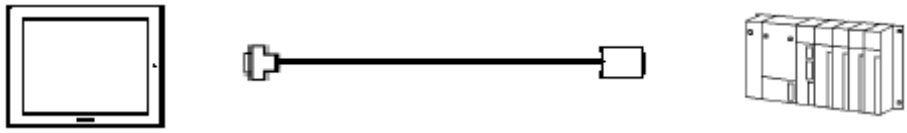
Mitsubishi <13> Mitsubishi Electric Corporation
PLC Q Series (Q Mode) CPU Direct Connection

System Structure

Connecting Directly	
Using Internal 2-Port Feature	

Caution

2-Port Adapter Ⅱ cannot be used.

GP

Machine	Model	Remark
GP	GP70 Series GP77/77R Series GP2000 Series	Excepting for handy types. The internal 2-Port feature is supported by only GP77/77R Series and GP2000 Series.
GLC	GLC2000 Series	2-Port Adapter Ⅱ and the internal 2-Port feature are not supported.

PLC

CPU	Communication Method	Connection Cable	GP
Q02, Q02H, Q06H, Q12H, Q25H	RS-232C	**Connection Method**	

Procedure to Connect PLC

Select PLC Type on GP-PRO/PBⅢ C-Package.

Refer to **Selecting PLC Type**

Set the GP and PLC settings as the communication setting sample.

Refer to **Communication Setting Sample**

Set GP communication.
There are 2 ways.

- Setting on GP-PRO/PBⅢ C-Package and transfer the data
- Setting on the Offline of the GP main unit.

Refer to **Communication Settings [GP]**

Set PLC communication.

Refer to **Communication Settings [PLC]**

Connect PLC to GP.
Please check the connection method according to the connection type, or distance.

Refer to **Connection Method** & **Recommended Products**

Selecting PLC Type

Start up GP-PRO /PBIII.

Select the following PLC Type when creating the project file.

Communication Setting Sample

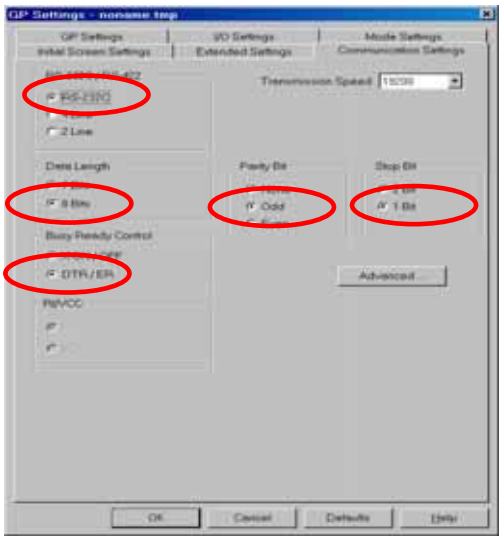
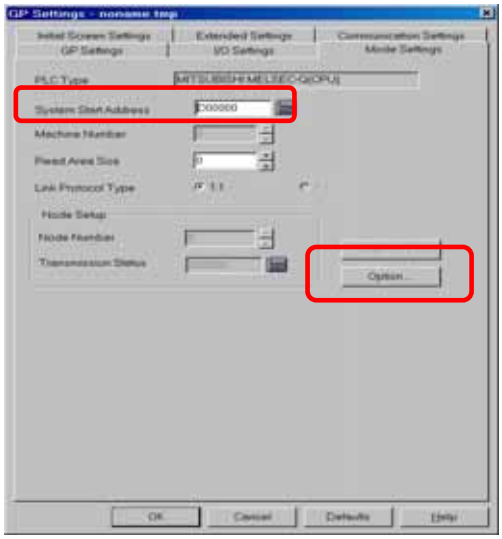
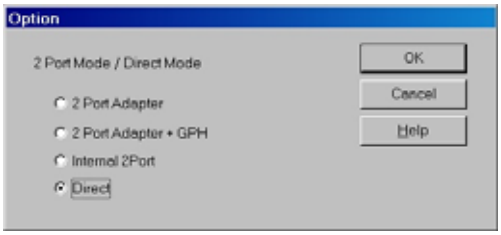
GP Setup		PLC Settings
Baud Rate	19200 bps	———
Data Length	8bit (fixed)	———
Stop Bit	1bit (fixed)	———
Parity Bit	Odd (fixed)	———
Data Flow Control	ER Control (fixed)	———
Communication Format	RS-232C (fixed)	———
Unit No.	0 (fixed)	———

NOTE The range of data transmission speed is from 9,600bps to 15,200bps. However, the maximum speed available with GP70 series units (except for GP series) is 38,400bps.

Communication Settings [GP]

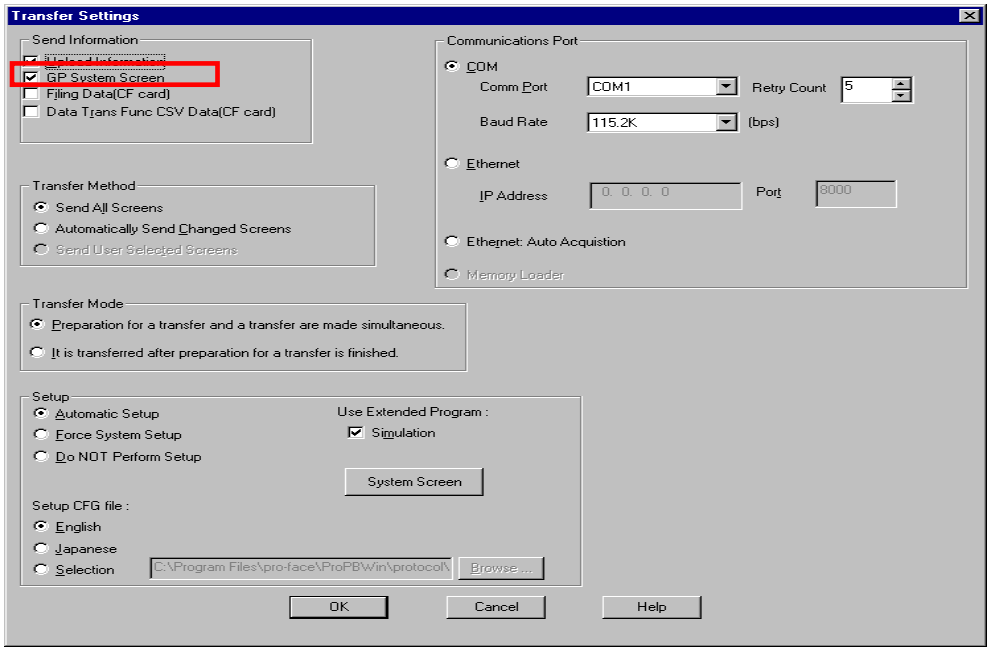
1 [GP-PRO/PBⅢ C-Package Setting]

Select [GP Setup] on Project Manager.

1) Communication Settings 	1) Communication Settings Transmission Speed : 19200bps Data Length : 8 Bits Stop Bit: 1 Bit Parity Bit: Odd Busy Ready Control : DTR / ER RS-232C/ RS-422 : RS-232C NOTE The range of data transmission speed is from 9,600bps to 15,200pbs. However, the maximum speed available with GP70 series units (except for GP series) is 38,400 bps.
2) Mode Settings 	2) Mode Settings System Start Address: Arbitrary Address Select [Option…].
3) 2-Port Mode/Direct Mode Settings  	3) 2-Port Mode/Direct Mode Settings Connecting CPU Directly: Direct Using Internal 2-Port Adapter: Internal 2-Port Caution The 2-Port Adapter Ⅱ cannot be used.

Select [Transfer] --> [Setup] --> [Transfer Settings].

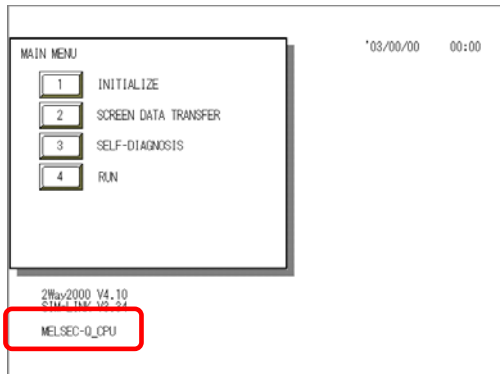
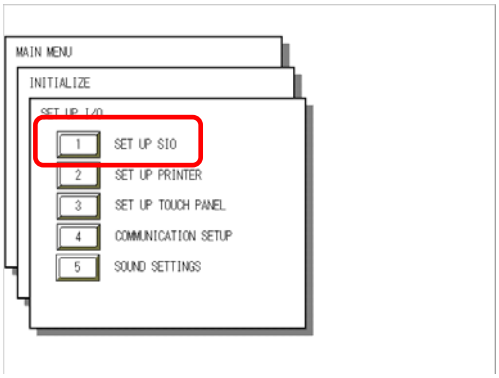
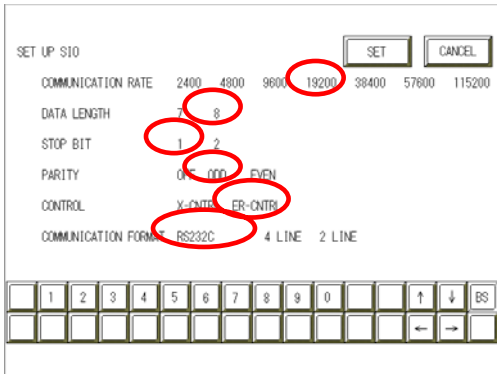
4) Transfer Settings

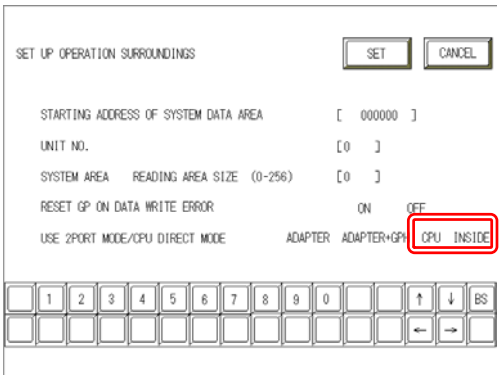


4) Transfer Settings GP System Settings: Checked

Transfer to GP after settings completed.

2 [GP Settings]

1) Checking GP Type  	1) Checking GP Type If you have selected Mitsubishi MELSEC-Q (CPU), the following will be shown. "MELSEC-Q_CPU"
2) Communication Settings  	2) Communication Settings [MAIN MENU] ↓ [INITIALIZE] ↓ [SET UP I/O] ↓ [SET UP SIO]
 	Communication Rate: 19200bps Data Length: 8 Bits Stop Bit: 1Bit Parity: Odd Control: ER Cntrl Communication Format: RS-232C

3) Setting up Operation Surroundings	3) Setting up Operation Surroundings
	[MAIN MENU] ↓ [INITIALIZE] ↓ [PLC SETUP] ↓ [PLC SETUP]
	Starting Address of System Data Area: Arbitrary Address Unit No. : 0 Use 2-Port Mode/CPU Direct Mode Connecting CPU Directly: CPU Using Internal 2-Port Adapter: Inside The 2-Port Adapter II cannot be used. * Select one in [ ] .

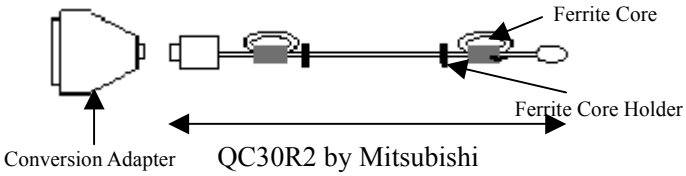
Communication Settings [PLC]

1 [Using Direct Connection / Internal 2-Port Feature]

There are no items to set on the PLC.

The transmission speed is changed automatically depending on the GP settings. (9600bps - 115.2kbps)
Other settings excepting for the transmission speed are fixed (not changeable).

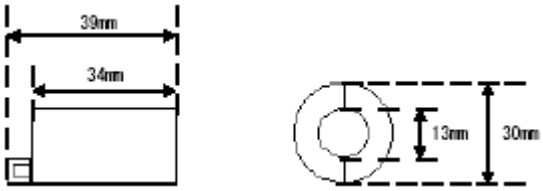
Connection Method

Type	Connection Method	Distance
Using QC30R2 by Mitsubishi Electric Corporation *9-25pin Conversion Adapter is required.	GP Unit 25 pin Male PLC Mini DIN 9 pin  	3m
Using DQCABR2 by Diatrend	GP Unit 25 pin Male PLC Mini DIN 9 pin  	Range between 1.5 and 15m

NOTE

- Attaching a Ferrite Core will reduce the amount of noise in your cable.
- Attach two Ferrite Cores to your cable, one at each end. Also, as shown in the drawing below, loop the cable once around the Ferrite Core.
- When using a data communication cable that is 3m (approx. 10 ft.) or longer, please use a cable made by Diatrend Corporation.

Recommended Products

Ferrite Core	E04SR301334 <Seiwa Electronics Corporation> 
9-25 Conversion Adapter	ZA-403 <Roas Co.>

[Creating a 9-25 pin Conversion Adapter]

Connecter/Cover for GP	D-sub 25 pin Plug	XM2A-2501 <OMRON Co.>
	Cover for D-sub 25 pin	XM2S-2511 <OMRON Co.>
	Jack Screw	XM2Z-0071 <OMRON Co.>
Setscrew	Metric Coarse Screw Tread : M2.6 × 0.45	
Diagram	D-sub 25 pin Male Lock-screw(mm)	D-sub 9 pin Male Lock nut (inch)