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1 Port CardBus (PCMCIA) RS422/485 Serial Laptop Adapter

CB1S485

*actual product may vary from photos

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Manual Revision: 04/17/2013

FCC Compliance Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

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Table of Contents

Introduction

Packaging Contents

- 1x Serial PCMCIA Card
- 1x Breakout Cable
- 1x Driver CD
- 1x Instruction Manual

System Requirements

- A host computer with an available CardBus Slot. Please note that CB1S485 can be used on a desktop computer, using a PCMCIA to PCI Adapter Card.
- Windows® 7 (32/64bit)/ Vista(32/64)/ XP(32/64), 2000, ME, 98SE, CE 5.0 Windows® Server 2008 R2/ 2003(32/64) Linux Kernel 2.4.x/ 2.6.x

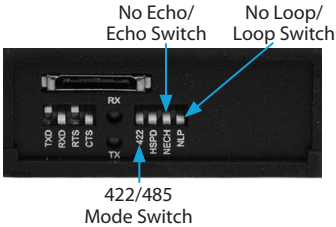
Hardware Guide

UART Input Clock Speed Selector

HSPD
Switch

Switch Name	Switch Positions	Clock Speed
HSPD	(Up)	UART Input Clock Speed = 1.8432MHZ, Maximum baud rate is115.2Kbps
	(Down) (Default)	UART Input Clock Speed = 14.7456MHZ, Maximum baud rate is 926.1Kbps (default). Setting requires adjustment from Windows Device Manager

RS-422/485 Mode Selector



Switch Name	Jumper Positions	Mode and Termination Resistor Setting
422	Up (default)	2-wire RS-485 mode (Note)
	Down	4-wire RS-422 mode
NECH	Up	Transmitting data will be echoed back
	Down (default)	No echo data
NLP	Up	RTS will be connected to CTS
	Down (default)	RTS and CTS operate normally

NOTE:

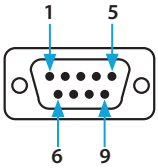
1. Please note that if the mode were set at "422" mode, the other settings (NECH and NLP settings) will take no effect.
2. Echo mode is used to detect data collisions. If the echoed data was not equal to the transmitted data, then data collisions are occurring.

Terminator Settings

Terminator Enable/ Disable Switches

Switch Name	Jumper Positions	Mode and Termination Resistor Setting
TXD	Up (default)	2-wire RS-485 mode (Note)
	Down	4-wire RS-422 mode
RXD	Up	Transmitting data will be echoed back
	Down (default)	No echo data
RTS	Up (default)	RTS will be connected to CTS
	Down	RTS and CTS operate normally
CTS	Up	CTS Terminator Disabled
	Down (default)	CTS Terminator Enabled

DB9 Connector Pinout



9 Pins	Signal
1	TXD- (DATA-)
2	TXD+ (DATA+)
3	RXD+
4	RXD-
5	GND
6	RTS-
7	RTS+
8	CTS+
9	CTS-

Installation

WARNING! It is advisable to remove all possible static discharge potential from any objects that the ExpressCard may come in contact with before installation. This can be accomplished by touching a grounded metal object, prior to insertion

1. With the notebook PC powered on and fully booted, insert the PCMCIA Card into an available CardBus slot on the host computer.
2. Connect the 15-pin connector of the cable to your PC card, then connect the DB9 connector to your serial device.
3. The Add New Hardware Wizard will launch and will guide you through the driver installation process.

Driver Installation

Windows 98, ME, 2000, XP, 2003

The necessary driver files are in ZIP format (e.g. V6515_RS422_485.ZIP) and are located in E:\IO\OXFORD\RS422_485 (where E: denotes the CD/DVD-ROM drive. Please copy the file to your local hard drive (presumably C:) and unzip it before proceeding with installation.

1. When the Found New Hardware Wizard appears, click Next to continue.

2. Select Install from a list or specific location (advanced) and click Next.
3. Select Include this location in the search and click Browse to specify the driver's location.
4. Click Next to continue, then click on Finish to complete installation.

Windows NT

Because Windows NT does not support plug and play, you will need to locate the Install_Serial.exe file (in the E:\IO\OXFORD\WinNT4 folder, where E designates the location of the CD/DVD-ROM drive), and double click on the executable file. Follow the prompts to complete installation.

RS-485 2-wire mode

To enable CB1S485 to operate in RS-485 2-wire mode:

1. Right-click on My Computer. If you are using Windows 98/ME, select Properties. If you are using Windows 2000/XP, select Manage.
2. Choose Device Manager and double-click on Ports.
3. You will notice the added ports, listed as a PCI Communications Port. Double-click on the COM Port you wish to configure, and select Settings.

Windows 2000, XP

1. In the PCI Communications Port Properties window, click on the Settings tab.
2. Under Hardware config, select RS422/485, and change the RS485 buffer enable value to Active Low, using the dropdown box provided. Click OK to save and exit.

Windows 98, ME

1. In the PCI Communications Port Properties window, click on the Settings tab.
2. Change the DTR function to RS485 Buf_En Active Low, using the dropdown box provided.

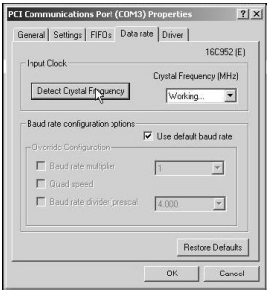
Baud Rate

By default, CB1S485 is set to a baud rate of 115.2Kbps (maximum). To increase the baud rate to 921.6Kbps maximum:

Windows 2000, XP

1. As mentioned on page 2, move the HSPD switch to the down position.

2. Right-click on My Computer and select Manage.
3. Choose Device Manager and double-click on Ports.
4. You will notice the added port, listed as a PCI Communications Port. Double-click on the COM Port you wish to configure, select Data rate, click on Detect Crystal Frequency, then OK.



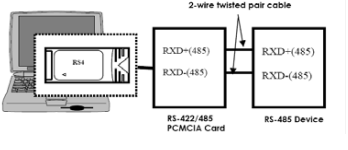
Windows 98/ME

1. As mentioned on page 2, move the HSPD switch to the down position.
2. Right-click on My Computer and select Properties.
3. Choose Device Manager and double-click on Ports.
4. You will notice the added port, listed as a PCI Communications Port. Double-click on the COM Port you wish to configure, select Data rate, and put a checkmark next to Detect Crystal Frequency by clicking in the box provided. Click on OK to save this setting.

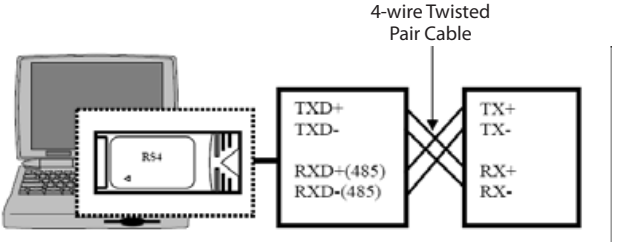
Application Wiring

RS-485 (Transmitter is controlled by ATTATM Hardware)

NOTE: CB1S485 supports optional auto echo mode operation. When enabled, data sent to the connected RS-485 transmitter is simultaneously sent to the receiver. The current application can then use the "echoed" data to check for data collisions.

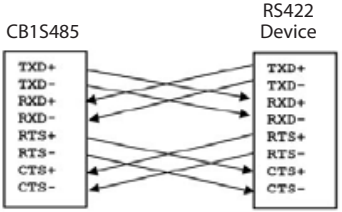


RS-422 (Transmitter buffer is always enabled)



NOTE: CB1S485 supports 4-wire RS-422 mode, which requires cross-over twisted pair cable.

CB1S485 also provides two handshaking signals, RTS+/RTS- and CTS+/CTS- to perform hardware flow control, which requires the following wiring scheme:



Specifications

Regulatory Certifications	ROHS, FCC, CE
Bus Type	32-bit CardBus Type-II Slot
Connectors	1x DB9 Male Connector
Maximum Data Transfer Rate	921 kbps
OS Support	Windows® 7 (32/64bit)/ Vista(32/64)/ XP(32/64), 2000, ME, 98SE, CE 5.0 Windows® Server 2008 R2/ 2003(32/64) Linux Kernel 2.4.x/ 2.6.x
Bits Data Framing Support	5/6/7/8/9

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