

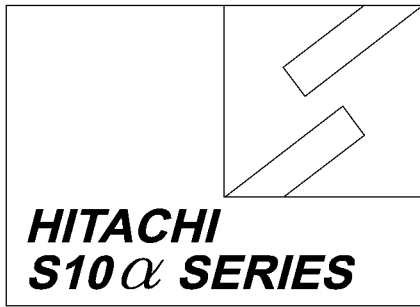
HITACHI
S10 α SERIES

PC SOFTWARE PACKAGE
For Windows®

2 α
4 α
S10mini
SERIES

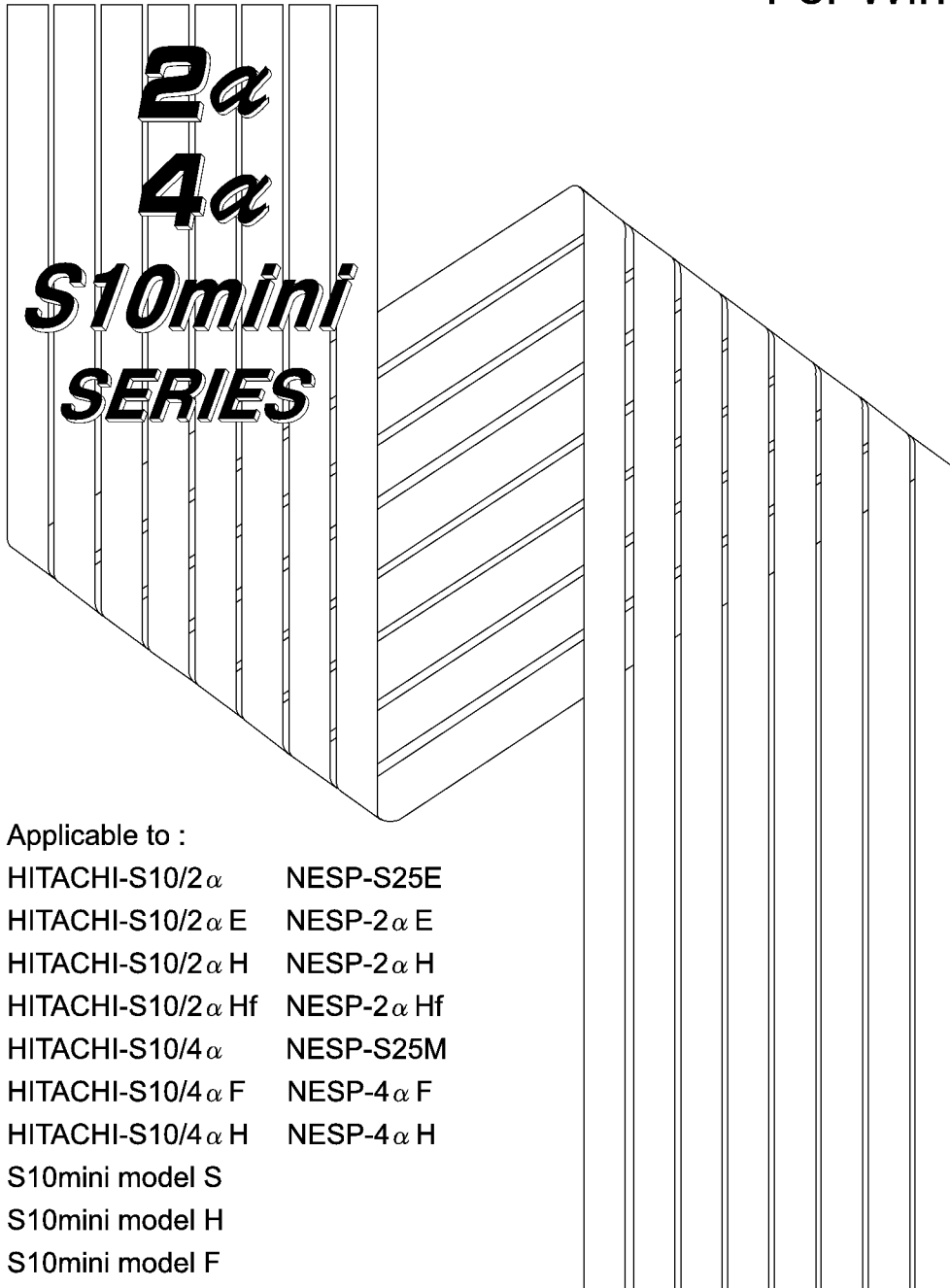
Applicable to :

HITACHI-S10/2 α	NESP-S25E
HITACHI-S10/2 α E	NESP-2 α E
HITACHI-S10/2 α H	NESP-2 α H
HITACHI-S10/2 α Hf	NESP-2 α Hf
HITACHI-S10/4 α	NESP-S25M
HITACHI-S10/4 α F	NESP-4 α F
HITACHI-S10/4 α H	NESP-4 α H
S10mini model S	
S10mini model H	
S10mini model F	
S10mini model D	
S10mini model C	



SETUP MANUAL

PC SOFTWARE PACKAGE
For Windows[®]



Applicable to :

HITACHI-S10/2 α	NESP-S25E
HITACHI-S10/2 α E	NESP-2 α E
HITACHI-S10/2 α H	NESP-2 α H
HITACHI-S10/2 α Hf	NESP-2 α Hf
HITACHI-S10/4 α	NESP-S25M
HITACHI-S10/4 α F	NESP-4 α F
HITACHI-S10/4 α H	NESP-4 α H
S10mini model S	
S10mini model H	
S10mini model F	
S10mini model D	
S10mini model C	

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NOTE

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SAFETY PRECAUTIONS

- 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.
- Keep this manual handy so that you can refer to it any time you want.
- If you have any question concerning any part of this manual, contact your nearest Hitachi branch office or service engineer.
- Hitachi will not be responsible for any accident or failure resulting from your operation in any manner not described in this manual.
- Hitachi will not be responsible for any accident or failure resulting from modification of software provided by Hitachi.
- Hitachi will not be responsible for reliability of software not provided by Hitachi.
- 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.
- When you use a personal computer with suspend function, disable the function. The personal computer may malfunction if the suspend function remains enabled during execution of the personal computer software package.
- If electrical noise coming from the control power cable is induced in the personal computer and PCs connection cable being used, equipment malfunction may occur. To avoid such problems, keep your personal computer and PCs connection cable away from any noise generating source.
- Before you touch any metal portion of the connectors of a PCs connection cable, touch a grounded enclosure or the like to discharge static electricity from your body. Observe this precaution to prevent your personal computer and PCs from being damaged.



“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.

This software manual provides information on the following program product:

<Program product>

S-7890-49, 4 α Replace Ladder Chart System, 01-00

The following change has been made to the 4 α Replace Ladder Chart System (01-00) and covered in this manual.

Details on addition or change	Page
New support of 4 α Replace Ladder Chart System	xi, 2, 10, 11

In addition to the above change(s), obscure details and typographical errors have also been corrected. The publisher reserves the right to make such changes and corrections without prior notice to the user.

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PREFACE

We greatly appreciate your purchase of the personal computer software package for use with the HITACHI-S10/2 α , HITACHI-S10/4 α and S10mini series. This software package provides an environment in which you can perform programming, debugging, and maintenance operations easily and comfortably while you run Windows® on a general-purpose personal computer (i.e., a DOS/V machine).

Before you install the purchased software package in your personal computer, you have to complete various hardware preparation and initial setup procedures. This manual describes the procedures common to various software packages. For installation procedures and precautions specific to individual software packages, refer to their respective operation manuals.

<Reading this manual>

Before installing the software package, be sure to read this manual.

This manual has been prepared for those who have a basic knowledge of DOS/V personal computers, Windows®. For the basic operating procedures for DOS/V personal computers, Windows®, refer to their respective introductory manuals and user manuals.

<Manual organization>

1 SOFTWARE PACKAGE OVERVIEW

This chapter outlines various software packages and explains about features.

2 HARDWARE PREPARATIONS

This chapter describes the hardware specifications and explains how to configure the hardware.

3 PERSONAL COMPUTER SETUP

This chapter explains the personal computer setup procedures to be completed prior to software package installation.

APPENDIX

The appendix furnishes information that might be useful when you use the purchased software package.

See the following list when you use the NESP
(Nissan Electronic Sequence Processor) series.

【HITACHI-S10α series】		【NESP series】
HITACHI-S10/2 α	NESP-S25E
HITACHI-S10/2 α E	NESP-2 α E
HITACHI-S10/2 α H	NESP-2 α H
HITACHI-S10/2 α Hf	NESP-2 α Hf
HITACHI-S10/4 α	NESP-S25M
HITACHI-S10/4 α F	NESP-4 α F
HITACHI-S10/4 α H	NESP-4 α H

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- Pentium and MMX are registered trademarks of Intel Corporation.

Other product names written in this manual are the trademarks of each manufacturer.

<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) = 1000² bytes

1 GB (gigabyte) = 1000³ bytes

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	4α Replace Ladder Chart System	S-7890-49	01-00	√ (*3)	√ (*3)
29	Microtec C&C++ Compiler (manufactured by Mentor graphics company)	MCP68K	5.3	√ (*2)	ns (*1)

√: Supported ns: Not supported

(*1) Microtec C&C++ Compiler (No.29) is not supported by Windows® XP. Use it on Windows® 2000.

(*2) Microtec C&C++ Compiler (No.29) must be a version supported by Windows® 2000 (later than version 5.3) as a premise.

(*3) Windows® 95 and Windows® 98 do not support this system.

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1 SOFTWARE PACKAGE OVERVIEW

1 SOFTWARE PACKAGE OVERVIEW

1.1 Software Packages and Applicable Models

- Applicable models of PCs
 - HITACHI-S10/2 α , 2 α E, 2 α H, 2 α Hf
 - HITACHI-S10/4 α , 4 α F, 4 α H
 - S10mini Model S, Model H, Model F, Model D, and Model C

- Relationship between software packages and applicable PCs models

The PCs models applicable to the software packages vary as summarized below.

Package name	Type	PCs models					
		4 α 4 α F	4 α H	2 α	2 α E 2 α H 2 α Hf	All S10mini models (*)	S10mini Model C
S10Tools SYSTEM	S-7890-01			√	√	√	
LADDER CHART SYSTEM	S-7890-02			√	√	√	
HI-FLOW SYSTEM	S-7890-03			√	√	√	
CPMS LOADING SYSTEM	S-7890-04			√			
CPMSE LOADING SYSTEM	S-7890-05				√	√	
CPMS DEBUGGER SYSTEM	S-7890-06			√			
CPMSE DEBUGGER SYSTEM	S-7890-07				√	√	
GP-IB LOADING SYSTEM	S-7890-08			√	√		
BACKUP RESTORE SYSTEM	S-7890-09			√	√		
RPDP/S10 SYSTEM	S-7891-10			√	√	√	
NX/Tools-S10 SYSTEM	S-7890-13			√	√	√	
4 α LADDER CHART SYSTEM	S-7890-17	√					
4 α H LADDER CHART SYSTEM	S-7890-18		√				
LADDER COMMENT CONVERTER SYS	S-7890-19	√	√	√	√	√	
HIGH SPEED REMOTE I/O SYSTEM	S-7890-21			√	√		
CPU LINK SYSTEM	S-7890-22			√	√	√	
4ch ANALOG PULSE COUNTER SYS	S-7890-23			√	√	√	
EXTERNAL SERIAL LINK SYSTEM	S-7890-24			√	√	√	
S10ET LINK SYSTEM	S-7890-25			√	√		
J.NET SYSTEM	S-7890-27			√	√	√	
OD.RING/SD.LINK SYSTEM	S-7890-28			√	√	√	
ET.NET SYSTEM	S-7890-29			√	√	√	
FL.NET SYSTEM	S-7890-30					√	
D.NET SYSTEM	S-7890-31					√	
LADDER CHART MONITOR SYSTEM	S-7890-34			√	√	√	
HI-FLOW MONITOR SYSTEM	S-7890-35			√	√	√	
IR.LINK SYSTEM	S-7890-36					√	
Microtec C&C++ Compiler	MCP68K			√	√	√	
4 α Replace Ladder Chart System	S-7890-49						√

√: Supported

(*) Excludes S10mini Model C.

1.2 Individual Software Package Descriptions

A host of software packages are available, including those for various types of programming software, option module support software, and utility software. Select necessary software that meets individual user requirements.

■ S10Tools SYSTEM (Type: S-7890-01)

This package consists of two programs: ladder chart system and HI-FLOW system. They are used for the programming and maintenance of 2 α series/S10mini ladder chart and HI-FLOW. Do not install this package if a ladder charts system (type: S-7890-02) or HI-FLOW system (type: S-7890-03) has already been installed.

■ LADDER CHART SYSTEM (Type: S-7890-02)

This package is used for the programming and maintenance of 2 α series and S10mini ladder charts. When a GP-IB connection is to be made with the 2 α series, it is necessary to add the GP-IB system (type: S-7890-08). Do not install this ladder chart system package if S10Tools (type: S-7890-01) has already been installed.

■ HI-FLOW SYSTEM (Type: S-7890-03)

This package is used for the programming and maintenance of 2 α series or S10mini HI-FLOW. Do not install this package if S10Tools (type: S-7890-01) has already been installed.

■ CPMS LOADING SYSTEM (Type: S-7890-04)

This package is used for 2 α OS (Compact PMS) loading and memory clear operations. Use this system in situations where you have used the ladder OS with a PSE α or DOS version of personal computer programming tool and intend to switch to a Windows® version of personal computer programming tool. The Compact PMS is upward-compatible with the ladder OS.

■ CPMSE LOADING SYSTEM (Type: S-7890-05)

This package is used for OS (Compact PMS) loading and memory clear operations for the 2 α E, 2 α H, and 2 α Hf. Although it can be used with the S10mini, the OS loading function is disregarded (because the S10mini incorporates the OS program in ROM) so that only the memory clear function is operative.

■ CPMS DEBUGGER SYSTEM (Type: S-7890-06)

This package is used for 2 α task debugging.

1 SOFTWARE PACKAGE OVERVIEW

■ CPMSE DEBUGGER SYSTEM (Type: S-7890-07)

This package is used for 2 α E, 2 α H, 2 α Hf, and S10mini task debugging.

■ GP-IB LOADING SYSTEM (Type: S-7890-08)

This package is required when a ladder chart is used with the 2 α series GI-IB connection made.

■ BACKUP RESTORE SYSTEM (Type: S-7890-09)

This package is used for the overall backup of system programs, user programs, and setup parameters.

■ RPD/S10 SYSTEM (Type: S-7891-10)

This package is used for C programming and debugging for the 2 α series. The separately available crossing C compiler (type: MCP68K) is also required.

■ NX/Tools-S10 SYSTEM (Type: S-7890-13)

This package is used for various setup operations for the NX/Tools-S10 and NX/HOST-S10 system.

■ 4 α LADDER CHART SYSTEM (Type: S-7890-17)

This package is used for the programming and maintenance of 4 α and 4 α F ladder charts.

■ 4 α H LADDER CHART SYSTEM (Type: S-7890-18)

This package is used for the programming and maintenance of 4 α H ladder charts.

■ LADDER COMMENT CONVERTER SYS (Type: S-7890-19)

This package is used for converting comment files generated by the DOS version of the ladder chart system to comment files for the Windows® version of the ladder chart system and vice versa.

■ HIGH SPEED REMOTE I/O SYSTEM (Type: S-7890-21)

This package is used for system program loading and parameter setup for the high-speed remote I/O module (LWE100).

■ CPU LINK SYSTEM (Type: S-7890-22)

This package is used for system program loading and parameter setup for the CPU link module (LWE020).

- **4ch ANALOG PULSE COUNTER SYS (Type: S-7890-23)**
This package is used for support program loading (with the S10mini, it incorporates the program in ROM and does not require loading) and parameter setup for the 4-channel analog module (PAF***, PAN***, or LQA***), pulse counter module (PTF30* or LQC000).
- **EXTERNAL SERIAL LINK SYSTEM (Type: S-7890-24)**
This package is used for system program loading and parameter setup for the external serial link module (LWE046) and RS-232C module (LWE450 or LQE060).
- **S10ET LINK SYSTEM (Type: S-7890-25)**
This package is used for system program loading and parameter setup for the ET link module (LWE400).
- **J.NET SYSTEM (Type: S-7890-27)**
This package is used to set the parameters for the J.NET module (LWE580 or LQE040).
- **OD.RING/SD.LINK SYSTEM (Type: S-7890-28)**
This package is used to set the parameters for the OD.RING module (LWE500, LQE010, or LQE015) and SD.LINK (LQE030).
- **ET.NET SYSTEM (Type: S-7890-29)**
This package is used for IP address and subnet mask setup for the ET.NET module (LWE550 or LQE020).
- **FL.NET SYSTEM (Type: S-7890-30)**
This package is used to set the parameters for the FL.NET module (LQE000).
- **D.NET SYSTEM (Type: S-7890-31)**
This package is used to set the parameters for the D.NET module (LQE070).
- **LADDER CHART MONITOR SYSTEM (Type: S-7890-34)**
This package is used for monitoring of ladder charts application program.
- **HI-FLOW MONITOR SYSTEM (Type: S-7890-35)**
This package is used for monitoring of HI-FLOW application program.
- **IR.LINK SYSTEM (Type: S-7890-36)**
This package is used for various setup operations for the IR.LINK module.
- **Microtec C&C++ Compiler (Type: MCP68K)**
This package is to be used in conjunction with the RPDP/S10 system (type: S-7891-10J).

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2 HARDWARE PREPARATIONS

2 HARDWARE PREPARATIONS

2.1 Applicable Personal Computers

■ Applicable personal computers

The Personal Computer Software Package runs only on DOS/V machines (PC/AT-compatible computers) (and is inoperative on the NEC PC-9800 Series). The personal computer specifications are stated below. If the following specifications conflict with those stated in the individual software package manuals, the specifications stated in the software package manuals take precedence.

Item \ OS	Windows® 95 (*1)	Windows® 2000 (*1)	Windows® XP (*1)
	Windows® 98 (*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.

2.2 PCs-to-Personal Computer Connection Overview

■ Features of various connection styles

The PCs-to-personal computer connection can be made using one of the four different methods listed below. The features of these methods are described below. Select a connection style that best suits the individual user requirements. The individual connection styles are detailed in the sections that follow.

● RS-232C direct connection

Connect the personal computer to the CPU module on a 1-to-1 basis. This style supports all models. This connection can be established without adding any optional module, and supports a relatively low communication speed. It is suitable for the programming and maintenance of ladder charts, small-capacity HI-FLOW, and C applications.

● GP-IB direct connection

Connect the personal computer to the parallel interface module (LWZ400) on a 1-to-1 basis. This connection style supports a communication speed higher than the RS-232C direct connection style. It is suitable for the programming and maintenance of large-capacity HI-FLOW and C applications. It does not support the 4 α or S10mini.

● Ethernet direct connection

Connect the personal computer to the ET.NET module (LWE550 or LQE020) on a 1-to-1 basis. The ET.NET module uses a fixed IP address (192.192.192.1). For the personal computer, an IP address between 192.192.192.2 and 192.192.192.254 can be selected. This connection style supports a communication speed higher than the GP-IB direct connection. It is suitable for the programming and maintenance of large-capacity HI-FLOW and C applications. It does not support the 4 α .

● Ethernet LAN connection

Connect the personal computer to two or more units of the ET.NET module (LWE550 or LQE020). Desired IP addresses can be assigned to the personal computer and ET.NET module. This connection style supports the same communication speed as the Ethernet direct connection style. It does not support the 4 α .

For your reference, the following table shows a communication speed comparison of cases where 128 KB of data (equivalent to 28 k ladder chart steps) is saved/loaded using the FD function of the ladder chart system. Note that the data on Ethernet LAN connection indicates a case where only one unit for each of the personal computer and PCs are connected to an Ethernet line.

2 HARDWARE PREPARATIONS

	RS-232C direct connection	GP-IB direct connection	Ethernet direct connection	Ethernet LAN
Save	286 s	10 s	5 s	
Load	518 s	15 s	8 s	

PCs model: S10/2 α H

Personal computer specifications: MMX® Pentium® 200 MHz, 32 MB memory

■ Connection styles applicable to software packages

Note that some connection styles are not supported depending on the employed software package.

Package name	Type	Connection style			
		RS-232C direct connection	GP-IB direct connection	Ethernet direct connection	Ethernet LAN
S10Tools SYSTEM	S-7890-01	√	√	√	√
LADDER CHART SYSTEM	S-7890-02	√	√	√	√
HI-FLOW SYSTEM	S-7890-03	√	√	√	√
CPMS LOADING SYSTEM	S-7890-04	√	√	√	
CPMSE LOADING SYSTEM	S-7890-05	√	√	√	
CPMS DEBUGGER SYSTEM	S-7890-06	√	√	√	
CPMSE DEBUGGER SYSTEM	S-7890-07	√	√	√	
GP-IB LOADING SYSTEM	S-7890-08		√		
BACKUP RESTORE SYSTEM	S-7890-09	√	√	√	
RPDP/S10 SYSTEM	S-7891-10	√	√	√	√
NX/Tools-S10 SYSTEM	S-7890-13	√	√	√	
4 α LADDER CHART SYSTEM	S-7890-17	√			
4 α H LADDER CHART SYSTEM	S-7890-18	√			
LADDER COMMENT CONVERTER SYS	S-7890-19				
HIGH SPEED REMOTE I/O SYSTEM	S-7890-21	√	√	√	
CPU LINK SYSTEM	S-7890-22	√	√	√	
4ch ANALOG PULSE COUNTER SYS	S-7890-23	√	√	√	
EXTERNAL SERIAL LINK SYSTEM	S-7890-24	√	√	√	
S10ET LINK SYSTEM	S-7890-25	√	√		
J.NET SYSTEM	S-7890-27	√	√	√	
OD.RING/SD.LINK SYSTEM	S-7890-28	√	√	√	
ET.NET SYSTEM	S-7890-29	√	√		
FL.NET SYSTEM	S-7890-30	√		√	
D.NET SYSTEM	S-7890-31	√		√	
LADDER CHART MONITOR SYSTEM	S-7890-34	√	√	√	√
HI-FLOW MONITOR SYSTEM	S-7890-35	√	√	√	√
IR.LINK SYSTEM	S-7890-36	√	√	√	
4 α Replace Ladder Chart System	S-7890-49	√			

√: Supported

■ Connection styles applicable to PCs

The supported connection styles vary from one PCs model to another. For the GP-IB and Ethernet connection styles, the use of an optional module is required.

PCs model	Connection style			
	RS-232C direct connection	GP-IB direct connection	Ethernet direct connection	Ethernet LAN
2 α , 2 α E, 2 α H, 2 α Hf	√	√ (LWZ400)	√ (LWE550)	√ (LWE550)
4 α , 4 α F, 4 α H	√			
S10mini (Model S, Model H, Model F, Model D)	√		√ (LQE020)	√ (LQE020)
S10mini (Model C) (Replacement from the S10/4 α series)	√			

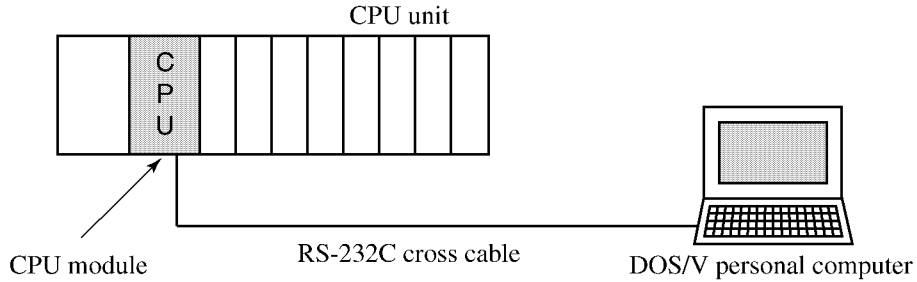
(): The parenthesized items are the optional modules required for connection.

√: Supported

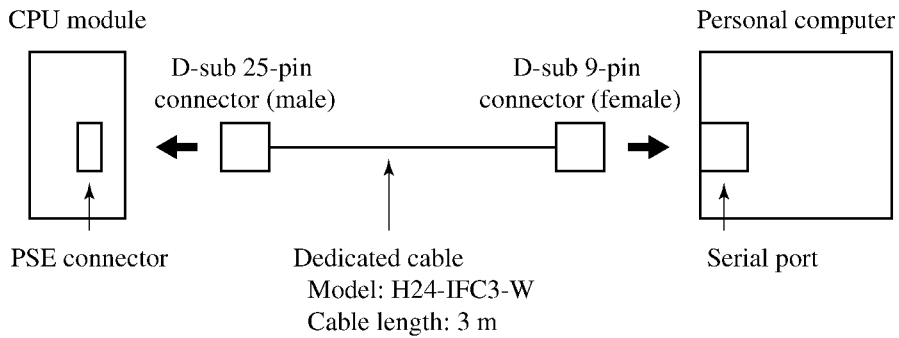
2 HARDWARE PREPARATIONS

2.3 RS-232C Direct Connection

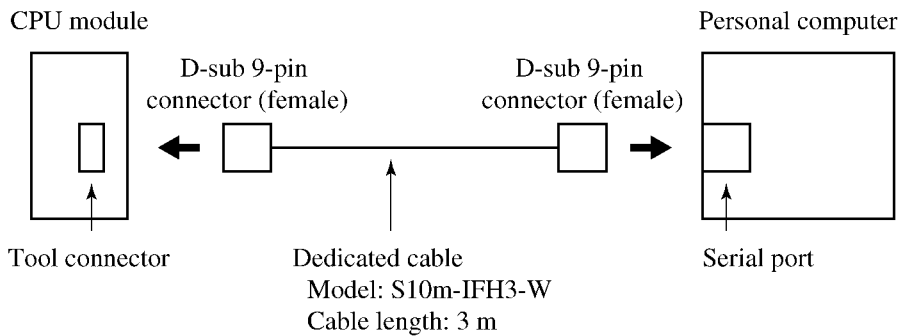
■ Configuration



■ Connecting the 2 α /4 α to the personal computer



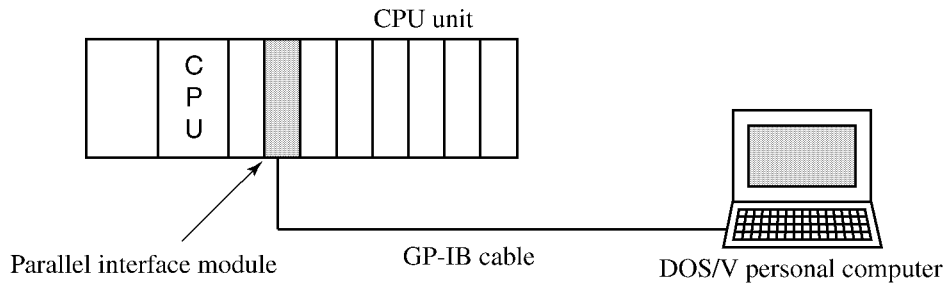
■ Connecting the S10mini to the personal computer



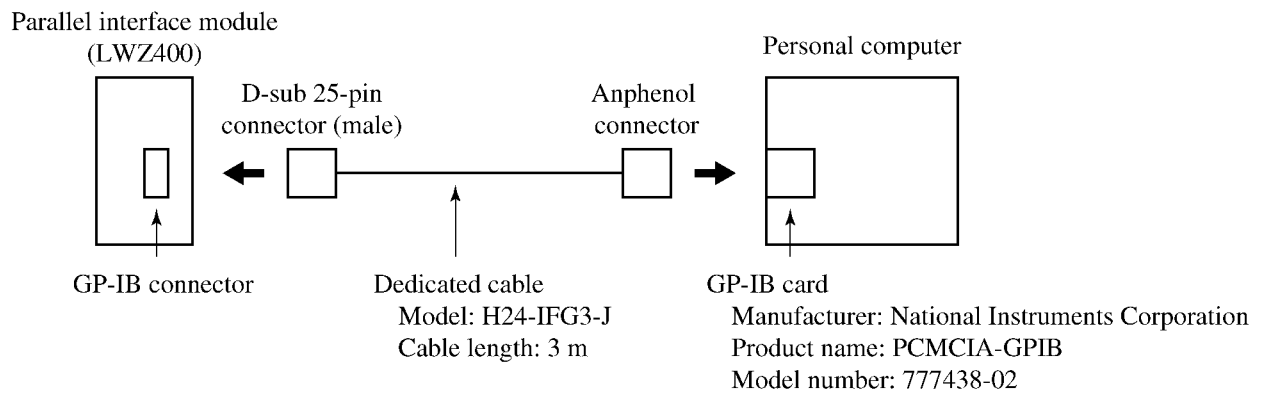
Note: Normal operation is possible with any commercially available RS-232C cross (reverse) cable. The maximum permissible cable length is 15 m.

2.4 GP-IB Direct Connection

■ Configuration



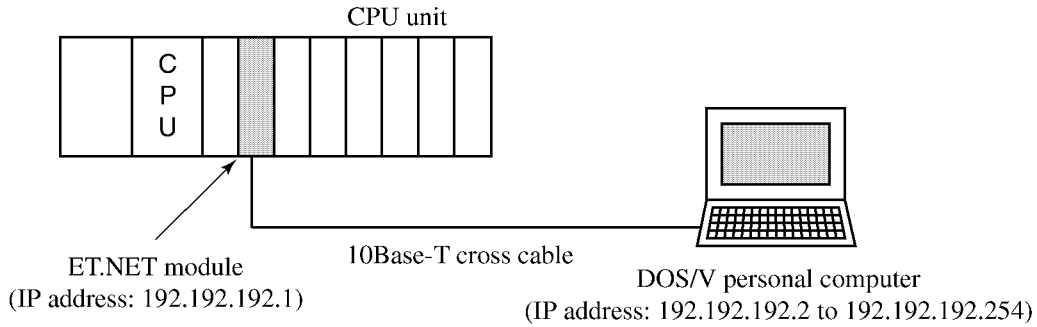
■ Connecting the 2α to the personal computer



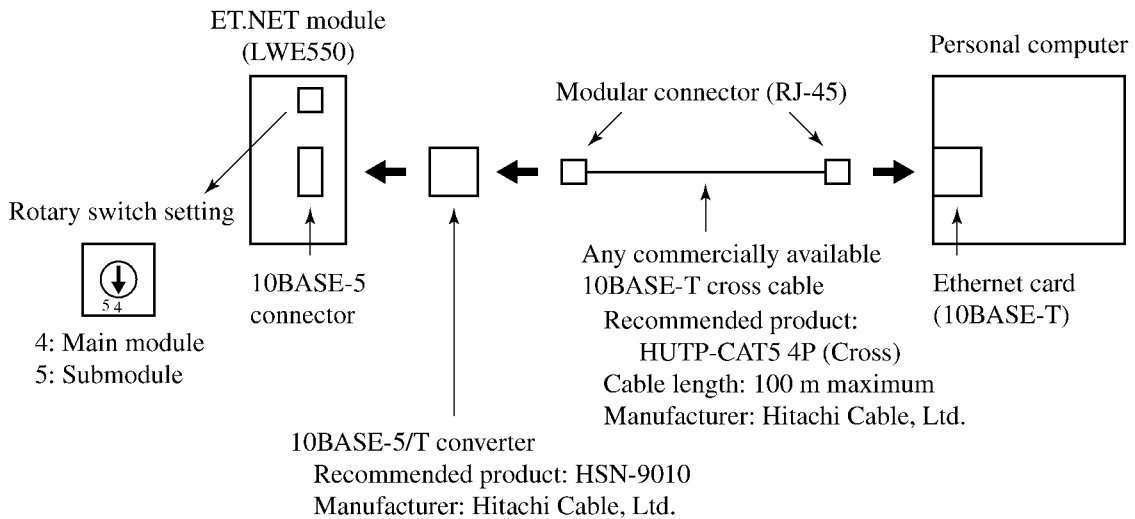
Note: Normal operation is not possible with a GP-IB card other than specified above.

2.5 Ethernet Direct Connection

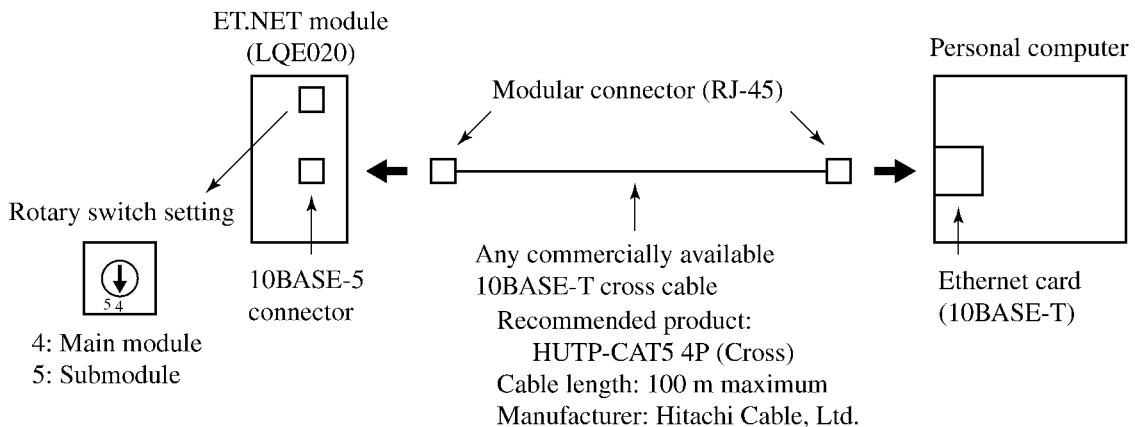
■ Configuration



■ Connecting the 2α to the personal computer

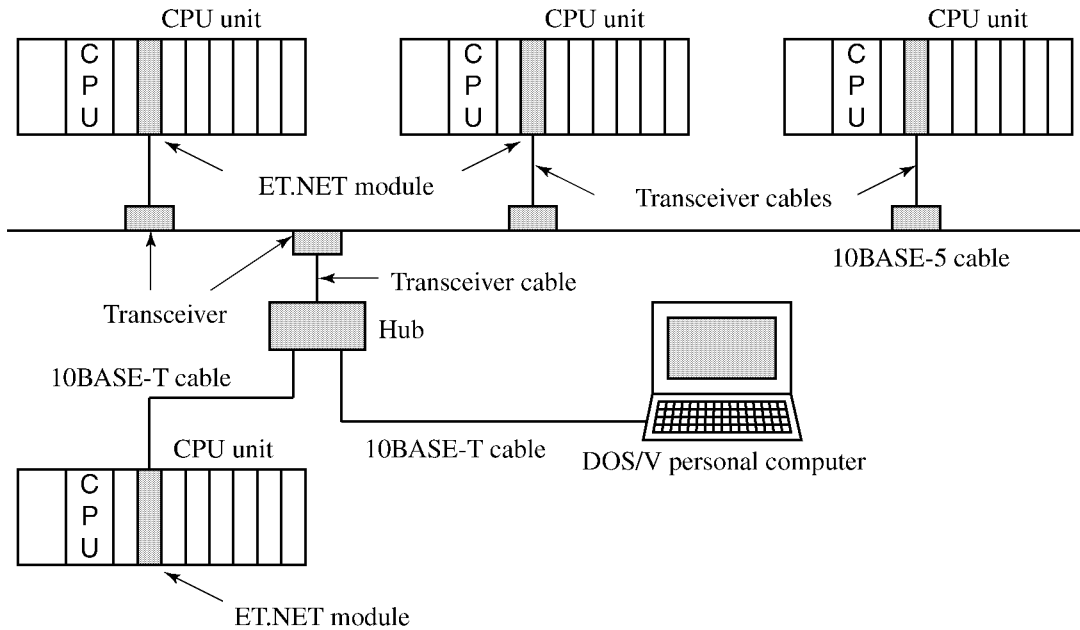


■ Connecting the S10mini to the personal computer



2.6 Ethernet LAN Connection

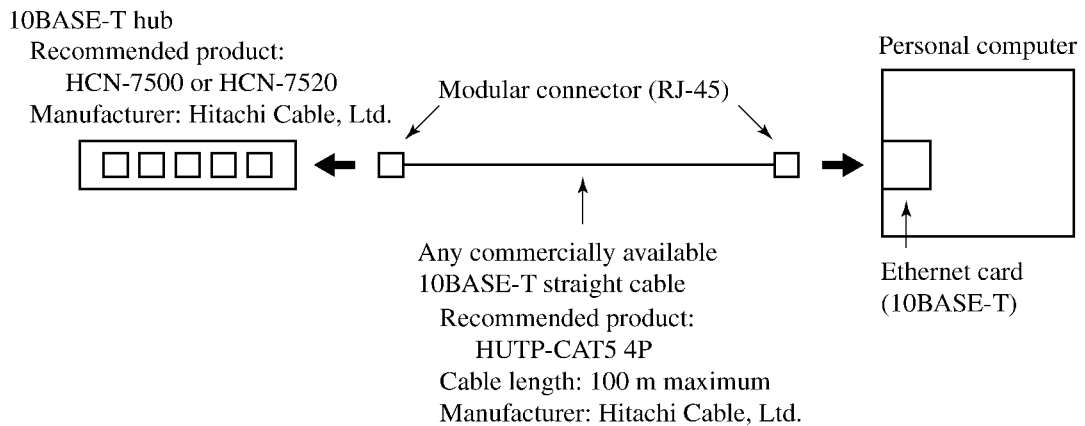
■ Configuration



■ Making the 10BASE-5 connection

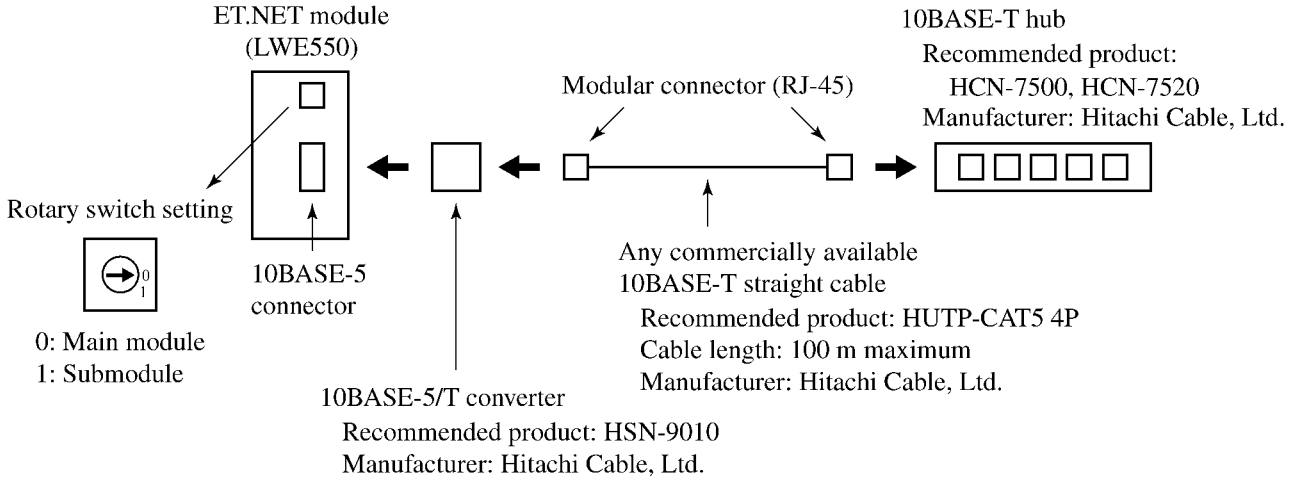
Refer to “HARDWARE MANUAL OPTION ET.NET (LWE550) (Manual number SAE-2-124),” “S10mini HARDWARE MANUAL OPTION ET.NET (Manual number SME-1-103).”

■ Connecting the personal computer to the hub (10BASE-T)



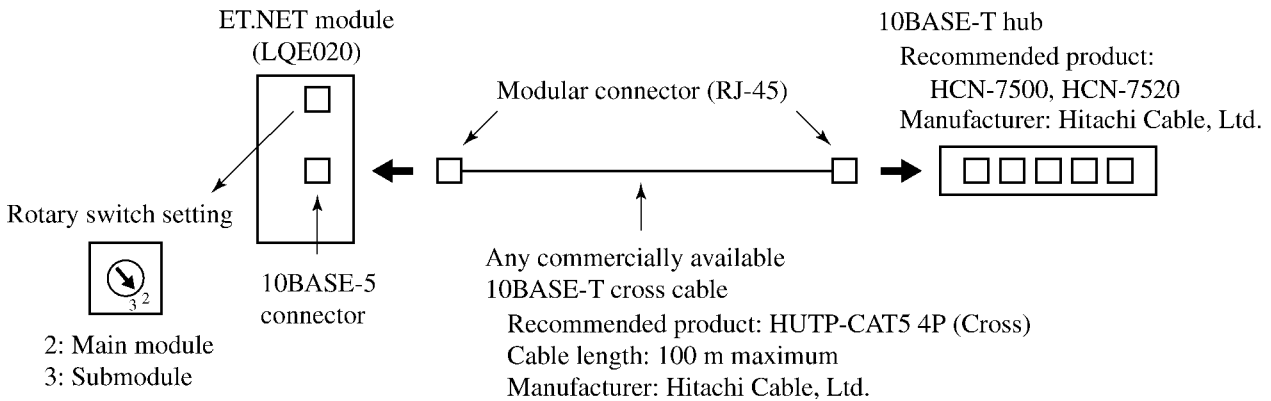
2 HARDWARE PREPARATIONS

■ Connecting the 2 α to the hub (10BASE-T)



Note: Set the IP address of the ET.NET module used on the RS-232C direct connection basis. For setup, use the “ET.NET system” software package (type: S-7890-29). The Ethernet LAN connection-based communication is not possible until the IP address has been set.

■ Connecting the S10mini to the hub (10BASE-T)



Note: Set the IP address of the ET.NET module used on the RS-232C direct connection basis. For setup, use the “ET.NET system” software package (type: S-7890-29). The Ethernet LAN connection-based communication is not possible until the IP address has been set.

3 PERSONAL COMPUTER SETUP

3.1 Ethernet Card Setup

When you use an Ethernet connection, you have to install the Ethernet card hardware and driver. Have on hand the Windows® Setup CD-ROM because its use may become necessary during an installation process (usually unnecessary if Windows® was preinstalled in your personal computer when purchased).

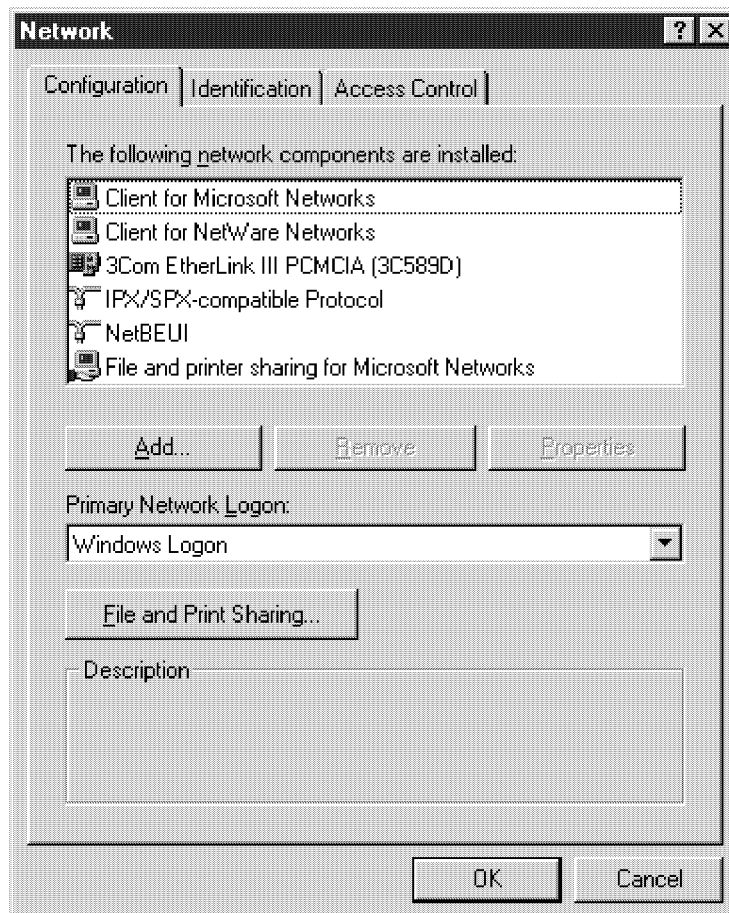
■ Installing the hardware and driver

The hardware and driver installation procedures vary with the Ethernet card being used. Be sure to carry out installation by following the instructions set forth in the manual that is supplied with the Ethernet card.

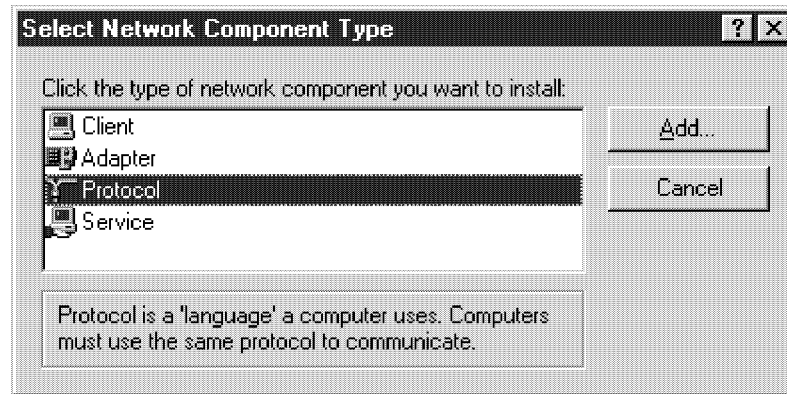
■ Installing TCP/IP

Since TCP/IP is not usually installed in an Ethernet driver installation process, you have to install it separately. To add TCP/IP, perform the following steps.

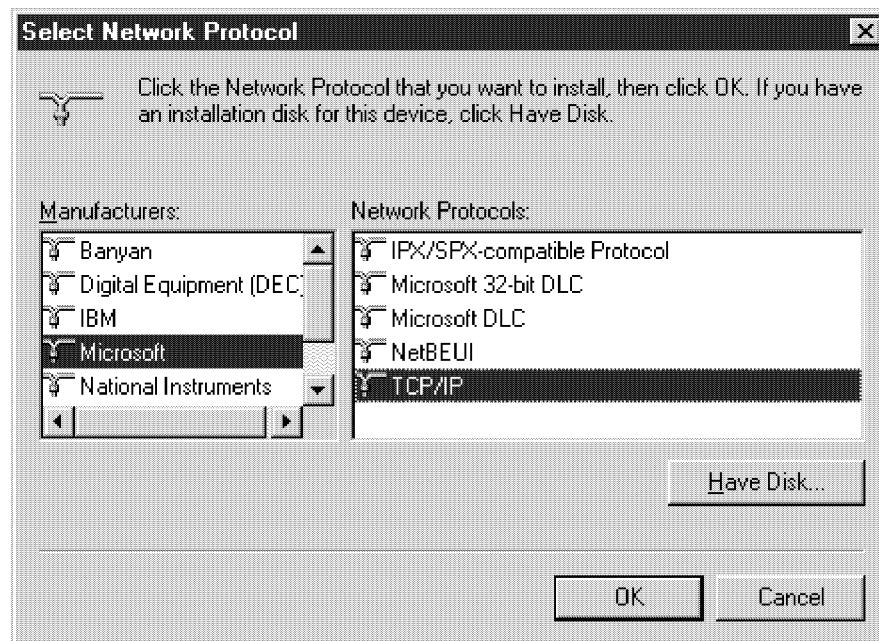
- (1) Click the [Start] button followed by [Settings] and [Control Panel]. Double-click [Network]. Click the button after the [Network] dialog box is displayed.



- (2) When the [Select Network Component Type] dialog box is displayed, select [Protocol] and then click the **Add...** button.

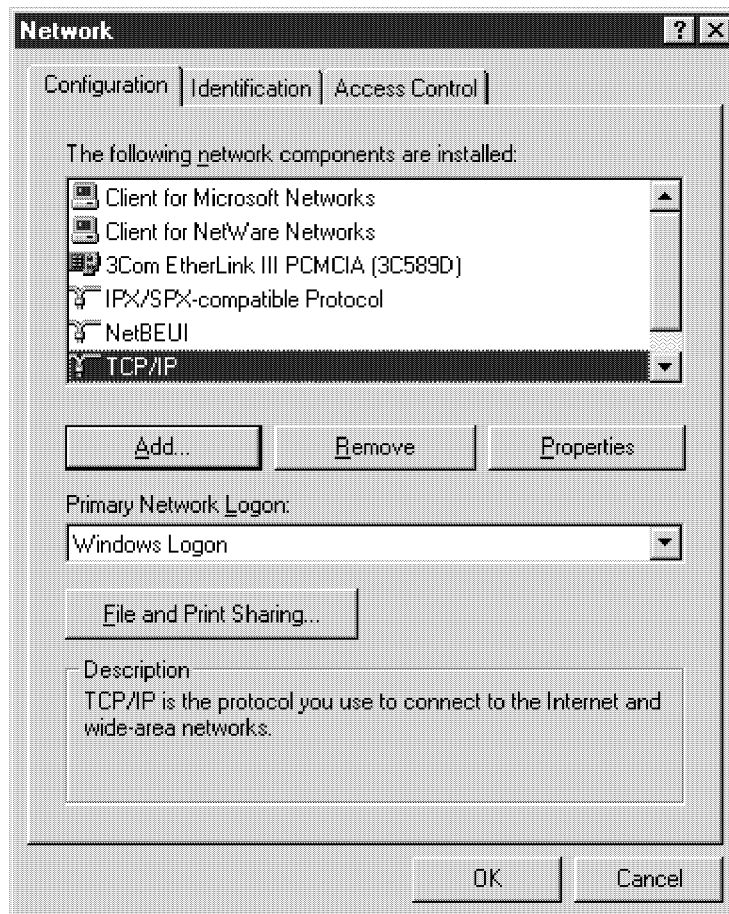


- (3) When the [Select Network Protocol] dialog box is displayed, select [Microsoft] as the “Manufacturer” and [TCP/IP] as the “Network Protocol,” then click the **OK** button.

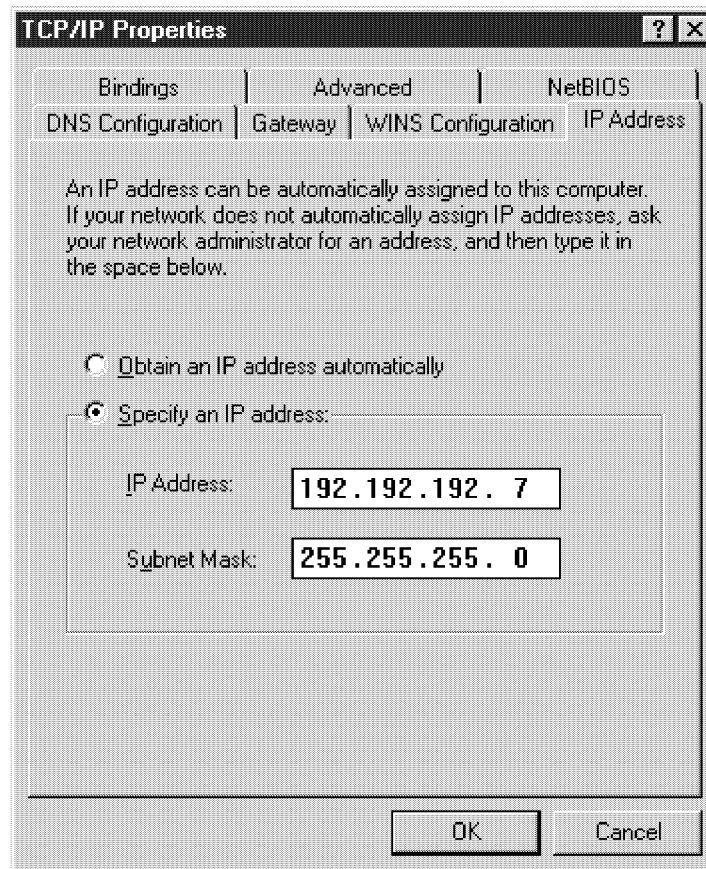


3 PERSONAL COMPUTER SETUP

- (4) Copy the TCP/IP files by following the instructions given in the dialog box. The [Network] dialog box is displayed after copying the TCP/IP file is completed. Select the additional item “TCP/IP -> (Ethernet card name)” and click the **Properties** button.



- (5) When the [TCP/IP Properties] dialog box is displayed, click the [IP Address] tab. Select the “Specify an IP address” radio button and then enter the “IP address” and “Subnet mask” values. After completion of input, click the **OK** button. When the Ethernet direct connection style is employed, enter the IP address “192.192.192.xxx”, where xxx is an integer from 2 to 254, and subnet mask “255.255.255.0”. For the “IP Address” and “Subnet Mask” entries for LAN connection, ask your network administrator.



- (6) When the [Network] dialog box is displayed, click the **OK** button. When you subsequently restart the personal computer, TCP/IP installation will be completed.

3.2 GP-IB Card Setup

When you use a GP-IB connection, you have to install the GP-IB card hardware and driver. Note that National Instruments Corporation's PCMCIA-GPIB card is the only GP-IB card supported.

- Installing the hardware and driver

Be sure to complete installation by following the instructions set forth in the manual that is supplied with the GP-IB card. For updating the driver, download the driver from the HP (home page) of National Instruments Corporation.

URL

<http://www.ni.com/support/ja/download.htm#GPIB>

3.3 Installing/Deinstalling the Software Packages

Perform installation in compliance with the operation manual that is supplied with a software package. The software package contains items that need not be installed in your personal computer (because they are to be directly loaded into the PCs). For details, refer to the respective operation manuals.

If an older version of software has been installed, deinstall it before installing a new one.

When performing deinstallation, comply with the operation manual that is supplied with the software package.

NOTE
When installing or deinstalling the software, be sure to follow the procedures set forth in the operation manual for the software package. A software malfunction may occur if you use any other procedure to install or deinstall the software.

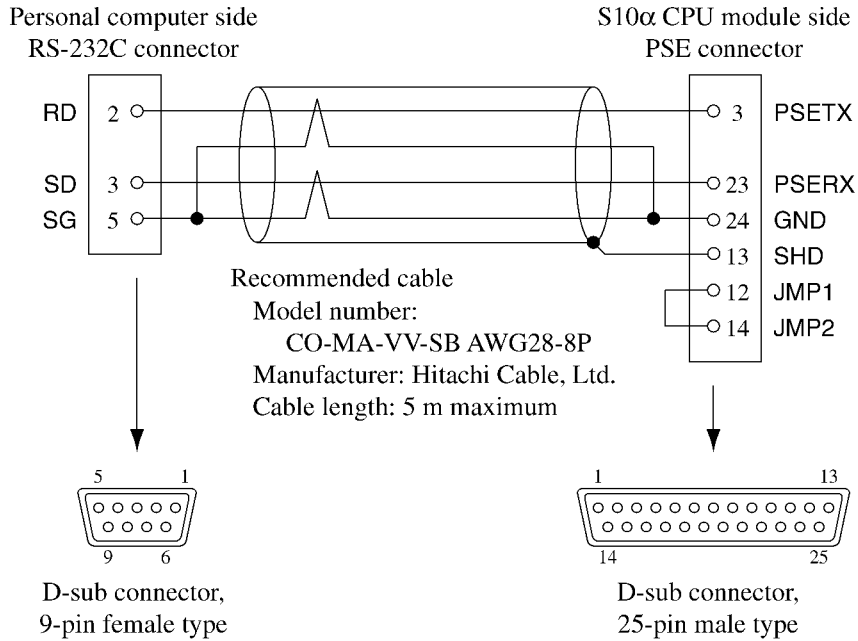
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APPENDIX

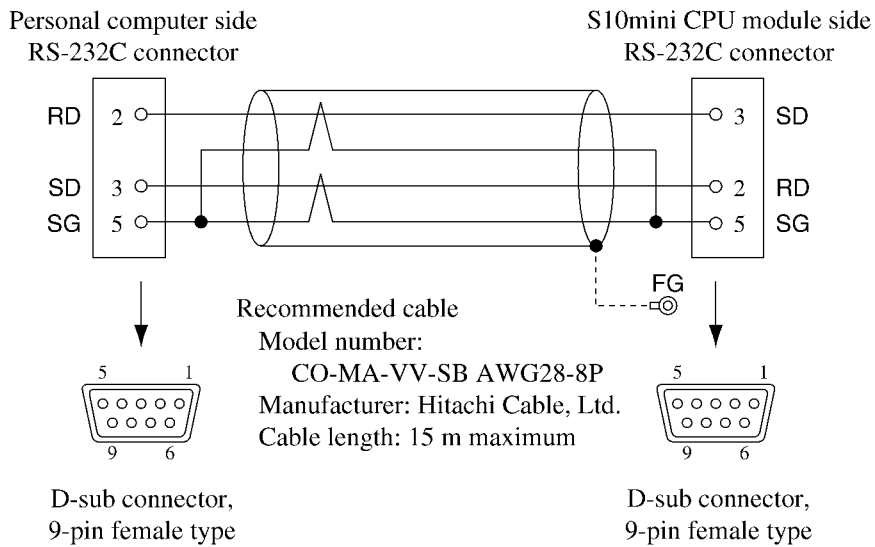
A.1 PCs Connection Cable Wiring Diagrams

When fabricating PCs connection cables yourself, refer to the following drawings.

■ RS-232C connection cable (for S10 α)

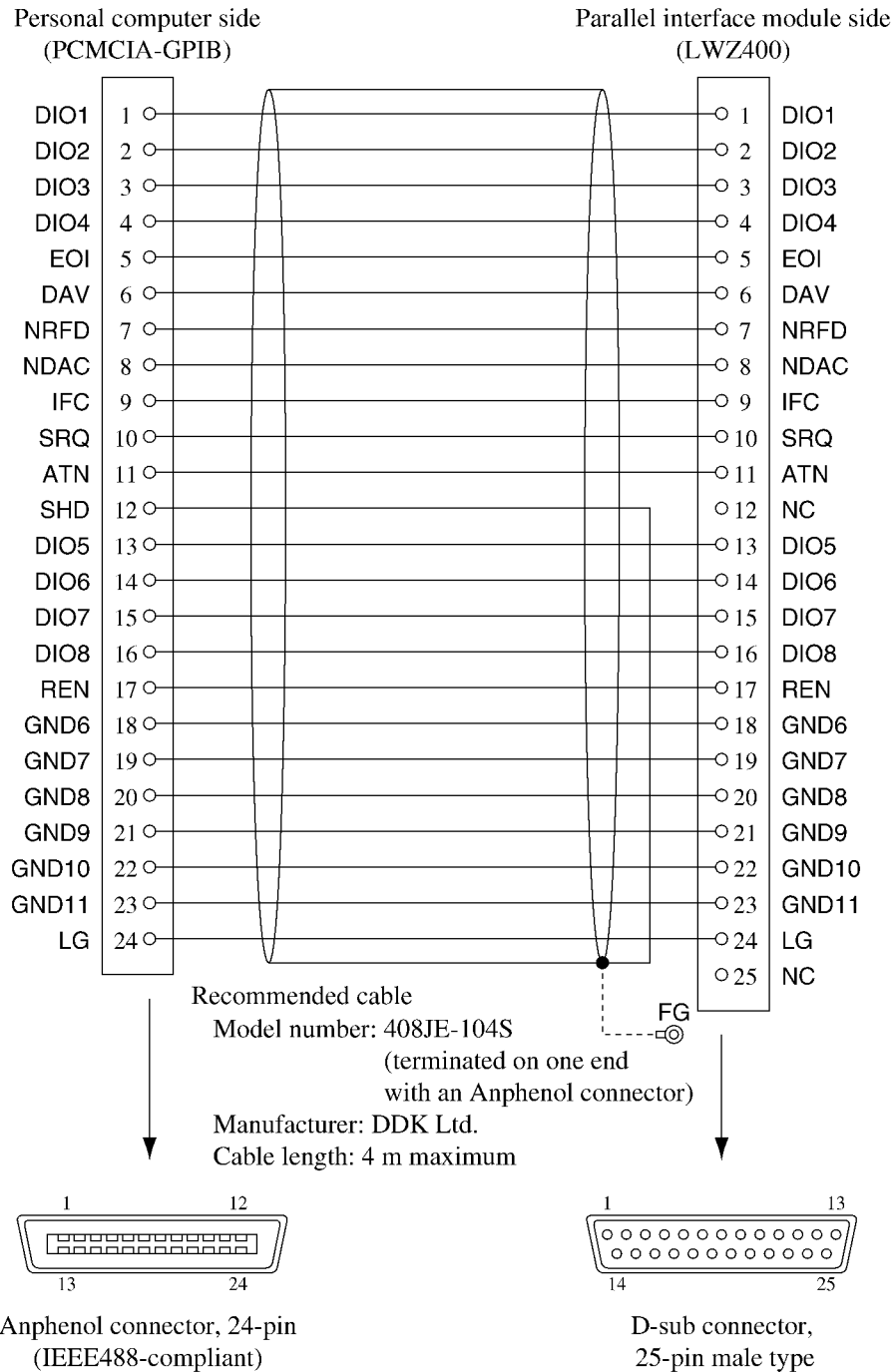


■ RS-232C connection cable (for S10mini)



Note: When leaving the cable connected to the PCs at all times, connect the shield to the FG terminal on the mount base.

■ GP-IB connection cable (for S10/2α)



Note: When leaving the cable connected to the PCs at all times, connect the shield to the FG terminal on the mount base.