Connecting Rockwell (Allen-Bradley) PLC

MicroLogix 1200/1500 Series -Serial

Communication Setting Sample

MicroLogix 1200/1500 Series

GP Settings		PLC Settings	
Speed	19200bps	Baud Rate	19200bps
Data Length	8bits	—	—
Stop Bit	1bit	—	—
Parity	Even	Parity	Even
Flow Control	ER (DTR/CTS)	—	—
SIO Type	RS-232C	—	—
DH Address GP DH Address PLC*1	0 to 254	Node Address	0 to 254
SIO Type	RS-232C	—	—
—	—	Driver	DF1 Half Duplex Slave
—	—	Control Line	No Handshaking
—	—	Error Detection	BCC
—	—	EOT Suppression	Not Checked
—	—	Duplicate Packed Detect	Not Checked
—	—	Poll Timeout	3000
—	—	Message Retries	3
—	—	Pre Transmit Delay	0

*1 Set with same address for [DH Address GP] and [DH Address PLC]

Communication Settings [PLC]

Two programs are required for MicroLogix PLC communication settings.

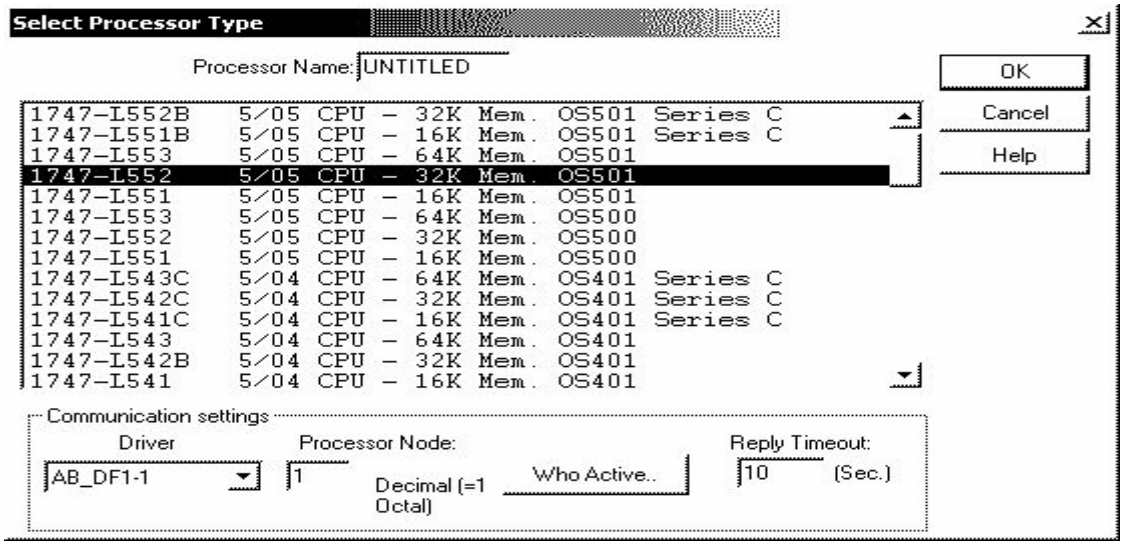
1. RSLinx – Software to connect PLC and PC with RSLogix500 installed
   (Ver.2.41.00 is used in this sample.)
2. RSLogix500 – Ladder Software
   (Ver.5.20.00 is used in this sample.)

* Communication Settings on RSLogix500

Please connect PLC and PC with RSLinx before creating a ladder.
(Contact Rockwell Automation, Inc. for more details.)

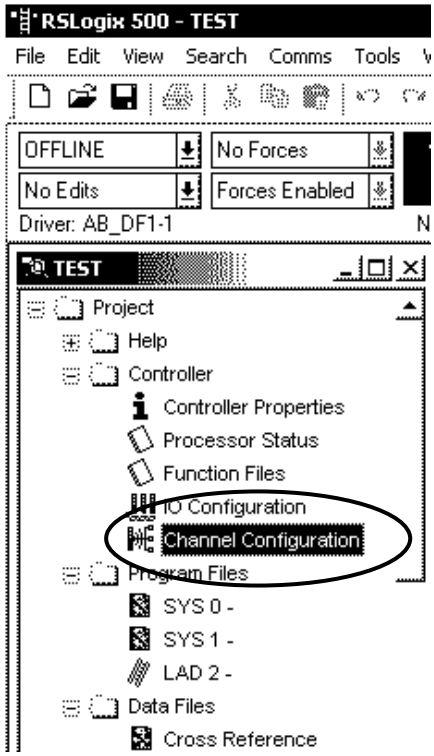
1) Start up RSLogix500.

2) Select the CPU type

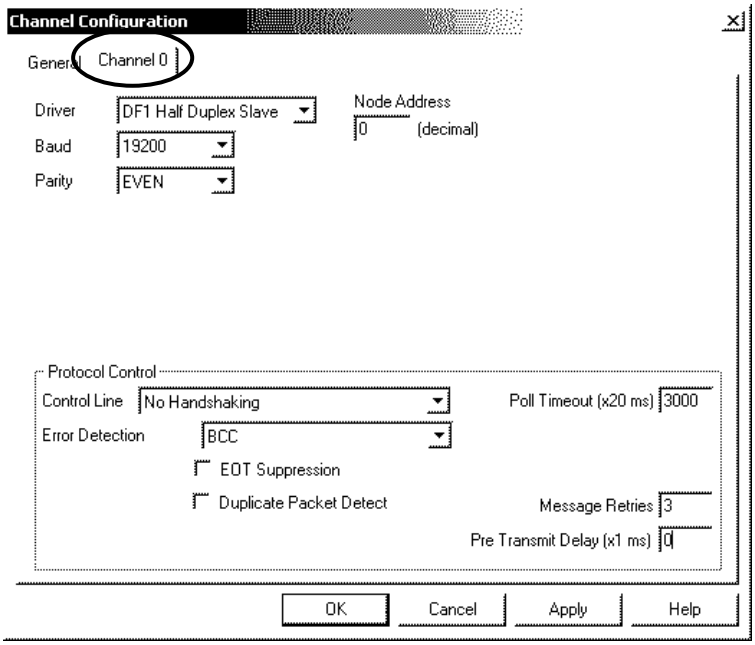


Communication Settings can be left by default.

3) Click［Channel Configuration］.



4) A dialog box will appear. Then double-click the [Channel 0] tab and set the channel.

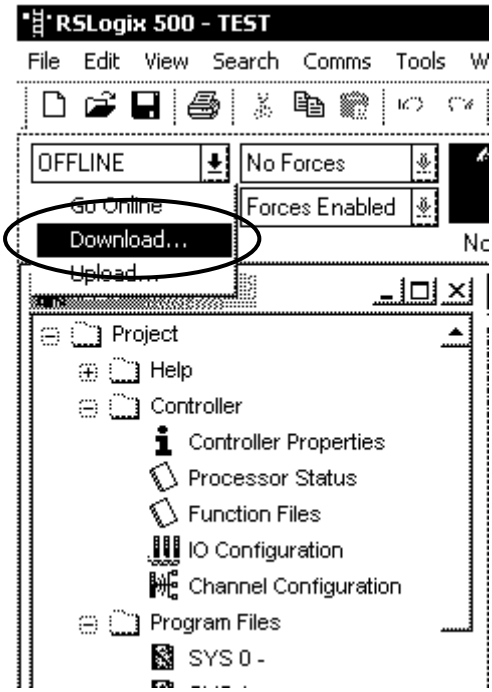


Setting Item	Setting Detail	Remark
Baud Rate	19200bps	
Parity	Even	
Communication Driver	DF1 Half-Duplex	
Duplicate Packet Detection	Disable	System cannot be operated with other settings.
Error Detection	BCC	System cannot be operated with other settings.
Control Line	No Hand shaking	System cannot be operated with other settings.
Station Address	0 to 255	Set with the same address as DH GP Address of GP.

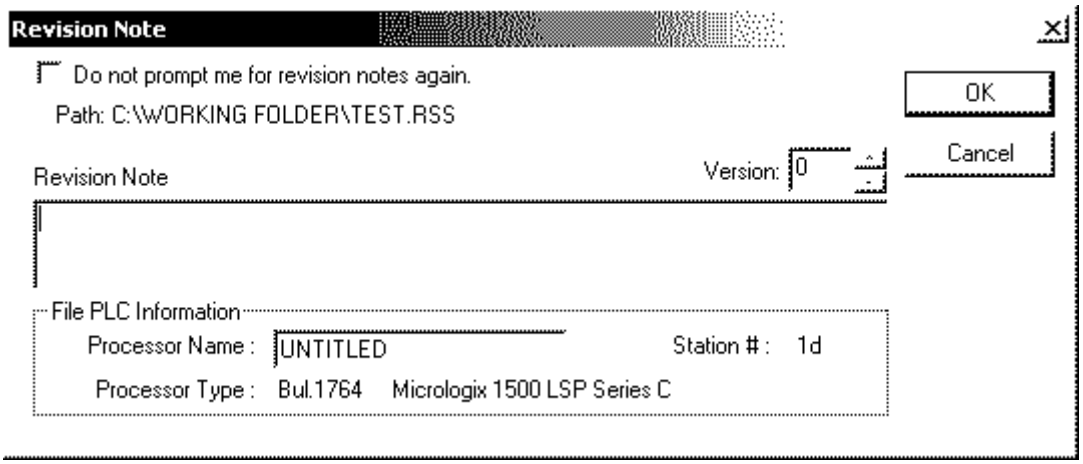
* Other settings can be left by default.

⑤ Click the [OK] button after complete the settings.

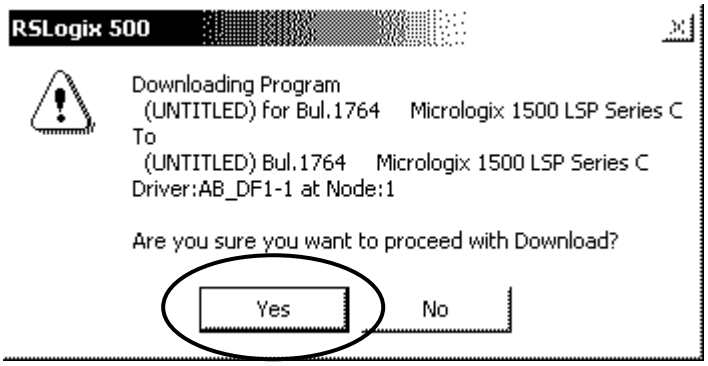
⑥ Download the driver settings. Click [OFFLINE] and select [Download...].



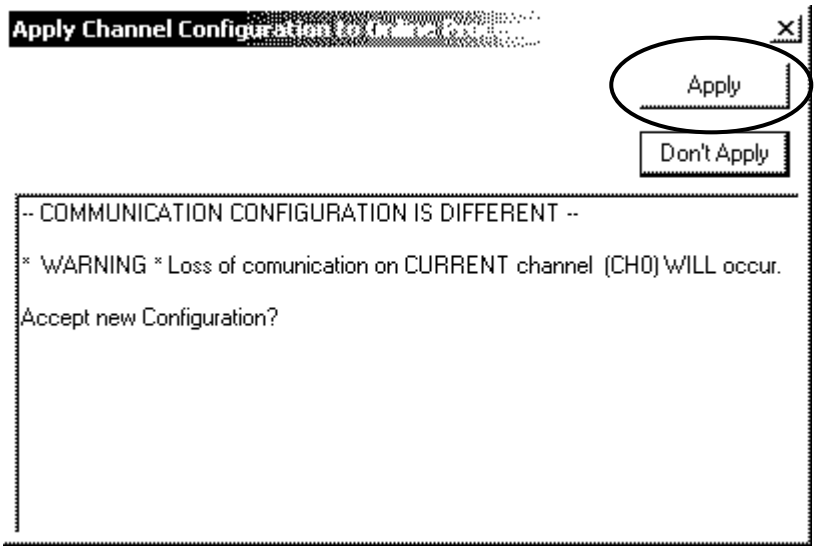
⑦ The dialog box as below will be displayed, and then click the [OK] button.



⑧ The following alert dialog box will appear, and then click [Yes].



⑨ The below dialog box warning "Loss of communication on CURRENT channel (CH0) will occur." will be displayed, and then click [Apply].



The port settings for MicroLogix 1200/1500 are completed.

Note)

When redownloading a project, please be noted that you may not be able to download it because 0 Channel of PLC has been changed to the port settings to communicate to GP.

In case to redownload it, open the cover on MicroLogix 1200/1500 and press the communication toggle push button. After pressing the button, the communication settings of the RS-232C port on the Base Unit will be the default settings.

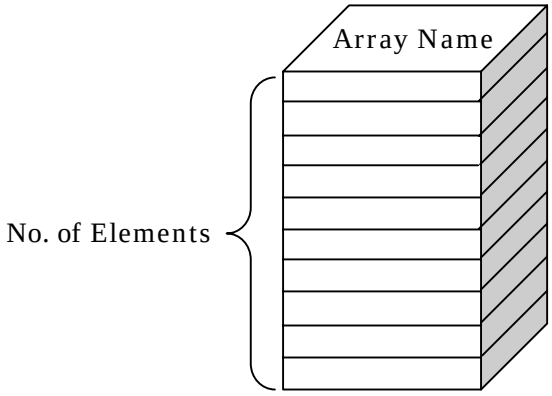
Confirm that PLC is recognized on RSLINX before redownloading.

Default Communication Settings of RS-232C Port on Base Unit

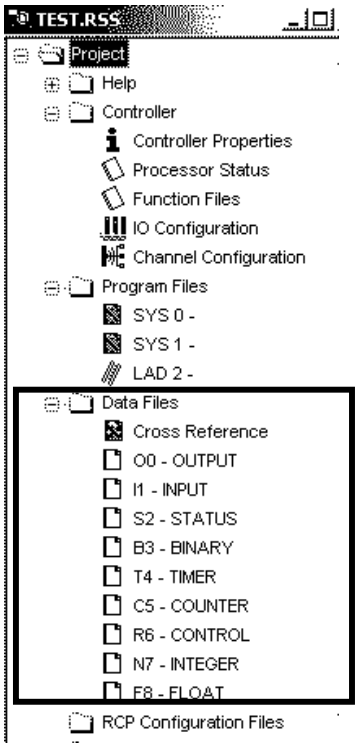
Setting Item	Setting Detail
Protocol	DF1 Full-Duplex
Baud Rate	19,200 bps
Parity	none
Stop Bits	1bit
Node Address	1
Control Line	No Hand shaking
Error Detection	CRC
Embedded Responses	auto detect
Duplicate Packet Detect	enable
ACK Timeout	50 Counts
NAK Retries	3 retries
ENQ Retries	3 retries

Assigning Devices

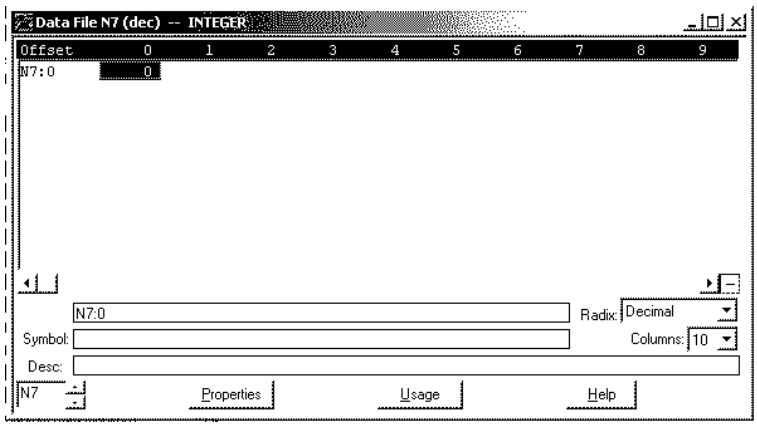
With Rockwell PLC, the required arrays and number of elements are assigned on RSLogix500. If you connect it to GP/GLC without assigning here, a host communication error will occur.



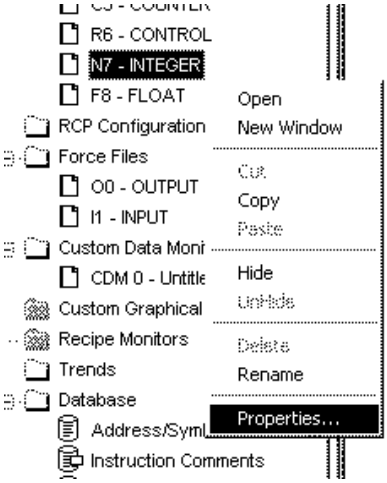
[File Type]



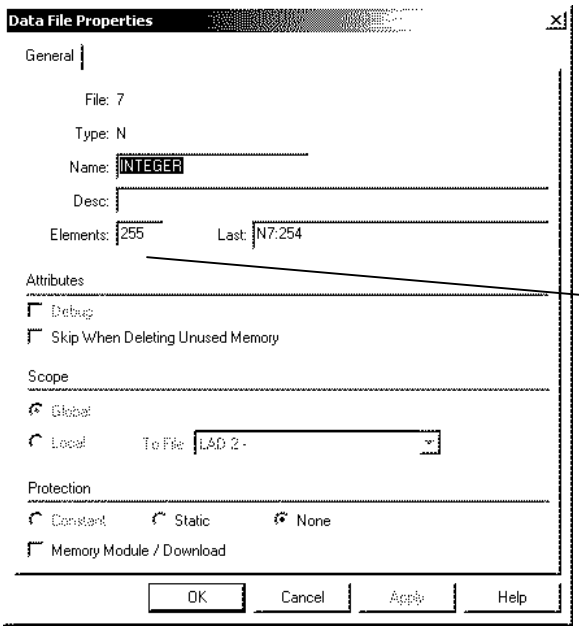
The project file has array types and array numbers as left.



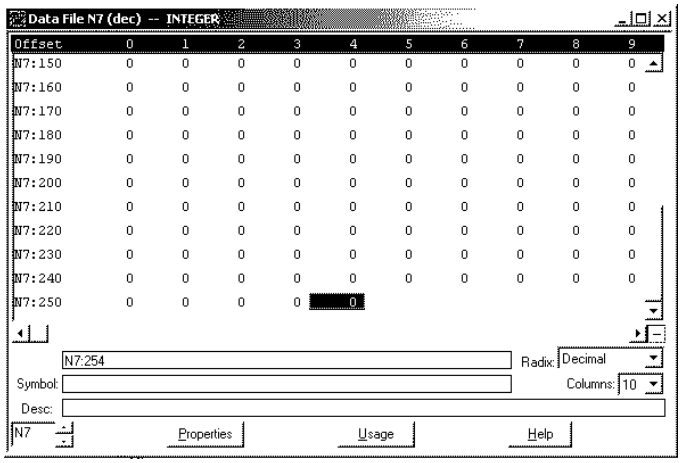
Only one element exists by default. Because N array to which the system start address is assigned needs 20 elements, it is necessary to increase elements.



To increase these elements, start setting as left.



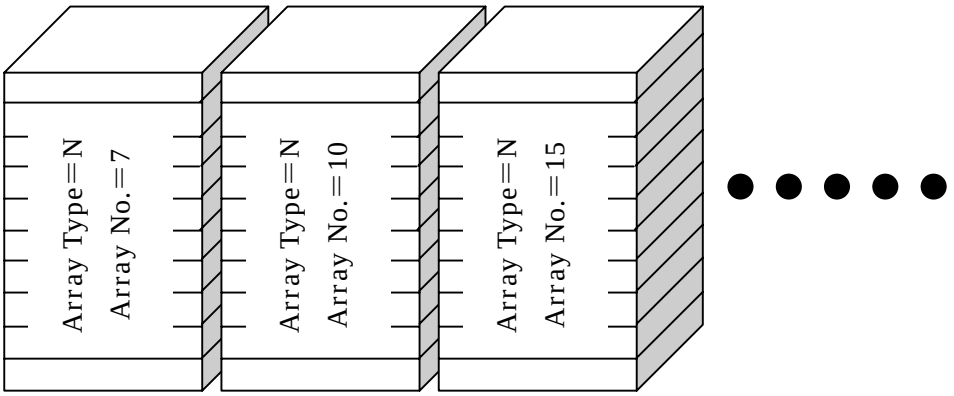
Enter the number of required elements.
* N7 needs at least 20 elements to allocate the system start address.

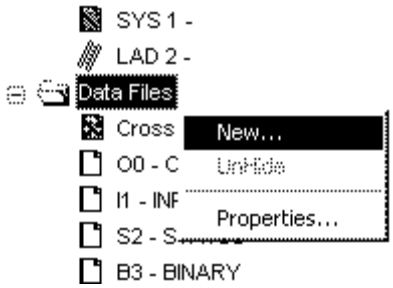


As you can see left, 255 elements have been created in N7.

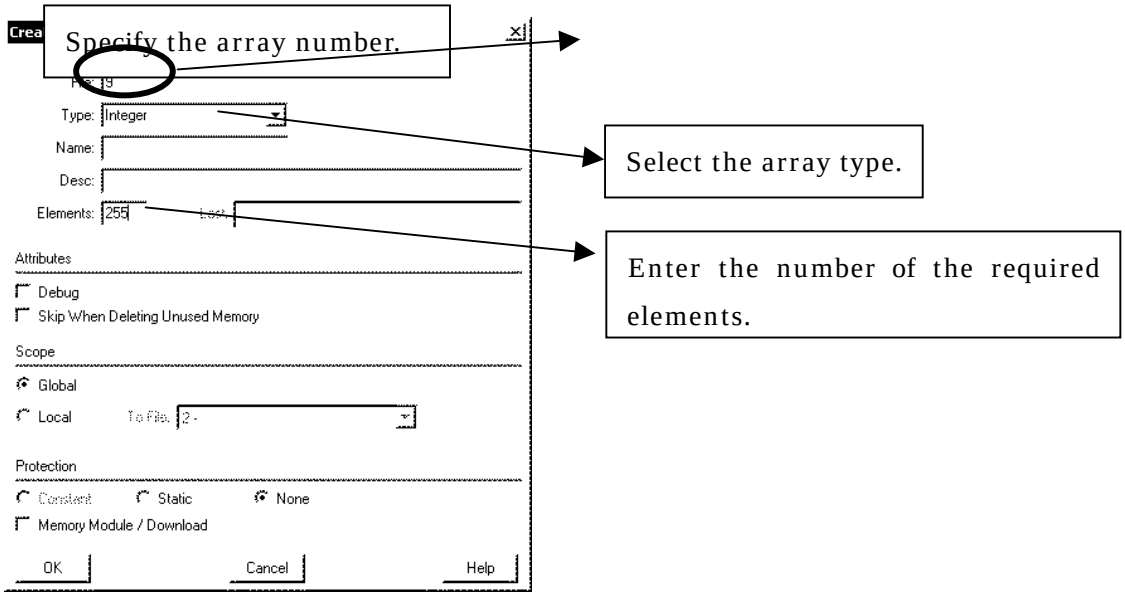
[Creating New Array]

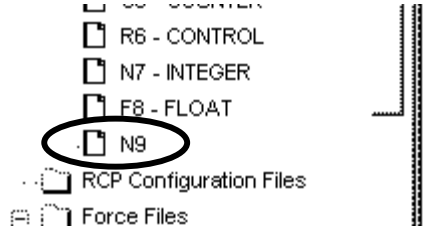
It is possible to create multiple arrays with Rockwell PLC.
e.g.)





To start creating new arrays, follow as left.





N9 has been newly created with 255 elements.

Following this way, create arrays and elements towards each array type.
Duplication of array numbers following array type is not allowed. For example, you cannot create such as N15, B15.