Question: How to send and receive data at SIMATIC STEP 7

1. Hardware configuration

SIMATIC 300 Station
PROFIBUS
DEVICE 0
(MASTER)

SOFTWARE:
SIMATIC Manager

PROFIBUS

I-7550
PROFIBUS
DEVICE 1
(SLAVE)

Send232
ICPDAS

PC

RS-232
Com Port Setting :
Baud rate : 115200
Data bits : 8
Stop bits : 1
Parity : None

I-7550 COM PORT
(RS-232)   PC

RS-232 RX   PIN 9
RS-232 TX   PIN 10   TX PIN3
                                           RX PIN2
GROUND   PIN 11
                                           GND PIN5
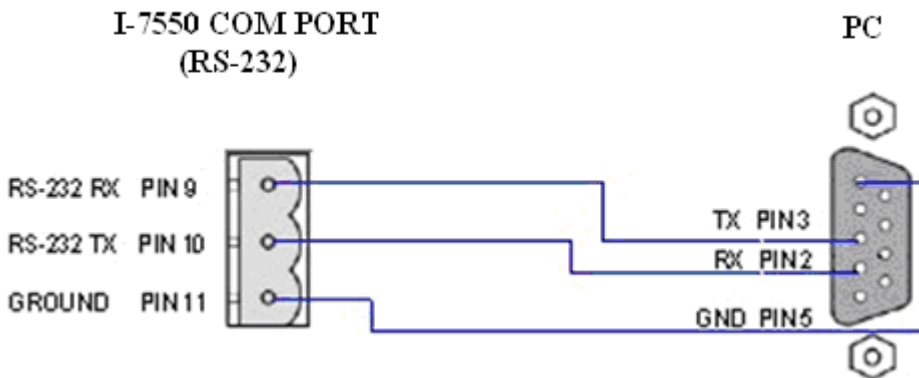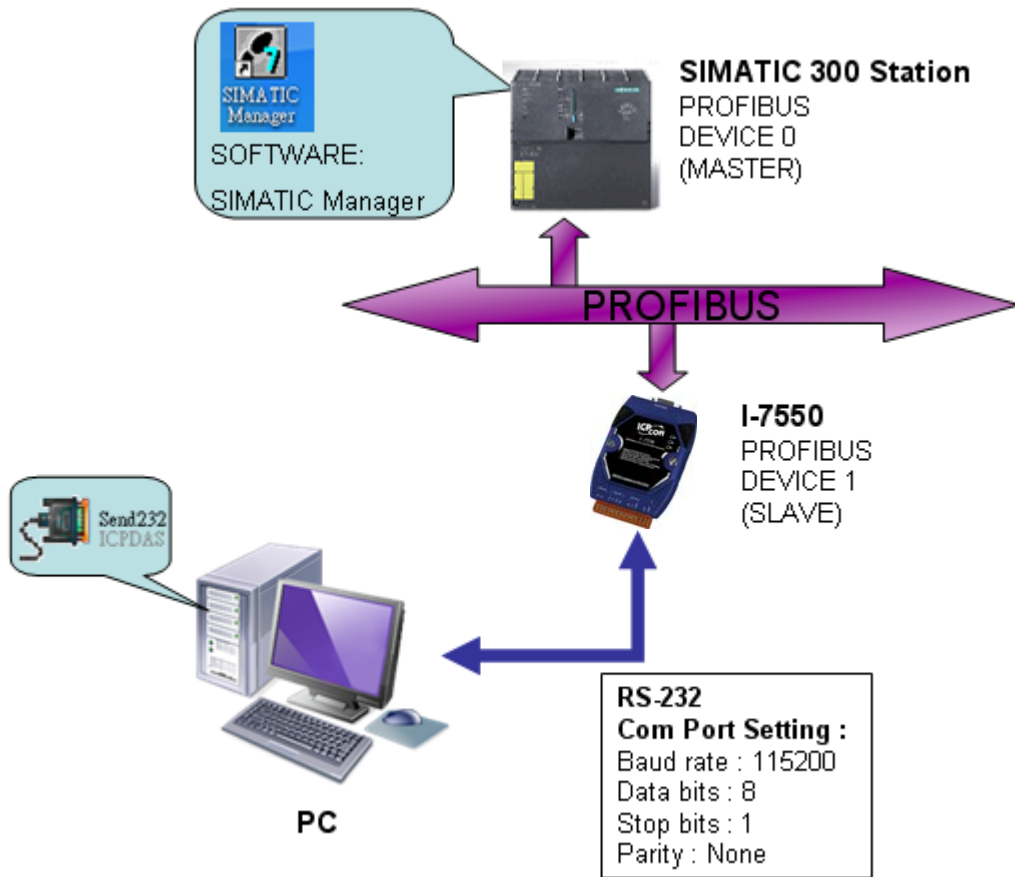
2. Please check the below before send and receive data

(1) RUN LED must be on. It means the I-7550 is ready to send and receive data.

RUN LED

(2) Confirm the I-7550's Com Port settings is the same with RS-232 tool (ex: Send232, the user can download Send232 from
http://ftp.icpdas.com/pub/cd/8000cd/napdos/7188e/tcp/pcdiag/source/send232.vb6_2.0.1)

Com Port Settings: baud rate-115200, data bits-8, stop bits-1, parity-none

1. Set com port settings

3. SIMATIC STEP 7 Edit

(1) HW Config – configure I-7550

ex: System setting module x1

8 Byte In module x1

8 Byte Out module x1

Slot	DP ID	...	Order Number / Designation	I Address	Q Address	Comment
1	32DI		System setting	0...3		
2	37		--> System setting		0...5	
3	23		8 Byte In	4...11		
4	39		8 Byte Out		6...13	
6						

(2) S7 program edit

Variables used in the example LD Program:

Contents Of: 'Environment\Interface\TEMP'			
Name	**Data Type**	**Address**	**Comment**
End	Bool	24.0	
rcount	Byte	25.0	receive data count
rdata0	Byte	26.0	
rdata1	Byte	27.0	
rdata2	Byte	28.0	
rdata3	Byte	29.0	

Interface
TEMP

Network 1: receive data

receive data, IB3 is received data count
IB4~IB7 are received data

```
        MOVE                          MOVE          #End
      EN    ENO                     EN    ENO       ( )
IB3 ─ IN    OUT ─#rcount      IB4 ─ IN    OUT ─#rdata0

                                     MOVE          #End
                                   EN    ENO       ( )
                              IB5 ─ IN    OUT ─#rdata1

                                     MOVE          #End
                                   EN    ENO       ( )
                              IB6 ─ IN    OUT ─#rdata2

                                     MOVE          #End
                                   EN    ENO       ( )
                              IB7 ─ IN    OUT ─#rdata3
```
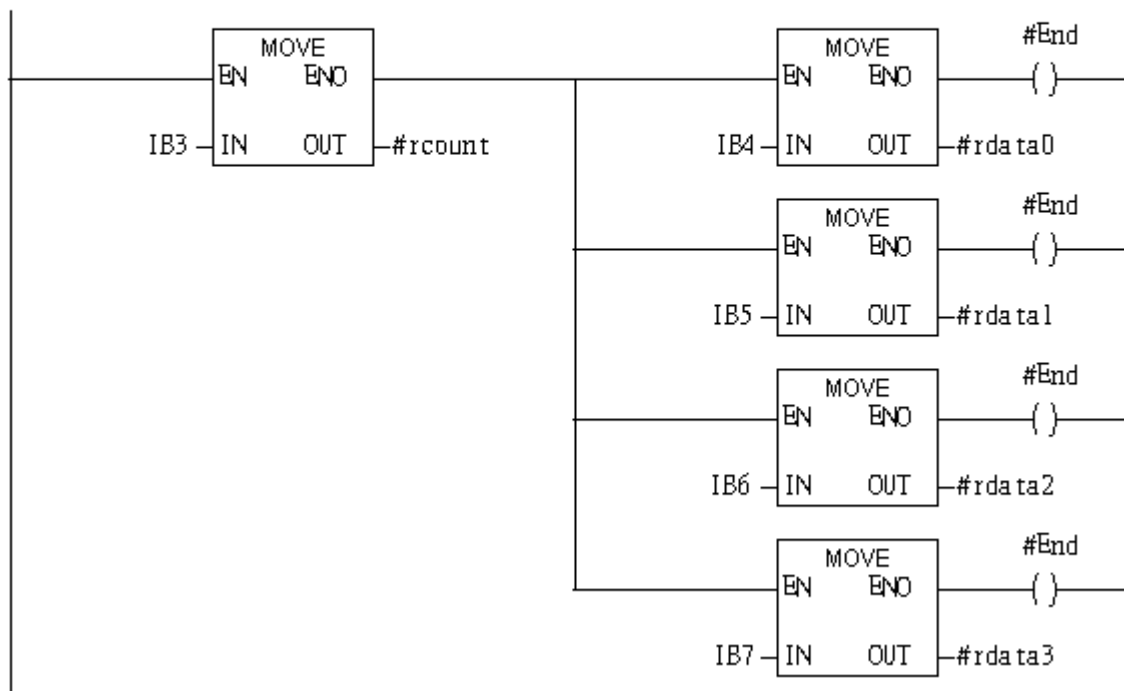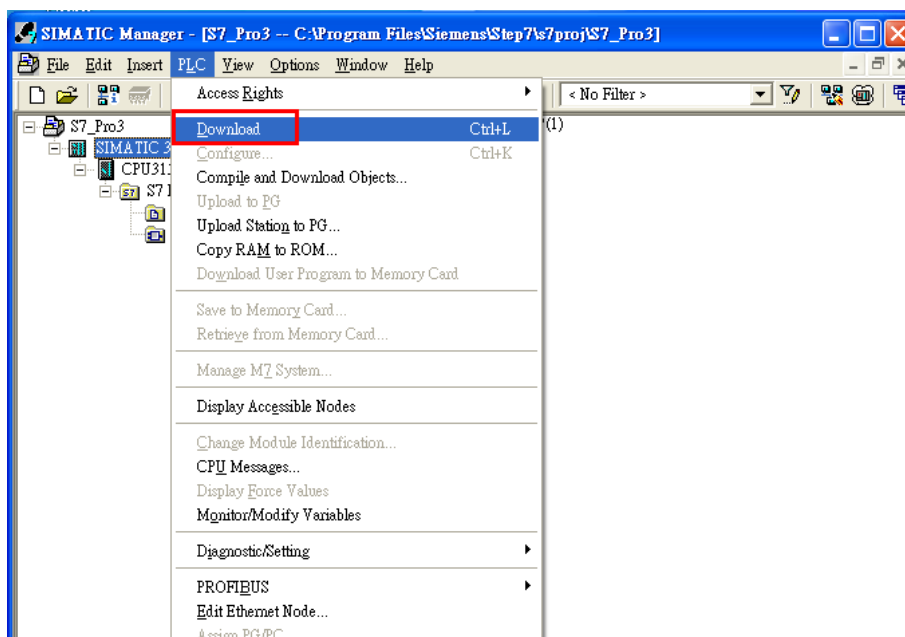
Network 2 : Send data

Send data, QB2 is data length, QB0 is data output command
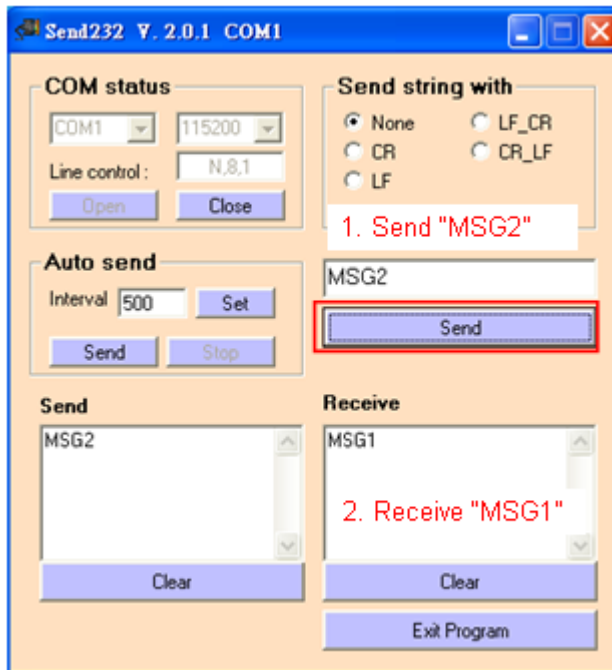QB6~QB9 are outputed data
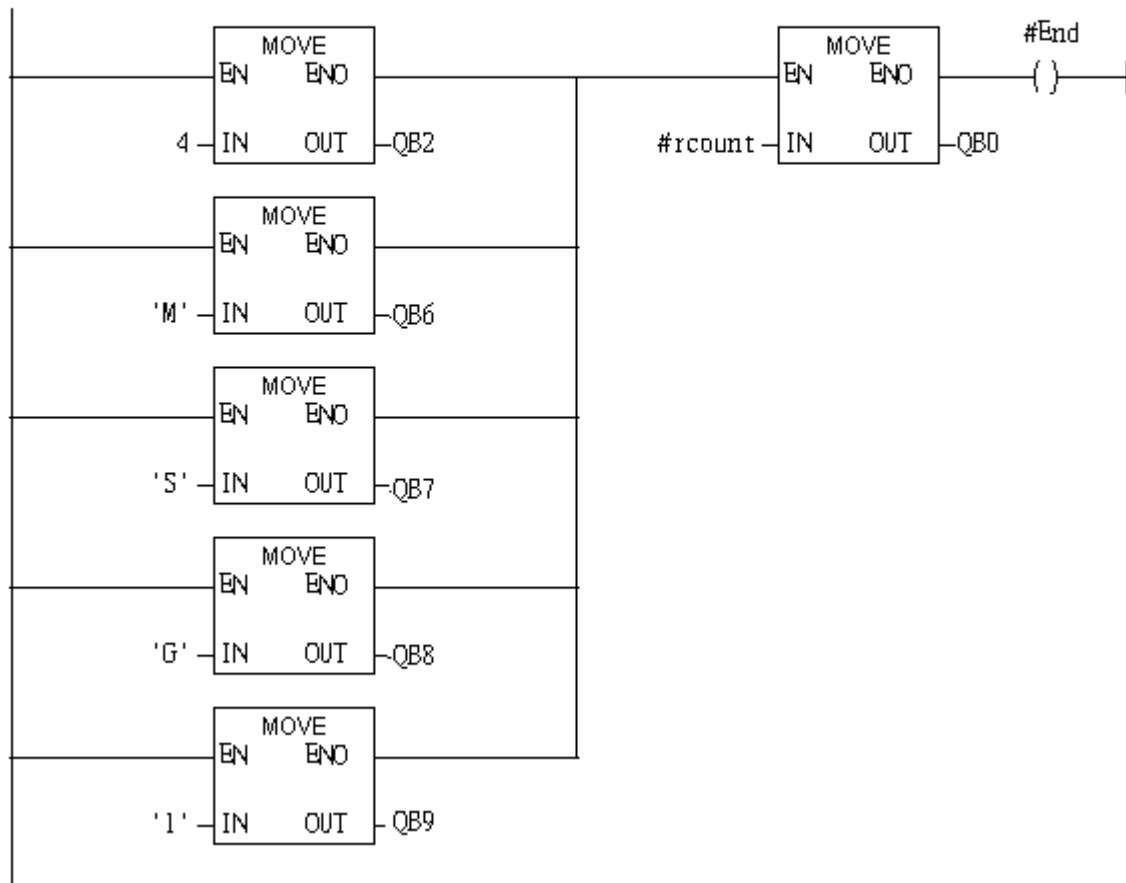
(3) S7 program download

4. Communication test

(1) Click "Send" button to send "MSG2" to PLC and PLC will Send "MSG1" to PC

(2) PLC receives the "MSG2" message

rdata0='M', rdata1='S', rdata2='G', rdata3='2'