

# 2 Ports RS-422/485 Card Bus

## ● Introduction

Thank you for purchasing RS-422/485 asynchronous serial PCMCIA card, an ideal solution for adding additional ports to varieties of portable systems. This Card Bus is your best solution to utilize the peripheral with serial port in an easy-to-use environment such as plug-n-play and hot-swapping function.

Furthermore, RS-422/485 Card Bus owns unique Auto Identify-n-Switch and ARSC™ technology not only automatically sense and control data direction by RTS signal instead of using RTS/CTS control but also automatically identify the state of RS-422 full-duplex or RS-485 half-duplex then control the data transceiver and receiver wires at the same port without selecting jumpers or switches anymore.

For high performance is heavy multitasking environments, this Card Bus is implemented with 16C950 UART containing 128-byte FIFO. It provides ideal connections to serial peripherals such as bar code scanners, and printers, and fax/modems, field data collection, industrial monitoring and control, and office automation via Notebook or any portable systems.

## ● Features

1. Supports 32-bit Card Bus or PCMCIA Type II slot.
2. Plug-n-Play and Hot-swapping compatibility.
3. IRQ and I/O address assigned by BIOS.
4. Fast 16C950 Oxford CF950 high performance UART chipset.
5. Provides 128 byte receiver and transmitter FIFO.
6. High speed serial ports support baud rates up to 115Kbps.
7. Add two independent RS-422/485 serial ports on your laptop.
8. Provide maximum performance while taking up minimal system resources.
9. The unique circuit-designed Auto Switch RS-422/485 technology makes user more easy and convenient to manage device without jumpers or switches setting.
10. ARSC™ (Auto RTS Signal Control) technology can identify the status of data transceiver or receiver and send RTS signal automatically, instead of using software to control the transmitter.

## ● System Requirements

1. Pentium II or equivalent Notebook or PC computer.
2. One available PCMCIA Type II 32-bit Card Bus slot.
3. CD-ROM / DVD-ROM drive installed.
4. With Microsoft Windows 95 / 98 / NT / 2000 / XP operation system.

## ● Packing Content

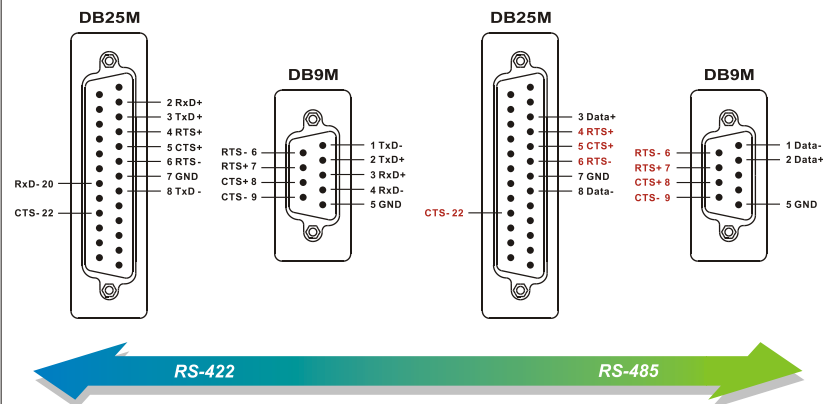
Please check if following items are present and in good condition upon opening your package. Contact your vendor if any items are damaged or missing.

1. PCMCIA Type II 32-bit Serial Card Bus
2. 44 Pin male connector to 2 Serial ports DB9 or 25 male Cable
3. CD Driver
4. User Manual

## ● Specification

Product Name	2 ports RS-422/485 Serial Card Bus
Interface	32-bit PCMCIA Typell Card Bus
Controller	Oxford CF950 16C950 compatible UART
IRQ & Address	Assigned by BIOS
RS-422/485	Auto Switch RS-422/485
RS-485 Signal	ARSC (Auto RTS Signal Control)
I/O ports	One 44 Pin Female connector on Card Bus Two serial DB9(25) pin male ports through cable
FIFO	128byte FIFO
Transfer rate	Support data transfer rate 50bps~115Kbps
Power supply	Supply by PCMCIA BUS
OS support	Microsoft Windows 95/98/NT/2000/ XP
Dimation	132x58x21MM (LxWxH)
Certification	CE , FCC
Environment	Operation Temperature: 0 °C ~ 57 °C Storage Temperature: -10 °C ~ 80 °C Humidity: 5 ~ 95% RH

## ● Pin Assignment



## ● Driver Installation

### ◆ Window 95/98/2000/XP

1. Power up the system.
2. After inserting the Serial Card Bus into PCMCIA Type II slot successfully, please follow the instructions as below:
3. System will show the "Found New Hardware Wizard" windows.

Please insert the CD driver in your CD/DVD ROM.

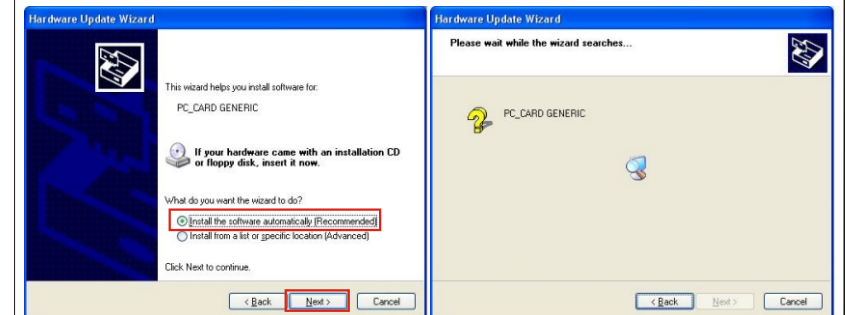
- a. You can select "Install the software automatically".

Let system searching and installing the appropriate driver automatically.

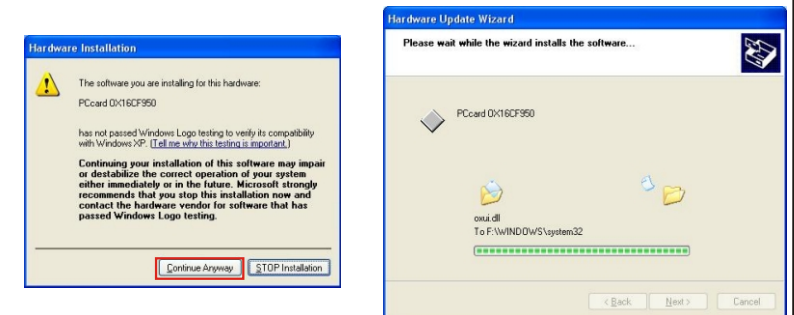
- b. You can select "Install from a list or specific location".

Please specify the driver locate within folder of the attached driver CD :

**\\PCMCIA\IO\CBS2000X\**



4. System will search the "PCcard OX16CF950" driver and show software installation warning windows. Select "Continue Anyway" to install driver.



5. After installing driver successfully, please select "Finish" to complete the driver installation steps.

### NOTE:

The "Add New Hardware Wizard" windows will show up and re-install driver several times until you finish setting up each serial port.

## 2 Ports RS-422/485 Serial Card Bus

### ● Driver Installation

◆ Window NT4.0

1. Power up the system.
2. After inserting the Serial Card Bus into PCMCIA Type II slot successfully, please follow the instructions as below:
3. Please insert the CD driver in your CD/DVD ROM.  
Please run the "Install\_Serial.exe" program locate within folder of the attached driver CD :

**PCMCIA\IO\CBS2000X\WinNT4\Install\_Serial.exe**



4. When the installation application starts, click "Next" to continue,
5. Ensure "Install" is selected, then click "Next"..
6. Click "OK" to accept the license agreement.
7. The system will install the driver and start it.  
The ports are immediately ready for using.

### ● Verifying installation on your system

In order to make sure your Serial Card Bus installation completely, please click

**Start > Settings > Control Panel > System > Hardware > Device Manager**



#### NOTE:

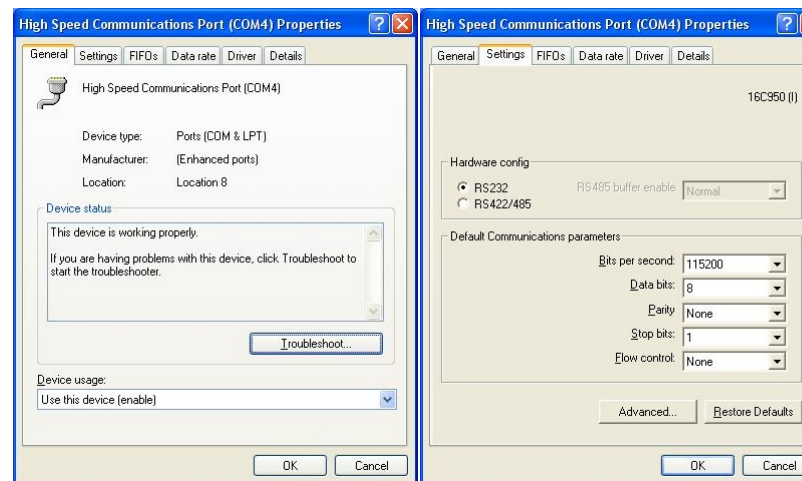
If there is any yellow exclamation mark on "PCCard OX16CF950" or "COM port", please remove this item from the Device Manager by clicking the Uninstall button and click Refresh to reinstall this driver again.

### ● Configure COM Port

1. Select the COM Port which you want to configure, for example COM4.  
Right click the mouse, and select the "Properties".



2. You can configure different operating settings through selecting the "High Speed Communications Port" properties pages.
3. Please select "Settings" to configure standard Baud rate, Data bits, Parity, Stop bits and Flow control options.  
Select "Advanced Setting" to choose COM port number as picture shown.



**NOTE:** RS-232 option is useless in this mode.

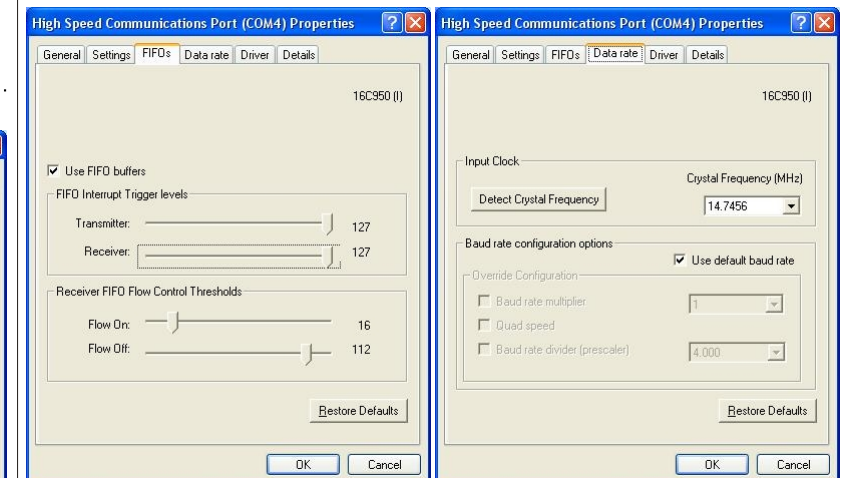


4. You can select "FIFOs" changing length of receiver and transmitter FIFO.

This page is used to configure the FIFO trigger levels, i.e. at what fill levels the device will generate an interrupt, or apply automatic flow control. In addition, the FIFO can be completely disabled; although this is not recommended for normal operation. The four sliders allow adjustment of the various trigger levels in 550 and 950 modes. These are described below:

- Transmitter FIFO interrupt trigger level - When the level of data in the transmit FIFO falls below this value, a transmitter interrupt is triggered. Setting this value to zero will not trigger an interrupt until the transmitter is completely idle.
- Receiver FIFO interrupt trigger level - When the level of data in the receiver FIFO reaches this value a receiver data interrupt is triggered.
- Flow On flow-control limit - When the level of data in the receiver FIFO reaches this value as data is read from the FIFO, a handshake is triggered to instruct the remote transmitter that it is free to transmit data (E.g. Transmit an XON character to the remote machine).
- Flow Off flow-control limit - When the level of data in the receiver FIFO reaches this value as it fills up, a handshake is triggered to instruct the remote transmitter to stop sending data as the FIFO is becoming full. (E.g. Transmit an XOFF character to the remote machine).

The FIFO trigger levels can be fine tuned to gain optimum performance, depending on system performance, baud rate used, levels of serial traffic etc.



5. You can select "Data Rate" change the crystal Frequency of input clock.

This page provides a list of common crystal values used with COM ports. Select "Detect crystal frequency" to detect the input clock frequency to the UART. (This requires that the port is not currently in use by another application).

The baud rate can optionally be adjusted according to the data rate required. To enable the advanced baud rate configuration options, deselect the "Use default baud rate" box. In normal operation, the driver will generate the desired baud rate from the crystal frequency. The quad speed option will multiply all application selected baud rates by 4 by utilising the OX16C95x Times clock register (TCR). The driver can multiply this baud rate, or divide it using the Clock Prescaler register (CPR).

The clock pre-divisor is used to divide the input clock prior to baud rate generation. This means a high speed crystal (e.g. 50MHz) can be pre-divided to generate standard baud rates. (In this case 50 / 27.125 = 1.8433 MHz, which will emulate a 1.8432 MHz crystal with less than 0.01% bit rate error). Alternatively, the pre-divisor could be switched off to allow data rates up to 12.5Mbps to be generated.