

Acceptance Test Procedure

And Results (ATP + ATR)

for

National Instruments

NI AT 232/485 4 Ports

Part Number: 182925E-11

Serial Number: A7F32B

#	Name	Date	signature
Written by	Dan Gilboa	7 April 2013	DG
Checked by	Dan Gilboa	7 April 2013	DG
Customer			
Order no.			
Tested Date	7 April 2013		
Gilboa Engineering consulting LTD			

Test Procedure

1. The following Assembly and Test procedure are conducts:
 - a. Verifying of the correct PN of NI AT 232 / 4 card
 - b. Written the exact part number (PN) and serial number (SN)
 - c. Visual inspection of the card.
 - d. Installing NI Serial Software (Version 1.5) and drivers on PC with windows XP Professional, and 2 available ISA slots.
 - e. Installing the NI card in the PC
 - f. Powering the PC.
 - g. Verifying correct installation of the cards (automatically by Windows XP or manually).
 - h. Verifying the recognition of the cards in the "Device manager"
 - i. Performing NI Serial Diagnostics Wizard test.
 - j. Performing HyperTerminal Test for each port.
 - k. Shutdown the PC, disconnect power, and disassembly the NI cards.

Acceptance Test Results

1. Visual identification of components

#	Item	PN	Status	SN	Notes
1	NI AT 232/485 4	182925E-11	OK	A7F32B	Copied from the card

2. Functional Tests

#	Item	Test	Status	Notes
1.	Device Manager	Open Device Manager and verify appearance of the NI Serial Peripheral and 4 communication ports	PASS	N.I. AT-232/4 Communication port (COM3) N.I. AT-232/4 Communication port (COM4) N.I. AT-232/4 Communication port (COM5) N.I. AT-232/4 Communication port (COM6)

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#	Item	Test	Status	Notes
2.				
3.	NI Serial Diagnostics	Run NI Serial Diagnostics Wizard	PASS	All 4 ports are OK
4.				
5.	Loopback test COM3	Connect NI-Serial 232 Loopback test to COM3. Open the HyperTerminal	PASS	Verify that in the HyperTerminal appears "qwerty"

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#	Item	Test	Status	Notes
		application, and select COM3. Type: qwert		
6.				
7.	Loopback test COM4	Connect NI-Serial 232 Loopback test to COM4. Open the HyperTerminal application, and select COM4. Type: asdfgh	PASS	Verify that in the HyperTerminal appears "asdfgh"
8.				
9.	Loopback test COM5	Connect NI-Serial 232 Loopback test to COM5. Open the HyperTerminal application, and select COM5. Type: tgbyhn	PASS	Verify that in the HyperTerminal appears "tgbyhn"

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#	Item	Test	Status	Notes
10				
11	Loopback test COM6	Connect NI-Serial 232 Loopback test to COM6. Open the HyperTerminal application, and select COM6. Type: tyuiop	PASS	Verify that in the HyperTerminal appears "tyiop"
12				

Checked by: Dan Gilboa dan@gilboa-ltd.com

Date: 07 April 2013

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Appendix - Card Picture



Appendix – NI DB-9 and RJ50 (10P10C) RS232 Loopback adapter

The DE-9 connector is the most common serial connector. This connector is found on National Instrument's one and two port serial interfaces.

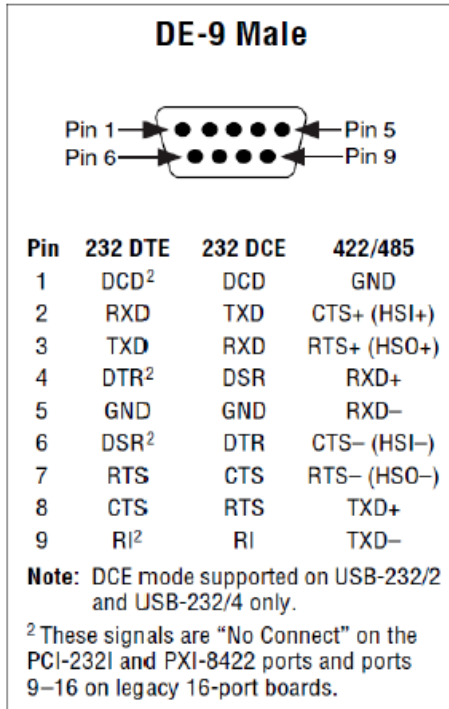


Figure 1: Pinout diagram for DE-9 Connector

To perform a loopback test with no hardware flow control, you will need to connect pins 2 and 3 for RS-232 and pins 4 to 8 and 5 to 9 for RS-422/485. These connections can be seen in red below (figure 2 for RS-232)

When using hardware flow control, you will need to connect pins 4 to 6 and 7 to 8 for RS-232. Pins 7 and 8 are used for RTS/CTS hardware flow control where pins 4 and 6 are used for DTR/DSR hardware flow control.

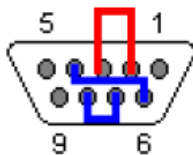


Figure 2: RS-232 female DE-9 plug with connections required for loopback test

10P10C (RJ50) Connector

This connector is most commonly found on National Instrument's 4 port serial interfaces. The National Instrument 4 port serial interfaces come with 4 10P10C to DE-9 male converter cables.

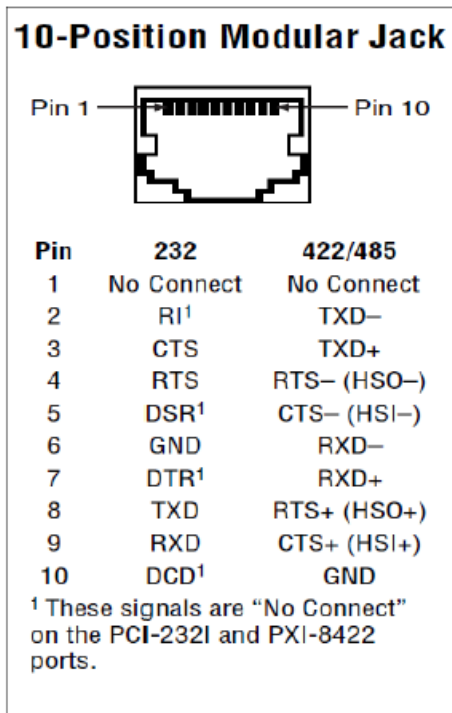


Figure 3: Pinout diagram for RJ50 Connector

To perform a loopback test with no hardware flow control, you will need to connect pins 9 and 8 for RS-232 and pins 7 to 3 and 6 to 2 for RS-422/485.

When using hardware flow control, you will need to connect pins 7 to 5 and 4 to 3 for RS-232. Pins 4 and 3 are used for RTS/CTS hardware flow control where pins 7 and 5 are used for DTR/DSR hardware flow control.