MITSUBISHI

MOTION CONTROLLER

Installation Manual

type SW3RNC-GSVE/GSVHELPE

MITSUBISHI ELECTRIC

INTRODUCTION

Thank you for purchasing the Mitsubishi Motion Controller/Personal Machine Controller. This instruction manual describes the handling and precautions of this unit. Incorrect handing will lead to unforeseen events, so we ask that you please read this manual thoroughly and use the unit correctly.
Please make sure that this manual is delivered to the final user of the unit and that it is stored for future reference.

Precautions for Safety

Please read this instruction manual and enclosed documents before starting installation, operation, maintenance or inspections to ensure correct usage. Thoroughly understand the machine, safety information and precautions before starting operation.
The safety precautions are ranked as "Warning" and "Caution" in this instruction manual.

⚠ WARNING	When a dangerous situation may occur if handling is mistaken leading to fatal or major injuries.
⚠ CAUTION	When a dangerous situation may occur if handling is mistaken leading to medium or minor injuries, or physical damage.

Note that some items described as cautions may lead to major results depending on the situation. In any case, important information that must be observed is described.

For Sate Operations

1. Prevention of electric shocks

WARNING

- Never open the front case or terminal covers while the power is ON or the unit is running, as this may lead to electric shocks.
- Never run the unit with the front case or terminal cover removed. The high voltage terminal and charged sections will be exposed and may lead to electric shocks.
- Never open the front case or terminal cover at times other than wiring work or periodic inspections even if the power is OFF. The insides of the control unit and servo amplifier are charged and may lead to electric shocks.
- When performing wiring work or inspections, turn the power OFF, wait at least ten minutes, and then check the voltage with a tester, etc. Failing to do so may lead to electric shocks.
- Always ground the control unit, servo amplifier and servomotor with Class 3 grounding. Do not ground commonly with other devices.
- The wiring work and inspections must be done by a qualified technician.
- Wire the units after installing the control unit, servo amplifier and servomotor. Failing to do so may lead to electric shocks or damage.
- Never operate the switches with wet hands, as this may lead to electric shocks.
- Do not damage, apply excessive stress, place heavy things on or sandwich the cables, as this may lead to electric shocks.
- Do not touch the control unit, servo amplifier or servomotor terminal blocks while the power is ON, as this may lead to electric shocks.
- Do not touch the internal power supply, internal grounding or signal wires of the control unit and servo amplifier, as this may lead to electric shocks.

2. For fire prevention

CAUTION

- Install the control unit, servo amplifier, servomotor and regenerative resistor on inflammable material. Direct installation on flammable material or near flammable material may lead to fires.
- If a fault occurs in the control unit or servo amplifier, shut the power OFF at the servo amplifier's power source. If a large current continues to flow, fires may occur.
- When using a regenerative resistor, shut the power OFF with an error signal. The regenerative resistor may abnormally overheat due to a fault in the regenerative transistor, etc., and may lead to fires.
- Always take heat measures such as flame proofing for the inside of the control panel where the servo amplifier or regenerative resistor is installed and for the wires used. Failing to do so may lead to fires.

3. For injury prevention

⚠ CAUTION

- Do not apply a voltage other than that specified in the instruction manual on any terminal. Doing so may lead to destruction or damage.
- Do not mistake the terminal connections, as this may lead to destruction or damage.
- Do not mistake the polarity (+/–), as this may lead to destruction or damage.
- The servo amplifier's heat radiating fins, regenerative resistor and servo amplifier, etc., will be hot while the power is ON and for a short time after the power is turned OFF. Do not touch these parts as doing so may lead to burns.
- Always turn the power OFF before touching the servomotor shaft or coupled machines, as these parts may lead to injuries.
- Do not go near the machine during test operations or during operations such as teaching. Doing so may lead to injuries.

4. Various precautions

Strictly observe the following precautions.
Mistaken handling of the unit may lead to faults, injuries or electric shocks.

(1) System structure

⚠ CAUTION

- Always install a leakage breaker on the control unit and servo amplifier power source.
- If installation of a magnetic contactor for power shut off during an error, etc., is specified in the instruction manual for the servo amplifier, etc., always install the magnetic contactor.
- Install an external emergency stop circuit so that the operation can be stopped immediately and the power shut off.
- Use the control unit, servo amplifier, servomotor and regenerative resistor with the combinations listed in the instruction manual. Other combinations may lead to fires or faults.
- If safety standards (ex., robot safety rules, etc.,) apply to the system using the control unit, servo amplifier and servomotor, make sure that the safety standards are satisfied.
- If the operation during a control unit or servo amplifier error and the safety direction operation of the control unit differ, construct a countermeasure circuit externally of the control unit and servo amplifier.
- In systems where coasting of the servomotor will be a problem during emergency stop, servo OFF or when the power is shut OFF, use dynamic brakes.
- Make sure that the system considers the coasting amount even when using dynamic brakes.
- In systems where perpendicular shaft dropping may be a problem during emergency stop, servo OFF or when the power is shut OFF, use both dynamic brakes and magnetic brakes.
- The dynamic brakes must be used only during emergency stop and errors where servo OFF occurs. These brakes must not be used for normal braking.
- The brakes (magnetic brakes) assembled into the servomotor are for holding applications, and must not be used for normal braking.
- Construct the system so that there is a mechanical allowance allowing stopping even if the stroke end limit switch is passed through at the max. speed.
- Use wires and cables that have a wire diameter, heat resistance and bending resistance compatible with the system.

⚠ CAUTION
⚠ Use wires and cables within the length of the range described in the instruction manual. ⚠ The ratings and characteristics of the system parts (other than control unit, servo amplifier, servomotor) must be compatible with the control unit, servo amplifier and servomotor. ⚠ Install a cover on the shaft so that the rotary parts of the servomotor are not touched during operation. ⚠ There may be some cases where holding by the magnetic brakes is not possible due to the life or mechanical structure (when the ball screw and servomotor are connected with a timing belt, etc.). Install a stopping device to ensure safety on the machine side.

(2) Parameter settings and programming

⚠ CAUTION
⚠ Set the parameter values to those that are compatible with the control unit, servo amplifier, servomotor and regenerative resistor model and the system application. The protective functions may not function if the settings are incorrect. ⚠ The regenerative resistor model and capacity parameters must be set to values that conform to the operation mode, servo amplifier and servo power unit. The protective functions may not function if the settings are incorrect. ⚠ Set the mechanical brake output and dynamic brake output validity parameters to values that are compatible with the system application. The protective functions may not function if the settings are incorrect. ⚠ Set the stroke limit input validity parameter to a value that is compatible with the system application. The protective functions may not function if the setting is incorrect. ⚠ Set the servomotor encoder type (increment, absolute position type, etc.) parameter to a value that is compatible with the system application. The protective functions may not function if the setting is incorrect. ⚠ Set the servomotor capacity and type (standard, low-inertia, flat, etc.) parameter to values that are compatible with the system application. The protective functions may not function if the settings are incorrect. ⚠ Set the servo amplifier capacity and type parameters to values that are compatible with the system application. The protective functions may not function if the settings are incorrect. ⚠ Use the program commands for the program with the conditions specified in the instruction manual. ⚠ Set the sequence function program capacity setting, device capacity, latch validity range, I/O assignment setting, and validity of continuous operation during error detection to values that are compatible with the system application. The protective functions may not function if the settings are incorrect. ⚠ Some devices used in the program have fixed applications, so use these with the conditions specified in the instruction manual. ⚠ The input devices and data registers assigned to the link will hold the data previous to when communication is terminated by an error, etc. Thus, an error correspondence interlock program specified in the instruction manual must be used. ⚠ Use the interlock program specified in the special function unit's instruction manual for the program corresponding to the special function unit.

(3) Transportation and installation

⚠ CAUTION

- ⚠ Transport the product with the correct method according to the weight.
- ⚠ Use the servomotor suspension bolts only for the transportation of the servomotor. Do not transport the servomotor with machine installed on it.
- ⚠ Do not stack products past the limit.
- ⚠ When transporting the control unit or servo amplifier, never hold the connected wires or cables.
- ⚠ When transporting the servomotor, never hold the cables, shaft or detector.
- ⚠ When transporting the control unit or servo amplifier, never hold the front case as it may fall off.
- ⚠ When transporting, installing or removing the control unit or servo amplifier, never hold the edges.
- ⚠ Install the unit according to the instruction manual in a place where the weight can be withstood.
- ⚠ Do not get on or place heavy objects on the product.
- ⚠ Always observe the installation direction.
- ⚠ Keep the designated clearance between the control unit or servo amplifier and control panel inner surface or the control unit and servo amplifier, control unit or servo amplifier and other devices.
- ⚠ Do not install or operate control units, servo amplifiers or servomotors that are damaged or that have missing parts.
- ⚠ Do not block the intake/outtake ports of the servomotor with cooling fan.
- ⚠ Do not allow conductive matter such as screw or cutting chips or combustible matter such as oil enter the control unit, servo amplifier or servomotor.
- ⚠ The control unit, servo amplifier and servomotor are precision machines, so do not drop or apply strong impacts on them.
- ⚠ Securely fix the control unit and servo amplifier to the machine according to the instruction manual. If the fixing is insufficient, these may come off during operation.
- ⚠ Always install the servomotor with reduction gears in the designated direction. Failing to do so may lead to oil leaks.
- ⚠ Store and use the unit in the following environmental conditions.

Environment	Condition	
	Control unit/servo amplifier	**Servomotor**
Ambient temperature	0°C to +55°C (With no freezing)	0°C to +40°C (With no freezing)
Ambient humidity	According to each instruction manual.	80%RH or less (With no dew condensation)
Storage temperature	According to each instruction manual.	−20°C to +65°C
Atmosphere	Indoors (where not subject to direct sunlight). No corrosive gases, flammable gases, oil mist or dust must exist.	
Altitude	1000m (305 Feet) or less above sea level.	
Vibration	According to each instruction manual.	

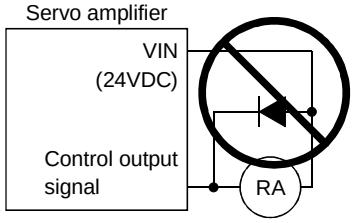
⚠ CAUTION

- ⚠ When coupling with the synchronization encoder or servomotor shaft end, do not apply impact such as by hitting with a hammer. Doing so may lead to detector damage.
- ⚠ Do not apply a load larger than the tolerable load onto the servomotor shaft. Doing so may lead to shaft breakage.
- ⚠ When not using the unit for a long time, disconnect the power line from the control unit or servo amplifier.
- ⚠ Place the control unit and servo amplifier in static electricity preventing vinyl bags and store.

(4) Wiring

⚠ CAUTION

- ⚠ Correctly and securely wire the wires. Reconfirm the connections for mistakes and the terminal screws for tightness after wiring. Failing to do so may lead to run away of the servomotor.
- ⚠ After wiring, install the protective covers such as the terminal covers to the original positions.
- ⚠ Do not install a phase advancing capacitor, surge absorber or radio noise filter (option FR-BIF) on the output side of the servo amplifier.
- ⚠ Correctly connect the output side (terminals U, V, W). Incorrect connections will lead the servomotor to operate abnormally.
- ⚠ Do not connect a commercial power supply to the servomotor, as this may lead to trouble.
- ⚠ Do not mistake the direction of the surge absorbing diode installed on the DC relay for the control signal output of brake signals, etc. Incorrect installation may lead to signals not being output when trouble occurs or the protective functions not functioning.



- ⚠ Do not connect or disconnect the connection cables between each unit, the encoder cable or sequence expansion cable while the power is ON.
- ⚠ Securely tighten the cable connector fixing screws and fixing mechanisms. Insufficient fixing may lead to the cables combing off during operation.
- ⚠ Do not bundle the power line or cables.

(5) Trial operation and adjustment

⚠ CAUTION

- ⚠ Confirm and adjust the program and each parameter before operation. Unpredictable movements may occur depending on the machine.
- ⚠ Extreme adjustments and changes may lead to unstable operation, so never make them.
- ⚠ When using the absolute position system function, on starting up, and when the controller or absolute value motor has been replaced, always perform a home position return.

(6) Usage methods

⚠ CAUTION

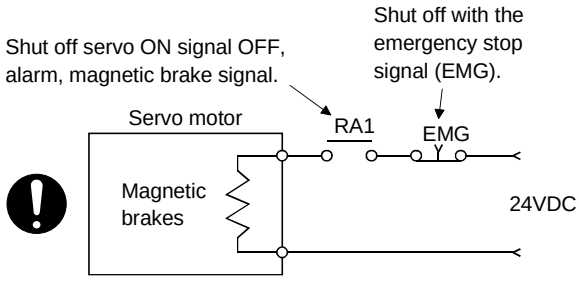
- ⚠ Immediately turn OFF the power if smoke, abnormal sounds or odors are emitted from the control unit, servo amplifier or servomotor.
- ⚠ Always execute a test operation before starting actual operations after the program or parameters have been changed or after maintenance and inspection.
- ⚠ The units must be disassembled and repaired by a qualified technician.
- ⚠ Do not make any modifications to the unit.
- ⚠ Keep the effect or magnetic obstacles to a minimum by installing a noise filter or by using wire shields, etc. Magnetic obstacles may affect the electronic devices used near the control unit or servo amplifier.
- ⚠ Use the units with the following conditions.

Item	Conditions
Input power	According to the separate instruction manual.
Input frequency	According to the separate instruction manual.
Tolerable momentary power failure	According to the separate instruction manual.

(7) Remedies for errors

⚠ CAUTION

- ⚠ If an error occurs in the self diagnosis of the control unit or servo amplifier, confirm the check details according to the instruction manual, and restore the operation.
- ⚠ If a dangerous state is predicted in case of a power failure or product failure, use a servomotor with magnetic brakes or install a brake mechanism externally.
- ⚠ Use a double circuit construction so that the magnetic brake operation circuit can be operated by emergency stop signals set externally.
- ⚠ If an error occurs, remove the cause, secure the safety and then resume operation.
- ⚠ The unit may suddenly resume operation after a power failure is restored, so do not go near the machine. (Design the machine so that personal safety can be ensured even if the machine restarts suddenly.)



(8) Maintenance, inspection and part replacement

⚠ CAUTION

- ⚠ Perform the daily and periodic inspections according to the instruction manual.
- ⚠ Perform maintenance and inspection after backing up the program and parameters for the control unit and servo amplifier.
- ⚠ Do not place fingers or hands in the clearance when opening or closing any opening.
- ⚠ Periodically replace consumable parts such as batteries according to the instruction manual.

⚠ CAUTION

- ⚠ Do not touch the lead sections such as ICs or the connector contacts.
- ⚠ Do not place the control unit or servo amplifier on metal that may cause a power leakage or wood, plastic or vinyl that may cause static electricity buildup.
- ⚠ Do not perform a megger test (insulation resistance measurement) during inspection.
- ⚠ When replacing the control unit or servo amplifier, always set the new unit settings correctly.
- ⚠ When the controller or absolute value motor has been replaced, carry out a home position return operation using one of the following methods, otherwise position displacement could occur.
  1) After writing the servo data to the PC using peripheral device software, switch on the power again, then perform a home position return operation.
  2) Using the backup function of the peripheral device software, load the data backed up before replacement.
- ⚠ After maintenance and inspections are completed, confirm that the position detection of the absolute position detector function is correct.
- ⚠ Do not short circuit, charge, overheat, incinerate or disassemble the batteries.
- ⚠ The electrolytic capacitor will generate gas during a fault, so do not place your face near the control unit or servo amplifier.
- ⚠ The electrolytic capacitor and fan will deteriorate. Periodically change these to prevent secondary damage from faults. Replacements can be made by the Service Center or Service Station.

(9) Disposal

⚠ CAUTION

- ⚠ Dispose of this unit as general industrial waste.
- ⚠ Do not disassemble the control unit, servo amplifier or servomotor parts.
- ⚠ Dispose of the battery according to local laws and regulations.

(10) General cautions

⚠ CAUTION

- ⚠ All drawings provided in the instruction manual show the state with the covers and safety partitions removed to explain detailed sections. When operating the product, always return the covers and partitions to the designated positions, and operate according to the instruction manual.

Revisions

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

Print Date	*Manual Number	Revision
Jul., 2000	IB(NA)-0300018-A	First edition
Jan., 2001	IB(NA)-0300018-B	Addition Addition of SW3RN-GSV43P description
Mar., 2001	IB(NA)-0300018-C	Addition Addition of RS232C communication description, Section 4.5
Apr., 2001	IB(NA)-0300018-D	Addition Addition of SW3RN-GSV51P description, Section 3.6, Section 4.6, Section 4.6.1 Correction CONTENTS, Section 2.2 (1), Section 2.2 (2), Section 2.3, Section 2.5, Section 3.1,
Aug., 2001	IB(NA)-0300018-E	Addition Addition of SW20RN-DOCPRNP and SW20RN-LADDERP description, Section 3.4.2, Section 3.4.3, Section 3.4.4, Section 3.4.5, Section 3.4.6, Chapter5 Correction CONTENTS, Section 2.2 (1), Section 2.2 (2), Section 2.3, Section 3.1, Section 3.2, Section 4.1, Section 4.1.1, Section 4.1.2, Section 4.2,
Dec., 2001	IB(NA)-0300018-F	Addition Addition of Windows 2000 and A10BD-PCF interface board description, Section 4.1.3, Section 4.3.1, Section 4.3.2, Section 3.7, Section 5.5 Correction Section 2.2, Section 2.5, Section 3.1, Section 3.3, Section 3.4.1, Section 3.4.2, Section 3.4.3, Section 3.4.4, Section 3.4.5, Section 3.4.6, Section 4.6.1, Section 5.1, Section 5.2, Section 5.3, Section 5.4

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1. OVERVIEW

This manual explains the installation procedures, operating environment and system configuration of the SW3RNC-GSVE motion controller startup support software packages and SW3RNC-GSVHELPE operating manuals.

1.1 Features

The SW3RNC-GSVE motion controller startup support software packages offer a group of software packages which totally supports the control program design environment, maintenance engineering environment and application design environment for configuring a system using the motion controllers.
The software can be used for various applications such as motion controller startup, centralized monitoring and data collection.
In addition, the software supports the development of user-original application software to structure a flexible machine.

2. SYSTEM CONFIGURATION

2.1 Software Makeup

Each software package is made up of the following software.

(1) SW3RNC-GSVE: Motion controller startup support software packages
The packages and versions of SW3RNC-GSVE Ver. H are as indicated in Table 2.1.

Table 2.1 Packages of SW3RNC-GSVE Ver. H

	Type	Product Name	Description	Version
Control program design environment	SW3RN-GSV13P *1	Transfer/assembly software	Supports programming, monitor and test for controller OS SV13.	00E
	SW3RN-GSV22P *2	Automatic machine software	Supports programming, monitor and test for controller OS SV22.	00E
	SW3RN-GSV43P *3	Machine tool peripheral software	Supports programming, monitor and test for controller OS SV43.	00D
	SW3RN-GSV51P *4	Special-purpose robot software	Supports programming, monitor and test for controller OS SV51.	00B
	SW3RN-CAMP *5	Cam data creation software	Creates the cam patterns for cam control of controller OS SV22. Needed for use of cams.	00E
	SW3RN-LADDERP *6 (For Office 97)	Ladder editing software	Supports ladder programming of the motion controller and monitor and test of the PC CPU.	00F
	SW20RN-LADDERP *6 (For Office 2000)			00B
	SW3RN-DOCPRNP *7 (For Office 97)	Document printing software	Converts the program and parameter data set on GSV13P, GSV22P,GSV43P, GSV51P or CAMP into the Word/Excel file format, and supports printing them. Converts the sampling data saved on DOSCP into the Excel file format, dumps and graphs them, and supports printing them.	00H
	SW20RN-DOCPRNP *7 (For Office 2000)			00D
Maintenance engineering environment	SW3RN-DOSCP *8	Digital oscilloscope software	Offers the maintenance engineering environment. Shows the motion system control status in terms of waveform and effective for survey, troubleshooting and analysis.	00E
User application design environment	SW3RN-SNETP *9	SSCNET communication system software	Links the motion controller and personal computer by SSCNET or RS232C communication to access data. When SSCNET communication is used, supports the communication API designed for user application software (VB, VC++).	00J

*1 Hereafter abbreviated to GSV13P.
*2 Hereafter abbreviated to GSV22P.
*3 Hereafter abbreviated to GSV43P.
*4 Hereafter abbreviated to GSV51P.
*5 Hereafter abbreviated to CAMP.
*6 Hereafter abbreviated to LADDERP.
*7 Hereafter abbreviated to DOCPRNP.
*8 Hereafter abbreviated to DOSCP.
*9 Hereafter abbreviated to SNETP.

*: Among the above software packages marked *1 to *5, install the necessary one according to the controller OS used.
Install either of the software packages marked *6, *7 depending on the operating environment.
You cannot install and operate SW3RN-[ ][ ]P and SW20RN-[ ][ ]P together.

(2) SW3RNC-GSVHELPE: Motion controller startup support software operating manuals

No.	Manual	Description
1	SW3RN-GSV13P operating manual	Explains the corresponding operations.
2	SW3RN-GSV22P operating manual	
3	SW3RN-GSV43P operating manual	
4	SW3RN-GSV51P operating manual	
5	SW3RN-CAMP operating manual	
6	SW3RN-LADDERP operating manual	
7	SW20RN-LADDERP operating manual	
8	SW3RN-DOCPRNP operating manual	
9	SW20RN-DOCPRNP operating manual	
10	SW3RN-DOSCP operating manual	
11	SW3RN-SNETP operating manual	Explains the corresponding operations. Explains the communication API functions.

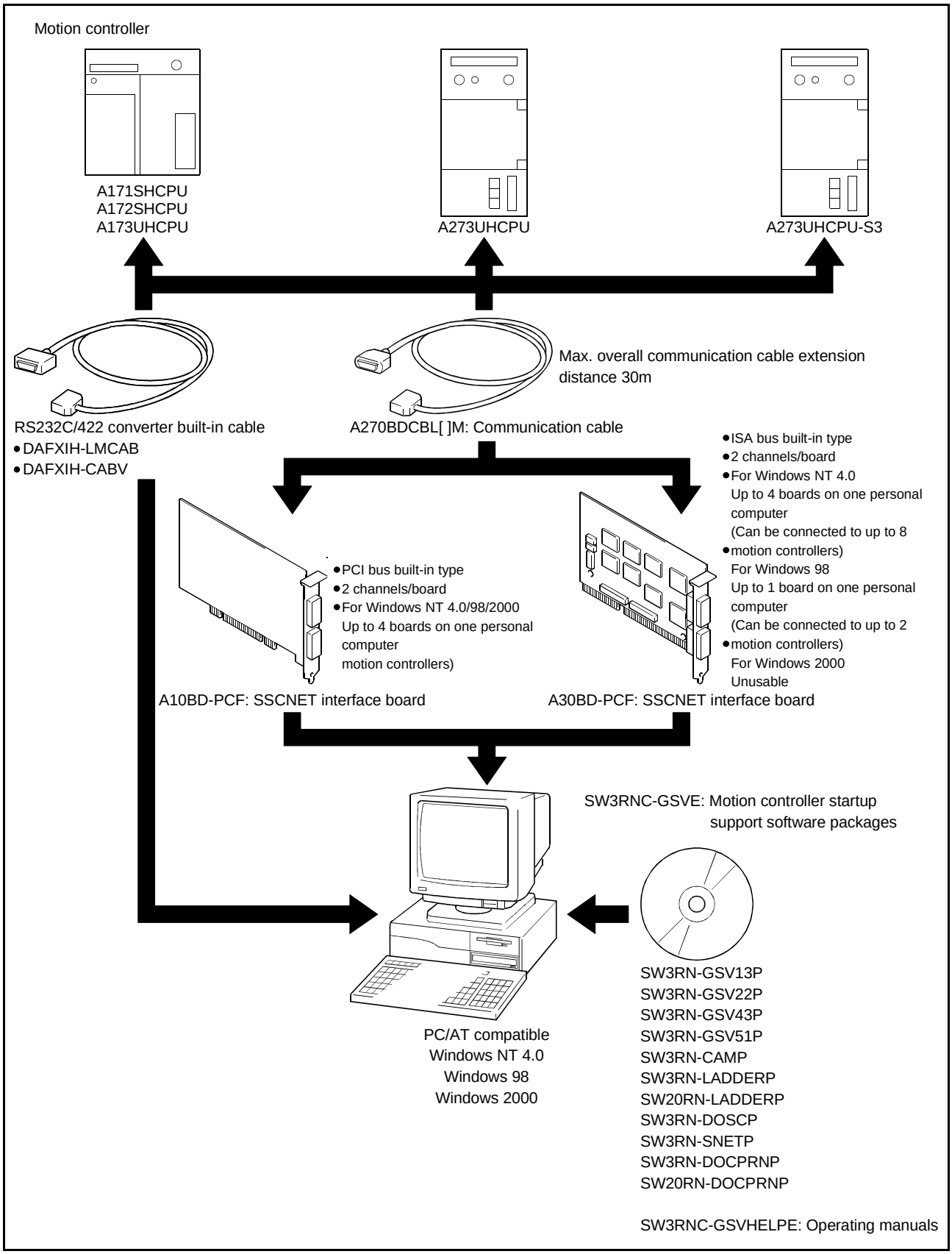
*Any of the above operating manuals can be browsed from the "Help" menu of the corresponding software package after installation.

IMPORTANT

(1) When installing SW3RNC-GSVE (Ver. 00H) newly, refer to "3.1 Installation" and perform installation.
(2) When updating SW3RNC-GSVE to Ver. 00H, refer to "3.7 Updating Instructions and Procedures" and perform updating.

2.2 System Configuration

(1) When using a desktop personal computer



2. SYSTEM CONFIGURATION

POINT

(1) The interface board and interface card cannot be used together.

(2) On some personal computers, the digital oscilloscope may not perform sampling.
In that case, check the BIOS's ISA device memory and IRQ settings. (For the BIOS settings, refer to the manual of your personal computer.)

(3) If, after SSCNET communication has been made, you remove the interface board and boot the personal computer without that board being reinstalled, Windows NT/98 may not start or may not run properly.
When removing the interface board from the personal computer, you need to stop the SSCNET communication driver.
For the way to stop, refer to "4.5 Stopping the SSCNET Communication Driver".

(4) You cannot fit and use the A30BD-PCF and A10BD-PCF interface boards together.

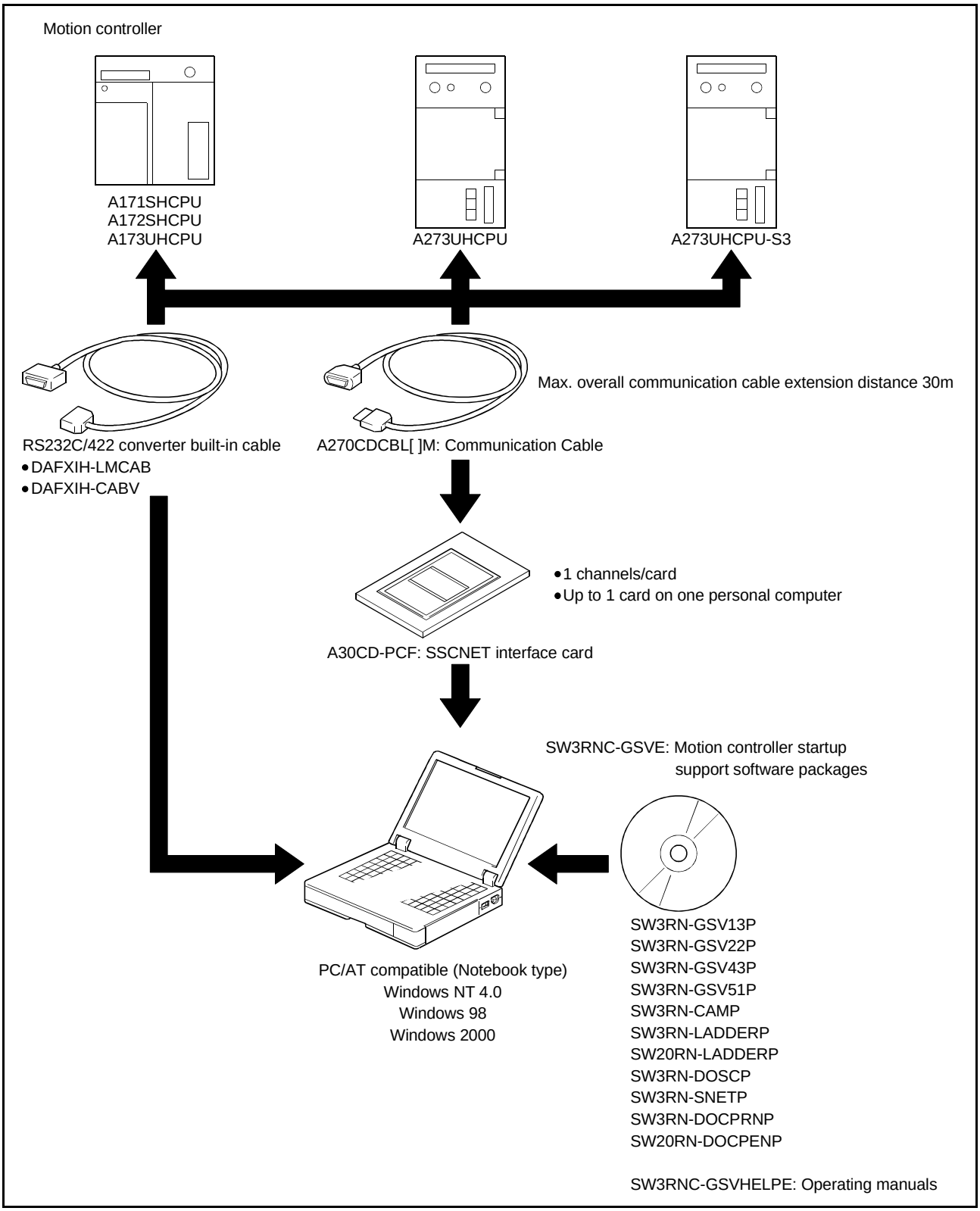
(5) The interface boards can be used in the following environment.

	Windows 98	Windows NT	Windows 2000
A30BD-PCF interface board (ISA bus built-in type)	○	○	×
A10BD-PCF interface board (PCI bus built-in type)	○	○	○

Usable: ○
Unusable: ×

(6) When you use the plural A10BD-PCF interface boards in Windows NT, make the BIOS setting not to overlap the IRQs of each board.

(2) When using a notebook computer



2. SYSTEM CONFIGURATION

POINT

(1) The interface board and interface card cannot be used together.

(2) On some personal computers, the digital oscilloscope may not perform sampling.
In that case, use the card enabler supplied by the personal computer maker or check the PC card controller settings (BIOS settings). (For the BIOS settings, refer to the manual of your personal computer.)

(3) For Windows 98/2000, insert the interface card into the personal computer after installing SNETP and setting up the SSCNET communication drivers.
(SNETP can be reinstalled with the interface card loaded.)

(4) If, after SSCNET communication has been made, you remove the interface card and boot the personal computer without that card being reinstalled, Windows NT may not start or may not run properly.
For Windows NT, you need to stop the SSCNET communication driver when removing the interface card.
For the way to stop, refer to "4.5 Stopping the SSCNET Communication Driver".
(For Windows 98/2000, use the plug and play function to remove. Using this function will not cause such phenomena.)

(5) The interface cards can be used in the following environment.

	Windows 98	Windows NT	Windows 2000
A30CD-PCF interface card	○	○	○

Usable: •

2.3 Component List

Name	Type	Remarks
SSCNET interface board	A30BD-PCF	ISA bus loading type, 2 channels/board
	A10BD-PCF	PCI bus loading type, 2 channels/board
SSCNET interface card	A30CD-PCF	PCMCIA type II, 1 channel/card
Communication cable	A270BDCBL 3M	For A30BD-PCF, A10BD-PCF 3m
	A270BDCBL 5M	For A30BD-PCF, A10BD-PCF 5m
	A270BDCBL 10M	For A30BD-PCF, A10BD-PCF 10m
	A270CDCBL 3M	For A30CD-PCF, 3m
	A270CDCBL 5M	For A30CD-PCF, 5m
	A270CDCBL 10M	For A30CD-PCF, 10m
RS232C/422 converter built-in cable	DAFXIH-CABV	Diatrend Corp. make recommended Diatrend Corp. 1-1-55, Tsuneyoshi, Konohana-ku, Osaka City 554-0052, Japan
	DAFXIH-LMCAB	

2.4 SW3RNC-GSVSETE Makeup

Type	Product Packed	Remarks
SW3RNC-GSVSETE	SW3RNC-GSVE	Motion controller startup support software packages on 1 CD-ROM
	SW3RNC-GSVHELPE	Motion controller startup support software operating manuals on 1 CD-ROM
	Installation manual	IB(NA)-0300018
	A30CD-PCF	PCMCIA type II, 1 channel/card
	A270CDCBL 3M	For A30CD-PCF, 3m

2.5 Operating Environment

The operating environment is indicated below.

Item	Description
Computer	133MHz or more Pentium personal computer where Windows NT/98 operates or 233MHz or more Pentium II personal computer where Windows 2000 operates (PC/AT compatible)
Operating system	Windows NT 4.0 (Service Pack 2 or later) Windows 98 Windows 2000 • In Windows NT 4.0, the use needs Microsoft Internet Explorer 3.01 or higher.
Required memory	32MB or more recommended (64MB or more for Windows 2000)
Hard disk free space	Refer to the table below.
Disk drive	3.5 inch (1.44MB) floppy disk drive CD-ROM disk drive
Display	Resolution 800×600 dots, 256 or more display colors

The following spaces are required according to the software installed.

Type	Size		
	SW3RNC-GSVE		SW3RNC-GSVHELPE
SW3RN-GSV13P	26MB		23MB
SW3RN-GSV22P	27MB		30MB
SW3RN-GSV43P	17MB		10MB
SW3RN-GSV51P	27MB		10MB
SW3RN-CAMP	1MB		2MB
SW3RN-LADDERP	14MB		8MB
SW20RN-LADDERP	14MB		8MB
SW3RN-DOSCP	8MB		2MB
SW3RN-SNETP	Standard	2MB	1MB
	Custom (when all are selected)	3MB	
SW3RN-DOCPRNP	25MB		2MB
SW20RN-DOCPRNP	23MB		3MB

POINT

(1) If you have any question as to the operating procedure of Windows in operating this software, refer to the Windows manual or commercially available guidebooks.

(2) Depending on the system font size of Windows NT/98/2000, the screen may not be displayed properly.
Use a small size font.

3. INSTALLATION AND UNINSTALLATION

This chapter provides how to install and uninstall GSV13P, GSV22P, GSV43P, GSV51P, CAMP, LADDERP, DOSCP, SNETP and/or DOCPRNP.

3.1 Installation

This section gives the way to install and uninstall GSV13P, GSV22P, GSV43P, GSV51P, CAMP, LADDERP, DOSCP, SNETP and/or DOCPRNP.

POINT

(1) Before starting installation, close all other applications running on Windows NT/98/2000.

(2) If you install this software from the CD-ROM drive of the other Windows 95/98 personal computer via a network, "Setup.Exe not found." appears and installation cannot be made.
After making setting to share the folder of this software to be installed in the CD-ROM drive of the Windows 95/98 personal computer, assign it to the network drive, execute "Setup.Exe", and install this software.

(3) If the installation of this software into the drive compressed in the drive space has stopped at any point, increase the free space of the drive and then press the [Retry] button to resume, or press the [Stop] button to stop and change the drive to the one where the installation destination is not compressed.

(4) In any of the following cases, always uninstall (refer to Section 3.5) and reinstall the software.
- Installation failed midway
- Installation destination drive is to be changed
- Software is to be reinstalled

IMPORTANT

(1) When using SW3RN-GSV43P, you must add necessary data to the "Config.nt" or "Config.sys" file.
For addition of necessary data, refer to "3.4.1 Precautions for Using SW3RN-GSV43P".

(2) Different versions of SNETP and DOCPRNP cannot coexist and run. Always reinstall them after uninstalling them.
(However, when Windows NT, Windows 98 and Windows 2000 are installed in a single personal computer, the same versions of SNETP and DOCPRNP can coexist in respective drives without any problem.)

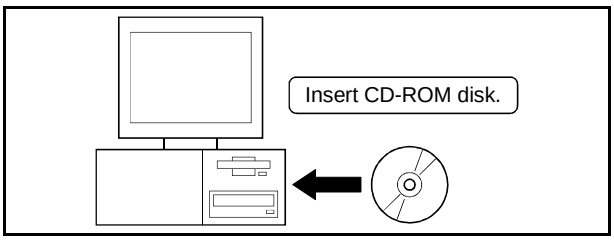
(3) SW3RN-SNETP and SW6RN-SNETP (Ver. 00A) cannot coexist.
To make SW3RN-SNETP and SW6RN-SNETP coexist, install SW6RN-SNETP Ver. 00B or later. (Refer to Section3.4.6 (2) for details.)

(4) For DOCPRNP and LADDERP, install the DOCPRNP or LADDERP software package that meets the operating environment.
You cannot install and operate SW3RN-[ ][ ]P and SW20RN-[ ][ ]P together.

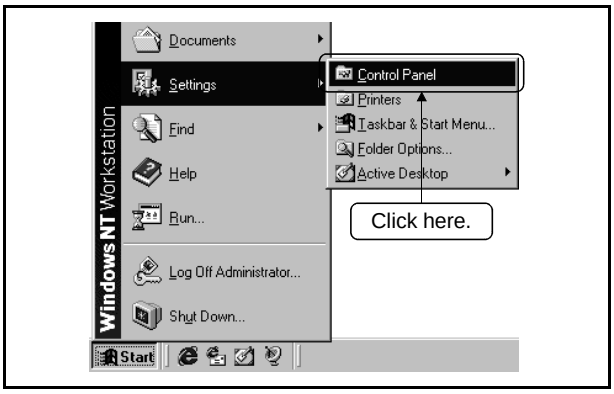
Operating Environment	DOCPRNP	LADDERP
Office 97 (Word 97, Excel 97)	SW3RN-DOCPRNP	SW3RN-LADDERP
Office 2000(Word 2000, Excel 2000)	SW20RN-DOCPRNP	SW20RN-LADDERP

3. INSTALLATION AND UNINSTALLATION

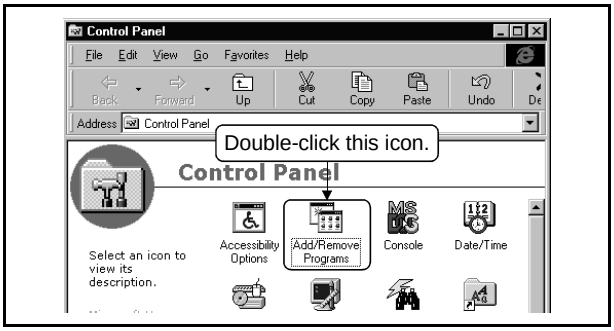
(1) Installing GSV13P, GSV22P, GSV43P, GSV51P, CAMP, DOSCP, SNETP and/or DOCPRNP



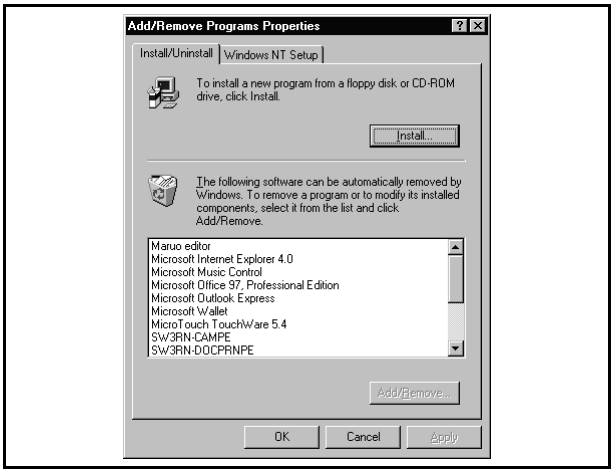
1) Power on the personal computer and start Windows NT/98/2000.
Insert the CD-ROM disk into the CD-ROM drive.



2) Click [Start] on the taskbar and move the cursor to [Settings].
Click [Control Panel].



3) The Control Panel window appears.
Double-click "Add/Remove Programs" from Control Panel.

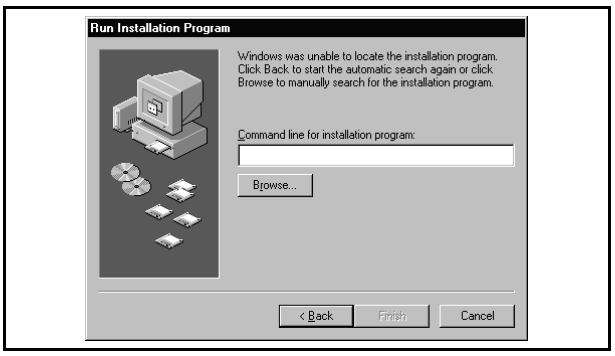


4) The "Add/Remove Programs Properties" screen appears.
Click [Install...].

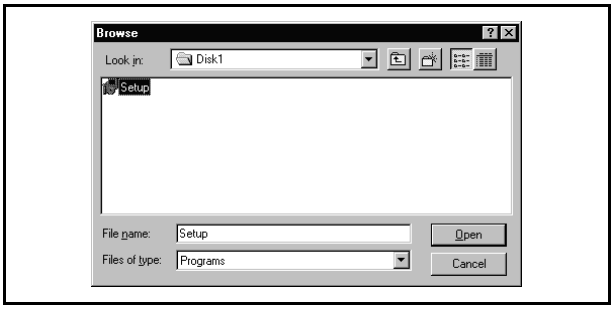
To next page

From preceding page

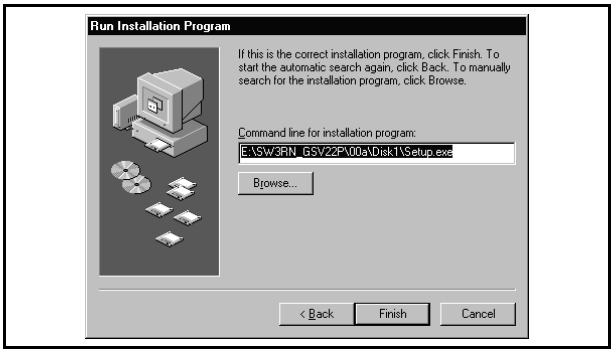
5) The "Install Program From Floppy Disk or CD-ROM" screen appears.
Click [Next >].



6) The "Run Installation Program" screen appears.
Click [Browse...].



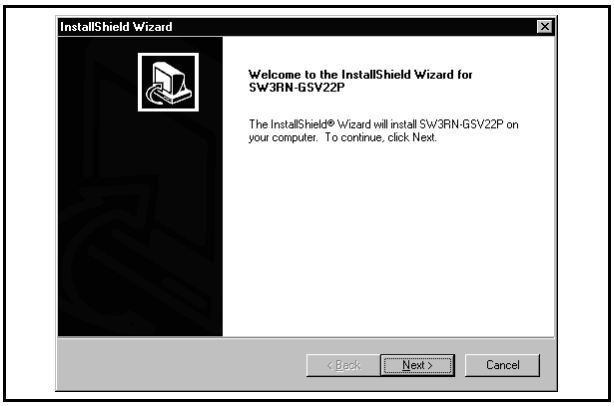
7) The "Browse" screen appears.
Choose "Setup.exe" of the "Disk1" folder within the folder of the CD-ROM software to be installed.
Click [Open].



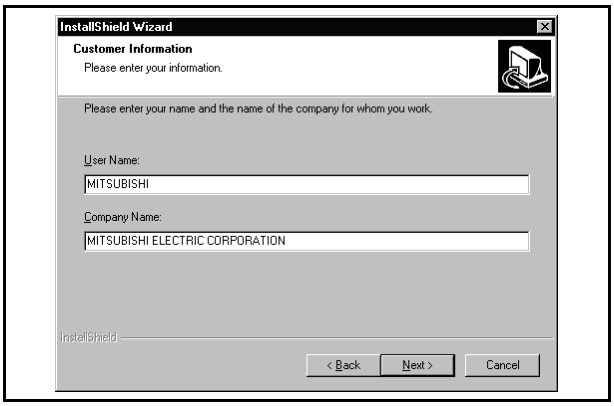
8) The "Run Installation Program" screen appears.
Click [Finish].

To next page

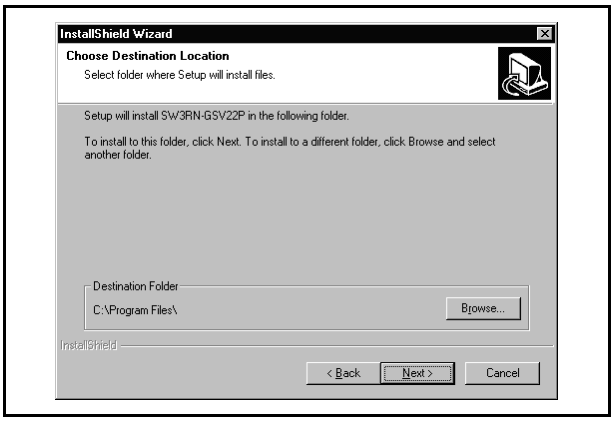
From preceding page



9) The left screen will soon appear. Click [Next >].



10) Type user name and company name, and click [Next >].

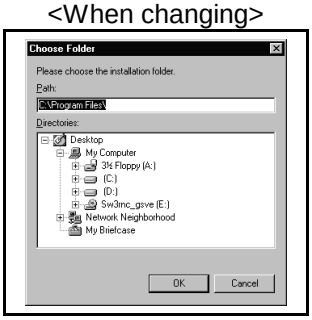


11) Choose the installation destination.
The installation destination directory defaults to "C:\Program Files".
When not changing it, click [Next >].
When changing it, click [Browse...].

To next page

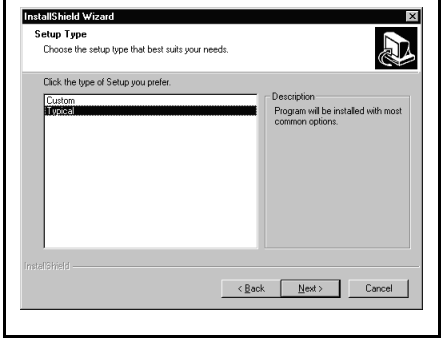
From preceding page

<When not changing> <When changing>



12) When changing the installation destination drive and directory, choose the new drive and directory and click [OK].
When not changing the installation destination directory, the directory selection dialog box does not appear.

<For other than SNETP> <For SNETP>

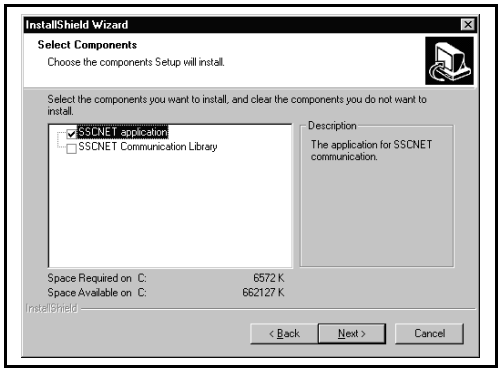


13) For SNETP, choose the setup method.
Check the setup method and click [Next >].

- "Typical" indicates that only the communication software necessary to use SW3RN-GSV[ ][ ]P/DOSCP/LADDERP is installed.
- "Custom" indicates that you can choose the software to be installed.
  Choose Custom when designing the user application using the SSCNET communication API.

For Typical

For custom

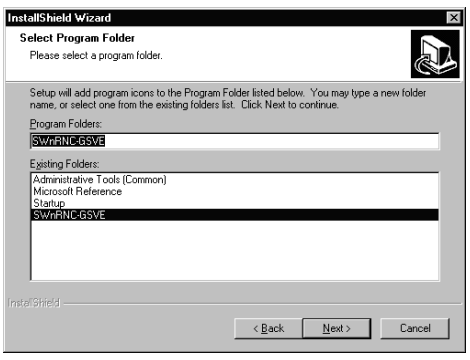


14) When you selected "Custom" as the setup method, choose the components to be installed.

- When using the SSCNET communication API to design the user application and make communication
  Place "☑" in the "SSCNET communication library" checkbox and click [Next >].

To next page

From preceding page

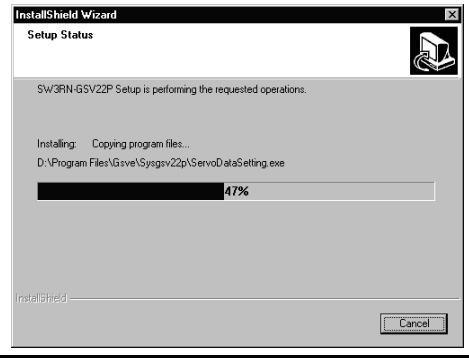


15) Type the program folder name to be registered to the start menu.
The default program folder names to be registered are as follows.
- SWnRNC-GSV

When not changing, click [Next >].
When changing, type a new program folder name and click [Next >].

16) The dialog box shown on the left appears if the SSCNET communication driver or SNETP is not installed or SW6RN-SNETP Version 00B or later coexists with SW3RN-SNETP Ver. 00N or earlier. The SSCNET communication driver must be set up. After termination of the setup, set the SSCNET driver.
In any of the following cases, the dialog box shown on the left does not appear. You need not set up the SSCNET communication driver.
- SW3RN-SNETP Ver. 00P or later is already installed
- The SSCNET communication driver is already installed
- In the setup method given in step 14), "Custom" is selected and "SSCNET application" is not selected
  (Since the SSCNET communication driver is not installed, setting is also unnecessary.)

*: This dialog box don't appear in Windows 2000.



17) Installation starts.

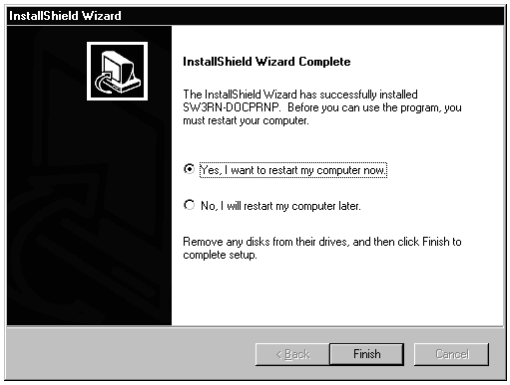
18) When SNETP is installed after the selection of "Standard" or "SSCNET application" in "Custom", the installation of the SSCNET communication driver starts.

To next page

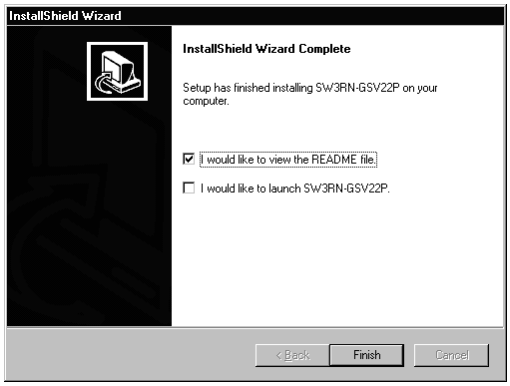
From preceding page

18) When you installed GSV13P, GSV22P, GSV43P, GSV51P or DOSCP, the left dialog box appears. Click [OK].

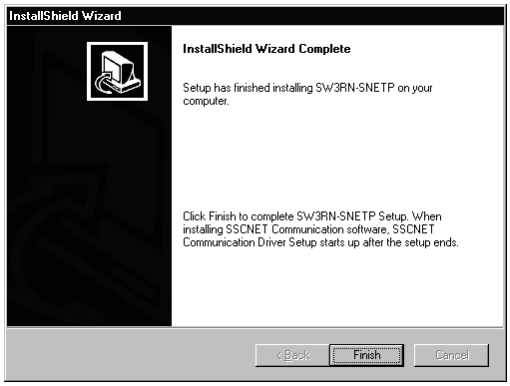
<Screen 1>



<Screen 2>



<Screen 3>



18) The left screen appears on completion of installation.
The screen displayed changes with the software installed and their order of installation.

<For screen 1>

When using the software after completion of installation, you need to restart Windows NT/98/2000.
Check "Yes, I want to restart my computer now." and click [Finish] to finish installation and restart Windows NT/98/2000.
Check "No, I will restart my computer later." and click [Finish] to finish installation without restarting Windows NT/98/2000.

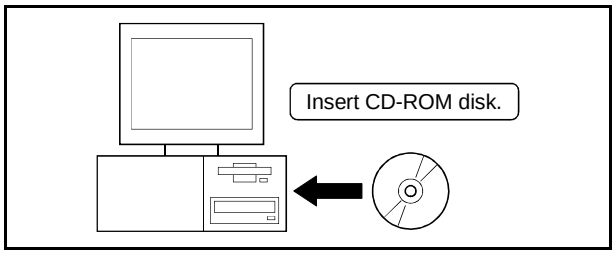
<For screen 2>

Check "I would like to view the README file." and click [Finish] to display the REDME.TXT file and finish installation.
Check "I would like to launch SW3RN-GSV22P." and click [Finish] to finish installation and start CAMP.
*The "I would like to launch SW3RN-GSV22P." message changes with the software installed.

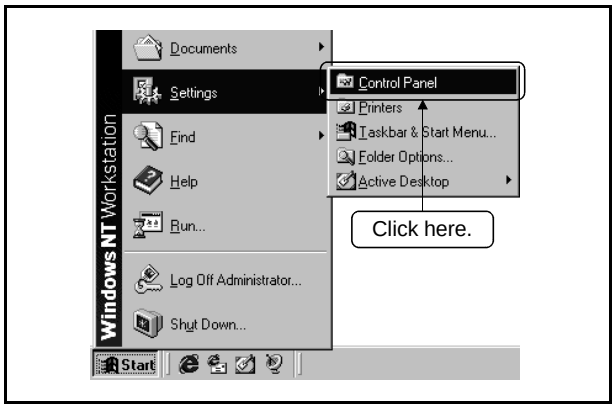
<For screen 3>

This screen appears on completion of SNETP installation.
Click [Finish] to finish installation.
To make SSCNET communication in Windows NT/98, you need to perform SSCNET communication driver setup and communication setting using GSV[ ][ ]P (Section 4.6).
For details, refer to Chapter 4.

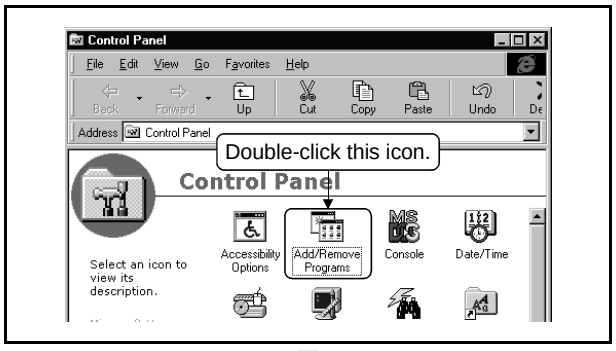
(2) Installing LADDERP



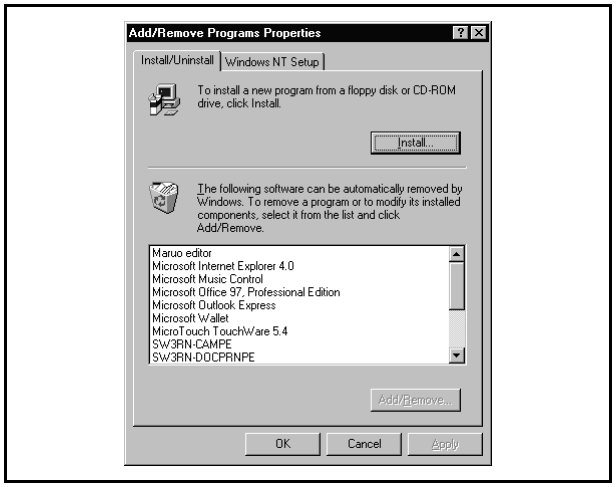
1) Power on the personal computer and start Windows NT/98/2000.
Insert the CD-ROM disc into the CD-ROM drive.



2) Click [Start] on the taskbar and move the cursor to [Settings].
Click [Control Panel].



3) The Control Panel window appears.
Double-click "Add/Remove Programs" from Control Panel.



4) The "Add/Remove Programs Properties" screen appears.
Click [Install...].

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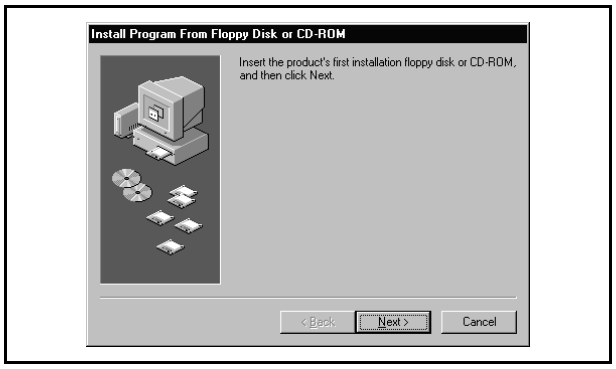
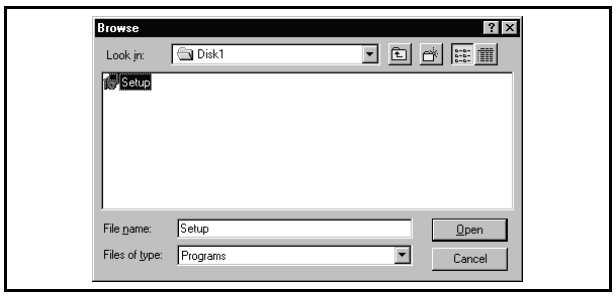
From preceding page

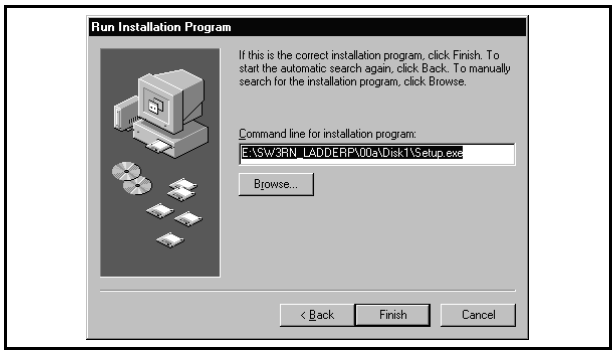


5) The "Install Program From Floppy Disk or CD-ROM" screen appears.
Click [Next >].

6) The "Run Installation Program" screen appears.
Click [Browse...].



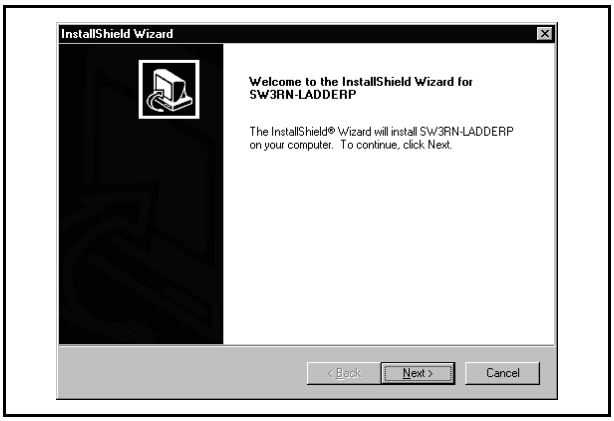
7) The "Browse" screen appears.
Choose "Setup.exe" of the "Disk1" folder within the folder of the CD-ROM software to be installed.
Click [Open].



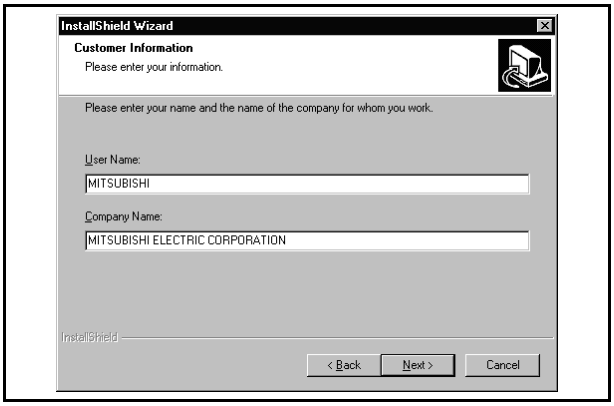
8) The "Run Installation Program" screen appears.
Click [Finish].

To next page

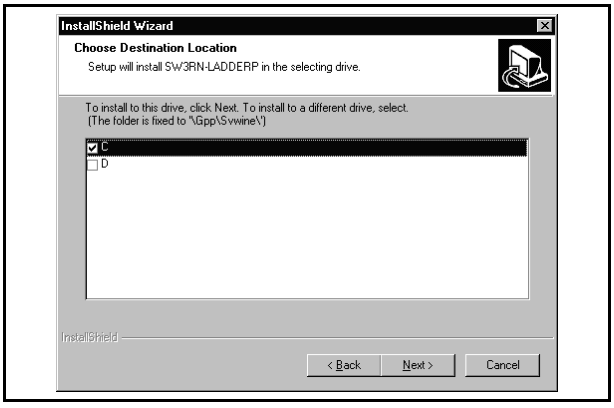
From preceding page



9) The left screen will soon appear. Click [Next >].



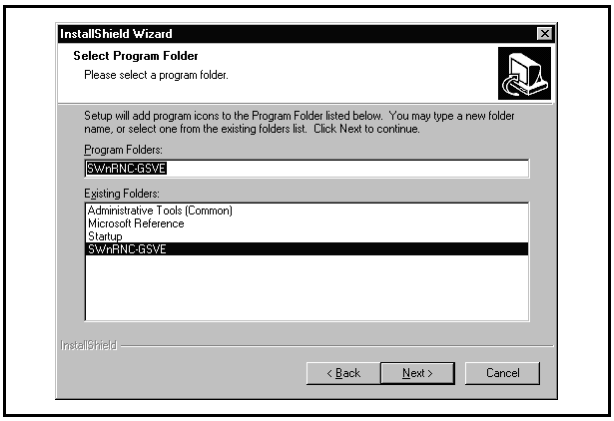
10) Type user name and company name, and click [Next >].



11) Choose the installation destination drive and click [Next >].
The installation destination directory is fixed to "\Gpp\Svwine\".

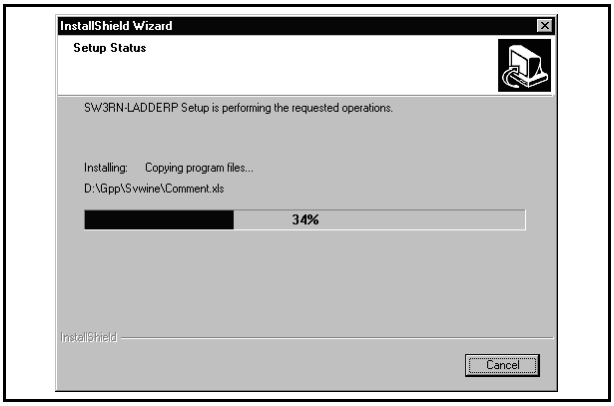
To next page

From preceding page

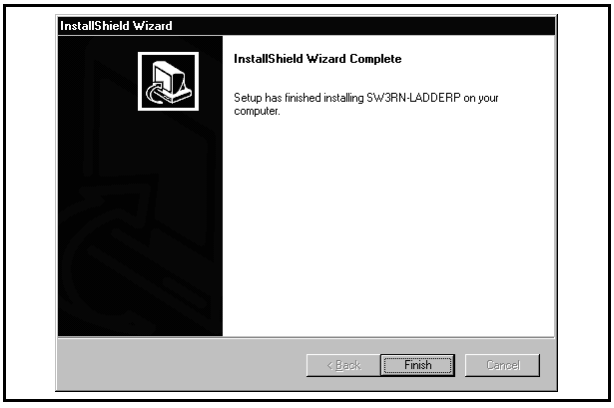


12) Type the program folder name to be registered to the start menu.
The default program folder name to be registered is as follows.
- SWnRNC-GSV

When not changing, click [Next >].
When changing, type a new program folder name and click [Next >].



13) LADDERP installation starts.

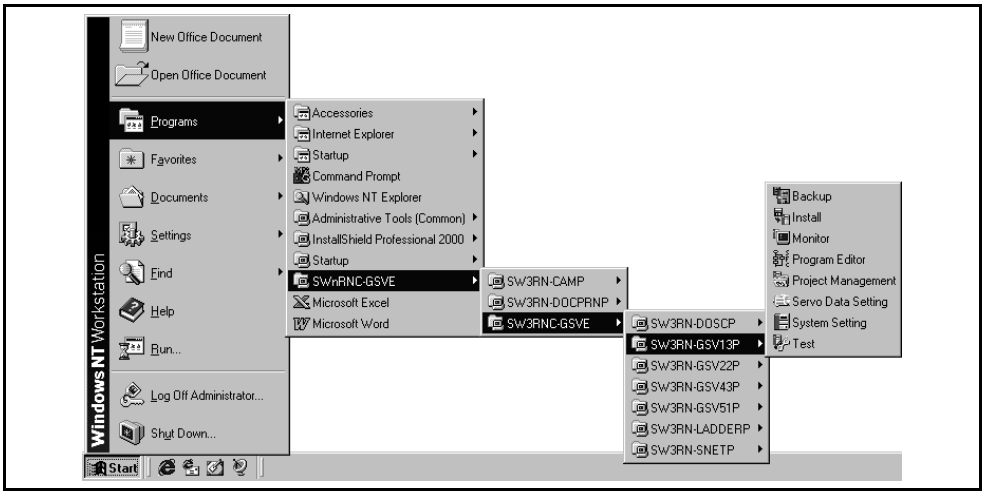


14) The left dialog box appears on completion of installation.
Click [Finish] to finish installation.

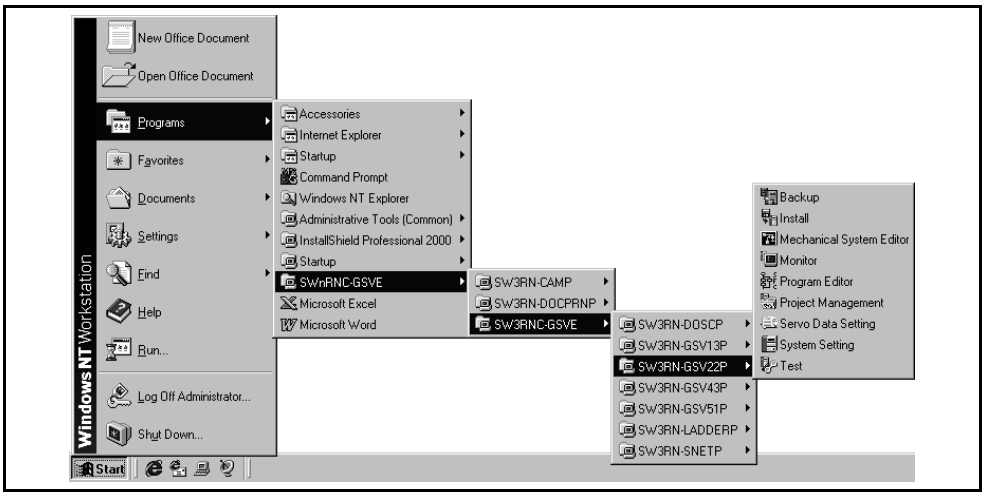
3.2 Registered Icons

Installing GSV13P, GSV22P, GSV43P, GSV51P, CAMP, LADDERP, DOSCP, SNETP and/or DOCPRNP registers the icons as shown below.

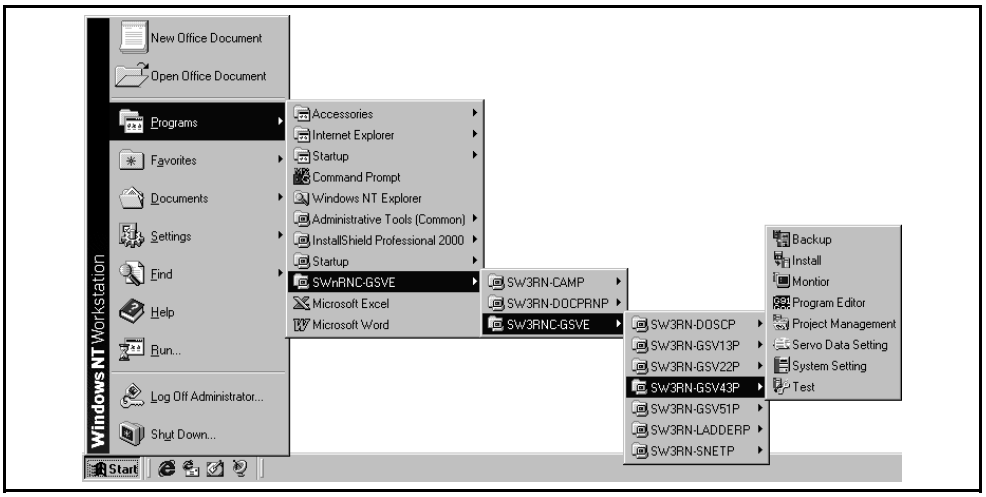
(1) GSV13P



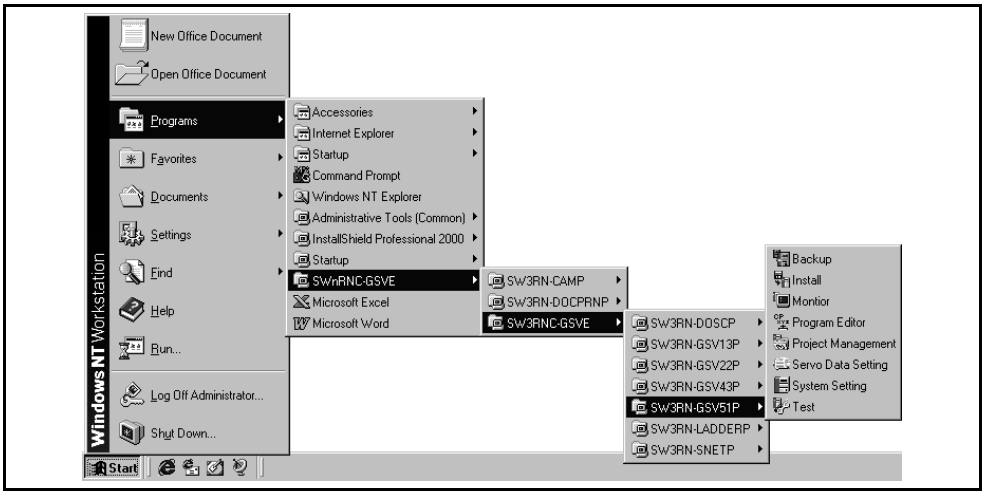
(2) GSV22P



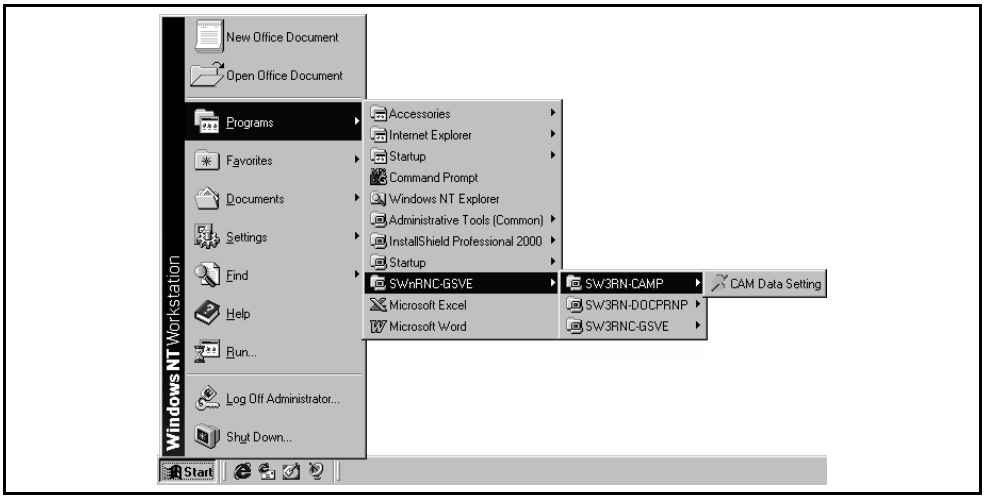
(3) GSV43P



(4) GSV51P



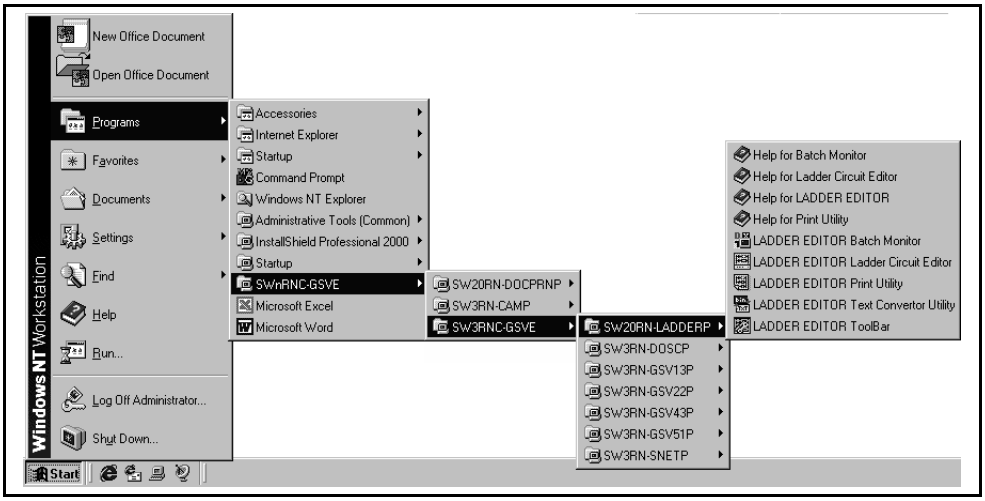
(5) CAMP



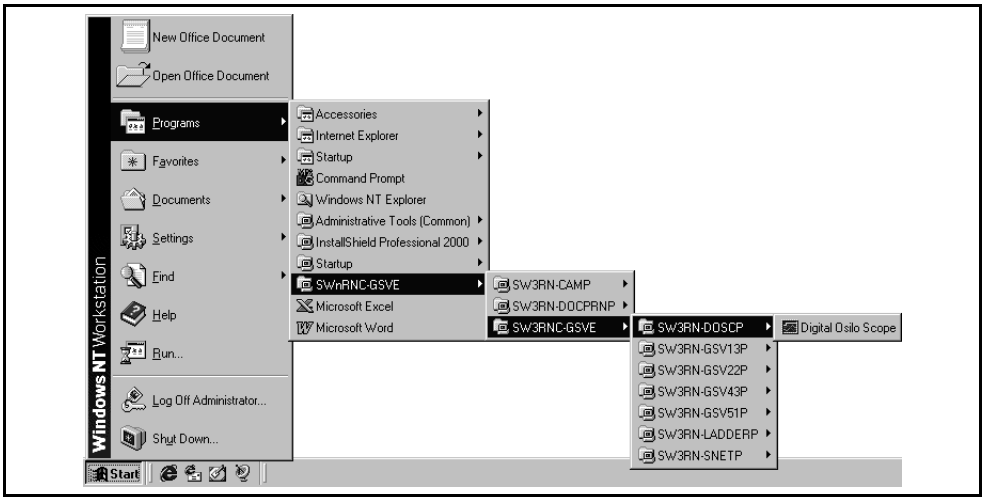
(6) LADDERP

(a) SW3RN-LADDERP

(b) SW20RN-LADDERP

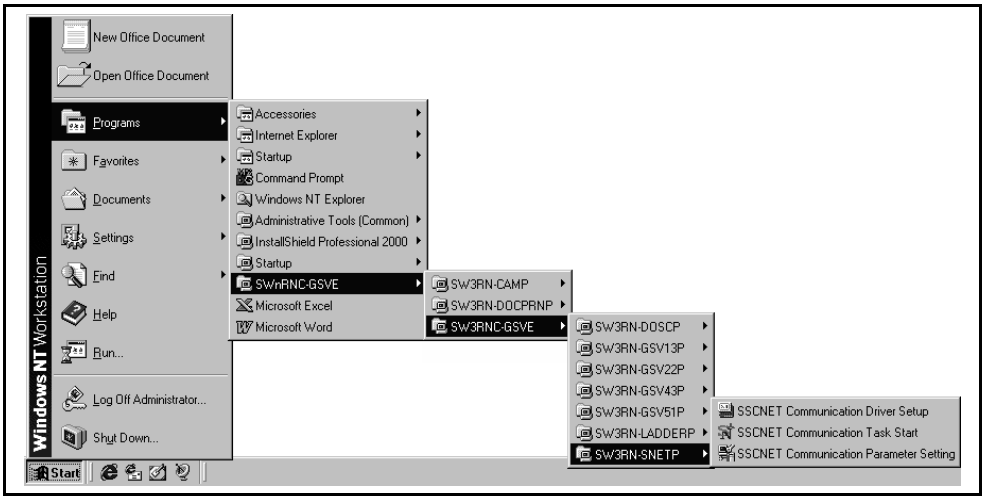


(7) DOSCP

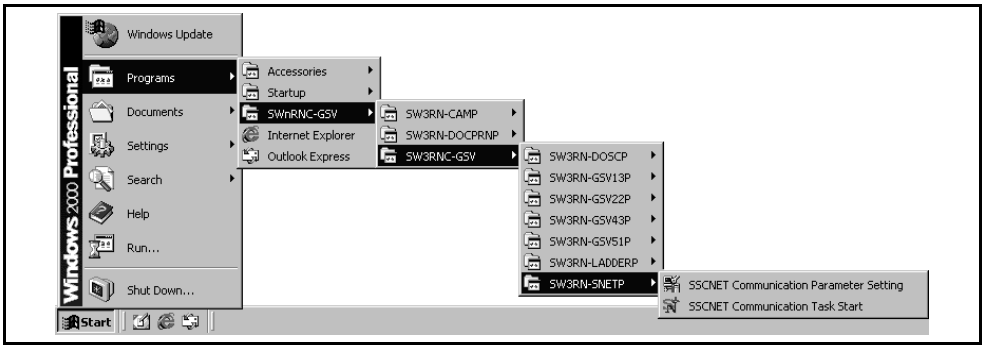


(8) SNETP

(a) When SNETP is installed in the environment of Windows NT/98

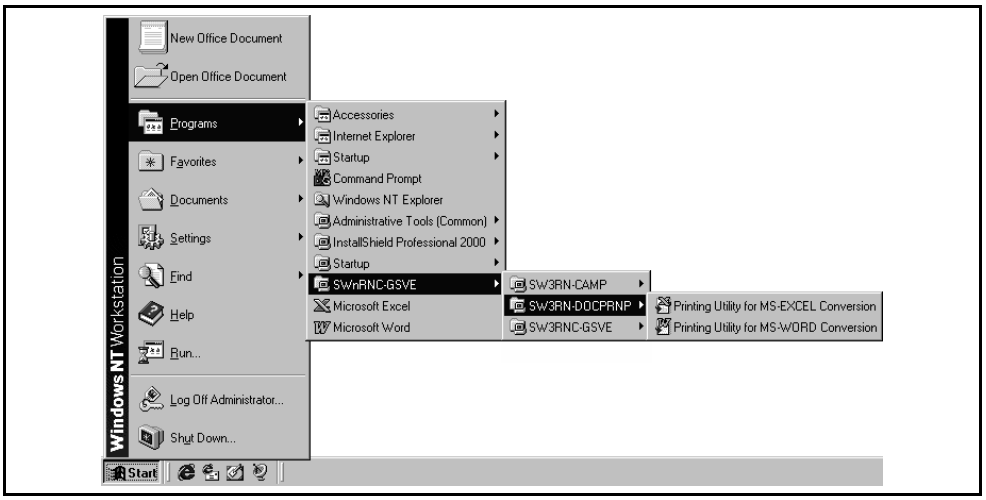


(b) When SNETP is installed in the environment of Windows 2000

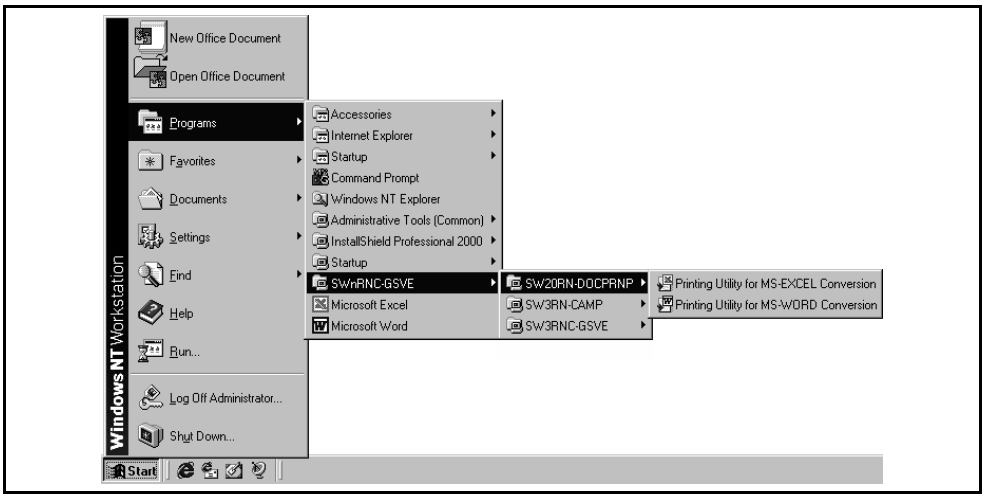


(9) DOCPRNP

(a) SW3RN-DOCPRNP

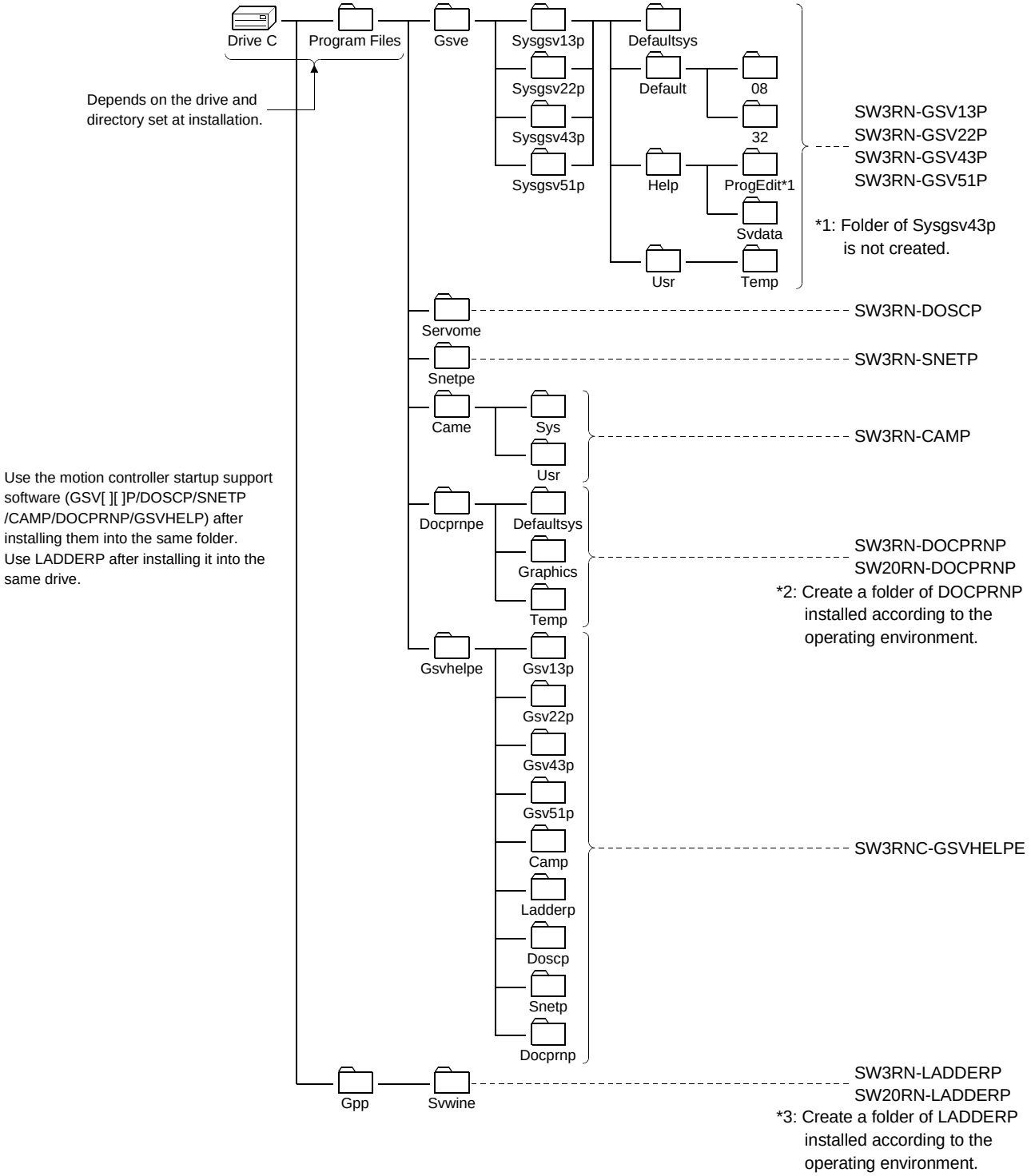


(b) SW20RN-DOCPRNP



3.3 Created System Directories

Installing GSV13P, GSV22P, GSV43P, GSV51P, SNETP, DOSCP, CAMP, DOCPRNP, LADDERP and/or GSVHELP creates the directories as shown below.



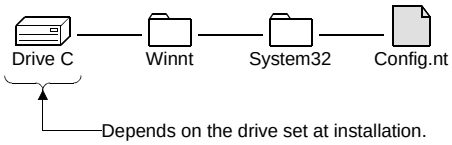
3.4 Operating Instructions

3.4.1 Precautions for Using SW3RN-GSV43P

To use GSV43P, you need to make environment setting in the "Config.nt" or "Config.sys" file.
Before using GSV43P, always set the "Config.nt" or "Config.sys" file for the following data.
If you do not make the setting in the "Config.nt" or "Config.sys" file, GSV43P will not run properly.

(1) For Windows NT/2000

Windows NT/2000 requires the following data in the "Config.nt" file. "Config.nt" is found in the following location.

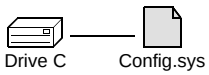


- Config.nt

```
EMM=RAM
dos=high, umb
device=%SystemRoot%\system32\himem.sys
FILES=20
devicehigh=%SystemRoot%\system32\ansi.sys
```

(2) For Windows 98

Windows 98 requires the following data in the "Config.sys" file. "Config.sys" is found in the following location.

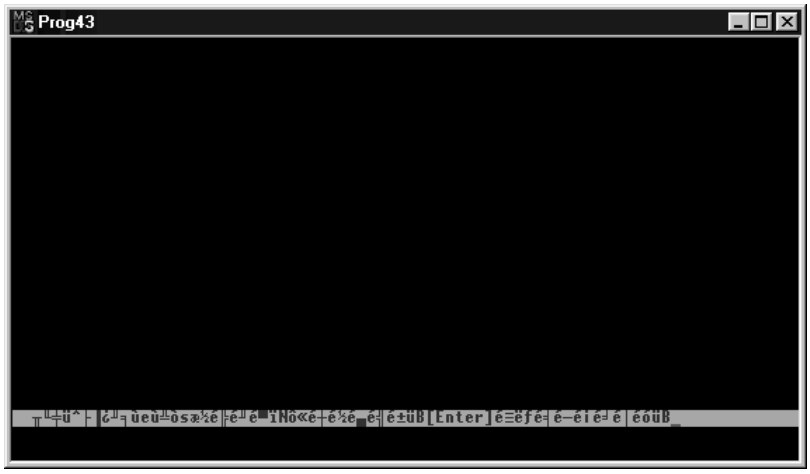


- Config.sys

```
DOS=HIGH,UMB
device=c:\windows\himem.sys
device=c:\windows\EMM386.EXE RAM
devicehigh=c:\windows\command\ansi.sys
```

REMARKS

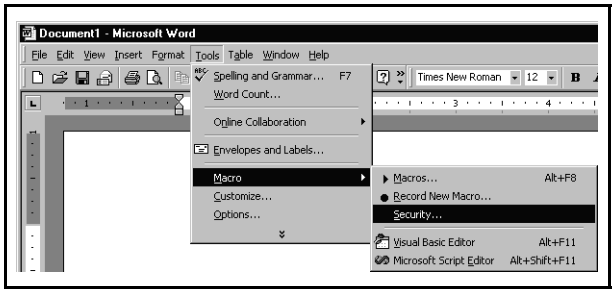
When Windows 98 is used, there are some personal computer models where the EMS driver will not be installed properly.
If the EMS driver is not installed properly, starting program edit will display the following screen and edit will not start.
In that case, add an option to the EMS driver of Config.sys to enable edit to start.
Describe an M[ ] option after the EMS driver and reboot the personal computer.
(In [ ], set any numeral between 1 and 14.)
(Example) device=c:\windows\EMM386.EXE RAM M5



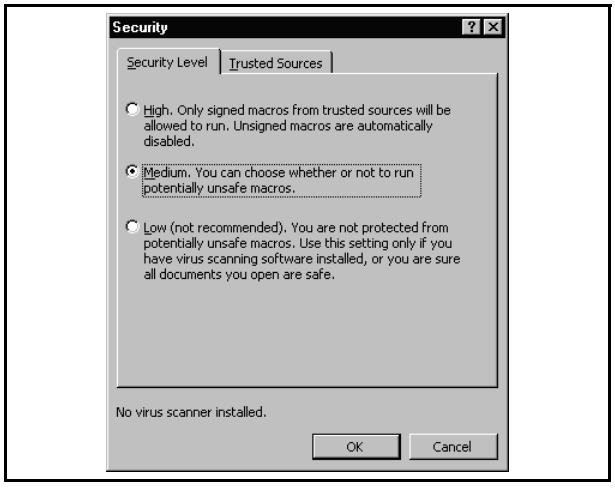
3.4.2 Precautions for Using SW20RN-DOCPRNP

(1) Security levels of Word and Excel

To use SW20RN-DOCPRNP, the security level must be set on Word or Excel. If the security level setting is "High", you cannot use SW20RN-DOCPRNP. Before using SW20RN-DOCPRNP, set the security level of Word or Excel to other than "High."



1) Start Word or Excel.
Click [Tools] on the menu bar.
The drop-down menu appears.
Choose and click [Macro]-[Security] in the drop-down menu.

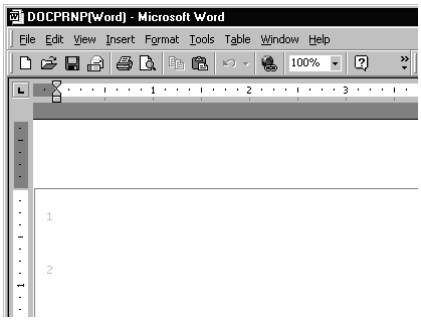


2) The "Security" dialog box appears.
Select "Medium" and click [OK].
Close Word or Excel to terminate the setting.

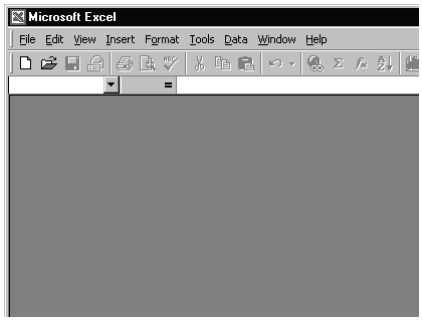
POINT

If the Word or Excel security level setting is "High" at start of SW20RN-DOCPRNP, SW20RN-DOCPRNP will not start properly as described below and cannot be used.
In such a case, change the Word or Excel security level setting to other than "High" and restart SW20RN-DOCPRNP.
Refer to Section 3.4.2 for the way to change the security level.

Word screen



Excel screen



(2) Antivirus software

It has been reported that when the "Norton AntiVirus 2000" antivirus software of Symantec Corporation has been installed in the personal computer, specifying Office 2000 as a control feature from an external program will run the micro virus check software, one of the "Norton AntiVirus 2000" functions, making Office 2000 uncontrollable from other programs.
Hence, when "Norton AntiVirus 2000" has been installed, SW20RN-DOCPRNP that controls Office 2000 externally cannot be booted.
The following are the corrective actions for the above problem.

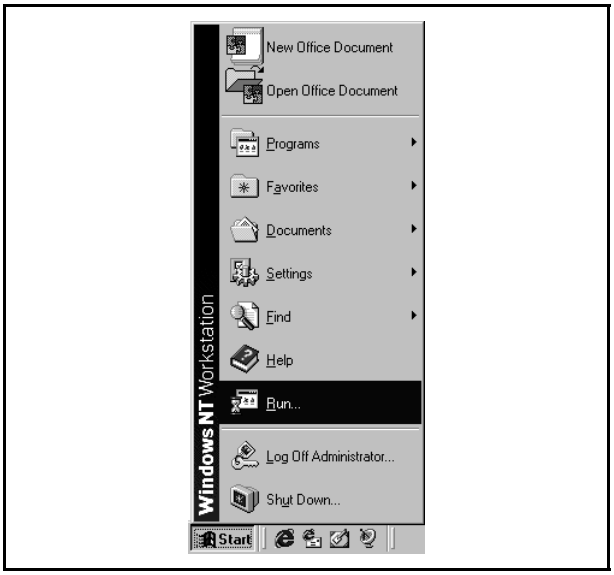
(a) When it is not necessary to make virus checks
Uninstall "Norton AntiVirus 2000".

(b) When it is necessary to make virus checks
Remove only the micro virus check software of "Norton AntiVirus 2000".
In this case, the other virus checks are performed.

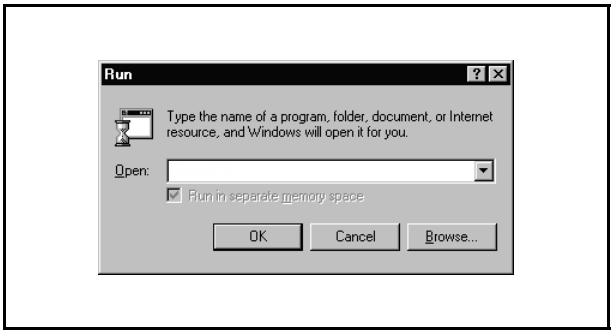
For more information on the micro virus check software problems of "Norton AntiVirus 2000", refer to the home page of Microsoft Corporation or Symantec Corporation.

- Microsoft Corporation
  http://support.microsoft.com/support/kb/articles/Q246/0/18.ASP?LN=EN-US&SD=gn&FR=0&qry=q246018&rnk=1&src=DHCS_MSPSS_gnSRCH&SPR=WRD20
- Symantec Corporation
  http://service1.symantec.com/SUPPORT/nav.nsf/df0a595864594c86852567ac0063608c/8cabdef3ea6d2861882567fd006ea11d?OpenDocument

- How to remove only micro virus check software from "Norton AntiVirus 2000"



1) Click [Start].
Choose and click [Run...].



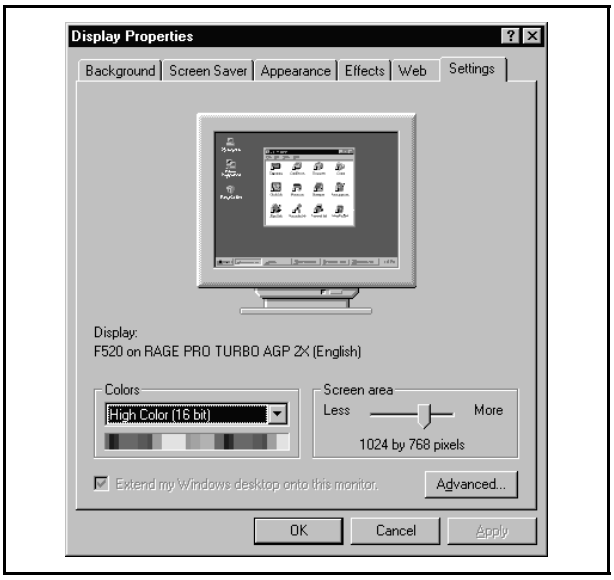
2) The Run dialog box appears.
Enter the name as indicated below and click [OK].
- For Windows 98
[C:Windows\System\regsvr32␣/U␣"C:\Program␣Files\Norton␣AntiVirus\OfficeAV.dll"]
- For Windows NT/2000
[regsvr32␣/U␣C:\Program␣Files\Norton␣AntiVirus\OfficeAV.dll]
*In the underlined area, specify the path where Norton AntiVirus 2000 has been installed.

3) When the command succeeds, the "DllUnregisterServer in C:\Program Files\Norton AntiVirus\OfficeAV.dll succeeded" message appears and the micro virus check software is removed.
If it has failed, check the path and execute the command again.

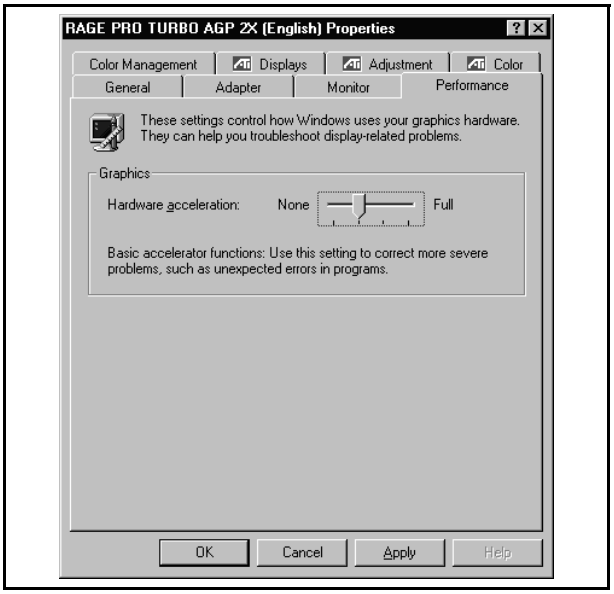
3.4.3 Precautions for operation under Windows 98

When the GSV application is used under Windows 98, the following phenomena may occur.
Follow the description for the countermeasure.

(1) The color inside the GSV application window is not displayed correctly.
The color inside the GSV application window may not be displayed correctly with the maximum setting of the graphics hardware accelerator.
In this case, change the graphics accelerator setting to a basic setting.



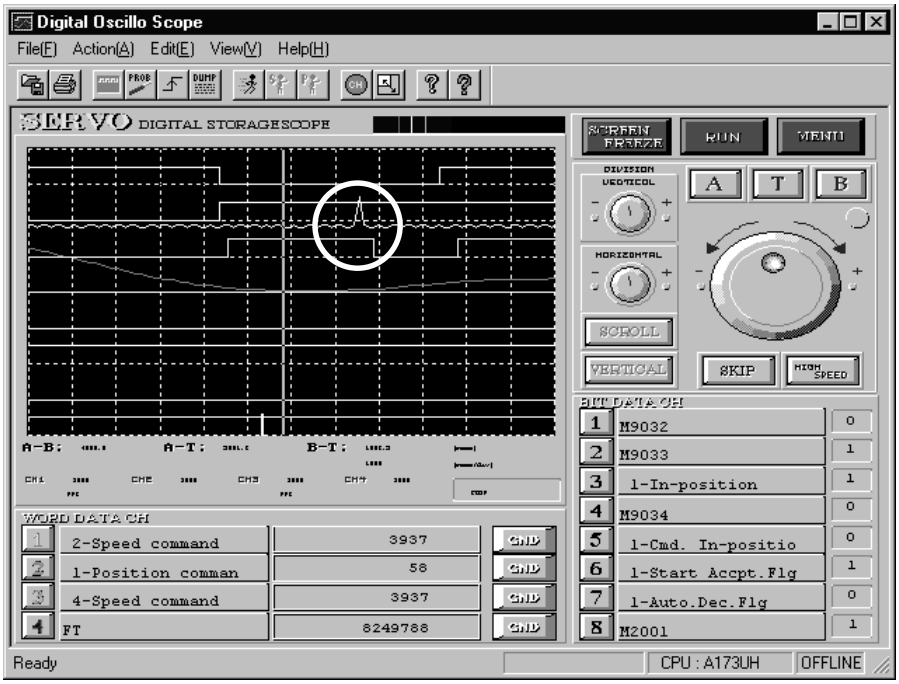
1) Double click on "Display" in the Control Panel.
The "Display Properties" window is displayed.
Select the "Settings" tab and click on [Advanced...].



2) Select the "Performance" tab and change the "graphics hardware acceleration" setting to a basic one and click on [OK].
Close "Display Properties" and reset the PC.
* If necessary, recover the original setting of the graphics hardware acceleration.

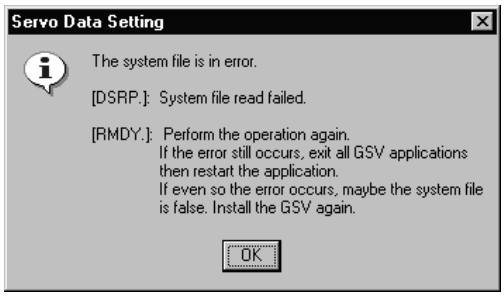
(2) During data sampling on the digital oscilloscope (DOSCP) screen, a sampling failure may occur.
If one of the following operation is performed during sampling, a sampling failure may occur. (Accordingly there is disorder in the displayed waveform. In the figure below, a spike is displayed in the speed command.)
- Another application is started.
- The function screen of GSV[ ][ ]P is started.
- Programs or parameters are uploaded or downloaded with GSV[ ][ ]P.

If there is a failure in the sampling data even when the above operation is not performed, terminate the other applications.



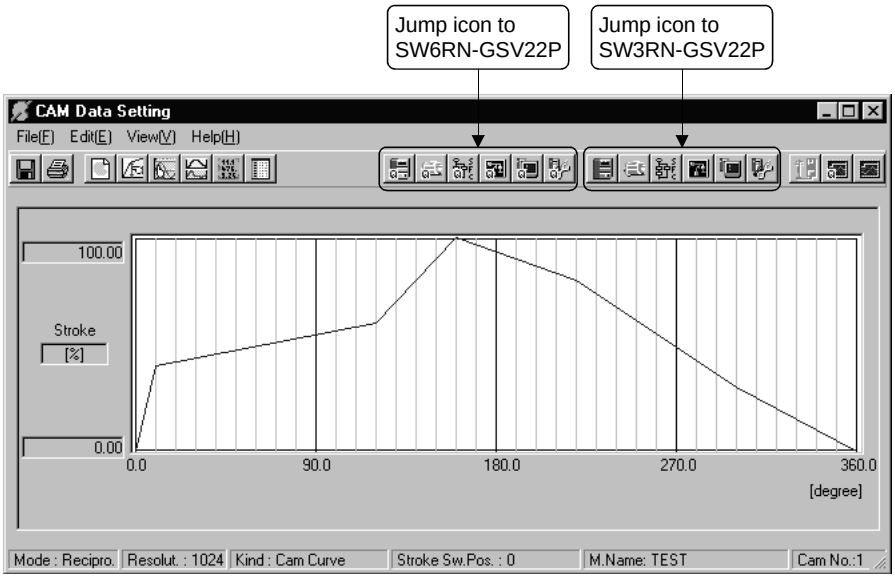
3.4.4 Simultaneous execution of SW3RN-GSV[ ][ ]P and SW6RN-GSV[ ][ ]P

SW3RN-GSV[ ][ ]P and SW6RN-GSV[ ][ ]P cannot be used simultaneously.
If the operation described below is attempted, the following error message is displayed in response to the GSV[ ][ ]P started later and startup fails.



[Operation]

- Starting SW3RN-GSV[ ][ ]P and SW6RN-GSV[ ][ ]P simultaneously from menu
- CAMP (Cam Data Setting) for executing both JUMP icons to SW3RN-GSV[ ][ ]P and SW6RN-GSV[ ][ ]P

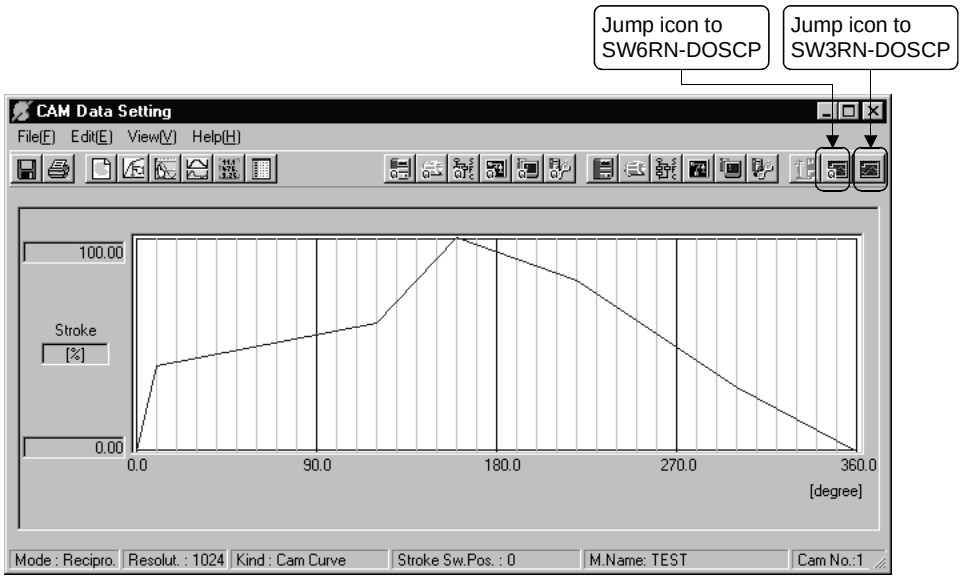


Do not perform above operations.
SW3RN-GSV[ ][ ]P and SW6RN-GSV[ ][ ]P cannot be executed simultaneously.
Start either application only.

3.4.5 Simultaneous execution of SW3RN-DOSCP and SW6RN-DOSCP

You cannot use SW3RN-DOSCP and SW6RN-DOSCP together.
If the following operation is performed, DOSCP booted later is not started and is ignored.

[Operation]
- Starting SW3RN-DOSCP and SW6RN-DOSCP simultaneously from menu
- CAMP (Cam Data Setting) for executing both JUMP icons to SW3RN-GSV[ ][ ]P and SW6RN-GSV[ ][ ]P



Do not perform above operations.
SW3RN-DOSCP and SW6RN-DOSCP cannot be executed simultaneously.
Start either application only.

3.4.6 Precautions for using SNETP

(1) SW3RN-SNETP or SW6RN-SNETP (Ver. 00A) is in use
(SW6RN-GSV[ ][ ]P (Ver. 00A) is in use)
In any of the following cases, corresponding SNETP may result in a communication error, disabling normal communication.

- SNETP of an early version is used to perform a communication method that is not supported.
- Two or more copies of SNETP of different versions are installed.
- Both SW3RN-SNETP and SW6RN-SNETP are installed.
- Windows NT Windows 98 and Windows 2000 are installed in a single PC and SNETP of different versions is installed in each drive.
- Windows NT Windows 98 and Windows 2000 are installed in a single PC and SW3RN-SNETP and SW6RN-SNETP are installed in each drive.

Only one version of corresponding SNETP may be installed into one personal computer.
Install only one copy of SNETP of the best version according to the desired communications means (SSCNET, USB, 232C).
The communications means supported by each version of SNETP is shown in the table 3.1.

Table 3.1 The communications means supported by each version of SNETP

	Version	For A motion SW3RN-GSV[ ][ ]P	For Q motion(Q172/Q173) SW6RN-GSV[ ][ ]P	SW3RN-DOSCP*
SW3RN-SNETP	Ver.00A	Communication can be made over SSCNET.	Q motion is not supported (a communication error is caused).	Can be used. (However, a communication error is caused upon Q172/Q173.)
	Ver.00B		Communication can be made over SSCNET.	Can be used
	Ver.00E or later	Communication can be made over SSCNET or via RS232C.	Communication can be made over SSCNET.	
SW6RN-SNETP	Ver.00A	Communication can be made over SSCNET.	Communication can be made over SSCNET or via RS232C or USB.	

*: SW3RN-DOSCP is only for communication over SSCNET.

IMPORTANT

When updating SW6RN-GSV[ ][ ]P (to Ver. 00B or later), refer to "3.7 Updating Instructions and Procedures" and update one set of SW6RNC-GSVE.
In this case, SW6RN-SNETP is updated (to Ver. 00B or later).
Refer to the instructions in (2) on the next page.

(2) Precautions for use of SW6RN-SNETP Ver. 00B or later

(a) Coexistence of SNETP

SW6RN-SNETP Ver. 00B or later can be installed to coexist with SW3RN-SNETP.

Table 3.2 SNETP Versions That Can Coexist

Software Packages	Compatible Version	Remarks
SW6RN-SNETP	Ver. 00B or later (Ver. 00A cannot coexist)	Dedicated to the Q motion controller. Incompatible with the applications designed for A motion controllers.
SW3RN-SNETP	Any version*1	

*1: For SW3RN-SNETP Ver. 00G or earlier, however, there are precautions for installation/uninstallation. Refer to "Section 3.4.6 (2) (d)".

(b) GSV applications compatible with SW6RN-SNETP Ver. 00B or later

Table 3.3 indicates the GSV applications compatible with SW6RN-SNETP Ver. 00B or later.

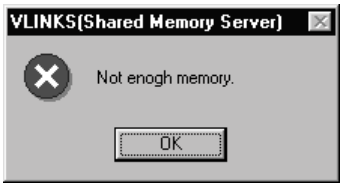
Table 3.3 GSV applications compatible with SW6RN-SNETP Ver. 00B or later

Software Packages	Compatible Version	Remarks
SW6RN-GSV13P	Ver.00B or later	When using any of the packages given on the left, use SW6RN-SNETP Ver. 00B or later.
SW6RN-GSV22P		
SW6RN-DOSCP	Ver.00A or later	

(c) Concurrent execution of SW3RN-SNETP and SW6RN-SNETP

You cannot use SW3RN-SNETP and SW6RN-SNETP together.

1) When those programs are started in order of SW3RN-SNETP and SW6RN-SNETP, SW6RN-SNETP booted is ignored.
2) When the programs are started in order of SW6RN-SNETP and SW3RN-SNETP (Ver. 00H or later), SW3RN-SNETP booted is ignored.
3) When the programs are started in order of SW6RN-SNETP and SW3RN-SNETP (Ver. 00G or earlier), SW3RN-SNETP displays the following message and does not start properly.
   Exit from SW3RN-SNETP.



(d) Precautions for installation, uninstallation and updating when SW6RN-SNETP (Ver. 00B or later) and SW3RN-SNETP (Ver. 00G or earlier) coexist

When SW6RN-SNETP Ver. 00B or later and SW3RN-SNETP Ver. 00G or earlier coexist, note that there are restrictions on installation and uninstallation.

1) When installing SW3RN-SNETP (Ver. 00G or earlier) into the personal computer where SW6RN-SNETP (Ver. 00B or later) has been installed
   - After installing SW3RN-SNETP, always set the driver setup again.
2) When uninstalling SW3RN-SNETP in the personal computer where SW6RN-SNETP (Ver. 00B or later) and SW3RN-SNETP (Ver. 00G or earlier) coexist
   - Uninstall "SW6RN-SNETP", "SW3RN-SNETP" and "SSCNET communication driver" once. After uninstallation, reinstall SW6RN-SNETP and set the driver setup.
3) When updating SW3RN-SNETP to Ver. 00H or later in the personal computer where SW6RN-SNETP (Ver. 00B or later) and SW3RN-SNETP (Ver. 00G or earlier) coexist
   - Refer to Section 3.4.6 (2) (f) 2 1).

(e) Precautions for uninstalling SW6RN-SNETP (Ver. 00B or later) or SW3RN-SNETP (Ver. 00H or later)

Uninstall SW6RN-SNETP Ver. 00B or later or SW3RN-SNETP Ver. 00H or later as described below.

1) When SNETP does not coexist
   a) When uninstalling SW6RN-SNETP (Ver. 00B or later)
      Uninstall "SW6RN-SNETP" and "SSCNET communication driver".
   b) When uninstalling SW3RN-SNETP (Ver. 00H or later)
      Uninstall "SW3RN-SNETP" and "SSCNET communication driver".
2) When SW6RN-SNETP (Ver. 00B or later) and SW3RN-SNETP (Ver. 00H or later) coexist
   a) When uninstalling SW6RN-SNETP (Ver. 00B or later) only
      Uninstall "SW6RN-SNETP" only. (Do not uninstall the "SSCNET communication driver".)
   b) When uninstalling SW3RN-SNETP (Ver. 00H or later) only
      Uninstall "SW3RN-SNETP" only. (Do not uninstall the "SSCNET communication driver".)
   c) When uninstalling both SW6RN-SNETP (Ver. 00B or later) and SW3RN-SNETP (Ver. 00H or later)
      Uninstall "SW6RN-SNETP", "SW3RN-SNETP" and "SSCNET communication driver".

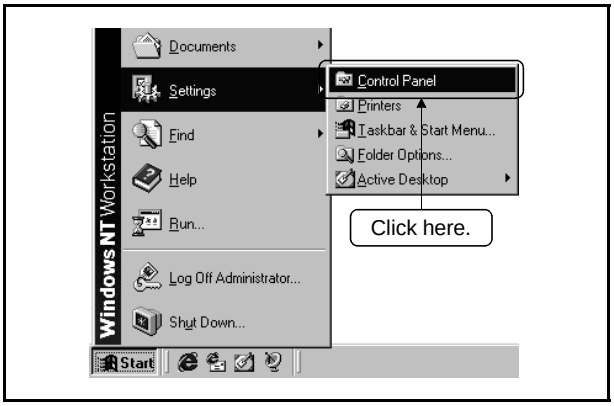
(f) Precautions for updating SNETP

Update SW6RN-SNETP to Ver. 00B or later or SW3RN-SNETP to Ver. 00H or later as described below.

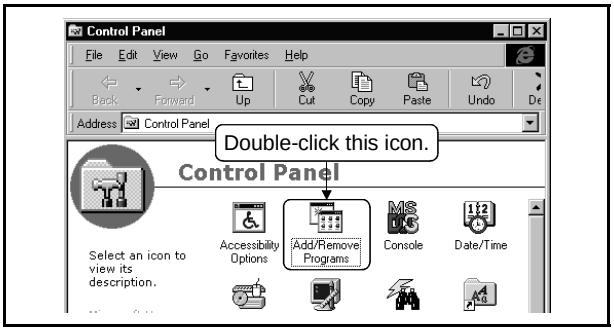
1) When updating SW6RN-SNETP (Ver. 00A) to Ver. 00B or later
   After uninstalling "SW6RN-SNETP", install new SW6RN-SNETP and perform a driver setup.
2) When updating SW3RN-SNETP (Ver. 00G or earlier) to Ver. 00P or later
   a) When SNETP does not coexist
      After uninstalling "SW3RN-SNETP", install new SW3RN-SNETP and perform a driver setup.
   b) When SW3RN-SNETP coexists with SW6RN-SNETP (Ver. 00B)
      After uninstalling "SW3RN-SNETP" and "SSCNET communication driver", install new SW3RN-SNETP and perform a driver setup.
   c) When updating SW6RN-SNETP (Ver. 00B or later)
      After uninstalling "SW6RN-SNETP", install new SW6RN-SNETP.
      A driver setup is not necessary.
   d) When updating SW3RN-SNETP (Ver. 00H or later)
      After uninstalling "SW3RN-SNETP", install new SW3RN-SNETP.
      A driver setup is not necessary.

3.5 Uninstallation

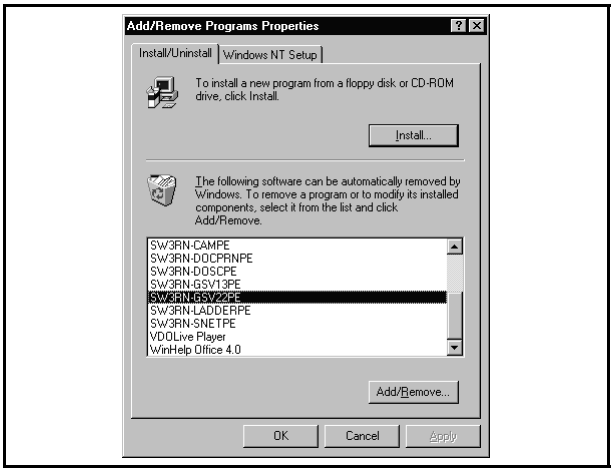
This section gives the way to delete GSV13P, GSV22P, GSV43P, GSV51P, CAMP, LADDERP, DOSCP, SNETP and/or DOCPRNP from the hard disk.



1) Click [Start] on the taskbar and move the cursor to [Settings].
   Click [Control Panel].



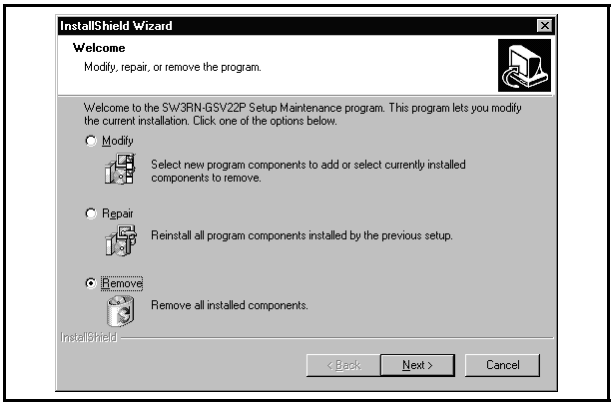
2) The Control Panel window appears.
   Double-click "Add/Remove Programs" from Control Panel.



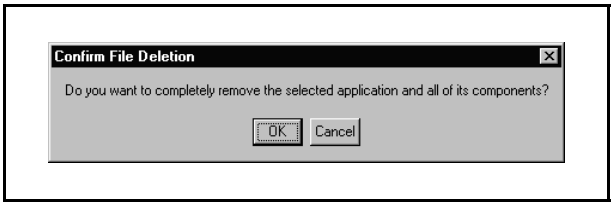
3) The "Add/Remove Programs Properties" screen appears.
   Choose the software to be deleted and click [Add/Remove...].

To next page

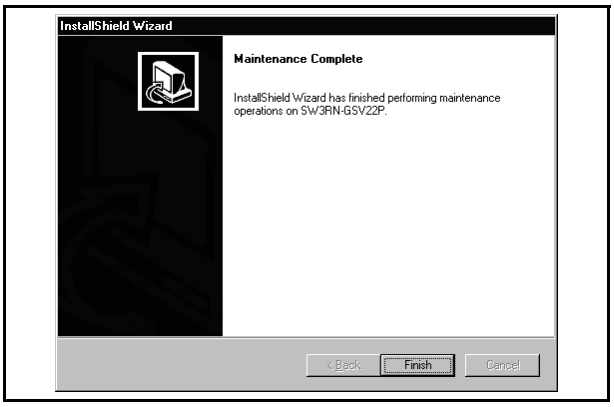
From preceding page



4) The "InstallShield Wizard" screen appears.
Choose the "Remove" and click [OK].



5) Check that the selected application files will be deleted.
Click [OK] to uninstall.
Uninstallation starts.
Click [Cancel] when not uninstalling.
This returns the display to the previous screen.



6) This completes uninstallation.
Click [Finish] to finish the addition and removal of applications.

3.6 Operating Manual SW3RNC-GSVHELPE

After installing the SW3RNC-GSVHELPE Operating Manuals, you can browse them by performing the following operation.

(1) You can browse any of the operating manuals from the "Help" menu of the corresponding software package.

(2) Each operating manual is a file in the Windows help format (extension is HLP). Any operating manual can be browsed by directly double-clicking the corresponding file from Explorer or like.
(Refer to Section 3.3 for the folder where SW3RNC-GSVHELPE has been installed.)

3.7 Updating Instructions and Procedures

This section describes the instructions and operating procedures for updating SW3RNC-GSVE to Ver. 00H.

The versions of the SW3RNC-GSVE Ver. 00H packages are indicated in Table 3.4.

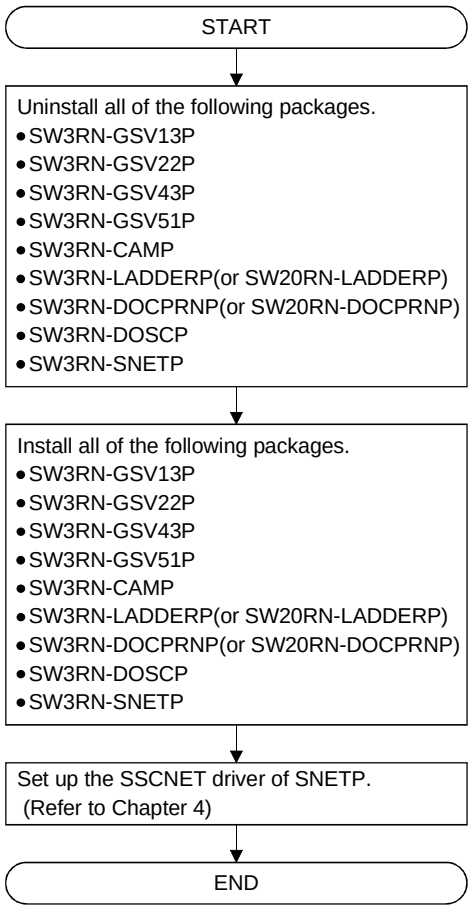
Table 3.4 Package Definitions of SW3RNC-GSVE Ver. 00H

Type	Version	Product Name
SW3RN-GSV13P	00E	Transfer/assembly software
SW3RN-GSV22P	00E	Automatic machine software
SW3RN-GSV43P	00D	Machine tool peripheral software
SW3RN-GSV51P	00B	Special-purpose robot software
SW3RN-CAMP	00E	Cam data creation software
SW3RN-LADDERP	00F	Ladder editing software (For Office 97)
SW20RN-LADDERP	00B	Ladder editing software (For Office 2000)
SW3RN-DOCPRNP	00H	Document printing software (For Office 97)
SW20RN-DOCPRNP	00D	Document printing software (For Office 2000)
SW3RN-DOSCP	00E	Digital oscilloscope software
SW3RN-SNETP	00J	SSCNET communication system software

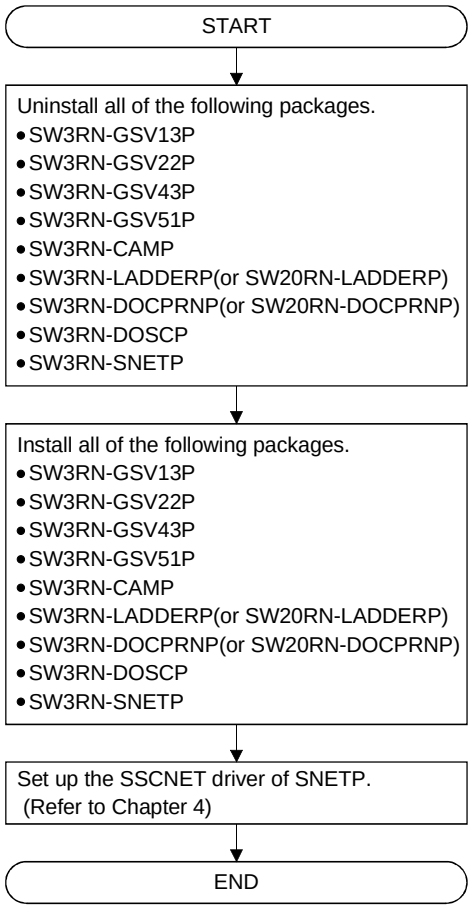
When updating, update one set of the above packages.

(1) Updating performed when only SW3RNC-GSVE has been installed

- When performing updating in the personal computer where the SW3RNC-GSVE Ver. 00F or earlier (the one in Table 3.4 or earlier) version has been installed.



(2) Updating performed when SW6RN-GSV and SW3RN-GSV coexist



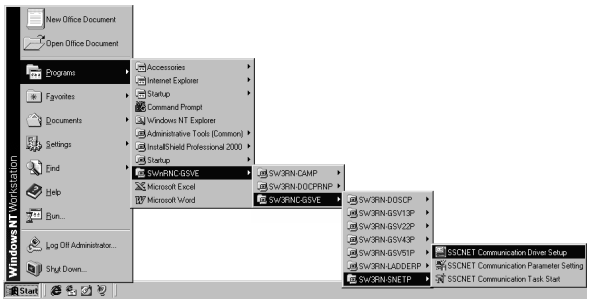
POINT

(1) For the installation/uninstallation operation associated with updating, refer to "3.1 Installation" and "3.5 Uninstallation".

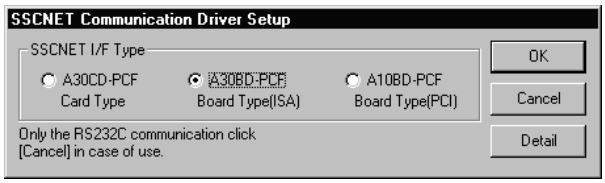
4. SSCNET COMMUNICATION DRIVERS

4.1 SSCNET Communication Driver Setup Procedure

To make SSCNET communication in Windows NT/98, you need to perform SSCNET communication driver setup.
Perform the setup work of the SSCNET communication drivers in the [SSCNET Communication Driver Setup] window of SNETP.



1) Choose and click [Programs]-[SWnRNC-GSVE]-[SW3RNC-GSVE]-[SW3RN-SNETP]-[SSCNET Communication Driver Setup] in the Start menu. The following Communication Driver Setup window appears.



Choose "A30CD-PCF Card Type" when using the A30CD-PCF interface card, or choose "A30BD-PCF Board Type" when using the A30BD-PCF interface board, or choose "A10BD-PCF Board Type" when using the A10BD-PCF interface board.
Hereafter, the A30CD-PCF interface card is represented as the "interface card" and the A30BD-PCF interface board and the A10BD-PCF interface board as the "interface board".

POINT

(1) You need not set the driver when you do not fit the interface card or interface board to the personal computer as described below.
Always click [Cancel] in the "SSCNET Communication Driver Setup" window.
- When only RS232C communication is used
- When SSCNET communication is not used
(When only the offline function for program edit, etc. is used)
- When there is no interface card or interface board

(2) In either of the following cases, an SSCNET communication driver setup is not performed because of compatibility with the plug and play function.
- When the A30CD-PCF interface card and the A10CD-PCF interface board is used in the Windows 2000 environment.

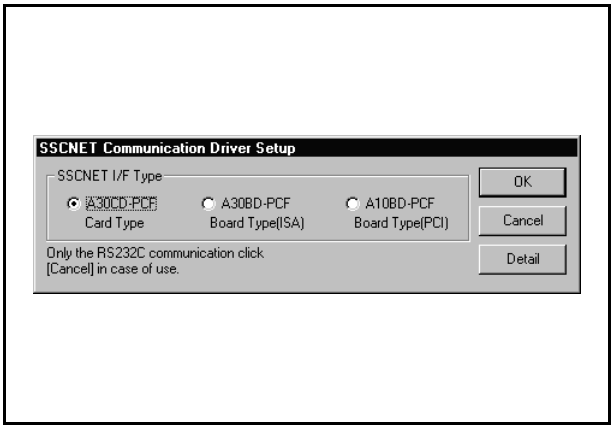
(3) The interface boards and interface cards can be used in the following environment.

	Windows 98	Windows NT	Windows 2000
A30BD-PCF interface board	○	○	×
A10BD-PCF interface board	○	○	○
A30CD-PCF interface board	○	○	○

Usable: ○
Unusable: ×

4.1.1 When using the A30CD-PCF interface card

This section provides the SSCNET communication driver setup procedure for use of the interface card.



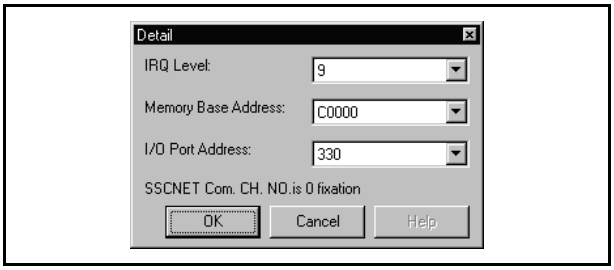
1) The SSCNET Communication Driver Setup window appears.
*You need not make the setting when you use RS232C communication or do not use SSCNET communication.
Click [Cancel] to exit from SSCNET Communication Driver Setup.

<For Windows NT>
Choose "A30CD-PCF Card Type" and click [Detail].

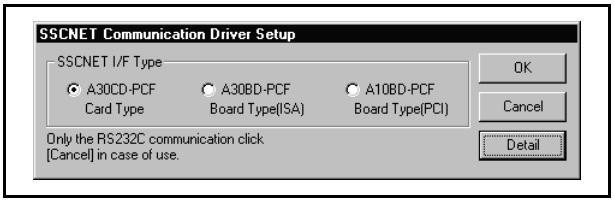
<For Windows 98>
Choose "A30CD-PCF Card Type" and click [OK].
*Detail setting is not necessary for Windows 98.

For Windows NT

For Windows 98
To 4)



2) Check and set the free areas of IRQ Level, Memory Base Address and I/O Port Address.
Click [OK].
*For the way to check the free areas, refer to "4.2 How to Check the System Resources".



3) Click [OK].

To next page

From preceding page

4) The left dialog box appears.
<For Windows NT>

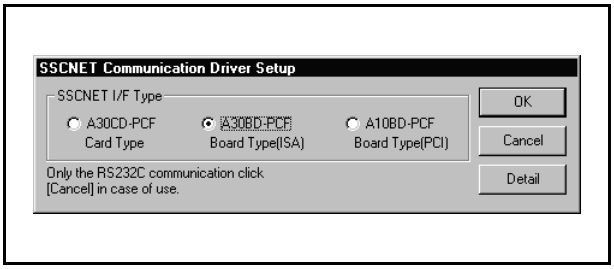
- When the interface card is already loaded
  Click [Yes].
  The personal computer is restarted.
- When the interface card is not yet loaded
  Click [No].
  Choose "Shut Down" in the Start menu to power off the personal computer.
  After making sure that the power is off, load the interface card into the personal computer.

<For Windows 98>
Click [Yes].
The personal computer is restarted.
After Windows 98 has restarted, load the interface card into the personal computer.
IRQ Level, Memory Base Address and I/O Port Address are automatically set by the plug and play function of Windows 98.

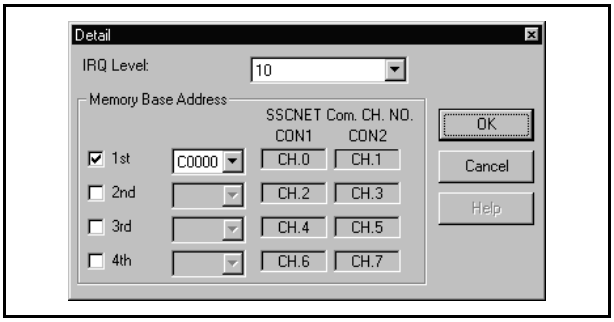
5) After Windows NT/98 has restarted, choosing and clicking [Programs]-[SWnRNC-GSVE]-[SW3RNC-GSVE]-[SW3RN-SNETP]-[Start SSCNET Task] in the Start menu makes SSCNET communication ready to start.

4.1.2 When using the A30BD-PCF interface board

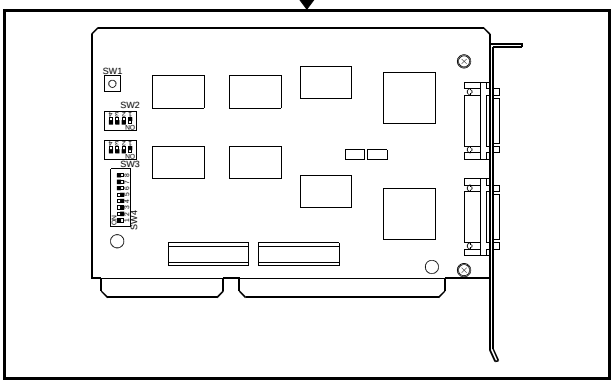
This section provides the SSCNET communication driver setup procedure for use of the interface board.



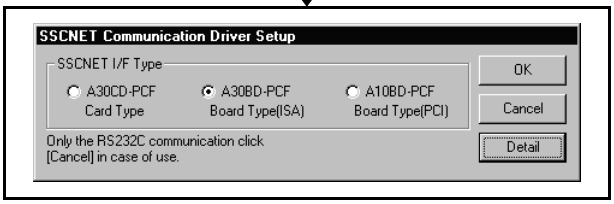
1) The SSCNET Communication Driver Setup window appears.
Choose "A30BD-PCF Board Type" and click [Detail].
*You need not make the setting when you use RS232C communication or do not use SSCNET communication.
Click [Cancel] to exit from SSCNET Communication Driver Setup.



2) Check and set the free areas of IRQ Level and Memory Base Address.
Click [OK].
*For the way to check the free areas, refer to "4.2 How to Check the System Resources".



3) The data set in the Detail Setting window must be reflected on the switch setting of the interface board.
Refer to "4.3.1 Setting the A30BD-PCF Interface Board" and make the switch setting of the interface board.



4) Click [OK].

To next page

From preceding page

5) The left dialog box appears.

<For Windows NT>

Click [No].

Choose "Shut Down" in the Start menu to power off the personal computer.

After making sure that the power is off, confirm the switch setting of the interface board and load the interface board into the personal computer.

After Windows NT has restarted, choosing and clicking [Programs]-[SWnRNC-GSVE]-[SW3RNC-GSVE]-[SW3RN-SNETP]-[Start SSCNET Task] in the Start menu makes SSCNET communication ready to start.

<For Windows 98>

Click [No].

Choose "Shut Down" in the Start menu to power off the personal computer.

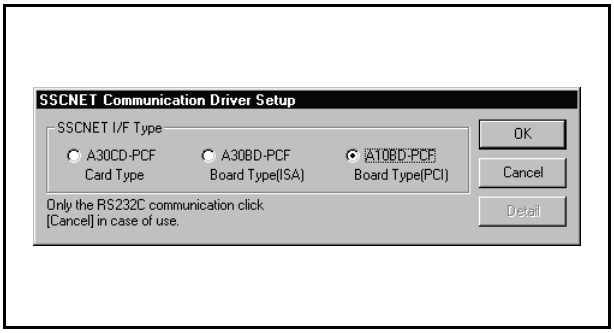
After making sure that the power is off, confirm the switch setting of the interface board and load the interface board into the personal computer.

Restart Windows 98 and register the SSCNET communication drivers.

For the registration of the SSCNET communication driver, refer to "4.4 Registering the SSCNET Communication Drivers".

4.1.3 When using the A10BD-PCF interface board

This section provides the SSCNET communication driver setup procedure for use of the interface board.



1) The SSCNET Communication Driver Setup window appears.
   Choose "A10BD-PCF Board Type" and click [Detail].
   *1:You need not make the setting when you use the A10BD-PCF interface board.
   *2:You need not make the setting when you use RS232C communication or do not use SSCNET communication.
   Click [Cancel] to exit from SSCNET Communication Driver Setup.

2) The left dialog box appears.
<For Windows NT>
   Click [No].
   Choose "Shut Down" in the Start menu to power off the personal computer.
   After making sure that the power is off, confirm the switch setting of the interface board and load the interface board into the personal computer.

<For Windows 98>
   Click [No].
   Choose "Shut Down" in the Start menu to power off the personal computer.
   After making sure that the power is off, confirm the switch setting of the interface board and load the interface board into the personal computer.

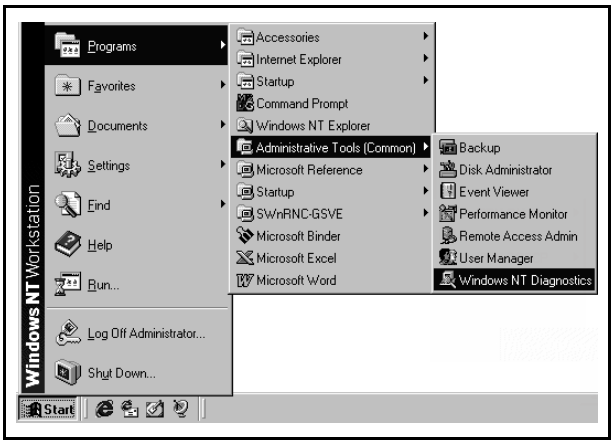
3) After Windows NT/98 has restarted, choosing and clicking [Programs]-[SWnRNC-GSVE]-[SW3RNC-GSVE]-[SW3RN-SNETP]-[Start SSCNET Task] in the Start menu makes SSCNET communication ready to start.

4.2 How to Check the System Resources

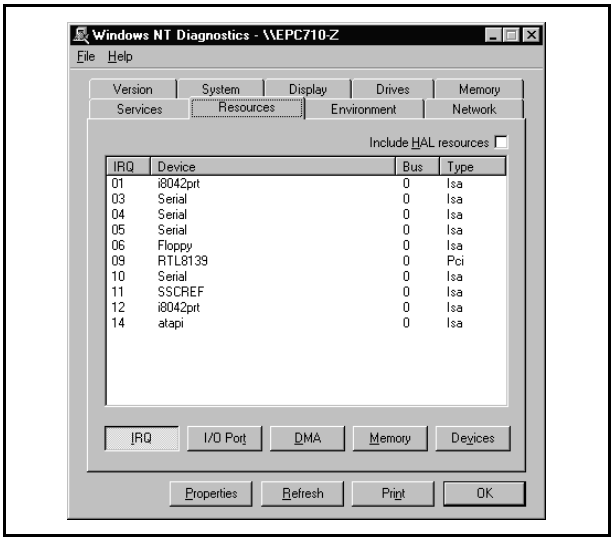
This section explains how to check the free areas of the system resources such as IRQ Level, Memory Base Address and I/O Port Address.

(1) For Windows NT

Refer to the Windows NT diagnostics and check the free areas of the system resources.



1) Choose and click [Programs]-[Administrative Tools (Common)]-[Windows NT Diagnostics] in the Start menu.



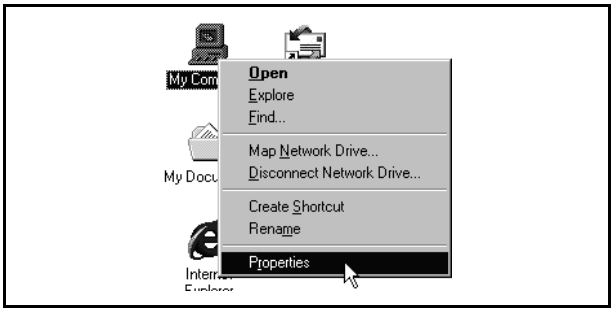
2) The Windows NT Diagnostics window appears.
Click [Resources].
Click [IRQ], [I/O Port] and [Memory] to check the free areas.
[IRQ] ..... Check the IRQ level.
[I/O Port] ..... Check the I/O Port Address.
[Memory] ..... Check the Memory Base Address.
*1 When using the interface board, you need not check the I/O Port Address.
*2 For details of the Windows NT diagnostics, refer to the Windows NT manual.

POINT

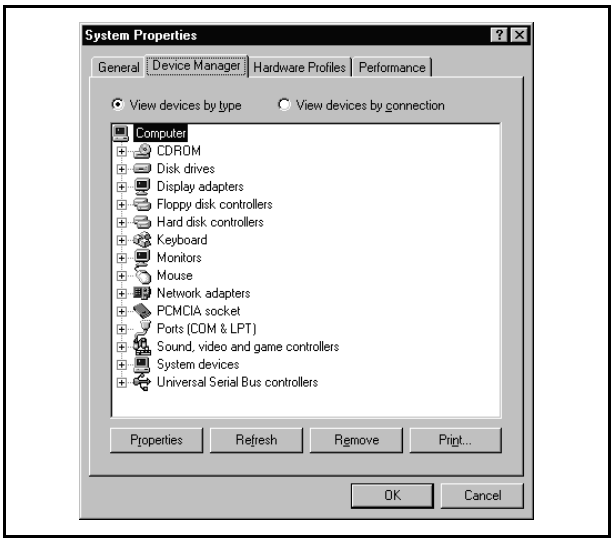
The resource use state may be described in the manual of the personal computer.
In this case, refer to the manual.

(2) For Windows 98

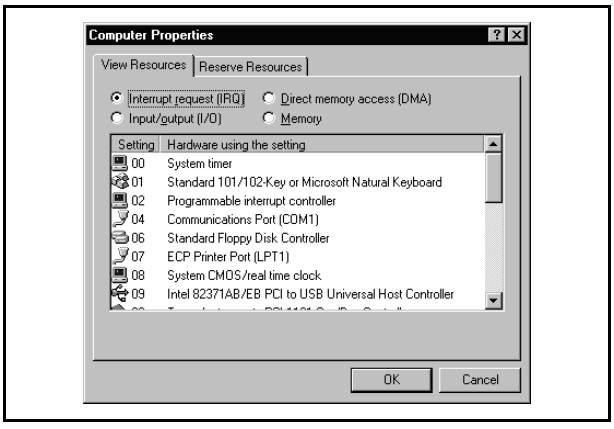
Check the free areas of the system resources from the My Computer icon on the desktop.



1) Choose and right-click the My Computer icon on the desktop.
The pop-up menu appears.
Click [Properties] from the pop-up menu.



2) The "System Properties" window appears.
Click [Device Manager].
Make sure that the Computer icon is highlighted and click [Properties].



3) The "Computer Properties" window appears.
Click [Interrupt Request] and [Memory] to check the free areas.
- Interrupt Request.....Check the IRQ level.
- Memory.....Check the Memory Base Address.

*For details of the computer properties, refer to the Windows 98 manual.

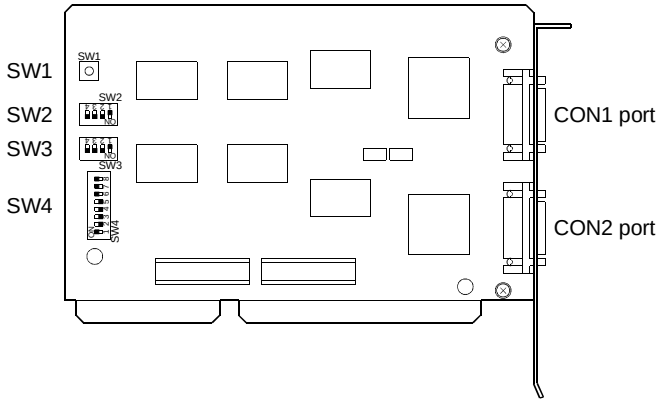
POINT

The resource use state may be described in the manual of the personal computer.
In this case, refer to the manual.

4.3 Setting the Interface Board

4.3.1 Setting the A30BD-PCF Interface Board

This section describes the switch setting of the interface board.

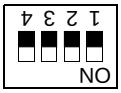


(1) Reset switch (SW1)

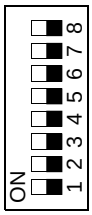
Turn on the reset switch (SW1) to reset the interface board.
During communication, do not press the reset switch as it will shut off communication.
If proper communication cannot be made, reset the interface board with the reset switch and then make communication.

(2) Interrupt level (SW2, SW3)

Set the identification number (IRQ level) used by the Operating System to recognize the interface board.
When setting the interrupt level, set to ON only one switch whose level does not overlap the interrupts of the other ISA bus extension boards, and set all other switches to OFF.
Note that the settings of SW2 and SW3 should be the same.

SW2, SW3		Definition	Default	Remarks
	1	IRQ10 enable	OFF	OFF : Invalid ON : Valid
	2	IRQ11 enable	OFF	
	3	IRQ12 enable	OFF	
	4	IRQ15 enable	OFF	

(3) Setting the occupied addresses (SW4)
Set the addresses occupied by the interface board on the personal computer.

SW4		Definition	Default	Remarks
	1	Not used	OFF	Always set to OFF.
	2	Controller setting line 1 (CON1 port)	OFF	Always set to ON.
	3	Controller setting line 2 (CON2 port)	OFF	
	4	Address selection 1	OFF	Set the occupied addresses. For details, refer to the following Table 4.1.
	5	Address selection 2	OFF	
	6	Address selection 3	OFF	
	7	8/16 bit width selection	OFF	Set the bit width of the ISA bus. Set to OFF (16 bits). OFF : 16 bits ON : 8 bits
	8	IRQ switching	OFF	Always set to ON.

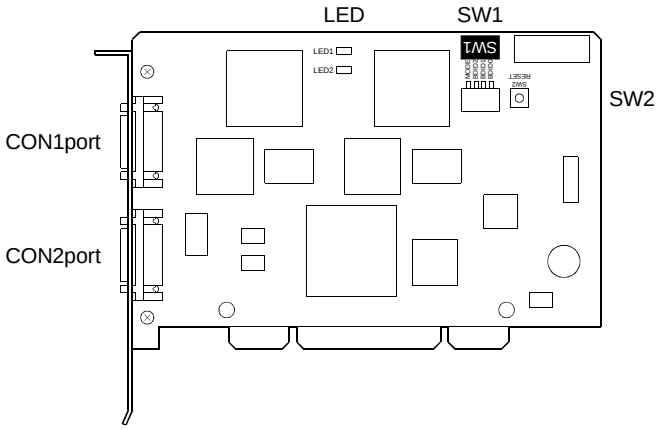
1) Address selection 1 to 3 (SW4-4 to 6) and occupied regions
One interface board occupies a 16K byte region.
Table 4.1 Occupied Address Regions

Table 4.1 Occupied Address Regions

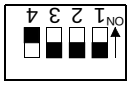
Switch			Occupied Address Region	CON1 Port Region	CON2 Port Region
4	5	6	First to last	First to last	First to last
OFF	OFF	OFF	C0000h to C3FFFh	C0000h to C0FFFh	C1000h to C1FFFh
OFF	OFF	ON	C4000h to C7FFFh	C4000h to C4FFFh	C5000h to C5FFFh
OFF	ON	OFF	C8000h to CBFFFh	C8000h to C8FFFh	C9000h to C9FFFh
OFF	ON	ON	CC000h to CFFFFh	CC000h to CCFFFh	CD000h to CDFFFh
ON	OFF	OFF	D0000h to D3FFFh	D0000h to D0FFFh	D1000h to D1FFFh
ON	OFF	ON	D4000h to D7FFFh	D4000h to D4FFFh	D5000h to D5FFFh
ON	ON	OFF	D8000h to DBFFFh	D8000h to D8FFFh	D9000h to D9FFFh
ON	ON	ON	DC000h to DFFFFh	DC000h to DCFFFh	DD000h to DDFFFh

4.3.2 Setting the A10BD-PCF Interface Board

This section explains the switch setting of the A10BD-PCF interface board.



(1) Board ID setting switch (SW1)
When there are two or more PCI type A10BD-PCF's, set the ID numbers to identify the respective A10BD-PCF's.

SW2, SW3		Definition	Default	Remarks
	1	Board ID bit 0 (BDID0)	OFF	Set the ID number. For details, refer to the following Table 4.2.
	2	Board ID bit 1 (BDID1)	OFF	
	3	Board ID bit 2 (BDID2)	OFF	
	4	Controller setting (MODE)	ON	Always set to ON.

1) Board ID bit choices 0 to 2 (SW1-1 to 3) and ID numbers

Table 4.2 ID Numbers

Switch Numbers			Board ID
1	2	3	
BDID0	BDID1	BDID2	
OFF	OFF	OFF	0
ON	OFF	OFF	1
OFF	ON	OFF	2
ON	ON	OFF	3

(2) Reset switch (SW2)
Turn on the reset switch (SW2) to reset the A10BD-PCF.
Do not press the reset switch during communication since doing so will shut off communication.
If normal communication cannot be made, press the reset switch to reset the A10BD-PCF and then start communication.

(3) LED display

Indicates the status of the A10BD-PCF.

- When the A10BD-PCF is normal: Flicker
- When the A10BD-PCF is abnormal: On or off

LED1 For CON1 port

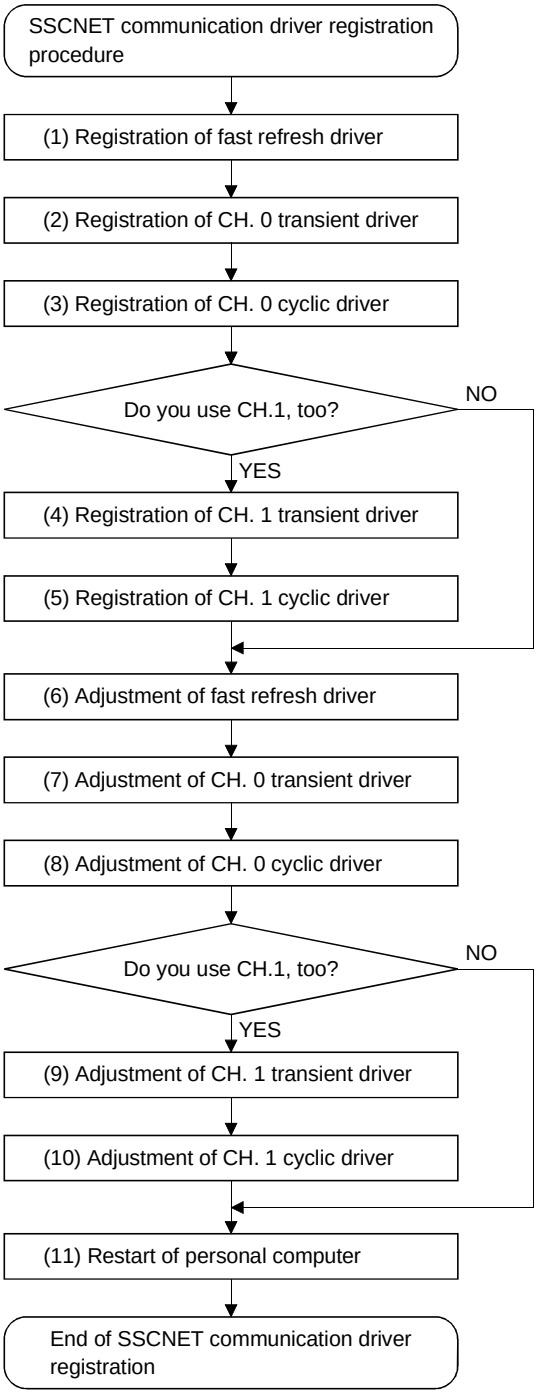
LED2 For CON2 port

(4) Allotment between Board IDs and SSCNET CH No.

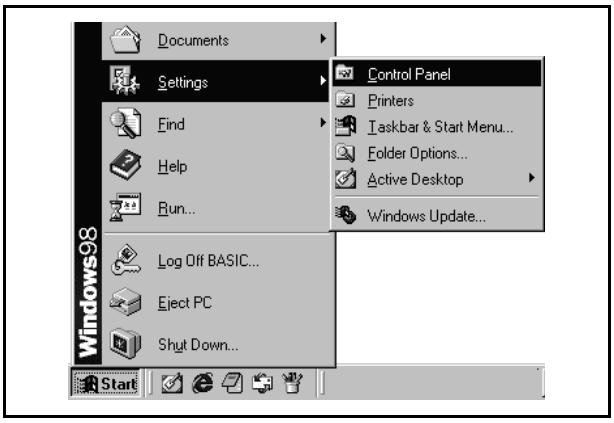
Bord ID	CON1 port	CON2 port
0	CH.0	CH.1
1	CH.2	CH.3
2	CH.4	CH.5
3	CH.6	CH.7

4.4 Registering the SSCNET Communication Drivers

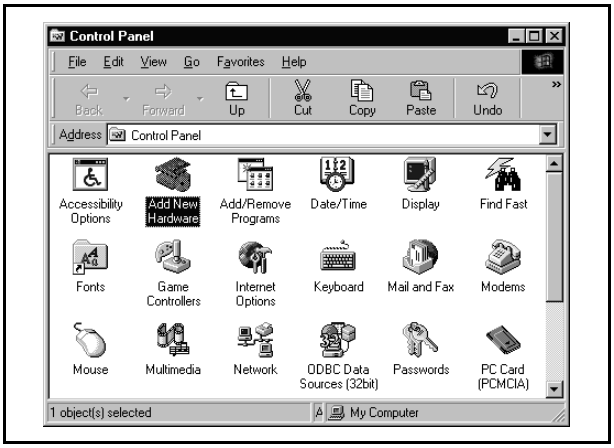
When using the A30BD-PCF interface board on Windows 98 to make SSCNET communication, register the SSCNET communication drivers in the following procedure. (The following operation is not required when using the A30BD-PCF interface card and A10BD-PCF interface board.)
Since the A30BD-PCF interface board is not compatible with the plug and play function of Windows 98, you need to register the SSCNET communication drivers to Windows 98 after installing SNETP and setting up the SSCNET communication drivers. (When reinstalling SNETP, the SSCNET communication drivers are already registered and need not be registered again.)
Register the SSCNET communication drivers in the following procedure.



(1) Registering the fast refresh driver



1) Click [Start] on the taskbar and move the cursor to [Settings].
Click [Control Panel].



2) The "Control Panel" window appears.
Double-click "Add New Hardware" from Control Panel.

3) The "Add New Hardware Wizard" screen appears.
Click [Next >].

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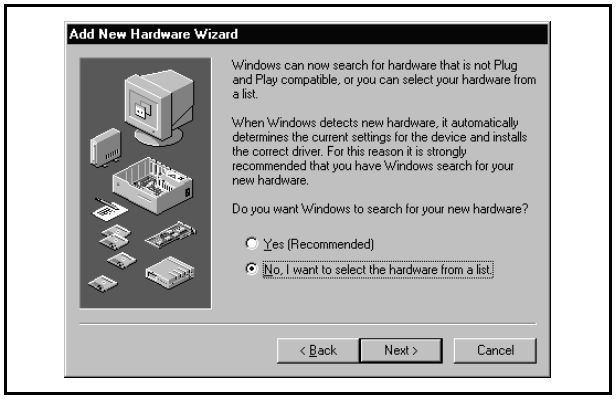
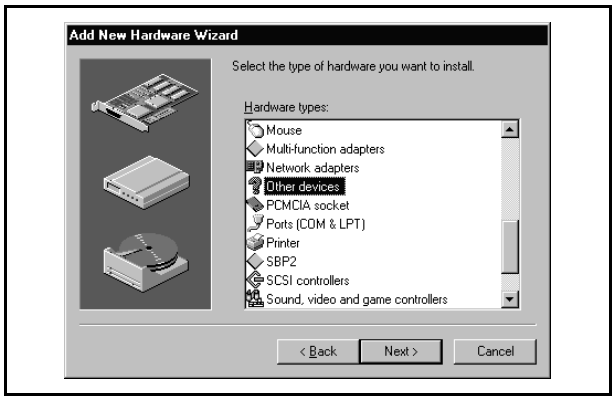
From preceding page

4) Click [Next >].



5) Check "No, I want to select the hardware from a list." and click [Next >].



6) Choose "Other devices" and click [Next >].

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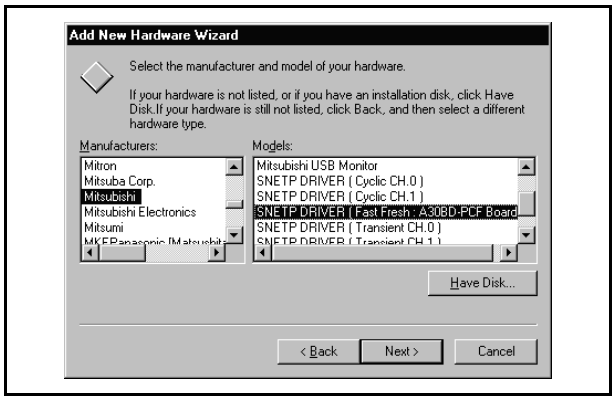
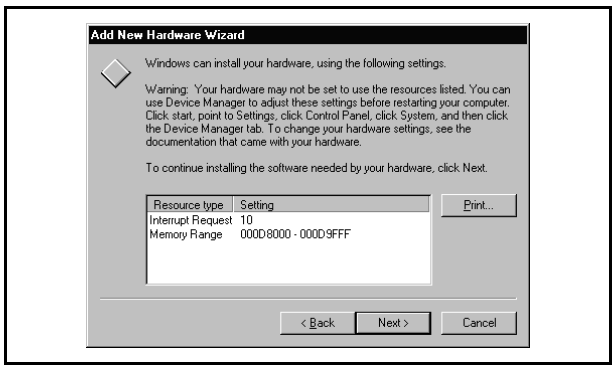


7) Choose "Mitsubishi" as Maker and "SNETP DRIVER (Fast Fresh: A30BD-PCF Board)" as Model, and click [Next >].



8) Click [Next >].

9) Click [Finish].

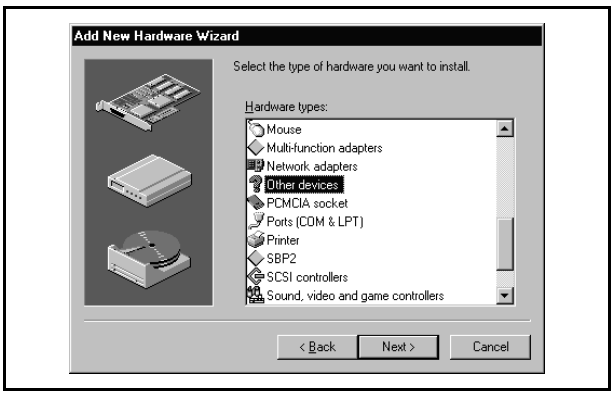
10) Click [No].

(2) Registering the CH. 0 transient driver

1) Double-click "Add New Hardware" from Control Panel.
The "Add New Hardware Wizard" screen appears.
Click [Next >].

2) Click [Next >].

3) Check "No, I want to select the hardware from a list." and click [Next >].



4) Choose "Other devices" and click [Next >].

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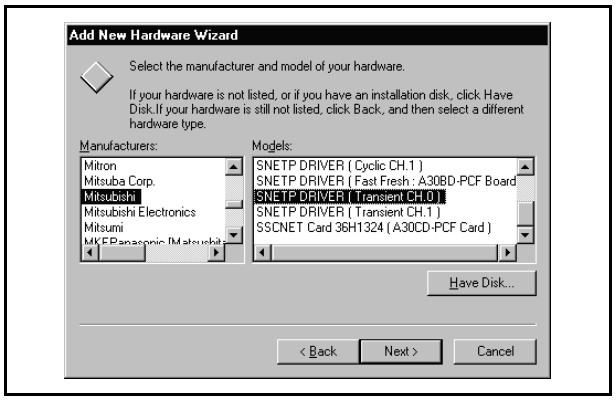
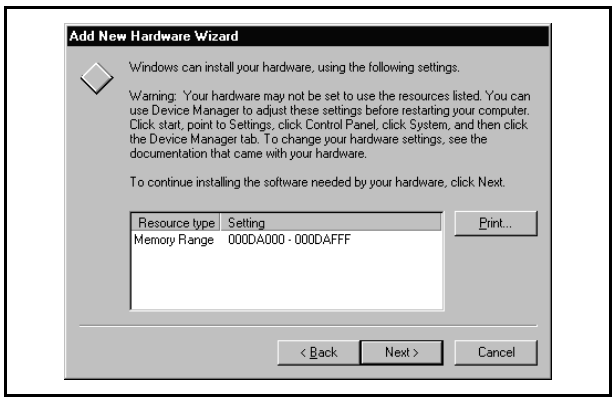
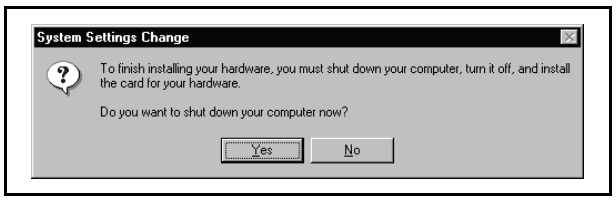


5) Choose "Mitsubishi" as Maker and "SNETP DRIVER (Transient CH. 0)" as Model, and click [Next >].



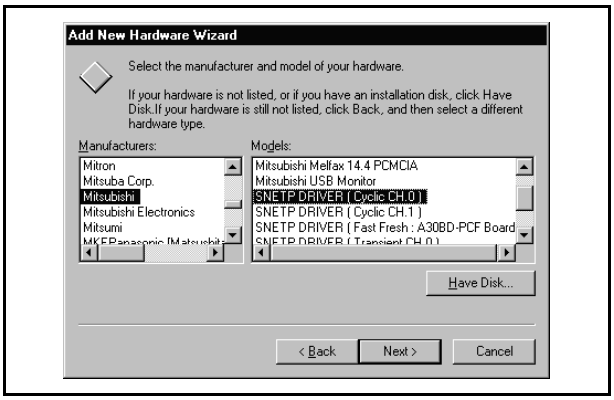
6) Click [Next >].

7) Click [Finish].



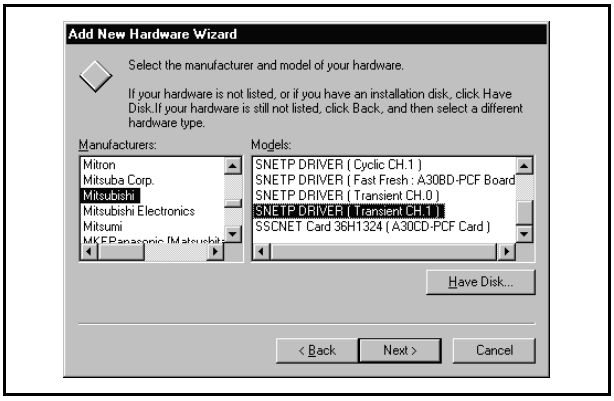
8) Click [No].

(3) Registering the CH. 0 cyclic driver



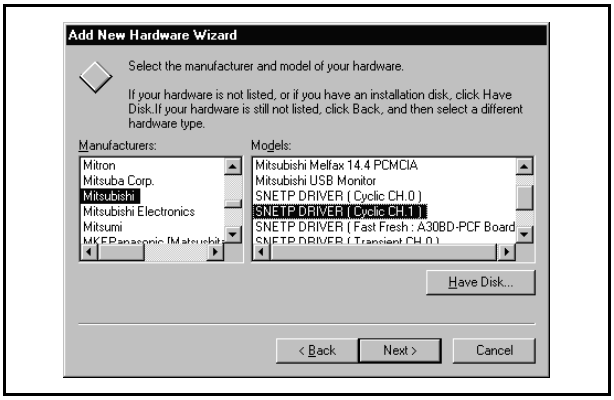
1) Register the CH. 0 cyclic driver in the procedure as in "(2) Registering the CH. 0 transient driver".
Note that "SNETP DRIVER (Cyclic CH. 0)" should be chosen as Model in the hardware maker and model selection window.

(4) Registering the CH. 1 transient driver



1) When not using CH. 1, you need not make this setting.
Proceed to "(6) Adjusting the fast refresh driver".
Register the CH. 1 transient driver in the procedure as in "(2) Registering the CH. 0 transient driver".
Note that "SNETP DRIVER (Transient CH. 1)" should be chosen as Model in the hardware maker and model selection window.

(5) Registering the CH. 1 cyclic driver



1) When not using CH. 1, you need not make this setting.
Proceed to "(6) Adjusting the fast refresh driver".
Register the CH. 1 cyclic driver in the procedure as in "(2) Registering the CH. 0 transient driver".
Note that "SNETP DRIVER (Cyclic CH. 1)" should be chosen as Model in the hardware maker and model selection window.

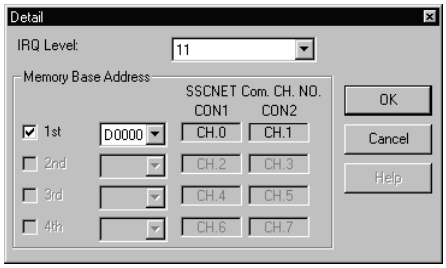
(6) Adjusting the fast refresh driver

Adjust the IRQ and occupied addresses of the SSCNET communication drivers to the data assigned in detail setting of "SSCNET Communication Driver Setup".

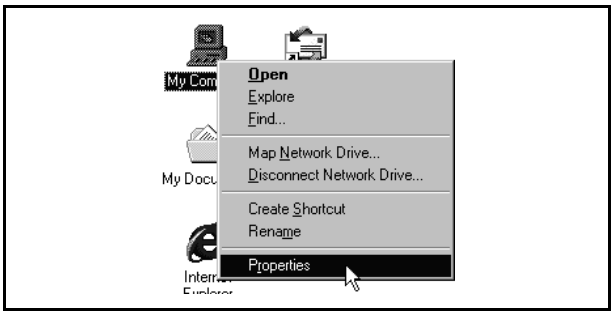
The following example assumes that the following assignment was made in detail setting of "SSCNET Communication Driver Setup".

(Example)

- IRQ..... 11
- Memory Base Address..... D0000



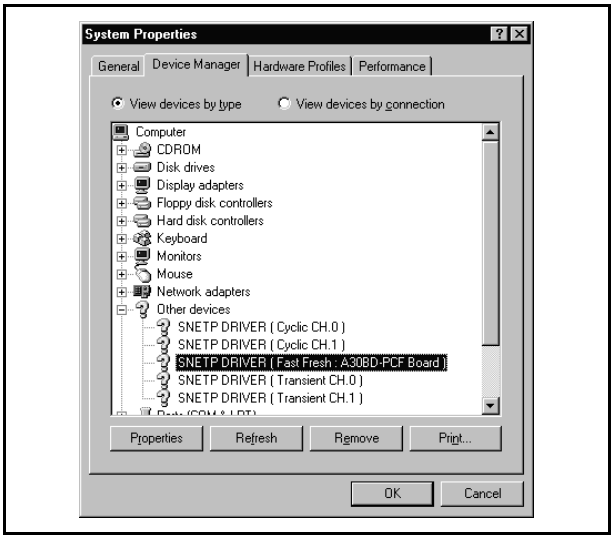
SSCNET Communication Driver Setup window



1) Choose and right-click the My Computer icon on the desktop.

The pop-up menu appears.

Click [Properties] from the pop-up menu.



2) The "System Properties" window appears.

Click [Device Manager].

Choose and double-click "Other devices".

You can confirm the interface board drivers registered in (1) to (5).

- SNETP DRIVER (Transient CH. 0)
- SNETP DRIVER (Cyclic CH. 0)
- SNETP DRIVER (Transient CH. 1)*
- SNETP DRIVER (Cyclic CH. 1)*
- SNETP DRIVER (Fast Fresh: A30BD-PCF Board)

*Displayed only when CH.1 is registered in driver registration.

When CH. 1 is not used, these drivers are not registered and are not shown.

Here, choose "SNETP DRIVER (Fast Fresh: A30BD-PCF Board)" and click [Properties].

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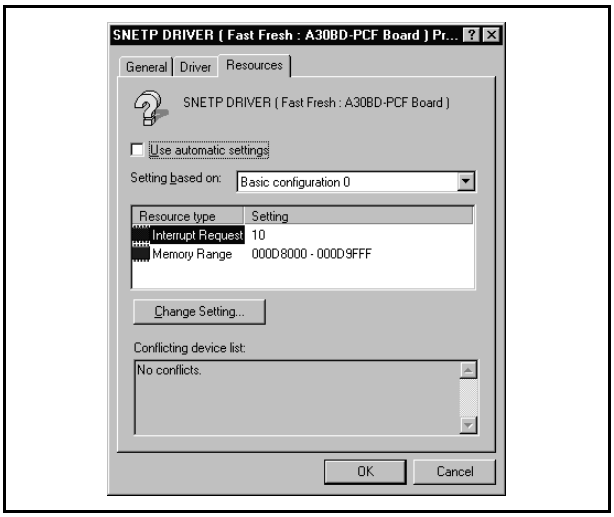
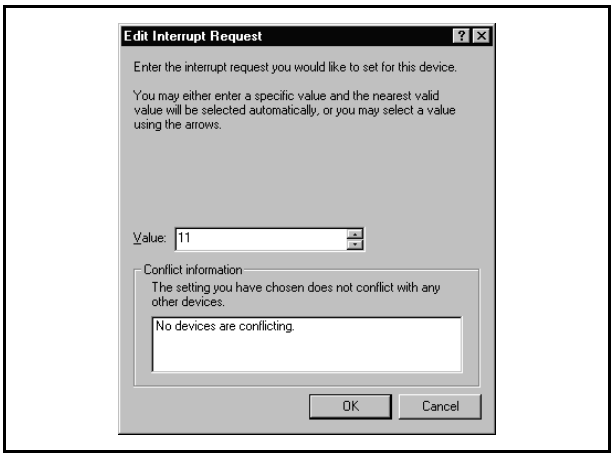
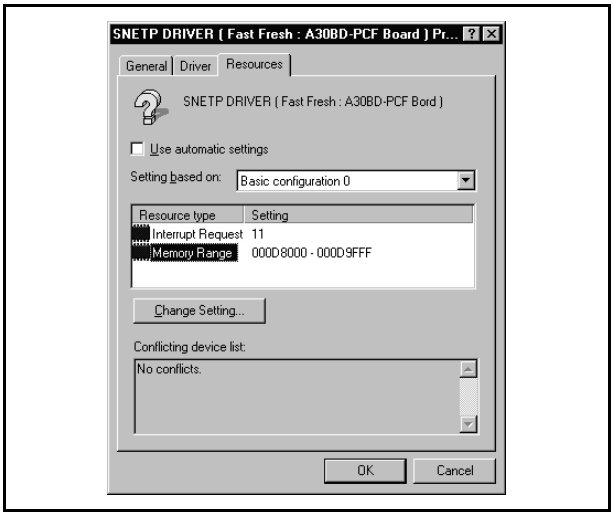


3) The "SNETP DRIVER (Fast Fresh: A30BD-PCF Board) Properties" window appears.
   Click [Resources] and confirm the interrupt request and memory range.
   - Adjustment is not needed if the settings are the same as in "SSCNET Communication Driver Setup".
     Click [OK].
   - If the settings differ from the "SSCNET Communication Driver Setup" data, choose the type of the resource to be changed and click [Change Setting...].
4) If the interrupt request (IRQ Level) differs, choose "Interrupt request" to highlight it, and click [Change Setting...].



5) The "Edit Interrupt Request" window appears.
   Type "11" in the Value field and click [OK].



6) If the memory range (Memory Base Address) differs, choose "Memory range" to highlight it, and click [Change Setting...].

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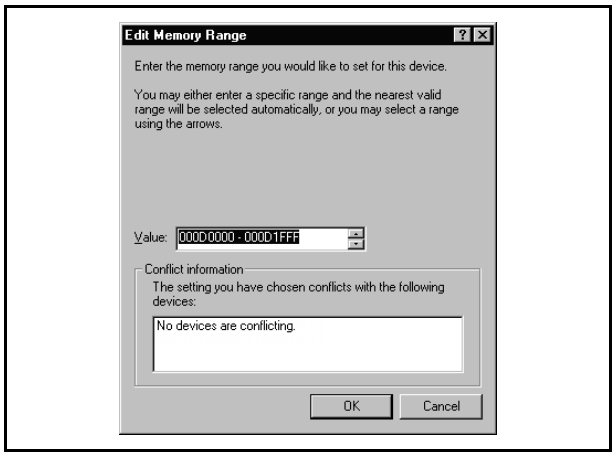
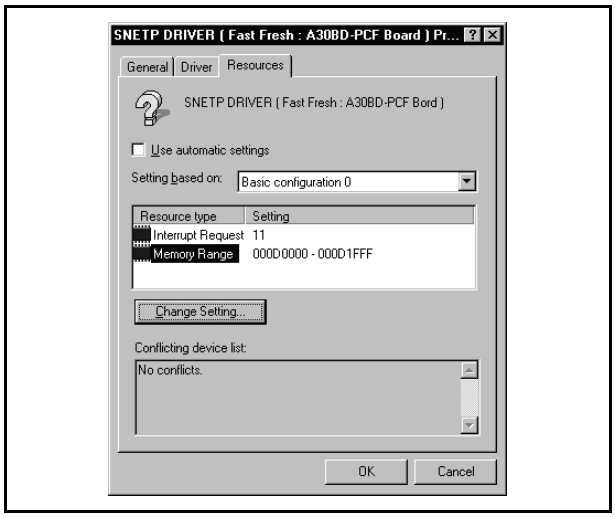
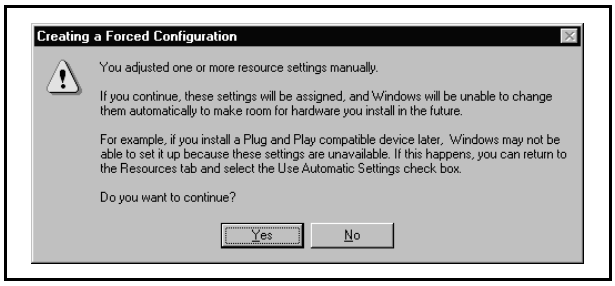


7) The "Edit Memory Range" window appears.
Type "D0000-D1FFF" in the Value field and click [OK].
*Section 4.4 (12) provides the SSCNET Communication Driver Setup Memory Base Address and driver memory range setting table. Use it for your reference.



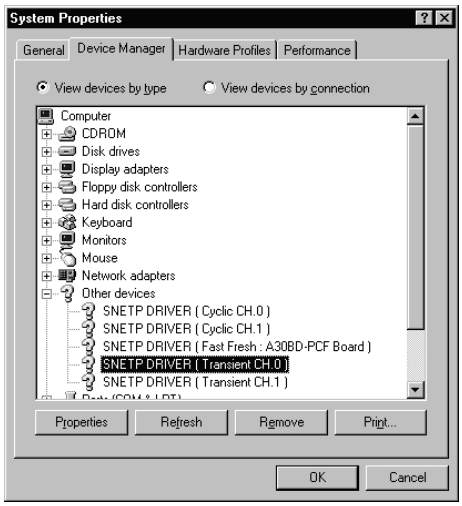
8) Click [OK].



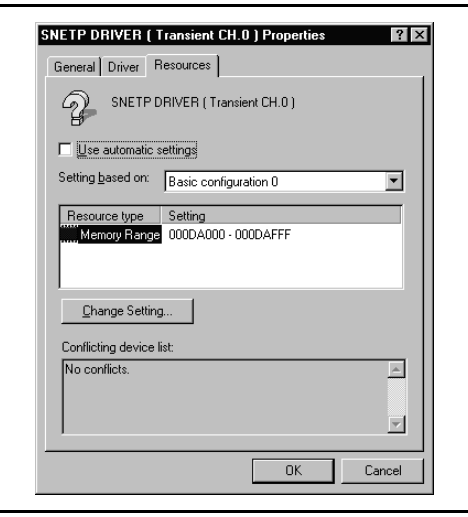
9) The "Creating a Forced Configuration" dialog box.
Click [Yes].
This finishes the adjustment of the fast refresh driver.

(7) Adjusting the CH. 0 transient driver

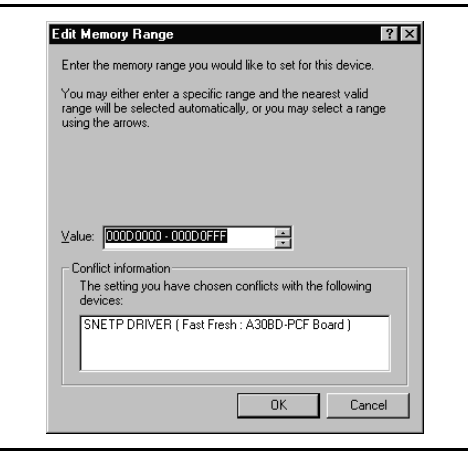
Adjust this driver as in the adjustment of the fast refresh driver.



1) As in the adjustment of the fast refresh driver, choose Properties from the My Computer icon to show the "System Properties" window.
Click [Device Manager].
Choose and double-click "Other devices".
Choose "SNETP DRIVER (Transient CH. 0)" and click [Properties].



2) The "SNETP DRIVER (Transient CH. 0)" Properties" window appears.
Click [Resources].
Choose "Memory range" to highlight it and click [Change Setting...].



3) The "Memory Range" window appears.
Type "D0000-D0FFF" in the Value field and click [OK].
*Set the same "Memory range" value as set in the fast refresh driver.
*Section 4.4 (12) provides the SSCNET Communication Driver Setup Memory Base Address and driver memory range setting table. Use it for your reference.

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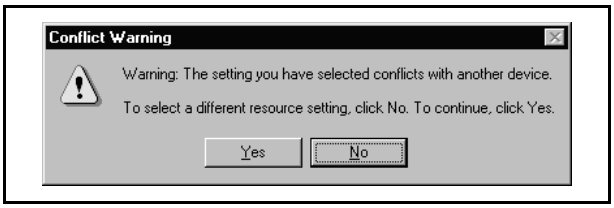
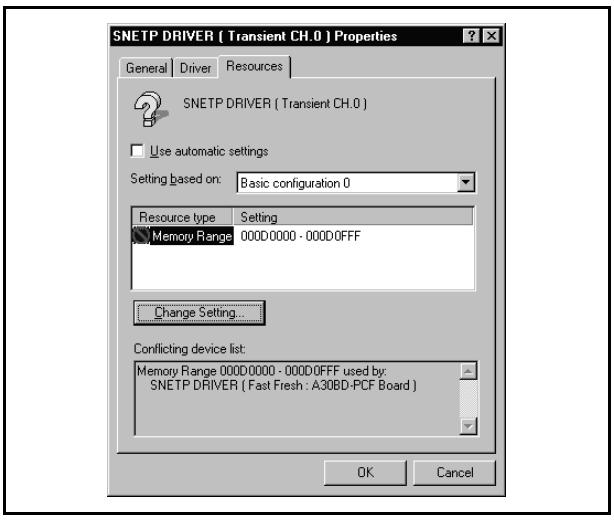
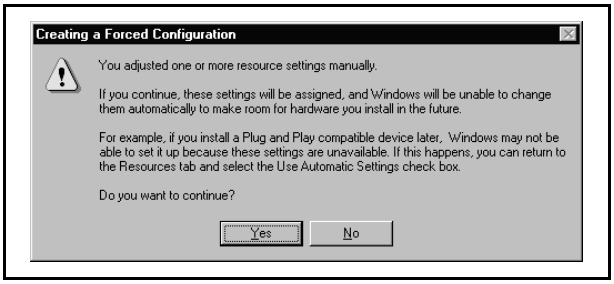


4) The "Conflict Warning" dialog box appears, but click [Yes].



5) Click [OK].



6) The "Creating a Forced Configuration" dialog box. Click [Yes].
This finishes the adjustment of the CH. 0 transient driver.

(8) Adjusting the CH. 0 cyclic driver

Adjust the CH. 0 cyclic driver in the procedure as in "(7) Adjusting the CH. 0 transient driver".

Note that "SNETP DRIVER (Cyclic CH. 0)" should be selected in the "System Properties" window.

Set the memory range for CH. 0 cyclic driver adjustment to the same value as the memory range of the CH. 0 transient driver.

(9) Adjusting the CH. 1 transient driver

When not using CH. 1, you need not adjust the CH. 1 transient driver. Proceed to "(11) Restarting the personal computer".

(a) Adjust the CH. 1 transient driver in the procedure as in "(7) Adjusting the CH. 0 transient driver".
Note that "SNETP DRIVER (Transient CH. 1)" should be selected in the "System Properties" window.

(b) Set the memory range for CH. 1 transient driver adjustment to the value set for the CH. 0 memory range plus "1000".
(example)
When the CH. 0 value is "000D0000-000D0FFF", set the CH. 1 transient driver value to "000D1000-000D1FFF".

(10) Adjusting the CH. 1 cyclic driver

When not using CH. 1, you need not adjust the CH. 1 cyclic driver. Proceed to "(11) Restarting the personal computer".

(a) Adjust the CH. 1 cyclic driver in the procedure as in "(7) Adjusting the CH. 0 transient driver".
Note that "SNETP DRIVER (Cyclic CH. 1)" should be selected in the "System Properties" window.

(b) Set the memory range for CH. 1 cyclic driver adjustment to the same value as the memory range of the CH. 1 transient driver.

(11) Restarting the personal computer

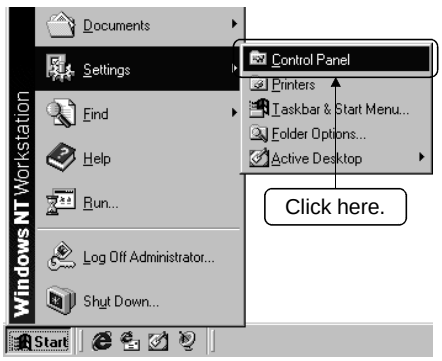
After all settings are over, click [Close] in "System Properties" to close the window.
Click [Shut Down] in the Start menu to restart the personal computer.

(12) Memory Base Addresses of SSCNET Communication Driver Setup and Memory Ranges of Drivers

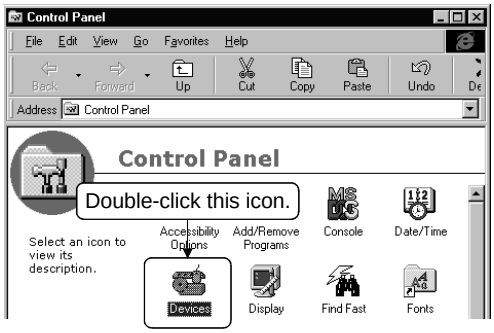
Memory Base Address	Memory Range of Refresh Driver	Memory Ranges of Transient/Cyclic Driver	
		CH.0	CH.1
C0000	C0000h to C1FFFh	C0000h to C0FFFh	C1000h to C1FFFh
C4000	C4000h to C5FFFh	C4000h to C4FFFh	C5000h to C5FFFh
C8000	C8000h to C9FFFh	C8000h to C8FFFh	C9000h to C9FFFh
CC000	CC000h to CDFFFh	CC000h to CCFFFh	CD000h to CDFFFh
D0000	D0000h to D1FFFh	D0000h to D0FFFh	D1000h to D1FFFh
D4000	D4000h to D5FFFh	D4000h to D4FFFh	D5000h to D5FFFh
D8000	D8000h to D9FFFh	D8000h to D8FFFh	D9000h to D9FFFh
DC000	DC000h to DDFFFh	DC000h to DCFFFh	DD000h to DDFFFh

4.5 Stopping the SSCNET Communication Driver

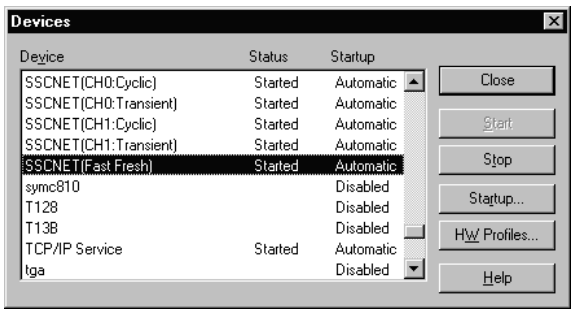
When removing the interface board or interface card on Windows NT/98 from the personal computer, you need to stop the SSCNET communication driver.
(When removing the interface card on Windows 98, use the plug and play function of Windows. You need not perform the following operation.)
(1) For Windows NT



1) Click [Start] on the taskbar and move the cursor to [Settings].
Click [Control Panel].



2) The Control Panel window appears.
Double-click "Devices" from the Control Panel.



3) The "Devices" screen appears.
The SSCNET communication devices appear in the device list.
Make sure that the following devices are displayed.
- SSCNET (CH. 0: Transient)
- SSCNET (CH. 0: Cyclic)
- SSCNET (CH. 1: Transient)*
- SSCNET (CH. 1: Cyclic)*
- SSCNET (Fast Fresh)

*1: For the interface card, CH. 1 does not appear.
*2: When you are using two or more interface boards, transient and cyclic communication devices for CH. 2 and later are displayed. When there are four boards fitted, devices for up to CH. 8 appear.

4) Choose SSCNET (Fast Fresh) and click [Startup...].

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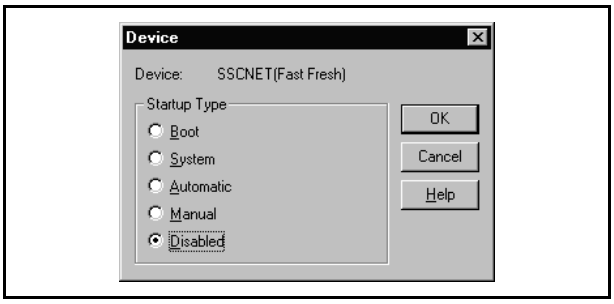
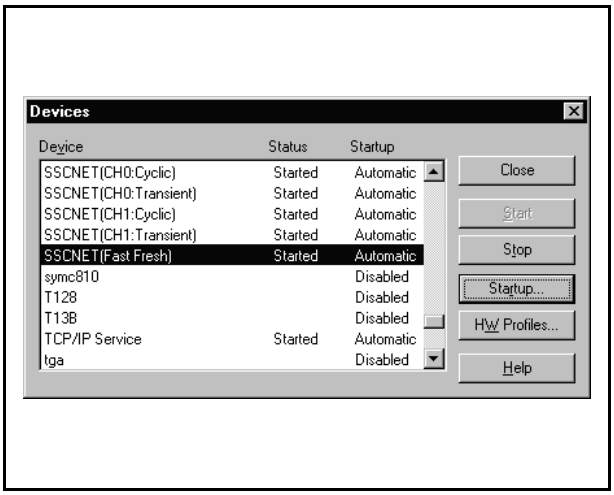


5) Choose "Disabled" from the Startup options and click [OK].



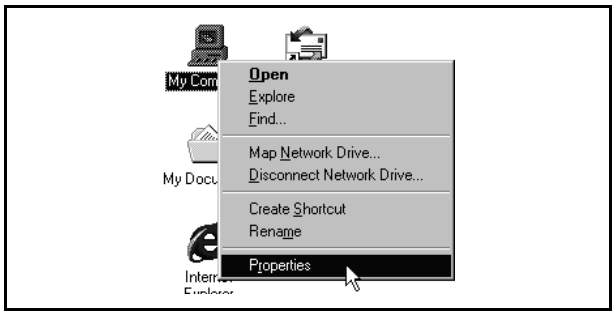
6) The "Devices" screen reappears.
   Perform the operations in steps 4) and 5) also for the other devices.
   - SSCNET (CH. 0: Transient)
   - SSCNET (CH. 0: Cyclic)
   - SSCNET (CH. 1: Transient)*1
   - SSCNET (CH. 1: Cyclic)*1

   *1: For the interface card, CH. 1 does not appear.
   *2: When you are using two or more interface boards, transient and cyclic communication devices for CH. 2 and later are displayed. When there are four boards fitted, devices for up to CH. 8 appear.

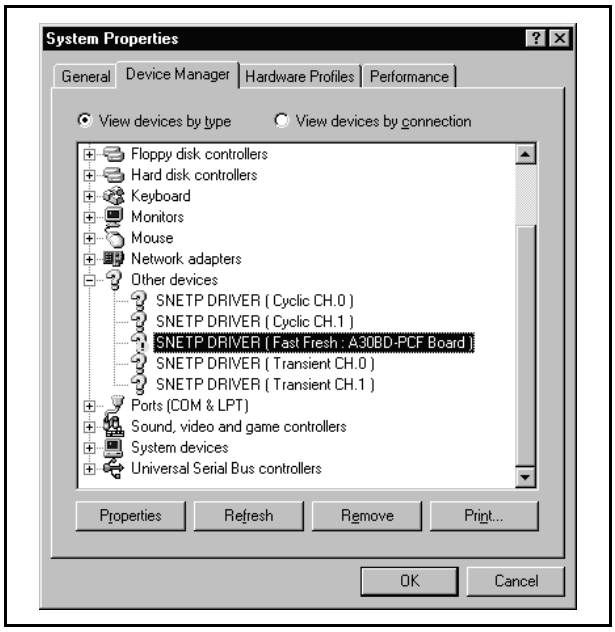
7) Click [Close].

8) Close the Control Panel and choose [Shut Down] in the Start menu to reboot the personal computer. The SSCNET communication driver stops after rebooting.
9) Before removing the interface card or interface board, choose [Shut Down] in the Start menu to power off the personal computer.

(2) For Windows 98



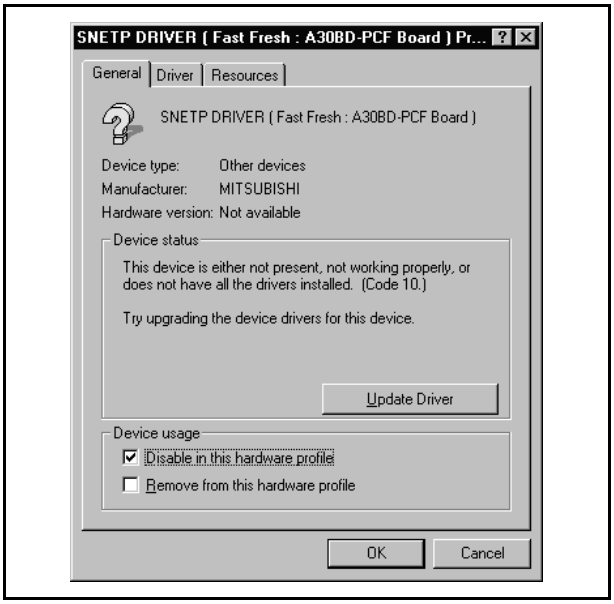
1) Select the My Computer icon on the desktop and right-click.
The pop-up menu appears.
Click [Properties] from the pop-up menu.



2) The "System Properties" window appears.
Click [Device Manager].
Choose "Other devices" and double-click.
Check to see if there are the following devices in "Other devices".
- SNETP DRIVER (Transient CH. 0)
- SNETP DRIVER (Cyclic CH. 0)
- SNETP DRIVER (Transient CH. 1)*
- SNETP DRIVER (Cyclic CH. 1)*
- SNETP DRIVER (Fast Fresh: A30BD-PCF Board)

*These devices appear only when CH. 1 has been registered in driver registration.
When CH. 1 is not used, they are not displayed since they have not been registered.

3) Choose "SNETP DRIVER (Fast Fresh: A30BD-PCF Board)" and click [Properties].



4) The "SNETP DRIVER (Fast Fresh: A30BD-PCF Board) Properties" window appears.
Turn on "Disable in this hardware profile" under "Device usage" and click [OK].

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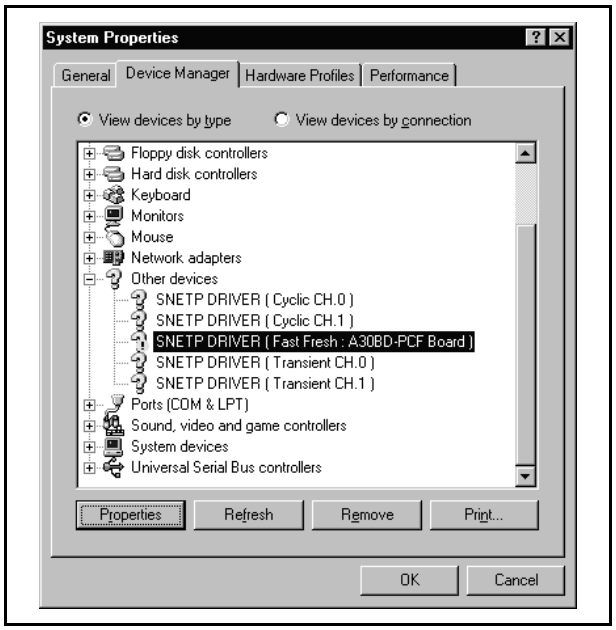


5) The "System Properties" window reappears.
   Perform the operations in steps 3) and 4) also for the other devices.
   - SNETP DRIVER (Transient CH. 0)
   - SNETP DRIVER (Cyclic CH. 0)
   - SNETP DRIVER (Transient CH. 1)*
   - SNETP DRIVER (Cyclic CH. 1)*

   *Perform operations only when CH. 1 has been registered in driver registration.
6) Click [OK] to close the "System Properties" window.

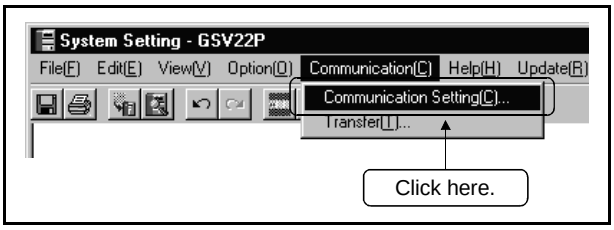
7) Choose "Shut Down" in the Start menu to reboot the personal computer.
   The SSCNET communication driver stops after rebooting.

8) Before removing the interface board, choose [Exit Windows] in the Start menu to power off the personal computer.

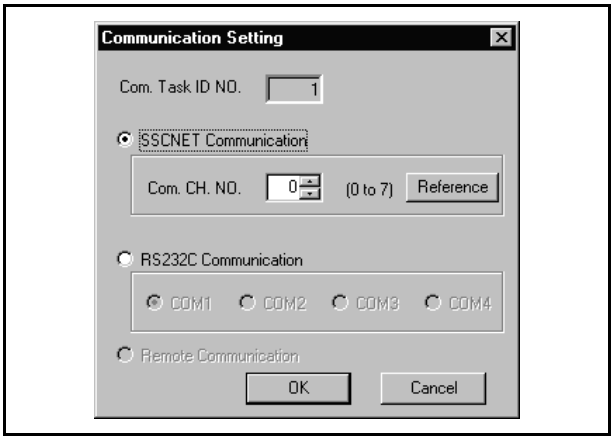
4.6 Communication Settings Using GSV[ ][ ]P

Communication settings must be made to start RS232C/SSCNET communication. To make communication settings, use the "Communication Setting" button in the "Communication Setting" menu or communication dialog box of GSV[ ][ ]P.

(1) When using the "Communication Setting" menu of GSV[ ][ ]P

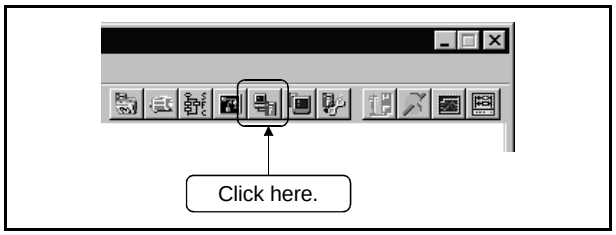


1) Choose "Communication" from the menu of GSV[ ][ ]P.
2) Click [Communication Setting] from the drop-down menu of Communication.

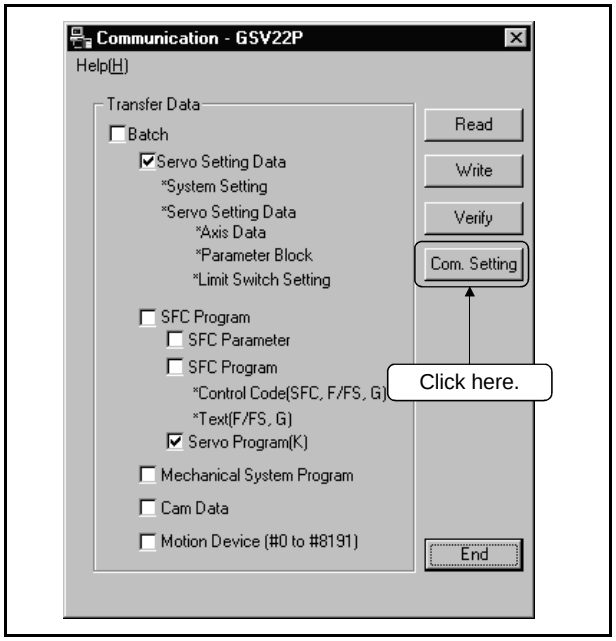


3) The communication setting dialog box appears.
4) Set RS232C/SSCNET communication.
   Refer to Help (SW3RNC-GSVHELPE) for the way to set RS232C/SSCNET communication.

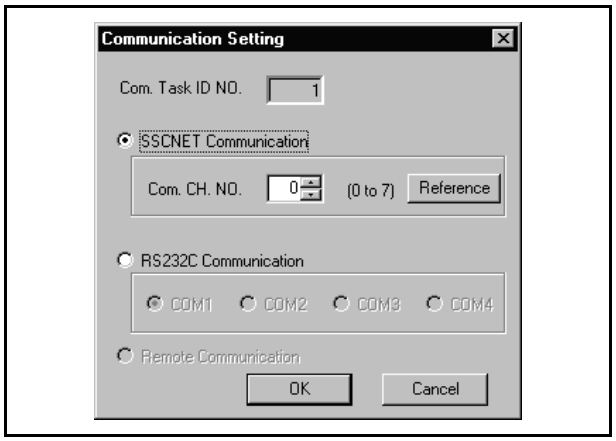
(2) When using the communication dialog box



1) Click [Communication] from the Jump button of GSV[ ][ ]P.



2) The communication dialog box appears.
Click [Com. Setting].

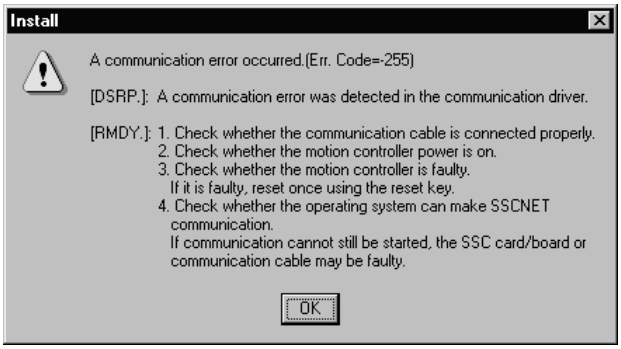


3) The communication settings dialog box appears.
4) Set RS232C/SSCNET communication.
Refer to Help (SW3RNC-GSVHELPE) for the way to set RS232C/SSCNET communication.

4.6.1 Communication errors

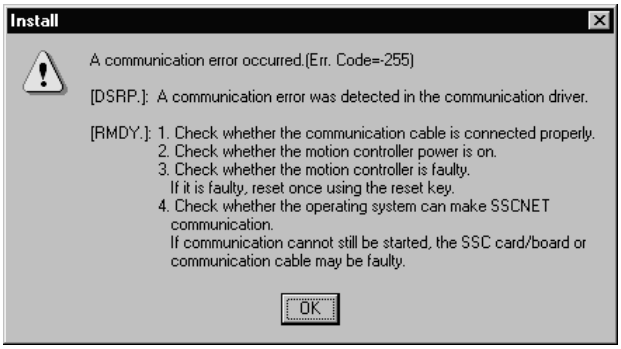
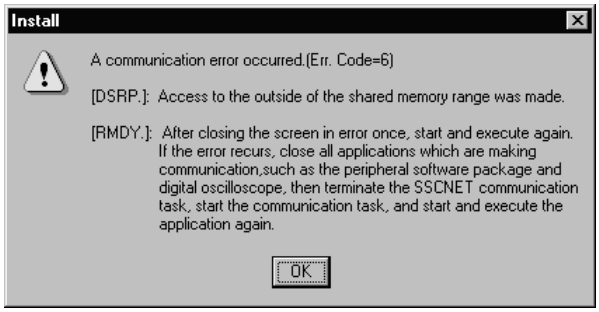
Any of the errors as indicated in Tables 4.3 and 4.4 may occur during communication started after communication settings.
In this case, take action in accordance with Table 4.3 or Table 4.4
(1) For SSCNET communication

Table 4.3 Communication Error during SSCNET Communication

Error Code	Error Message
-255	

(2) For RS232C communication

Table 4.4 Communication Errors during RS232C Communication

Error Code	Error Message
-255	
6 and 16130	  This error may occur during RS232C communication if: • Communication is made using old SNETP which is incompatible with RS232C communication. (Ver.00C or earlier) • Communication is made after reinstalling the new version of SNETP without uninstalling its old version. [Action] When making RS232C communication, uninstall old SNETP (refer to Section 3.5), then install and use SW3RN-SNETP Ver. 00D or later.

POINT

If a communication error occurs at any point during communication using RS232C, check the power saving setting of the personal computer.
If the RS232C item is valid in the power saving setting, make it invalid since an error may occur during communication.
For details of the power saving setting, refer to the manual of the personal computer used.

5. TROUBLESHOOTING

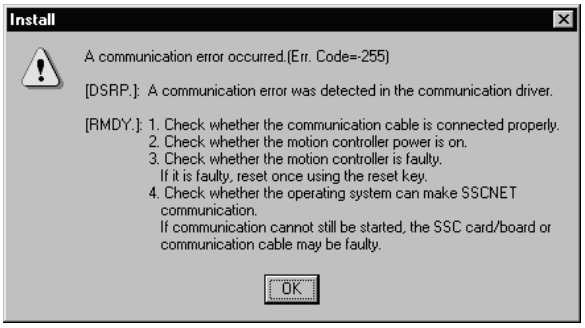
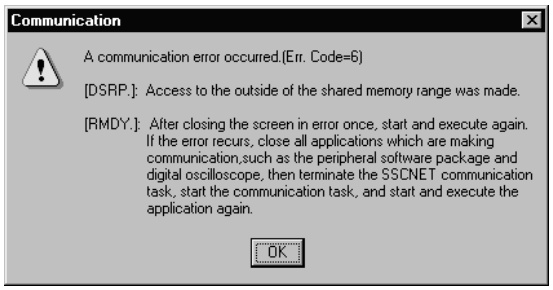
Remedies for trouble are described in this section.
Refer to this section when you are in trouble.

5.1 GSV[ ][ ]P or DOSCP does not start or it is terminated during operation

No.	Phenomenon	Corresponding Version	Cause and remedy
1	When monitor, DOSCP or other application is started from the menu, the following message describing failure to find "sscpdr.dll" is displayed. • Windows NT/2000  • Windows 98 	SW3RN-GSV[ ][ ]P SW3RN-DOSCP	1) SNETP is not installed. Even if communication with the CPU is not made actually, SNETP must be installed. Refer to section 3.4.6(1) to install the best SNETP. If communication is made only with the A motion, install SW3RN-SNETP. • A list of applications for communication with the CPU is displayed. The following applications cause the phenomenon described to the left. (Applications other than those listed below operate without SNETP.) GSV[ ][ ]P : Monitor, communication, program editor, install, mechanical system editor, test, backup, servo data setting (for writing to servo amplifier) SW3RN-DOSCP: Digital oscilloscope 2) The PATH specified as the long name has been described in AUTOEXEC.BAT. *: Long name: Folder name of 9 or more characters Describe the SNETP PATH before the PATH specified as the long name, and always add "%PATH%" before the part where the long name has been specified. It is not required if it has already been described. (Example) • Before change SET PATH="C:\Program␣Files\ABC;" (*1) SET PATH=%PATH%;C:\PROGRA~1\Snetp; (*2) • • After change SET PATH=%PATH%;"C:\PROGRA~1\Snetp;" SET PATH=%PATH%;"C:\Program␣Files\ABC;" *: Always described the ~~~~ (wiggly line) part. (*1): Long name PATH (*2): SNETP PATH
2	The communication starting procedure causes the following error and termination of the process. 	SW3RN-GSV[ ][ ]P	
3	Even when a Jump icon (monitor, digital oscilloscope or other applications for performing communication) of GSV[ ][ ]P is clicked on, jumping does not occur. (However, no error is caused.)		

5.2 If communication over SSCNET or via RS232C fails with GSV[ ][ ]P

Refer to the description of "Remedy" in the error message basically for the action to be taken upon a communication error.
If the problem is not removed, refer to the table below for corrective action.

No.	Phenomenon	Cause and remedy
1	Communication error "-255" occurred during communication over SSCNET. 	1) The actually connected channel does not agree with the setting. Refer to section 4.6 "Communication setting with GSV[ ][ ]P" to check the SSCNET communication channel. 2) The SSCNET communication driver is not set up correctly. Set up the SSCNET communication driver to perform communication over SSCNET. Refer to section 4.1 "SSCNET communication driver setup procedure" to set up the driver.
2	Communication error "6" occurred during communication via RS232C. 	When SW3RN-SNETP (Ver. 00C or earlier) is in use, the phenomenon described on the left may occur. • Refer to "3.7 Updating Instructions and Procedures" and update one set of SW3RNC-GSVE. • When it is not updated, follow the remedy since the possible cause is any of the following 1) to 5). 1) SNETP of an early version is used. Uninstall the early version and install the new version of SNETP that supports the A motion. (*1) 2) Two or more copies of SNETP of different versions are installed. Uninstall all copies of SNETP. If any system directory (file) of SNETP remains after they are uninstalled, delete using Explorer or the like. Next, install only one copy of SNETP of a version that supports the A motion. (*1) 3) Both SW3RN-SNETP and SW6RN-SNETP Ver.00A are installed in one PC. Uninstall both SW3RN-SNETP and SW6RN-SNETP Ver.00A and install either one again. (*1) 4) Windows 98, Windows NT and Windows 2000 are installed in one PC and SNETP of different versions is installed in each drive. Uninstall all copies of SNETP then install SNETP of a single version that supports the A motion to both the Windows 98 Windows NT and Windows 2000 drives. (*1) 5) Windows 98 Windows NT and Windows 2000 are installed in one PC and SW3RN-SNETP and SW6RN-SNETP Ver.00A are installed in each drive. Uninstall all copies of SNETP then install SNETP of a single version that support the A motion to both the Windows 98 Windows NT and Windows 2000 drives. (*1)
3	Communication error "16130" occurred during communication via RS232C. 	

*1: Refer to section 3.4.6(1) to install the best SNETP.
If communication is made only with the A motion, install SW3RN-SNETP.

5. TROUBLESHOOTING

No.	Phenomenon	Cause and remedy
4	Communication error "10" occurred during communication over SSCNET. 	1) SW6RN-SNETP was booted. Exit from SW6RN-SNETP and boot SW3RN-SNETP.

*1: Refer to section 3.4.6(1) to install the best SNETP.
If communication is made only with the A motion, install SW3RN-SNETP.

5.3 If communication over SSCNET fails with DOSCP

No.	Phenomenon	Cause and remedy
1	Communication error "50" or "51" occurred.  	• SW3RN-SNETP is not booted. Boot SW3RN-SNETP.
2	Communication error "10" occurs. 	• SW6RN-SNETP (Ver. 00B or later) has been booted. Exit from SW6RN-SNETP (Ver. 00B or later) and boot SW3RN-SNETP.
3	Communication error "-255" occurs. 	When SW3RN-DOSCP is in use, the phenomenon described on the left may occur. • Refer to "3.7 Updating Instructions and Procedures" and update one set of SW3RNC-GSVE. After that, boot SW3RN-DOSCP. • When SW3RN-DOSCP is in use, follow the remedy since the possible cause is any of the following 1) to 5). 1) SNETP of an early version is used. Uninstall the early version and install the new version of SNETP that supports the A motion. (*1) 2) Two or more copies of SNETP of different versions are installed. Uninstall all copies of SNETP. If any system directory (file) of SNETP remains after they are uninstalled, delete using Explorer or the like. Next, install only one copy of SNETP of a version that supports the A motion. (*1) 3) Both SW3RN-SNETP and SW6RN-SNETP are installed in one PC. Uninstall both SW3RN-SNETP and SW6RN-SNETP and install either one again. (*1) 4) Windows 98, Windows NT and Windows 2000 are installed in one PC and SNETP of different versions is installed in each drive. Uninstall all copies of SNETP then install SNETP of a single version that supports the A motion to both the Windows 98 , Windows NT and Windows 2000 drives. (*1) 5) Windows 98, Windows NT and Windows 2000 are installed in one PC and SW3RN-SNETP and SW6RN-SNETP are installed in each drive. Uninstall all copies of SNETP then install SNETP of a single version that support the A motion to both the Windows 98, Windows NT and Windows 2000 drives. (*1)

No.	Phenomenon	Cause and remedy
4	Communication error "12" occurs. 	The SSCNET communication driver is not set up correctly. To perform communication over SSCNET, set up the SSCNET communication driver. To do this, refer to section 4.1 "SSCNET communication driver setup procedure."

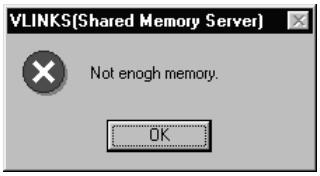
*1: Refer to section 3.4.6(1) to install the best SNETP.
If communication is made only with the A motion, install SW3RN-SNETP.

5. TROUBLESHOOTING

5.4 If no sampling data is obtained from DOSCP

No.	Phenomenon	Cause and remedy
1	No sampling data is obtained. (The waveform is not detected.)	The SSCNET communication driver is not set up correctly. To perform communication over SSCNET, set up the SSCNET communication driver. To do this, refer to section 4.1 "SSCNET communication driver setup procedure."

5.5 When SNETP is booted, "Not enogh memory" error occurs

No.	Phenomenon	Cause and remedy
1	When SNETP is booted, "Not enogh memory" error occurs. 	When SNETP is booted in the order of SW6RN-SNETP Ver. 00B or later and SW3RN-SNETP Ver. 00G or earlier, SW3RN-SNETP displays the error given on the left and does not start. Exit from SW3RN-SNETP.

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