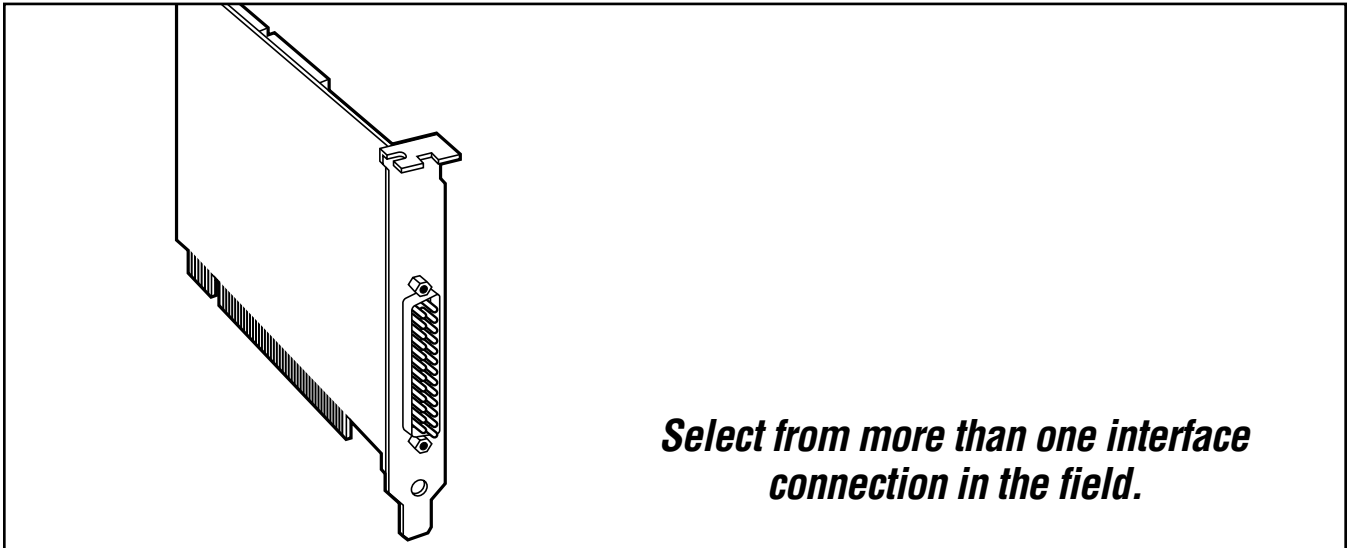# BLACK BOX®
NETWORK SERVICES

SINGLE-PORT PCI CARDS

Select from more than one interface connection in the field.

Key Features

▶ *An easily configurable interface that's simple to connect.*

▶ *Satisfy multiple application needs across multiple industries.*

▶ *Advanced UARTs for faster data transmission.*

▶ *Include diagnostic tool to aid you with installation and troubleshooting.*

▶ *Support all PCI interrupts.*

▶ *Work with standard software.*

The Single-Port PCI Cards (PCI↔RS-232/422/485/530) provide you with a single field-selectable port for your PC.

These cards can easily be configured as RS-232, -422, -485, or -530, supporting asynchronous data rates up to 460.8 kbps. Order the IC074C-R2 and get isochronous data rates up to the speed of the supplied clock. Want to connect over a clocked digital line while using your standard communications software? These cards let you do just that—without the need for expensive custom software.

And, because these cards slide into any standard PCI slot, you won't have to deal with a cumbersome data-conversion box. They're ideal for field use!

Configure the port as RS-232 for standard serial COM-port requirements, and you can use a card for modems, printers, plotters, and similar devices. Or you can select the RS-485/422 mode and go beyond the RS-232 cable limit—up to 5000 ft.!

Use RS-422 mode for long-distance device connections that require noise immunity and high data integrity, such as in industrial automation and control applications.

Or select RS-485 and capture data from multiple peripherals in an RS-485 multi-drop network, that is, a communications link between multiple locations using multiple local exchange carriers. Up to 31 RS-485 devices can be connected to each port to automate your data collection.

In both RS-232 and -422 modes, the PCI cards work seamlessly with your standard operating system's serial driver. In RS-485 mode, the cards' special auto-enable feature allows the RS-485 ports to be viewed by the operating system as a COM port. This allows you to use a standard COM driver (instead of a custom software driver) for your high-speed RS-485 connections. It also makes the cards compatible with DOS, and Windows® 3.1x/95/98 or Windows NT®.

What's more, the IC073C benefits from 16550 UART technology, which offers programmable baud rates, data format, and interrupt control, along with 16-byte input and output FIFO buffering. These features keep CPU service interrupts to a minimum.

If you need 32-, 64-, and 128-byte FIFO schemes, then order the IC074C-R2 with the UART 16850 upgrade. With it, you get support for isochronous data rates up to speed of the supplied clock.

Both card versions come with serial utility test software to aid you in troubleshooting for hardware conflicts. The software's easy-to-use diagnostic program even verifies your installation.

Configuring a card is just a matter of setting a few jumper straps. I/O addresses and IRQs are automatically assigned by your PC's motherboard BIOS.

Package Includes

- Serial I/O adapter
- Serial utility software
- Users' manual

Technically Speaking

Whether you choose the Single-Port PCI Card RS-232/422/485/530 with the standard 16550 UART or the upgraded version with the 16850 UART, you'll benefit from the most advanced UART technology on the market.

With more people using the Internet, new demands have been placed on computer serial ports. Many PC serial ports aren't equipped to handle the level of buffering required for newer data rates. But advanced UARTs—such as the 16650 and 16850—go a long way toward satisfying the requirements.

The 16650 features a 16-byte input and output First-In, First-Out (FIFO) buffer, which holds characters for the transmitter and receiver. The FIFO allows you to obtain higher data rates while reducing the frequency of processor interrupts. 16650 UARTs can give you data rates up to 115 kbps if you use the appropriate line drivers and receivers and you're able to optimize the other factors that affect performance (such CPU, number of ports, cable length and quality, and electrical interface).

The more advanced 16850 features deeper FIFO UARTs that enhance communications. They help you avoid the many I/O problems seen in a multi-tasking environment, like data overruns or underruns, which occur when the UART buffering isn't large enough to handle the incoming data. These, of course, can interrupt performance and affect your communications.

The 16850 chip also supports an isochronous scheme—which is asynchronous framing with the addition of clock signal. This scheme allows for much higher data rates and the use of a digital line (ISDN, T1) where a clock is supplied for data multiplexing. And you can get high-speed communications with a simple communications interface that responds to standard communication calls.

In the past, links using a clock to synchronize data would've required a more expensive synchronous interface adapter and custom software. But the IC074C-R2 card works with off-the-shelf software.

Specifications

Communications Chip:
IC073C: 16550; IC074C-R2: 16850

Current Drawn: +5 V @ 130 mA, +12 V @ 30 mA, -12 V @ 40 mA

Data Rate (Maximum): 460.8 kbps

Distance (Maximum): Up to 5000 ft. (1524 m) in RS-422 mode

Interface: (1) RS-232/422/485/530

Connectors: (1) DB25 M

Temperature:
Operating: 32 to 122°F (0 to 50°C);
Storage: -4 to +158°F (-20 to +70°C)

Humidity: 10 to 90% noncondensing

MTBF: >150,000 hours (calculated)

Power: From the interface

Size: 3.5"H x 4.9"W (8.9 x 12.5 cm)

Weight: < 1 lb. (< 0.5 kg)

Ordering Information

ITEM	CODE
Single-Port PCI Cards (PCI↔RS-232/422/485/530)	
16550 UART...IC073C	
16850 UART IC074C-R2	
For optimum performance and a 20% savings, order…	
DB25 Null-Modem Cable, 6-ft. (1.8-m),	
DB25 Female/DB25 Female................................BC00501	
If you will be going to a DB9 connector…	
AT Adapter (Serial),	
DB9 Female to DB25 Male FA520A-R2	