2-Port R422/485 Serial PCI Card w/ Octopus Cable
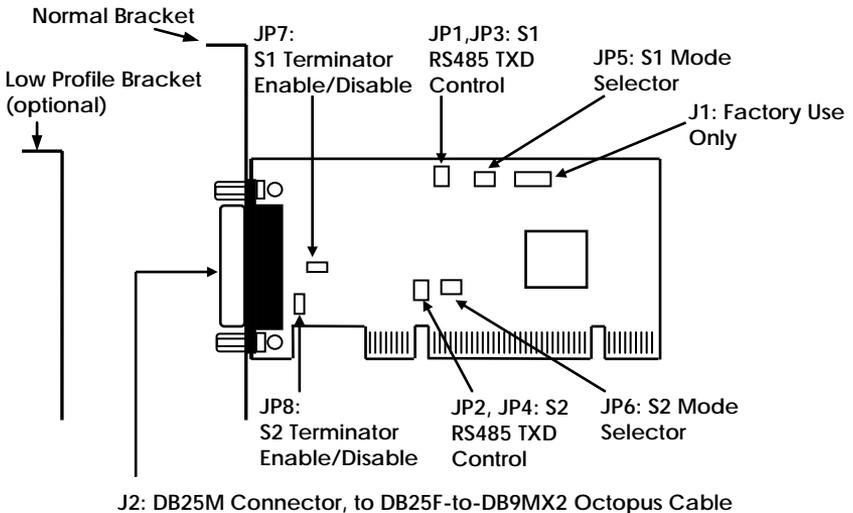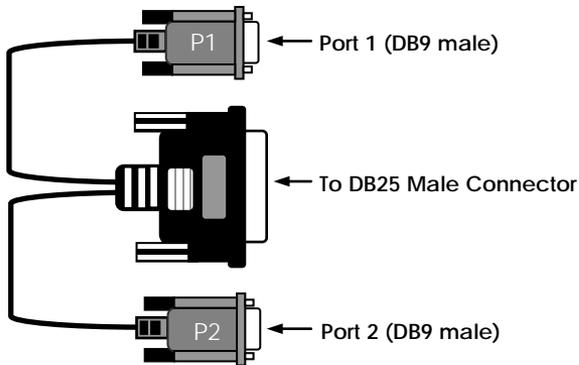## Installation Guide

1. Introduction

Thank you for purchasing this 2-Port RS422/485 Serial PCI Card. It is a universal add in card that connects to a PC or server via the PCI Bus, providing high-speed serial connectivity. The serial ports are fully compatible with RS422/485 standard by the bundled Serial COM port drivers. Each port can be set at any mode (RS485 2-wire, RS485 4-wire and RS422) and operate simultaneously.

There is an optional model supports Isolation and ESD protection feature. It provides an ideal solution for most critical applications.

2. Connector Layout

Normal Bracket

Low Profile Bracket (optional)

JP7: S1 Terminator Enable/Disable

JP1,JP3: S1 RS485 TXD Control

JP5: S1 Mode Selector

J1: Factory Use Only

JP8: S2 Terminator Enable/Disable

JP2, JP4: S2 RS485 TXD Control

JP6: S2 Mode Selector

J2: DB25M Connector, to DB25F-to-DB9MX2 Octopus Cable

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DB25F-to-DB9MX2 Octopus Cable:

Port 1 (DB9 male)

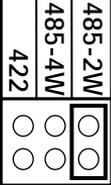To DB25 Male Connector

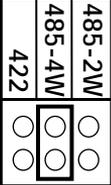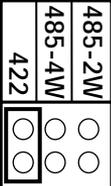Port 2 (DB9 male)

Features:

- ✓ Provides 2 RS422/485 Serial Ports over PCI Slot
- ✓ Provides 2 DSUB-9 Connectors with the Octopus Cable
- ✓ Supports PCI Specification 3.0 and Power Management 1.1
- ✓ Baud Rate up to 921.6Kbps
- ✓ Supports 5, 6, 7, 8 and 9-bit Data Framing
- ✓ 128-byte Deep FIFO per Transmitter and Receiver
- ✓ Supports Low Profile Form Factor with Optional Low Profile Bracket
- ✓ Optional Model Supports 2,500Vrms Isolation and 15KV ESD Protection
- ✓ Supports Win98, Me, XP, CE, Win2K, 2003, Vista, Win 7 and Linux

3. Jumper Settings

There are 2 sets of the jumpers to set the settings for port 1 (S1) and port 2 (S2) respectively.

- **Mode Selection Jumper:** JP5 for S1, JP6 for S2

- **Termination Resistor Enable/Disable Jumper:** JP7 for S1, JP8 for S2

- **Echo or No Echo Selection Jumper:** JP3 for S1, JP4 for S2

- **TXD Control Selection Jumper:** JP1 for S1, JP2 for S2

1. Mode Settings:

JP5 (for S1) JP6(for S2)	Description
422 / 485-4W / 485-2W	**RS485 2-wire mode (Default)**
422 / 485-4W / 485-2W	**RS485 4-wire mode**
422 / 485-4W / 485-2W	**RS422 mode**

2. **Termination Resistor Enable/Disable:** This jumper enables/disables the 120 Ohm termination resistor between DATA+ and DATA- of the RS485 transceiver:

JP7 (for S1) JP8(for S2)	Description
OFF ON	**Termination Resistor Disabled (Default)**

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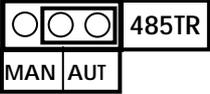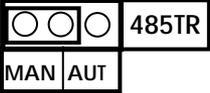|	
OFF | ON ○ | ○ ○	**Termination Resistor Enabled**
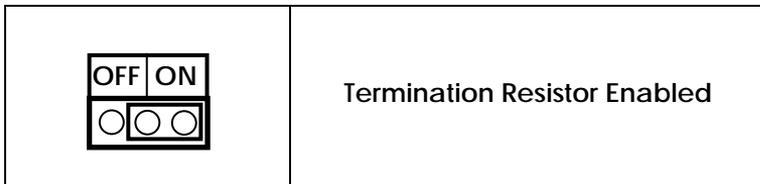
3. **Echo or No Echo Settings:** This jumper is to set the transmission data will be echoed back or not. The Echo mode is useful for the application program to detect if the RS485 bus has collision. If the echoed data was not equal to the transmitted data, then the bus was in a collision. This setting only affects the RS485 2-wire mode. It doesn't affect RS485 4-wire, RS422, and RS232 modes.

JP3 (for S1) JP4(for S2)	Description
OFF | ON ○ ○ | ○ **ECHO**	**No echo data** **(Default)**
OFF | ON ○ | ○ ○ **ECHO**	**Transmission data will be echoed**

4. **TXD Control Selector: JP3 (for S1) and JP6 (for S2):**

   This jumper is used to select the control signal for the transmitter buffer in RS485 2-wire mode. There are 2 settings are selectable, one is "MAN" (manually) the other one is "**AUT**" (automatically, factor default), please keep it at "AUT" in all cases.

JP1 (for S1) JP2(for S2)	Description
○|○ ○| 485TR MAN | AUT	TXD Control is Automatic **(Default)**
○ ○|○ 485TR MAN | AUT	TXD Control is Manual **(Needs to be Configured Manually in the Device Manager)**

5.   Factory Use Only Connectors (J1):

This connector is only used for factory production purpose, please don't install any jumper or cable on it!

4. Installing the RS232/422/485 PCI Card

1.   Turn the system power OFF before installation!
2.   Use static electricity discharge precautions.
3.   Remove the chassis cover from your computer
4.   Locate an unused PCI slot (typically white or ivory) and remove the corresponding slot cover from computer chassis.
5.   Plug the RS422/485 PCI card to the unused PCI expansion slot and attached the I/O card bracket to the computer chassis screw.
6.   Put the chassis cover back on the computer.
7.   Turn ON the power of your computer and peripherals.
8.   Proceed with Software Driver Installation.

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5. Software Installation

👉 NOTE:

PLEASE DO NOT LET WINDOWS AUTO SEARCH THE DRIVERS ON THE CD, it will cause problems because the INF files will be conflict in this case. Instead, please browse to the correct location (folder) manually to make sure the correct drivers are chosen and installed correctly.

Drivers are in each corresponding folder
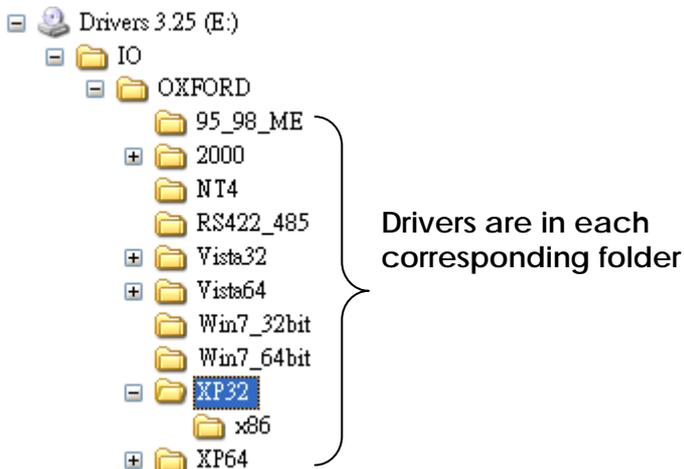
👉 Note: Windows NT driver Installations

To install the Windows NT driver, please go into WinNT4 sub-directory and run (double click) **Install_Serial.exe** to install all Serial Port Drivers.

Installing Windows Drivers:

1. When the system is powered, Windows will invoke Windows' New Hardware Wizard. Click "**Next**" to continue, select ˋ **Install from a list or specific location（Advanced)** ˊ and click ˋ **Next** ˊ.

2. Select ˋ **Include this location in the search** ˊ then click ˋ **Browse** ˊ to specify the driver's location for your OS (for example, XP is **E:\IO\OXFORD\XP32**) and click ˋ **Next** ˊ to continue.

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3. Click 〝 **Next** 〞 to continue, and click 〝 **Finish** 〞 to complete the installation.

4. To check the Installation, right click on 〝**My Computer**〞 and choose〝**Manage**〞. Choose〝 **Device Manager** 〞and double click 〝 **Ports** 〞 .

6. RS422/485 Pin Assignments and Cable Wiring

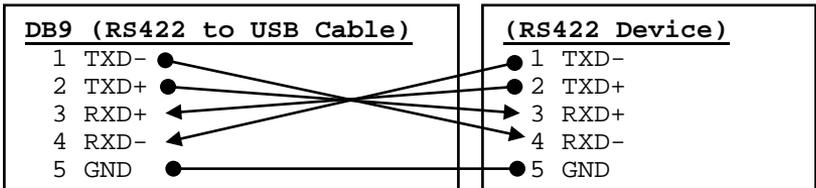**DB9-Male Pin Assignment:**
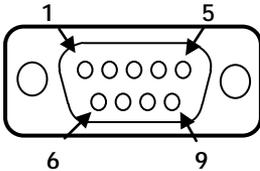
```
9 Pins   Signal
   1     TXD- (DATA-)
   2     TXD+ (DATA+)
   3     RXD+
   4     RXD-
   5     GND
   6     NC
   7     NC
   8     NC
   9     NC
```
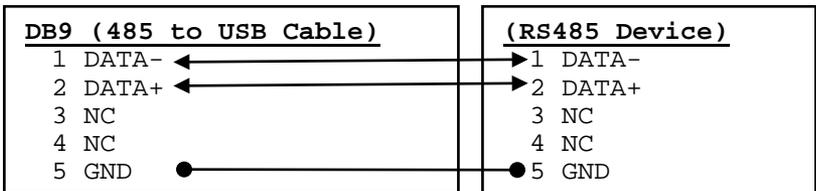
NC = No connection

RS422 Cable Wiring:

```
DB9 (RS422 to USB Cable)        (RS422 Device)
  1 TXD-  ●                      ● 1 TXD-
  2 TXD+  ●                      ● 2 TXD+
  3 RXD+  ◄                    ► 3 RXD+
  4 RXD-  ◄                    ► 4 RXD-
  5 GND   ●                      ● 5 GND
```

RS485 (2-wire) Cable Wiring:

```
DB9 (485 to USB Cable)          (RS485 Device)
  1 DATA-  ◄                   ► 1 DATA-
  2 DATA+  ◄                   ► 2 DATA+
  3 NC                           3 NC
  4 NC                           4 NC
  5 GND    ●                     ● 5 GND
```

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8. Environmental Specifications

Power requirements: 5V DC, 450mA (max)

Operating temp.:   0 to 55°C (32 to 131°F)

Operating humidity: 5 to 95% RH