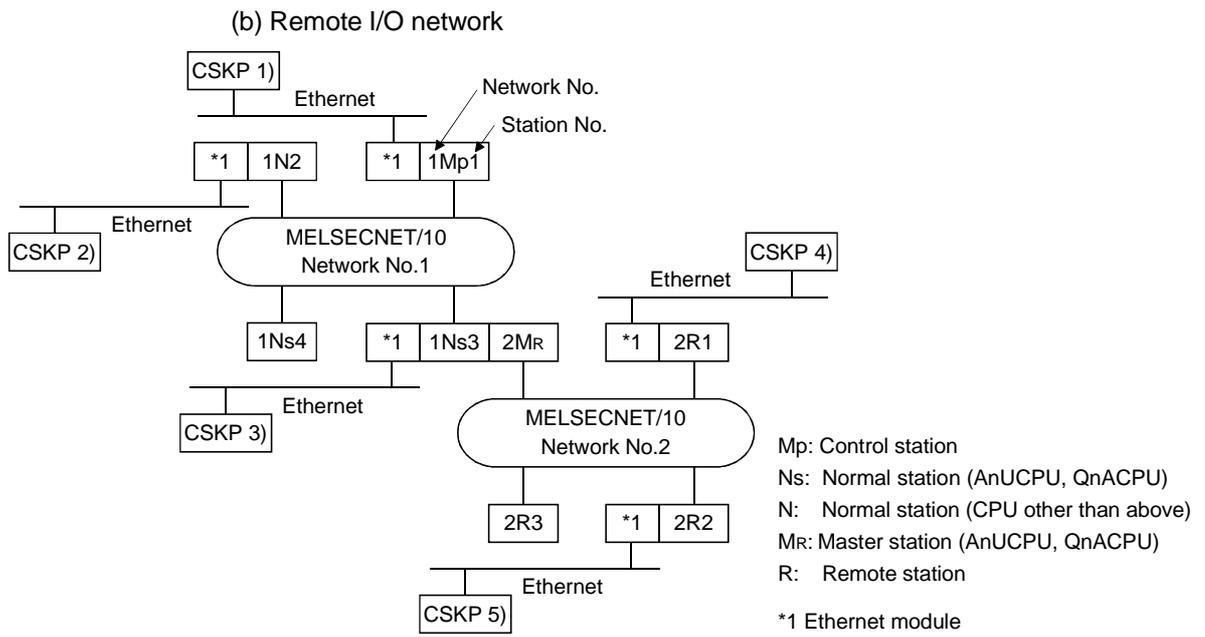
Number	Target						
	1Mp1	1N2	1Ns3/ 2MR	1Ns4	2R1	2R2	2R3
1)	○	○	○	○	○	○	○
2)	○	○	×	×	×	×	×
3)	○	○	○	○	○	○	○
4)	○	○	○	○	○	×	×
5)	○	○	○	○	×	○	×

○: Accessible, ×: Inaccessible

11.4 PLC RS422 Communication

This section describes the accessible devices and accessible range in the PLC RS422 Communication.

11.4.1 Accessible Devices

The following lists the accessible devices in the PLC RS422 Communication.

Device		A1N	A0J2H A1S(-S1) A1SH A1SJH(-S8) A1SJ(-3) A2C(J) A2N(-S1) A2S(-S1) A2SH(-S1) A1FX	A2A(-S1) A2U(-S1) A2AS(-S1) A2AS-S30	A3N A3A A3U	A4U	Q2A(-S1) Q3A Q4A Q4AR Q2AS(-S1) Q2ASH(-S1)	FX0 FX0S FX0N FX1 FX2 FX2C FX2N FX2NC
				Destination				
X	Batch	○	○	○	○	○	○	○
	Random							
Y	Batch	○	○	○	○	○	○	○
	Random							
L	Batch	○	○	○	○	○	○	×
	Random							
M	Batch	○	○	○	○	○	○	○
	Random							
Special M(SM), SB	Batch	○	○	○	○	○	○	Sp. M: ○
	Random							SB: ×
F	Batch	○	○	○	○	○	○	×
	Random							
T (Contact Point)	Batch	○	○	○	○	○	○	○
	Random						×	
T(Coil)	Batch	○	○	○	○	○	○	○
	Random						×	
C (Contact Point)	Batch	○	○	○	○	○	○	○
	Random						×	
C (Coil)	Batch	○	○	○	○	○	○	○
	Random						×	
T (Current Value)	Batch	○	○	○	○	○	○	○
	Random							
C (Current Value)	Batch	○	○	○	○	○	○	○
	Random							
D	Batch	○	○	○	○	○	○	○
	Random							
Special D(SD), SW	Batch	○	○	○	○	○	○	Sp. D: ○
	Random							SW: ×
T (Main Set Value)	Batch	○	○	○	○	○	×	×
	Random	×	×	×	×	×		
T (Sub Set Value 1)	Batch	○	○	○ *1	○	○	×	×
	Random			×	×	×		
T (Sub Set Value 2)	Batch	×	×	×	×	○	×	×
	Random					×		
T (Sub Set Value 3)	Batch	×	×	×	×	○	×	×
	Random					×		
C (Main Set Value)	Batch	○	○	○	○	○	×	×
	Random	×	×	×	×	×		
C (Sub Set Value 1)	Batch	○	○	○ *1	○	○	×	×
	Random			×	×	×		

*1 A2A(-S1)CPU is not allowed access.

Device		A1N	A0J2H A1S(-S1) A1SH A1SJH(-S8) A1SJ(-3) A2C(J) A2N(-S1) A2S(-S1) A2SH(-S1) A1FX	A2A(-S1) A2U(-S1) A2AS(-S1) A2AS-S30	A3N A3A A3U	A4U	Q2A(-S1) Q3A Q4A Q4AR Q2AS(-S1) Q2ASH(-S1)	FX0 FX0S FX0N FX1 FX2 FX2C FX2N FX2NC
C (Sub Set Value 2)	Batch	×	×	×	×	O	×	×
	Random					×		
C (Sub Set Value 3)	Batch	×	×	×	×	O	×	×
	Random					×		
A	Batch	×	×	×	×	×	×	×
	Random							
Z	Batch	×	×	×	×	×	×	O
	Random							
V (Index Register)	Batch	×	×	×	×	×	×	O
	Random							
R (File Register)	Batch	×	O	O	O	O	O	×
	Random							
ER (Extended File Register)	Batch	O	O	O	O	O	O	×
	Random							
B	Batch	O	O	O	O	O	O	×
	Random							
W	Batch	O	O	O	O	O	O	×
	Random							
QnA Link Special Relay (on QnA CPU)	Batch	×	×	×	×	×	O	×
	Random							
Integrating Timer (Contact Point)	Batch	×	×	×	×	×	O	×
	Random						×	
Integrating Timer (Coil)	Batch	×	×	×	×	×	O	×
	Random						×	
QnA Link Special Register (on QnA CPU)	Batch	×	×	×	×	×	O	×
	Random							
QnA Edge Relay (on QnA CPU)	Batch	×	×	×	×	×	O	×
	Random							
Own station random access buffer	Batch	×	×	×	×	×	×	×
	Random							
Integrating Timer (Current Value)	Batch	×	×	×	×	×	O	×
	Random							
Own station link register (For sending)	Batch	×	×	×	×	×	×	×
	Random							
Own station link register (For receiving)	Batch	×	×	×	×	×	×	×
	Random							
S device of FXCPU	Batch	×	×	×	×	×	×	O
	Random							
Own station buffer memory	Batch	×	×	×	×	×	×	×
	Random							
QnA SEND function (with confirmation of arrival)	Batch	×	×	×	×	×	×	×
	Random							
QnA SEND function (without confirmation of arrival)	Batch	×	×	×	×	×	×	×
	Random							

MELSEC

Device		A1N	A0J2H A1S(-S1) A1SH A1SJH(-S8) A1SJ(-3) A2C(J) A2N(-S1) A2S(-S1) A2SH(-S1) A1FX	A2A(-S1) A2U(-S1) A2AS(-S1) A2AS-S30	A3N A3A A3U	A4U	Q2A(-S1) Q3A Q4A Q4AR Q2AS(-S1) Q2ASH(-S1)	FX0 FX0S FX0N FX1 FX2 FX2C FX2N FX2NC
					Destination			
Direct Link Input	Batch	×	×	×	×	×	O *2	×
	Random							
Direct Link Output	Batch	×	×	×	×	×	O *2	×
	Random							
Direct Link Relay	Batch	×	×	×	×	×	O *2	×
	Random							
Direct Link Register	Batch	×	×	×	×	×	O *2	×
	Random							
Direct Link Special Relay (on Network Unit)	Batch	×	×	×	×	×	O *2	×
	Random							
Direct Link Special Register (on Network Unit)	Batch	×	×	×	×	×	O *2	×
	Random							
Special Direct Buffer Register	Batch	×	×	×	×	×	O	×
	Random							
Other station buffer memory	Batch	×	×	×	×	×	×	×
	Random							
Other station random access buffer	Batch	×	×	×	×	×	×	×
	Random							
Other station RX	Batch	×	×	×	×	×	×	×
	Random							
Other station RY	Batch	×	×	×	×	×	×	×
	Random							
Other station link register	Batch	×	×	×	×	×	×	×
	Random							
Other station SB	Batch	×	×	×	×	×	×	×
	Random							
Other station SW	Batch	×	×	×	×	×	×	×
	Random							

*2 Access is not allowed unless there's a network module available.

11.4.2 Accessible range

The accessible range for PLC RS422 communication is as follows.

(1) Via MELSECNET/10

```
┌─────────────────────────────────────────────────────────────────┐
│  POINTS                                                           │
│ (1) When the target CPU is the AnACPU or AnNCPU, any CPU (A, QnA) │
│     can be accessed. However, when access is made to the AnUCPU   │
│     or QnACPU, the device range is equivalent to that of the      │
│     AnACPU.                                                        │
│ (2) When the target CPU is the AnUCPU, any CPU (A, QnA) can be     │
│     accessed. However, when access is made to the QnACPU, the     │
│     device range is equivalent to that of the AnACPU.             │
│ (3) When the target CPU is the QnACPU, access may be made to the  │
│     QnACPU only.                                                  │
│ (4) When the FXCPU is accessed, access cannot be made via the     │
│     MELSECNET/10.                                                 │
└─────────────────────────────────────────────────────────────────┘
```

(a) Inter-PC network

Mp: Control station
Ns: Normal station (AnUCPU, QnACPU)
N: Normal station (CPU other than above)

Number	Target						
	1Mp1	1N2	1Ns3/ 2Mp1	1Ns4	2N2	2Ns3	2Ns4
1)	○	○	○	○	○	○	○
2)	○	○	×	×	×	×	×
3)	○	○	○	○	○	○	○
4)	×	×	○	×	○	×	×
5)	○	○	○	○	○	○	○

○: Accessible, ×: Inaccessible

(b) Remote I/O network

Mp: Control station
Ns: Normal station (AnUCPU, QnACPU)
N: Normal station (CPU other than above)
MR: Master station (AnUCPU, QnACPU)
R: Remote station

Number	Target						
	1Mp1	1N2	1Ns3/ 2MR	1Ns4	2R1	2R2	2R3
1)	○	○	○	○	○	○	○
2)	○	○	×	×	×	×	×
3)	○	○	○	○	○	○	○
4)	○	○	○	○	○	×	×
5)	○	○	○	○	×	○	×

○: Accessible, ×: Inaccessible

11.5 MELSECNET/10 Communication

This section describes the accessible devices and accessible range in the MELSECNET/10 Communication.

11.5.1 Accessible Devices

The following devices are accessible for MELSECNET/10 communication.

(1) Own station (Personal computer (Equivalent to normal station))

Device		Accessibility
X	Batch	○
	Random	
Y	Batch	○
	Random	
SB	Batch	○
	Random	
SW	Batch	○
	Random	
B	Batch	○
	Random	
W	Batch	○
	Random	
RECV function for QnA	Batch	○
	Random	×
EM (shared device)	Batch	○
	Random	
ED (shared device)	Batch	○
	Random	

(2) Other Station

Device		Destination						
		A1N	A0J2H A1S(-S1) A1SH A1SJH(-S8) A1SJ(-3) A2C(J) A2N(-S1) A2S(-S1) A2SH(-S1) A1FX	A2A(-S1) A2U(-S1) A2AS(-S1) A2AS-S30	A3N A3A A3U	A4U	Q2A(-S1) Q3A Q4A Q4AR Q2AS(-S1) Q2ASH(-S1)	FX0 FX0S FX0N FX1 FX2 FX2C FX2N FX2NC
X	Batch	○	○	○	○	○	○	×
	Random							
Y	Batch	○	○	○	○	○	○	×
	Random							
L	Batch	○	○	○	○	○	○	×
	Random							
M	Batch	○	○	○	○	○	○	×
	Random							
Special M(SM), SB	Batch	○	○	○	○	○	○	×
	Random							
F	Batch	○	○	○	○	○	○	×
	Random							
T (Contact Point)	Batch	○	○	○	○	○	○	×
	Random						×	
T(Coil)	Batch	○	○	○	○	○	○	×
	Random						×	
C (Contact Point)	Batch	○	○	○	○	○	○	×
	Random						×	
C (Coil)	Batch	○	○	○	○	○	○	×
	Random						×	
T (Current Value)	Batch	○	○	○	○	○	○	×
	Random							
C (Current Value)	Batch	○	○	○	○	○	○	×
	Random							
D	Batch	○	○	○	○	○	○	×
	Random							
Special D(SD), SW	Batch	○	○	○	○	○	○	×
	Random							
T (Main Set Value)	Batch	○	○	○	○	○	×	×
	Random	×	×	×	×	×		
T (Sub Set Value 1)	Batch	○	○	○ *1	○	○	×	×
	Random			×	×	×		
T (Sub Set Value 2)	Batch	×	×	×	×	○	×	×
	Random					×		
T (Sub Set Value 3)	Batch	×	×	×	×	○	×	×
	Random					×		
C (Main Set Value)	Batch	○	○	○	○	○	×	×
	Random	×	×	×	×	×		
C (Sub Set Value 1)	Batch	○	○	○ *1	○	○	×	×
	Random			×	×	×		

*1 A2A(-S1)CPU is not allowed access.

Device		A1N	A0J2H A1S(-S1) A1SH A1SJH(-S8) A1SJ(-3) A2C(J) A2N(-S1) A2S(-S1) A2SH(-S1) A1FX	A2A(-S1) A2U(-S1) A2AS(-S1) A2AS-S30	A3N A3A A3U	A4U	Q2A(-S1) Q3A Q4A Q4AR Q2AS(-S1) Q2ASH(-S1)	FX0 FX0S FX0N FX1 FX2 FX2C FX2N FX2NC
						Destination		
C (Sub Set Value 2)	Batch	×	×	×	×	○	×	×
	Random					×		
C (Sub Set Value 3)	Batch	×	×	×	×	○	×	×
	Random					×		
A	Batch	○	○	○	○	○	×	×
	Random							
Z	Batch	○	○	○	○	○	○	×
	Random							
V (Index Register)	Batch	○	○	○	○	○	×	×
	Random							
R (File Register)	Batch	×	○	○	○	○	○	×
	Random							
ER (Extended File Register)	Batch	×	○	○	○	○	○	×
	Random							
B	Batch	○	○	○	○	○	○	×
	Random							
W	Batch	○	○	○	○	○	○	×
	Random							
QnA Link Special Relay (on QnA CPU)	Batch	×	×	×	×	×	○	×
	Random							
Integrating Timer (Contact Point)	Batch	×	×	×	×	×	○	×
	Random						×	
Integrating Timer (Coil)	Batch	×	×	×	×	×	○	×
	Random						×	
QnA Link Special Register (on QnA CPU)	Batch	×	×	×	×	×	○	×
	Random							
QnA Edge Relay (on QnA CPU)	Batch	×	×	×	×	×	○	×
	Random							
Own station random access buffer	Batch	×	×	×	×	×	×	×
	Random							
Integrating Timer (Current Value)	Batch	×	×	×	×	×	○	×
	Random							
Own station link register (For sending)	Batch	×	×	×	×	×	×	×
	Random							
Own station link register (For receiving)	Batch	×	×	×	×	×	×	×
	Random							
S device of FXCPU	Batch	×	×	×	×	×	×	×
	Random							
Own station buffer memory	Batch	×	×	×	×	×	×	×
	Random							
QnA SEND function (with confirmation of arrival)	Batch	×	×	×	×	×	○	×
	Random						×	
QnA SEND function (without confirmation of arrival)	Batch	×	×	×	×	×	○	×
	Random						×	

Device		A1N	A0J2H A1S(-S1) A1SH A1SJH(-S8) A1SJ(-3) A2C(J) A2N(-S1) A2S(-S1) A2SH(-S1) A1FX	A2A(-S1) A2U(-S1) A2AS(-S1) A2AS-S30	A3N A3A A3U	A4U	Q2A(-S1) Q3A Q4A Q4AR Q2AS(-S1) Q2ASH(-S1)	FX0 FX0S FX0N FX1 FX2 FX2C FX2N FX2NC
					Destination			
Direct Link Input	Batch	×	×	×	×	×	○	×
	Random							
Direct Link Output	Batch	×	×	×	×	×	○	×
	Random							
Direct Link Relay	Batch	×	×	×	×	×	○	×
	Random							
Direct Link Register	Batch	×	×	×	×	×	○	×
	Random							
Direct Link Special Relay (on Network Unit)	Batch	×	×	×	×	×	○	×
	Random							
Direct Link Special Register (on Network Unit)	Batch	×	×	×	×	×	○	×
	Random							
Special Direct Buffer Register	Batch	×	×	×	×	×	×	×
	Random							
Other station buffer memory	Batch	×	×	×	×	×	×	×
	Random							
Other station random access buffer	Batch	×	×	×	×	×	×	×
	Random							
Other station RX	Batch	×	×	×	×	×	×	×
	Random							
Other station RY	Batch	×	×	×	×	×	×	×
	Random							
Other station link register	Batch	×	×	×	×	×	×	×
	Random							
Other station SB	Batch	×	×	×	×	×	×	×
	Random							
Other station SW	Batch	×	×	×	×	×	×	×
	Random							

11.5.2 Accessible range

The accessible range for MELSECNET/10 communication is as follows.

(1) Inter-PC network

Mp: Control station
Ns: Normal station (AnUCPU, QnACPU)
N: Normal station (CPU other than above)
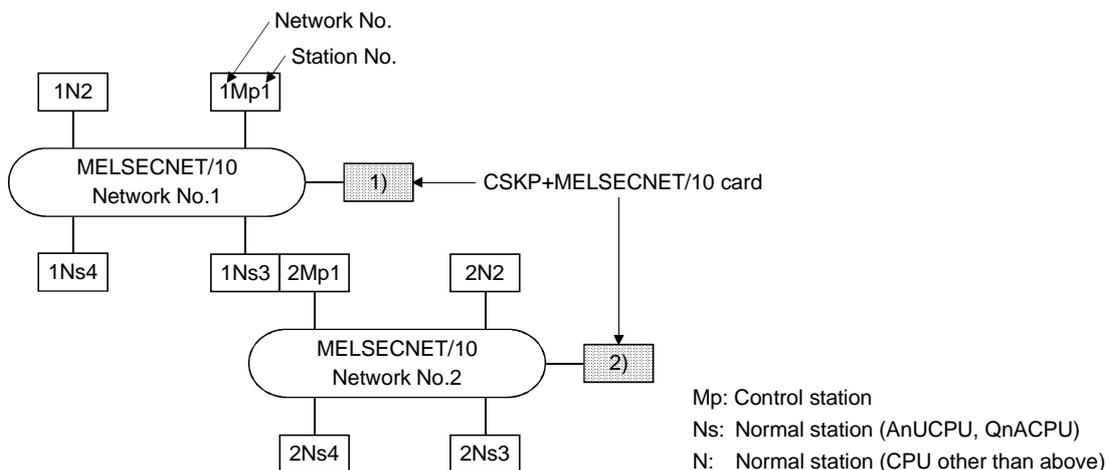
Number	Target								
	1Mp1	1N2	1Ns3/ 2Mp1	1)	1Ns4	2N2	2Ns3	2Ns4	2)
1)	○	○	○	○	○	○	○	○	○
2)	○	○	○	○	○	○	○	○	○

○: Accessible, ×: Inaccessible

(b) Remote I/O network
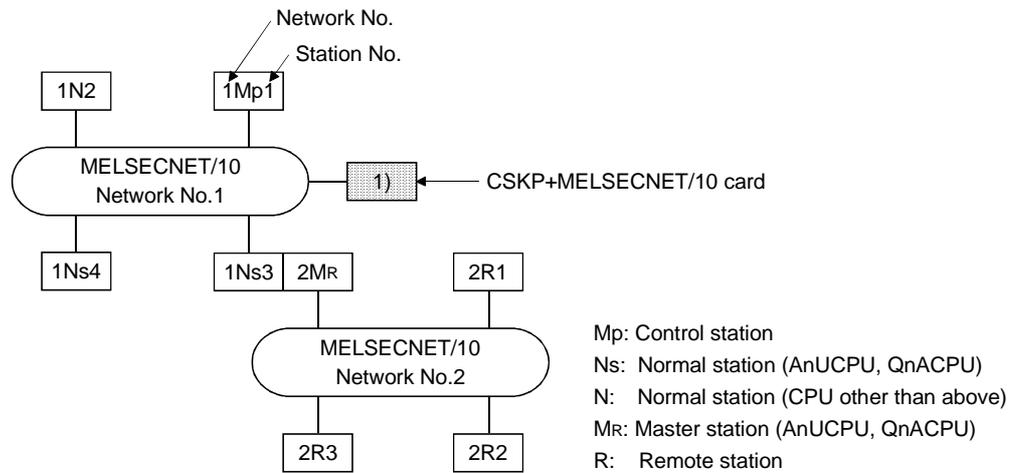
Number	Target							
	1Mp1	1N2	1Ns3/ 2MR	1)	1Ns4	2R1	2R2	2R3
1)	○	○	○	○	○	○	○	○

○: Accessible, ×: Inaccessible

11.6 CC-Link Communication

This section explains the accessible devices and accessible range for CC-Link communication.

11.6.1 Accessible Devices

The following devices are accessible for CC-Link communication.

(1) Own station (Personal computer (Equivalent to local station))

Device		Accessibility
RX	Batch	○
	Random	
RY	Batch	○
	Random	
SB	Batch	○
	Random	
SW	Batch	○
	Random	
Random access buffer	Batch	○
	Random	×
RWw	Batch	○
	Random	×
Rwr	Batch	○
	Random	
Buffer memory	Batch	○
	Random	
EM (shared device)	Batch	○
	Random	
ED (shared device)	Batch	○
	Random	

(2) Other Station

Device		A1N	A0J2H A1S(-S1) A1SH A1SJH(-S8) A1SJ(-3) A2C(J) A2N(-S1) A2S(-S1) A2SH(-S1) A1FX	A2A(-S1) A2U(-S1) A2AS(-S1) A2AS-S30	A3N A3A A3U	A4U	Q2A(-S1) Q3A Q4A Q4AR Q2AS(-S1) Q2ASH(-S1)	FX0 FX0S FX0N FX1 FX2 FX2C FX2N FX2NC
X	Batch	○	○	○	○	○	○	×
	Random							
Y	Batch	○	○	○	○	○	○	×
	Random							
L	Batch	○	○	○	○	○	○	×
	Random							
M	Batch	○	○	○	○	○	○	×
	Random							
Special M(SM), SB	Batch	○	○	○	○	○	○	×
	Random							
F	Batch	○	○	○	○	○	○	×
	Random							
T (Contact Point)	Batch	○	○	○	○	○	○	×
	Random						×	
T(Coil)	Batch	○	○	○	○	○	○	×
	Random						×	
C (Contact Point)	Batch	○	○	○	○	○	○	×
	Random						×	
C (Coil)	Batch	○	○	○	○	○	○	×
	Random						×	
T (Current Value)	Batch	○	○	○	○	○	○	×
	Random							
C (Current Value)	Batch	○	○	○	○	○	○	×
	Random							
D	Batch	○	○	○	○	○	○	×
	Random							
Special D(SD), SW	Batch	○	○	○	○	○	○	×
	Random							
T (Main Set Value)	Batch	○	○	○	○	○	×	×
	Random	×	×	×	×	×		
T (Sub Set Value 1)	Batch	×	×	○ *1	○	○	×	×
	Random			×	×	×		
T (Sub Set Value 2)	Batch	×	×	×	×	○	×	×
	Random					×		
T (Sub Set Value 3)	Batch	×	×	×	×	○	×	×
	Random					×		
C (Main Set Value)	Batch	○	○	○	○	○	×	×
	Random	×	×	×	×	×		
C (Sub Set Value 1)	Batch	○	○	○ *1	○	○	×	×
	Random			×	×	×		

*1 A2A(-S1)CPU is not allowed access.

Device		A1N	A0J2H A1S(-S1) A1SH A1SJH(-S8) A1SJ(-3) A2C(J) A2N(-S1) A2S(-S1) A2SH(-S1) A1FX	A2A(-S1) A2U(-S1) A2AS(-S1) A2AS-S30	A3N A3A A3U	A4U	Q2A(-S1) Q3A Q4A Q4AR Q2AS(-S1) Q2ASH(-S1)	FX0 FX0S FX0N FX1 FX2 FX2C FX2N FX2NC
C (Sub Set Value 2)	Batch	×	×	×	×	O	×	×
	Random					×		
C (Sub Set Value 3)	Batch	×	×	×	×	O	×	×
	Random					×		
A	Batch	O	O	O	O	O	×	×
	Random							
Z	Batch	O	O	O	O	O	O	×
	Random							
V (Index Register)	Batch	O	O	O	O	O	×	×
	Random							
R (File Register)	Batch	×	O	O	O	O	O	×
	Random							
ER (Extended File Register)	Batch	×	O	O	O	O	O	×
	Random							
B	Batch	O	O	O	O	O	O	×
	Random							
W	Batch	O	O	O	O	O	O	×
	Random							
QnA Link Special Relay (on QnA CPU)	Batch	×	×	×	×	×	O	×
	Random							
Integrating Timer (Contact Point)	Batch	×	×	×	×	×	O	×
	Random						×	
Integrating Timer (Coil)	Batch	×	×	×	×	×	O	×
	Random						×	
QnA Link Special Register (on QnA CPU)	Batch	×	×	×	×	×	O	×
	Random							
QnA Edge Relay (on QnA CPU)	Batch	×	×	×	×	×	O	×
	Random							
Own station random access buffer	Batch	×	×	×	×	×	×	×
	Random							
Integrating Timer (Current Value)	Batch	×	×	×	×	×	O	×
	Random							
Own station link register (For sending)	Batch	×	×	×	×	×	×	×
	Random							
Own station link register (For receiving)	Batch	×	×	×	×	×	×	×
	Random							
S device of FXCPU	Batch	×	×	×	×	×	×	×
	Random							
Own station buffer memory	Batch	×	×	×	×	×	×	×
	Random							
QnA SEND function (with confirmation of arrival)	Batch	×	×	×	×	×	×	×
	Random							
QnA SEND function (without confirmation of arrival)	Batch	×	×	×	×	×	×	×
	Random							

Device		A1N	A0J2H A1S(-S1) A1SH A1SJH(-S8) A1SJ(-3) A2C(J) A2N(-S1) A2S(-S1) A2SH(-S1) A1FX	A2A(-S1) A2U(-S1) A2AS(-S1) A2AS-S30	A3N A3A A3U	A4U	Q2A(-S1) Q3A Q4A Q4AR Q2AS(-S1) Q2ASH(-S1)	FX0 FX0S FX0N FX1 FX2 FX2C FX2N FX2NC
					Destination			
Direct Link Input	Batch	×	×	×	×	×	×	×
	Random							
Direct Link Output	Batch	×	×	×	×	×	×	×
	Random							
Direct Link Relay	Batch	×	×	×	×	×	×	×
	Random							
Direct Link Register	Batch	×	×	×	×	×	×	×
	Random							
Direct Link Special Relay (on Network Unit)	Batch	×	×	×	×	×	×	×
	Random							
Direct Link Special Register (on Network Unit)	Batch	×	×	×	×	×	×	×
	Random							
Special Direct Buffer Register	Batch	×	×	×	×	×	×	×
	Random							
Other station buffer memory	Batch	○	○	○	○	○	○	○
	Random	×	×	×	×	×	×	×
Other station random access buffer	Batch	○	○	○	○	○	○	○
	Random	×	×	×	×	×	×	×
Other station RX	Batch	○	○	○	○	○	○	○
	Random	×	×	×	×	×	×	×
Other station RY	Batch	○	○	○	○	○	○	○
	Random	×	×	×	×	×	×	×
Other station link register	Batch	○	○	○	○	○	○	○
	Random	×	×	×	×	×	×	×
Other station SB	Batch	○	○	○	○	○	○	○
	Random	×	×	×	×	×	×	×
Other station SW	Batch	○	○	○	○	○	○	○
	Random	×	×	×	×	×	×	×

*2 The link registers are divided into the RWw and RWr areas by the device No. ranges.
  0H to FFH: RWw
100H to 1FFH: RWr

REMARK

For the address for access to buffer memory, refer to the user's manual of the corresponding module.

11.6.2 Accessible range

The accessible range for CC-Link communication is only the PLC of the master/local station for the CC-Link module to which the CC-Link card is connected.

11.7 CC-Link G4 Communication

This section explains the accessible devices and accessible range for CC-Link G4 communication.

11.7.1 Accessible Devices

The following devices are accessible for CC-Link G4 communication.

Device		Destination						
		A1N	A0J2H A1S(-S1) A1SH A1SJH(-S8) A1SJ(-3) A2C(J) A2N(-S1) A2S(-S1) A2SH(-S1) A1FX	A2A(-S1) A2U(-S1) A2AS(-S1) A2AS-S30	A3N A3A A3U	A4U	Q2A(-S1) Q3A Q4A Q4AR Q2AS(-S1) Q2ASH(-S1)	FX0 FX0S FX0N FX1 FX2 FX2C FX2N FX2NC
X	Batch	○	○	○	○	○	○	×
	Random							
Y	Batch	○	○	○	○	○	○	×
	Random							
L	Batch	○	○	○	○	○	○	×
	Random							
M	Batch	○	○	○	○	○	○	×
	Random							
Special M(SM), SB	Batch	○	○	○	○	○	○	×
	Random							
F	Batch	○	○	○	○	○	○	×
	Random							
T (Contact Point)	Batch	○	○	○	○	○	○	×
	Random						×	
T(Coil)	Batch	○	○	○	○	○	○	×
	Random						×	
C (Contact Point)	Batch	○	○	○	○	○	○	×
	Random						×	
C (Coil)	Batch	○	○	○	○	○	○	×
	Random						×	
T (Current Value)	Batch	○	○	○	○	○	○	×
	Random							
C (Current Value)	Batch	○	○	○	○	○	○	×
	Random							
D	Batch	○	○	○	○	○	○	×
	Random							
Special D(SD), SW	Batch	○	○	○	○	○	○	×
	Random							
T (Main Set Value)	Batch	×	×	×	×	×	×	×
	Random							
T (Sub Set Value 1)	Batch	×	×	×	×	×	×	×
	Random							
T (Sub Set Value 2)	Batch	×	×	×	×	×	×	×
	Random							
T (Sub Set Value 3)	Batch	×	×	×	×	×	×	×
	Random							
C (Main Set Value)	Batch	×	×	×	×	×	×	×
	Random							
C (Sub Set Value 1)	Batch	×	×	×	×	×	×	×
	Random							

Device		Destination						
		A1N	A0J2H A1S(-S1) A1SH A1SJH(-S8) A1SJ(-3) A2C(J) A2N(-S1) A2S(-S1) A2SH(-S1) A1FX	A2A(-S1) A2U(-S1) A2AS(-S1) A2AS-S30	A3N A3A A3U	A4U	Q2A(-S1) Q3A Q4A Q4AR Q2AS(-S1) Q2ASH(-S1)	FX₀ FX0S FX0N FX₁ FX₂ FX2C FX2N FX2NC
C (Sub Set Value 2)	Batch	×	×	×	×	×	×	×
	Random							
C (Sub Set Value 3)	Batch	×	×	×	×	×	×	×
	Random							
A	Batch	×	×	×	×	×	×	×
	Random							
Z	Batch	×	×	×	×	×	×	×
	Random							
V (Index Register)	Batch	×	×	×	×	×	×	×
	Random							
R (File Register)	Batch	×	○	○	○	○	○	×
	Random							
ER (Extended File Register)	Batch	×	○	○	○	○	○	×
	Random							
B	Batch	○	○	○	○	○	○	×
	Random							
W	Batch	○	○	○	○	○	○	×
	Random							
QnA Link Special Relay (on QnA CPU)	Batch	×	×	×	×	×	○	×
	Random							
Integrating Timer (Contact Point)	Batch	×	×	×	×	×	○	×
	Random						×	
Integrating Timer (Coil)	Batch	×	×	×	×	×	○	×
	Random						×	
QnA Link Special Register (on QnA CPU)	Batch	×	×	×	×	×	○	×
	Random							
QnA Edge Relay (on QnA CPU)	Batch	×	×	×	×	×	○	×
	Random							
Own station random access buffer	Batch	×	×	×	×	×	×	×
	Random							
Integrating Timer (Current Value)	Batch	×	×	×	×	×	○	×
	Random							
Own station link register (For sending)	Batch	×	×	×	×	×	×	×
	Random							
Own station link register (For receiving)	Batch	×	×	×	×	×	×	×
	Random							
S device of FXCPU	Batch	×	×	×	×	×	×	×
	Random							
Own station buffer memory	Batch	×	×	×	×	×	×	×
	Random							
QnA SEND function (with confirmation of arrival)	Batch	×	×	×	×	×	×	×
	Random							
QnA SEND function (without confirmation of arrival)	Batch	×	×	×	×	×	×	×
	Random							

Device		A1N	A0J2H A1S(-S1) A1SH A1SJH(-S8) A1SJ(-3) A2C(J) A2N(-S1) A2S(-S1) A2SH(-S1) A1FX	A2A(-S1) A2U(-S1) A2AS(-S1) A2AS-S30	A3N A3A A3U	A4U	Q2A(-S1) Q3A Q4A Q4AR Q2AS(-S1) Q2ASH(-S1)	FX0 FX0S FX0N FX1 FX2 FX2C FX2N FX2NC
Direct Link Input	Batch	×	×	×	×	×	×	×
	Random							
Direct Link Output	Batch	×	×	×	×	×	×	×
	Random							
Direct Link Relay	Batch	×	×	×	×	×	×	×
	Random							
Direct Link Register	Batch	×	×	×	×	×	×	×
	Random							
Direct Link Special Relay (on Network Unit)	Batch	×	×	×	×	×	×	×
	Random							
Direct Link Special Register (on Network Unit)	Batch	×	×	×	×	×	×	×
	Random							
Special Direct Buffer Register	Batch	×	×	×	×	×	×	×
	Random							
Other station buffer memory	Batch	×	×	×	×	×	×	×
	Random							
Other station random access buffer	Batch	×	×	×	×	×	×	×
	Random							
Other station RX	Batch	×	×	×	×	×	×	×
	Random							
Other station RY	Batch	×	×	×	×	×	×	×
	Random							
Other station link register	Batch	×	×	×	×	×	×	×
	Random							
Other station SB	Batch	×	×	×	×	×	×	×
	Random							
Other station SW	Batch	×	×	×	×	×	×	×
	Random							

11.7.2 Accessible range

The accessible range for CC-Link G4 communication is as follows.

(1) A mode
When the CC-Link G4 module is in the A mode, access may be made to only the PLC of the master/local station for the CC-Link module to which the CC-Link G4 module is connected.

(2) QnA mode
When the QnA mode is used, access may be made to only the QnACPU.
Access cannot be made to the AnACPU, AnNCPU and AnUCPU.
(a) Via computer link
Access can be made to the computer link module connected to the master/local station of CC-Link.
(Multidrop connection can also be made.)

*1 CC-Link master/local module
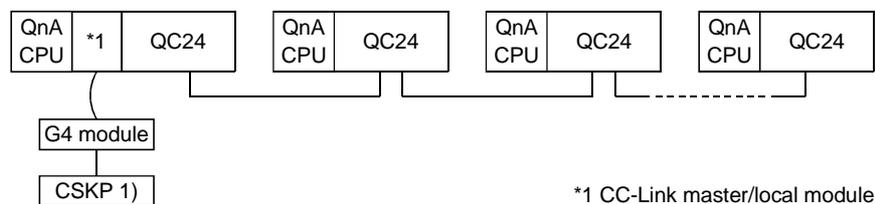
(b) Via MELSECNET/10
   1) Inter-PC network
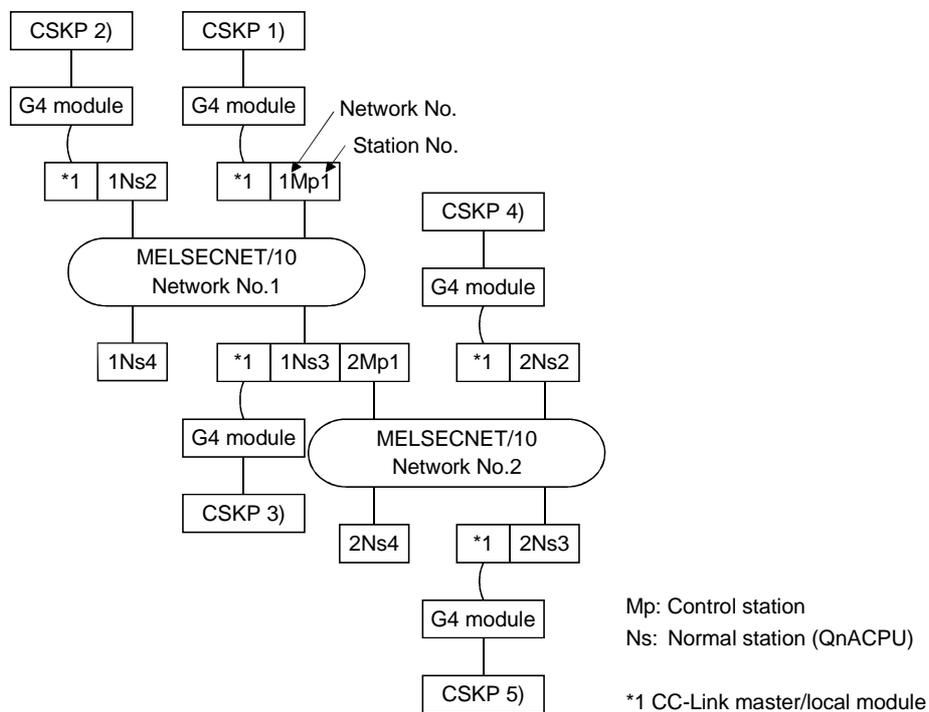
Number	Target						
	1Mp1	1Ns2	1Ns3/ 2Mp1	1Ns4	2Ns2	2Ns3	2Ns4
1)	○	○	○	○	○	○	○
2)	○	○	○	○	○	○	○
3)	○	○	○	○	○	○	○
4)	○	○	○	○	○	○	○
5)	○	○	○	○	○	○	○

○: Accessible, ×: Inaccessible

2) Remote I/O network
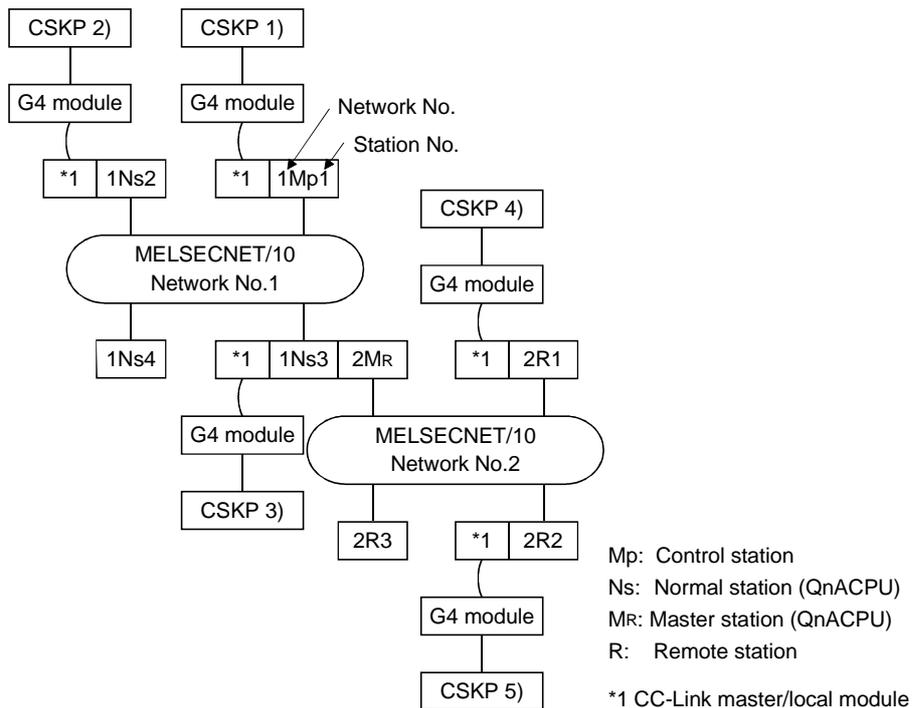
Number	Target						
	1Mp1	1Ns2	1Ns3/ 2MR	1Ns4	2R1	2R2	2R3
1)	○	○	○	○	○	○	○
2)	○	○	○	○	○	○	○
3)	○	○	○	○	○	○	○
4)	○	○	○	○	○	×	×
5)	○	○	○	○	×	○	×

○: Accessible, ×: Inaccessible

MEMO