

## Advantech AE Technical Share Document

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<b>Category</b>	<input type="checkbox"/> FAQ <input checked="" type="checkbox"/> SOP	<b>Related OS</b>	Microsoft Windows XP / 7 / 8 / 8.1
<b>Abstract</b>	How to do loopback testing with Advantech RS-485 communication card?		
<b>Keyword</b>	Serial Communication cards / RS-232 / RS-422 / RS-485 / COM / PCI Communication cards / PCIE Communication cards / PC-104 PCI Communication Modules		
<b>Related Product</b>	PCI-1601A/B / PCI-1602 / PCI-1602UP / PCI-1620A/B / PCI-1612C / PCI-1602UP / PCI-1622B / PCI-1622C / PCIE-1622 / PCM-3610 / PCM-3612 / PCM-3614 / PCM-3618 / PCM-3614I / PCM-3618I /		

### ■ **Problem Description:**

This is a SOP document to describe how to do loop back test with Advantech RS-485 com port card. By connecting the proper wires, this loop back test can help user to verify the operation of RS-485 com port.

### ■ **Brief Solution :**

Loop back testing with DB9 connector:

1. Please check on-board DIP switches are set to “Auto” mode that means the driver automatically senses the direction of the data flow and switches the direction of transmission. No handshaking is necessary. Please check table as Figure 1.

Mode	Switch Position
RS-485	AUTO
RS-422_Master	ON
MS-422_Slave	AUTO

Figure 1. AUTO/ON mode setting table.

2. Please check how many com ports user have, check com number (at Device Manager), and make sure that com port is RS422 / 485 as Figure 1:

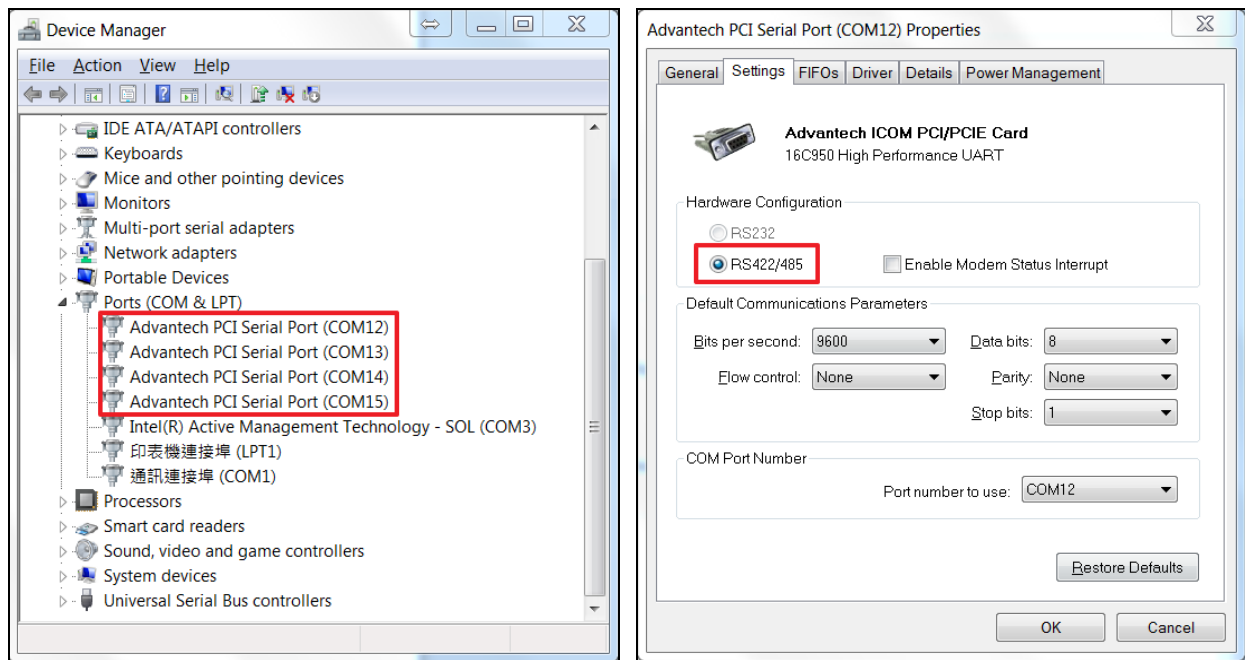


Figure 1. (Left) Com port check with Device Manager (Right) check RS-422-485 configuration

3. Choose two of all Advantech com port, then connect with each DATA+,- pin as Figure 2:  
(Port A's pin1 to Port B's pin1; Port A's pin2 to Port B's pin2)

Pin	RS-485
1	Data-
2	Data+
3	-
4	-
5	GND
6	-
7	-
8	-
9	-

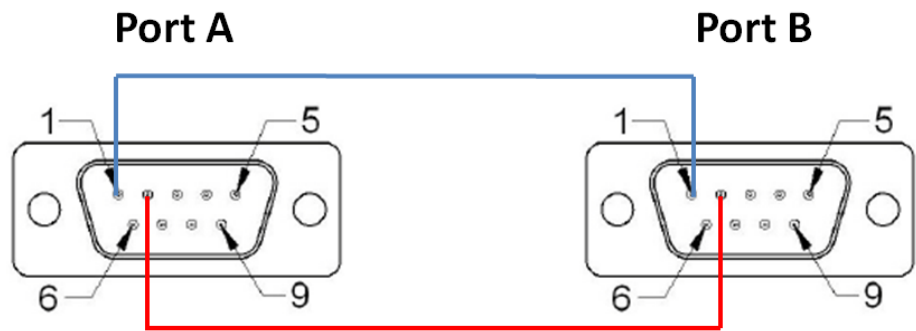


Figure 2. Connect with DATA+ & DATA- of Port A & Port B.

4. Open two HyperTerminal (ex. TTY), and setting those two port configuration as Figure 3.:  
(Port A : **COM12**, Port B : **COM13**)

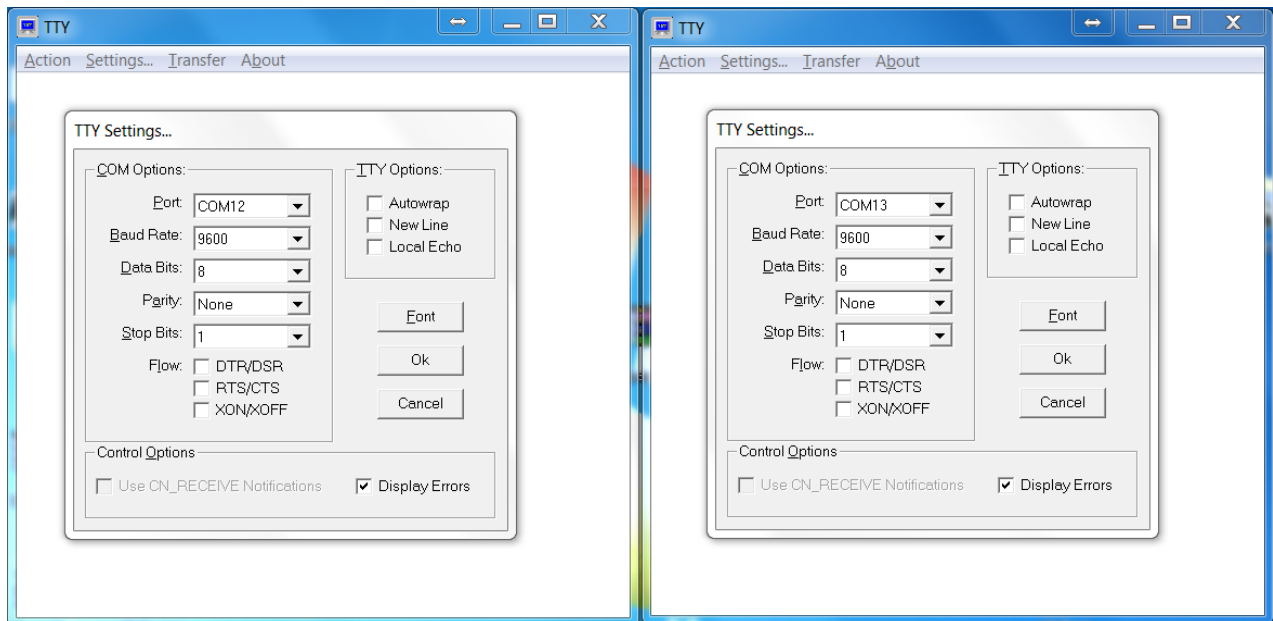


Figure 3. Using TTY do com port setting for loop back test

Then, do “Connect” each other as Figure 4:

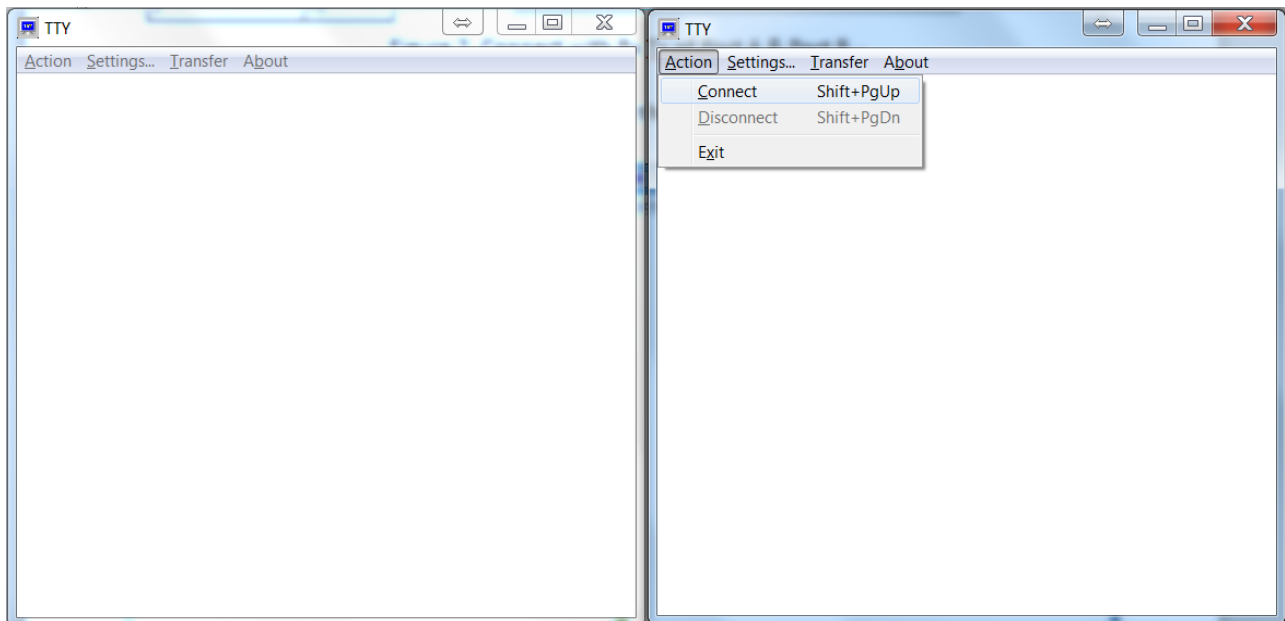


Figure 4. Do connect with TTY software

5. User can type word or number with computer keyboard on COM12 windows, and receive data will show up on COM13 windows; Please make sure those two way can receive data (From **COM12** to **COM13**; From **COM13** to **COM12**) as Figure 5 & 6, then that is a successful loop back test with two RS-485 com ports.

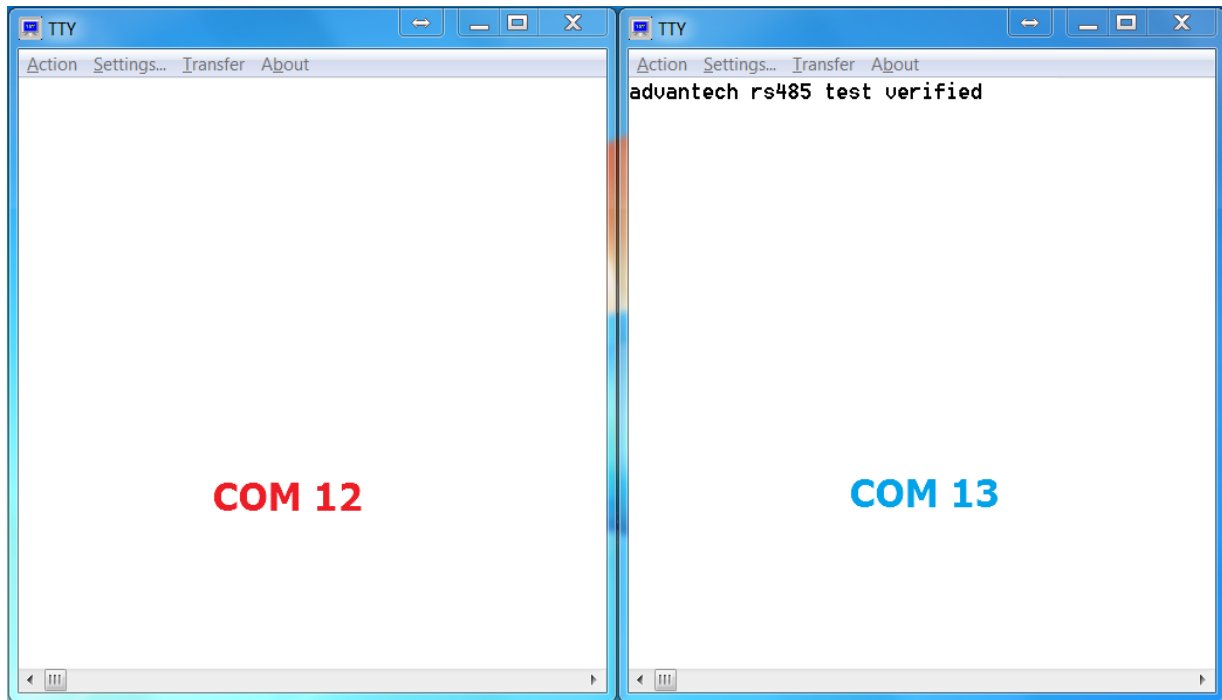


Figure 5. Type words on COM 12 windows

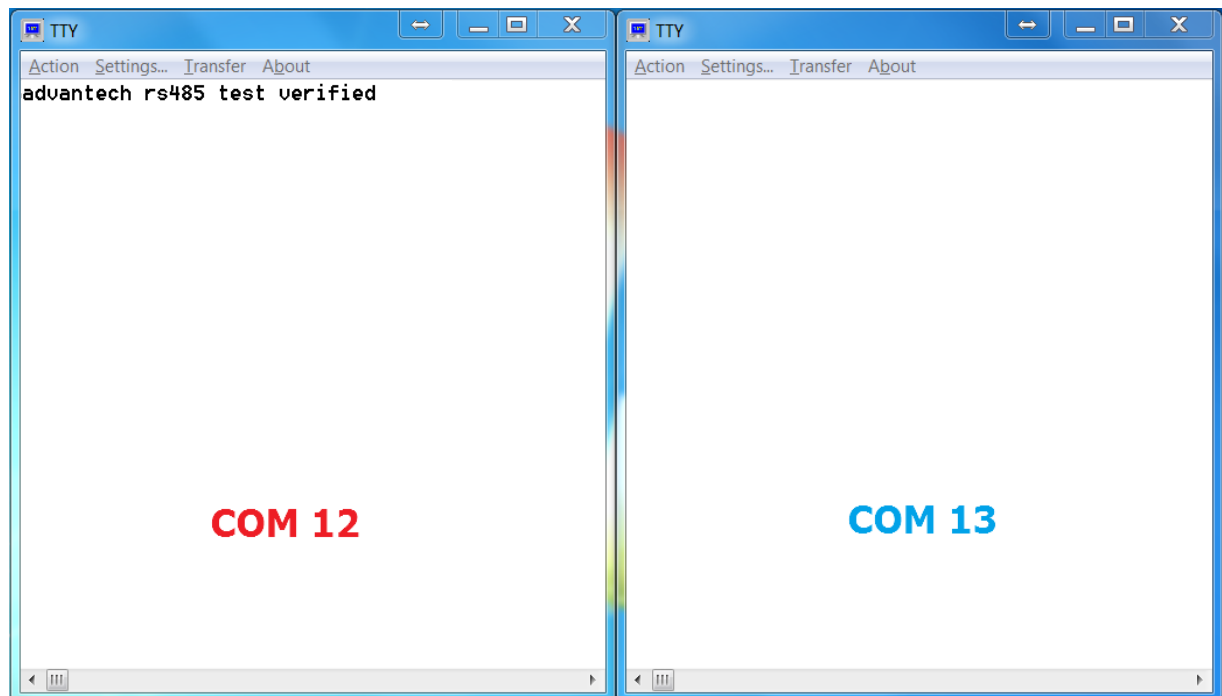


Figure 6. Type words on COM 13 windows