

GP-PRO/PBIII
PLC CONNECTION MANUAL

ADDITIONAL MANUAL
OMRON
SYSMAC CS1 SERIES
ETHERNET

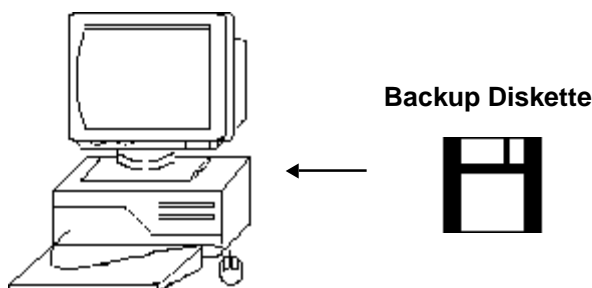
1

Installation

This diskette includes all the driver files required by the GP to communicate with an Omron PLC. Also, to install all of the user interfaces and communication files, you will need to have the GP Screen Editor software (GP-PRO/PBIII for Windows version 5.00) installed on your personal computer's hard disk. For information about the installation of the GP Screen Editor software (GP-PRO/PBIII for Windows), refer to that software's Operation Manual.

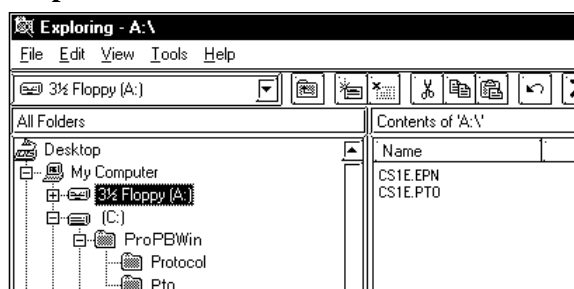
Here, "Drive C : " is used to indicate your hard drive, and your floppy disk drive is indicated by " Drive A : ". The current directory in either drive means the root directory.

- 1) Confirm that the GP Screen Editor software (GP-PRO/PBIII for Windows) is installed on your hard drive.
- 2) Before starting this installation process, please create a backup copy for your master diskette. This will prevent problems if your master diskette is damaged.
- 3) Insert your backup copy diskette into drive A :



- 4) Use Windows Explorer to copy the driver file [CS1E.EPN] to the folder [:\PROTOCOL], where the GP Screen Editor (GP-PRO/PBIII for Windows) program files are located.
- 5) Next, Copy the driver file [CS1E.PTO] to the GP Screen Editor folder [:\PTO].

< Example >



2

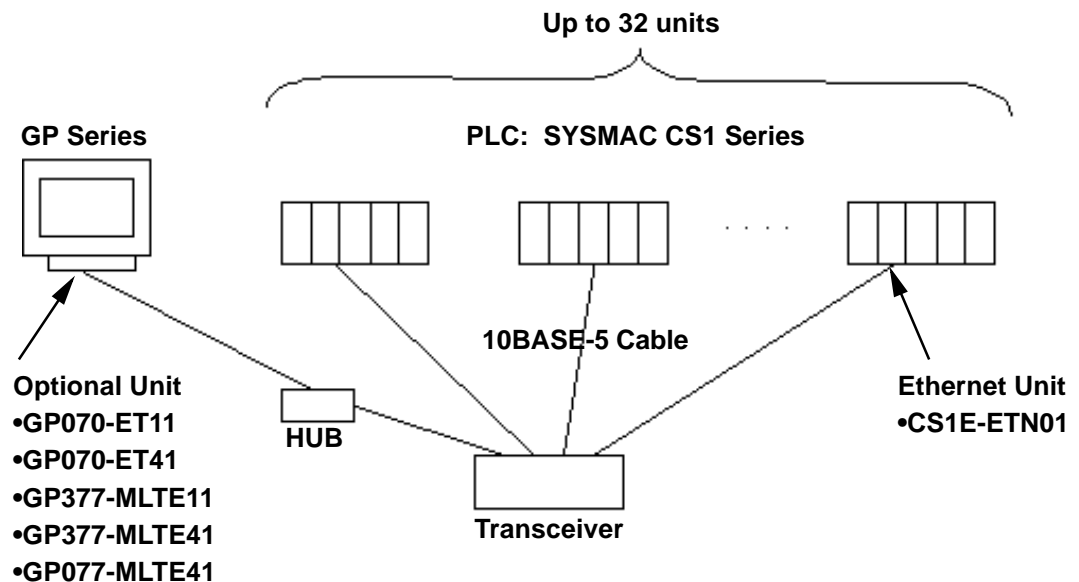
Connectable PLC

The following PLC can be connected to GP unit(s).

	Series Name	CPU	Ethernet Unit	Comments	PLC type in GP-PRO/PBIII
OMRON	SYSMAC CS1 Series	CS1H-CPU67 CS1H-CPU66 CS1H-CPU65 CS1H-CPU64 CS1H-CPU63 CS1G-CPU45 CS1G-CPU44 CS1G-CPU43 CS1G-CPU42	CS1W-ETN01	When using GP77R series units, an optional Ethernet unit is required. Be sure not to connect with Pro-Server.	OMRON SYSMAC-CS1 (ETHER)

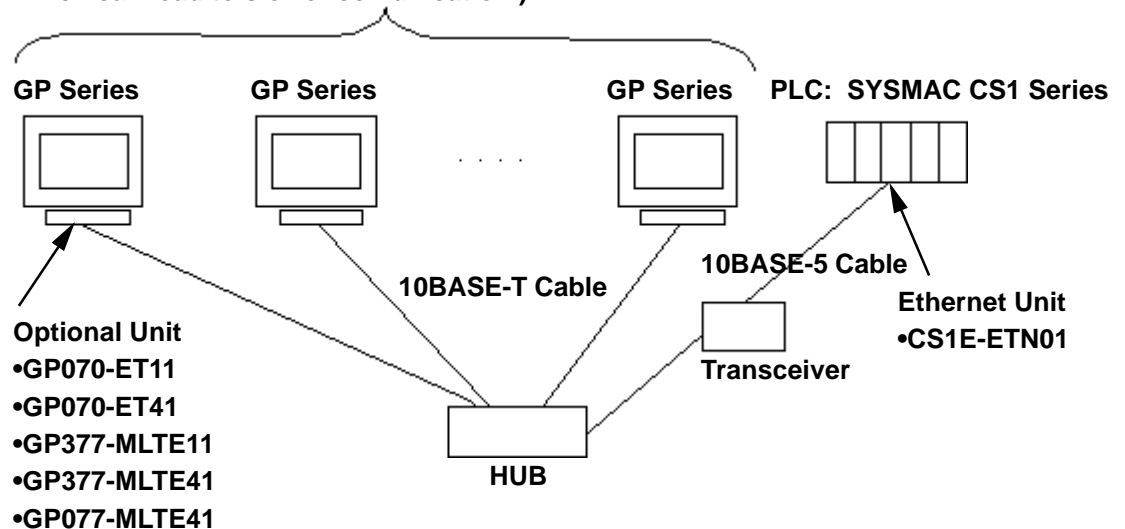
◆System Design

Ex.) 1 : n connection

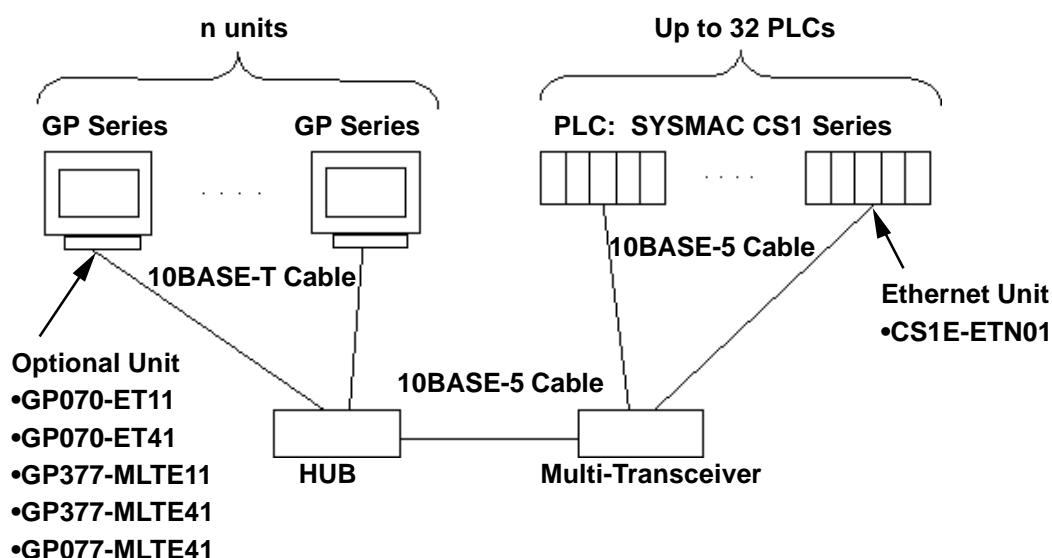


Ex.) n:1 connection

n units (While there is no limitation to the number of units connected, as the number increases, the communication load will also increase, which can lead to slower communication.)



Ex.) n:m connection



◆ Network Design

- When the GP and the target PLC use the same network address.

GP Settings

IP Address : 192.168.0.1
FINS UDP Port No. : 9600
Network Address : 1
Node Address : 50

PLC Settings

IP Address : 192.168.0.2
FINS UDP Port No. : 9600
Network Address : 1
Node Address : 100



GP to PLC Setting Information

Destination Node IP Address : 192.168.0.2
FINS UDP Port No. : 9600 (Default)
Network Address : 1
Node Address : 100

- When there is a junction PLC used between the GP and target PLC.

GP Settings

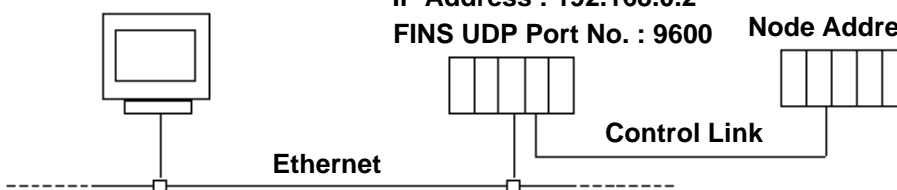
IP Address : 192.168.0.1
FINS UDP Port No. : 9600
Network Address : 1
Node Address : 50

Junction PLC Settings

IP Address : 192.168.0.2
FINS UDP Port No. : 9600

PLC Settings

Network Address : 2
Node Address : 1



GP to PLC Setting Information

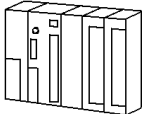


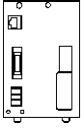
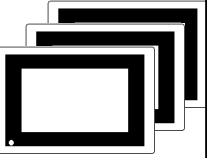
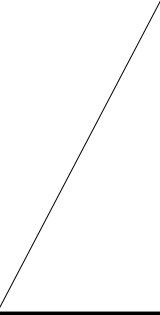
Destination IP Address : 192.168.0.2 (IP Address for Junction PLC)
FINS UDP Port No. : 9600 (Default) (Port No. for Junction PLC)
Destination Network Address : 2
Destination Node Address : 1

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System Structure for Ethernet Connection

This section explains the system structures for the Ethernet connection between OMRON PLCs and GP units.

■SYSMAC CS1 Series

CPU	Link I/F	Cable Diagram	Cables	Unit ^{*2}	GP
	 Ethernet Unit				
CS1H-CPU67 CS1H-CPU66 CS1H-CPU65 CS1H-CPU64 CS1H-CPU63 CS1G-CPU45 CS1G-CPU44 CS1G-CPU43 CS1G-CPU42	CS1W-ETN01		Ethernet cable (compatible with the IEEE802.3)	Pro-face Ethernet I/F Unit GP070-ET11 GP070-ET41 GP377-MLTE11 GP377-MLTE41 GP077-MLTE41	GP Series ^{*1}

**1 The Ethernet-compatible GP units include the GP-377RT, GP-477RE, GP-577RT, GP-577RS, GP-2400T, GP-2500T and GP-2600T.*

**2 Pro-face's GP-2500T, GP-2600T units can also use their built-in Ethernet ports. GP-2400T units can use only their built-in Ethernet ports.*

Reference

For connecting cables, refer to the User Manual for each Option Unit. When using GP2000 Series units, refer to the GP2000 Series User Manuals.



Careful! Be sure not to connect this Ethernet network with Pro-Server.

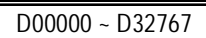





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Supported Devices

The following list shows the range of devices supported by the GP.


■ SYSMAC CS1 Series

 Setup System Area here.

Device	Bit Address	Word Address	Other	L/H
Channel I/O	CIO000000 ~ CIO614315	CIO00000 ~ CIO6143	^{*2}	
Internal Auxiliary Relay	W00000 ~ W51115	W000 ~ W511		
Hold Relay	H00000 ~ H51115	H000 ~ H511		
Special Auxiliary Relay	A00000 ~ A95915	A000 ~ A959	^{*1}	
Timer (Contact)	T0000 ~ T4095	_____	^{*3}	
Counter (Contact)	C0000 ~ C4095	_____	^{*3}	
Timer (Current)	_____	T0000 ~ T4095		
Counter (Current)	_____	C0000 ~ C4095		
Data Memory	D0000000 ~ D3276715	 D00000 ~ D32767	^{*2}	
Expansion Data Memory (E0 ~ EC)	E00000000 ~ EC3276715	E000000 ~ EC32767	^{*4}	
Expansion Data Memory (Current Bank)	_____	EM00000 ~ EM32767		
Task Flag	_____	TK0 ~ TK30	 	
Index Register	_____	IR0 ~ IR15		
Data Register	_____	DR0 ~ DR15		

^{*1} Addresses A00 to A477 cannot be written to.

^{*2} When using the Ethernet Unit (CS1W-ETN01), be sure not to perform Write from a GP to Data Memory D3000 to D31599 or from Channel I/O CIO1500 to CIO1899 since these addresses are used for the PLC's setting ranges.

Reference  For details, refer to the OMRON SYSMAC CS1 Series CS1W-ETN01 CS1W-ETN11 Ethernet Units OPERATION MANUAL.

^{*3} Cannot be written to.

^{*4} The Expansion Data Memory ranges available will vary depending on the type of CPU used.

◆Device Address and Node Number Limitations

Even though the CS1 Ethernet Protocol can access more than one CPU, the following limitations apply.

• Limitations

When a device address's size is larger than 1024 (1K) or a different network and node addresses is set, the number of available device addresses will vary. The GP uses internal records are used to set the device addresses. There records are limited to 64. For example, when the D0 device address is set, a single record is used in the GP. For detailed examples, refer to the following chart.

Ex1.) Number of records used when designatng tag setting numbers.

Setting No.	NetWork Address	Node Address	Device Address	Remaining Number of records in GP-PRO/PBIII	Other
1	1	1	D0	63	Uses one record
2	1	1	D1024	62	Uses one record
3	2	1	D0	61	Uses one record
4	2	1	D1024	60	Uses one record
5	2	1	T0	60	Since the node number and address range already exist as setting No.3, no records will be used.
6	2	1	T1024	60	Since the node number and address range already exist as setting No.4, no records will be used.
7	2	1	D2048	59	Uses one record
8	2	2	D2048	58	Uses one record
9	3	1	D2048	57	Uses one record
10	3	1	D2049	57	Since the node number and address range already exist as setting No.9, no records will be used.

When the total number of Network Addresses, Node Addresses and Device Addresses are exceeds 1024, GP internal records are used. However, if the Network Address, Node Address and Device Address are the same type, no record will be used, even if the device types are different.

Ex2.) When setting tags from D00000 to D16384 in Data Memory, since one record is used for every 1024 addresses, a total of 16 records will be used.

$$16384/1024=16$$

Therefore, when setting the same number of tags for each node, settings for only a total of only four nodes can be set.

$$64/16=4$$



Note: When the number of records is over 65, the following error message will appear on the GP Screen Editor software (GP-PRO/PBIII for Windows).

“Address entry limit reached. No more can be entried”

◆ When setting parts or tags from GP Screen Editor (GP-PRO/PBIII for Windows)

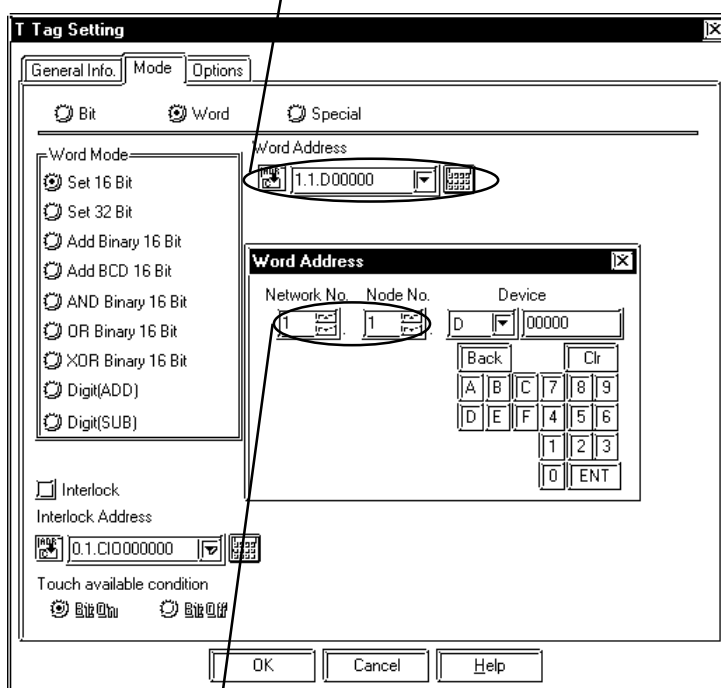
Before setting parts or tags, Network Information settings must be entered. Network Information Setting can be set from the [GP SYSTEM SETTING]->[MODE SETTIN]->[Network Information] screen.

Reference *this manual, 6 Environment Setup*

Specifying the PLC's Network Address and Node Address when setting parts or tags, allows the specified PLC's Device to be read out.

Setting Example

When the Destination Network Address is 1 and Node Address is 0, "1" for the Network Address and "0" for the Node Address.



1. 1. D00000

- Device Address

-Node Address

- Network Address

 **Note:**

In case of setting parts or tags from GP Screen Editor (GP-PRO/PBIII for Windows), PLC's Network Address and Node Address can be set when inputting the address. When the Network Address or Node Address are not specified, the previously entered numbers are kept. When entering new setup values, the default values are:

Network Address : 0

Node Address : 1

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Environment Setup

■GP Settings

The following screens show the GP's communication settings, which are required for communications via the Ethernet connection:

◆SET UP OPERATION SURROUNDINGS MENU

<GP-477R Series, GP-577R Series, GP2000 Series>

SETUP OPERATION SURROUNDINGS MENU		RETURN
1	SETUP OPERATION SURROUNDINGS	
2	SETUP ETHERNET INFORMATION	
3	SETUP ETHERNET EXT. INFORMATION	
4	DESTINATION NODE INFORMATION	

<GP-377R Series>

MAIN	INITIALIZE	PLC SETTING
SETUP OPERATION SURROUNDINGS1		
SETUP OPERATION SURROUNDINGS2		
SETUP ETHERNET INFORMATION		
SETUP ETHERNET EXT. INFORMATION		
DESTINATION NODE INFORMATION		

• SET UP OPERATION SURROUNDINGS

<GP-477R Series, GP-577R Series, GP2000 Series>

SETUP OPERATION SURROUNDINGS		SET	CANCEL
STARTING ADDRESS OF SYSTEM DATA AREA	[0]		
DESTINATION NETWORK ADDRESS	[]		
DESTINATION NODE ADDRESS	[]		
SYSTEM AREA READING AREA SIZE (0-256)	[]		
RESET GP ON DATA WRITE ERROR	ON OFF		

Note!
The system start address, network address and node address cannot be change on GP. Please use GP-PRO/PB3 to set this data and re-send to the GP.

	1	2	3	4	5	6	7	8	9	0		↑	↓	BS
												←	→	

<GP-377R Series>

SETUP OPERATION SURROUNDINGS1		SET	ESC
SYSTEM AREA START ADR D	<input type="text"/>		
DEST NETWORK ADR	<input type="text"/>		
DEST NODE ADR	<input type="text"/>		

Please use GP-PRO/PB3 to modify the address for system, network and node.

SETUP OPERATION SURROUNDINGS2		SET	ESC
SYSTEM AREA READ SIZE	<input type="text"/>		
RESET GP ON WRITE ERROR	<input type="text"/>		



Be sure the Destination Network Address and Destination Node Address entered are the same as the PLC's settings. However, the Destination Network Address and Destination Node Address settings cannot be changed from the GP's OFFLINE mode. Be sure to make these settings from the GP Screen Editor's [GP SYSTEM SETUP] -> [MODE SETUP] setting area..



This manual, 6 Environment Setup ◆GP Screen Editor software (GP-PRO/PBIII for Windows) Settings

◆ SETUP ETHERNET INFORMATION

Enter each item in the SET UP ETHERNET INFORMATION screen.

<GP-477R Series, GP-577R Series, GP2000 Series>

SETUP ETHERNET INFORMATION															SET	CANCEL
SRC IP ADDRESS		[]	.	[]	.	[]	.	[]
SRC NETWORK ADDRESS		[]												
SRC NODE ADDRESS		[]												
FINS UDP PORT NO.		[]												
	1	2	3	4	5	6	7	8	9	0			↑	↓	BS	
													←	→		

<GP-377R Series>

SETUP NETWORK INFORMATION										SET	ESC	
SRC IP ADD.		[]	.	[]	.	[]
SRC NETWORK ADDRESS		<input type="text"/>										
SRC NODE ADDRESS		<input type="text"/>										
FINS UDP PORT NO.		<input type="text"/>										

- **SRC IP ADDRESS (0 ~ 255)**

Enter your GP's IP address.

- **SRC NETWORK ADDRESS**

Enter your GP's Network address.

- **SRC NODE ADDRESS**

Enter your GP's Node address.

- **FINS UDP PORT NO. (1024 ~ 65535)**

Enter the FINS UDP port number, between 1024 and 65535. Set the port number so that it is the same as the PLC's FINS UDP port number. The PLC's default value is 9600. When connecting one PLC with more than one GP unit, all GP FINS UDP port numbers need to be set as the same values.



Do not specify duplicate IP addresses. Contact your network manager about assigning IP addresses.



- When using the built-in Ethernet port on a GP2000 Series unit, be sure not to enter duplicate "SRC PORT No." values.

Check the 2-way driver's "SRC PORT No." Setting via the following menu:

GP OFFLINE mode's Main menu [INITIALIZE] -> [SETUP OPERATION SURROUNDINGS] -> [EXTENDED SETTINGS] -> [SETUP ETHERNET INFORMATION] screen.

The default value is 8000. The 2-way driver uses this port and the following nine ports for a total of 10 (8000 ~ 8009).

- Cannot be set SRC IP Address and FINS UDP Port No. from GP Screen Editor. Be sure to set them from the GP OFFLINE mode. When transmitting GP System Setting from GP Screen Editor (GP-PRO/PBIII for Windows) after all settings have been done, all setting values are set to 0. Be sure to set from the GP OFFLINE mode again.

◆SET UP NETWORK EXT. INFORMATION

<GP-477R Series, GP-577R Series, GP2000 Series>

SETUP ETHERNET EXT. INFORMATION		SET	CANCEL
SEND WAIT TIME	[] (ms)		
TIMEOUT	[] (x 2sec)		
IP ROUTER ADDRESS	[] . [] . [] . []		
SUBNET MASK	[] . [] . [] . []		
UDP RETRY COUNT(0-255)	[]		

	1	2	3	4	5	6	7	8	9	0			↑	↓	BS
													←	→	

<GP-377R Series>

SETUP NETWORK EXT. INFORMATION		SET	ESC
SEND WAIT TIME	[] (ms)		
TIMEOUT	[] (x 2sec)		
IP ROUTER ADD.	[] . [] . [] . []		
SUBNET MASK	[] . [] . [] . []		
UDP RETRY COUNT(0-255)	[]		

- **SEND WAIT TIME (0 to 255)**

Wait time can be added when a command is transmitted from the GP. Use the wait time if the traffic on the communications line is heavy. If no wait time is required, enter “0.”

- **TIMEOUT (0 to 65535)**

Enter the desired timeout value. If no response is received from the other station within the specified time, a timeout occurs. If “0” is specified, the default time is 5 seconds with UDP/IP communication.

- **IP ROUTE ADDRESS**

Enter the IP address of the router (only one). If no router is used, enter “0” in all fields.

- **SUBNET MASK**

Enter the subnet mask settings. If no subnet mask is used, enter “0” in all fields.

- **UDP RETRY COUNT (0 to 255)**

Designates the number of times the GP re-sends a command when there is no reply from the other port and a timeout occurs. When no reply is received after the retry setting number is reached, an error message will appear on the GP screen.



- ***If GP memory is initialized in OFFLINE mode, random values may be included. Be sure to check the displayed values.***

- ***Cannot be set SRC IP Address and FINS UDP Port No. from GP Screen Editor. Be sure to set them from the GP OFFLINE mode. When transmitting GP System settings by using Screen Transmittng from GP Screen Editor (GP-PRO/PBIII for Windows) after settings, the setting values are set to 0. Be sure to set from the GP OFFLINE mode again.***

• DESTINATION NODE INFORMATION

<GP-477R Series, GP-577R Series, GP2000 Series>

DESTINATION NODE INFORMATION		
<div style="text-align: right;"> <input type="button" value="PREVIOUS"/> <input type="button" value="NEXT"/> <input type="button" value="END"/> </div>		
NETWORK	NODE	IP ADDRESS
1	1	192.168.0.1
1	2	192.168.0.2
1	3	192.168.0.3
1	4	192.168.0.4
Please use GP-PRO/PB3 to change them settings.		

<GP-377R Series>

DESTINATION NODE INFO		
<div style="text-align: right;"> <input type="button" value="PRE"/> <input type="button" value="NEXT"/> <input type="button" value="ESC"/> </div>		
NETWORK	NODE	IP ADDRESS
1	1	192.168.0.1
1	2	192.168.0.2
1	3	192.168.0.3
1	4	192.168.0.4
Please use GP-PRO/PB3 to change them.		

• DESTINATION NODE INFORMATION

The Destination (PLC) Network Address, Destination Node Address and IP Address are displayed here. Press [NEXT] button to see the next page.



The DESTINATION NODE INFORMATION cannot be set or changed from the OFFLINE mode. Set or change these values from the GP Screen Editor software (GP-PRO/PBIII for Windows) [GP SYSTEM SETTINGS]-> [MODE SETTINGS] -> [NETWORK INFORMATION SETTINGS].



This manual, 6 Environment Setup ■GP Screen Editor software (GP-PRO/PBIII for Windows) Settings

■GP Screen Editor software (GP-PRO/PBIII for Windows) settings

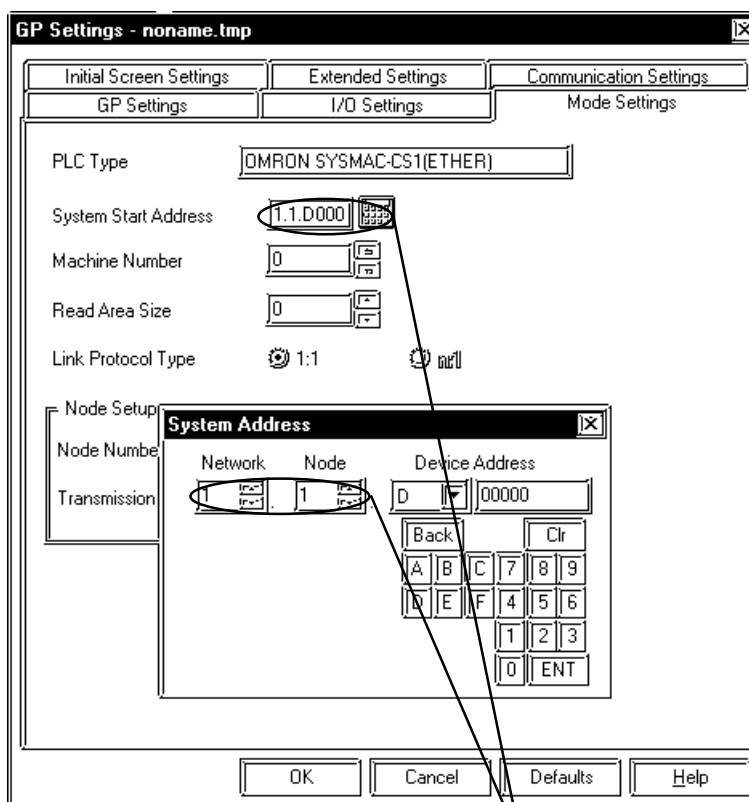
The following items can be entered from the GP Screen Editor software (GP-PRO/PBIII for Windows) [GP SYSTEM SETTINGS] -> [MODE SETTING] area.

Menu	Sub Menu	Item
Mode Settings	Network Information Settings	SYSTEM START ADDRESS
		READ AREA SIZE
		NETWORK ADDRESS
		NODE ADDRESS
		DESTINATION NETWORK ADDRESS
		DESTINATION NODE ADDRESS
		DESTINATION IP ADDRESS

◆MODE SETTINGS

•SYSTEM START ADDRESS SETTINGS

System Start Address Settings are as shown below. The System Area and Read Area are assigned to the PLC node designated here.



The System Start Address is allocated to the PLC node entered here. Set the Network Address and Node Address to the same address values as set in the Destination Node Information. (Set in the [MODE SETTINGS] -> [NETWORK SETTINGS].).

•NETWORK INFORMATION SETTINGS

GP Settings - noname.tmp

Initial Screen Settings Extended Settings Communication Settings

GP Settings I/O Settings Mode Settings

PLC Type: OMRON SYSMAC-CS1(ETHER)

System Start Address: 1.1.D000

Machine Number: 0

Read Area Size: 0

Link Protocol Type: 1:1

Node Setup

Node Number: 0

Transmission Status: 0.1.D000

Customize...
Network...

OK Cancel Defaults Help

Click on this button to set the Network Information.

The Source Node Info and Destination Node Info are set as shown below.

Network Information

Source Node Info.

Network Address: 1

Node Address: 100

Destination Node Info.

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Network	Node	IP Address
1	1	192.168.0.1
1	2	192.168.0.2
1	3	192.168.0.3
1	4	192.168.0.4

New Edit Delete

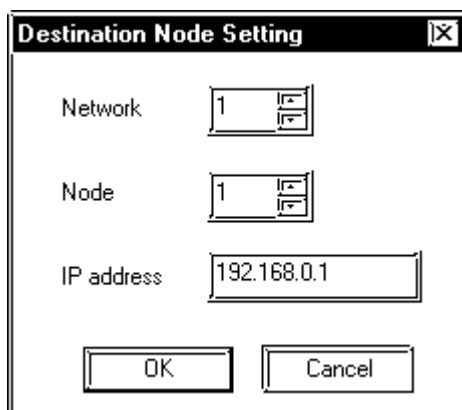
OK Cancel Help(H)

The Source Node Info can be entered by clicking on that item directly.

• SOURCE NODE INFO.

Enter your GP's Network Address and Node Address.

When entering Destination Node Information Settings, click on New or Edit button and the dialog box shown below appears.

A screenshot of a Windows-style dialog box titled "Destination Node Setting". It contains three input fields: "Network" with the value "1", "Node" with the value "1", and "IP address" with the value "192.168.0.1". Each of the first two fields has a small icon to its right. At the bottom of the dialog are two buttons labeled "OK" and "Cancel".

- **DESTINATION NODE SETTING**

Enter the destination PLC Node number. The Maximum number of Nodes is 32. The Destination PLC Node IP Address needs to be set to the same address as the target PLC or the junction PLC's IP address. The Destination Network Address and Destination Node Address need to be set to the target PLC's addresses.

■PLC SETTINGS

◆SYSMAC CS1 Series

Item	GP Settings		PLC Settings	
SRC IP Address	SRC IP Address	GP's Address ^{*1}	IP Address Setting Switch	PLC's Address
SRC Node Address	SRC Node Address	GP's Address	Node No. Switch	PLC's No.
SRC Network Address	SRC Network Address	GP's Address	Network Address	PLC's Address
Destination IP Address	Destination IP Address	Target or transit PLC's IP Address	IP Address Table	GP's IP Address
Destination Node Address	Destination Node Address	Target or transit PLC's Node Address	IP Address Table	GP's Node Address
Destination Network Address	Destination Network Address	Target or transit PLC's Network Address	_____	_____
Port No. ^{*2}	FINS UDP Port No.	9600	FINS UDP Port No.	9600

**1 Contact your network administrator about setting values.*

**2 PLC's default Port number is 9600. Be sure to set the same number as the GP setting.*

When using the following function on a GP2000 Series unit, be sure not to use duplicate port number values. Check the 2-way driver's port number setting via the following menu:

GP OFFLINE mode's Main menu [INITIALIZE] -> [SETUP OPERATION SURROUNDINGS] -> [EXTENDED SETTINGS] -> [SETUP ETHERNET INFORMATION].

The default value is 8000. The 2-way driver uses this port and the following nine ports for a total of 10 (8000 ~ 8009).

Port number's offset	Function
+1	For MtoMLan (GP-PRO/PBIII for Windows Screen Transmit)
+2	For ProNet (Pro-Server with Pro-Studio for Windows)
+3	Reserved
+4	For GP-Web
+5	Reserved
+6	For Pro-Control Editor
+7	Reserved
+8	For GP-PRO/PBIII for Windows Simulation
+9	Reserved



Be sure not to set a duplicate Node Address in the same Network Address group.

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Maximum No. of Consecutive Addresses

The following table lists the maximum number of consecutive addresses that can be read by a GP. *Refer to this table when using Block Transfer.*

Device	Max. No. of Consecutive Addresses
Channel I/O	400 words
Internal Auxiliary Relay	
Latch Relay	
Special Auxiliary Relay	
Timer (Contact)	
Counter (Contact)	
Timer (Current Value)	
Counter (Current Value)	
Data Memory	
Extended Data Memory (E0 ~ EC)	
Extended Data Memory (Current Bank)	
Task Flag	16 words
Index Register	32 words
Data Register	16 words

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Device Codes and Address Codes

E-tag or K-tag indirect addresses cannot be designated by a SYSMAC CS1 Series unit on an Ethernet network.

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Address Conversion Table

Addresses can or cannot be converted depending on the address combination used. Address combinations which cannot be converted vary between Controller manufacturers. *Refer to the following Address Conversion Table to convert the addresses correctly.*

How to Read this Table

The symbols used in the table have the following meanings:

- : When the address conversion device type is set to [Word], the system converts both word and bit devices. When the [Bit] setting is used, only bit device addresses are converted.
- ☆: When [Word] mode is selected, the system converts only word addresses. Bit Addresses cannot be converted.
- : When [Bit] mode is selected, the system converts only bit addresses. Word Addresses cannot be converted.

Blanks cannot be converted.

Device		After Conversion														
		CIO	W	H	A	T (contact)	C (contact)	T (current value)	C (current value)	D	E	EM	TK	OR	DR	LS
Before Conversion	Channel I/O (CIO)	○	○	○	○	□	□	☆	☆	○	○	○	○	○	○	○
	Internal Auxiliary Relay (W)	○	○	○	○	□	□	☆	☆	○	○	○	○	○	○	○
	Latch Relay (H)	○	○	○	○	□	□	☆	☆	○	○	○	○	○	○	○
	Special Auxiliary Relay (A)	○	○	○	○	□	□	☆	☆	○	○	○	○	○	○	○
	Timer (contact) (T)	□	□	□	□	□	□			□	□	□	□	□	□	□
	Counter (contact) (C)	□	□	□	□	□	□			□	□	□	□	□	□	□
	Timer (current value) (T)	☆	☆	☆	☆			☆	☆	☆	☆	☆	☆	☆	☆	☆
	Counter (current value) (C)	☆	☆	☆	☆			☆	☆	☆	☆	☆	☆	☆	☆	☆
	Data Memory (D)	○	○	○	○	□	□	☆	☆	○	○	○	○	○	○	○
	Extended Data Memory (E0 ~ EC)	○	○	○	○	□	□	☆	☆	○	○	○	○	○	○	○
	Extended Data Memory (current bank) (EM)	○	○	○	○	□	□	☆	☆	○	○	○	○	○	○	○
	Task Flag (TK)	○	○	○	○	□	□	☆	☆	○	○	○	○	○	○	○
	Index Register (IR)	○	○	○	○	□	□	☆	☆	○	○	○	○	○	○	○
	Data Register (DR)	○	○	○	○	□	□	☆	☆	○	○	○	○	○	○	○
	LS	○	○	○	○	□	□	☆	☆	○	○	○	○	○	○	○

10 Error Codes

■ GP ETHERNET SPECIFIC ERROR CODES

The GP Ethernet error codes are displayed by one of the “Host Communication Error (02:FE:**)” or the “Host Communication Error (02:FE:**:###:###)”, and indicated in the left lower corner of the GP screen. (** indicates the GP Ethernet specific error codes and ### indicates the network address and node address)

Error Display 1:

Host Communication Error (02:FE:**)”

└─ Ethernet Error Code (HEX)

Error Display 2:

Host Communication Error (02:FE:**:###:###)”

└─ Node Address (Dec)

└─ Network Address (Dec)

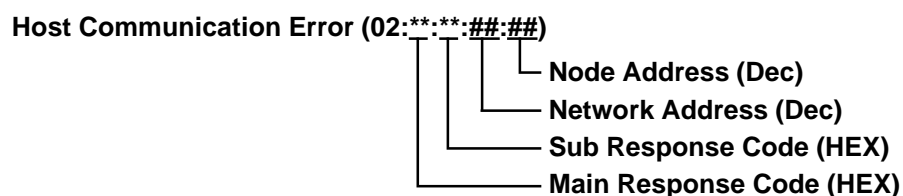
└─ Ethernet Error Code (HEX)

Error code	Description	Other
00	There is a setup error related to the IP address of your station at initialization.	
05	Initialization has failed.	
06	Abortion of communications has failed.	
07	An attempt was made to establish a connection before initialization was successfully completed.	
08	The port number of your station is abnormal.	
09	The port number of the destination station is abnormal.	
0A	The IP address of the other station is abnormal.	
0B	The same port number is already being used by the UDP/IP for establishing the connection.	
0C	The same port number is already being used by the TCP/IP for establishing the connection.	
0D	The protocol stack has refused connection establishment.	
0E	The protocol stack has returned the unsuccessful establishment of a connection.	
0F	The connection has been shut down.	
10	All the connections are busy. No connection is available.	
13	Your station is aborted by the other station	
30	There is no reply from the protocol stack	
32	There is no reply from the other station	*1
40	The Node Addresses does not exist in Network Information.	*1
41	I/O Memory Type for Random Read Out Reply is wrong.	*1
42	Network Information does not exist.	
F0	The error does not define.	

*1 The Network Addresses and Node Addresses are displayed.

■ PLC SPECIFIC ERROR CODES

The PLC error codes are displayed by the “ Host Communication Error (02:**:**:##:##)”, and are indicated in the left lower corner of the GP screen. (**:** indicates the PLC error codes and ## indicates the Network Address and Node Address.) PLC error codes are shown using 2-byte, Main Response Codes and Sub Response Code.



▼ Reference ▲ For more details about error codes, refer to *Omron Communications Reference Manual for SYSMAC CS1 Series (Chapter5 FINS Commands, End Codes)*.