

mitsubishi

Type SW1D5F-CSKP-E Basic Communication Support Tool
Operating Manual



Mitsubishi Programmable Controller



SAFTY PRECAUTIONS

(Prior to use, please read these precautions.)

When using the type SW1D5F-CSKP-E Communication Support Package, thoroughly read this manual and the associated manuals referenced within.

Also pay careful attention to safety and handle the product carefully. These precautions apply only to the type SW1D5F-CSKP-E Communication Support Package. For a description of the safety precautions applicable to a general-purpose personal computer used for running the product, refer to the manuals for your computer.


These safety precautions classify the safety precautions into two categories 'DANGER' and 'CAUTION'.

 DANGER	Procedures which may lead to a dangerous condition and cause death or serious injury if not carried out correctly.
 CAUTION	Procedures which may lead to a dangerous condition and cause superficial to medium injury, or physical damage only, if not carried out correctly.

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

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

[DESIGN PRECAUTIONS]

 DANGER
<ul style="list-style-type: none">● When connecting the Communication Support Package to a programmable controller (PC) or any other control device, install an external safety circuit that keeps the entire system safe even when there are problems with the external power supply or the personal computer● Any write operation that modifies data in the programmable controller will directly affect the mechanical control.● The machine may move in an unexpected way if you incorrectly specify a device name or a device number. Check the specified device names and numbers before operating your machine.

REVISIONS

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

Print Date	* Manual Number	Revision
Sep. 1998	IB(NA)66871-A	First edition

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INTRODUCTION

Thank you for purchasing the type SW1D5F-CSKP-E Communication Support Package.

This Operating Manual describes the method and procedure for operating each utility. Read this manual and understand the package functions thoroughly in advance for correct use. Please make this manual available to the end user.

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About Manuals

The table below list the other manuals provided for the SW1D5F-CSKP-E Communication Support Tool.

Related Manuals

Manual Name	Manual No. (Model Code)
Type SW1D5F-CSKP-E Communication Support Tool Startup Manual This manual describes the features, system configuration and installation-related items of the communication support package. (This manual comes with the software package.)	IB-66870 (1LMS35)
Type SW1D5F-CSKP-E Communication Support Tool Programming Manual This manual describes each function of the MELSEC Data Link Library attached to the CSKP-E. (This manual comes with the software package.)	IB-66872 (1LMS36)
Error List Manual for General-Purpose Personal Computer Software Package This manual explains the error codes that could be returned while using a utility or function and gives corrective actions. (This manual comes with the software package.)	IB-66873 (1LMS37)

1 GENERAL DESCRIPTION

This manual describes the method and procedure for operating each utility. If using these utilities for the first time, read the Startup Manual that comes with this software package in advance.

1.1 Abbreviations and Terms in This Manual

Unless otherwise stated, this manual uses the following abbreviations and terms to discuss the type SW1D5F-CSKP-E Communication Support Tool.

Abbreviation/Term	Explanation
CSKP-E	Abbreviation for SW1D5F-CSKP-E Communication Support Tool.
Windows NT 4.0	Abbreviation for Microsoft Windows NT Workstation 4.0.
Windows 95	Abbreviation for Microsoft Windows 95.
Windows 98	Abbreviation for Microsoft Windows 98.
Windows	Generic name for Microsoft Windows 95, Windows 98, and Windows NT Workstation 4.0.
Personal computer	Abbreviation for IBM PC/AT compatible models running DOS/V.
PC	Generic term for A/QnA type large-scale and small-scale PCs.
C24	Generic term for A1SCPUC24-R2, A1SJ71C24-PRF, A1SJ71C24-R2, A2CCPUC24, A2CCPUC24-PRF, AJ71C24-S6, and AJ71C24-S8.
UC24	Generic term for AJ71UC24, AJ71UC24-PRF, A1SJ71UC24-R2, and A1SJ71UC24-PRF.
QC24	Generic term for AJ71QC24, AJ71QC24-R2, AJ71QC24-R4, A1SJ71QC24, A1SJ71QC24-R2, AJ71QC24N, AJ71QC24N-R2, AJ71QC24N-R4, A1SJ71QC24N and A1SJ71QC24N-R2.
E71	Generic term for AJ71E71, AJ71E71-S3, A1SJ71E71-B2, A1SJ71E71-B5, AJ71E71-B2-S3 and A1SJ71E71-B5-S3.
QE71	Generic term for AJ71QE71, AJ71QE71-B5, A1SJ71QE71-B2, and A1SJ71QE71-B5.
P25/R15	Generic term for AJ72P25 and AJ72R15.
LP25/BR15	Generic term for AJ72LP25 and AJ72BR15.
QLP25/QBR15	Generic term for AJ72QLP25 and AJ72QBR15.

1.2 Operating Procedures Before Starting Communication

Operating procedures for each communication channel are explained before starting communication.

(1) When MELSEC data link library is used

Operating procedures are explained when MELSEC data link library is to be used.

1) Set a parameter and so forth by using the communication channel utility to be used.(See Chapters 3 to 6, and 14)



2) Carryout programming.(See CSKP-E Programming Manual)

POINTS

- After setting a parameter and so forth for each utility, use the device monitor utility to confirm that proper communication is maintained.
- For a program, refer to the sample program.
- For the setting instructions, see Chapters 2 and 11.

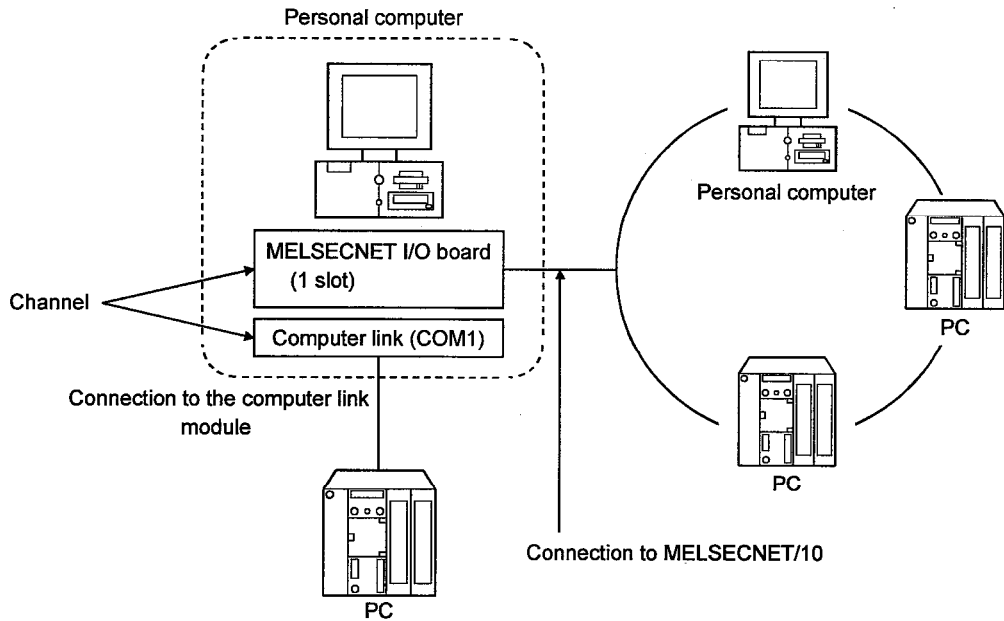
1.3 Term Definitions

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

Channel

Refers to a medium for personal computer communication. This term also indicates a form of connection in personal computer communication.

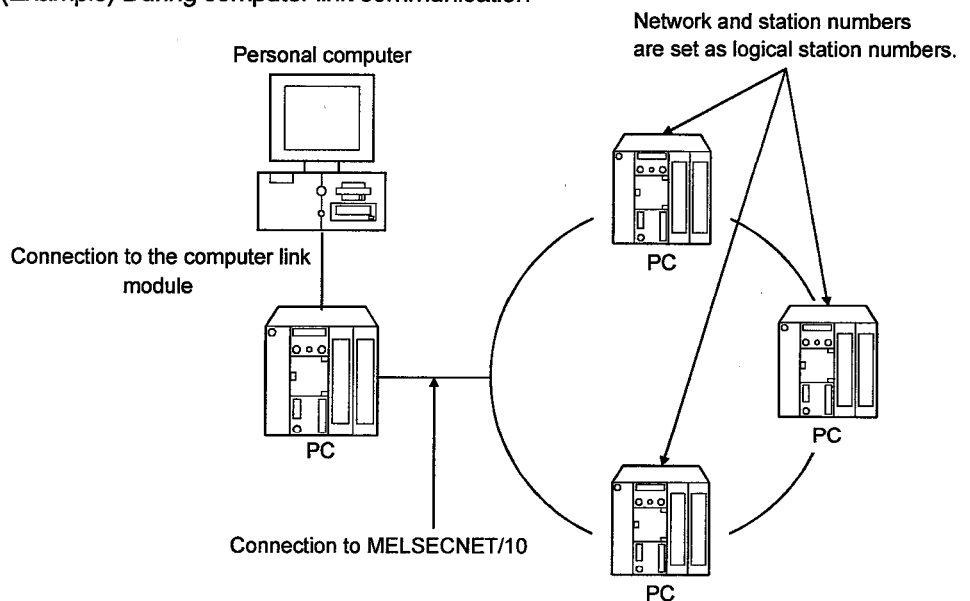
(Example)



Logical station number

Information about destinations in computer link communication or Ethernet communication.

(Example) During computer link communication



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

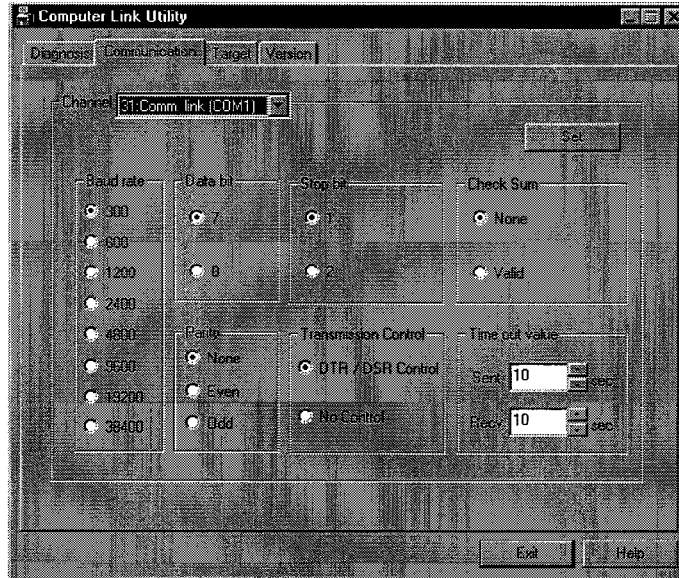
1.4 List of Utilities

The following tables lists the CSKP-E utilities.

Name	Meaning	Refer to subsection
Computer Link Utility	This utility is used for communication via the computer link module (serial communication).	Chapter 3
Ethernet Utility	This utility is used for communication via Ethernet.	Chapter 4
RS-422 Utility	This utility is used for communication in directly connecting CPU to personal computer.	Chapter 5
MELSECNET/10 Utility	This utility is used for communication via MELSECNET /10.	Chapter 6
Device Monitor Utility	This utility is used to monitor the state of each device via the network.	Chapter 7
Error Viewer	This utility is used to display the log of errors occurred in the past.	Chapter 8
Shared Device Utility	This utility is used to make settings for using the EM or ED device.	Chapter 14
Shared Device Server Utility	This utility is used to refresh devices between the personal computers or between the personal computer and PC.	Chapter 15

(3) Setting a baud rate, data bit, etc.

Set a baud rate, data bit, etc. on the **Communication** screen.



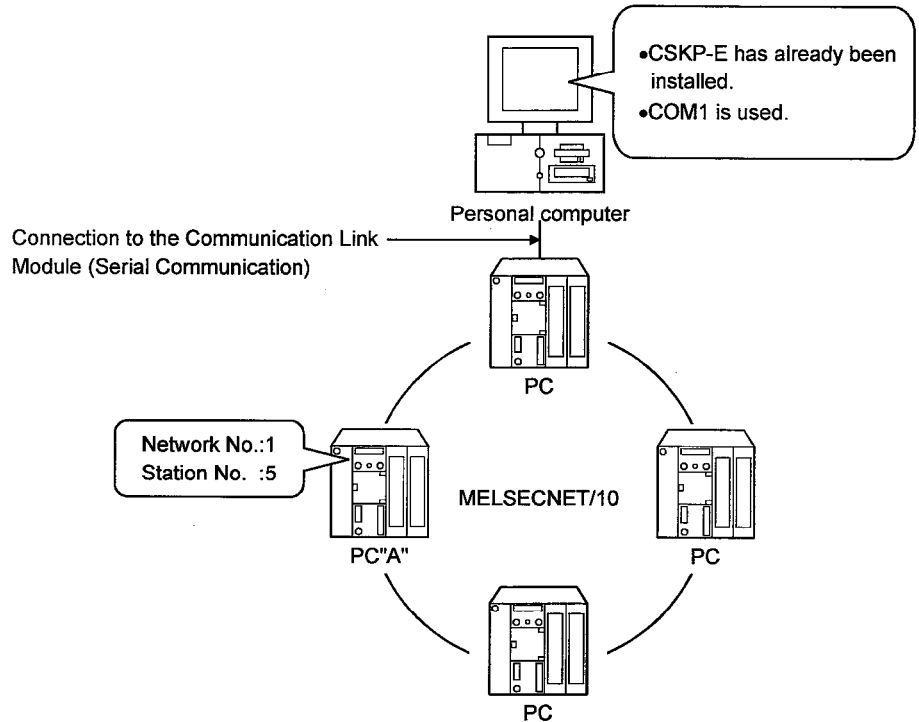
To use QC24(N), be sure to make settings as follows.

- Baud rate : Make sure to set the same baud rate designated with the transmission specification switch.
- Data bit : 8-bit
- Stop bit : 1-bit
- Check Sum : Available
- Parity bit : Odd number
- Transmission control : DTR/DSR control
- Time out value : User preference

(4) Setting a channel and a logical station number

Set a transfer rate, data bit, etc. on the **Communication** screen.

(Example) Specifying the PC "A" connected to MELSECNET/10



<Setup Screen>

Set a channel using COM1.

Computer Link Utility

Diagnosis Communication Target Version

Channel: 31:Comm. link (COM1)

Logical Station No. 32

Unit Name: QC24

Network: MELSECNET (II) MELSECNET/10

Net No. 1

PC No. 5

Target Setting List

Logical Sta No.	Unit Name	Unit Sta No.	Net No.
0		0	0
1		1	0
2		2	in

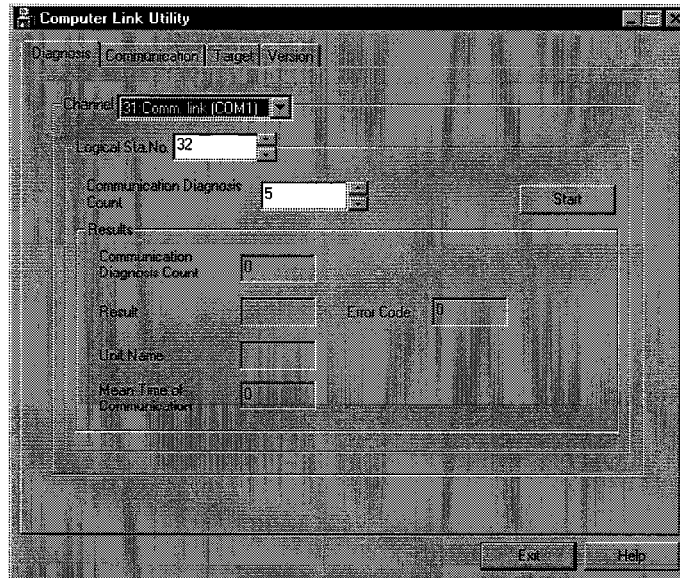
Set a value from 32 to 255.

Set a module station No.

Set a network No. and PC station No.

(5) Checking if communication can be performed

Display the **Diagnosis** screen to check if communication can be performed.

**(6) Collecting device information**

To collect device information, use the MELSEC Data Link Library or Device Monitor Utility.

2.2 Monitoring via Ethernet

This section explains how to monitor device information via Ethernet.

(1) Setting the Ethernet Interface Modules

Refer to the Ethernet Interface Module User's Manual to set these modules.

In addition, set the communication condition switches as follows.

<Communications Condition Switch>

SW1 : OFF	SW2 : ON
SW3 : OFF	SW4 : OFF
SW5 : OFF	SW6 : OFF
SW7 : ON	SW8 : OFF

(2) Setting the Ethernet card

Refer to the pertinent Ethernet card manual.

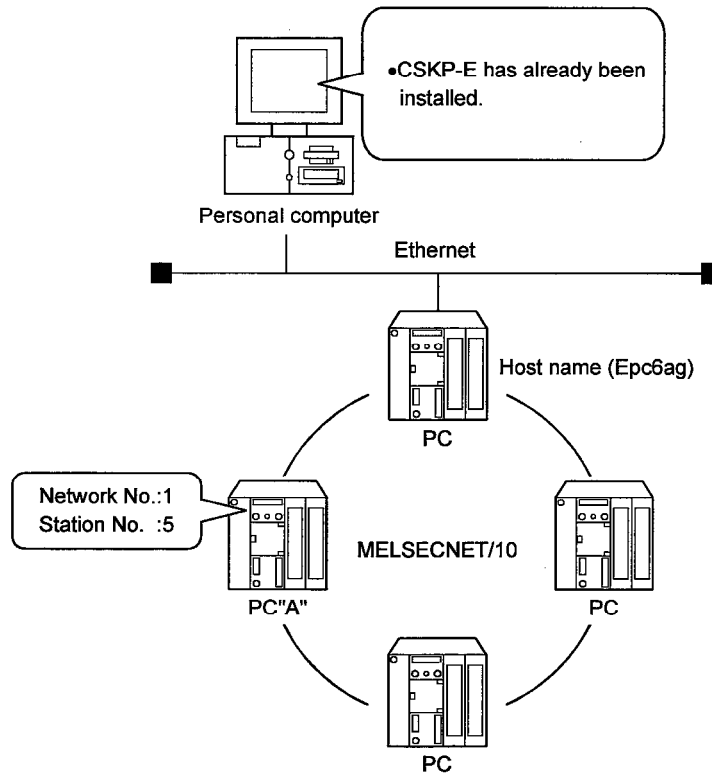
(3) Editing the HOSTS file.**(4) Starting the Ethernet Utility**

See Section 4.1 to start the Ethernet Utility.

(5) Setting a logical station number

Specify a logical station number on the **Target** screen.

(Example) Specifying the PC "A" connected to MELSECNET/10.



<Setup Screen>

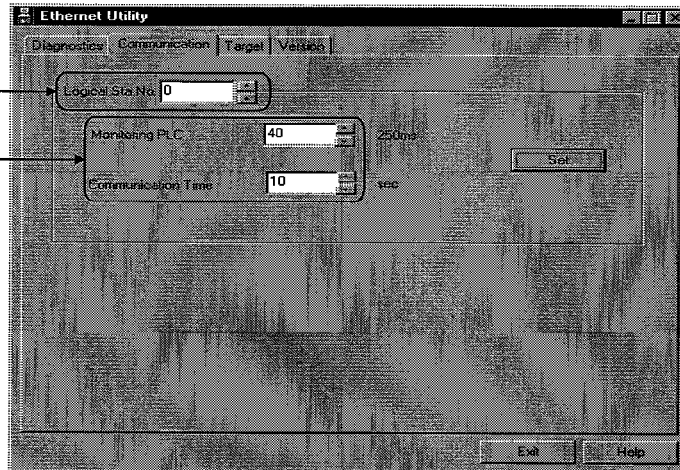
Logical	Host Name	Host Name	Port No.	Network
0	QE71		1	MELSECNET/10

(6) Set Monitoring PLC value and Communication Time value to the Logical Station Number

Open the "Communication" screen, designate the Logical Sta. No. set in the "Target" screen, and set Monitoring PLC value and Communication Time value.

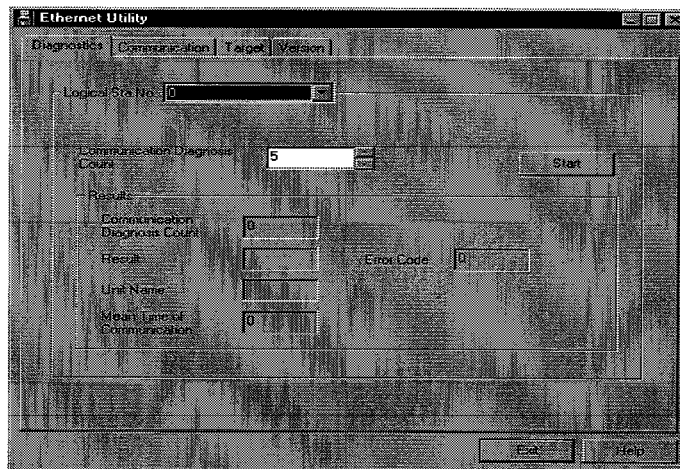
Set a logical station No. set in the Target screen.

Set Monitoring PLC value and Communication value.



(7) Checking if communication can be performed

Display the **Diagnostics** screen to check if communication can be performed.



(8) Collecting device information

To collect device information, use the MELSEC Data Link Library or Device Monitor Utility.

IMPORTANT

- The communication line is disconnected when a CPU is down or an Ethernet module reset takes place during communication between a personal computer and the Ethernet module. In this situation, perform the procedure below.
- When using the MELSEC Data Link Library
Execute line close processing (mdClose), then perform line reopen processing (mdOpen).

POINTS

- The error code (receiving error, 103) given on the first transmit request differs from that (transmitting error, 102) given on the second or the subsequent if the communication line is disconnected upon power failure or CPU reset for the E71, QE71 channel opened normally by mdOpen processing.
To resume communication, close the channel and reopen it.
- Access can be made within the same segment during Ethernet communication.

2.3 Monitoring via Direct Connection to PC CPU (RS-422)

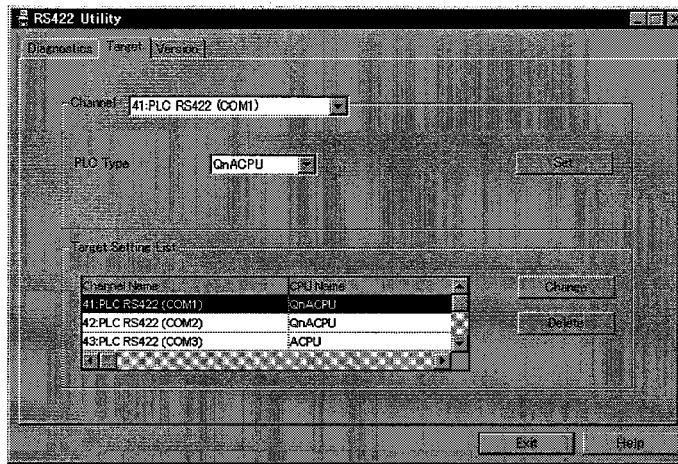
This section explains how to monitor device information by direct connection to PC CPU (RS-422).

(1) Starting the RS-422 Utility

See Section 5.1 to start the RS-422 Utility.

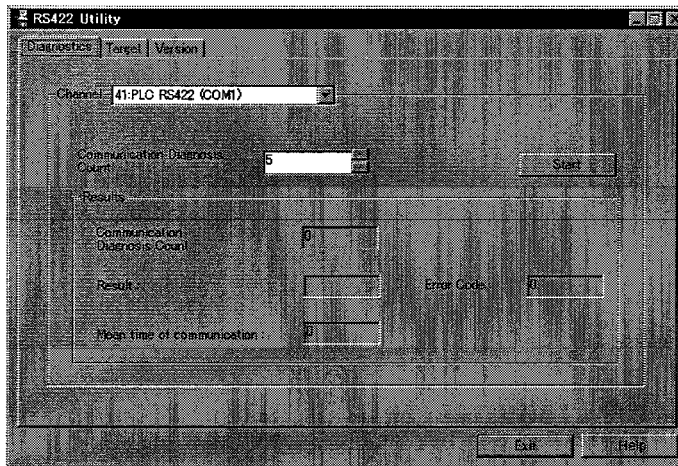
(2) Setting the channel to be used

Set the channel to be used on the Target screen.



(3) Checking if communication can be performed

Display the **Diagnostics** screen to check if communication can be performed.



(4) Collecting device information

To collect device information, use the MELSEC Data Link Library or Device Monitor Utility.

2.4 Monitoring via MELSECNET/10

This section explains how to monitor device information via MELSECNET/10. (Assuming that the communication driver has already been installed.)

(1) Setting the network module.

Consult the MELSECNET/10 System Reference Manual to make proper settings.

(2) Setting the MELSECNET/10 card.

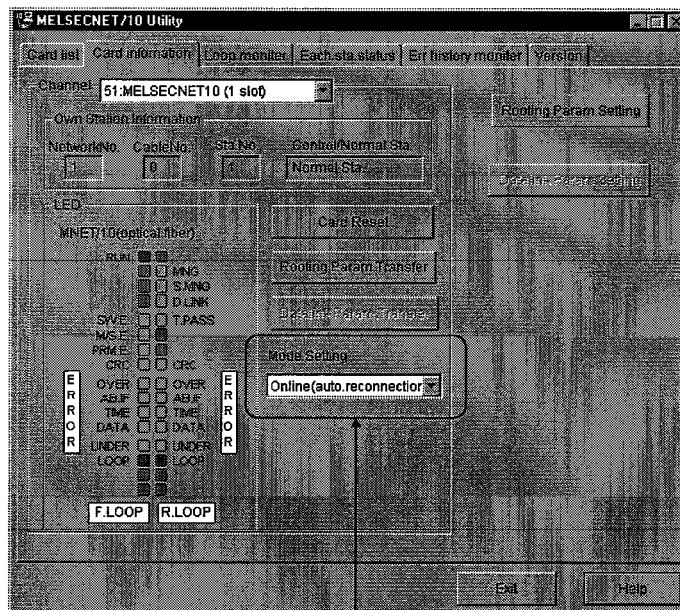
Consult the MELSECNET/10 Interface Card Users Manual to make proper settings.

(3) Starting the MELSECNET/10 Utility.

See Section 6.1 to start the MELSECNET/10 Utility.

(4) Setting the interface card to Online mode.

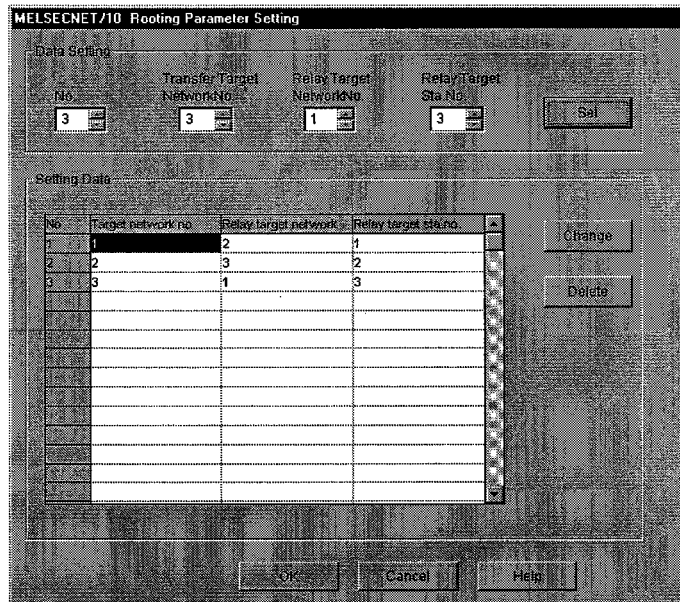
Open the **Card Information** screen and set the Mode Setting items to **Online (auto reconnection)** on the screen.



Set to Online (auto reconnection)

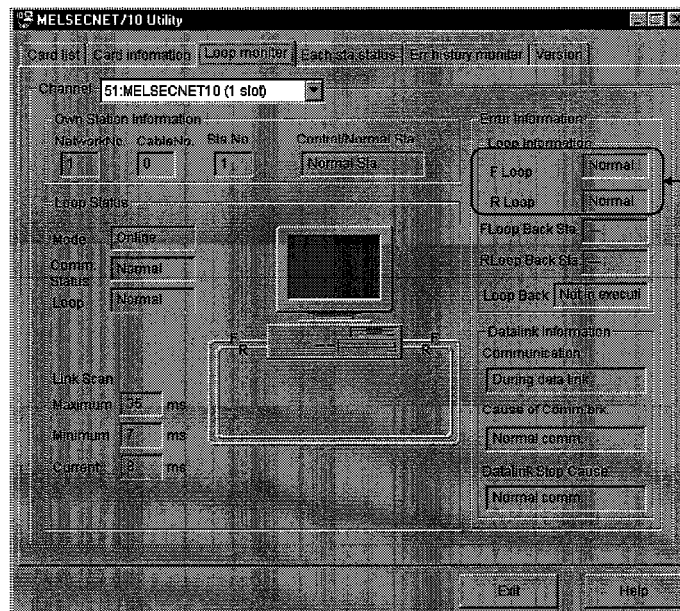
(5) Setting the Routing parameters (when accessing devices on another network)

To access a device on another network, click the Routing Param. Setting button on the MELSECNET/10 Utility Card Information screen. Then, make proper settings on the **Routing Parameter Setting** screen.



(6) Checking if the line is normal.

Display the **Loop Monitor** screen to check if the line is normal.



(7) Collecting device information.

To collect device information, use the MELSEC Data Link Library or Device Monitor Utility.

3 COMPUTER LINK UTILITY

This chapter describes how to set up and use the Computer Link Utility.

3.1 Start Method

Click [Start]-[Programs]-[MELSEC APPLICATION]-[COMMUNICATION SUPPORT(C-SKP-E)]-[C24 Utility] in order.

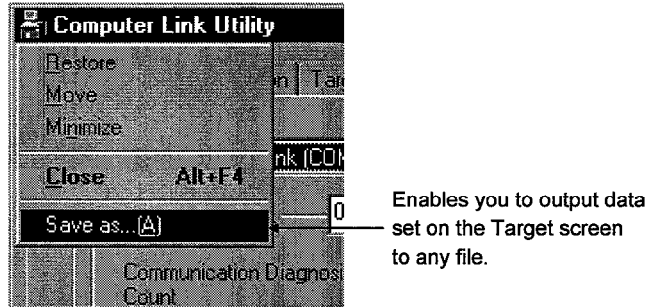
3.2 Function

This section lists the functions of the Computer Link Utility.

Functions	Explanations	Reference Section
Diagnosis	Communicates with the computer link module connected (serial communication) to diagnose whether or not communication takes place normally.	Section 3.5
Communication	Sets communications conditions on the COM port to be used.	Section 3.6
Target	Specifies logical station numbers to be used in communication.	Section 3.7
Version	Indicates the versions of CSKP-E and communication link utility.	Section 3.8

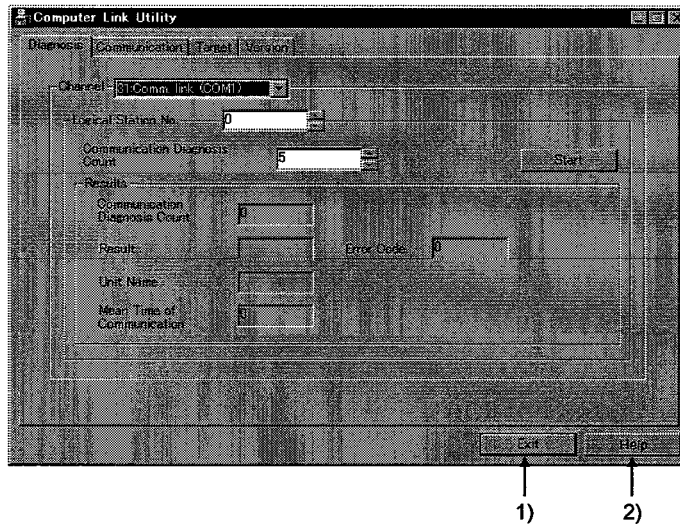
3.3 System Menu

The system menu of the Computer Link Utility includes the function “Save As...” on the menu.



3.4 Buttons

This section describes the function of each button.

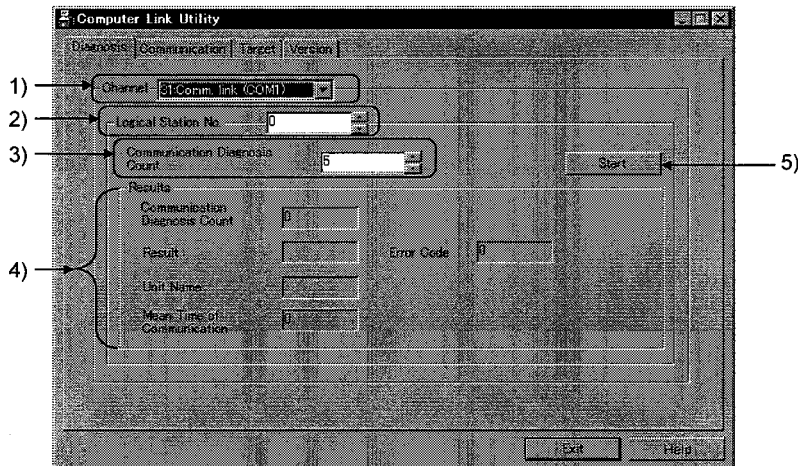


1) **Exit** button
Terminates the Computer Link Utility.

2) **Help** button
Displays the Help menu of the Computer Link Utility.

3.5 Diagnosis

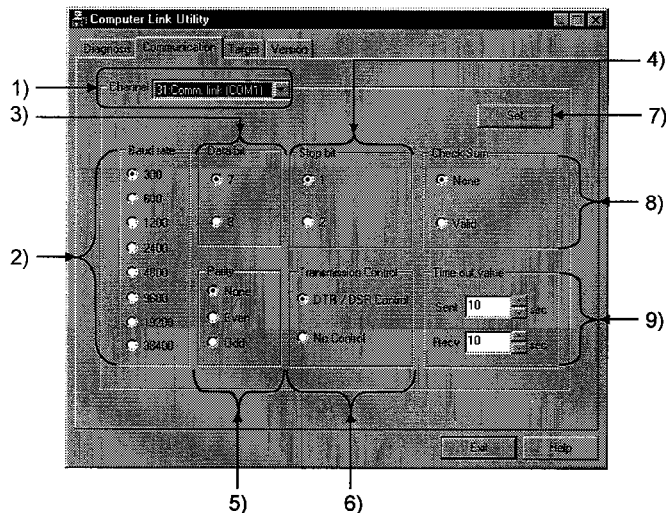
This screen allows you to diagnose the communication status (normal or abnormal) by communicating with PCs via the Computer Link (Serial Communication) module.



- 1) **Channel**
Specifies a channel to be used.
- 2) **Logical Station No.**
Specifies a logical station number.
- 3) **Communication Diagnosis Count**
Specifies the number of times communication diagnosis takes place.
- 4) **Results**
Indicates the results of communication diagnosis.
 - Communication Diagnosis Count** .. Indicates the number of times communication diagnosis takes place.
 - Result** Indicates the results of communication diagnosis.
 - Unit Name** Indicates the model name of the current module.
 - Mean Time of Communication** Indicates the average time taken for communication.
 - Error code** Indicates the error code of a diagnosis result.
(For details on error codes, consult the Error List Manual.)
- 5) **Start button**
Diagnoses communication.

3.6 Communication

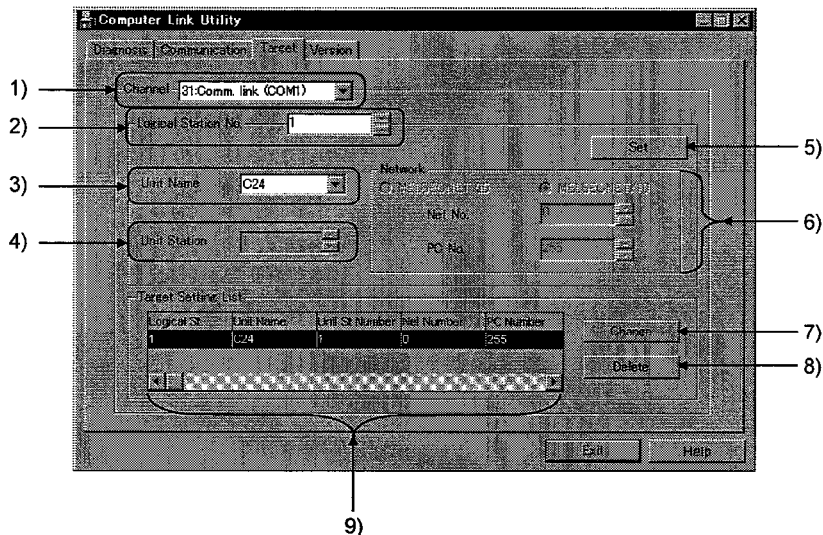
This screen allows you to set communication conditions of the COM port to be connected to the Computer Link Module.



- 1) **Channel**
Specifies a channel to be used.
- 2) **Baud rate**
Specifies a baud rate in communicating with the Computer Link Module.
- 3) **Data bit**
Specifies a data bit length in communicating with the Computer Link Module.
- 4) **Stop bit**
Specifies a stop bit in communicating with the Computer Link Module.
- 5) **Parity**
Specifies a parity bit in communicating with the Computer Link Module.
- 6) **Transmission Control**
Specifies flow control in communicating with the Computer Link Module.
- 7) **Set button**
Registers the current settings.
- 8) **Check Sum**
Specifies whether to take a check sum in communicating with the Computer Link Module.
- 9) **Time out value**
Specifies the time lapsed when communication cannot be performed normally during data transmission/reception.

3.7 Target

This screen allows you to set logical station numbers when the Computer Link Module communicates with the MELSEC Data Link Library.



1) **Channel**

Specifies a channel to be used.

2) **Logical Station No.**

0 to 31 : Users need not specify the module station numbers, network numbers, and PC numbers because the numbers are identical to the module numbers that are already set.

32 to 255 : Logical station numbers must be specified when PC CPUs in the other stations communicate via the network with the CPUs in which the Computer Link Module has been installed.

3) **Unit Name**

Specifies the model name of the Computer Link Module to be used.

4) **Unit Station**

Specifies a station number set by the rotary switch on the front of the Computer Link Module. (0 to 31)

5)  **button**
Registers the current settings.

6) **Network**
Specifies the settings to be made for network communication.

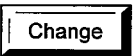
MELSECNET(II), Selects a network configuration.
MELSECNET/10

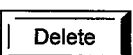
Net No. Specifies the network number of another station linked via a network with a PC in which the Computer Link Module has been installed.

<Setting Range>
MELSECNET(II) : 0 (Fixed)
MELSECNET/10 : 0 to 239

PC No. Specifies the PC number of another station linked via a network with a PC in which the Computer Link Module has been installed.

<Setting Range>
MELSECNET(II) : 0 to 64
MELSECNET/10 : 0 to 64

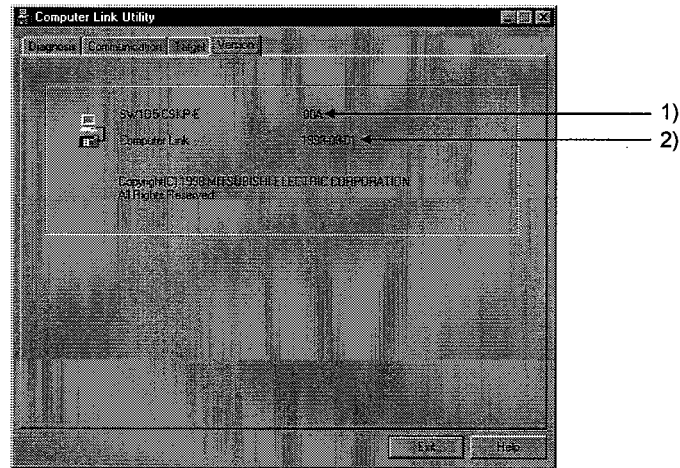
7)  **button**
Displays the setting of the current line in the field to change it.

8)  **button**
Deletes the current line.

9) **Target Setting List**
Lists the settings registered so far.

3.8 Version

This screen displays the versions of the CSKP-E and Computer Link utility.



- 1) **Package Version**
Indicates the version of the CSKP-E.
- 2) **Utility Version**
Indicates the version of the Computer Link Utility.

4 ETHERNET UTILITY

This chapter describes how to set up and use the Ethernet Utility.

4.1 Start Method

Click [Start]-[Programs]-[MELSEC APPLICATION]-[COMMUNICATION SUPPORT(C-SKP-E)]-[Ethernet Utility] in order.

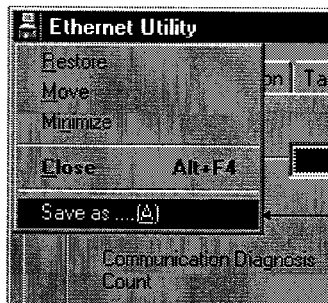
4.2 Function

The following table lists the functions of the Ethernet Utility.

Function	Explanation	Reference Section
Diagnostics	Communicates with the connected Ethernet module to check the communication status (normal or abnormal).	Section 4.5
Communication	Sets a CPU monitor timer value and a packet time-out value for a logical station number.	Section 4.6
Target	Sets a logical station number to be for communication.	Section 4.7
Version	Indicates the versions of the C-SKP-E and Ethernet Utility.	Section 4.8

4.3 System Menu

The system menu of the Ethernet Utility includes the function "Save As..." that is not available with the regular system menu.



Enables you to save data set on the Target screen in any text file.

4.4 Buttons

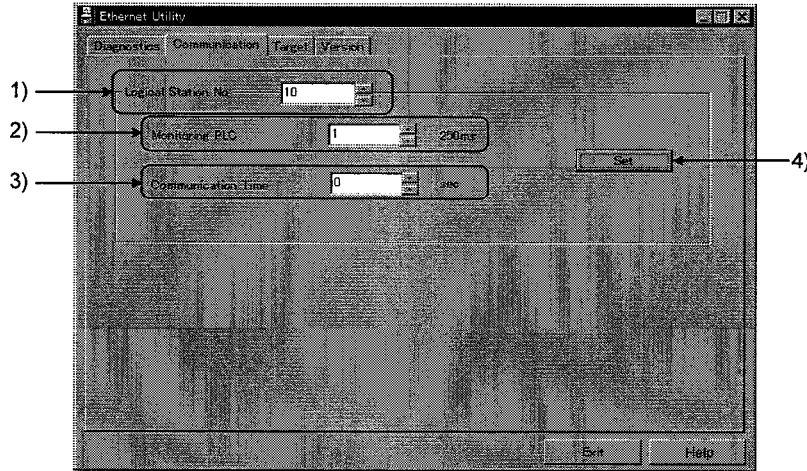
This section gives a brief description of two buttons on the screen below.



- 1) **Exit** button
Terminates the Ethernet Utility.
- 2) **Help** button
Displays the Help menu of the Ethernet Utility.

4.6 Communication

This screen allows you to set the monitoring PLC and communication time for a logical station number.



1) **Logical Station No.**

Specifies a logical station number for which the monitoring PLC and communication time must be set.

2) **Monitoring PLC**

Sets the wait time until a response is returned to an Ethernet module from a PC CPU after a request is issued to the PC CPU by the Ethernet module. This value can be set in multiples of 250ms. If the value "3" is specified, 750ms is set. (Any value from 1 to 65535 can be set.)

3) **Communication Time**

Sets the time-out value every packet communication. (0 to 322767 seconds)

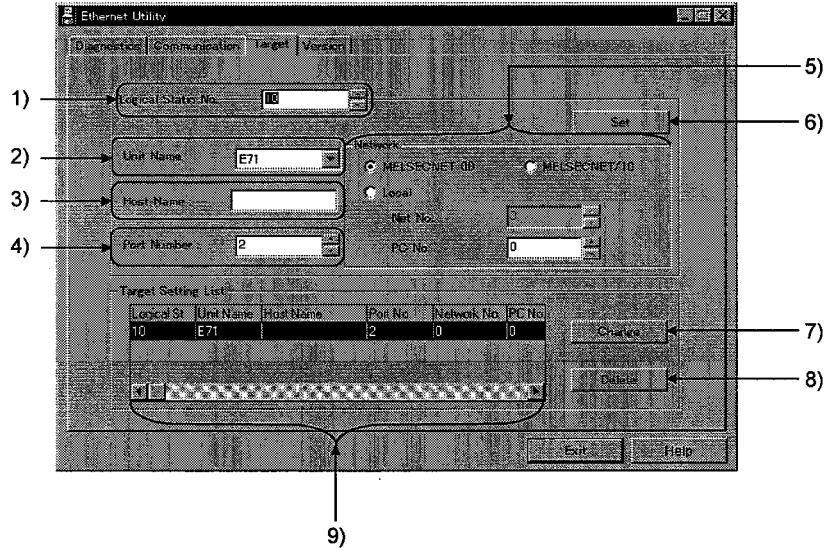
4) **Set button**

Registers the current settings.

POINT
Only the same segment can be accessed during Ethernet communication.

4.7 Target

This screen allows you to set a logical station number for Ethernet communication.



- 1) **Logical Station No.**
Specifies a logical station number.
- 2) **Unit Name**
Specifies the model name of the Ethernet module to be used.
- 3) **Host Name**
Specifies a host name corresponding to a target station IP address.
The IP address and host name are specified in the HOSTS file.
- 4) **Port Number**
Specifies a port number to be used for communication.

POINT
Some port numbers may be in use or reserved by the system. When actual communication cannot be performed normally for the diagnosis function, change the set port number.

5) **Network**

Specifies a network to be used for communication.

MELSECNET(II), Selects a network configuration.
MELSECNET/10

Net No. Specifies the network number of another station inked via-
a network with a PC in which the Computer Link Module
has been installed.


<Setting Range>
MELSECNET(II) : 0
MELSECNET/10 : 1 to 239
Ethernet : 0 (Fixed)

PC No. Specifies the PC number of another station linked via a net-
work with a PC in which the Computer Link Module has
been installed.

<Setting Range>
MELSECNET(II) : 0 to 64
MELSECNET/10 : 0 to 64
Ethernet : 255 (Fixed)

6)  **button**
Registers the current setting.

7)  **button**
Displays the setting of the current line and allows you to change it.

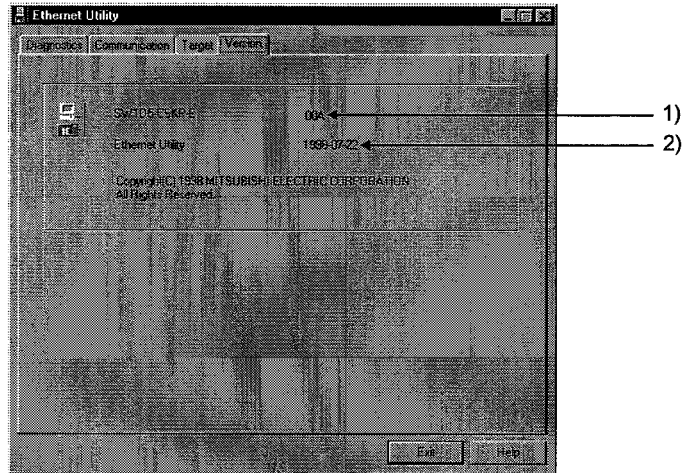
8)  **button**
Deletes the current line.

9) **Target Setting List**
Lists the settings registered so far.

POINT
Only the same segment can be accessed during Ethernet communication.

4.8 Version

This screen indicates the versions of the CSKP-E and Ethernet Utility.



- 1) **Package Version**
Indicates the version of the CSKP-E.
- 2) **Utility Version**
Indicates the version of the Ethernet Utility.

5 RS-422 UTILITY

This chapter describes how to set up and use the RS-422 Utility.

5.1 Start Method

Click [Start]-[Programs]-[MELSEC APPLICATION]-[COMMUNICATION SUPPORT(C-SKP-E)]-[RS422 Utility] in order.

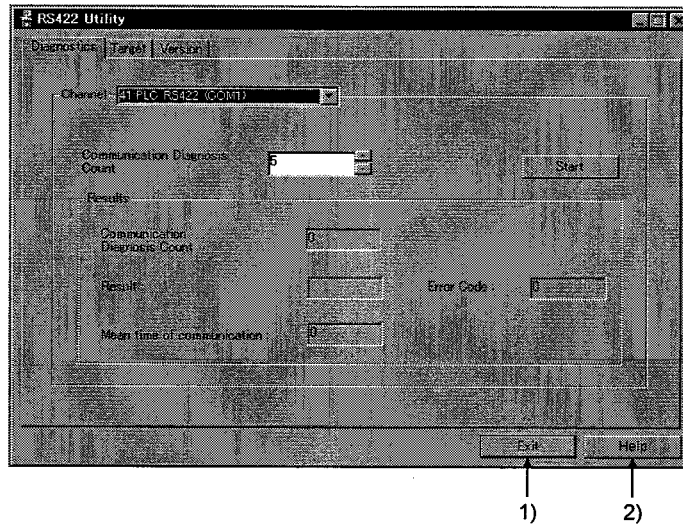
5.2 Function



The following table lists the functions of the RS-422 Utility.

Function	Explanations	Reference Section
Diagnostics	Communicates with a connected PC CPU to check the communication status (normal or abnormal).	Section 5.4
Target	Sets the model name of a connected module.	Section 5.5
Version	Indicates the versions of CSKP-E and RS-422 Utility.	Section 5.6

5.3 Buttons

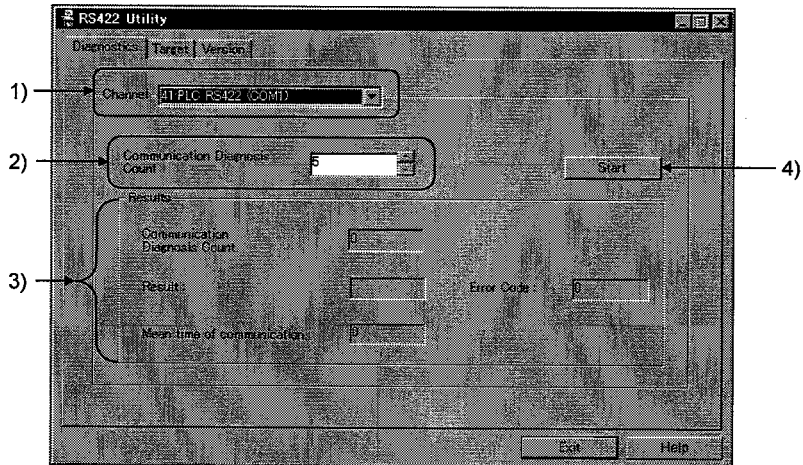
This section gives a brief description of buttons on the screen.



- 1)  **button**
Terminates the RS-422 Utility.
- 2)  **button**
Displays the Help menu of the RS-422 Utility.

5.4 Diagnostics

This screen allows you to communicate with a PC to diagnose the communication status (normal or abnormal).



- 1) **Channel**
Specify the channel to be subjected to the communication diagnosis.
- 2) **Communication Diagnosis Count**
Specifies the number of times communication diagnosis takes place.
- 3) **Results**
Indicates the results of communications diagnosis.

Communication Diagnosis Count Indicates the number of times communication diagnosis takes place.

Result Indicates the results of communication diagnosis.

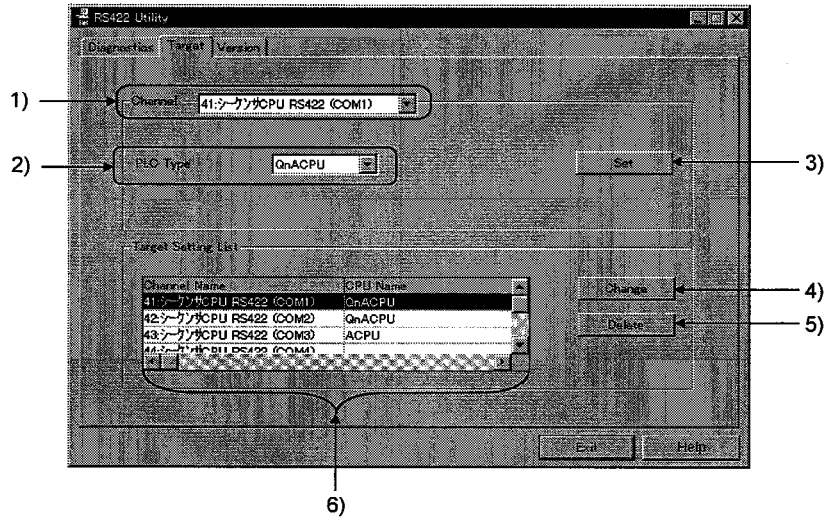
Mean Time of Communication Indicates the mean time required for communication.

Error Code Indicates the error code of a diagnosis result. (For details on error codes, refer to the Error List Manual.)

- 4) **Start** button
Starts communication diagnosis.

5.5 Target

This screen allows you to specify the model name of a PC CPU connected.

1) **Channel**

Specifies a channel to be used.

2) **PLC Type**

Specifies the model name of a target PC CPU.

QnACPU .. QnA series PC

ACPU A series PC

AnU AnU series PC

AnA AnA series PC

AnH AnH series PC

AnN AnN series PC

3) **Set** button

Registers the current setting.

4) **Change** button

Displays the setting of the current line and allows you to change it.

5) **Delete** button

Deletes the current line.

6) **Target Setting List**

A list of setups for different channels are displayed.

5.6 Version

This screen indicates the version of the CSKP-E and the RS-422 Utility.



- 1) **Package Version**
Indicates a CSKP-E version.
- 2) **Utility Version**
Indicates an RS-422 Utility version.

6 MELSECNET/10 UTILITY

This chapter describes how to set up and operate the MELSECNET/10 Utility.

6.1 Start Method

Click [Start]-[Programs]-[MELSEC APPLICATION]-[COMMUNICATION SUPPORT(C-SKP-E)]-[MELSECNET10 Utility] in order.

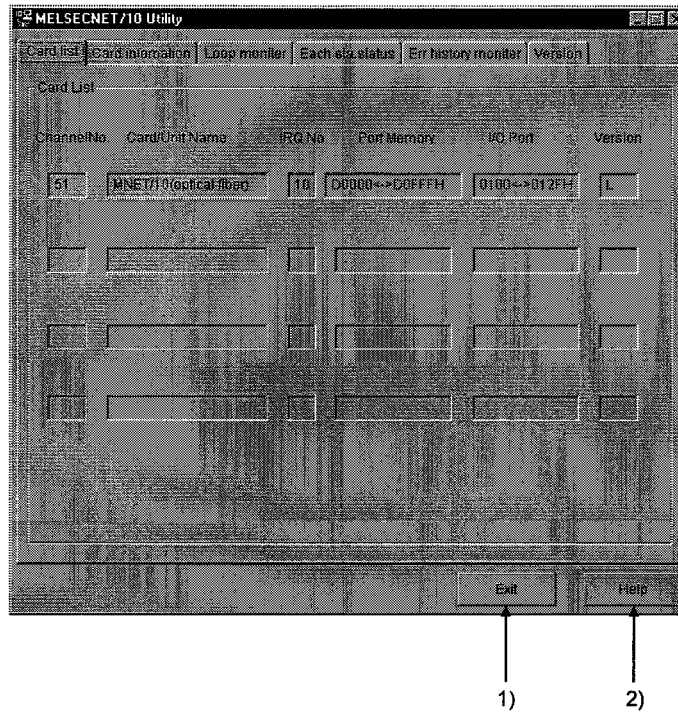
6.2 Function

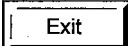

The following table lists the MELSECNET/10 Utility functions.

Function	Explanation	Reference Section
Card list	Lists the hardware information contained in MELSECNET/10 Card installed.	Section 6.4
Card information	Indicates various kinds of information on the I/F Card installed and permits you to make settings.	Section 6.5
Loop monitor	Indicates the line conditions of a local station.	Section 6.6
Each Sta. status	Indicates the communication or loop conditions of each station.	Section 6.7
Err history monitor	Indicates error histories.	Section 6.8
Version	Indicates the version of MELSECNET/10 Utility.	Section 6.9

6.3 Buttons

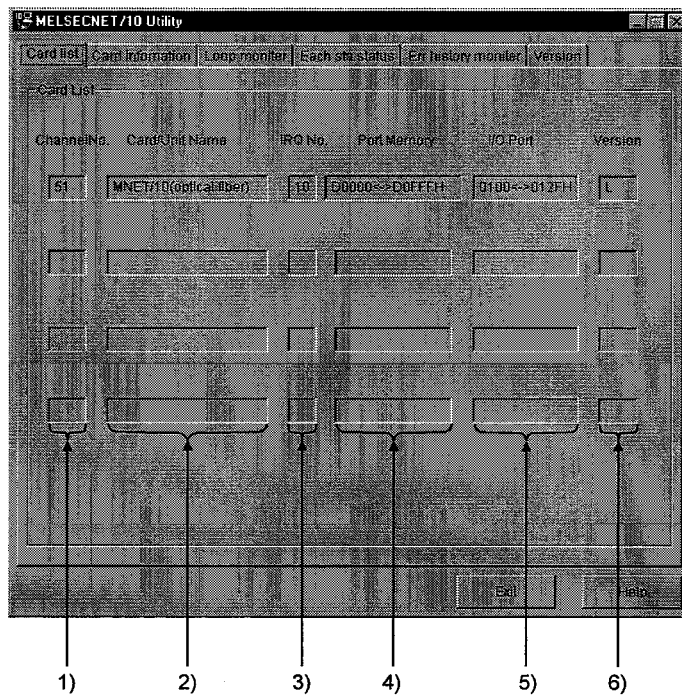
This screen includes two buttons.



- 1)  button
Terminates the MELSECNET/10 Utility.
- 2)  button
Displays the help menu for the MELSECNET/10 Utility.

6.4 Card List

This screen displays the hardware information set on the I/F card.

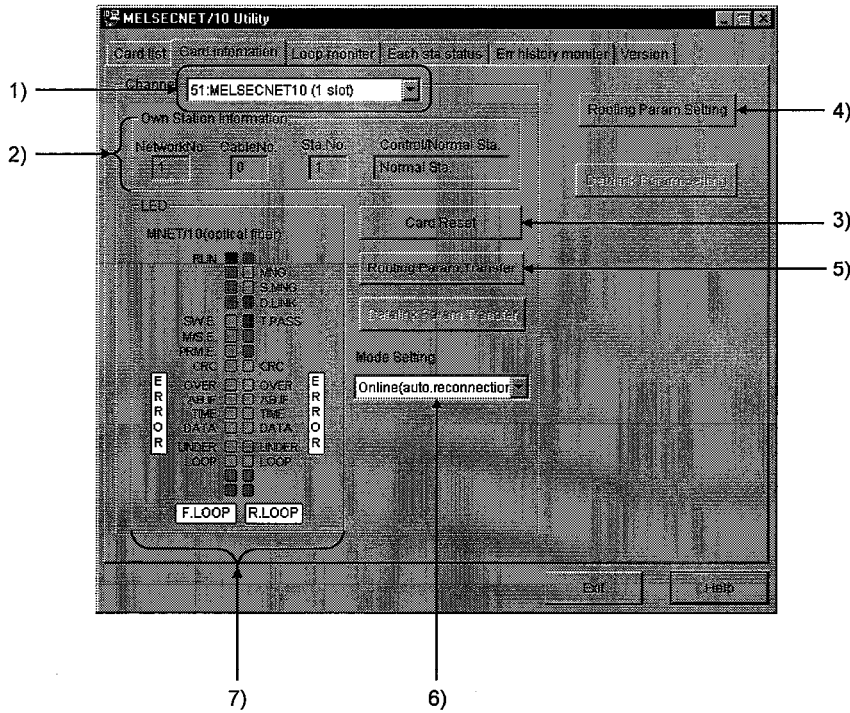


- 1) **Channel No.**
Indicates a channel No.
- 2) **Card/unit name**
Indicates the model name of the I/F card installed.
- 3) **IRQ No.**
Indicates the IRQ number to be used by the I/F card.
- 4) **port memory**
Indicates a range of port memory occupied by the I/F card.
- 5) **I/O port**
Indicates a range of I/O ports occupied by the I/F card.
- 6) **Version**
Indicates the version of ROM installed on the I/F card.

6.5 Card Information

6.5.1 Card information

This screen displays various kinds of information on the I/F 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 I/F card of the channel selected in step 1).
- 4) **Routing Param. Setting button**
Displays the Routing Parameter Setting screen to set data.

5) Rooting Param. Transfer button

Transfers the settings made in Subsection 6.5.2 to the I/F card selected in 1).

6) **Mode setting**

Sets the mode of the I/F 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.

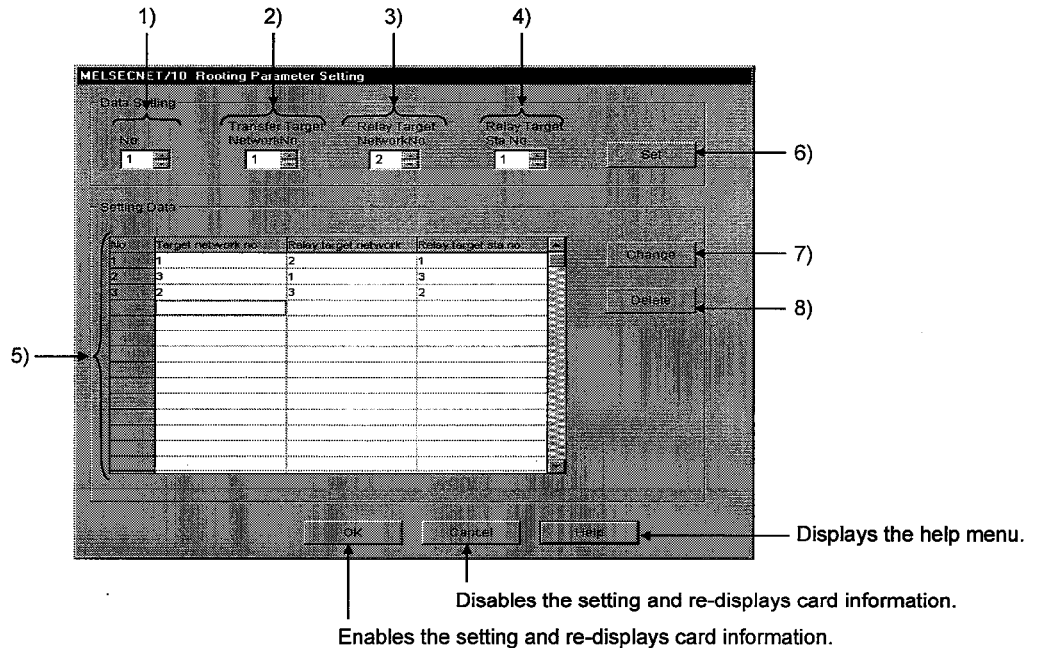
7) **LED status**

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

6.5.2 Routing Parameter Setting

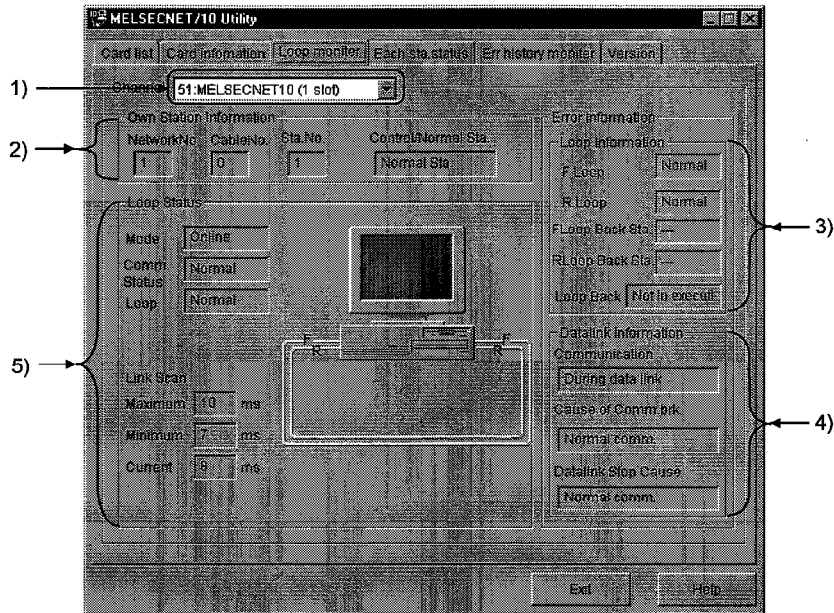
This screen displays the destination network number, relay network number, and relay station number.



- 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.

6.6 Loop Monitor

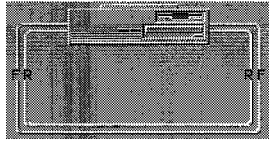
This screen monitors the line conditions of a local station.



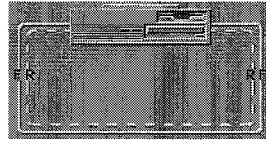
- 1) **Channel**
Specifies a channel to be used.
- 2) **Local Station Information**
Indicates the local station information.
- 3) **Loop Information**
Indicates the status of the current loop.
- 4) **Data Link Information**
Indicates the status of the current data link.

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.



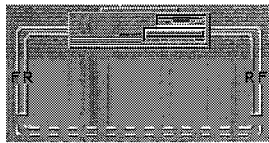
Forward loop : Normal
Reverse loop : Normal



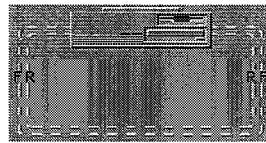
Forward loop : Normal
Reverse loop : Abnormal



Forward loop : Abnormal
Reverse loop : Normal



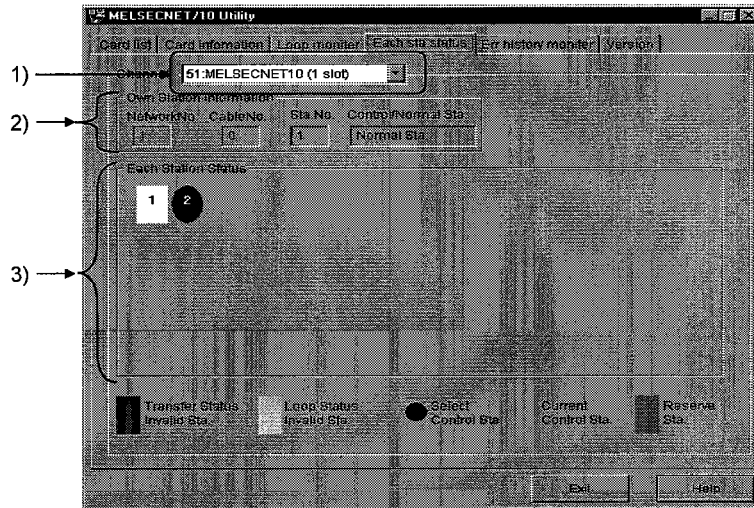
Data link by loop-back








Forward loop : Abnormal
Reverse loop : Abnormal

6.7 Each Sta. Status

This screen indicates the communication status between stations and the loop status.

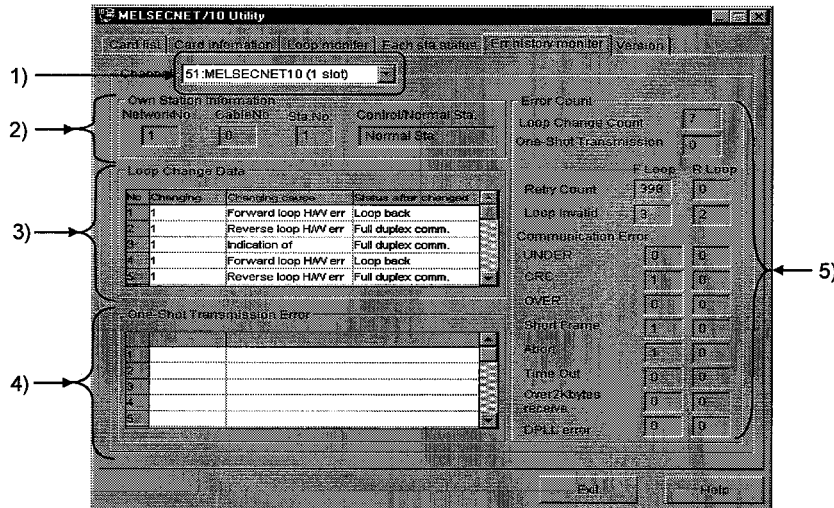


- 1) **Channel**
Specifies a channel to be used.
- 2) **Own Station Information**
Indicates information on a local station.
- 3) **Each Station Status**
Indicates the communications status and loop status for stations as many as the total number of link stations designated by the parameters.

- (Red)**  Transfer Status..... Indicates a baton pass error.
Invalid Sta.
- (Yellow)**  Loop Status..... Indicates a forward/reverse loop error.
Invalid Sta.
- (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.

6.8 Err. History Monitor

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 changed Indicates the data link status after loop change.

POINT
 Up to 16 history files can be created. When the number of history files exceeds 16, the oldest one is deleted.
 (Oldest:No.1 ← → Newest:No.16)

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 Transmission ·········· Indicates the number of transient transmission errors.

Retry Count ·················· Indicates the number of retries (repeated communications 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.

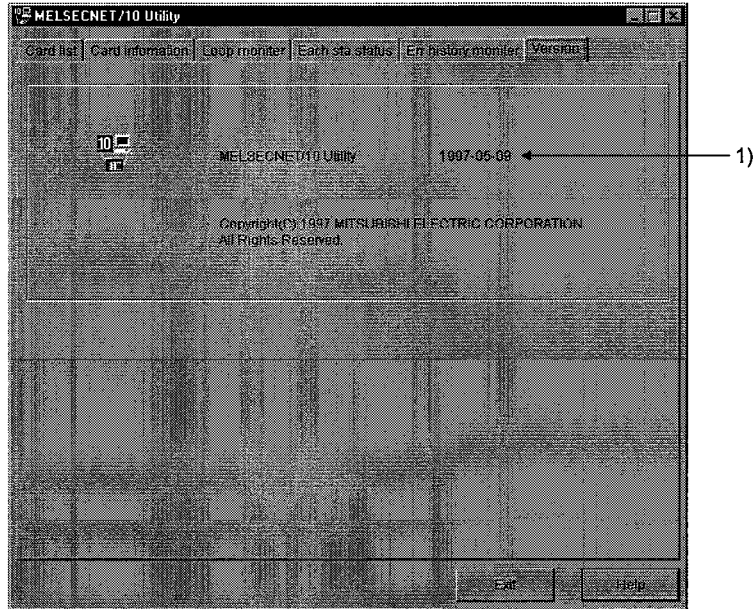
Time Out ······················ Indicates the number of TIME errors.

Over 2K Bytes Receive ·········· Indicates the number of DATA errors.

DPLL Error ···················· Indicates the number of DPLL errors (Data cannot be recognized normally during synchronization or modulation).

6.9 Version

This screen indicates the version of the MELSECNET/10 Utility.



1) Utility Version

Indicates the version of the MELSECNET/10 Utility.

7 DEVICE MONITOR UTILITY

This chapter describes how to set up and use the Device Monitor Utility.

7.1 Start Method

Click [Start]-[Programs]-[MELSEC APPLICATION]-[COMMUNICATION SUPPRT(C-SKP-E)]-[Device Monitor Utility] in order.

7.2 Function

The following table lists the functions of the Device Monitor Utility.

		Explanations	Section /Subsection for Reference
Menu	Batch monitor	Indicates only one device specified.	Subsection 7.3.1
	16-Point register monitor	Monitors up to five bit devices and one word device at one time.	Subsection 7.3.2
	Close	Terminates the utility.	Subsection 7.3.3
Setting	Network setting	Sets a network for device monitoring.	Subsection 7.4.1
	Device setting	Sets a device being monitored.	Subsection 7.4.2
Device Write	Data changing	Changes the value of a word device specified.	Subsection 7.5.1
	Continuous change in data	Continually changes the value of a word device specified.	Subsection 7.5.2
	Bit device setting	Activates the bit of a bit device specified.	Subsection 7.5.3
	Bit device resetting	Inactivates the bit of a bit device specified.	Subsection 7.5.4
Data Format	_____	Switches a display format for device monitoring.	Section 7.6
Help	Help	Displays the Help.	Subsection 7.7.1
	Version	Displays the version information of the Device Monitor Utility.	Subsection 7.7.2
Other Operations	_____	Changes a device value when a device number is double-clicked.	Section 7.8

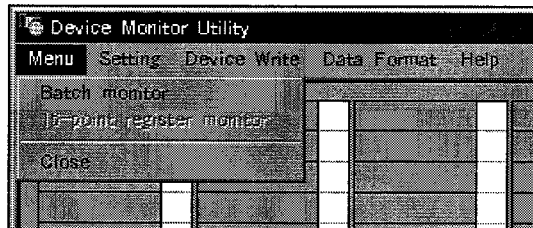
7.3 Menu

7.3.1 Batch Monitor

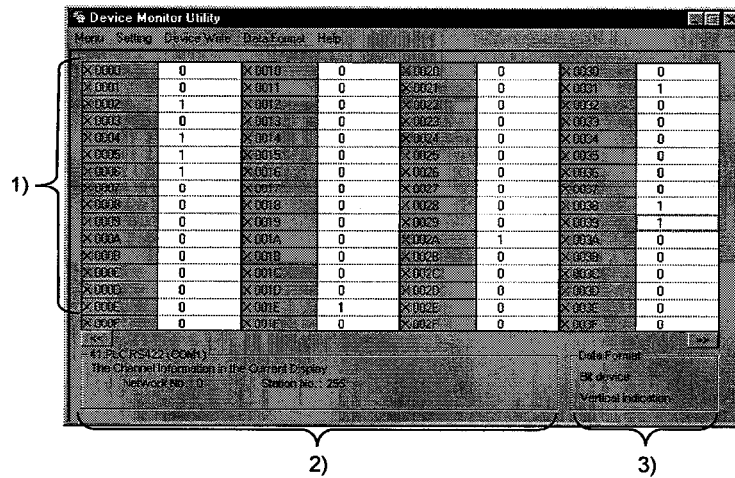
This function allows you to monitor only one specified device.

(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 Section 7.6 for how to change a display type.

2) Network Status

Indicates the status of the current network. See Subsection 7.4.1 for how to specify a network.

3) Data Format

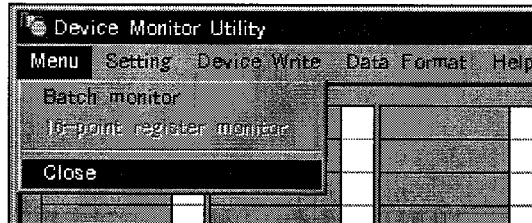
Indicates the type (word device or bit device) and display format of a device being displayed. See Subsection 7.4.2 for how to change the type of a device and see Section 7.6 for how to change a display format.

7.3.3 Close

This function allows you to close the Device Monitor utility.

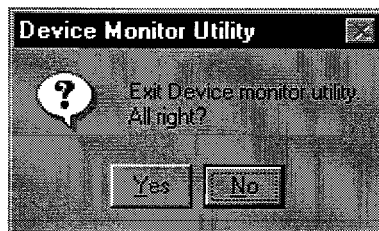
(1) Menu Selection

Click **[Menu]-[Close]** in order on the menu bar.



(2) Dialogue Box

Click **[Close]**, and the following dialogue box will be displayed.



Choosing [Yes] ··· Terminates the Device Monitor Utility.

Choosing [No] ···· Closes the dialogue box to redisplay the display screen.

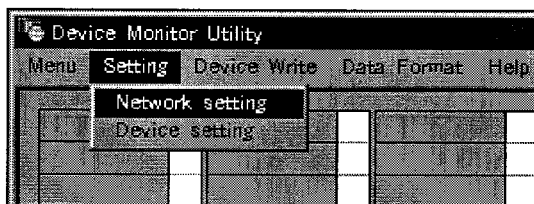
7.4 Setting

7.4.1 Network Setting

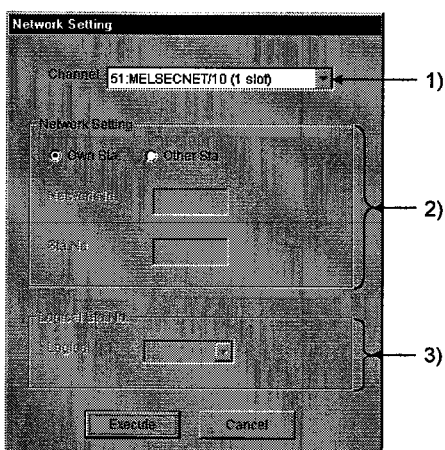
This screen allows you to set the network to be used for device monitoring. Make settings at the start of the Device Monitor utility.

(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.

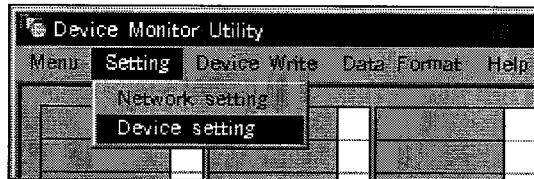
Sets a logical station number.

7.4.2 Device Setting

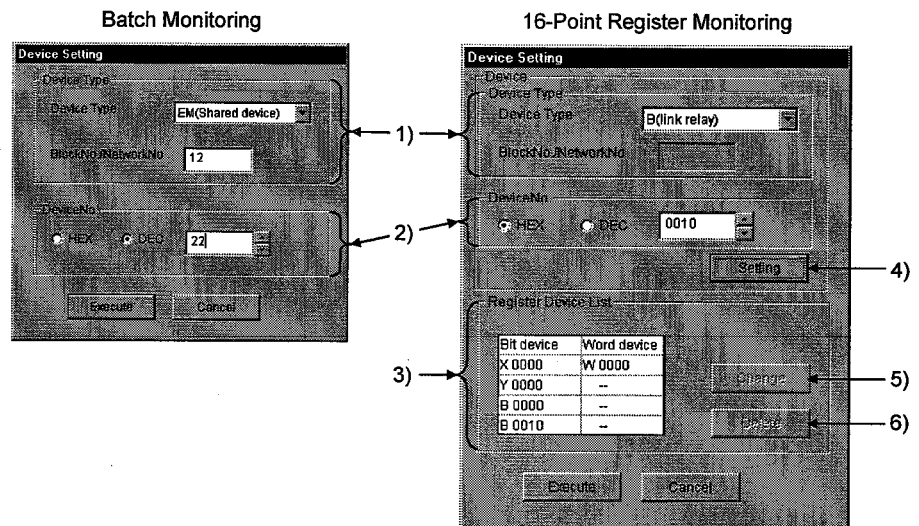
This screen allows you to specify a device to be monitored.

(1) Menu Selection

Click [**Setting**]-[**Device setting**] in order on the menu bar.



(2) Dialogue Box



1) Device Type




Specifies the type and block number of a device to be monitored and a network number.

2) Device No.

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

3) Register Device List

Lists the devices registered.

- 4)  **button**
Registers the settings made in 1) and 2) above, then adds them to 3) (Register Device List) above.
- 5)  **button**
Changes the setting registered by clicking this button after choosing a device to be changed.
- 6)  **button**
Deletes a device from the Register Device List when clicking this button after choosing a device to be deleted.