

Figure 1 – 3PCISD2x

## No ISA Slots? PCI Bus Cards Offer 1, 2, or 4 RS-232/422/485 Ports

### Models:

3PCISD1A	3PCISD2A	3PCISD4A
3PCISD1B	3PCISD2B	3PCISD4B

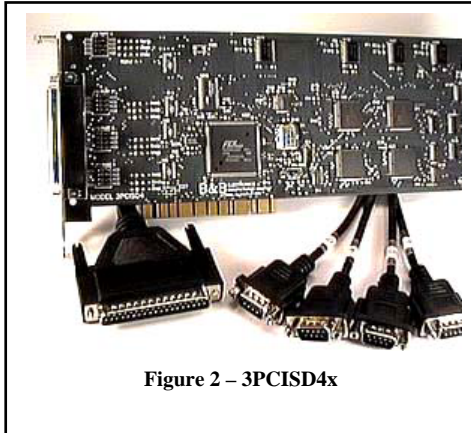


Figure 2 – 3PCISD4x

### Description

The 3PCISDxx series cards offer 1, 2, or 4 serial ports from one PCI slot. Setup is easy. Plug and Play design lets the Operating System and driver select the IRQ and addresses used by the card. Each port can be independently configured for RS-232, RS-422, or RS-485 (2-wire half duplex or 4-wire full duplex) operation. The RS-485 configuration provides Automatic Send Data Control, to transparently enable and disable the RS-485 transmitter as needed. The RS-485 receiver can set for half duplex control or constantly enabled for echo or full duplex operation. The cards can be set for quadruple clock speed on all ports, permitting baud rates up to 460.8K baud in all modes. Each port of the 3PCISDxA versions use the 16550A UART with a high-speed 16-byte input and output buffer to handle the fast baud rates. The 3PCISDxB versions use the 16850 UART with a 128-byte input/output buffer. The single and dual port card connections use standard DB9 male connectors (see Figure 1). The four port card includes a spider cable, DB37 male to 4 standard DB9 male connectors (see Figure 2).

### Features

- PCI Bus Version 2.1
- One, two, or four port serial card
- Each port independently configurable for RS-232/422/485
- Supports baud rates to 460.8K in all modes
- RS-232 mode supports TD, RD, RTS, CTS, DTR, DSR, DCD, & RI
- RS-422 and RS-485 modes support TD and RD channels
- Automatic Send Data or RTS Control in RS-485 mode
- Drivers for Windows 95, 98, ME, 2000 and NT 4.0

### Available Models

#### One Port

Model 3PCISD1A	One port card with 16550A UART
Model 3PCISD1B	One port card with 16850 UART

#### Two Ports

Model 3PCISD2A	Two port card with 16550A UART
Model 3PCISD2B	Two port card with 16850 UART

#### Four Ports

Model 3PCISD4A	Four port card with 16550A UART
Model 3PCISD4B	Four port card with 16850 UART

### RS-232 Mode

When a port is in RS-232 mode, the port functions as a standard PC serial port. 3PCISDxx serial cards support the following RS-232 signals: transmit data (TD), receive data (RD), request to send (RTS), clear to send (CTS), DTE ready (DTR), DCE ready (DSR), data carrier detect (DCD), and ring indicator (RI). The RS-232 Standard is commonly used for modems, serial printers, and computer controlled devices such as security equipment, bar code scanners and point-of-sale devices.

#### DECLARATION OF CONFORMITY

Manufacturer's Name:	B&B Electronics Manufacturing Company
Manufacturer's Address:	P.O. Box 1040 707 Dayton Road Ottawa, IL 61350 USA
Model Numbers:	3PCISD1A/B, 3PCISD2A/B, 3PCISD4A/B
Description:	Single/Dual/Four Port PCI Serial Card
Type:	Light industrial ITE equipment
Application of Council Directive:	89/336/EEC
Standards:	EN 55022 EN 61000-6-1 EN 61000 (-4-2, -4-3, -4-4, -4-5, -4-6, -4-8, -4-11)

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### RS-422 Mode

The RS-422 Standard uses balanced differential drivers and receivers. A balanced differential system offers greater distances than an unbalanced system, such as RS-232. In RS-422 mode, 3PCISDxx cards support two channels, TD and RD. There are separate enable/disable jumpers for the transmitter and receiver. For more information on RS-422 and RS-485, contact B&B Electronics for a free RS-422/485 Application Note, available by mail or on our websites: [www.bb-elec.com](http://www.bb-elec.com) or [www.bb-europe.com](http://www.bb-europe.com).

### RS-485 Mode

The RS-485 Standard allows multiple devices to share the same communication link. This requires that the transmitter be enabled only while sending data. 3PCISDxx cards offer two ways of enabling/disabling the transmitter: RTS control or Automatic Send Data control. When using RTS control your software must raise RTS to enable the transmitter and lower RTS to disable the transmitter. With Automatic Send Data control, simply transmit data. The port automatically senses the data and enables the transmitter. When the data transmission is complete, the transmitter is automatically disabled after 10 data bits (1 character). The receiver can be set constantly enabled (data echo on) for 4-wire full duplex operation or it can be disabled when the transmitter is enabled (data echo off) for 2-wire half duplex operation.

### Connectors

Each port of the 3PCISDxx cards uses a DB9 male connector configured as DTE in the RS-232 mode. Pinouts are shown below for RS-232 or RS-422/485 modes.

Pin Number	RS-232 Signal Name	RS-232 Direction (DTE)	3PCISD1x RS-422/485 Signal Name	3PCISD2x RS-422/485 Signal Name	RS-422/485 Direction (1 & 2 port)	3PCISD4x RS-422/485 Signal Name	RS-422/485 Direction (4 port)
1	DCD	Input	RD (A) -	RD (A) -	Input	---	---
2	RD	Input	TD (B) +	TD (B) +	Output	RD (A) -	Input
3	TD	Output	TD (A) -	TD (A) -	Output	TD (A) -	Output
4	DTR	Output	---	---	---	---	---
5	GND	Common	GND	GND	Common	GND	Common
6	DSR	Input	---	---	---	---	---
7	RTS	Output	---	---	---	TD (B) +	Output
8	CTS	Input	---	---	---	RD (B) +	Input
9	RI	Input	RD (B) +	RD (B) +	Input	---	---

In 2-wire RS-485 mode, your cabling must interconnect TD(A) & RD(A) for Data A, and interconnect TD(B) & RD(B) for Data B.

### Specification Summary

Bus Type: PCI Bus Version 2.1  
 Baud Rates: Up to 460.8K baud in all modes  
 RS-232 Mode: Supports TD, RD, RTS, CTS, DTR, DSR, DCD, and RI (configured as DTE device)  
 RS-422 Mode: Supports TD & RD (2 channels). Separate enable/disable on transmitter and receiver.  
 RS-485 Mode: Supports TD & RD in full duplex 4-wire mode or half duplex 2-wire mode. With automatic RS-485 driver control the driver is enabled at beginning of data transmission. Driver is disabled within one character after completion of data transmission. When using RTS control the software determines timing. Receiver can be transmitter controlled or constantly enabled.  
 Termination: Jumper selectable 120 ohm termination resistor provided on the board for RS-422/485 receiver  
 OS: Runs under Windows 95, 98, ME, 2000 and NT 4.0  
 Connectors: One DB9 male (DB9M) per port  
 Dimensions: 3PCISD1x: 9.3 x 4.2 in (23.6 x 10.7 cm)  
 3PCISD2x: 9.3 x 4.2 in (23.6 x 10.7 cm)  
 3PCISD4x: 11.2 x 4.2 in (28.5 x 10.7 cm)  
 Accessories: All: (1) Driver Disk (3.5) & (1) Utilities Disk (3.5)  
 3PCISD4x: Spider Cable – DB37M to (4) DB9M  
 Max. Power Consumption (all ports loaded):

	3PCISD1x			3PCISD2x		3PCISD4x	
Voltage (V)	Current (mA)	Power (W)	Current (mA)	Power (W)	Current (mA)	Power (W)	
+5	241.0	1.205	298.0	1.490	437.0	2.185	
+12	31.0	0.372	62.0	0.744	124.0	1.488	
-12	31.0	0.372	62.0	0.744	124.0	1.488	
<b>Total</b>	<b>303.0</b>	<b>1.949</b>	<b>422.0</b>	<b>2.978</b>	<b>685.0</b>	<b>5.161</b>	

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