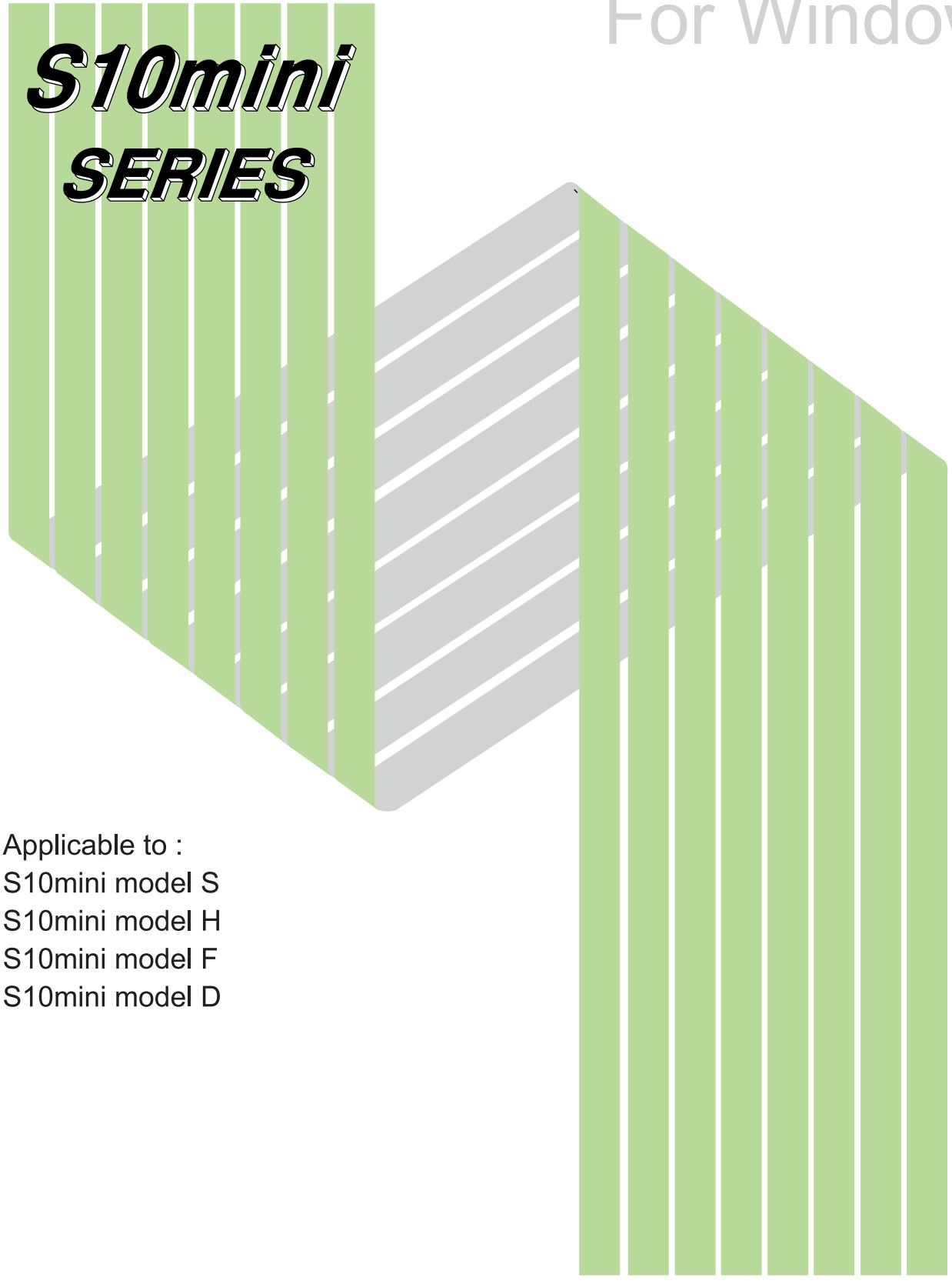
HITACHI
S10α SERIES

SOFTWARE MANUAL
OPTION

FL.NET
For Windows®

S10mini SERIES



Applicable to :
S10mini model S
S10mini model H
S10mini model F
S10mini model D

SAE-3-139 (C)

HITACHI

NOTE

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BI-KB-HS<IC-IC> (FL-MW20)

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- Read this manual thoroughly and follow all the safety precautions and instructions given in this manual before operations such as system configuration and program creation.
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- Make it a rule to back up every file. Any trouble on the file unit, power failure during file access or incorrect operation may destroy some of the files you have stored. To prevent data destruction and loss, make file backup a routine task.
- Furnish protective circuits externally and make a system design in a way that ensures safety in system operations and provides adequate safeguards to prevent personal injury and death and serious property damage even if the product should become faulty or malfunction or if an employed program is defective.
- If an emergency stop circuit, interlock circuit, or similar circuit is to be formulated, it must be positioned external to the programmable controller. If you do not observe this precaution, equipment damage or accident may occur when the programmable controller becomes defective.
- Before changing the program, generating a forced output, or performing the RUN, STOP, or like procedure during an operation, thoroughly verify the safety because the use of an incorrect procedure may cause equipment damage or other accident.

"RUN/STOP" SWITCH CAUTION

The "RUN/STOP" switch only stops execution of the ladder logic program or HI-FLOW program. Digital and analog outputs are left in the active state when execution stops, unless the optional rungs described in the CPU manual have been added. The "RUN/STOP" switch does not affect the operation of C-language or FA-BASIC language programs. Outputs can still be produced in response to C-language or FA-BASIC programs, or by the action of programmers typing in commands in these languages, while the "RUN/STOP" switch is in the "STOP" position.

DO NOT DEPEND ON THE STOP SWITCH TO STOP MOVING PARTS OR TO PREVENT UNEXPECTED MOTION OR ENERGIZATION. USE HARDWIRED SAFETY DISCONNECT AND LOCK OUT POWER AND CONTROL VOLTAGES BEFORE WORKING ON ELECTRICAL CIRCUITS OR PARTS THAT CAN MOVE.

PREFACE

We greatly appreciate your purchase of this FL.NET system.

The system runs on a personal computer and carries out a variety of setup operations for the FL.NET module (LQE000).

This manual describes the operation of the FL.NET system.
For the setting ranges and other detailed information, see Help on the FL.NET system.
This manual is applicable to the following system versions.

System name/version
FL.NET SYSTEM For Windows® 07-03

For the FL.NET module, refer to the following manual supplied with the module.

<Related manual>
S10mini HARDWARE MANUAL OPTION FL.NET (Manual number SME-1-101)

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Systems Supported by Windows® 2000 and Windows® XP

The systems supported by Microsoft® Windows® 2000 operating system (hereafter abbreviated as Windows® 2000) and Microsoft® Windows® XP operating system (hereafter abbreviated as Windows® XP) are shown in the following table.

Systems of earlier versions than those shown in the following table are not supported by Windows® 2000 and Windows® XP but supported by only Microsoft® Windows® 95 operating system (hereafter abbreviated as Windows® 95) and Microsoft® Windows® 98 operating system (hereafter abbreviated as Windows® 98). (The system names in the following table are hereafter abbreviated as each system.)

<Table of Systems Supported by Windows® 2000 and Windows® XP>

No.	System name	Type	Version	Windows® 2000	Windows® XP
1	S10Tools SYSTEM	S-7890-01	07-05	√	√
2	LADDER CHART SYSTEM	S-7890-02	07-05	√	√
3	HI-FLOW SYSTEM	S-7890-03	07-02	√	√
4	CPMS LOADING SYSTEM	S-7890-04	07-04	√	√
5	CPMSE LOADING SYSTEM	S-7890-05	07-04	√	√
6	CPMS DEBUGGER SYSTEM	S-7890-06	07-02	√	√
7	CPMSE DEBUGGER SYSTEM	S-7890-07	07-02	√	√
8	GP-IB LOADING SYSTEM	S-7890-08	07-01	√	√
9	BACKUP RESTORE SYSTEM	S-7890-09	08-01	√	√
10	RPDP/S10 SYSTEM	S-7891-10	03-03	√ (*2)	ns (*1)
11	NX/Tools-S10 SYSTEM	S-7890-13	07-02	√	√
12	4α LADDER CHART SYSTEM	S-7890-17	07-05	√	√
13	4αH LADDER CHART SYSTEM	S-7890-18	07-05	√	√
14	LADDER COMMENT CONVERTER SYS	S-7890-19	06-01	√	√
15	HIGH SPEED REMOTE I/O SYSTEM	S-7890-21	07-01	√	√
16	CPU LINK SYSTEM	S-7890-22	07-01	√	√
17	4ch ANALOG PULSE COUNTER SYS	S-7890-23	07-01	√	√
18	EXTERNAL SERIAL LINK SYSTEM	S-7890-24	07-02	√	√
19	S10ET LINK SYSTEM	S-7890-25	07-02	√	√
20	J.NET SYSTEM	S-7890-27	07-02	√	√
21	OD.RING/SD.LINK SYSTEM	S-7890-28	07-03	√	√
22	ET.NET SYSTEM	S-7890-29	07-01	√	√
23	FL.NET SYSTEM	S-7890-30	07-03	√	√
24	D.NET SYSTEM	S-7890-31	07-04	√	√
25	LADDER CHART MONITOR SYSTEM	S-7890-34	07-04	√	√
26	HI-FLOW MONITOR SYSTEM	S-7890-35	07-01	√	√
27	IR.LINK SYSTEM	S-7890-36	07-02	√	√
28	Crossing C compiler (manufactured by Mentor graphics company)	MCP68K	5.3	√ (*2)	ns (*1)

√: Supported ns: Not supported

(*1) Crossing C compiler (No.28) is not supported by Windows® XP. Use it on Windows® 2000.

(*2) Crossing C compiler (No.28) must be a version supported by Windows® 2000 (later than version 5.3) as a premise.

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<Definitions of Terms>

N coil: A ladder program converted into a form that can be run on the PCs by pasting a symbol on the sheet displayed on a PC.

Process: A HI-FLOW program converted into a form that can be run on the PCs by pasting a symbol on the sheet displayed on a PC.

Compile: To convert an application program such as a ladder chart and HI-FLOW into a form (N coil, process, etc.) that can be run on the PCs.

Build: To compile only a corrected application program.

Rebuild: To compile every existing application program.

Sheet: Paper to prepare an application program of ladder chart and HI-FLOW, etc. This paper is controlled on a PC.

PCs: An abbreviation of Programmable Controllers.
This is a general term for PLC such as the S10α and S10mini series.

PLC: An abbreviation of Programmable Logic Controller.
This is an industrial electronic device to exert sequence control, having an incorporated program.
The S10α and S10mini series come under this PLC.

<Note for storage capacity calculations>

- Memory capacities and requirements, file sizes and storage requirements, etc. must be calculated according to the formula 2^n. The following examples show the results of such calculations by 2^n (to the right of the equals signs).
  1 KB (kilobyte) = 1024 bytes
  1 MB (megabyte) = 1,048,576 bytes
  1 GB (gigabyte) = 1,073,741,824 bytes
- As for disk capacities, they must be calculated using the formula 10^n. Listed below are the results of calculating the above example capacities using 10^n in place of 2^n.
  1 KB (kilobyte) = 1000 bytes
  1 MB (megabyte) = 1000^2 bytes
  1 GB (gigabyte) = 1000^3 bytes

1 BEFORE USE

This manual is intended for users who use Windows® personal computer programming.

1.1 System Overview

FL.NET For Windows® (abbreviated to FL.NET) allows you to set parameters, register a task to be started upon data reception, save parameter settings, initiate a transmission, display RAS information, and register mathematical/logical functions (hereinafter called operation functions) for the S10mini FL.NET module by performing operating procedures similar to those of general Windows® applications.

1.2 Hardware and Software Requirements

Using each system requires the following hardware and software.

<Personal Computers (hereafter abbreviated as PC)>

OS / Item	Windows® 95 (*1) Windows® 98 (*1)	Windows® 2000 (*1)	Windows® XP (*1) (*2)
CPU	Pentium 133 MHz or more	Pentium 300 MHz or more	
Memory (RAM)	32 MB or more	64 MB or more	128 MB or more
Free hard disk capacity (*3)	20 MB or more/system (However, 10 MB or more/system for OS loading and option module support software)		
Floppy disk drive	1 unit or more (required to install software by FD)		
CD-ROM drive	1 unit or more (required to install software by CD-ROM)		
Ethernet (10BASE-T)	1 port or more (required to connect a PC with the ET.NET module)		
Serial (D-sub 9-pin)	1 port or more (required to connect the PCs with a PC by RS-232C or set an IP address for the ET.NET module)		
PC card (conforming to the PC Card Standard (JEITA V4.2) TYPE II or TYPE III)	1 slot or more (required to connect a PC with the parallel interface module (LWZ400). At this time, the following GP-IB card is also required.) GP-IB card: PCMCIA-GPIB (Model: 777438-02) (manufactured by National Instruments Corporation)		
Display	Resolution of 800 × 600 pixels or more		
Microsoft® Internet Explorer	Version 4.01 or later		

(*1) For the OS service pack, refer to the attached reference materials for software.

(*2) No.10 and No.28 in <Table of Systems Supported by Windows® 2000 and Windows® XP> in "PREFACE" are excepted.

(*3) This is a capacity required to install each system. A free capacity to save user programs is also required.

<Hardware other than PC>

- S10mini CPU module
- S10mini power module
- S10mini FL.NET module (LQE000)
- S10mini mount base
- Connection cable between the personal computer and PCs (Ethernet or RS-232C)
- Remote I/O stations, other power supplies and mount base, optional modules, input/output modules, and wiring as required

NOTICE
Users of this product require knowledge of the Windows® environment and user interface. The FL.NET system conforms to the Windows® standard. This manual is intended for users who have mastered the basic usage of Windows®.

NOTE FOR PERSONAL COMPUTER SETTINGS
When you use a personal computer with the suspend function, disable the function. The personal computer may malfunction if the suspend function remains enabled during execution of the FL.NET system.

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2 INSTALLATION

2.1 Installing the System (*)

First, check if your CD is correct.

To install each system, double-click the Setup.exe file saved in the DISK1 folder of the system CD. After installing it, an installed program window is not displayed.

To install each system, install Microsoft® Internet Explorer 4.01 or later. If it is not installed, install each system after installing it.

NOTE

- To operate each system, install Microsoft® Internet Explorer 4.01 or later. If it is not installed, each system does not operate normally.
- Before installing each system, be sure to terminate such a program residing in the memory as virus monitoring software. If each system is installed without terminating the program, an error may occur. In this case, uninstall the system by referring to “2.2 Uninstalling the System” and terminate all Windows® programs. Then, install each system once again.
- To install and uninstall each system by using Windows® 2000, set “Administrator” or “Member of Administrators” as the user account to be logged on.
- To install and uninstall each system by using Windows® XP, set “Computer administrator” as the user account to be logged on. If “Account with limitations” is set, each system does not operate normally.

(*) No.10 and No.28 in <Table of Systems Supported by Windows® 2000 and Windows® XP> in “PREFACE” are excepted.

2.2 Uninstalling the System (*)

To uninstall each system for version-up, observe the following procedure.

(1) Uninstalling from Windows® 95 or Windows® 98

Open [Settings] in the [Start] menu – [Control Panel]. Double-click [Add/Remove Programs], select "Each System" by the [Install/Uninstall] tab, and click the [Change/Remove] button. When the [Confirm File Deletion] window is displayed, click the [Yes] button.

(2) Uninstalling from Windows® 2000

Open [Settings] in the [Start] menu – [Control Panel]. Double-click [Add/Remove Programs], click [Change or Remove Programs], select "Each System," and click the [Change/Remove] button. When the [Confirm File Deletion] window is displayed, click the [Yes] button.

(3) Uninstalling from Windows® XP

Open ([Settings] –) [Control Panel] in the [Start] menu. Double-click [Add or Remove Programs], click [Change or Remove Programs], select "Each System," and click the [Change/Remove] button. When the [Confirm File Deletion] window is displayed, click the [Yes] button.

When a shortcut of each system executable file has been created on the desktop, etc. delete this shortcut.

NOTE

- When the [Remove Shared File?] window is displayed while each system is uninstalled on Windows®, click [No] not to delete the shared file.
- To install and uninstall each system by using Windows® 2000, set "Administrator" or "Member of Administrators" as the user account to be logged on.
- To install and uninstall each system by using Windows® XP, set "Computer administrator" as the user account to be logged on.
- If the [Add/Remove Programs] window is locked (inoperable) when each system is uninstalled by using Windows® 2000, log off from [Shut Down] in the [Start] menu of Windows®, and then log on again on the [Log On to Windows] window.

(*) No.10 and No.28 in <Table of Systems Supported by Windows® 2000 and Windows® XP> in "PREFACE" are excepted.

2.3 Starting Up the System (*)

(1) The system to be installed by each system is automatically registered in the [Start] menu of Windows®. From this [Start] menu, select [Programs (All Programs)] – [Hitachi S10] – "Each System" to start the system.
If the logged-on user name in installing each system is different from the user name in starting each system, each system is not displayed in the [Start] menu. In this case, create a shortcut of the executable file (extension .exe) for each system shown below and then double-click this shortcut to start each system.

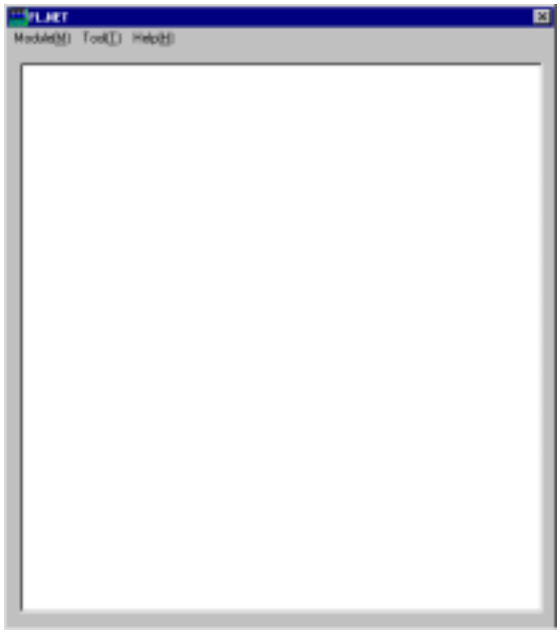
<Executable File Storage Directory Table>

No.	System name	Type	Executable file storage directory (*1)	Executable file name
1	S10Tools SYSTEM	S-7890-01	C:\Hitachi\S10	S10Ladder.exe
				S10Tool.exe
2	LADDER CHART SYSTEM	S-7890-02	C:\Hitachi\S10\2ALDC	S10Ladder.exe
3	HI-FLOW SYSTEM	S-7890-03	C:\Hitachi\S10\HF	S10Tool.exe
4	CPMS LOADING SYSTEM	S-7890-04	C:\Hitachi\S10\CPMS	Cpms.exe
5	CPMSE LOADING SYSTEM	S-7890-05	C:\Hitachi\S10\CPMSE	Cpmse.exe
6	CPMS DEBUGGER SYSTEM	S-7890-06	C:\Hitachi\S10\DEBUG	Debugger.exe
7	CPMSE DEBUGGER SYSTEM	S-7890-07	C:\Hitachi\S10\DEBUGE	DebuggerE.exe
8	GP-IB LOADING SYSTEM	S-7890-08	C:\Hitachi\S10\GPIB	Gpib.exe
9	BACKUP RESTORE SYSTEM	S-7890-09	C:\Hitachi\S10\BACKUP	SysAllSaveLoad.exe
10	NX/Tools-S10 SYSTEM	S-7890-13	C:\Hitachi\S10\NX	NXTool.exe
11	4α LADDER CHART SYSTEM	S-7890-17	C:\Hitachi\S10\4ALDC	S10Ladder_4A.exe
12	4αH LADDER CHART SYSTEM	S-7890-18	C:\Hitachi\S10\4AHLDC	S10Ladder_4AH.exe
13	LADDER COMMENT CONVERTER SYS	S-7890-19	C:\Hitachi\S10\CFCONV	Cfconv.exe
14	HIGH SPEED REMOTE I/O SYSTEM	S-7890-21	C:\Hitachi\S10\HISRIO	HiSpeedRIO.exe
15	CPU LINK SYSTEM	S-7890-22	C:\Hitachi\S10\CPULINK	CpuLink.exe
16	4ch ANALOG PULSE COUNTER SYS	S-7890-23	C:\Hitachi\S10\ANALOG	AnalogPuls.exe
17	EXTERNAL SERIAL LINK SYSTEM	S-7890-24	C:\Hitachi\S10\EXLINK	ExLink.exe
18	S10ET LINK SYSTEM	S-7890-25	C:\Hitachi\S10\ETLINK	EtherNet.exe
19	J.NET SYSTEM	S-7890-27	C:\Hitachi\S10\JNET	JNet.exe
20	OD.RING/SD.LINK SYSTEM	S-7890-28	C:\Hitachi\S10\ODRING-SDLINK	ODRing.exe
21	ET.NET SYSTEM	S-7890-29	C:\Hitachi\S10\ETNET	Et_Net.exe
22	FL.NET SYSTEM	S-7890-30	C:\Hitachi\S10\FLNET	FLnet.exe
23	D.NET SYSTEM	S-7890-31	C:\Hitachi\S10\DNET	DNet.exe
24	LADDER CHART MONITOR SYSTEM	S-7890-34	C:\Hitachi\S10\2ALDCM	S10LadderM.exe
25	HI-FLOW MONITOR SYSTEM	S-7890-35	C:\Hitachi\S10\HFM	S10ToolM.exe
26	IR.LINK SYSTEM	S-7890-36	C:\Hitachi\S10\IRLINK	IrLink.exe

(*1) Directory name when "C" is the drive name of installing destination.

(*) No.10 and No.28 in <Table of Systems Supported by Windows® 2000 and Windows® XP> in "PREFACE" are excepted.

(2) The [FL.NET] window is displayed. FL.NET is already running. After this window is displayed, perform operations in accordance with the on-screen instructions.



2.4 Terminating the System

To terminate the system, click the [×] button in the [FL.NET] window or select [Exit] from the [Module] menu.

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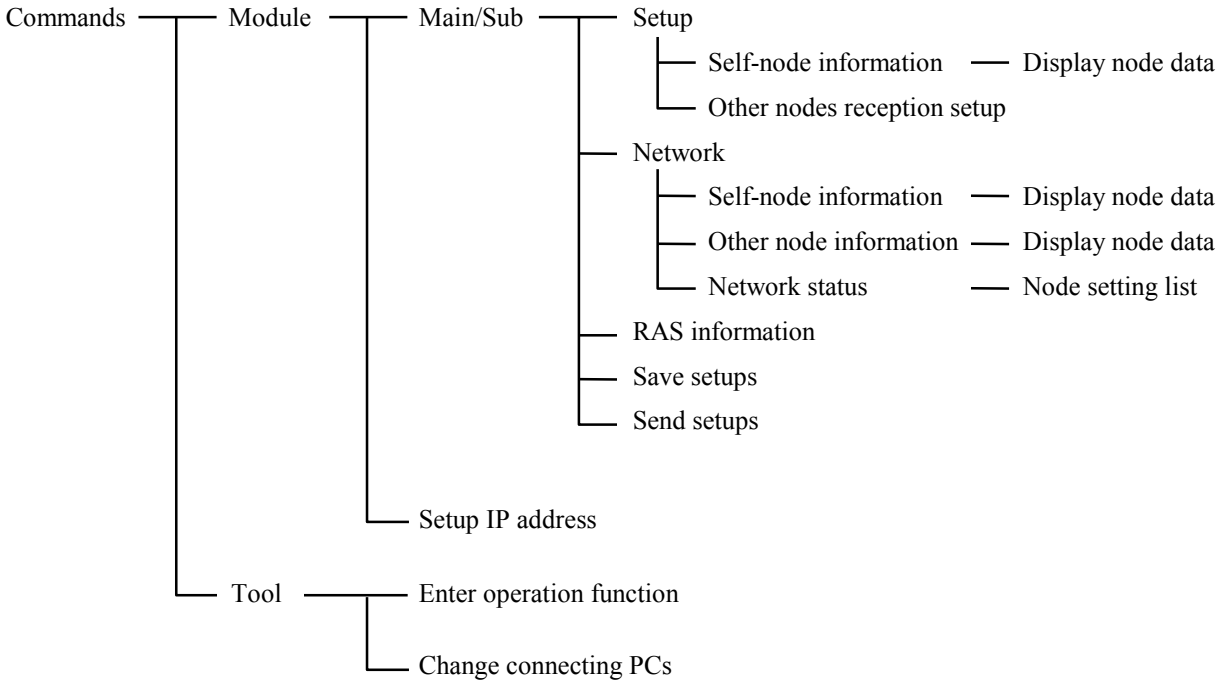
3 COMMANDS

3.1 Command System

The FL.NET command system is shown below.

Each of these commands is described in Section 3.2 and later. For details on each command, refer to Help.



NOTE

Before performing the self-node setup, other nodes reception setup, or other setup procedure, be sure to complete IP address setup ([Module] - [Setup IP address]) for the FL.NET module.
If you perform the setup procedures when the IP address is not set for the FL.NET module, a timeout error occurs. In such an instance, set the IP address for the FL.NET module and then perform the other setup procedures again.

3.2 Self-Node Information

Function: This command sets the parameters required for the FL.NET module and completes common memory allocation. It also monitors the FL.NET module information.

For the use of this function, it is necessary that the PCs be connected to a personal computer with a cable.

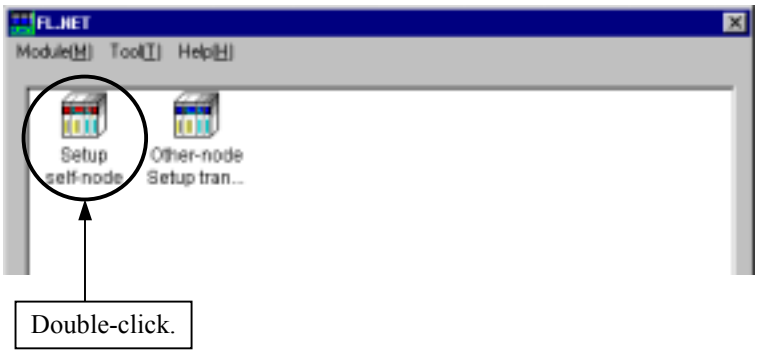
Operation: See the operation procedure below.

(1) From the [Module] menu in the [FL.NET] window, select either [Main] or [Sub].

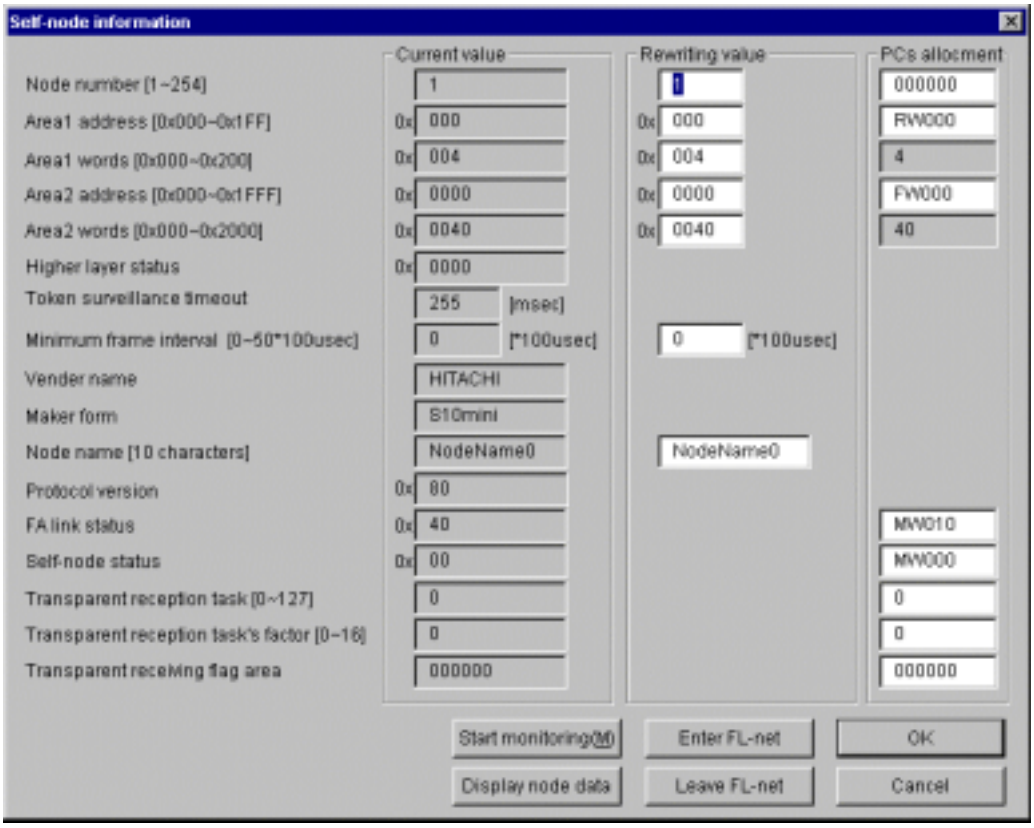
(2) Select the [Setup] menu.

(3) The window shows the “Setup self-node” icon (red) and “Other-node Setup tran...” icon (blue).

(4) Double-click the “Setup self-node” icon (red).



(5) The [Self-node information] window is displayed.



(6) Change the “Rewriting value” and “PCs allotment” settings as needed.
To monitor the “Current value,” click the Start monitoring button.
To display the contents of Areas 1 and 2, click the Display node data button.
To incorporate the FL.NET module in the network, click the Enter FL-net button.
To separate the FL.NET module from the network, click the Leave FL-net button.
After completion of setup, click the OK button. To quit without changing the setup data, click the Cancel button.
When you click the OK button, the FL.NET module automatically leaves the network and writes setup data. After a write, the FL.NET module automatically enters the network.

3.2.1 Display node data

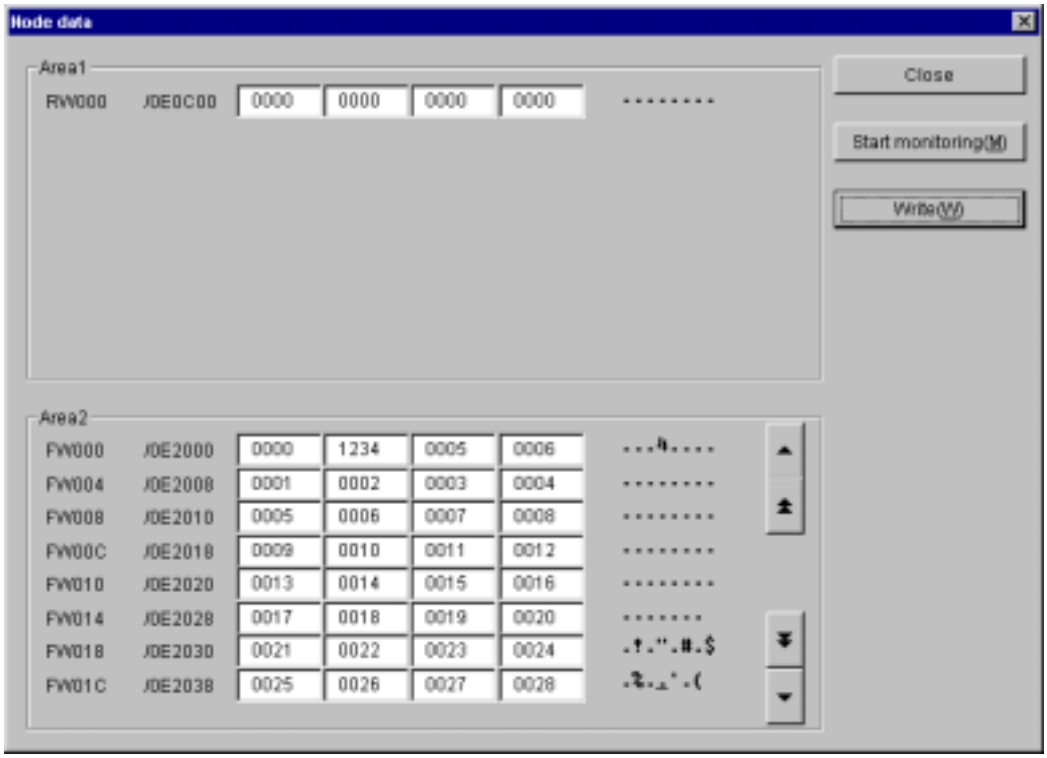
Function: This command displays the contents of Areas 1 and 2 of the self-node or other node.

For the use of this function, it is necessary that the PCs connected to a personal computer with a cable.

Operation: See the operation procedure below.

(1) In the [Self-node information] window or [Other node information] window (see Section 3.4), click the Display node data button.

(2) The [Node data] window is displayed.



(3) If the items of information about the areas are too many to fit in the window, scroll the window by clicking the ▲ ⏫ or ▼ ⏬ button.

(4) To monitor the contents of the areas, click the Start monitoring button.
After completion of setup, click the Write button. To quit without changing the setup data, click the Close button.

You cannot write the data about the other nodes.

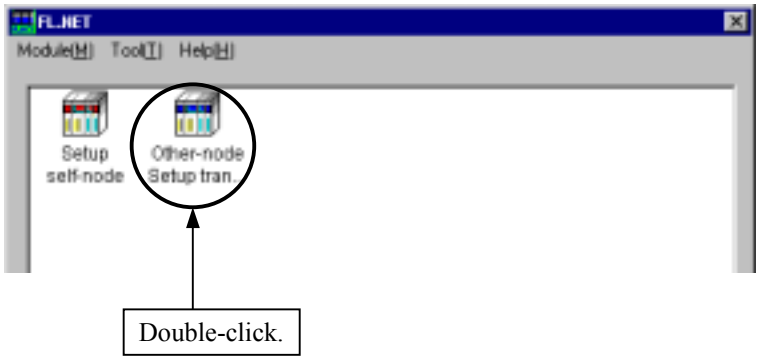
3.3 Other Nodes Reception Setup

Function: This command performs PCs allotment setup.

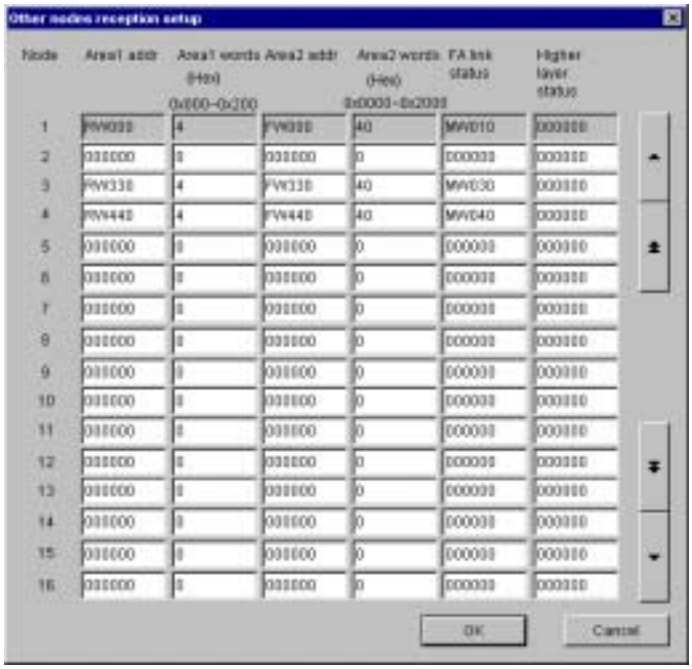
For the use of this function, it is necessary that the PCs be connected to a personal computer with a cable.

Operation: See the operation procedure below.

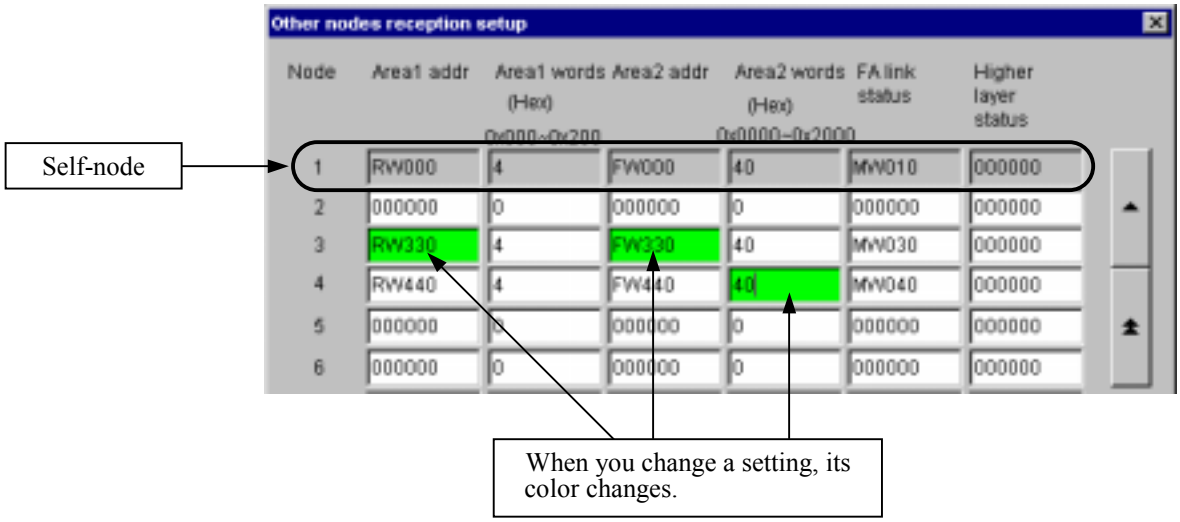
(1) From the [Module] menu in the [FL.NET] window, select either [Main] or [Sub].
(2) Select the [Setup] menu.
(3) The window shows the “Setup self-node” icon (red) and “Other-node Setup tran...” icon (blue).
(4) Double-click the “Other-node Setup tran...” icon (blue).



(5) The [Other nodes reception setup] window is displayed.



(6) When you change a setting, its color changes.



(7) If the target node number is not displayed, scroll the contents of the window by clicking the ▲ ⏫ or ▼ ⏬ button.

(8) After completion of setup, click the OK button. To quit without changing the settings, click the Cancel button.

The setup data about the self-node (node No. 1 in the above figure) is grayed out and cannot be changed. The self-node setup data can be changed form the "Self-node information" window, which can be opened from the [Setup] menu. (See Section 3.2.) When you click the OK button, the FL.NET module automatically leaves the network and writes setup data. After a write, the FL.NET module automatically enters the network.

3.4 Other Node Information

Function: This command monitors the information about the other nodes that have entered the network. It also performs PCs allotment setup.

For the use of this function, it is necessary that the PCs be connected to a personal computer with a cable.

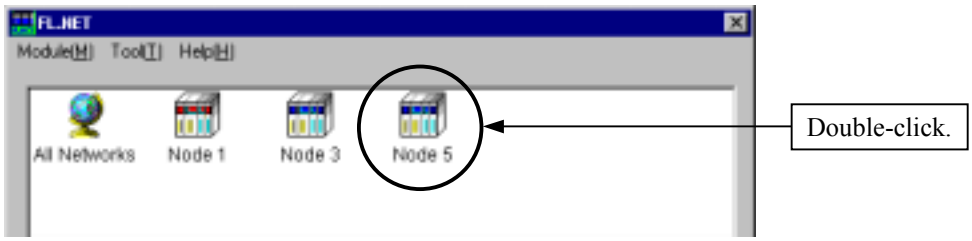
Operation: See the operation procedure below.

(1) From the [Module] menu in the [FL.NET] window, select either [Main] or [Sub].

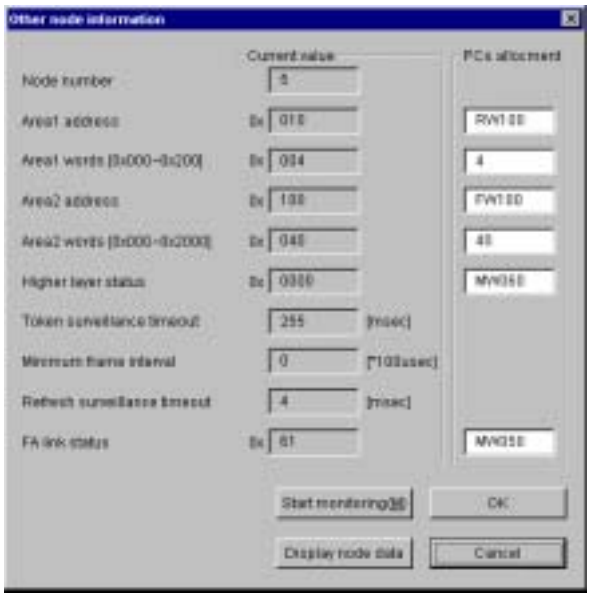
(2) Select the [Network] menu.

(3) The window shows the "All Networks" icon and the icons (red or blue) that indicate the numbers of the nodes connected to the network. (The red node number icon represents the self-node. The blue node number icons represent the other nodes that are connected to the network.)

(4) Double-click the target node number icon (blue) for setup. (If you double-click the red node number icon, the [Self-node information] window is displayed [see Section 3.2].)



(5) The [Other node information] window for the specified node number is displayed.



(6) Change the "PC allotment" settings as needed.
To monitor the "Current value," click the Start monitoring button.
To display the contents of Areas 1 and 2, click the Display node data button.
After completion of setup, click the OK button. To quit without changing the settings, click the Cancel button.
When you click the OK button, the FL.NET module automatically leaves the network and writes setup data. After a write, the FL.NET module automatically enters the network.

3.5 Network Status

Function: This command displays the allowable refresh cycle time and other network entry status information.

For the use of this function, it is necessary that the PCs be connected to a personal computer with a cable.

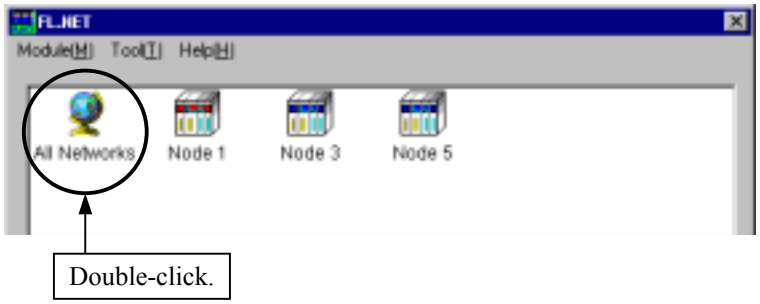
Operation: See the operation procedure below.

(1) From the [Module] menu in the [FL.NET] window, select either [Main] or [Sub].

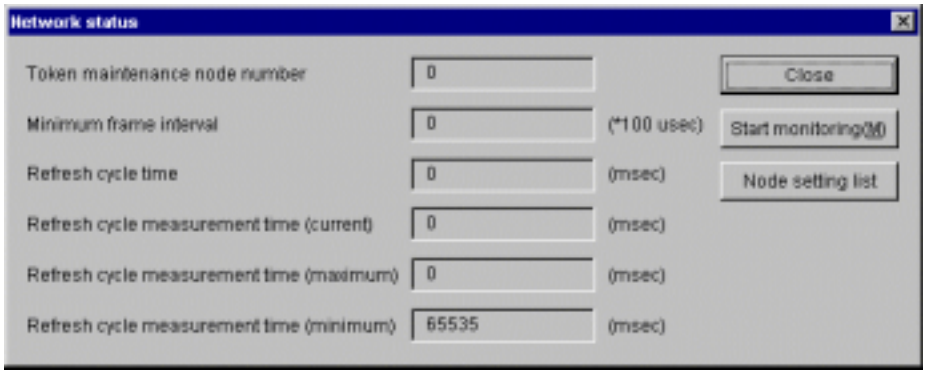
(2) Select the [Network] menu.

(3) The window shows the "All Networks" icon and the icons that indicate the node numbers of the nodes connected to the network.

(4) Double-click the "All Networks" icon.



(5) The [Network status] window is displayed.



(6) To monitor the network status, click the Start monitoring button.
To display the PCs allotment information and current values concerning all nodes, click the Node setting list button.
To close the [Network status] window, click the Close button.

3.5.1 Node setting list

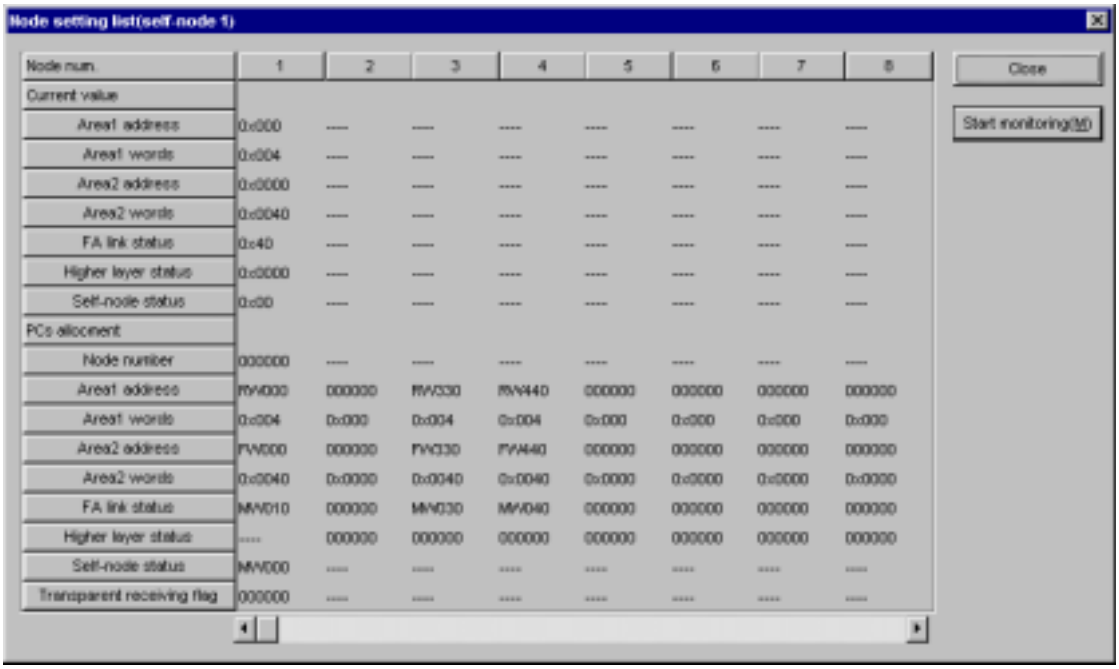
Function: This command displays the PCs allotment information and current values concerning all nodes.

For the use of this function, it is necessary that the PCs be connected to a personal computer with a cable.

Operation: See the operation procedure below.

(1) In the [Network status] window, click the Node setting list button.

(2) The [Node setting list] window is displayed.



(3) To monitor the current values, click the Start monitoring button.
To close the [Node setting list] window, click the Close button.

3.6 RAS Information

Function: This command displays the RAS information.

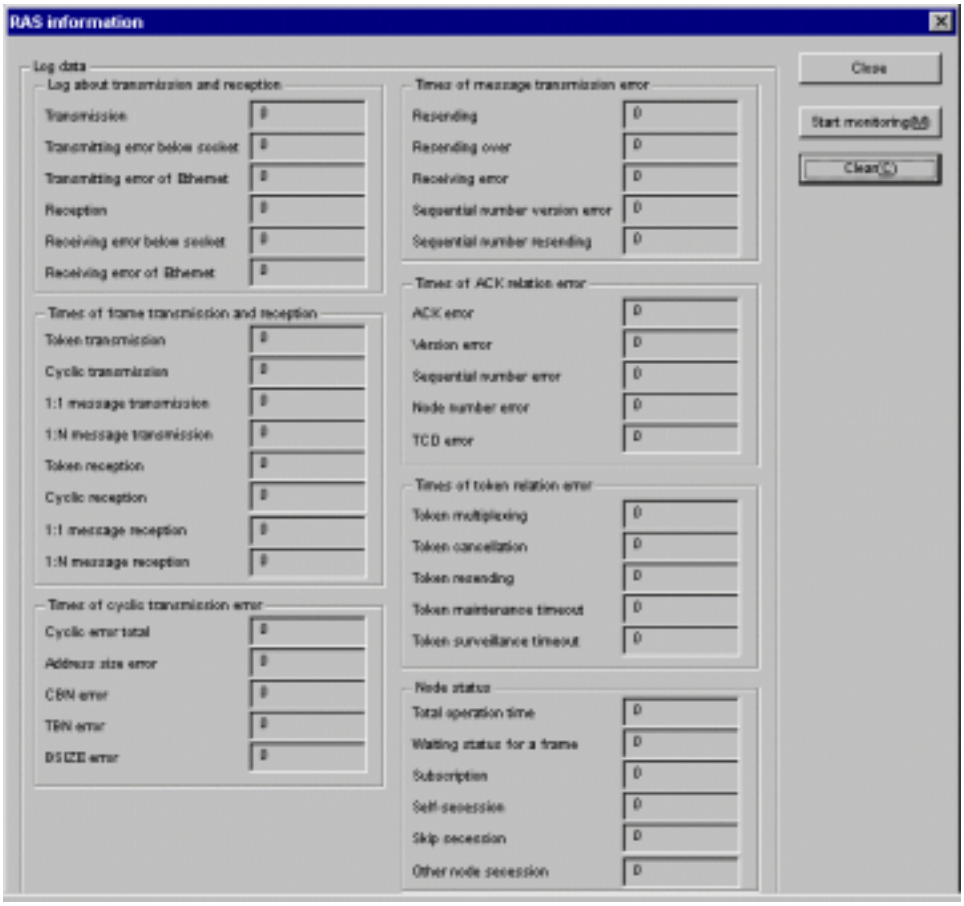
For the use of this function, it is necessary that the PCs be connected to a personal computer with a cable.

Operation: See the operation procedure below.

(1) From the [Module] menu in the [FL.NET] window, select either [Main] or [Sub].

(2) Select the [RAS information] menu.

(3) The [RAS information] window is displayed.



(4) To monitor the RAS information, click the [Start monitoring] button.
To clear the entire RAS information to zero (0), click the [Clear] button.
To close the [RAS information] window, click the [Close] button.

When you reset the PCs or perform a power-on reset procedure, the RAS information clears to zero (0).

3.7 Save Setups

Function: This command saves the PCs self-node settings, PCs allotment information about all nodes, and FL.NET module IP addresses and subnet masks in a file on a personal computer.

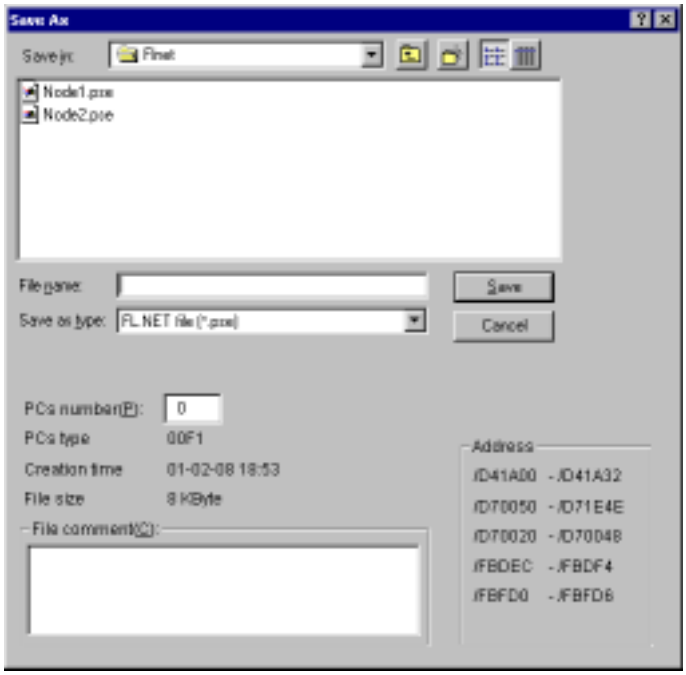
For the use of this function, it is necessary that the PCs be connected to a personal computer with a cable.

Operation: See the operation procedure below.

(1) From the [Module] menu in the [FL.NET] window, select either [Main] or [Sub].

(2) Select the [Save setups] menu.

(3) The [Save As] window is displayed. Enter a file name.
If a comment is needed, enter it in the "File comment" field. (You can enter up to 128 characters.)
To change the PCs number, enter a new value in the "PCs number" field. (You can enter a 4-digit number.)



(4) After completion of setup, click the Save button. To close the window without saving data, click the Cancel button.

The command saves the self-node settings, PCs allotment information about all nodes, and IP address and subnet mask information. It does not save operation functions.
To save operation functions, use the ladder chart system or backup/restore system.

3.8 Send Setups

Function: This command loads into the PCs the self-node settings, PCs allotment information about all nodes, and FL.NET module IP addresses and subnet masks that were saved to a personal computer with the save function.

For the use of this function, it is necessary that the PCs be connected to a personal computer with a cable.

Operation: See the operation procedure below.

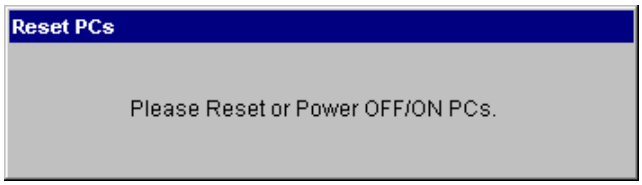
(1) From the [Module] menu in the [FL.NET] window, select either [Main] or [Sub].

(2) Select the [Send setups] option.

(3) The [Open] window is displayed. Enter the "File name."

(4) After completion of setup, click the Send button. To close the window without sending the setups, click the Cancel button.

(5) Upon completion of setup transmission, a message appears, prompting you to reset the PCs or perform a power-on reset procedure. Contact the facility administrator and perform either the PCs reset procedure or power-on reset procedure.



3.9 Setup IP Address

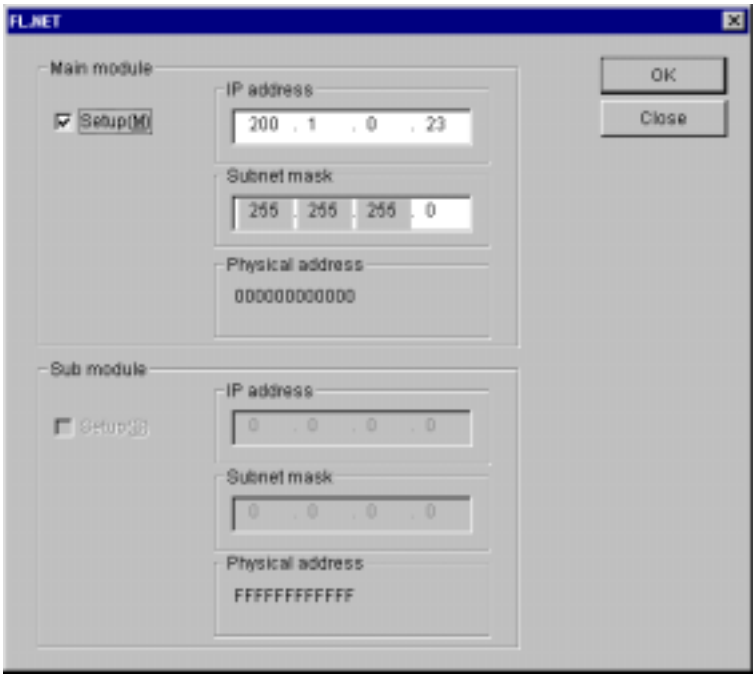
Function: This function sets the IP address for the FL.NET module.

For the use of this function, it is necessary that the PCs be connected to a personal computer with a cable.

Operation: See the operation procedure below.

(1) From the [Module] menu in the [FL.NET] window, select [Setup IP address].

(2) The [FL.NET] window is displayed. Enter the "IP address" and "Subnet mask."



(3) After completion of setup, click the OK button. To quit without changing the settings, click the Close button.

(4) Upon completion of setup, a message is displayed, prompting you to reset the PCs or perform a power-on reset procedure. Contact the facility administrator and perform either the PCs reset procedure or power-on reset procedure.

NOTE
Before performing the self-node setup, other nodes reception setup, or other setup procedure, be sure to complete IP address setup ([Module] – [Setup IP address]) for the FL.NET module. If you perform the setup procedures when the IP address is not set up for the FL.NET module, a timeout error occurs. In such an instance, set the IP address for the FL.NET module and then perform the other setup procedures again.

3.10 Enter Operation Function

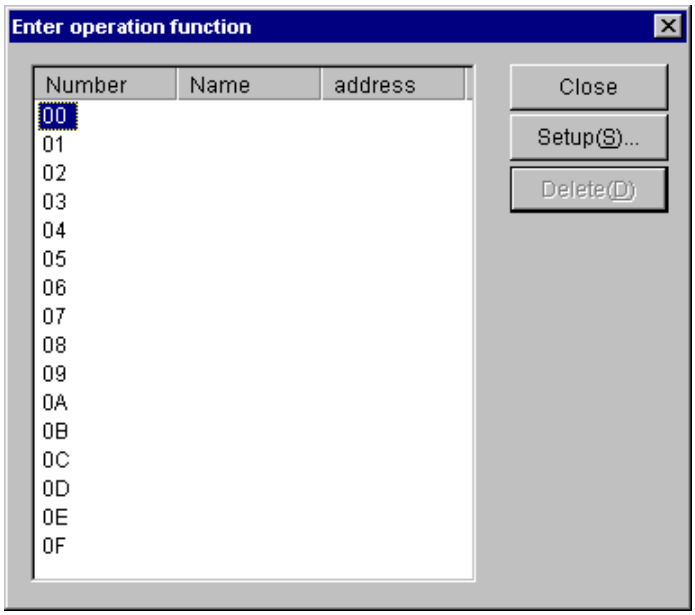
Function: This command registers an operation function for the FL.NET module.

For the use of this function, it is necessary that the PCs be connected to a personal computer with a cable.

Operation: See the operation procedure below.

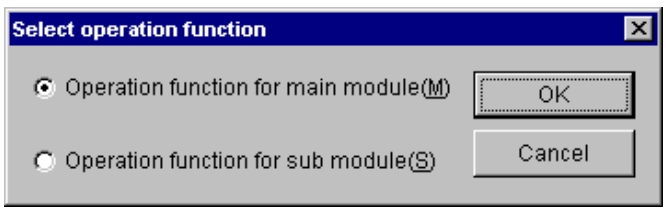
(1) From the [Tool] menu in the [FL.NET] window, select [Enter operation function].

(2) The [Enter operation function] window is displayed.



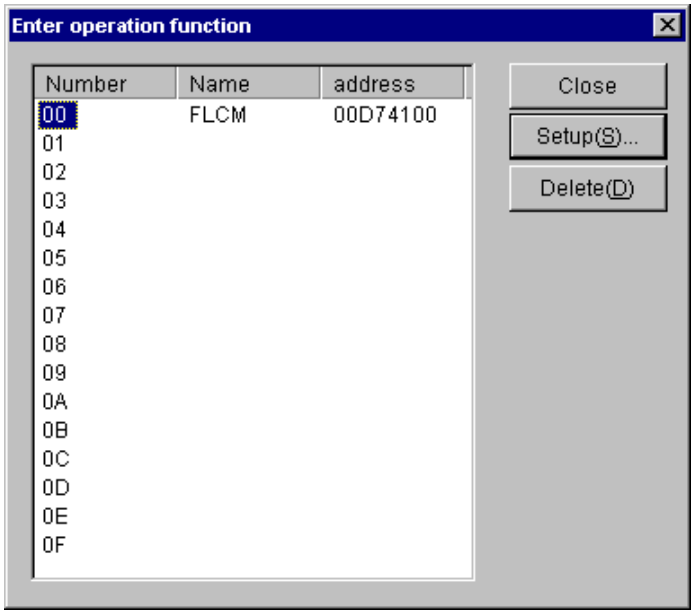
(3) Click the number for registration and then click the [Setup] button. To delete the setting for the specified number, click the [Delete] button.

(4) When you click the [Setup] button, the [Select operation function] window is displayed.



(5) Select either "Operation function for main module" or "Operation function for sub-module," and then click the [OK] button.

(6) The specified operation function is now registered. To select the [Enter operation function] window, click the Close button.



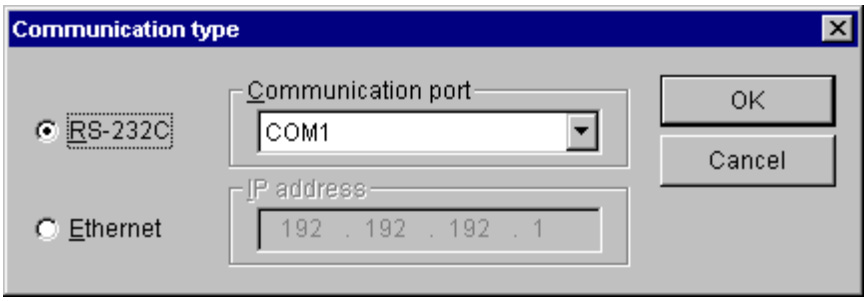
3.11 Change Connecting PCs

Function: Sets a specified communication type for the PCs and personal computer.

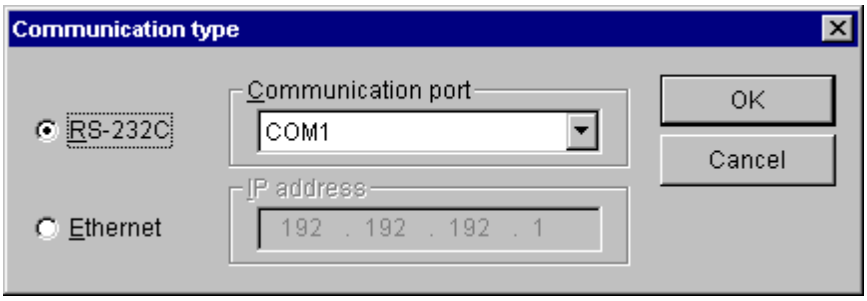
Operation: See the operation procedure below.

(1) From the [Tool] menu in the [FL.NET] window, select [Change connecting PCs].

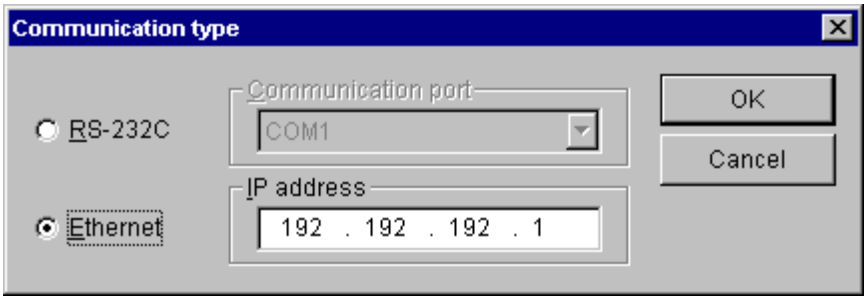
(2) The [Communication type] window is displayed.



(3) If the communication type is RS-232C, click the “RS-232C” radio button and select the desired “Communication port.”



(4) If the communication type is Ethernet, click the “Ethernet” radio button and then enter the connection destination “IP address.”

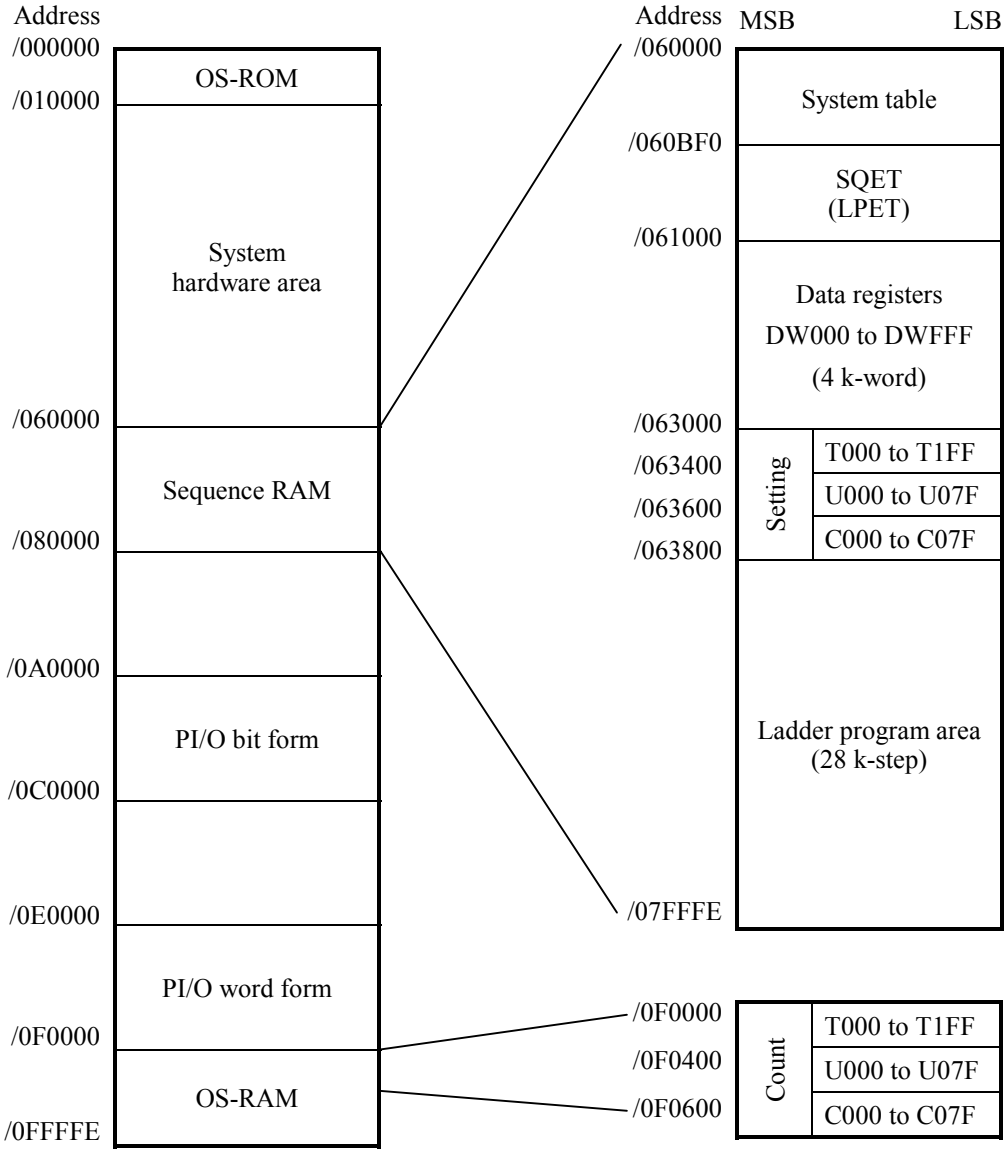


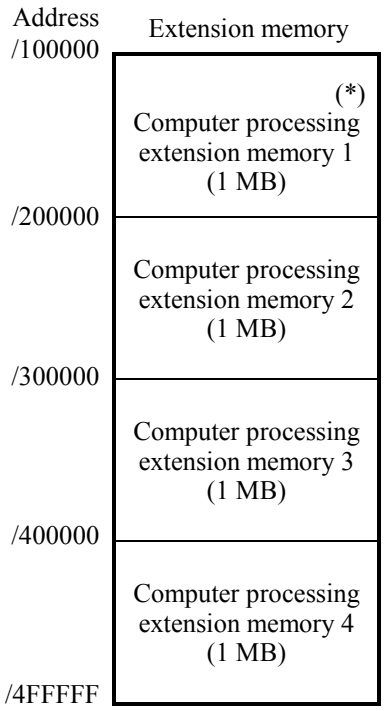
4 REMARKS

4.1 Memory Map

This section shows a memory map that is used in the S10 system.
When performing PCs allotment setup for the self-node information, other nodes reception setup, and other node information, refer to the following map and avoid an overlap with the other systems.

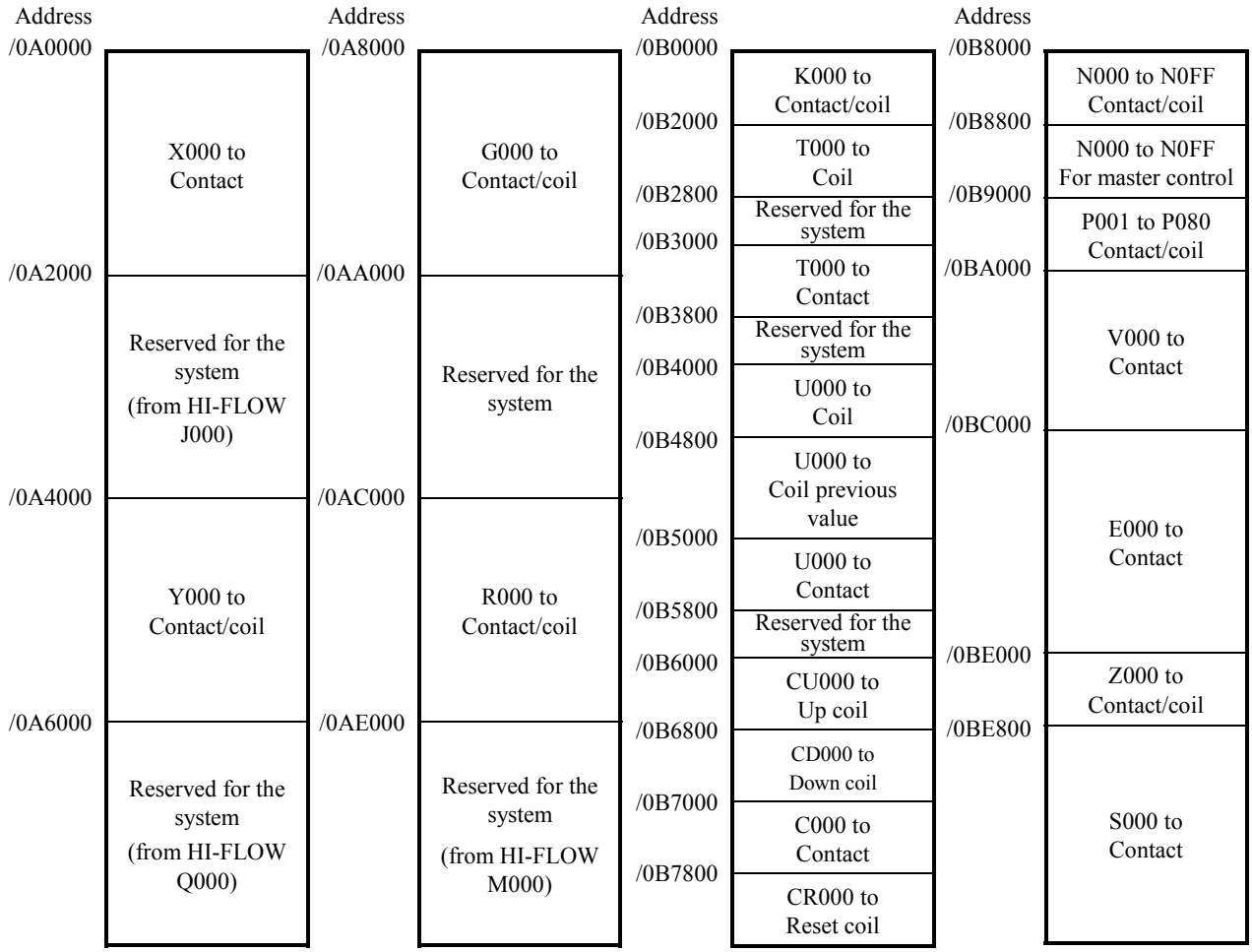
4.1.1 S10mini memory map





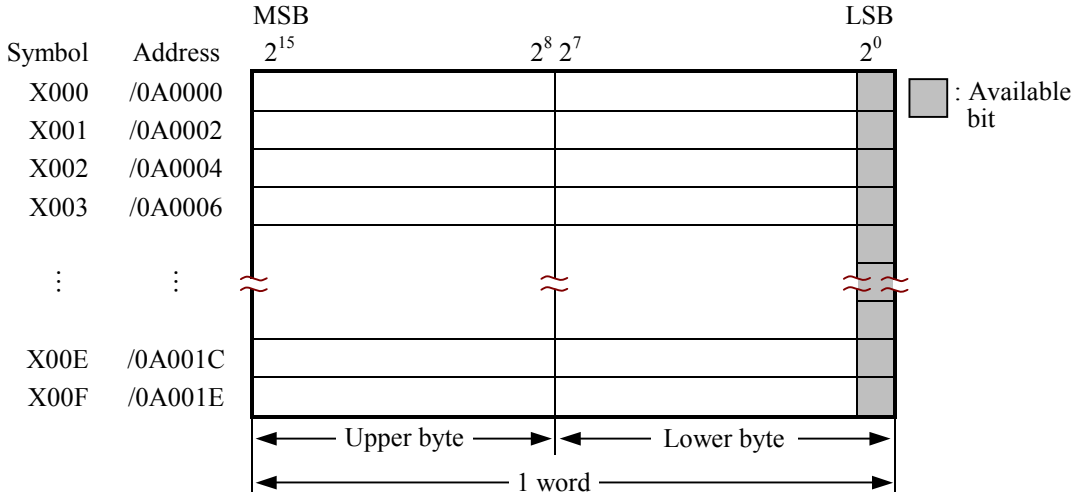
(*) The S10mini CPU models H and F incorporate 1 MB of extension memory (address: /100000 to /1FFFFF). The S10mini model D incorporates 2 MB of extension memory (address: /100000 to /2FFFFF).

4.1.2 PI/O bit form area

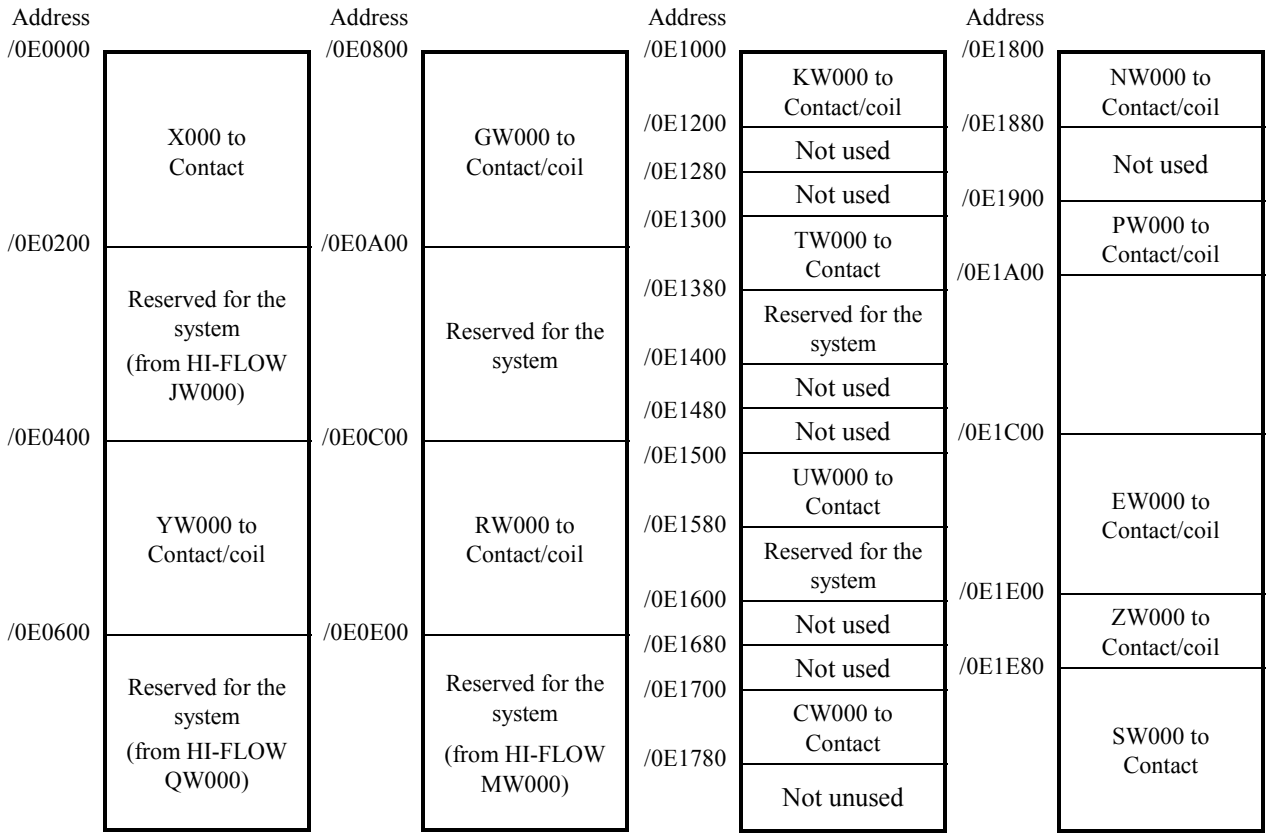


- This memory area is accessed on a word form (1 word = 2 bytes).
- In this memory area, only the LSB (least significant bit) is available.
- The byte (8-bit) form is used for addressing this memory area.

<Example of byte addressing>

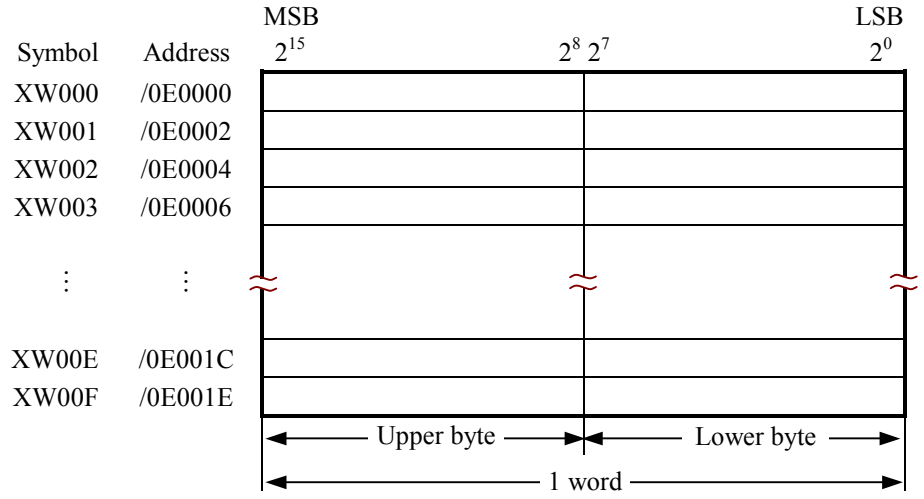


4.1.3 PI/O word form area



- This memory area is accessed on a word form (1 word = 2 bytes).
- The byte (8-bit) form is used for addressing this memory area.

<Example of byte addressing>



<Correspondence between word and bit>

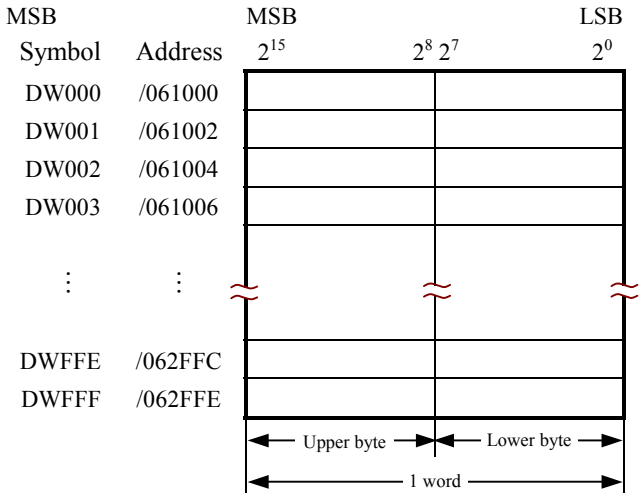
		MSB							LSB
XW000	/0E0000	X000	X001	X002	X003	·····	X00D	X00E	X00F
XW010	/0E0002	X010	X011	X012	X013	·····	X01D	X01E	X01F

4.1.4 Use work area

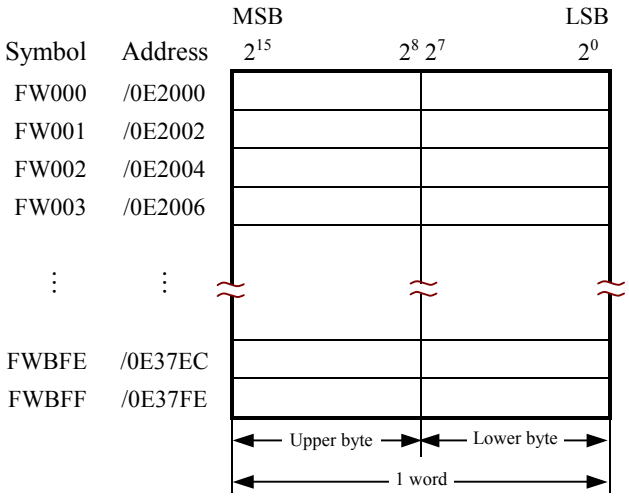
- This memory area is accessed on a word form (1 word = 2 bytes).
- The byte (8-bit) form is used for addressing this memory area.

<Example of byte addressing>

D register (1 point/word length)

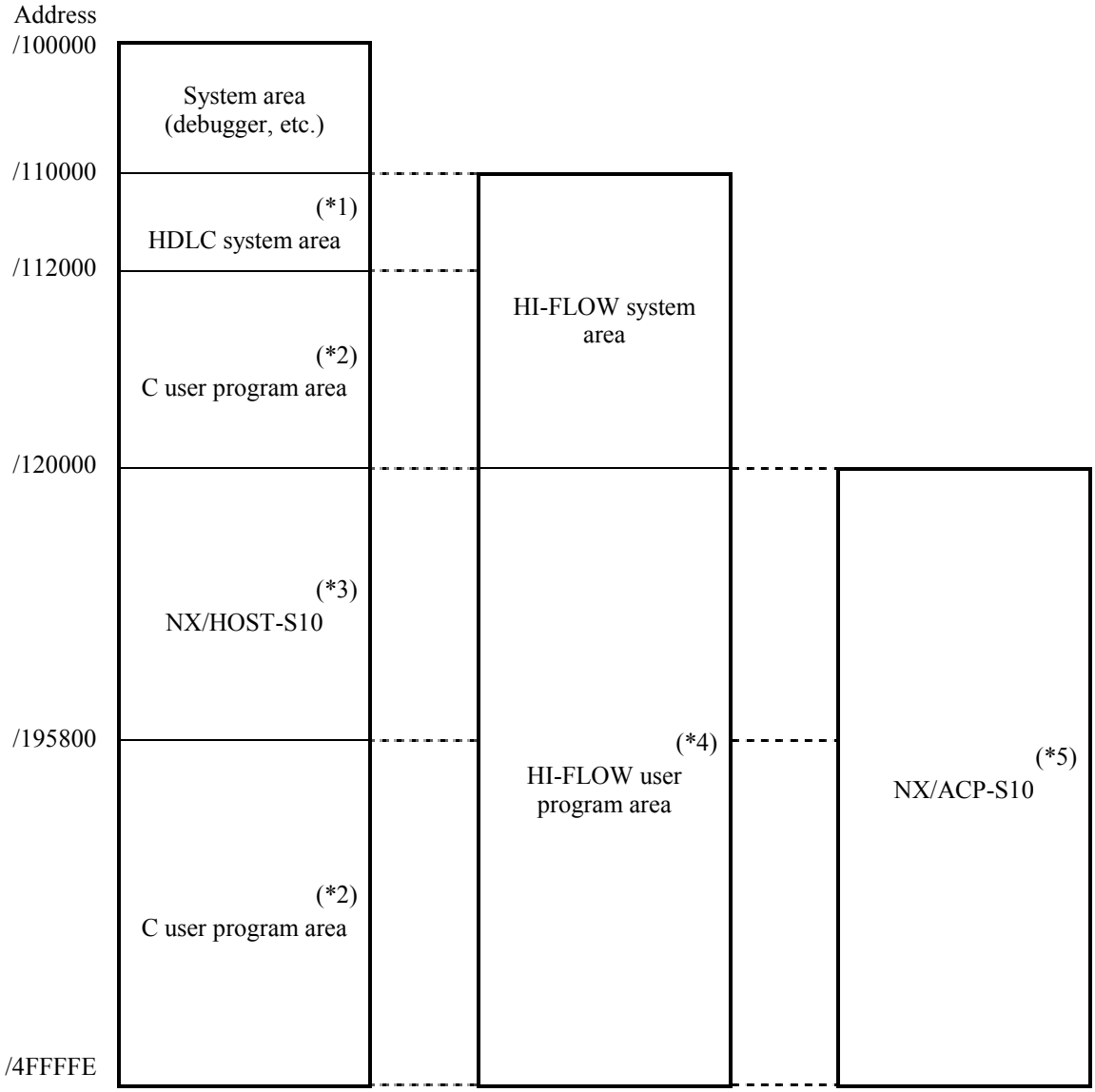


F register (1 point/word length)



<Extension memory area>

The C user program is to be managed by the user.



(*1) If the HDLC system is not used, this area can be used as a C user program area.

(*2) The user can freely allocate a C user program within a range of /110000 to /4FFFFE.

(*3) If NX/HOST-S10 is not used, this area can be used as a C user program area.

(*4) The user can freely allocate an HI-FLOW user program within a range of /120000 to /4FFFFE.

(*5) The user can freely allocate NX/ACP-S10 within a range of /120000 to /4FFFFE.