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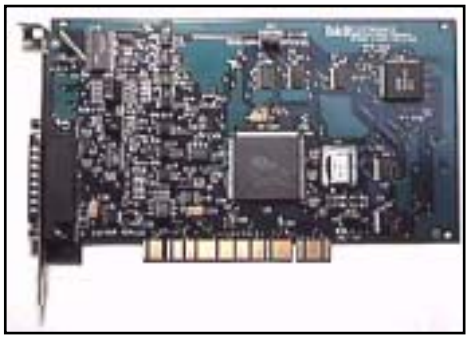
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Find the *B and B Electronics 3PCIOSD1A* at our website: ***Click HERE***

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B&B ELECTRONICS PRODUCT INFORMATION

Integrate – Expand – Simplify



## *Models: 3PCIOSD1A 3PCIOSD1B*

# Optically Isolated Serial PCI Cards CE

### *Description*

The 3PCIOSD1A and 3PCIOSD1B cards provide 1 optically isolated serial port using a PCI slot. Plug and Play design lets the Operating System and driver select the IRQ and addresses used by the card. The port can be easily 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, which transparently enables and disables the RS-485 transmitter as needed. The RS-485 receiver can be set for half duplex control or constantly enabled for echo or full duplex operation. The cards can be set for quadruple clock speed, permitting baud rates up to 460.8K baud in any mode. The 3PCIOSD1A card uses a 16550A UART that has a high-speed 16-byte input and output buffer to handle fast baud rates. Model 3PCIOSD1B uses the 16850 UART with a 128-byte input/output buffer. A DB25 male connector with standard pinouts provides easy connectivity for RS-232 devices. In the RS-422 or RS-485 mode, TD(A), TD(B), RD(A), RD(B) and Signal Common connections follows RS-530 pinouts.

### *Features*

- PCI Bus Version 2.1
- Provides 2000 VDC minimum isolation on all supported signals
- Easily configured for RS-232, RS-422, or RS-485 operation
- Supports baud rates to 460.8K in all modes
- RS-232 mode supports TD, RD, RTS, CTS, DTR, DSR, & DCD
- RS-422 and RS-485 modes support TD and RD
- Automatic Send Data or RTS Control in the RS-485 mode
- Can be connected for 2 or 4-wire RS-485 communications
- Drivers for Windows 95, 98, ME, 2000 and NT 4.0
- Available with high speed FIFO 16850 UART as Model 3PCIOSD1B

### *RS-232 Mode*

When the port is in RS-232 mode, it functions as a standard PC serial port. 3PCIOSD1x 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), and data carrier detect (DCD). 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.

### *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, 3PCIOSD1x cards support two channels, TD and RD. The transmitter and receiver are constantly enabled, since only one device is connected at each end, although one device can transmit to multiple listeners. For more information on RS-422 and RS-485, contact B&B Electronics for a free RS-422/RS-485 Application Note, available by mail or on our websites, www.bb-elec.com or www.bb-europe.com.

### *RS-485 Mode*

The RS-485 Standard allows for multiple drivers to share the same communication link. This requires that the transmitter be enabled only while sending data. 3PCIOSD1x cards offer two ways of enabling/disabling the transmitter: RTS control and 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 out the port. The card will automatically sense the data and enable the transmitter. When the data transmission is complete, the transmitter is automatically disabled after 10 data bits (1 character). The receiver can be always enabled (data echo on) for 4-wire full duplex or it can be disabled when the transmitter is enabled (data echo off) for 2-wire half duplex operation.

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## Connectors

The 3PCIOSD1x cards use a DB25 male connector configured as a standard DTE device in the RS-232 mode. In RS-422 or RS-485 modes, connections use the RS-530 specification. Pinouts are shown below for RS-232 or RS-422/RS-485 modes.

| Pin Number | RS-232 Signal Name | Description | Direction (DTE) | RS-422/485 Signal Name | Description | Direction |
|---|---|---|---|---|---|---|
| 1 | Shield | Shield | ------ | Shield | Shield | ------ |
| 2 | TD | Transmit Data | Output | TD (A) – | Transmit Data A | Output |
| 3 | RD | Receive Data | Input | RD (A) – | Receive Data A | Input |
| 4 | RTS | Request to Send | Output | --- | --- | --- |
| 5 | CTS | Clear to Send | Input | --- | --- | --- |
| 6 | DSR | Data Set Ready | Input | --- | --- | --- |
| 7 | GND | Signal Ground | Common | GND | Signal Ground | Common |
| 8 | DCD | Data Carrier Detect | Input | --- | --- | --- |
| 14 | --- | --- | --- | TD (B) + | Transmit Data B | Output |
| 16 | --- | --- | --- | RD (B) + | Receive Data B | Input |
| 20 | DTR | Data Terminal Ready | Output | --- | --- | --- |

*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, and DCD signals (configured as DTE)

RS-422 Mode: Supports TD & RD signals (2 channels). Separate enable/disable on transmitter and receiver.

RS-485 Mode: Supports TD & RD signals 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. With RTS control, software determines timing. The receiver can be transmitter controlled or constantly enabled.

Termination: A jumper selectable 120 ohm termination resistor is provided on the board for the RS-422/RS-485 receiver.

Isolation: 2000 VDC minimum on all supported signals

OS: Runs under Windows 95, 98, ME, 2000 and NT 4.0

Connector: DB25 male (DB25M)

Dimensions: 6.9 x 4.2 in (17.5 x 10.7 cm)

Accessories: (1) Driver Disk (3.5) & (1) Utilities Disk (3.5)

Max. Power: All ports loaded

Consumption: +5 V @ 325.0 mA or 1.625 W

**DECLARATION OF CONFORMITY**

| | |
|---|---|
| Manufacturer's Name: | B&B Electronics Manufacturing Company |
| Manufacturer's Address: | P.O. Box 1040<br>707 Dayton Road<br>Ottawa, IL 61350 USA |
| Model Numbers: | 3PCIOSD1a/b |
| Description: | Optically Isolated Serial PCI Card |
| Type: | Light industrial equipment |
| Application of Council Directive: | 89/336/EEC |
| Standards: | EN 55022<br>EN 61000-6-1<br>EN 61000 (-4-2, -4-3, -4-4, -4-5, -4-6, -4-8, -4-11) |



CE

William H. Franklin III, Director of Engineering

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