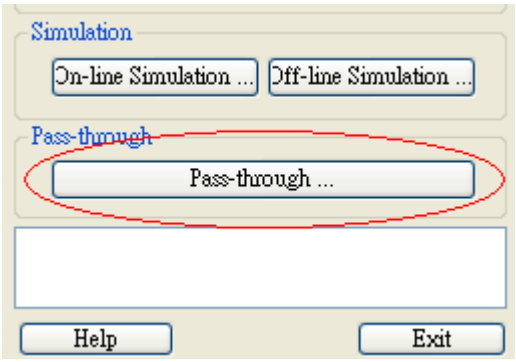
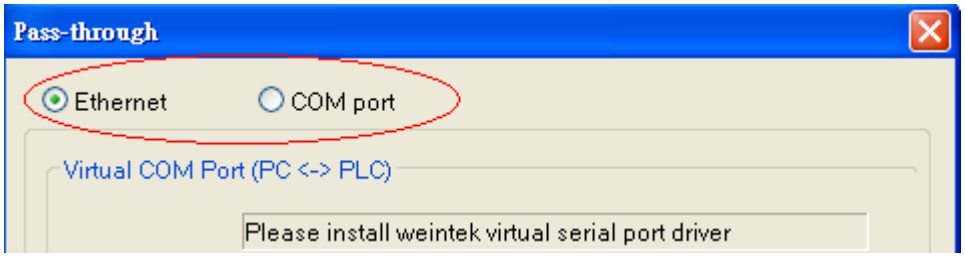
Appendix 4 Pass-Through Function

The pass-through function is allowed the PC application to connect with PLC via HMI, the HMI is acting as a converter at this moment.

Pass-through provides two modes: Ethernet and COM port. To click Pass-through on Project Manager will display the application.



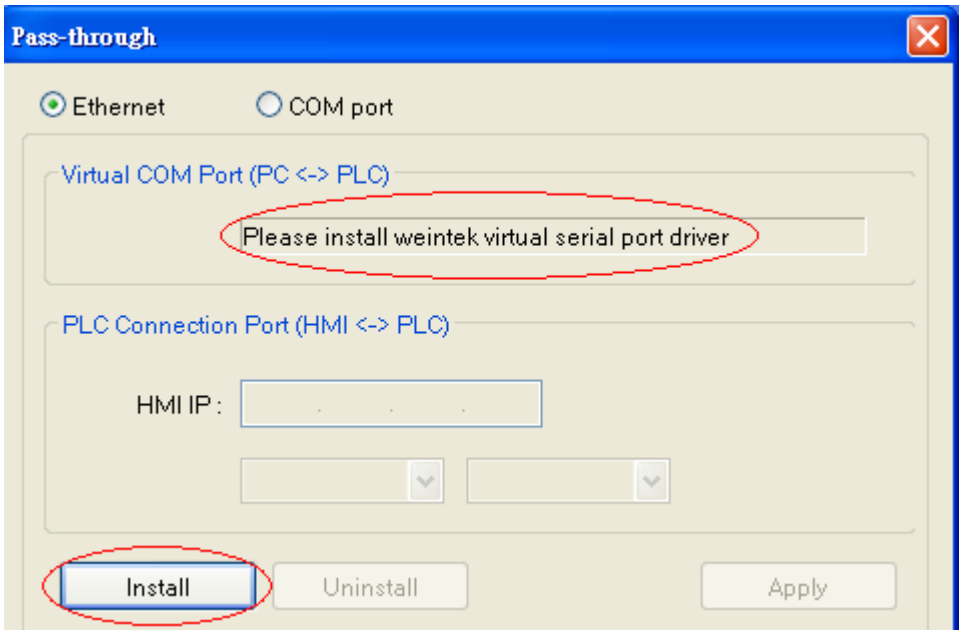


A. Ethernet mode

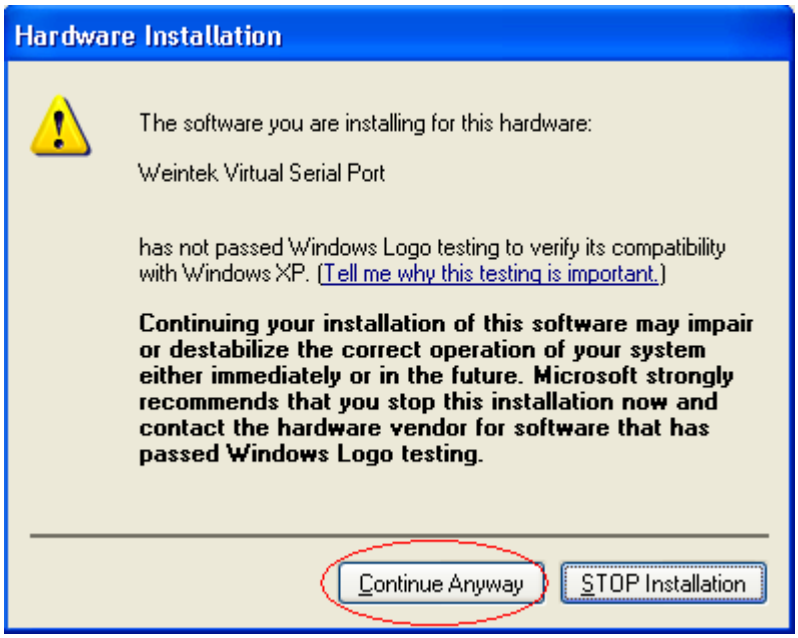
[How to install virtual serial port driver]

Before using Ethernet mode, please install virtual serial port driver, as follow:

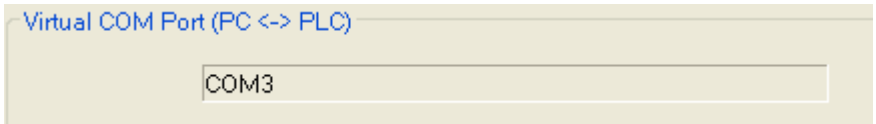
If the virtual COM port display **[Please install weintek virtual serial port driver]**, please click [Install], as follow



If install processing pop up a dialogue as follow, please click **[Continue Anyway]**.



After processing is completed, the virtual COM port display as follow.



[How to using Ethernet mode]

After installing virtual serial port driver, just need four steps to using Ethernet mode of Pass-through.

Step1

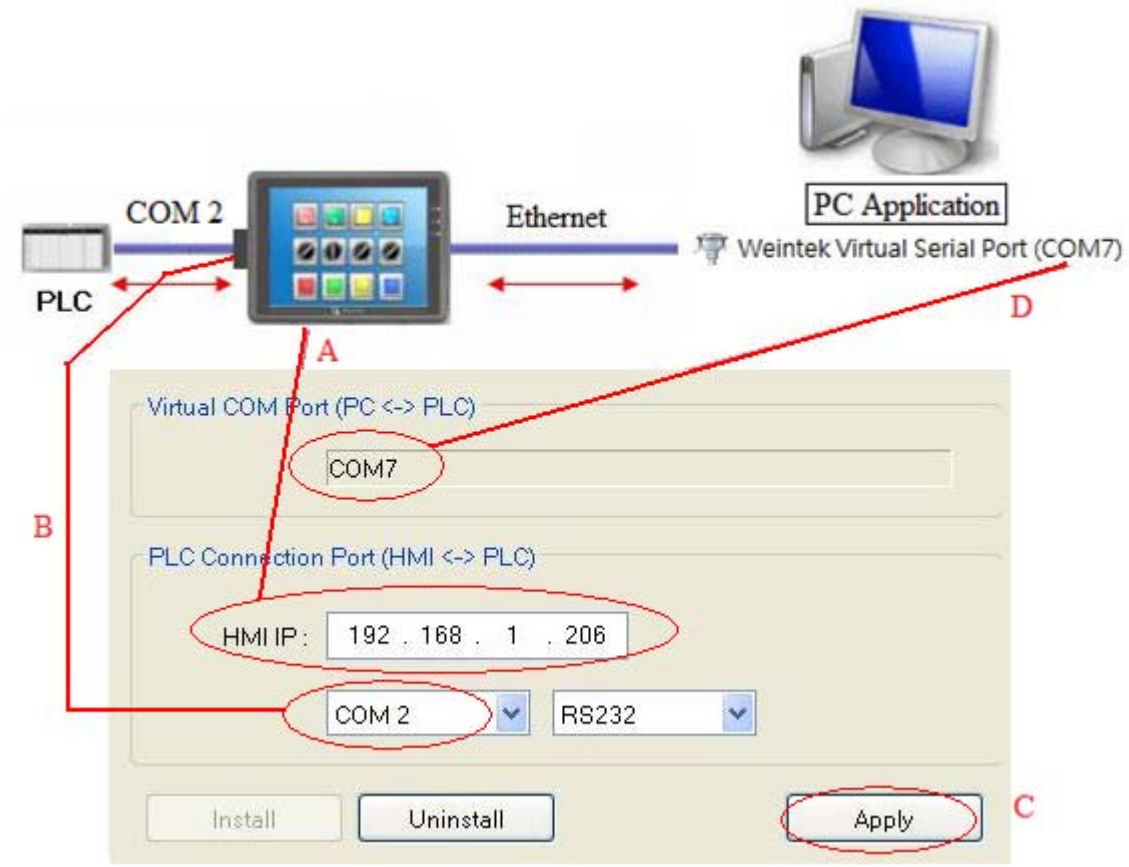
To setting HMI IP which be connected to PLC. For example, HMI IP as 192.168.1.206

Step2

To assign serial port properties which HMI connect to PLC. For example, use COM2 RS232 to connect PLC.

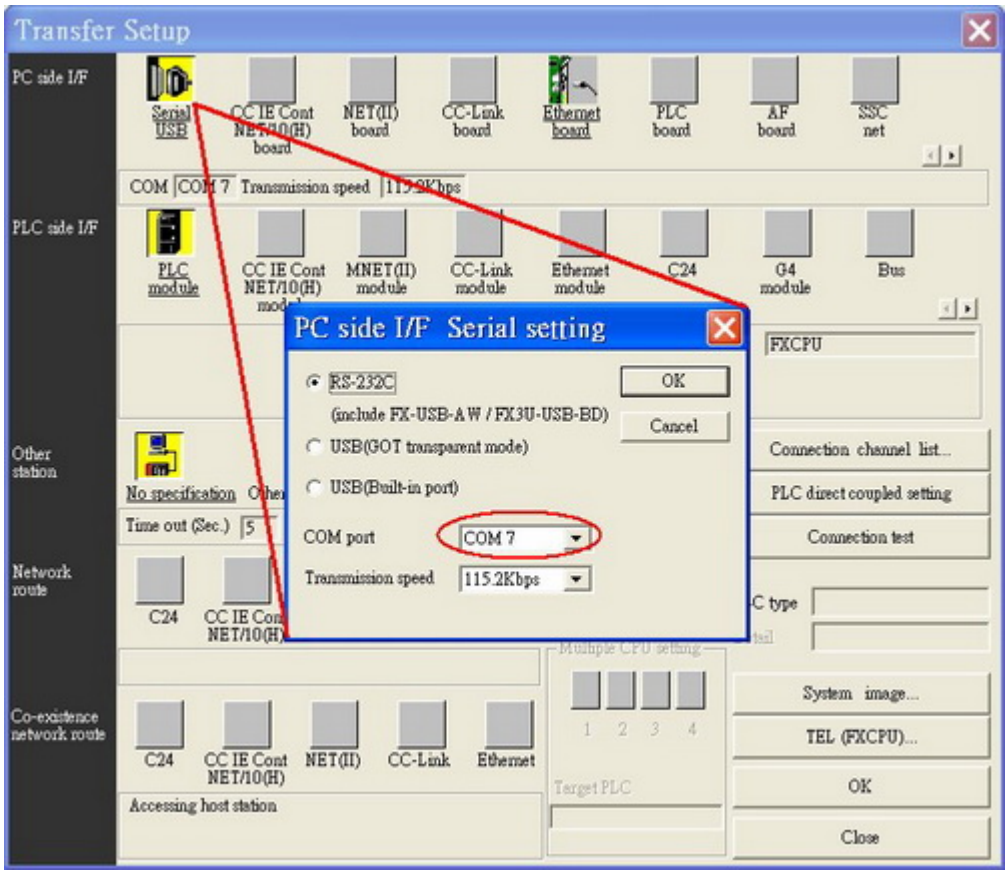
Step3

Click [Apply], and the communication parameters will be update.

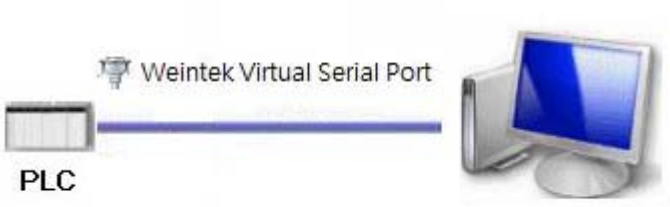


Step4

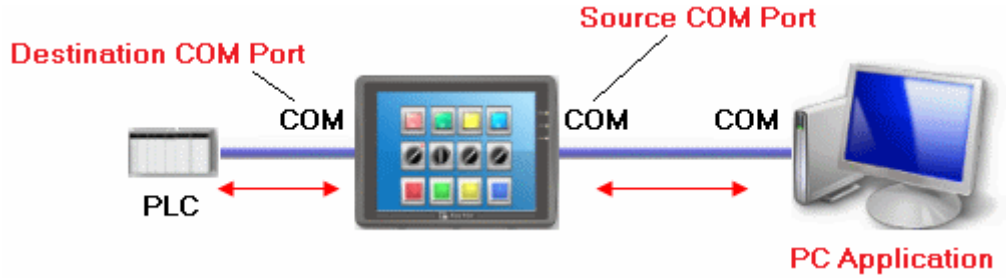
On the PC application, the serial port must be same as virtual one. For example, using of Mitsubishi application. If the virtual serial port is COM 7, please on [PC side I/F Serial setting] / [COM port] to select COM 7, as follow



After completed all of described setting, when user running the PLC application on PC, the HMI will auto be switch to pass-through mode (the communication between HMI and PLC will be suspend). And it will resume communication if user closes the application, as follow



B. COM port mode



Source COM Port: This port is connected between HMI and PC.

Destination COM Port: This port is connected between HMI and PLC.

When using COM port mode of pass-through, the source and destination com port have to set correctly.

Setting of Pass-through

There are two ways for user to enable COM port of pass-through function.

(1) Use Project Manager to start pass-through

(2) LW-9901 and LW9902 can be set to enable pass-through.

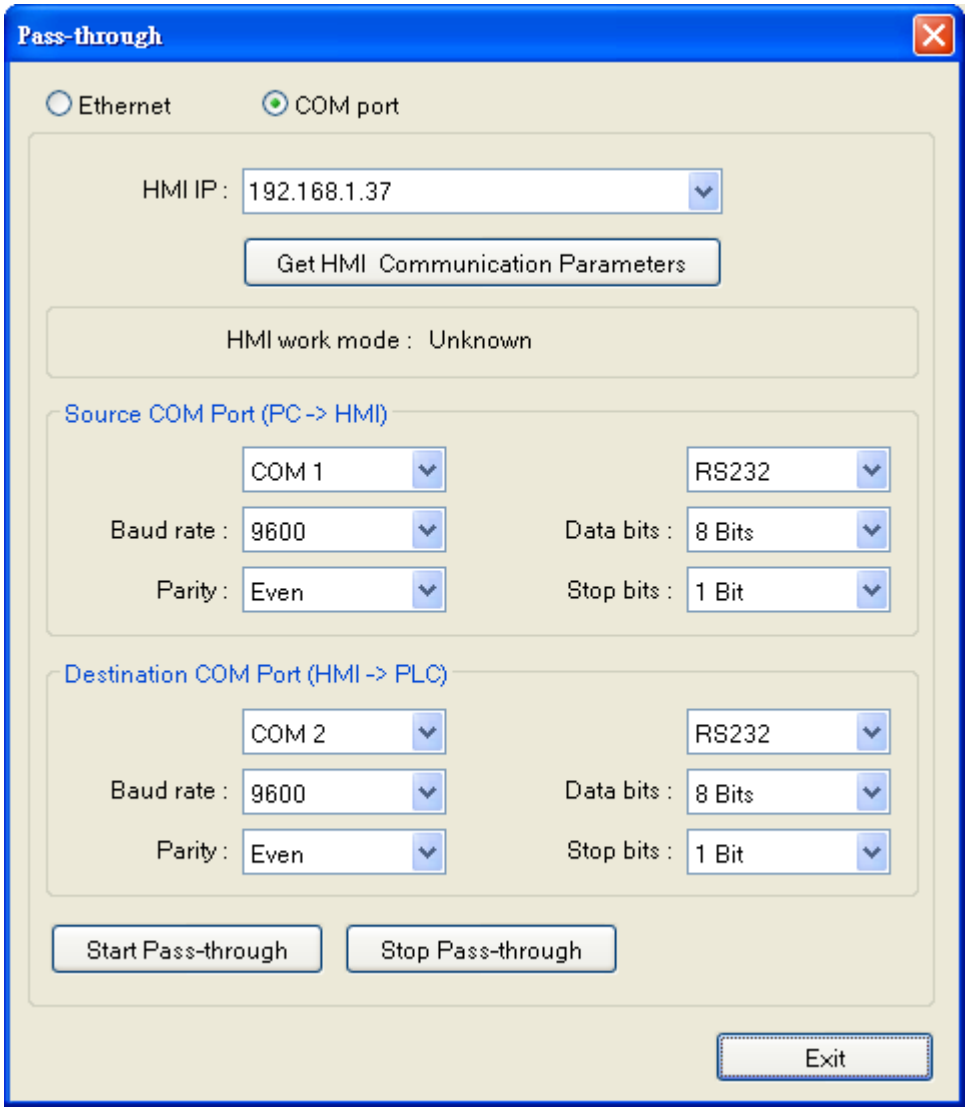
LW-9901: pass-through source COM port (1~3: COM1~COM3)

LW-9902: pass-through destination COM port (1~3: COM1~COM3)

Note: If user wants to resume HMI and PLC communication, please select “Stop Pass-through” to disable this function.

Start Pass-through in project manager.

Click Pass-through button on the Project Manager for setting the communication parameters of pass-through:



[HMI IP]

When using Pass-through in Project Manager, assign the IP address of HMI.

[Get HMI Communication Parameters]

To read the parameter of source and destination COM port, that parameter comes from reserved addresses, the detail of addresses as following.

Source COM port and Destination COM port

LW9901 (Source COM port)	1 : COM 1 2 : COM 2 3 : COM 3
LW9902 (Destination COM port)	1 : COM 1 2 : COM 2 3 : COM 3

COM 1 mode setting

LW9550 (PLC I/F)	0 : RS232 1 : RS485/2W 2 : RS485/4W
LW9551 (baud rate)	0 : 4800 1 : 9600 2 : 19200 3 : 38400 4 : 57600 5 : 115200
LW9552 (data bits)	7 : 7 bits 8 : 8 bits
LW9553 (parity)	0 : none 1 : even 2 : odd
LW9554 (stop bits)	1 : 1 bit 2 : 2 bits

COM 2 mode setting

LW9556 (baud rate)	0 : 4800 1 : 9600 2 : 19200 3 : 38400 4 : 57600 5 : 115200
LW9557 (data bits)	7 : 7 bits 8 : 8 bits
LW9558 (parity)	0 : none 1 : even 2 : odd
LW9559 (stop bits)	1 : 1 bit 2 : 2 bits

COM 3 mode setting

LW9560 (PLC I/F)	0 : RS232 1 : RS485/2W
LW9561 (baud rate)	0 : 4800 1 : 9600 2 : 19200 3 : 38400 4 : 57600 5 : 115200
LW9562 (data bits)	7 : 7 bits 8 : 8 bits
LW9563 (parity)	0 : none 1 : even 2 : odd
LW9564 (stop bits)	1 : 1 bit 2 : 2 bits

After clicking [Get HMI Communication Parameters], the HMI current states and communication parameters will be update.

[HMI work mode]

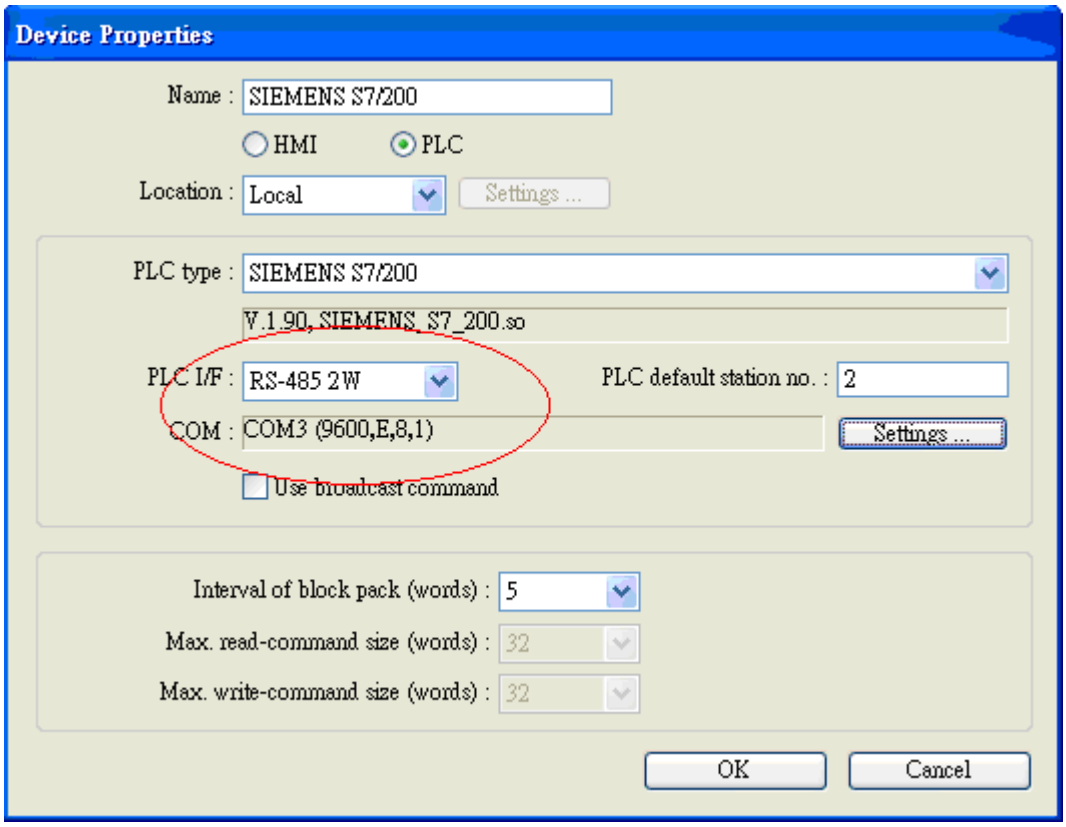
There are three work modes in the pass-through function,

Unknown	Display current work mode of HMI. Before reading the setting of HMI, the work mode is displayed “Unknown”.
Normal	After reading the HMI states, the work mode is displayed “Normal” that means, the HMI do not accept data from source com port.
Pass-through	HMI is working as pass-through states; at this time, the PC application can control PLC via source com port.

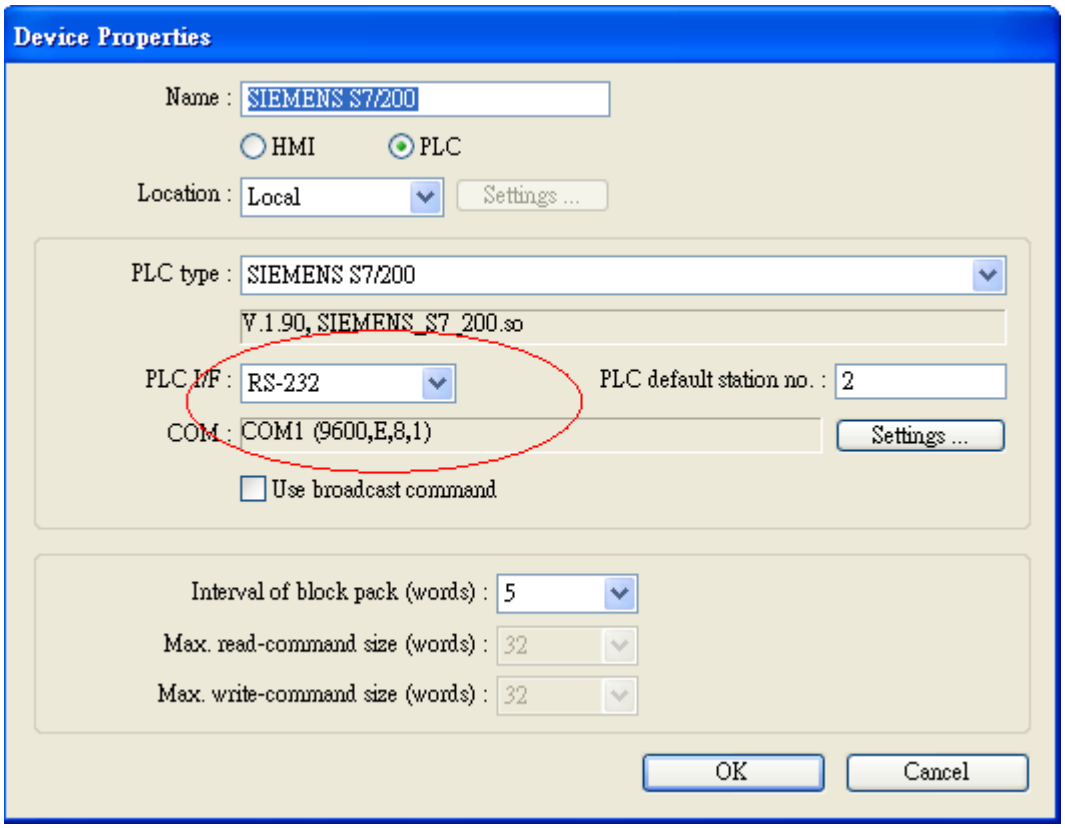
[Source COM Port]、[Destination COM Port]

Display the data from source and destination COM port. **The data will be used when pass-through is enabled. The “Baud rate”, “Data bits”, “Parity”, and “Stop bits” of [Source COM Port] and [Destination COM Port] have to be set the same**. [Source COM Port] is connect to PC, so RS232 has to be set; [Destination COM Port] is connect to PLC, so the COM port setting depends on the PLC.

Here an example of SIEMENS S7-200, the illustration below shows the setting when connect to SIEMENS S7/200. The HMI COM 1 RS232 is connect to PC, and COM 3 RS485 2W is connect to PLC, and the parameters of PLC is ”9600, E, 8, 1”. Before start pass-through, user must settings the correct parameter on project and download to HMI.

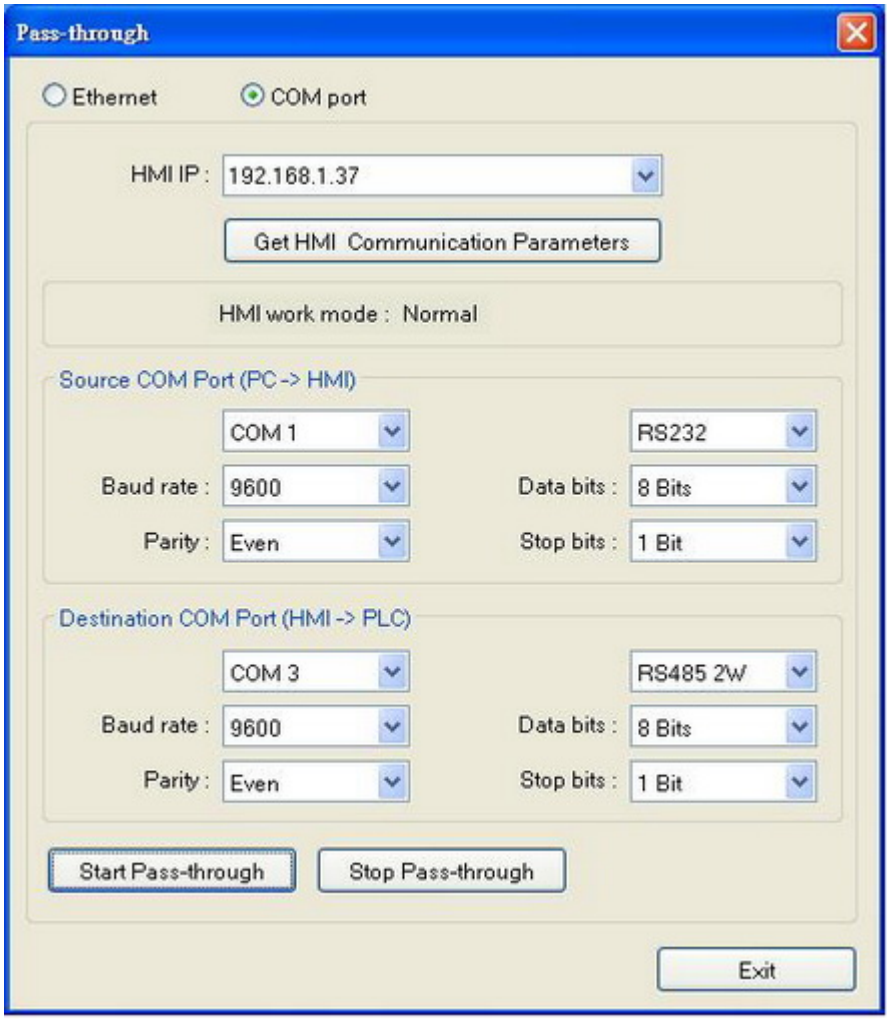


After downloaded to HMI, open the same project and change the PLC I/F and COM port to COM 1 RS232 (for this is source Com port and connected to PC). As follow



After that, open pass-through and assign HMI IP address; for example 192.168.1.37

And press [Get HMI Communication Parameters], as follow



User can press **[Start Pass-through]** (the HMI work mode is switched to " Pass-through") and to run On-line Simulation. Now PC application can control PLC via HMI, and HMI is acting as a converter; meanwhile the HMI don't have function until stop pass-through.

Using system reserved address to enable Pass-through function

Another way to enable Pass-through function is to change LW9901 (source COM port) and LW9902 (destination COM port) directly. When the values of LW9901 and LW9902 match conditions as below, HMI will start Pass-through automatically:

a. The value in LW9901 and LW9902 has to be 1 or 2 or 3 (1: COM 1 / 2: COM 2 / 3: COM 3).
b. The COM port values can't be the same as in LW9901 and LW9902.

Note: If user wants to stop Pass-through, just change the value except 1, 2, and 3. (example set to 0).

If user needs to change the communication parameter setting; just change the LW9901 and LW9902 and set ON to LB9030, LB9031 and LB9032, the HMI will be forced to accept new setting.

LB9030	Update COM1 communication parameters (set ON)
LB9031	Update COM2 communication parameters (set ON)
LB9032	Update COM3 communication parameters (set ON)