

SEALEVEL®

INNOVATIVE I/O SOLUTIONS

LIFETIME
WARRANTY

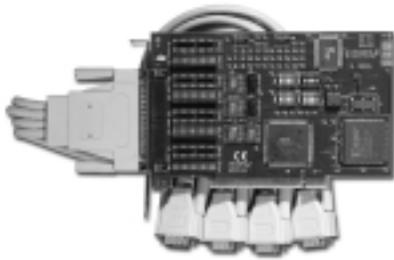


2001/2002 COMMUNICATIONS I/O PRODUCTS AND ACCESSORIES

www.sealevel.com

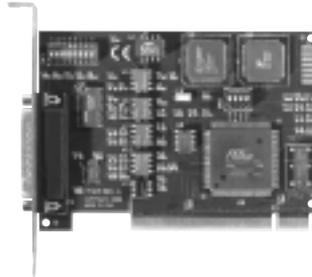
SEALEVEL HOT PRODUCTS FOR 2001

PCI 4 Port RS-232/422/485



see page 19

PCI 1 and 2 Port Isolated RS-232/422/485



see pages 21 and 22

At Sealevel, we're continually developing new products. For 2001, we've introduced over 30 new products. Listed on this page are just a few.



USB 1 Port RS-232 or RS-422/485/530



see page 5 and 13

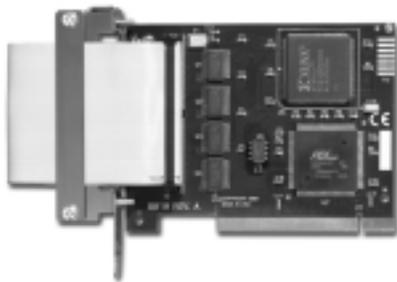
USB 2 and 4 Port RS-232/422/485



see page 5, 13 and 19

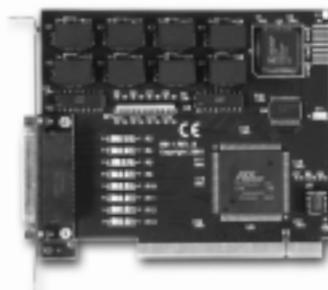


PCI 24, 32, 48 and 96 Channel TTL Digital I/O



see page 24

PCI Form A and Form C Relay I/O



see page 25



USB 48 and 96 Channel TTL Digital I/O



see page 28

Interface Converters, Terminal Blocks and Accessories



see pages 11 and 43



Technical Support

We at Sealevel Systems recognize that our customers are presented with development and integration challenges ranging from electrical specifications to physical dimensions, from operating systems to digital line connectivity and everything in between. It's no surprise that when you need support you don't have time to play phone tag or go into an endless queue. We understand this need and are devoted to answering your technical questions. That's why when you call Sealevel Systems you will be promptly connected to an engineer who can quickly and efficiently answer your questions.

Windows® COM: Drivers

In our ongoing effort to add value to our products while simplifying integration, we're continually enhancing our line of software. Long known for our utility and diagnostic software, we've now turned our focus to operating system integration. We've developed Windows Advanced COM: drivers to provide support for advanced UARTs, Auto RS-485 RTS control, and developed WinSSD, an Asynchronous Windows based diagnostic/test utility.

Linux and QNX

We continue to add support for today's mainstream operating systems. Linux and QNX are two examples. Our utilities make installing our products simple and reliable. For more details refer to our Communications Software beginning on page 39 or visit our website at www.sealevel.com for the most up to date software information.



Sealevel Software

Our Sealevel Software group develops cutting

edge drivers and utilities for inclusion with each of our products. Contact us for your custom software development needs.

Third Party Software Tools

Sealevel products can be used with 3rd Party Software packages including HMI/MMI, Recipe/Batch Management, Test, and Instrumentation. Visit our website at www.sealevel.com/3rdpartysw.htm for the latest 3rd Party Software installation white papers.

Customer Success Stories

Sealevel works with customers on a daily basis to solve their integration challenges. Visit our website at www.sealevel.com/success.htm to see a few of our success stories.

Windows® Relay/Digital I/O Drivers

Develop 32 bit Relay/Digital I/O Windows Applications using our Seal/O Windows drivers. Seal/O provides simple output capability to control individual relays or groups of relays. Included sample applications also offer direct input and programmable timed monitoring of inputs. Utilities are included along with Source Code allowing rapid application development.

Windows® Sync/Async Drivers

We are continually enhancing our suite of Sync/Async drivers for DOS and Windows to make our cards simple to integrate while allowing a consistent and straightforward migration path to newer and faster cards. Each new driver will be available for developers through our Sealevel Systems Beta program. For the most up to date listing of Windows Sync/Async Drivers visit our web page at www.sealevel.com.

Internet/World Wide Web

Join us on the web at www.sealevel.com. We've packed our site with technical information, product pricing, related links and, best of all, product manuals and software. No matter where you are, if you have internet access, the most detailed information is just an internet session away. If you have technical questions about any of our products, you can send us email to: support@sealevel.com, call us directly at 864.843.4343 or send a fax to 864.843.3067. You can also reach us by mail at:

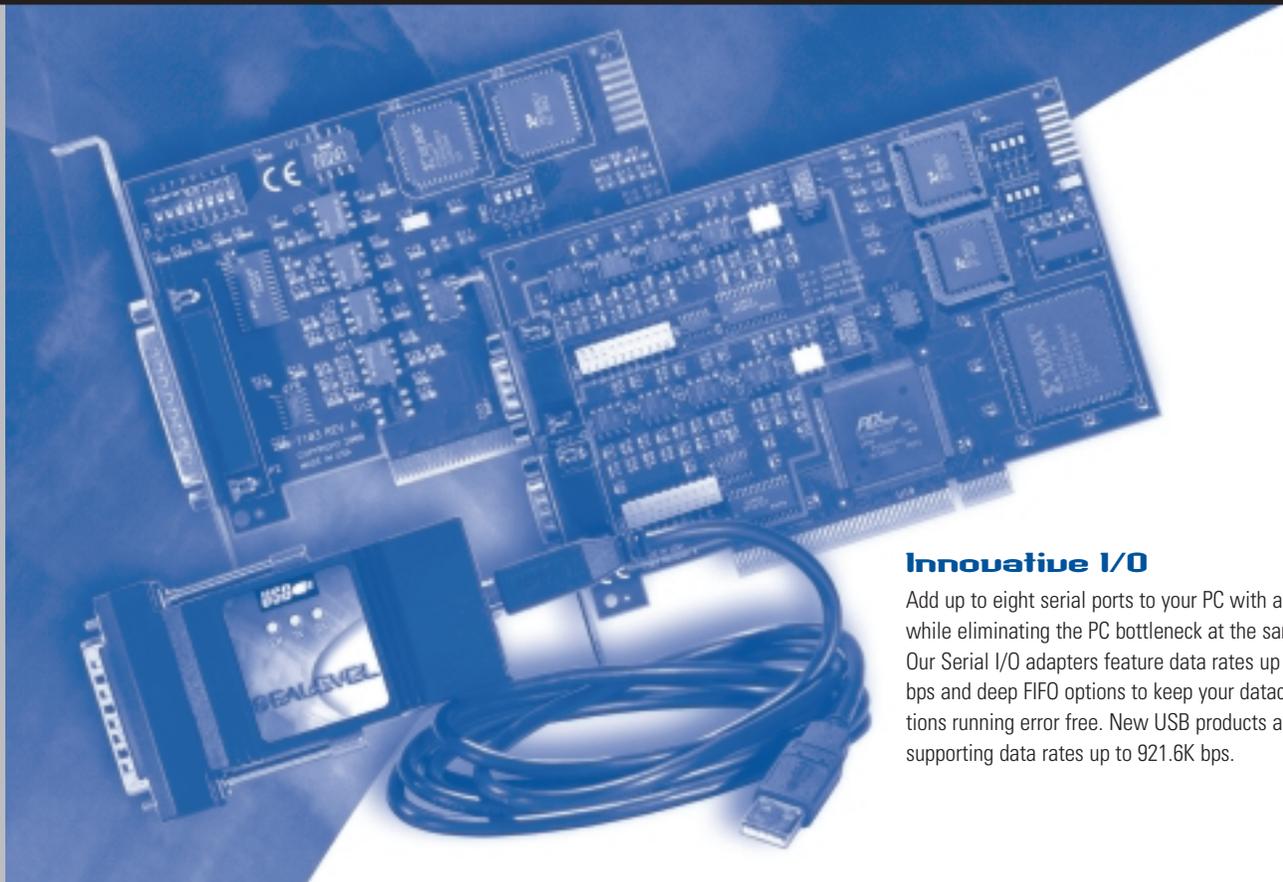
Sealevel Systems, Inc.
155 Technology Place
P.O. Box 830
Liberty, SC 29657

CONTENTS

Serial I/O Adapters	2
RS-232	3
RS-422/485	10
RS-232/422/485	17
Isolated RS-232/422/485	21
Digital I/O Adapters	23
Synchronous Serial I/O Adapters	32
Sealevel Software	38
Sealevel Accessories	43
Terminal Blocks	43
Cables	44
Accessories	45
Connector Pin Assignment	46
Product Price List and Index	47
Ordering Information	49

We hope you that you enjoy this new catalogue. Thanks for your interest and continued support.

— the staff at Sealevel Systems



Innovative I/O

Add up to eight serial ports to your PC with a single card while eliminating the PC bottleneck at the same time. Our Serial I/O adapters feature data rates up to 460.8K bps and deep FIFO options to keep your datacom applications running error free. New USB products are available supporting data rates up to 921.6K bps.

PCI, ISA, USB, PCMCIA, PC/104 Async Serial I/O

RS-232 COM: PORTS

Protected mode operating systems such as Windows have typically required each serial port to have its own unique Interrupt Request Line. This is especially true for Windows 95/98/ME. Interrupts can be shared under Windows 95/98/ME if a serial driver replacement supporting IRQ sharing is used. Windows NT and 2000 support interrupt sharing out of the box. Under Windows NT and 2000, interrupts can be shared across multiple ports provided that the serial board has an Interrupt Status Port. Without an Interrupt Status Port, the Interrupt Service Routine (software routine that services interrupts and requests processor time) would have to poll each port separately to determine which port generated an interrupt. Sealevel Systems provides Windows Advanced COM: drivers supporting IRQ sharing.



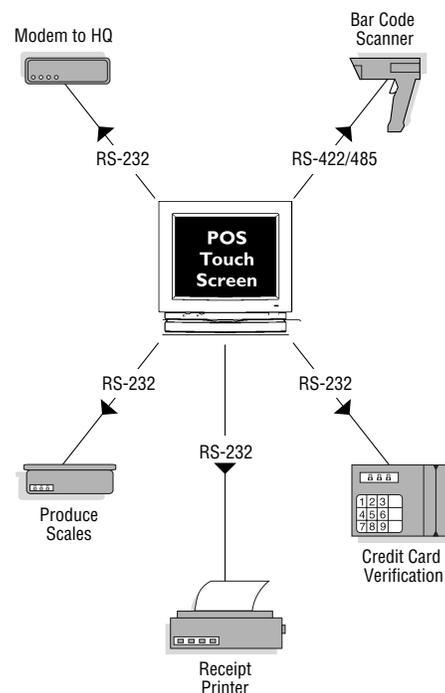
When you see this logo, it indicates that this product features the highest performance UART available **standard**.

Features

- Each port designed to maximize communications performance
- **16850** buffered UART(s) standard
- Full array of enhanced UART options
- All ports share a single IRQ
- Onboard interrupt status port for efficient interrupt sharing
- Cables/cabling options provided to simplify device connections
- All products are CE Mark certified
- Includes Windows Advanced COM: drivers, utilities, INF files and help files to simplify installation
- Supports Windows, Linux, QNX, DOS and other operating systems

Applications

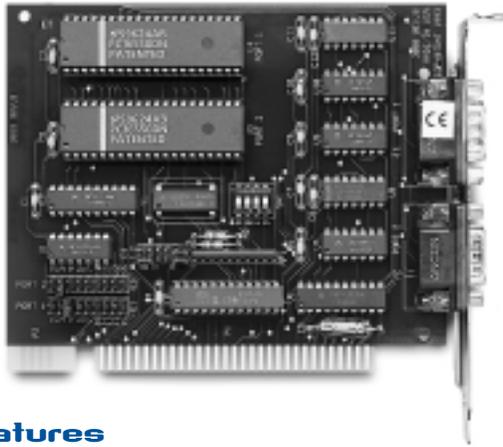
- Point of Sale (POS) interface to bar code readers, scales, scanners, terminals and other peripheral devices.
- Communication server COM: ports
- High-speed ISDN T/A Interface
- Thin client/network computer/multi-user ports
- Interface to printers, plotters, modems, etc.
- Data entry terminals



ISA 2 Port RS-232 Interface

DUOCOM:

The DUOCOM: provides two RS-232 Async links for communication servers, terminals, Point Of Sale (POS) systems and other data collection devices.



Unique Features

- Configurable to addresses including COM1:-COM4
- Supports Windows, Linux, QNX, DOS and other operating systems.



Technical Specifications

Communications chip16550
 Number of ports2 RS-232
 Max. data rate115K bps (3088)
460K bps (3188)
 Max. data distanceup to 50 ft.
 Operating temperature0-50° C
 Storage temperature-20-70° C
 Humidity range10-90% R.H.
 Current specifications+5V @ 160mA,
±12V @ 50mA ea.
 Connector(s)(2) DB9P
 Physical dimensions5.4" L x 3.5" H (13.72 x 8.89 cm)

ORDERING INFORMATION		
Description	Part No.	Price
2 Port RS-232	3088	\$89.00
w/16850 UART	3088-SE	\$109.00
2 Port High-speed	3188	\$99.00
w/16850 UART	3188-SE	\$119.00
<u>Cable Options</u>		
DB9F/25M Modem Cable	CA177	\$7.95
DB9F/9M Cable	CA127	\$9.95

Sealevel Systems Explains — "Advanced UARTs"

Overview

With the advent of new, higher speed computers and modems the need for increased data communication speed has been realized. Quantum leaps have been made in a number of areas including processing power, video graphics (Accelerated Cards) and even the PC bus itself (Vesa, PCI, USB). One area that has until recently progressed relatively slowly is the UART, the heart of the onboard and add-in Serial Ports.

High Performance Need

With the exploding popularity of the Internet, new strains have been placed on the Computer's serial ports. Dial up data connection rates of 28.8, 33.6, 57.6, and ISDN rates of 64K, 128K, to 230K are becoming commonplace in today's marketplace. 460K bps applications are not far away. These higher data communications rates are required as the Internet content grows to support multimedia applications including data, voice and video.

16550, 16554 UARTs

With the need for higher speed communications, the 16550 UART was introduced with an improved

design that allowed greater throughput to be obtained. The 16554 UART is a quad UART design incorporating (4) 16550 UARTs in a PLCC (square) package as opposed to the DIP (rectangular) package. The 16550 UART features a 16 byte input and output First In First Out (FIFO) buffer that holds characters for the transmitter and receiver.

Enhanced UARTs

Currently, most serial port manufacturers have standardized on the 16550 UART. Users who need additional buffering for higher performance applications now have the option to specify new UARTs with an even larger buffer (see table). These new UARTs power up in the 16550 compatible mode, so they are compatible with existing off-the-shelf software. Several manufacturers of UARTs have developed various enhanced UARTs. The 16C650, 750, 850, and 950 are examples. These new, faster chips provide features such as larger buffer (FIFO) size, increased speed, automatic hand-shaking (RTS/CTS), automatic RS-485 line control, and even external clocking for isochronous applications. When implemented with the appropriate onboard line drivers and receivers, these new

UARTs can allow data rates of up to 460K bps and beyond. Call our technical support staff to discover which enhanced UART may work best for your application.

Windows Drivers

Sealevel Systems' Windows advanced serial drivers take advantage of the increased FIFO sizes of these advanced UARTs to provide a higher level of serial communications performance.

UART Reference Table

UART	Buffer Size
16550	16 bytes
16554	16 bytes
16650	32 bytes
16654	64 bytes
16750	64 bytes
16850	128 bytes
16854	128 bytes
16950	128 bytes
16954	128 bytes



Sealevel Systems Incorporated ▶ 155 Technology Place ▶ PO Box 830 Liberty, South Carolina 29657 USA
 Tel: 864.843.4343 Fax: 864.843.3067 www.sealevel.com

PCMCIA 1 Port RS-232 Card

PC-SIO-232

The PC-SIO-232 card provides a single PCMCIA Async serial link to modems, terminals, printers or other data collection equipment.



Unique Features:

- Interface cable included terminates in DB-25P Connector
- "Hot swapping"/ Auto configuration standard
- SeaPC DOS client software enabler included
- Full Modem Control Signals included standard
- Includes DB25S to DB9P adapter

Technical Specifications

Communications chip . . . 16550
 Number of ports 1
 Max. data rate. 115K bps
 Max. data distance up to 50 ft.
 Operating temperature . . . 0-50° C
 Storage temperature -20-70° C
 Humidity range 10-90% R.H.
 Current specifications . . . +5V @ 25mA
 Connector(s) DB25P
 Compatibility PCMCIA 2.01, JEIDA4.1
 Physical dimensions Type II PCMCIA Card

ORDERING INFORMATION

Description	Part No.	Price
Single Port RS-232	3603	\$199.00



PCMCIA 2 Port RS-232 Card



PC-COMM+232

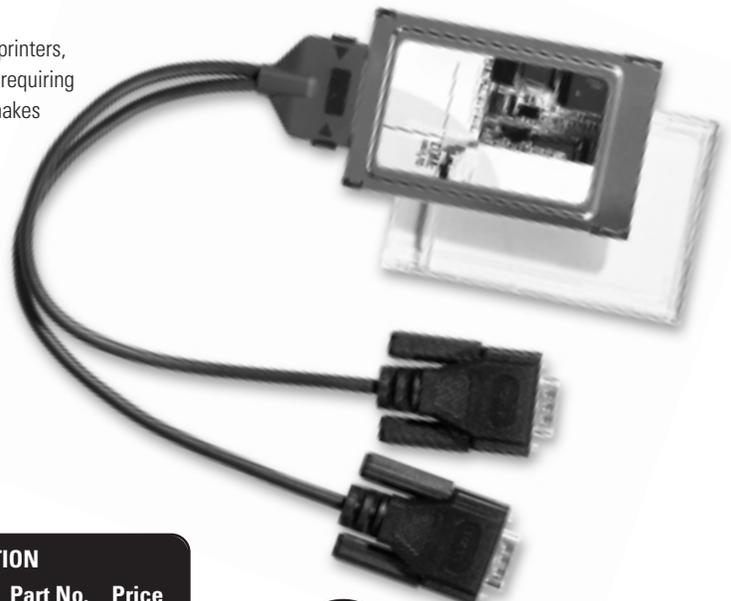
The PC-COMM+232 provides two Asynchronous links to modems, terminals, printers, or other data collection devices. Install the dual port PC card for applications requiring RS-232 compatibility and data rates up to 460K bps. Our included software makes data rate selection easy. Simply select your data rate and our software transparently handles divisor calculations. This makes high data rates and Windows configuration simpler than ever.

Unique Features:

- Interface cable included terminates in (2) DB-9 male connectors
- 16850 UART Standard for standard PC data rates up to 460K bps
- Includes Windows Advanced COM: drivers, utilities, INF files and help files to simplify installation

Technical Specifications

Communications chip . . . 16850
 Number of ports 2
 Max. data rate 460K bps
 Max. data distance up to 50 ft.
 Operating temperature . . . 0-50° C
 Storage temperature -20-70° C
 Humidity range 10-90% R.H.
 Current specifications . . . +5V @ 25mA
 Connector(s) (2) DB9P
 Physical dimensions Type II PC Card



ORDERING INFORMATION

Description	Part No.	Price
2 Port RS-232	3622	\$299.00



PC/104 I Port RS-232 Serial Module

PC/104 Serial I/O

While the PC architecture has become extremely popular in both general purpose (desktop) and dedicated (non-desktop) applications, its use in embedded microcomputer applications has been limited due to the large size of standard PC motherboards and expansion cards.

In the past, embedded system designers were forced to either develop their system chip-by-chip, or revert to the standard PC form factor. PC/104 changed the design process by offering the embedded system designer an off-the-shelf solution. The term "PC/104" is based on the 104 signal contacts on the two bus connectors 64 pins on P1, plus 40 pins on P2.

The needs of embedded applications have been satisfied by PC/104. Key differences between PC/104 and P996 are as follows:

- Reducing the form-factor, to 3.550 by 3.775 inches.
- Eliminating the need for backplanes or card cages, through its self-stacking bus.
- Minimizing component count and power consumption (to typically 1-2 Watts per module), by reducing required bus drive on most signals to 4 mA.

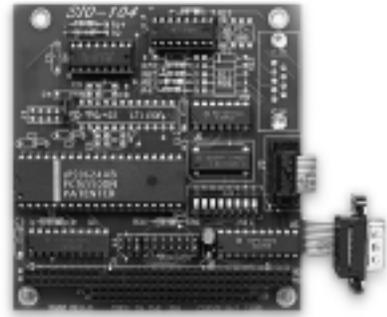
PC/104 specifies two module versions – 8-bit and 16-bit – which correspond to the PC and PC/AT bus implementations, respectively. Sealevel Systems is a charter PC/104 Consortium member. Sealevel Systems provided input to the working group that submitted the PC/104 bus for approval by the IEEE as P996.1.

SIO-104

The SIO-104 provides the PC/104 system with a direct RS-232 Asynchronous link to data collection and other devices.

Unique Features

- PC/AT compatible, 20Kbps (RS-232)
- Selectable address including COM1: - COM4: or any other I/O address up to 3FF Hex
- Sharable IRQ level (2-7, 10-12 or 15)
- RS-232 full modem control signals provided
- 16550 buffered UART standard
- Full array of enhanced UART options
- DB9P interface cable included
- PC/104 form factor (3.6" x 3.8")



Technical Specifications

Communications chip16550
 Number of ports1
 Max. data rate115K
 Max. data distanceUp to 50ft.
 Operating temperature . . .0-50° C
 Storage temperature-20-70° C
 Humidity range10-90% R.H.
 Power requirements+5V only operation
 Current specifications60mA
 Physical dimensions3.775" L x 3.550" H (9.588 x 9.017 cm)

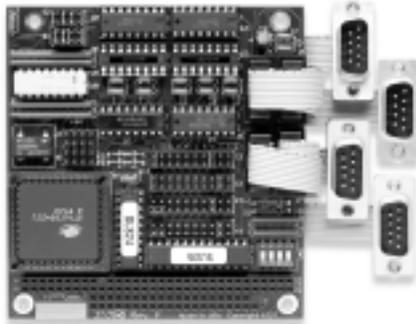
ORDERING INFORMATION

Description	Part No.	Price
Single Port RS-232	3501	\$149.00
<u>Cable Options</u>		
DB9 M/F Cable 6 ft	CA127	\$9.95

PC/104 4 Port RS-232 Serial Module

C4-104

The Sealevel Systems C4-104 provides the PC/104 system with four RS-232 Asynchronous links to data collection and other devices.



Unique Features

- Supports standard PC data rates up to 460.8K bps
- Supports Windows, Linux, QNX, DOS and other operating systems.
- DB9P connectors standard

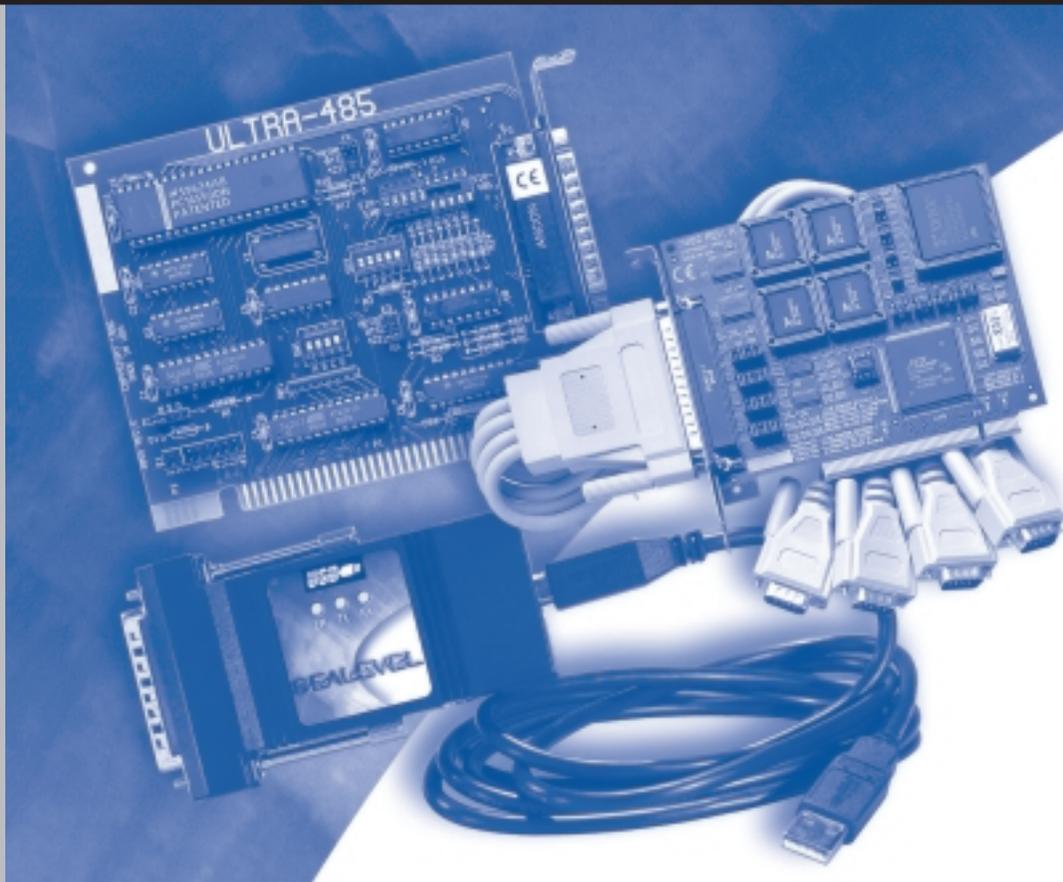


Technical Specifications

Communications chip16554
 Number of ports4 RS-232
 Max. data rate115K
 Max. data distanceUp to 50ft.
 Operating temperature . . .0-50° C
 Storage temperature-20-70° C
 Humidity range10-90% R.H.
 Power requirements+5V only operation
 Current specifications130mA
 Physical dimensions3.775" L x 3.550" H (9.588 x 9.017 cm)

ORDERING INFORMATION

Description	Part No.	Price
4 Port RS-232	3521	\$249.00
<u>Cable Options</u>		
DB9 M/F Cable	CA127	\$9.95



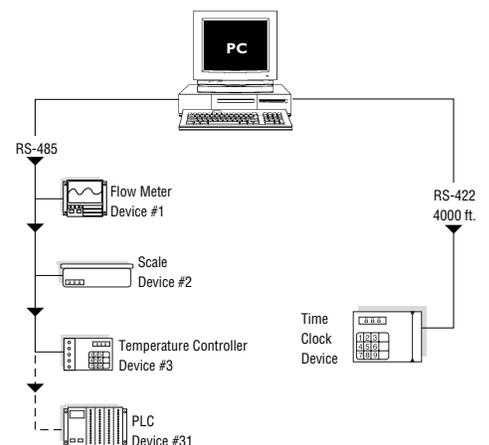
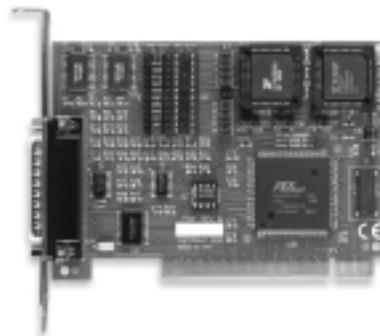
RS-422/485 Specification

The RS-422 electrical specification allows very long distance (4000 ft. at 9600 bps) communications with virtually error free differential drive characteristics. RS-422, like RS-232, is intended as a single-node protocol, i.e. typically only one RS-422 device is connected to a single port. RS-485 is optimized for "party-line" or multi-drop connections, where the devices (up to 31) are polled individually. RS-422 signal levels meet the standard electrical specification defined in RS-449 and EIA-530. Equipment complying with RS-449 and EIA-530 specifications can be interfaced using a simple adapter cable. Contact Sealevel Systems' Technical Support for specific information regarding adapter cables.

RS-422/485 Serial I/O

INDUSTRIAL COMMUNICATIONS

Industrial communications is our specialty. After all, we introduced the first RS-422/485 card back in the mid 80's. Whether you are connecting a single device over a short distance or a multi-drop RS-485 network between multiple buildings, we have the products to fit your application. All of our new products include Quad speed data rate support, enhanced software utilities and our revolutionary Auto Enable feature. Quad speed data rates allow your high-speed applications to operate without the PC bottleneck. We include hardware onboard allowing the card to run at 460K, 230K, 115K and other standard PC data rates. Our enhanced software utilities include new Windows Advanced COM: drivers, help files, INF files and utilities to simplify installation in Windows, Linux, QNX, and DOS. Each is designed to simplify installation. Our Auto Enable feature enables and disables the RS-485 line driver automatically, eliminating the need for specialized RS-485 software drivers. See our explanation and diagram of our Auto Enable feature on Page 11.



IC485

Our IC485 family of interface converters allow a standard RS-232 port to communicate with an individual RS-422 device or with multiple devices within a RS-485 network. The IC485 supports RS-422 full duplex mode as well as RS-485 full or half duplex master and slave modes. An isolated version is available providing immunity from ground loops and surges. Connection to external devices is provided by a six position screw terminal block on the board. Provisions for strain relief are made within the case by a cable clamp/screw combination. This eliminates unwanted wire disconnects once the screw terminals are wired.

Unique Features

- RS-422 full duplex support
- RS-485 full or half duplex master and slave support
- RS-485 modes supported include RTS, data enable, and always enable
- Part #s 1102 and 1103 provide Auto RS-485 driver/receiver enable
- Isolated version also available providing immunity from ground loops and surges
- Supports data rates up to 115.2K bps
- Selectable 120 ohm line termination and 1K pull up/pull down biasing
- Onboard LEDs illuminate for Transmit and Receive
- Sealevel Software RTS control drivers provided to simplify RS-485 communications in Windows

Technical Specifications

Number of Ports 1
 Max. data rate 115.2K
 Max. data distance Up to 4000 ft.
 Operating temperature 0-50° C
 Storage temperature -20-70° C
 Humidity range 10-90% R.H.
 Power Specifications From AC adapter
 Connector(s) (1) DB25S (Female) to 6 position screw terminal providing (TX±, RX±, Ground, and shield)
 Physical dimensions 3.8" L x 2.3" W x 1.0" H (9.65 x 5.84 x 2.54 cm)



ORDERING INFORMATION

Description	Part No.	Price
RS-232 to RS-422/485 Interface Converter	1101	\$99.00
RS-232 to RS-422/485 Interface Converter	1102	\$109.00
RS-232 to RS-422/485 Iso. Interface Converter	1103	\$129.00
Cable Options		
DB9F/25M 6 ft. cable	CA177	\$7.95
DB25M/F 6 ft. cable	CA104	\$7.95



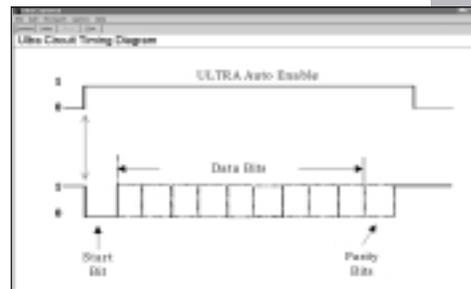
Sealevel Systems Explains — "RS-485"

"Windows® RS-485"

Today's mainstream operating systems such as Windows and Linux abstract the application program from the specific details of I/O device programming. This means that software cannot directly control the hardware, and must make calls to a driver substructure. Implementation of features not supported by existing drivers is very difficult since lower level I/O handling is required. RS-485 communication has been discouraged under these operating systems because RS-485 is not supported in the standard communications driver.

Windows® RS-485 Solutions

In order for RS-485 communications to take place, the user must either add an RS-485 compatible communications driver replacement, or the user can simply install an ULTRA series card. The ULTRA cards handle the low level RS-485 driver maintenance automatically; therefore, communications driver replacements are not necessary. Initial development can be targeted for RS-232, debugged, tested and then implemented as RS-485. The ULTRA cards were designed to allow simple integration of RS-485 networks within DOS, Windows and Linux with little or no programming changes. Install multiple ULTRA cards and maximize your RS-485 device control. For cards without the auto enable hardware circuit, Sealevel Systems includes our RS-485 auto enable driver software for 95/98/NT.

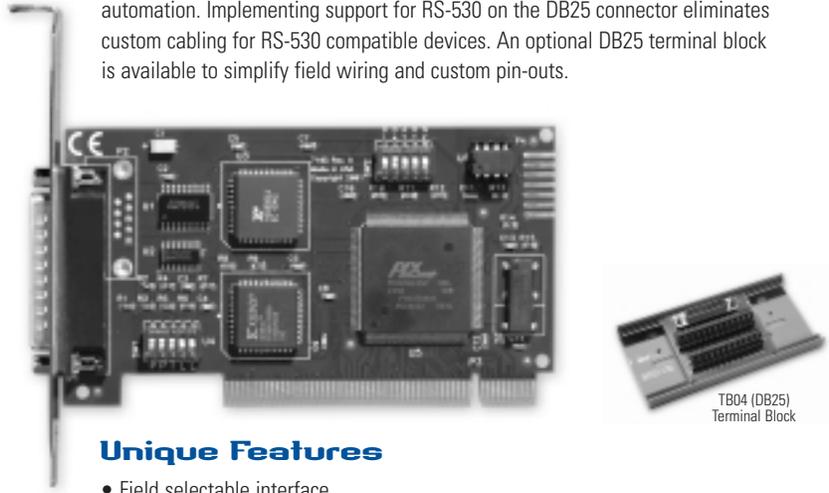


PCI 1 Port RS-422/485/530 Interface

NEW
PRODUCT

ULTRA 485.PCI

The ULTRA 485.PCI provides a single RS-422/485/530 serial port for control and automation. Implementing support for RS-530 on the DB25 connector eliminates custom cabling for RS-530 compatible devices. An optional DB25 terminal block is available to simplify field wiring and custom pin-outs.



Unique Features

- Field selectable interface
- Automatically handles RS-485 enable and disable
- 16850 buffered UART standard with deep 128 byte FIFO supporting PC data rates up to 460.8K bps
- Includes Windows advanced COM: drivers, utilities, INF files and help files to simplify installation
- Supports Windows, Linux, QNX, DOS and other operating systems.

Technical Specifications

Communications chip16850
 Number of ports1
 Max. data rate460K bps
 Max. data distanceup to 4000 ft.
 Operating temperature0-50° C
 Storage temperature-20-70° C
 Humidity range10-90% R.H.
 Current specifications+5V @ 380mA,
 Connector(s)(1) DB25P
 Physical dimensions4.9" L x 2.6" H (12.45 x 6.60 cm)

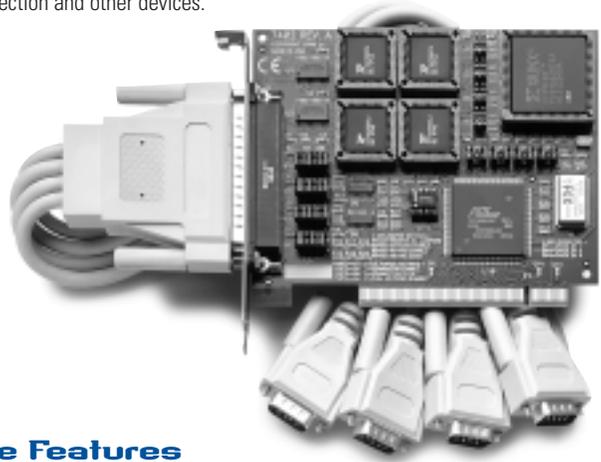
ORDERING INFORMATION		
Description	Part No.	Price
1 Port RS-422/485/530	7105	\$159.00
<u>Cable Options</u>		
DB25 Terminal Block	TB04	\$29.95
TB04 and CA104 Kit	KT104	\$36.95
DB25F/25M Cable	CA104	\$7.95
DB25F/9M Cable	CA175	\$9.95
(Sealevel DB9 RS-422 pinout)		



PCI 4 Port RS-422/485 Interface

ULTRA COMM+422.PCI

The ULTRA COMM+422.PCI provides four PCI bus RS-422/485 Async links for data collection and other devices.



Unique Features

- Each port designed to maximize Windows, Linux, QNX, and DOS communications
- Onboard RS-485 auto enable circuit
- Full array of enhanced UART options
- Supports standard PC data rates up to 460.8K bps
- Onboard interrupt status port provides efficient interrupt sharing
- Includes Windows Advanced COM drivers, utilities, INF files and help files to simplify installation



Part No. 7402-KT
 Order our 3440-KT, 7402-KT or 7404-KT and receive board, terminal block and cable. This universal cable/wiring option can simplify your cable connections – another Simpler Solution from Sealevel Systems.

Technical Specifications

Communications chip16550
 Number of ports4 RS-422/485
 Max. data rate460.8K bps
 Max. data distanceup to 4000 ft.
 Operating temperature0-50° C
 Storage temperature-20-70° C
 Humidity range10-90% R.H.
 Current specifications+5V @ 620mA,
 Connector(s)DB37 to (4) DB9P
 Cable length36" (91.44 cm)
 Physical dimensions5.2" L x 4.2" H (13.21 x 10.67 cm)

ORDERING INFORMATION		
Description	Part No.	Price
4 Port RS-422/485 (DB9 Cable Included)	7402	\$339.00
w/16850 UART	7402-SE	\$379.00
w/Terminal Block and 6 ft. M/F Cable	7402-KT	\$366.00
<u>Cable Options</u>		
DB9 Terminal Block	TB05	\$19.95
TB05 and CA127 Kit	KT105	\$28.95
DB9 M/F Cable 6 ft.	CA127	\$9.95



USB 1 Port RS-422/485/530 Adapter

NEW
PRODUCT

SeaLINK+485®

Add a USB RS-422/485/530 serial port to your system. Our SeaLINK® adapter provides USB connectivity to legacy or non-USB compliant devices. Now your non-USB peripherals can have the same connection simplicity and ease of use as USB aware peripherals. SeaLINK adapters get their power directly from the USB cable, eliminating the need for external power.

Unique Features

- Power obtained from USB cable - No external power required
- Automatic RS-485 data enable/disable
- High speed UART standard with 128 byte TX FIFO and 384 byte RX FIFO buffer supporting standard PC data rates up to 921.6K bps
- "Hot swapping" / Auto configuration
- Full RS-530 interface implemented to simplify cabling
- 6ft. high quality USB cable and loopback plug included
- Includes advanced COM: drivers, utilities, INF files and help files to simplify installation in Windows 98/ME/2000, Linux and Macintosh O/S

Technical Specifications

Communications chip USB/UART ASIC
 Number of ports 1
 Max. data rate 921K bps
 Max. data distance up to 4000 ft.
 Operating temperature 0-50° C
 Storage temperature -20-70° C
 Humidity range 10-90% R.H.
 Power Specifications From USB Cable
 Connector(s) (1) DB25P (Male)
 Physical dimensions 3.8" L x 2.3" W x 1.0" H (9.65 x 5.84 x 2.54 cm)



ORDERING INFORMATION

Description	Part No.	Price
1 Port RS-422/485/530	2102	\$129.00
<u>Cable Options</u>		
DB25 Terminal Block	TB04	\$29.95
TB04 and CA104 Kit	KT104	\$36.95
DB25F/9M Cable (Sealevel DB9 RS-422 Pinout)	CA175	\$9.95
DB25F/25M Cable	CA104	\$7.95

USB 2 and 4 Port RS-422/485 Adapters

NEW
PRODUCT

SeaPORT+2/485 and SeaPORT+4/485

Sealevel SeaPORT® USB serial I/O products provide two or four USB to RS-422/485 ports for Point of Sale (POS) and Factory Automation/Process control applications. Our SeaPORT adapters get their power directly from the USB cable, eliminating the need for external power.



Unique Features

- Power obtained from USB cable - No external power required
- "Hot swapping" / Auto configuration
- High speed UART standard with 128 byte TX FIFO and 384 byte RX FIFO buffer supporting standard PC data rates up to 921.6K bps
- 6ft. high quality USB cable and loopback plug included
- Terminates in DB9P Connectors
- Includes advanced COM: drivers, utilities, INF files and help files to simplify installation in Windows 98/ME/2000, Linux and Macintosh O/S

Technical Specifications

Communications chip USB/UART ASIC
 Number of ports 2/4
 Max. data rate 921K bps
 Max. data distance up to 4000 ft.
 Operating temperature 0-50° C
 Storage temperature -20-70° C
 Humidity range 10-90% R.H.
 Power Specifications From USB Cable
 Connector(s) (2) or (4) DB9P (Male)
 Physical dimensions 7.00" L x 5.25" W x 1.5" H
 (17.78 x 13.34 x 3.81 cm)

ORDERING INFORMATION

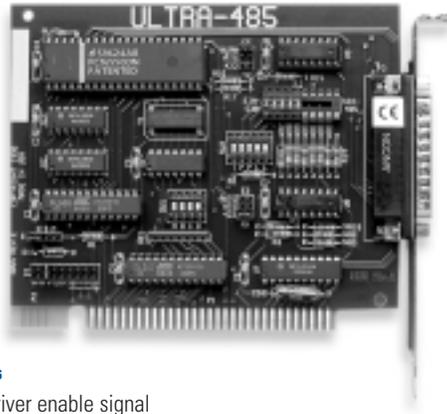
Description	Part No.	Price
2 Port RS-422/485	2202	\$279.00
4 Port RS-422/485	2402	\$369.00
<u>Cable Options</u>		
DB9 Terminal Block	TB05	\$19.95
Dual DB9 Terminal Block	TB06	\$24.95
TB05 and CA127 Kit	KT105	\$28.95
TB05 and (2) CA127	KT106	\$43.95
DB9F/25M RS-530 Cable	CA176	\$9.95
6 ft. USB A to B Cable	CA179	\$7.95



ISA 1 Port RS-422/485 Interface

ULTRA 485

The ULTRA 485 provides the PC with a direct RS-422/485 Asynchronous link to data collection and other devices.



Unique Features

- Automatic control of RS-485 driver enable signal
- Selectable COM: port addresses
- Selectable and shareable IRQ level (2-5, 7, 10-12 and 15)
- Automatically handles RS-485 enable and disable
- Compatible with existing communications drivers
- 16-bit addressing eliminates I/O conflicts
- Selectable termination, echo mode, two/four wire operation
- EIA-530 DTE pin-out on DB25P connector providing RTS, CTS, DCD, DSR and DTR
- Includes Windows advanced COM: drivers, utilities, INF files and help files to simplify installation
- Supports Windows, Linux, QNX, DOS and other operating systems.



Technical Specifications

Communications chip16550
 Number of ports1
 Max. data rate115K bps
 Max. data distanceup to 4000 ft.
 RS-485 operationtwo or four wire
 Operating temperature0-50° C
 Storage temperature-20-70° C
 Humidity range10-90% R.H.
 Current specifications+5V @ 195mA,
 Connector(s)(1) DB25P
 Physical dimensions5.0" L x 4.2" H (12.70 x 10.66 cm)

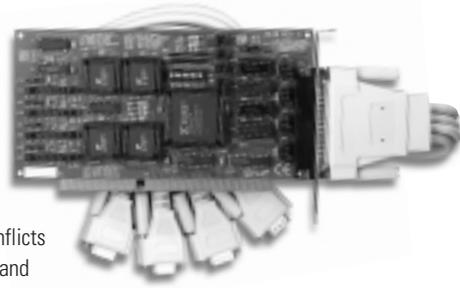
ORDERING INFORMATION

Description	Part No.	Price
1 Port RS-422/485	3055	\$149.00
w/16850 UART	3055-SE	\$159.00
<u>Cable Options</u>		
DB25 Terminal Block	TB04	\$29.95
TB04 and CA104 Kit	KT104	\$36.95
DB25F/25M Cable	CA104	\$7.95
DB25F/9M Cable	CA175	\$9.95
(Sealevel DB9 RS-422 pinout)		

ISA 4 Port Automatic RS-422/485 Interface

ULTRA COMM+422

The ULTRA COMM+422 provides the PC with four RS-422/485 Asynchronous links to data collection and other devices.



Unique Features

- 16-bit addressing eliminates I/O conflicts
- Selectable termination, echo mode and two/four wire operation
- Selectable and shareable IRQ level (2-5, 7, 10-12 and 15)
- Onboard interrupt status port for Windows flexibility
- DB9P connectors providing TD, RD, RTS, CTS
- Selectable address including COMM1: - COMM4 and other I/O addresses or 32 consecutive I/O locations
- Compatible with existing communications drivers
- Automatically handles RS-485 enable and disable
- Includes Windows advanced COM: drivers, utilities, INF files and help files to simplify installation
- Supports Windows, Linux, QNX, DOS and other operating systems.



Part No. 3440-KT
 Order our 3440-KT, 7402-KT or 7404-KT and receive board, terminal block and cable. This universal cable/wiring option can simplify your cable connections - another Simpler Solution from Sealevel Systems.



Technical Specifications

Communications chip16550
 Number of ports4 RS-422/485
 Max. data rate460K
 Max. data distanceUp to 4000 ft.
 RS-485 operationTwo or four wire
 Operating temperature0-50° C
 Storage temperature-20-70° C
 Humidity range10-90% R.H.
 Power requirements+5V @ 620mA
 Current specifications130mA
 Connector(s)Onboard DB37S to 4 DB9P
 Physical dimensions7.3" L x 4.2" H (18.54 x 10.67cm)

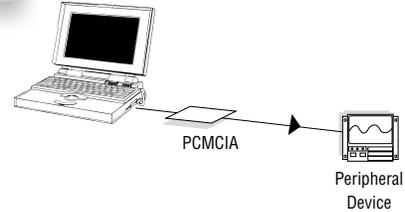
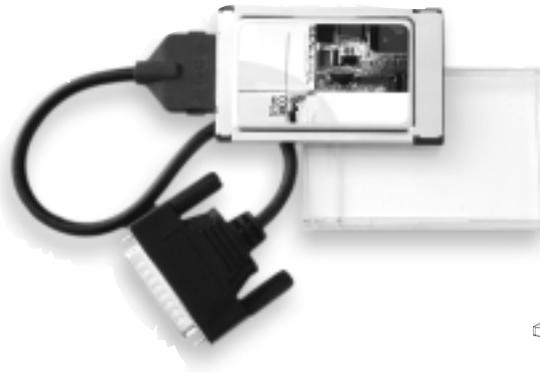
ORDERING INFORMATION

Description	Part No.	Price
4 Port Automatic RS-422/485	3440	\$319.00
w/16850 UART	3440-SE	\$359.00
w/Terminal Block and 6ft. M/F Cable	3440-KT	\$346.00
<u>Cable Options</u>		
DB9 Terminal Block	TB05	\$19.95
TB05 and CA127 Kit	KT105	\$28.95
DB9 M/F Cable 6 ft	CA127	\$9.95

What is PCMCIA?

Most early laptops and notebooks handled I/O expansion through proprietary expansion slots. These slots provided limited expansion for specific peripherals such as modems and FAX peripherals. Mass storage peripherals were factory installed and could not be easily changed. Interconnectivity through local area networks offered limited performance through slow parallel port network interfaces.

During this time period, two standards organizations, JEIDA and PCMCIA, were working on the standardization of memory IC cards. These cards were designed as strictly non-volatile silicon storage. A memory only interface, PCMCIA Release 1.0 was introduced in September of 1990 and is identical to the JEIDA 4.0 standard. As the notebook market grew, the need for a standard I/O bus was seen. The PCMCIA groups saw an opportunity to meet this need with an expanded version of the 68 pin interface. Further development occurred, and within one year Release 2.0 of the standard was completed. Release 2.0 was a major update to Release 1.0 and included full hardware support for I/O devices. Release 2.0 coincided with JEIDA's 4.1 release and are identical. These standards are widely accepted today for adding peripheral devices to notebooks, PDAs



(Personal Digital Assistants) and PEN computers. Desktop PCs equipped with a PCMCIA drive can also take advantage of the "Plug and Play" features that PCMCIA cards offer.

"PCMCIA" and "Card and Socket Services"

Card and Socket Services are typically supplied by the PCMCIA slot provider (i.e. the notebook manufacturer or the PC drive manufacturer). Socket Services provides a standard interface to the higher level drivers and isolates the socket controller's specific hardware details. Socket Services provides the "BIOS" interface to the socket controller hardware. Card Services provides the interface to application

software and drivers. Card Services is responsible for allocating card resources and ensuring that card resources do not interfere with other system resources ("plug and play"). Card Services is typically implemented as a driver and loaded via CONFIG.SYS during boot.

PCMCIA I Port RS-530/422/485 Card

Ultra PC-SIO-485

The PC-SIO-485 card provides a single PCMCIA Async serial link to modems, terminals, printers or other data collection equipment.

Unique Features

- Single port Asynchronous RS-530/422/485
- Automatic RS-485 RTS Enable
- 16550 buffered UART standard
- Full array of enhanced UART options
- Interface cable included terminates in DB-25P Connector (EIA-530 pin-out)
- Includes Windows Advanced COM: drivers, utilities, INF files and help files to simplify installation
- "Hot-swapping"/Auto configuration standard
- SeaPC DOS client software enabler included
- Windows Auto RS-485 driver software included



Technical Specifications

Communications chip16550 UART
 Number of PortsSingle Port
 Max. Data Rate115K bps
 Max. Data DistanceUp to 4000 ft.
 Operating temperature0-50° C
 Storage temperature-20-70° C
 Humidity rage10-90%R.H.
 Current specifications+5V @ approx. 25mA
 Connector(s)DB-25P
 CompatibilityPCMCIA 2.01, JEIDA 4.1
 Physical DimensionsType II PCMCIA Card

ORDERING INFORMATION		
Description	Part No.	Price
Ultra PC-SIO-485 (RS-530/422/485)	3602	\$199.00
<u>Cable Options</u>		
DB25 Terminal Block	TB04	\$29.95
TB04 and CA104 Kit	KT104	\$36.95
DB25F/25M Cable	CA104	\$7.95
DB25F/9M Cable	CA175	\$9.95
(Sealevel DB9 RS-422 pinout)		



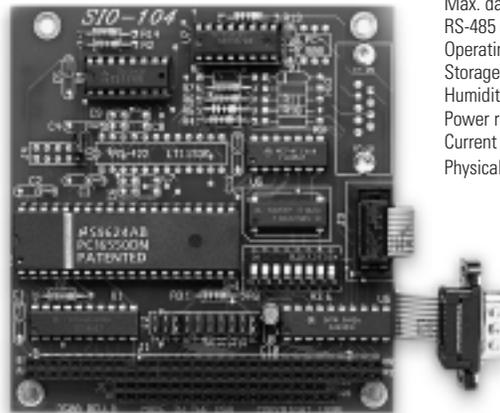
PC/104 I Port RS-422/485 Serial Module

SIO-104

The SIO-104 provides the PC/104 system with a direct RS-422/485 Asynchronous link to data collection and other devices. Distances of up to 4000 ft. are easily accommodated with the SIO-104 allowing an embedded control PC, located in the factory, to communicate with an observation PC, located in the front office. The RS-422 interface prevents line noise from causing data corruption.

Unique Features

- PC/AT compatible
- Selectable address including COM1: - COM4: or any other I/O address up to 3FF Hex
- Shareable IRQ level (2-7, 10-12 or 15)
- Windows Auto RS-485 driver software included
- RS-485 two or four wire operation
- RS-422 RTS and CTS "Handshake" signals provided
- DB9P interface cable included
- PC/104 form factor (3.6" x 3.8")
- Includes Windows Advanced COM: drivers, utilities, INF files and help files to simplify installation
- Supports Windows, Linux, QNX, DOS and other operating systems



Technical Specifications

Communications chip16550 UART
 Number of ports1
 Max. data rate115K bps
 Max. data distanceUp to 4000 ft. @ 9600 bps
 RS-485 operationTwo or four wire
 Operating temperature0-50° C
 Storage temperature-20-70° C
 Humidity range10-90% R.H.
 Power requirements+5V only operation
 Current specifications125mA
 Physical dimensions3.775" L x 3.550" H (9.588 x 9.017 cm)



ORDERING INFORMATION		
Description	Part No.	Price
Single Port RS-422/485	3500	\$149.00
<u>Cable Options</u>		
DB9 Terminal Block	TB05	\$19.95
TB05 and CA127 Kit	KT105	\$28.95
DB9M/F 6 ft. Cable	CA127	\$9.95

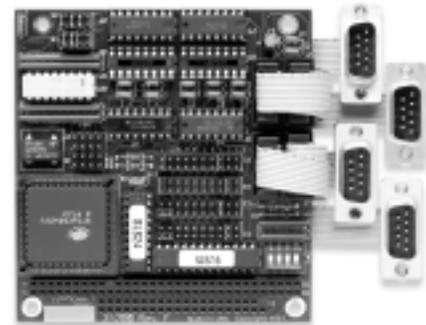
PC/104 4 Port RS-422/485 Serial Module

C4-104

The Sealevel Systems C4-104 provides the PC/104 system with four direct RS-422/485 Asynchronous links to data collection and other devices. The C4-104 allows embedded systems to communicate with and control terminals, PLCs and other equipment remotely at distances of up to 4000 ft. while maintaining extremely high reliability. This PC/104 module can be used in a variety of embedded industrial and networking applications requiring long distance or multi-drop communications.

Unique Features

- Individually selectable IRQ level (2-7, 10-12 and 15) for each port
- Versatile addressing including COM1: - COM4: or other user selectable I/O addresses with PAL options
- Windows Auto RS-485 driver software included
- RTS and CTS "Handshake" signals provided
- Multiple cards can reside within the same system
- Four DB9P interface cables included
- PC/104 form factor (3.6" x 3.8")
- Onboard interrupt status port for Windows flexibility
- Includes Windows Advanced COM: drivers, utilities, INF files and help files to simplify installation
- Supports Windows, Linux, QNX, DOS and other operating systems

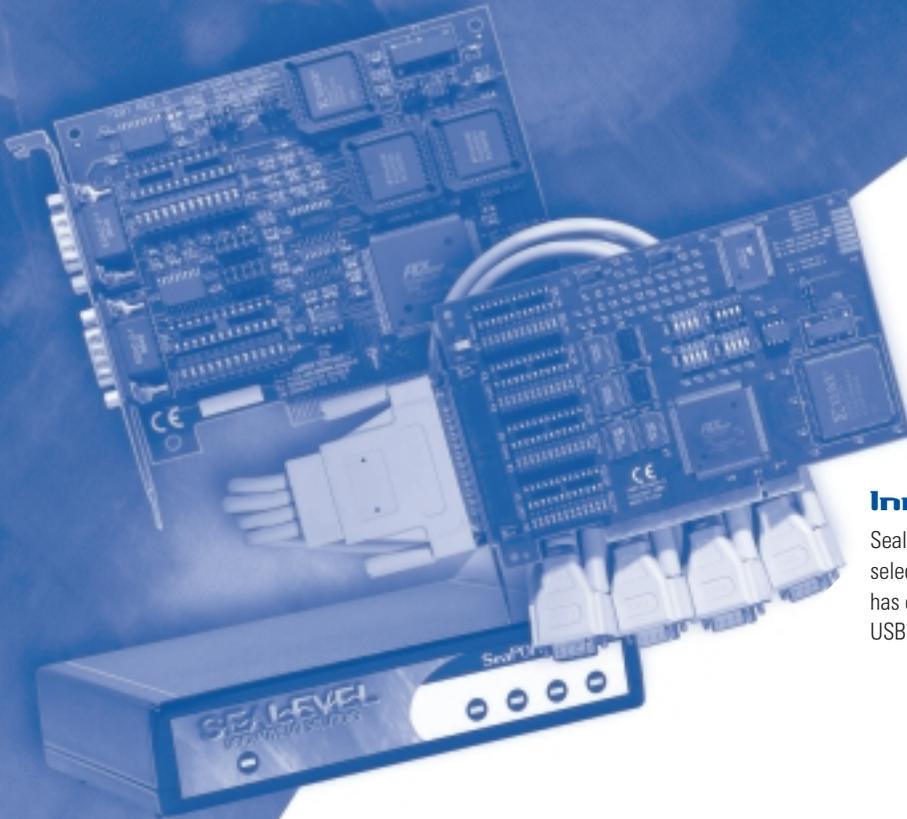


Technical Specifications

Communications chip16554
 Number of portsFour RS-422/485
 Max. data rate115K bps
 Max. data distanceUp to 4000 ft. @ 9600 bps
 RS-485 operationTwo or four wire
 Operating temperature0-50° C
 Storage temperature-20-70° C
 Humidity range10-90% R.H.
 Power requirements+5V only operation
 Current specifications130mA
 Physical dimensions3.775" L x 3.550" H (9.588 x 9.017 cm)



ORDERING INFORMATION		
Description	Part No.	Price
Four Port RS-422/485	3520	\$249.00
<u>Cable Options</u>		
DB9 Terminal Block	TB05	\$19.95
TB05 and CA127 Kit	KT105	\$28.95
DB9M/F 6 ft. Cable	CA127	\$9.95

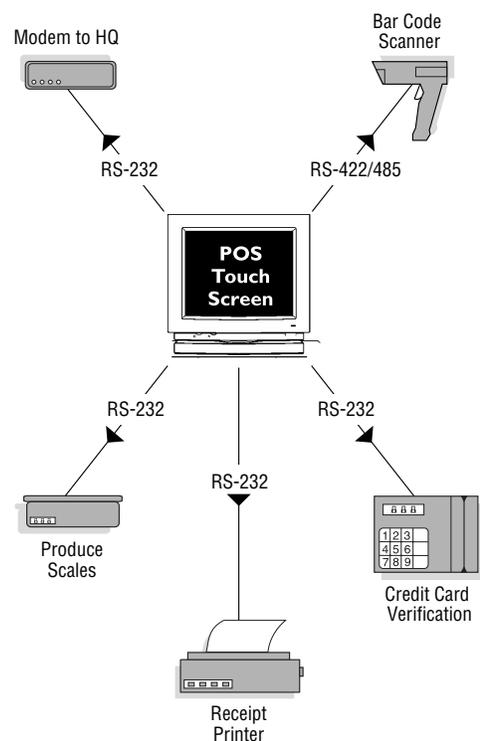
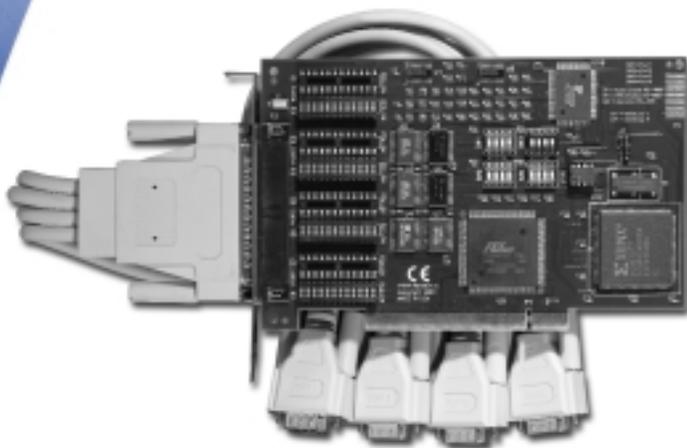


Innovative I/O

Sealevel was the first company to offer field selectable "Combo" interface boards and now has extended the family to include PCI and USB products.

RS-232/422/485 Serial I/O Combination Interface

Sealevel Combo boards provide one or more field selectable RS-232/422/485 ports. Field selectability allows each port to be easily configured as RS-232, RS-422, or RS-485. Ports can even be mixed in any of the interface combinations to benefit systems with limited expansion.



PCI I Port RS-232/422/485/530 Interface

ULTRA 530.PCI

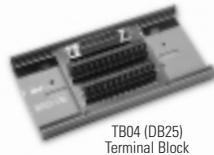
The ULTRA 530.PCI board provides a single field selectable serial port supporting RS-232/422/485/530 electrical interfaces. Select RS-232 when highly reliable standard serial ports are required. Choose RS-422 for long distance device connections up to 4000ft. where noise immunity and high data integrity is required. Select RS-485 to capture data from multiple peripherals in a RS-485 multidrop network. Order part number 7101-SN to support isochronous data rates up to the speed of the supplied clock. With this option, asynchronous COM: software can be used to communicate over a digital line.

Unique Features

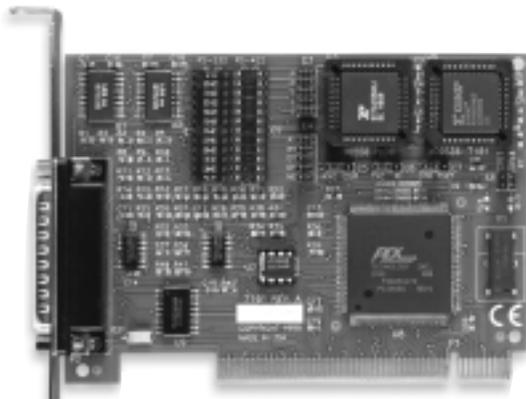
- Field selectable interface
- Automatically handles RS-485 enable and disable

ORDERING INFORMATION

Description	Part No.	Price
1 Port PCI RS-232/422/485/530	7101	\$169.00
w/16850 UART	7101-SN	\$176.00
Cable Options		
DB25 Terminal Block	TB04	\$29.95
TB04 and CA104 Kit	KT104	\$36.95
DB25F/25M Cable	CA104	\$7.95
DB25F/9M Cable	CA175	\$9.95
<small>(Sealevel DB9 RS-422 pinout)</small>		



TB04 (DB25) Terminal Block



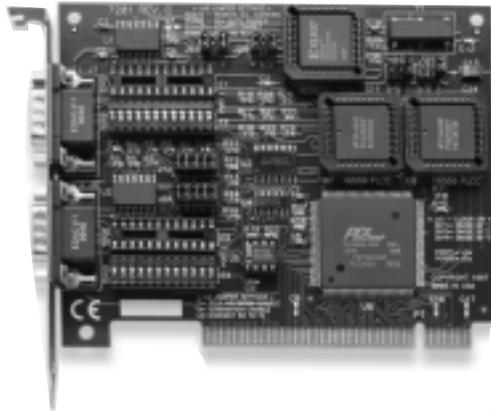
Technical Specifications

Communications chip16550
 Number of ports1
 Max. data rate460K
 Max. data distanceup to 4000 ft.
 Operating temperature0-50° C
 Storage temperature-20-70° C
 Humidity range10-90% R.H.
 Current specifications+5V @ 480mA, +12V @ 50mA
 Connector(s)(1) DB25P
 Physical dimensions4.90" L x 3.5" H (12.45 x 8.89 cm)

PCI 2 Port RS-232/422/485/ Interface

ULTRA COMM+2.PCI

The ULTRA COMM+2.PCI provides two field selectable RS-232/422/485 serial ports for control and automation applications.



Unique Features

- Field selectable interface
- Automatically handles RS-485 enable and disable
- Optional Terminal Block kits available



TB06 (Dual DB9) Terminal Block

ORDERING INFORMATION

Description	Part No.	Price
2 Port RS-232/422/485	7201	\$279.00
w/16850 UART	7201-SE	\$299.00
Cable Options		
DB9 Terminal Block	TB05	\$19.95
Dual DB9 Terminal Block	TB06	\$24.95
TB05 and CA127 Kit	KT105	\$28.95
TB06 and (2) CA127	KT106	\$43.95
DB9F/25M Modem Cable	CA177	\$7.95
DB9F/25M RS-530 Cable	CA176	\$9.95



Technical Specifications

Communications chip16550
 Number of ports2
 Max. data rate460K
 Max. data distanceup to 4000 ft.
 Operating temperature0-50° C
 Storage temperature-20-70° C
 Humidity range10-90% R.H.
 Current specifications+5V @ 480mA, ±12V @ 50mA ea.
 Connector(s)(2) DB9P
 Physical dimensions5.0" L x 4.2" H (12.70 x 10.67 cm)



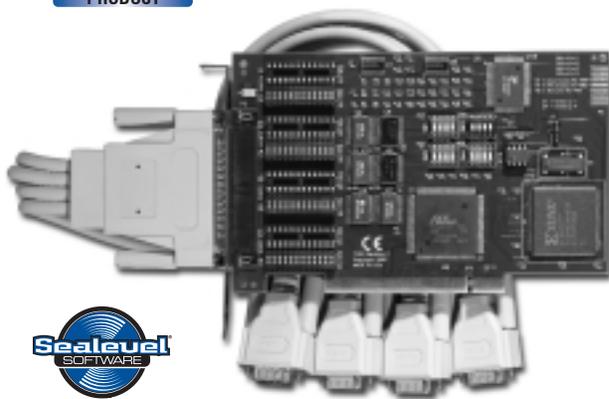
Sealevel Systems Incorporated ▶ 155 Technology Place ▶ PO Box 830 Liberty, South Carolina 29657 USA
 Tel: 864.843.4343 Fax: 864.843.3067 www.sealevel.com

PCI 4 Port RS-232/422/485 Interface

**NEW
PRODUCT**

COMM+4.PCI

The COMM+4.PCI provides four field selectable RS-232/422/485 serial ports for control and automation applications. Our onboard auto-enable hardware automatically handles the RS-485 driver enable, allowing the RS-485 ports to be treated as a standard COM: port by the operating system.



16850
Big FIFO

PCI
LOCAL BUS

Sealevel
SOFTWARE

Unique Features

- Field selectable interface
- Automatically handles RS-485 enable and disable
- 16850 buffered UART(s) standard with deep 128 byte FIFO supporting PC data rates up to 460.8K bps
- DB37 to (4) DB9 cable included
- Optional Terminal Block kits available

Technical Specifications

Communications chip16850
 Number of ports4
 Max. data rate460K bps
 Max. data distanceup to 4000 ft.
 Operating temperature0-50° C
 Storage temperature-20-70° C
 Humidity range10-90% R.H.
 Current specifications+5V @ 620mA, +12V @ 60mA, -12V @ 100mA
 Connector(s)(4) DB9P
 Physical dimensions6.5" L x 4.2" H (16.51 x 10.66 cm)



Part No. 7404-KT

Order our 3440-KT, 7402-KT or 7404-KT and receive board, terminal block and cable. This universal cable/wiring option can simplify your cable connections – another Simpler Solution from Sealevel Systems.

ORDERING INFORMATION

Description	Part No.	Price
4 Port RS-232/422/485	7404	\$399.00
7404 w/ TB02 and CA112 DB37 M/F Cable	7404-KT	\$426.00
<u>Cable Options</u>		
DB9 Terminal Block	TB05	\$19.95
Dual DB9 Terminal Block	TB06	\$24.95
TB05 and CA127 Kit	KT105	\$28.95
TB06 and (2) CA127	KT106	\$43.95
DB9F/25M Modem Cable	CA177	\$7.95
DB9F/25M RS-530 Cable	CA176	\$9.95

USB 2 and 4 Port RS-232/422/485 Adapters

**NEW
PRODUCT**

SeaPORT+2™ and SeaPORT+4™

Sealevel SeaPORT™ USB serial I/O products provide two or four USB to RS-232/422/485 ports for Point of Sale (POS) and Factory Automation/Process control applications. Each port is individually selectable as RS-232, RS-422, or RS-485 to provide maximum flexibility to your application needs. Our SeaPORT adapters get their power directly from the USB cable, eliminating the need for external power.



Unique Features

- Field Selectable Interface
- Power obtained from USB cable - No external power required
- Automatic RS-485 data enable/disable
- "Hot swapping" / Auto configuration
- High speed UART standard with 128 byte TX FIFO and 384 byte RX FIFO buffer supporting standard PC data rates up to 921.6K bps
- 6ft. high quality USB cable and loopback plug included
- Terminates in DB9P Connectors
- Includes advanced COM: drivers, utilities, INF files and help files to simplify installation in Windows 98/ME and 2000

USB

Sealevel
SOFTWARE

ORDERING INFORMATION

Description	Part No.	Price
2 Port RS-232/422/485	2203	\$299.00
4 Port RS-232/422/485	2403	\$389.00
<u>Cable Options</u>		
DB9 Terminal Block	TB05	\$19.95
Dual DB9 Terminal Block	TB06	\$24.95
TB05 and CA127 Kit	KT105	\$28.95
TB06 and (2) CA127	KT106	\$43.95
DB9F/25M RS-530 Cable	CA176	\$9.95
DB9F/25M Modem Cable	CA177	\$7.95
6ft. USB A to B Cable	CA179	\$7.95

Technical Specifications

Communications chipUSB/UART ASIC
 Number of ports2/4
 Max. data rate921K bps
 Max. data distanceup to 4000 ft.
 Operating temperature0-50° C
 Storage temperature-20-70° C
 Humidity range10-90% R.H.
 Power SpecificationsFrom USB Cable
 Connector(s)(2) or (4) DB9P (Male)
 Physical dimensions7" L x 5.25" W x 1.5" H (17.78 x 13.34 x 3.81 cm)

ISA 2 Port RS-232/422/485 Interface

COMM+2/EX

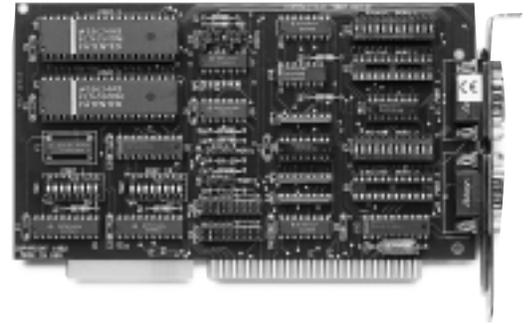
The COMM+2/EX provides the PC with two field selectable RS-232/422/485 Asynchronous links to data collection and other devices.

ORDERING INFORMATION

Description	Part No.	Price
Dual Port RS-232/422/485	3087	\$199.00
w/16850 UART Upgrade	3087-SE	\$219.00
<u>Cable Options</u>		
DB9 Terminal Block	TB05	\$19.95
Dual DB9 Terminal Block	TB06	\$24.95
TB05 and CA127 Kit	KT105	\$28.95
TB06 and (2) CA127	KT106	\$43.95
DB9F/25M Modem Cable	CA177	\$7.95
DB9F/25M RS-530 Cable	CA176	\$9.95

Unique Features

- RS-485 two or four wire operation
- Individually selectable interrupts (2-5, 7, 10-12 and 15)
- Windows Auto RS-485 driver software included
- Selectable address including COM1: - COM4: and any I/O address up to 3FF Hex
- Multiple ports/Multiple cards can share the same IRQ
- RTS and CTS "Handshake" signals provided
- Includes Windows Advanced COM: drivers, utilities, INF files and help files to simplify installation
- Supports Windows, Linux, QNX, DOS and other operating systems



Technical Specifications

Communications chip . . . 16550 UART
 Number of ports 2
 Max. data rate 115K bps (RS-422/485)
 Max. data distance Up to 4000 ft.
 RS-485 operation Two or four wire
 Operating temperature . . . 0-50° C
 Storage temperature -20-70° C
 Humidity range 10-90% R.H.
 Current specifications . . . +5V @ 195mA, ±12V @ 25mA ea.
 Connector(s) (2) DB9P
 Physical dimensions 6.9" L x 4.2" H (16.56 x 10.66 cm)



PC/104 4 Port RS-422/485 or RS-232 Serial Module

C4-104

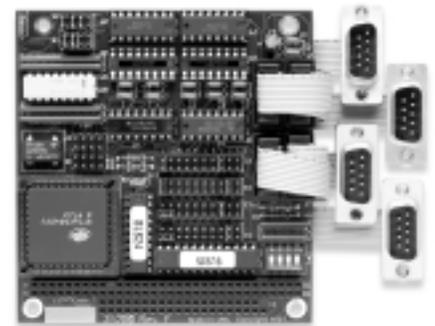
The C4-104 provides the PC/104 system with four direct RS-422/485 or RS-232 Asynchronous links to data collection and other devices. Included chips for both RS-422/485 and RS-232 "Dual Mode" operation allow 4 ports RS-422/485, 4 ports RS-232 or two ports of each.

Unique Features

- Individually selectable IRQ level (2-7, 10-12 and 15) for each port
- Versatile addressing including COM1: - COM4: or other user selectable I/O addresses with PAL options
- Windows Auto RS-485 driver software included
- RTS and CTS "Handshake" signals provided
- Multiple cards can reside within the same system
- Four DB-9P interface cables included
- PC/104 form factor (3.6" x 3.8")
- Compatible with DOS, Windows 3.1x/95/98/NT, QNX and other operating systems
- Onboard interrupt status port for Windows flexibility
- Includes Windows Advanced COM: drivers, utilities, INF files and help files to simplify installation
- Supports Windows, Linux, QNX, DOS and other operating systems

ORDERING INFORMATION

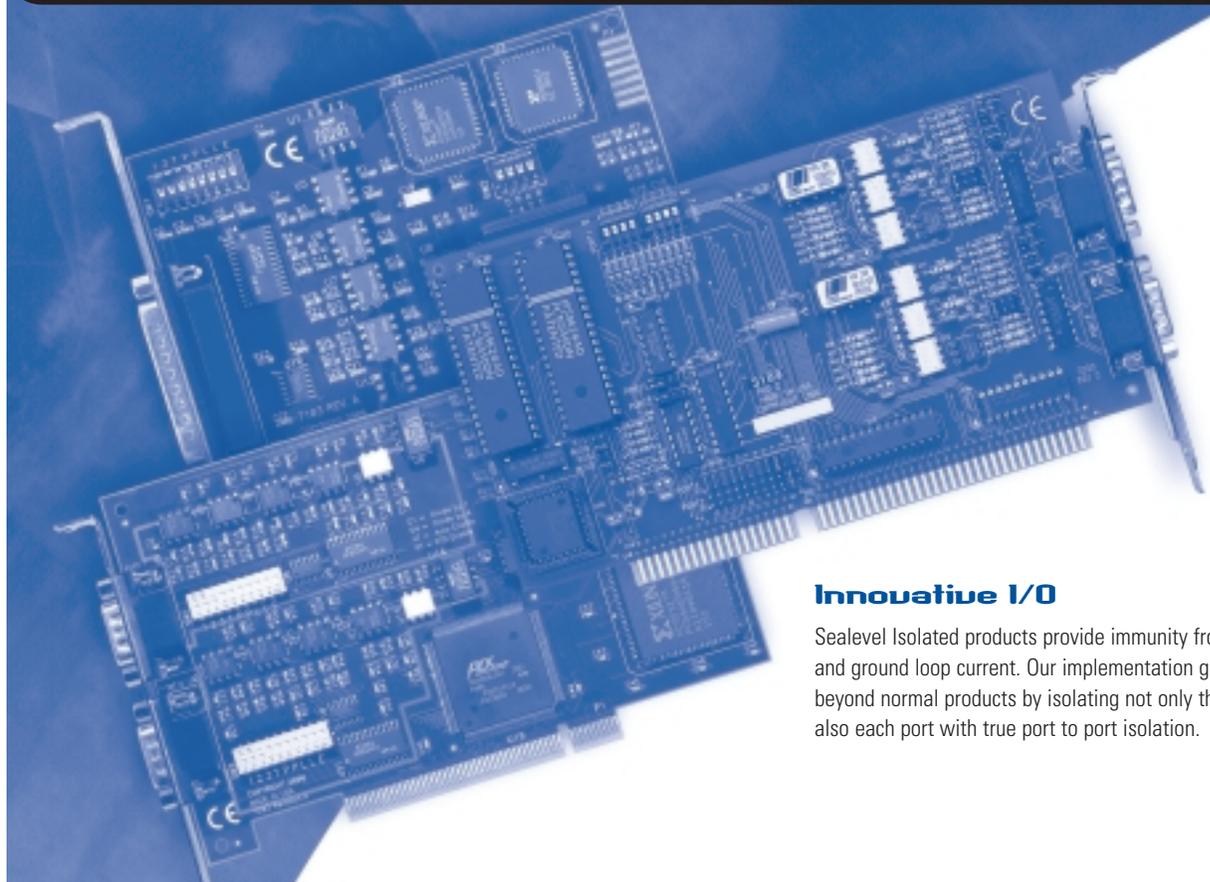
Description	Part No.	Price
Dual mode operation	3522	\$259.00
<u>Cable Options</u>		
DB9 Terminal Block	TB05	\$19.95
TB05 and CA127 Kit	KT105	\$28.95
DB9 M/F Cable	CA127	\$9.95



Technical Specifications

Communications chip . . . 16554
 Number of ports 4
 Max. data rate 115K bps
 Max. data distance Up to 4000 ft. @ 9600 bps
 RS-485 operation Two or four wire
 Operating temperature . . . 0-50° C
 Storage temperature -20-70° C
 Humidity range 10-90% R.H.
 Power requirements +5V only operation
 Current specifications 130mA
 Physical dimensions 3.775" L x 3.550" H (9.588 x 9.017 cm)





Innovative I/O

Sealevel Isolated products provide immunity from spikes and ground loop current. Our implementation goes a step beyond normal products by isolating not only the PC, but also each port with true port to port isolation.

PCI Isolated 1 Port RS-232/422/485 Interface

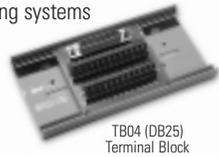
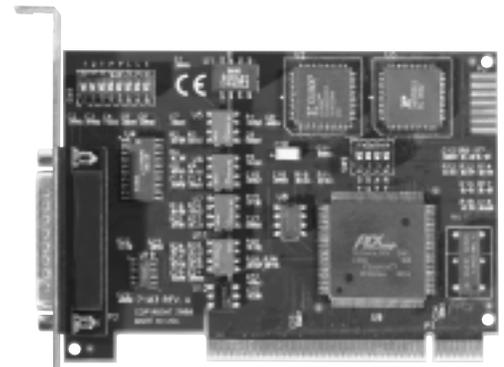


ISO COMM1.PCI

The ISO COMM1.PCI board provides a single field selectable Isolated RS-232/422/485 serial port for control and automation applications. Configure the port as RS-232, RS-422, or RS-485 to suit your application needs.

Unique Features

- Field selectable interface providing true optical isolation
- Automatically handles RS-485 enable and disable
- 16850 buffered UART(s) standard with deep 128 byte FIFO supporting PC data rates up to 460.8K bps
- Isolated circuitry provides immunity from ground current and surges
- Includes Windows advanced COM: drivers, utilities, INF files and help files to simplify installation
- Supports Windows, Linux, QNX, DOS, and other operating systems



TB04 (DB25) Terminal Block



ORDERING INFORMATION		
Description	Part No.	Price
1 Port Isolated RS-232/422/485	7103	\$229.00
<u>Cable Options</u>		
DB25 Terminal Block	TB04	\$29.95
TB04 and CA104 Kit	KT104	\$36.95
DB25F/25M Cable	CA104	\$7.95
DB25F/9M Cable	CA175	\$9.95
<small>(Sealevel DB9 RS-422 pinout)</small>		

Technical Specifications

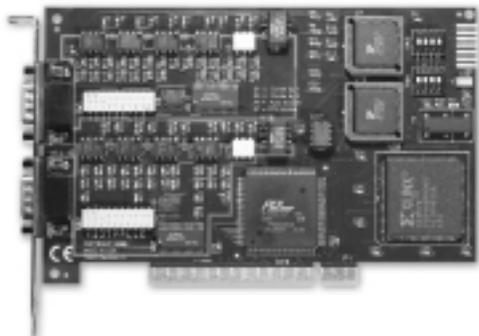
Communications chip16850
 Number of ports1
 Max. data rate460K RS-422/485
 Max. data distanceup to 4000 ft.
 Operating temperature0-50° C
 Storage temperature-20-70° C
 Humidity range10-90% R.H.
 Current specifications+5V @ 380mA
 Connector(s)(1) DB25P
 Physical dimensions4.90" L x 3.5" H (12.45 x 8.89 cm)

PCI Isolated 2 Port RS-232/422/485 Interface

NEW
PRODUCT

ISO COMM2.PCI

The ISO COMM2.PCI board provides two field selectable Isolated RS-232/422/485 serial ports for control and automation applications. Configure the ports as RS-232 when highly reliable standard serial ports are required. Choose RS-422 for long distance device connections up to 4000ft. where noise immunity and high data integrity are essential. Select RS-485 and capture data from multiple peripherals in a RS-485 multidrop network.



TB06 (Dual DB9) Terminal Block

Unique Features

- Field selectable interface providing true port to port optical isolation
- Automatically handles RS-485 enable and disable
- 16850 buffered UART(s) standard with deep 128 byte FIFO supporting PC data rates up to 460.8K bps
- Isolated circuitry provides immunity from ground current and surges

ORDERING INFORMATION

Description	Part No.	Price
2 Port Isolated RS-232/422/485	7203	\$329.00
Cable Options		
DB9 Terminal Block	TB05	\$19.95
Dual DB9 Terminal Block	TB06	\$24.95
TB05 and CA127 Kit	KT105	\$28.95
TB06 and (2) CA127	KT106	\$43.95
DB9F/25M Modem Cable	CA177	\$7.95
DB9F/25M RS-530 Cable	CA176	\$9.95

Technical Specifications

Communications chip.....16850
 Number of ports.....2
 Max. data rate.....460K RS-422/485
 Max. data distance.....up to 4000 ft.
 Operating temperature.....0-50° C
 Storage temperature.....-20-70° C
 Humidity range.....10-90% R.H.
 Current specifications.....+5V @ 480mA
 Connector(s)..... (2) DB9P
 Physical dimensions.....6.5" L x 4.2" H (16.51 x 10.67 cm)

ISA Isolated 2 Port RS-422/485 Interface

ULTRA SIO

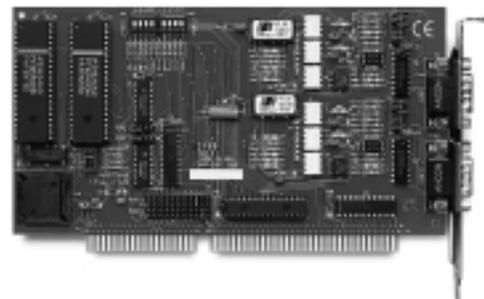
The Sealevel Systems ULTRA SIO provides the PC with two Isolated RS-422/485 Asynchronous links to data collection and other devices. Isolation is important in installations where the equipment connected to the PC is either located far from the host system, or on a different power transformer circuit. The optical isolation feature of the ULTRA SIO eliminates the risk of Ground Loop Current, a commonly neglected and mis-understood phenomenon which leads to data errors and the destruction of communications equipment.

Unique Features

- True port to port isolation
- Automatic control of RS-485 driver enable
- Selectable COM: port address
- Selectable and sharable IRQ (2-7, 10-12, 14 and 15)
- Compatible with existing communication drivers
- 16-bit addressing eliminates I/O conflicts
- Selectable termination, echo mode, two/four wire operation
- DB-9P connectors providing TD, RD, RTS and CTS
- Includes Windows Advanced COM: drivers, utilities, INF files and help files to simplify installation
- Supports Windows, Linux, QNX, DOS and other operating systems

ORDERING INFORMATION

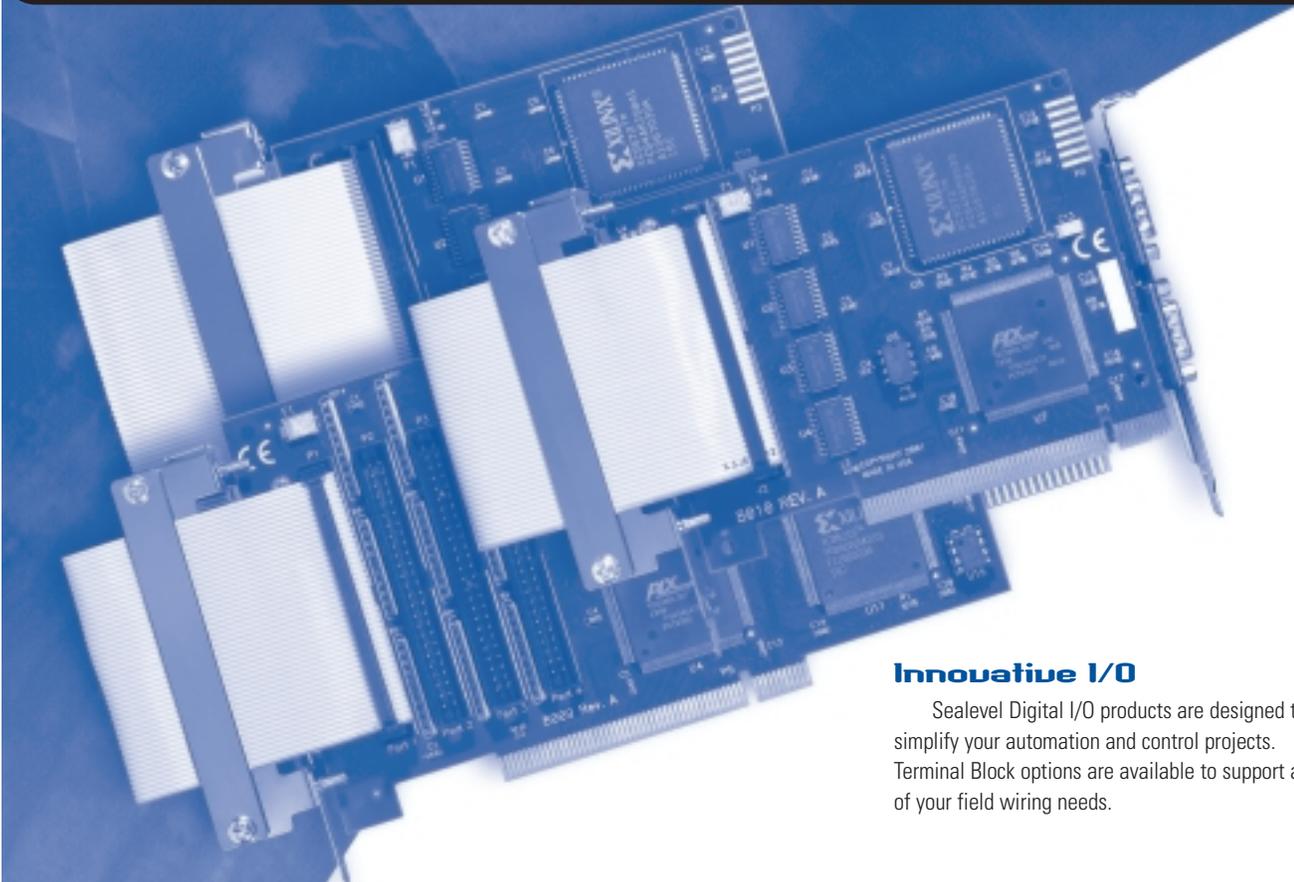
Description	Part No.	Price
2 Port Non Isolated RS-422/485	3089	\$219.00
2 Port Isolated RS-422/485	3189	\$289.00
w/16850 UART	3X89-SE	+\$20.00
Cable Options		
DB9 Terminal Block	TB05	\$19.95
Dual DB9 Terminal Block	TB06	\$24.95
TB05 and CA127 Kit	KT105	\$28.95
TB06 and (2) CA127	KT106	\$43.95
DB9F/25M RS-530 Cable	CA176	\$9.95



Technical Specifications

Communications chip16550 UART
 Number of ports2
 IsolationTrue 500V DC isolation
 Max. data rate115K bps
 Max. data distanceUp to 4000 ft.
 RS-485 operationTwo or four wire
 Operating temperature . . .0-50° C
 Storage temperature . . . -20-70° C
 Humidity range10-90% R.H.
 Current specifications
 Part No. 3089+5V @ 440mA
 Part No. 3189+5V @ 600mA
 Connector(s)(2) DB9P
 Physical dimensions7.35" L x 4.2" H (18.67 x 10.66 cm)





Innovative I/O

Sealevel Digital I/O products are designed to simplify your automation and control projects. Terminal Block options are available to support all of your field wiring needs.

Relay/Digital I/O

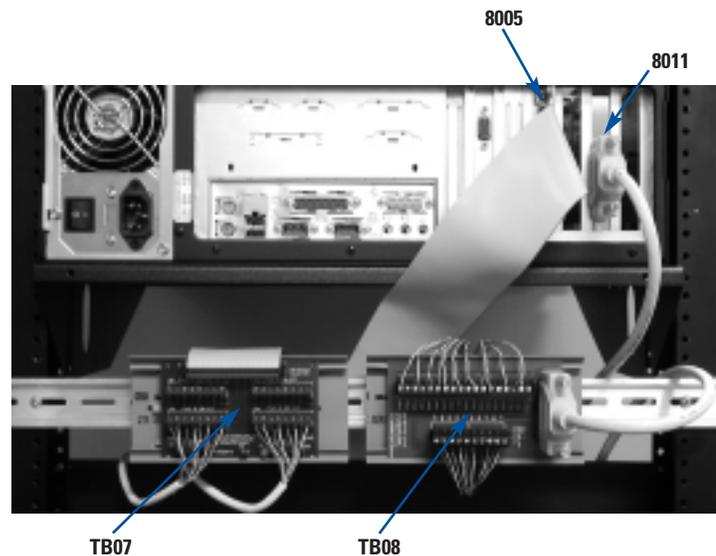
Form A and Form C Relays

Form A reed relays provide high quality, long life, low current (10 Watt maximum) dry contact switch closures. Reed relays are suited for low current (primarily resistive load) applications. The relays are normally open, and close when energized. Each relay can be individually energized by writing a "1" to the proper port bit, and opened by writing a "0". The relays power up reset in the open state.

Form C electromechanical relays are optimized for higher current applications (up to 2A). Sealevel's PLC16.PCI Part # 8011 board provides eight Form C relays and eight isolated inputs. The 8011 is shown in the photo connected to our TB08 terminal block via DB44 cable to simplify field wiring.

Digital I/O

Digital I/O is used to control or monitor devices for computerized automation. Typically, digital outputs are used to drive relays. These relays are responsible for converting the digital signal to an appropriate current and voltage level that is capable of controlling the desired device such as a motor, PLC or



alarm system just to name a few. Conversely, optically isolated inputs are used to convert incoming control signals to electrical levels that are compatible with the host computer. Optical isolation is often used to protect the PC from voltage spikes or over-current situations.

Whether you're setting up a fall back

circuit for your network, automating studio equipment or receiving inputs from users via push buttons, Relay and Digital I/O can often provide the solution you need. Pictured on the left is Sealevel Part # 8005 (PCI 48 channel Digital I/O adapter) connected to TB07 terminal block via ribbon cable.

PCI 24 and 32 Channel Digital I/O Interface

NEW
PRODUCT

PIO-24.PCI/PIO-32.PCI

The PIO-24.PCI and PIO-32.PCI provide 24 or 32 channels of buffered Digital I/O emulating 8255s for industrial control applications. 10K pull up resistors are included on each port bit. The mode of each of the ports is user selectable as input or output. This gives the user the ability to customize the combination of inputs and outputs as needed. In addition, the low order bit of the first port can be set to generate an interrupt for status monitoring applications. A special factory configurable interrupt feature allows the user to request conditional I/O combinations for interrupt generation. When the I/O combination occurs, a hardware interrupt is triggered.

ORDERING INFORMATION

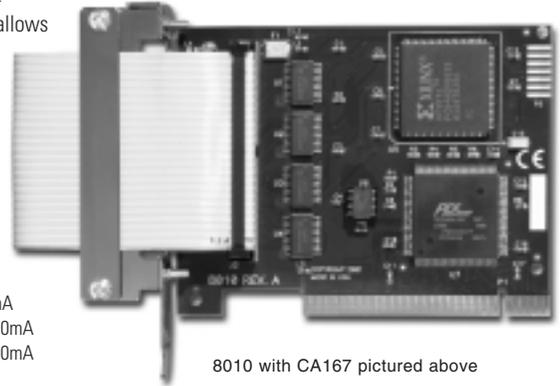
Description	Part No.	Price
24 Channel Digital I/O	8008	\$159.00
32 Channel Digital I/O	8010	\$179.00
<u>Cable Options</u>		
50 pin Terminal Block	TB07	\$39.95
TB07 and CA167 Cable	KT107	\$48.95
40 in. 50 pin Edge Cable	CA135	\$9.95
40 in. 50 pin IDC Cable	CA167	\$9.95

Unique Features

- 24 and 32 Channels of buffered digital I/O configurable as inputs or outputs
- Implemented as eight-bit I/O ports
- 8255 compatible
- 10K pull up resistors on each port bit
- Factory configured interrupt feature allows conditional interrupt generation

Technical Specifications

Number of channels	... 24, 32
Operating temperature	... 0-50° C
Storage temperature	... -20-70° C
Humidity range	... 10-90% R.H.
Output specifications	... Sink/Source 24mA
Current specifications	... 8008 - +5V @ 480mA 8010 - +5V @ 500mA
Connector(s)	... 50 pin IDC with cable lock
Physical dimensions	... 8008 - 4.72" L x 3.7" H (11.99 x 9.39 cm) 8010 - 4.72" L x 3.3" H (11.99 x 8.38 cm)



8010 with CA167 pictured above



PCI 48 and 96 Channel Digital I/O Interface

NEW
PRODUCT

PIO-48.PCI/PIO-96.PCI

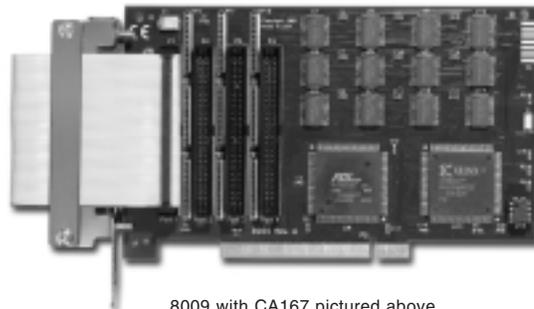
The PIO-48.PCI and PIO-96.PCI provide 48 or 96 channels of buffered Digital I/O emulating 8255s for industrial control applications. The PIO family was designed to be 8255 hardware and software compatible. 10K pull up resistors are included on each port bit. The PIO boards contain groups of eight-bit I/O ports configurable as inputs or outputs to suit the automation task. The mode of each of the ports is user selectable as input or output. This gives the user the ability to customize the combination of inputs and outputs as needed. In addition, the low order bit of the first port can be set to generate an interrupt for status monitoring applications. A special factory configurable interrupt feature allows the user to request conditional I/O combinations for interrupt generation. When the I/O combination occurs, a hardware interrupt is triggered.

Unique Features

- 48 and 96 Channels of buffered Digital I/O configurable as inputs or outputs
- Implemented as eight-bit I/O ports
- 8255 compatible
- 10K pull up resistors on each port bit
- Factory configured interrupt feature allows conditional interrupt generation

Technical Specifications

Number of channels	... 48, 96
Operating temperature	... 0-50° C
Storage temperature	... -20-70° C
Humidity range	... 10-90% R.H.
Output specifications	... Sink/Source 24mA
Current specifications	... 8005 - +5V @ 794mA 8009 - +5V @ 1000mA
Connector(s)	... (2 or 4) 50 pin IDC with cable lock
Physical dimensions	... 8005 - 6.1" L x 4.1" H (15.49 x 10.41 cm) 8009 - 4.72" L x 3.7" H (11.99 x 9.39 cm)



8009 with CA167 pictured above

ORDERING INFORMATION

Description	Part No.	Price
48 Channel Digital I/O	8005	\$199.00
96 Channel Digital I/O	8009	\$299.00
<u>Cable Options</u>		
50 pin Terminal Block	TB07	\$39.95
TB07 and CA167 Cable	KT107	\$48.95
40 in. 50 pin Edge Cable	CA135	\$9.95
40 in. 50 pin IDC Cable	CA167	\$9.95

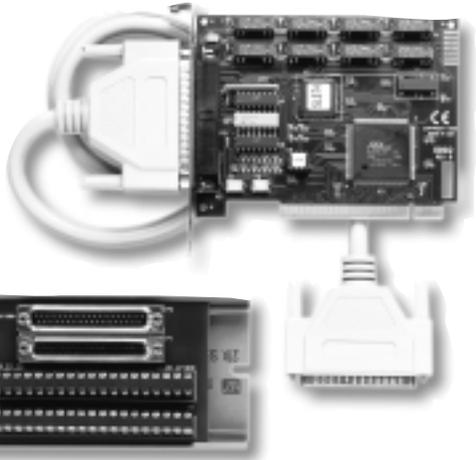


PCI 8 Input/8 Relay Output Digital I/O Interface

**NEW
PRODUCT**

DIO-16.PCI

The DIO-16.PCI provides 8 Inputs and 8 Outputs, which can be utilized for PC-based control and automation of equipment including sensors, switches, satellite antenna control systems, video and audio studio automation, security control systems, and other industrial automation systems. In addition, the DIO-16.PCI is the perfect choice for integrating unattended status monitoring equipment, and fall-back network switching circuits. The DIO-16.PCI's 8 Inputs provide optical isolation to protect the PC and other sensitive equipment from spikes and ground loop current that can be generated in industrial environments. Our Seal/O Windows Digital I/O drivers are included allowing rapid application development.



8002-KT pictured above

The 8 reed relay outputs provide high quality, long life, low current (10 Watt maximum), dry contact switch closures. Reed relays are well suited for low current applications. The relays are normally open, and close when energized. For development purposes, the card's DB-37 connector can be interfaced directly to Sealevel's terminal block kit, Part# KT-101.

Unique Features

- 8 SPST relays
- 1 eight bit optically isolated input port
- DB-37 Male connector
- Highly reliable 10 VA DIP reed relays
- Multiple adapters can reside in same PC
- PCI bus compliant
- Terminal Block and cable kit available to simplify field wiring requirements
- Supports all PCI interrupts

Technical Specifications

Number of I/O 8 input/8 output
 Operating temperature . . . 0-50° C
 Storage temperature -20-70° C
 Humidity range 10-90% R.H.

Current specifications . . . +5V @ 280mA
 Connector(s) DB37P
 Physical dimensions 5.00" L x 3.9" H (12.70 x 9.91 cm)
 Product Weight 3.2 ounces (90.71g)



ORDERING INFORMATION		
Description	Part No.	Price
8 Input/8 Output	8002	\$239.00
8002 with KT101 Kit	8002-KT	\$279.00
<u>Cable Options</u>		
Terminal Block with 6 ft. M/F Cable	KT101	\$48.95

PCI 8 Input/8 Form C Relay Output Digital I/O Interface

**NEW
PRODUCT**

PLC-16.PCI

The PLC-16.PCI provides 8 Inputs and 8 Form C relay outputs, which can be utilized for PC-based control and automation. The PLC-16.PCI's 8 Inputs provide optical isolation to protect the PC and other sensitive equipment from spikes and ground loop current that can be generated in industrial environments.

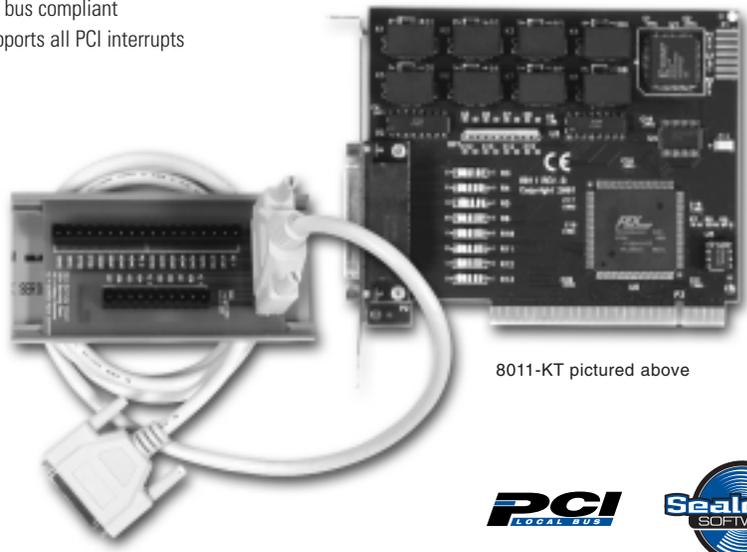
The 8 Form C electromechanical relay outputs provide higher current capabilities (up to 2A) than reed relays. The PLC-16.PCI allows full access to both sides of all 8 Form C relays, providing a no compromise solution. Our Seal/O Windows Digital I/O drivers are included allowing rapid application development.

Unique Features

- 8 SPDT (single pole double throw) relays
- 1 eight bit optically isolated input port
- Optimized for 0-24 VAC or DC operation
- HD44 connector provides full access to all inputs and outputs
- Works with third party PC-based control programs
- TB08 provides PLC like connections
- Multiple adapters can reside in same PC
- PCI bus compliant
- Supports all PCI interrupts

Technical Specifications

Number of I/O 8 input/8 output
 Operating temperature . . . 0-50° C
 Storage temperature -20-70° C
 Humidity range 10-90% R.H.
 Current specifications 5V @ 240mA
 Connector(s) DB44S (Female)
 Physical dimensions 4.9" L x 4.2" H (12.45 x 10.67 cm)
 Product Weight 4 ounces (113.39g)



8011-KT pictured above

ORDERING INFORMATION		
Description	Part No.	Price
8 input / 8 Form C output	8011	\$249.00
8011 w/ KT108	8011-KT	\$299.00
8011 w/ KT109	8011-KT2	\$339.00
<u>Cable Options</u>		
8011 Terminal Block	TB08	\$39.95
TB08 and CA185 Kit	KT108	\$58.95
37 pin Terminal Block	TB02	\$39.95
(2) TB02 and CA184 Kit	KT109	\$99.95



PCI 16 Input/16 Relay Output Digital I/O Interface

NEW PRODUCT

DIO-32.PCI

The DIO-32.PCI provides 16 Inputs and 16 Outputs, which can be utilized for PC-based control and automation of equipment including sensors, switches, satellite antenna control systems, video and audio studio automation, security control systems, and other industrial automation systems. The DIO-32.PCI's 16 Inputs provide optical isolation to protect the PC and other sensitive equipment from spikes and ground loop current that can be generated in industrial environments.

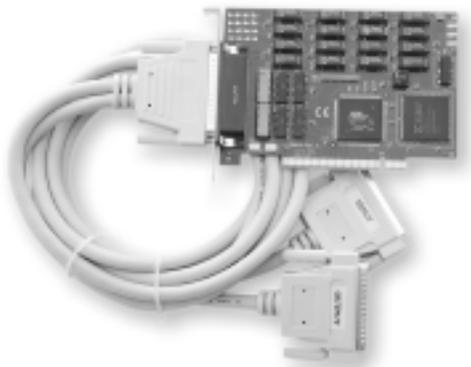
The 16 reed relay outputs provide high quality, long life, low current (10 Watt maximum), dry contact switch closures. Reed relays are well suited for low current applications. The relays are normally open, and close when energized. The card's included cable terminates in dual DB37 connectors for connection to Sealevel's terminal block Part# TB02. Our Seal/O Windows Digital I/O drivers are included allowing rapid application development.

Unique Features

- 2 sets SPST relays with each set having 8 relays
- 2 eight bit optically isolated input ports
- Highly reliable 10 VA DIP reed relays
- Multiple adapters can reside in same PC
- PCI bus compliant
- Terminal Block and cable kit available to simplify field wiring requirements
- Supports all PCI interrupts
- Includes a DB78 to (2) DB37 connector cable

Technical Specifications

Number of I/O 16 input/16 output
 Operating temperature . . . 0-50° C
 Storage temperature . . . -20-70° C
 Humidity range 10-90% R.H.
 Current specifications . . . (2) DB37P
 Connector(s) +5V @ 450mA
 Physical dimensions . . . 5.00" L x 3.9" H (12.70 x 9.91 cm)
 Product Weight 3.2 ounces (90.71g)



ORDERING INFORMATION		
Description	Part No.	Price
16 Input/16 Output	8004	\$399.00
8004 with (2) TB02 Terminal Blocks	8004-KT	\$469.00
<u>Cable Options</u>		
Terminal Block	TB02	\$39.95

PCI 16 Relay Output Digital I/O Interface

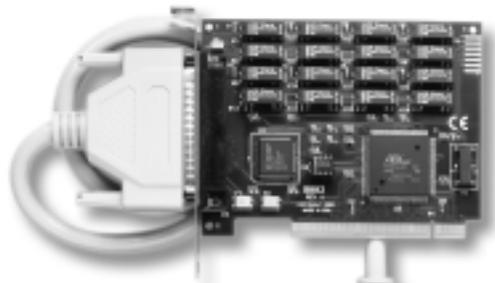
NEW PRODUCT

REL-16.PCI

The REL-16.PCI provides 16 Outputs, which can be utilized for PC based control and automation of equipment including switches, satellite antenna control systems, video and audio studio automation, security control systems, and other industrial automation systems. In addition, the REL-16.PCI is the perfect choice for integrating unattended status monitoring equipment, and fall-back network switching circuits. The REL-16.PCI's reed relay outputs provide high quality, long life, low current (10 Watt maximum), dry contact switch closures. Reed relays are well suited for low current applications.

Unique Features

- 2 sets of SPST relays, 8 relays per set
- Highly reliable 10 VA DIP reed relays utilized
- Multiple adapters can reside in same computer
- DB-37 Male connector
- Terminal Block and cable kit available to simplify field wiring requirements



8003-KT pictured above

ORDERING INFORMATION

Description	Part No.	Price
16 Reed Relay Outputs	8003	\$259.00
8003 with KT101 Kit	8003-KT	\$299.00
<u>Cable Options</u>		
Terminal Block with 6 ft. M/F Cable	KT101	\$48.95

Technical Specifications

Number of I/O 16 outputs
 Operating temperature . . . 0-50° C
 Storage temperature . . . -20-70° C
 Humidity range 10-90% R.H.
 Current specifications . . . +5V @ 360mA
 Connector(s) DB37P
 Physical dimensions . . . 5.00" L x 3.9" H (12.70 x 9.91 cm)
 Product Weight 3.2 ounces (90.71g)

PCI 16 Optically Isolated Input Digital I/O Interface

NEW
PRODUCT

ISO-16.PCI

The ISO-16.PCI provides 16 optically isolated inputs for connection to devices including sensors, switches, push buttons, and other user inputs. The inputs can sense both AC and DC voltage while providing optical isolation, which eliminates spikes and surges present in industrial environments.

Unique Features

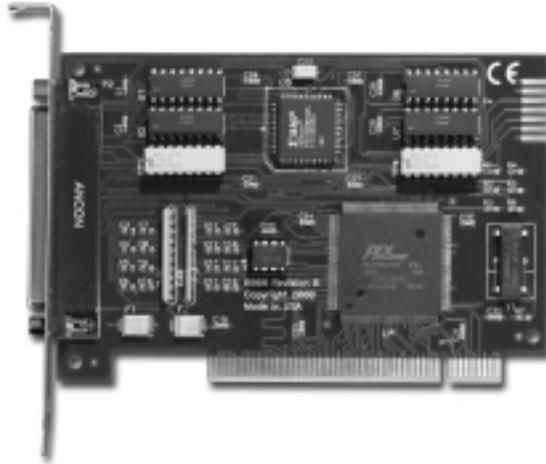
- 16 Optically isolated AC or DC inputs
- Socketed dip resistor allows user specified input range
- Power (+5 and +12) and ground provided on connector
- DB-37 Female connector
- Terminal Block and cable kit available to simplify field wiring requirements

Technical Specifications

Number of I/O	16 inputs
Operating temperature	0-50° C
Storage temperature	-20-70° C
Humidity range	10-90% R.H.
Current specifications	DB37P
Connector(s)	+5V @ 260mA
Physical dimensions	5.20" L x 3.5" H (13.21 x 8.89 cm)
Product Weight	3.2 ounces (90.71g)

ORDERING INFORMATION

Description	Part No.	Price
16 Isolated Inputs	8006	\$219.00
8006 with KT-101 Kit	8006-KT	\$259.00
<u>Cable Options</u>		
Terminal Block with 6 ft. M/F Cable	KT101	\$48.95



PCI 32 Relay Output Digital I/O Interface

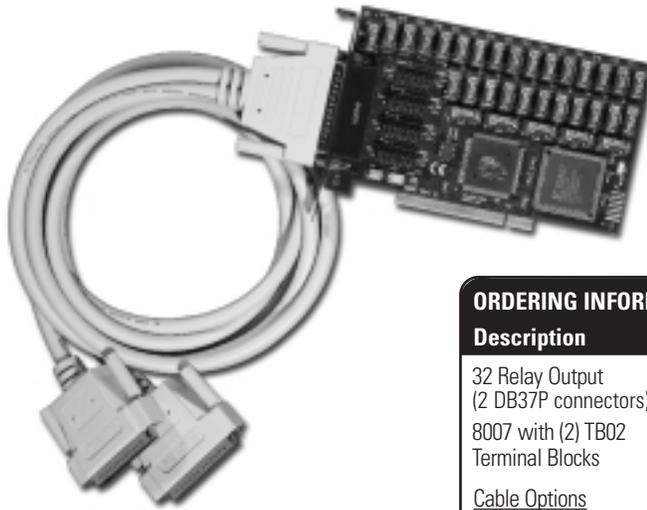
NEW
PRODUCT

REL-32.PCI

The REL-32.PCI provides 32 reed relay outputs, which can be utilized for PC based control and automation of equipment including switches, satellite antenna control systems, video and audio studio automation, security control systems, and other industrial automation systems. In addition, the REL-32.PCI is the perfect choice for integrating unattended status monitoring equipment, and fall-back network switching circuits. The REL-32.PCI's reed relay outputs provide high quality, long life, low current (10 Watt maximum), dry contact switch closures. Reed relays are well suited for low current applications. The relays are normally open, and close when energized.

Unique Features

- 4 sets SPST relays with each set having 8 relays
- Highly reliable 10 VA DIP reed relays utilized
- Included 6ft. DB78 cable terminates in two DB37 Male connectors
- Terminal Block and cable kit available to simplify field wiring requirements
- Windows and Linux drivers provided



ORDERING INFORMATION

Description	Part No.	Price
32 Relay Output (2 DB37P connectors)	8007	\$469.00
8007 with (2) TB02 Terminal Blocks	8007-KT	\$539.00
<u>Cable Options</u>		
Terminal Block	TB02	\$39.95
Terminal Block with 6ft. M/F Cable	KT101	\$48.95

Technical Specifications

Number of I/O	32 output
Operating temperature	0-50° C
Storage temperature	-20-70° C
Humidity range	10-90% R.H.
Current specifications	+5V @ 550mA
Connector(s)	(2) DB37P
Physical dimensions	6.625" L x 3.9" H (16.38 x 9.91 cm)
Product Weight	3.2 oz. (90.71g)

SeaPORT™ PIO Series

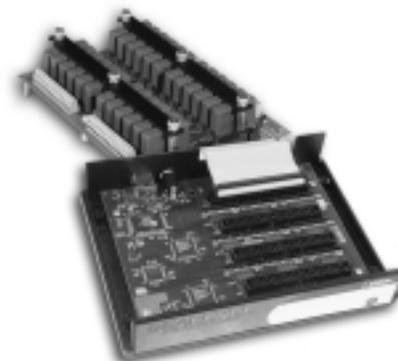
The SeaPORT™ PIO Series contains 48 or 96 channels of buffered digital I/O emulating 8255s for industrial control applications. The SeaPORT PIO Series is designed to be 8255 hardware and software compatible. 10K pull up resistors are included on each port bit. The SeaPORT PIO Series contains eight-bit I/O ports, configurable as inputs or outputs to suit the automation task. The mode of each of the ports is user selectable as input or output. This gives the user the ability to customize the combination of inputs and outputs as needed. In addition, the low order bit of the first port can be set to generate an interrupt for status monitoring applications. A special factory configurable interrupt feature allows the user to request conditional I/O combinations for interrupt generation. When the I/O combination occurs, a hardware interrupt is triggered.

Unique Features

- Implemented as eight-bit I/O ports
- 10K pull up resistors on each port bit
- True "Hot Swapping"/auto configuration
- Factory configured interrupt feature allows conditional interrupt generation
- Includes Seal/O Windows 98/ME/2000 drivers and sample applications

Technical Specifications

Number of channels48, 96
 Operating temperature . . .0-50° C
 Storage temperature-20-70° C
 Humidity range10-90% R.H.
 Power specificationsFrom AC adapter
 Output specificationsSink 64mA
 Source 32mA
 Logic levelTTL
 Connector(s)(2 or 4) 50 pin IDC
 Physical dimensions7.0"L x 5.25"W x 1.5"H
 (17.78 x 13.34 x 3.81cm)



ORDERING INFORMATION

Description	Part No.	Price
48 Channel Digital I/O	8203	\$319.00
96 Channel Digital I/O	8205	\$359.00
<u>Cable Options</u>		
50 pin Terminal Block	TB07	\$39.95
TB07 and CA167 Cable	KT107	\$48.95
40 in. 50 pin Edge Cable	CA135	\$9.95
40 in. 50 pin IDC Cable	CA167	\$9.95

Relay I/O Cables and Kits

These kits have been assembled to simplify connections from Sealevel Systems' Relay/Digital I/O boards to I/O modules, Relay Mounting Boards, Signal Conditioning Boards, Terminal Blocks and other I/O devices. When used with the appropriate I/O board, these kits create a comprehensive, low-cost I/O solution.



Digital I/O Terminal Block

PHOTO ABOVE:

Description	Part No.	Price	For Use With:
50 Pin Terminal Block	•TB07	\$39.95	8005, 8008, 8009, 8010, 8203, 8205, 4030
TB07 with 40 in. IDC Ribbon Cable	•KT107	\$48.95	8005, 8008, 8009, 8010, 8203, 8205, 4030



Relay I/O Terminal Block

PHOTO ABOVE:

Description	Part No.	Price	For Use With:
Terminal Block with 6 ft. M/F Cable	•KT101	\$48.95	8002, 8003, 8004, 8006, 8007, 3093, 3094, 3095, 3096, 3098

ISA 48 Channel Digital I/O Interface

PIO-48

The Sealevel Systems' PIO-48 Digital I/O interface is designed around two 8255 chips, each providing 24 I/O lines. The board has a Dip-switch for flexible I/O addressing, IRQ jumpers for interrupts and two sets of connectors for each port. A standard 50-pin solid state relay I/O module connector and a 40-pin connector with power and IRQ signals is provided. The 50-pin connects (through an optional cable) to industry standard PB-8, -16 or -24 solid state relay I/O modules.

The 40-pin connector, terminated in an optional DB37 cable, matches the pin-out of "Generic" PIO-12 boards. By using the PIO-48 with two of these cables, you can get two times the I/O of the PIO-12 on one board. Also provided is a software interface that allows you to set, reset, examine or monitor any bit or I/O line. Our Seal/O Windows Digital I/O drivers are included allowing rapid application development.

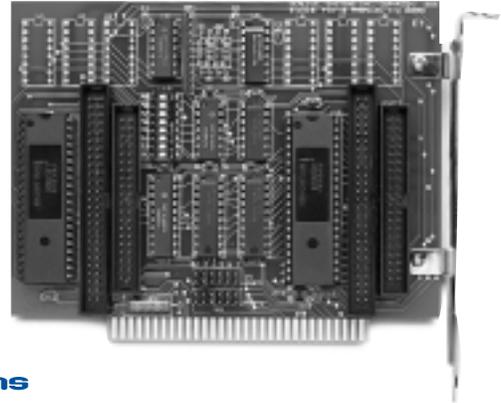


Unique Features

- Two 8255 I/O ports
- Interfaces two 24-module relay racks
- Example driver software provided
- Cables available

Technical Specifications

I/O chips	.....(2) 8255 parallel I/O chips
Number of ports	.....Three 8-bit parallel ports
Operating temperature	.....0-50° C
Storage temperature	.....-20-70° C
Humidity range	.....10-90% R.H.
Physical dimensions	.....5.25" L x 4.2" H (13.335 x 10.66 cm)



ORDERING INFORMATION

Description	Part No.	Price
48-Line Digital I/O	4030	\$109.00
PIO-48 with (2) 6 in. DB37P Cables	4031	\$129.00
4031 with (2) KT101 Kits	4031-KT	\$209.00
<i>Cable Options</i>		
50 pin Terminal Block	TB07	\$39.95
TB07 and CA167 Cable	KT107	\$48.95
40 in. 50 pin Edge Cable	CA135	\$9.95
40 in. 50 pin IDC Cable	CA167	\$9.95

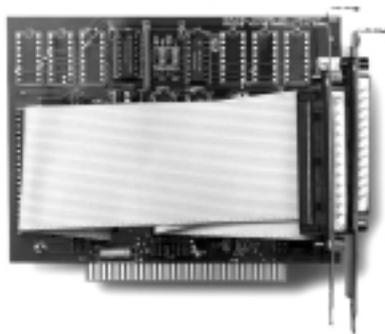
PIO-48 Cable Options

These kits have been assembled to simplify connections from Sealevel Systems' 48 channel ISA I/O board to I/O modules, Relay Mounting Boards, Signal Conditioning Boards, Terminal Blocks and other I/O devices. These kits create a comprehensive, low-cost I/O solution.

Option 1:

**Part No. 4031
with (2) six in.
DB37P Cables**

\$129.00



Screw Terminal wires to sensors, switches or other I/O devices



DIAGRAM ABOVE:

Description	Part No.	Price
Terminal Block with 6 ft. M/F Cable	•KT101	\$48.95

Option 2:

**Part No. 4030
with (2) CA135
Cables**

\$129.00

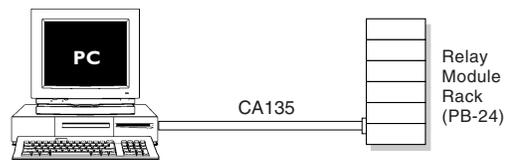
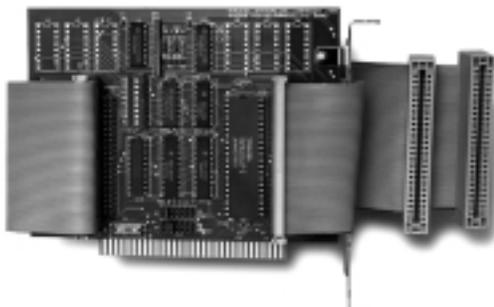


DIAGRAM ABOVE:

Description	Part No.	Price
40 in. Edge Ribbon Cable	•CA135	\$9.95
40 in. IDC Ribbon Cable	•CA167	\$9.95

*For the most up to date information on Sealevel Software, please visit www.sealevel.com

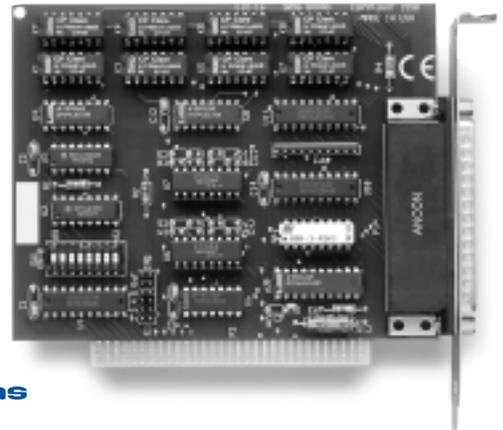
ISA 8 Input/8 Relay Output Digital I/O Interface

DIO-16

The DIO-16 provides 16 channels of Digital I/O for the PC. 8 isolated inputs are available providing protection to connected equipment. Use isolated inputs for communicating alarm conditions from remote locations or remote processes. 8 Reed relay outputs are also provided allowing PC control of lights, buzzers, switches, motors and other low current devices supporting on/off control. The DIO-16 is software compatible with the DIO-32B. Our Seal/O Windows Digital I/O drivers are included allowing rapid application development.

Unique Features

- 8 Reed relay outputs
- Highly reliable 10VA DIP Reed relays utilized
- 8 optically isolated AC or DC inputs
- Output ports have non-destructive read-back
- Supports interrupts 2-7
- Selectable port address (four port boundary)
- DB37 connector for all 8 inputs and 8 outputs
- Socketed DIP resistor allows user specified input range (3-12V AC/DC standard)



ORDERING INFORMATION

Description	Part No.	Price
8 Input/8 Output	3096	\$179.00
3096 w/KT101 Kit	3096-KT	\$219.00
<u>Cable Options</u>		
Terminal Block with 6 ft. M/F Cable	KT101	\$48.95

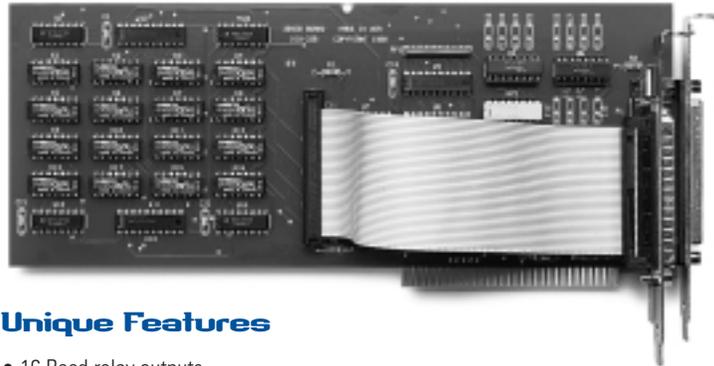
Technical Specifications

Number of I/O	8 Input, 8 Output
Input range	3-12V AC/DC
Input isolation	Optical, 400V
Output relay specs	200M Operations 10VA, Resistive Load
Throughput	.660Hz
Operating temperature	0-50° C
Storage temperature	-20-70° C
Humidity range	10-90% R.H.
Connector(s)	(1) DB37P
Current Specifications	+5V @ 270mA
Physical dimensions	4.9" L x 4.2" H (12.446 x 10.66 cm)

ISA 16 Input/16 Relay Output Digital I/O Interface

DIO-32B

The DIO-32B provides 32 channels of isolated Digital I/O for the PC. The card is designed with four ports containing 8 channels each. Ports A and B each offer 8 channels of optically isolated inputs. Each input is isolated from ground, host PC ground, and from all other channels. Isolation is provided for up to 400V DC. Ports C and D each offer 8 bits of Reed relay outputs for controlling the on/off status of external devices or other low current level applications. These ports have non-destructive read-back capability. Our Seal/O Windows Digital I/O drivers are included allowing rapid application development.



Unique Features

- 16 Reed relay outputs
- Highly reliable 10VA DIP Reed relays utilized
- 16 optically isolated AC or DC inputs
- Output ports have non-destructive read-back
- Supports interrupts 2-7
- Selectable port address (four port boundary)
- DB37 connectors for all 16 inputs and 16 outputs
- Socketed DIP resistor allows user specified input range (3-12V AC/DC standard)

Technical Specifications

Number of I/O	16 Input, 16 Output
Input range	3-12V AC/DC
Input isolation	Optical, 400V
Output relay specs	200M Operations 10VA, Resistive Load
Throughput	.660Hz
Operating temperature	0-50° C
Storage temperature	-20-70° C
Humidity range	10-90% R.H.
Connector(s)	(1) DB37P, (1) DB37S
Current Specifications	+5V @ 800mA
Physical dimensions	9.75" L x 4.2" H (24.77 x 10.66 cm)

ORDERING INFORMATION

Description	Part No.	Price
16 Input/16 Output	3093	\$339.00
3093 w/(2) KT101 Kits	3093-KT	\$419.00
<u>Cable Options</u>		
Terminal Block with 6 ft. M/F Cable	KT101	\$48.95

ISA 16 Isolated Input and 16 Relay Output Digital I/O Interface

ISO-16 and REL-16

The Sealevel Systems' ISO-16 provides 16 optically isolated inputs for connection to devices including push buttons, switches and other user inputs. The REL-16 provides 16 Reed relay outputs for controlling devices via on/off closures. Each card provides 1/2 of the inputs and outputs of the DIO-32B card. Simply write to the address corresponding to the relay to change the relays state. All relays power up in an open state. Our Seal/O Windows Digital I/O drivers are included allowing rapid application development.

ORDERING INFORMATION

Description	Part No.	Price
16 Isolated input interface	3094	\$149.00
3094 with KT101 Kit	3094-KT	\$189.00
16 relay output interface	3095	\$189.00
3095 with KT101 Kit	3095-KT	\$229.00
<u>Cable Options</u>		
Terminal Block with 6 ft. M/F Cable	KT101	\$48.95

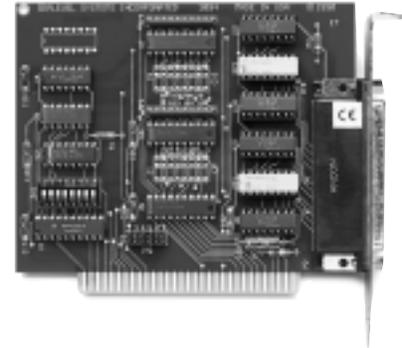
Unique Features

ISO-16

- 16 optically isolated AC or DC inputs
- DB37S connectors for 16 inputs
- Socketed DIP resistor allows user specified input range (3-12V AC/DC)
- Selectable port address
- Power (+5, +12) and ground provided on connector

REL-16

- 16 Reed relay outputs
- Highly reliable 10 VA DIP Reed relays utilized
- Power (+5, +12) and ground provided on connector
- DB37 Male connector for relay outputs
- Output ports have non-destructive read-back capability
- Selectable port address/Software compatible with DIO-32B



Technical Specifications

Number of I/O
 Part No. 309416 Isolated Inputs
 Part No. 309516 Reed Relay Outputs
 Input range3-12V AC/DC (Part No. 3094)
 Input isolationOptical, 400V (Part No. 3094)
 Relay specifications25VA dual coil (Part No. 3095)
 Output relay specs200M operations,
 10VA, Resistive load
 Throughput660Hz
 Operating temperature ...0-50° C
 Storage temperature ...-20-70° C
 Humidity range10-90% R.H.
 Current specifications-
 Part No. 3094+5V @ 200 mA
 Part No. 3095+5V @ 380 mA
 Connector(s)
 Part No. 3094DB37S
 Part No. 3095DB37P
 Physical dimensions
 Part No. 30944.9" L x 4.2" H (12.446 x 10.66 cm)
 Part No. 30954.9" L x 4.2" H (12.446 x 10.66 cm)

ISA 32 Switched Relay Output Digital I/O Interface

REL-32

The REL-32 Relay output adapter provides four banks of eight switched Reed relays. The card's DB37 connector brings out the A-side of all relays while the optional B-side connector brings out the B-side and commons of all relays to a second DB37 connector. This allows access to both sides of all 32 switches. For increased flexibility, an onboard jumper header allows the user to create any custom switch interconnection wiring desired. The REL-32 can easily be configured as 32 independent relays, or as a 4x8, 2x16 or 1x32 matrix switch. The cable is only necessary if you want the 32 independent relay option. Our Seal/O Windows Digital I/O drivers are included allowing rapid application development.

ORDERING INFORMATION

Description	Part No.	Price
32 Channel Relay interface	3098	\$389.00
3098 with (2) KT101 Kits and CA108	3098-KT	\$479.00
<u>Cable Options</u>		
Terminal Block with 6 ft. M/F Cable	KT101	\$48.95

Switching Relays

Reed relays provide high quality, long life, low current (10 Watt maximum) dry contact switch closures. Reed relays are suited for low current (primarily resistive load) applications. The relays are normally open, and close when energized. Each relay can be individually energized by writing a "1" to the proper port bit, and opened by writing a "0". The relays power up reset in the open state.

Unique Features

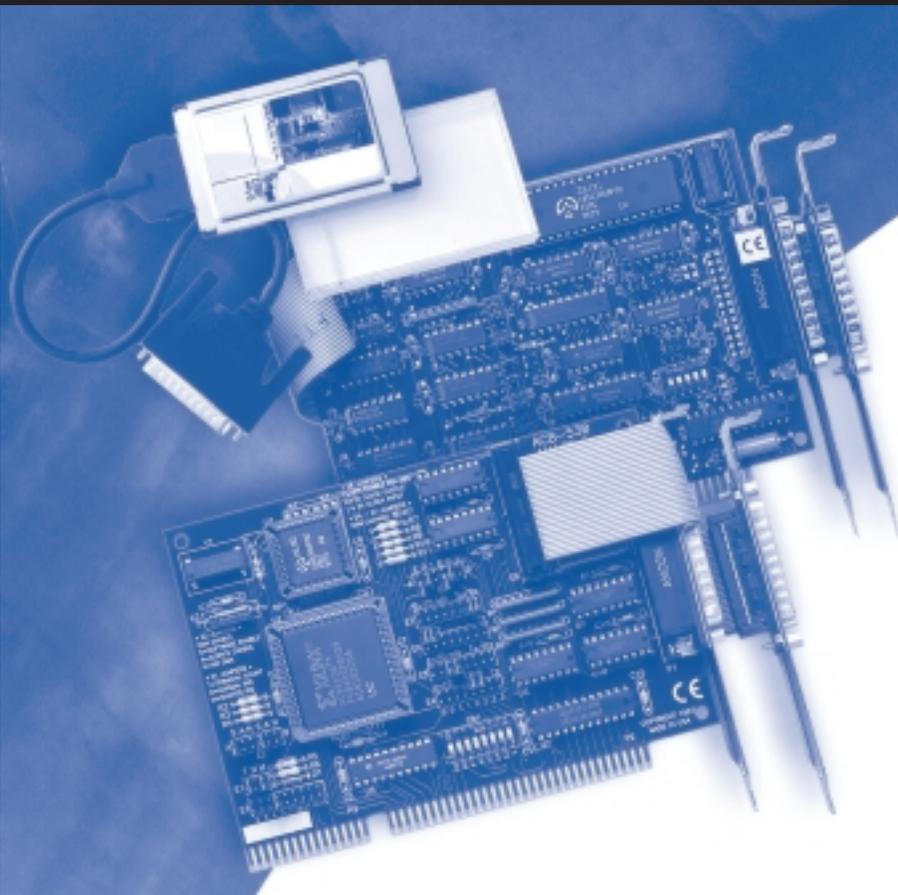
- 32 Reed relay outputs
- 4 sets SPST relays with each set having 8 relays
- Selectable I/O port addressing from 200H - 3F8H
- Highly reliable 10 VA DIP Reed relays
- Switch power, data and other electronic signals
- Multiple switching combinations enabled by onboard option header
- Discreet access to both sides of all relays accessible with optional B-side cable
- +5V DC, +12V DC and relay group commons fused at 1 amp are available from PC



Technical Specifications

Number of I/O32 Outputs
 Output relay specs200M Operations
 10VA, Resistive Load
 Contact Speed5 mSec (operate, release, bounce)
 Operating temperature...0-50° C
 Storage temperature ...-20-70° C
 Humidity range10-90% R.H.
 Current specifications ...+5V @ 800mA
 Physical dimensions13.33" L x 4.2" H (33.85 x 10.66 cm)



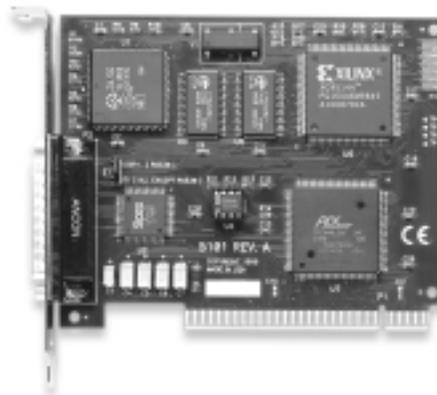


Innovative I/O

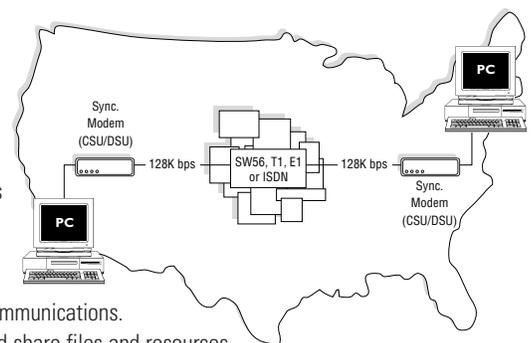
New PCI Synchronous cards provide the speed and power your applications need. Contact Sealevel for all of your high-speed data communications needs.

PCI and ISA Synchronous Serial I/O

When your communication needs call for Synchronous communications, call on Sealevel Systems. Each of our Sync/Async adapters are designed with the high end features your application requires while providing the best price/performance ratio available. These versatile cards are currently being used in applications including CSU/DSU and ISDN T/A connections for high-speed network file transfer, satellite modem interface for high-speed satellite file transfer/broadcast, digital radio communications and virtually any other digital line communication. With our new 16C32 IUSC based product we're providing even more horsepower for even higher speed applications including MPEG/JPEG compression and Wide Area Networking (WAN).



Sealevel Systems' ACB cards provide versatility and a price/performance ratio that is unmatched. A typical application involves WAN communications. Connect remote locations and share files and resources. Our Sync/Async cards provide the Synchronous data pipe to handle your digital line connectivity needs.



PCI I Channel Multi-Protocol High-Speed WAN Interface

Route 56.PCI

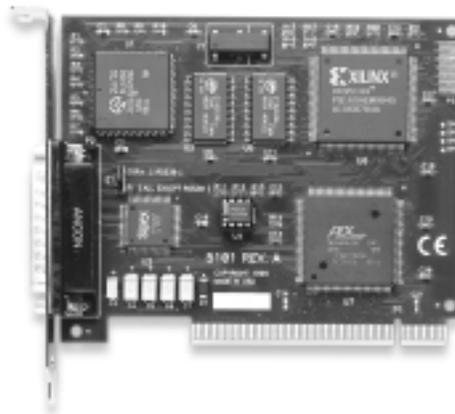
The Route 56.PCI is the ideal solution for developers integrating Wide Area Networks or for applications where data rates up to 10M bps burst are required. Its ability to communicate reliably at high speeds in a variety of operating systems, including Windows makes the Route 56.PCI card ideal for T1, E1, and other digital service line technology applications.

ORDERING INFORMATION

Description	Part No.	Price
Single Channel WAN Adapter	5101	\$499.00
<u>Cable Options</u>		
DB25 M/F Cable (72 in.)	CA104	\$7.95
RS-530 to RS-449 (9 in.)	CA107	\$24.95
X.21 Cable (72 in.)	CA159	\$19.95
V.35 Cable (72 in.)	CA178	\$39.95
DB25 Terminal Block	TB04	\$29.95

Unique Features

- RS-232, RS-422/485/449, EIA-530, V.35 and X.21 serial interface capability with versatile cabling options
- Onboard Z16C32 (IUSC™) with built-in DMA controller and 32-byte FIFO buffer
- 256K bytes of onboard RAM/Link list DMA supported
- Up to 10M bps burst mode
- Multiple protocols supported including: PPP, (Point-to-Point Protocol), Frame Relay, X.25, high-speed ASYNC, BISYNC, MONOSYNC, HDLC, SDLC
- Ideal for Fractional T1, T1, E1 and ISDN applications
- Off loads communications processing
- Software selectable memory range
- OEM Security feature for software protection
- Supports all PCI interrupts
- ROUTE 56 developer's toolkit included with Windows NT HDLC/SDLC driver, applications and sample source code



Technical Specifications

IUSC	.....16C32
Number of ports	.....1
I/O Space	.....8 bytes
Memory space	.....256K
Max. data rate	.....10M bps (burst)
Max. data distance	.....Up to 4000 ft.
Operating temperature	.....0-50° C
Storage temperature	.....-20-70° C
Humidity range	.....10-90% R.H.
Current specifications	.....+5V @ 450mA
Connector(s)	.....DB25P
Physical dimensions	.....4.72" L x 3.3" H (11.99 x 8.38 cm)

*Max. data rate is dependent on cpu, cable length, etc.



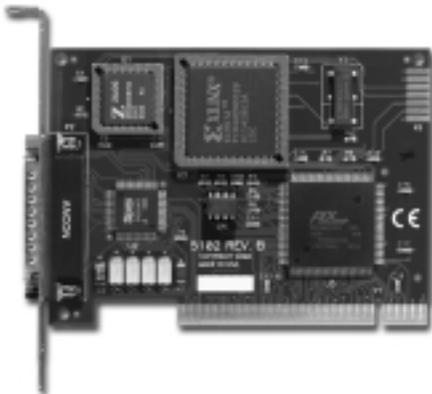
*For the most up to date information on Sealevel Software, please visit www.sealevel.com

PCI I Channel RS-232/422/485/449/530/U.35 Interface

NEW
PRODUCT

ACB MP.PCI

The ACB-MP.PCI was developed in tandem with our PC-ACB-MP to provide the user with both a PCI and a PCMCIA Synchronous solution. Both cards feature the multi-interface Sipex™ chip, which offers the most popular electrical interfaces available. Choose from RS-232, RS-422, RS-485, RS-449, RS-530, V.35 and even X.21 all from a single card via software control.



Technical Specifications

ESCC	.....85230
Number of Ports	.....1
Max. data rate	.....128K bps (burst)
Max. data distance	.....Up to 4000 ft.
Operating temperature	.....0-50° C
Storage temperature	.....-20-70° C
Humidity range	.....10-90% R.H.
Current Specifications	.....+5V @ 350mA
Connector(s)	.....DB25P
Physical dimensions	.....(4.75" L x 3.5" H) (12.065 x 8.890 cm)

* Max data rate is dependent on cpu, cable length, etc.

ORDERING INFORMATION

Description	Part No.	Price
PCI RS-232/422/485/449 /530/V.35 Adapter	5102	\$309.00
<u>Cable Options</u>		
DB25M/F Cable (72 in.)	CA104	\$7.95
RS-530 to RS-449 (9 in.)	CA107	\$24.95
X.21 Cable (72 in.)	CA159	\$19.95
V.35 Cable (72 in.)	CA178	\$39.95
DB25 Terminal Block	TB04	\$29.95

Unique Features

- PCI bus 2.1 compliant adapter
- Onboard Z85230 ESCC
- OEM Security feature for software protection
- RS-232, RS-422/485/449, EIA-530, V.35 and X.21 serial interface capability with versatile cabling options
- Up to 128K bps burst mode
- Supports all PCI interrupts
- Ideal for Fractional T1, ISDN, and other DDS (digital data service) applications
- SeaMAC developer's toolkit included with Windows drivers, and sample applications. Other drivers under development
- Windows 98/ME/NT/2000 HDLC/SDLC driver included
- Windows NT Async driver included



*For the most up to date information on Sealevel Software, please visit www.sealevel.com

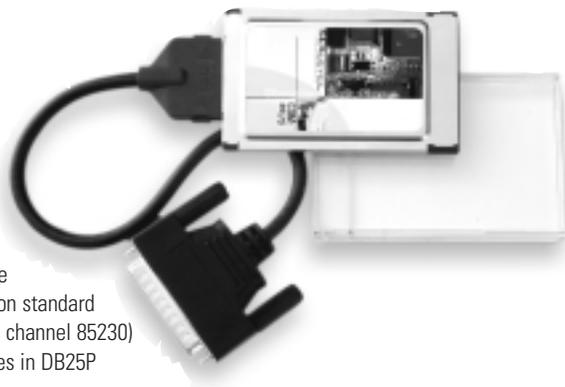
PC-ACB-MP

The PC-ACB-MP card provides a single PCMCIA Synchronous serial link to devices that require high-speed mobile communications. Use the PC-ACB-MP for 56K, 64K or user programmable data rates utilizing HDLC, SDLC, X.25, BISYNC or MONOSYNC protocols. The PC-ACB-MP card conforms to PCMCIA Type II specifications.

ORDERING INFORMATION		
Description	Part No.	Price
PC-ACB-MP	3612	\$339.00
<u>Cable Options</u>		
DB25M/F Cable (72 in.)	CA104	\$7.95
RS-530 to RS-449 (9 in.)	CA107	\$24.95
X.21 Cable (72 in.)	CA159	\$19.95
DB25 Female to V.35 Connector (72 in.)	CA178	\$39.95
DB25 Terminal Block	TB04	\$29.95

Unique Features

- RS-422/485/530 Modem Control Signals TX±, RX±, RTS±, CTS±, TSET±, RXC±
- RS-232 Modem Control Signals TD, RD, RTS, CTS, TSET, RXC
- Software programmable baud rate
- "Hot-swapping"/Auto configuration standard
- Based on Zilog 85233 SCC (single channel 85230)
- Interface cable included terminates in DB25P Connector (EIA-530 pin-out)
- Windows 98/ME/NT/2000 HDLC/SDLC driver included
- Windows NT Async driver included



Technical Specifications

Communications Chip. 85233 ESCC
 Number of Ports. 1
 Max. Data Rate 128Kbps*
 Max. Data Distance Up to 4000 ft.
 Operating temperature. 0-50° C
 Storage temperature -20-70° C
 Humidity range. 0-90% R.H.
 Current specifications +5V @ approx. 25mA
 Connector(s). DB25P
 Compatibility PCMCIA 2.01, JEIDA 4.1
 Physical Dimensions. Type II PCMCIA Card
 *Max. data rate is dependent on cpu, cable length, etc.



*For the most up to date information on Sealevel Software, please visit www.sealevel.com

ISA I Channel High-Speed Sync/Async RS-232/U.35 with RS-232 Async CSU/DSU Interface

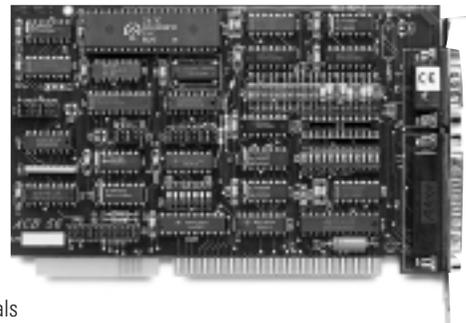
ACB 56

The ACB 56 provides the PC with two communications ports, a single Sync/Async channel jumper selectable as RS-232 or V.35, and a single Asynchronous RS-232 port. Use the Async RS-232 port on the ACB 56 to control and monitor a CSU/DSU.

ORDERING INFORMATION		
Description	Part No.	Price
Single Channel RS-232/V.35 with Async RS-232 CSU/DSU Control Port	4021	\$199.00
<u>Cable Options</u>		
DB25 Female to DB25 Male Cable (72 in.)	CA104	\$7.95
DB25 Female to V.35 Connector (72 in.)	CA178	\$39.95
DB25 Terminal Block	TB04	\$29.95

Unique Features

- 85230 ESCC (Enhanced Serial Communications Controller)
- DMA supports data rate greater than 1 million bps
- Full duplex DMA transfer capability
- Selectable port address, IRQ level (2-5, 7, 10-12 and 15) and DMA channel (1 or 3)
- V.35 interface with full modem control signals
- RS-232 interface modem control signals supported: TD, RD, RTS, CTS, DSR, DCD, DTR, TXC, RXC, TT
- Clocks can be inverted for unique installations
- Software programmable baud rate
- Software toolkit including Windows Drivers, Applications and Sample Source Code provided
- Higher speed Enhanced SCCs and CMOS SCCs optional
- Various oscillators available for custom clock rates



Technical Specifications

ESCC 85230-8
 Number of ports 1
 Max. data rate 1.8432M bps*
 Max. data distance Up to 100 ft.
 Operating temperature 0-50° C
 Storage temperature -20-70° C
 Humidity range 10-90% R.H.
 Current specifications +5V @ 420mA, ±12V @ 50mA ea.
 Connector(s) (1) DB25P, (1) DB9P
 Physical dimensions 6.6" L x 4.2" H (16.67 x 10.66 cm)
 *Max. data rate is dependent on cpu, cable length, etc.



ACB II/EX

The ACB II/EX provides the PC with a single high-speed Synchronous/Asynchronous channel. The RS-422 interface allows the ACB II/EX to communicate reliably at high-speeds under harsh conditions, which makes it an ideal solution for industrial environments. Line noise, present in industrial environments, is eliminated over the RS-422 line.

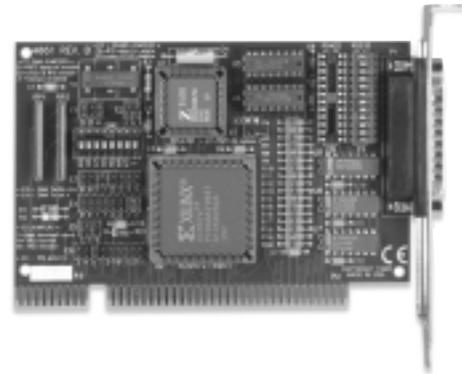
ORDERING INFORMATION

Description	Part No.	Price
Single Channel RS-232/422/485/530	4061	\$199.00
Single Channel RS-232	4061-232	\$169.00
<u>Cable Options</u>		
DB25 Female to DB25 Male Cable (72 in.)	CA104	\$7.95
RS-530 to RS-449 (9 in.)	CA107	\$24.95
DB25 Terminal Block	TB04	\$29.95

* Contact Sealevel Systems' Technical Support for high-speed options or refer to the ACB Options page located at the end of this section.

Unique Features

- 85230 ESCC (Enhanced Serial Communications Controller)
- DMA supports data rate greater than 1 million bps
- Full-duplex DMA
- Selectable port address, IRQ level (3-5, 7, 9-12 and 15) and DMA channel (0, 1, 2 or 3)
- OEM security feature for software protection
- RS-232 interface modem control signals supported: TD, RD, RTS, CTS, TXC, RXC, TSET, DTR, DSR, DCD
- RS-422/485/530 interface modem control signals supported: TD, RD, RTS, CTS, TXC, RXC, TSET, DTR
- Software programmable baud rate
- Software toolkit including Windows Drivers, Applications and Sample Source Code provided
- Higher speed Enhanced SCCs and CMOS SCCs optional
- Various oscillators available for custom clock rates



Technical Specifications

ESCC 85230-8
 Number of ports 1
 Max. data rate 1.8432M bps*
 Max. data distance Up to 4000ft. @ 9600 bps
 RS-485 operation Two or four wire
 Operating temperature ... 0-50° C
 Storage temperature ... -20-70° C
 Humidity range 10-90% R.H.
 Current specifications. ... +5V @ 275mA, ±12V @ 50mA ea.
 Connector(s) DB25P
 Physical dimensions 5.3" L x 3.5" H
 (13.46 x 8.89 cm)
 *Max. data rate is dependent on cpu, cable length, etc.

ISA 2 Channel High-Speed Sync/Async RS-232 or V.35 Serial Interface

ACB III and ACB V

The ACB III and ACB V adapters provide the PC with two direct Synchronous/Asynchronous links to RS-232 or V.35 devices. The ACB III, supporting RS-232 electrical interfaces provides an industry standard interface to Synchronous data links, modems and other devices. The ACB V incorporates the CCITT V.35 specified connector with balanced twisted pair cabling from the board to the external device. Both products support data rates in excess of 1 million bps.

ORDERING INFORMATION

Description	Part No.	Price
Dual Channel RS-232	4010	\$299.00
<u>Cable Option</u>		
DB25 Female to DB25 Male Cable (72 in.)	CA104	\$7.95
Dual Channel V.35 with 72 in. Cable Included	4012	\$379.00
<u>Cable Option</u>		
Additional V.35 Cable (72 in.)	CA134	\$59.95

* Contact Sealevel Systems' Technical Support for high-speed options or refer to the ACB Options page located at the end of this section.

Unique Features

- Dual channel Sync/Async
- 85230 ESCC (Enhanced Serial Communications Controller)
- DMA supports data rate greater than 1 million bps
- Full duplex DMA transfer capability
- Selectable port address, IRQ level (2, 3, 4 and 5) and DMA channel (1 or 3)
- RS-232 interface modem control signals supported: TD, RD, RTS, CTS, DSR, DCD, DTR, TXC, RXC, TT
- Software programmable baud rate
- Software toolkit including Windows Drivers, Applications and Sample Source Code provided
- DB-25P interface cable included with Part #4010
- (1) V.35 interface cable included with Part #4012
- Higher speed Enhanced SCCs and CMOS SCCs optional
- Various oscillators available for custom clock rates
- V.35 interface with full modem control signals



Technical Specifications

ESCC 85230-8
 Number of ports 2
 Max. data rate RS-232 typically 64K bps.
 V.35 1.8432M bps*
 Max. data distance ... RS-232 up to 50 ft.,
 V.35 up to 4000 ft.
 Operating temperature 0-50° C
 Storage temperature ... -20-70° C
 Humidity range 10-90% R.H.
 Current specifications ...
 Part No. 4010 +5V @ 285mA, ±12V @ 50mA ea.
 Part No. 4012 +5V @ 450mA, -5V @ 75mA, ±12V @ 50mA ea.
 Connector(s) 4010 - (2) DB25, 4012 - (2) DB15
 Physical dimensions ...
 Part No. 4010 4.9" L x 4.2" H (12.446 x 10.66 cm)
 Part No. 4012 6.4" L x 4.2" H (16.256 x 10.66 cm)
 *Max. data rate is dependent on cpu, cable length, etc.

ACB 530

The ACB 530 provides the PC with two high-speed Sync/Async links to devices requiring extremely high data rates. The ACB 530 is capable of RS-530, RS-422/485 or RS-449 (with optional cable) connections. The ACB 530 card has a maximum data rate in excess of 1 million bps. The ACB 530 supports simultaneous full duplex DMA transfers on both channels.

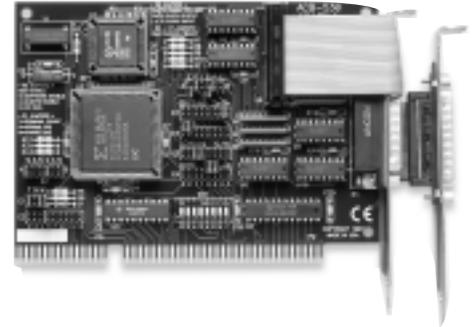
ORDERING INFORMATION

Description	Part No.	Price
Dual Channel RS-530/422/485	4111	\$319.00
<u>Cable Options</u>		
DB25 Female to DB25 Male Cable (72 in.)	CA104	\$7.95
RS-530 to RS-449 (9 in.)	CA107	\$24.95
DB25 Terminal Block	TB04	\$29.95

* Contact Sealevel Systems' Technical Support for high-speed options or refer to the ACB Options page located at the end of this section.

Unique Features

- 85230 ESCC (Enhanced Serial Communications Controller)
- DMA supports data rate greater than 1 million bps
- Full duplex DMA transfer capability on both channels A and B
- Selectable port address, IRQ level (2-5, 7, 10-12 and 15) and DMA channels (0, 1, 2 or 3)
- OEM security feature for software protection
- DMA terminal count interrupt supported
- Software toolkit including Windows Drivers, Applications and Sample Source Code provided
- DB25P interface cable included with 2 channel board
- RS-449 cabling option available
- Higher speed Enhanced SCCs and CMOS SCCs optional
- Various oscillators available for custom clock rates
- Software programmable baud rate



Technical Specifications

ESCC85230-8
 Number of ports2
 Max. data rate1.8432M bps*
 Max. data distanceUp to 4000 ft. @ 9600 bps
 RS-485 operationTwo or four wire
 Operating temperature ...-0-50° C
 Storage temperature-20-70° C
 Humidity range10-90% R.H.
 Current specifications+5V @ 900mA
 Connector(s)DB25P
EIA-530 DTE
 Physical dimensions5.8" L x 4.2" H (14.73 x 10.66 cm)
 *Max. data rate is dependent on cpu, cable length, etc.



ACB-104

The ACB-104 provides the PC/104 system with a direct high-speed RS-232/422/485/530 Sync/Async link to instruments requiring extremely fast data flow. The RS-422 communication standard allows the ACB-104 to communicate reliably at high speeds under harsh conditions, making it an ideal solution for industrial environments. Line noise, present in industrial environments, is eliminated over the RS-422 line. By utilizing RS-422, factory applications requiring long distance communications operate with high data integrity.

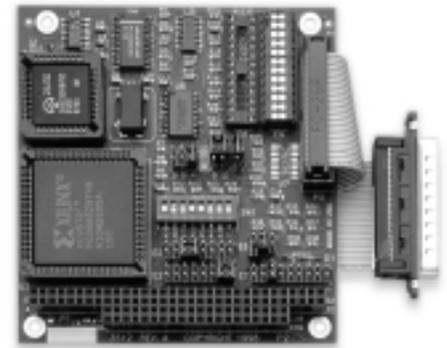
ORDERING INFORMATION

Description	Part No.	Price
Single Channel RS-232/422/485/530	3512	\$279.00
<u>Cable Option</u>		
DB25 Female to DB25 Male Cable (72 in.)	CA104	\$7.95
RS-530 to RS-449 (9 in.)	CA107	\$24.95
DB25 Terminal Block	TB04	\$29.95

* Contact Sealevel Systems' Technical Support for high-speed options or refer to the ACB Options page located at the end of the ACB section.

Unique Features

- 85230 Serial Communications Controller (ESCC)
- Higher speed ESCCs optional
- Various oscillators available for custom clock rates
- DMA supports data rate greater than 1 million bps
- Selectable port address, IRQ level (3-5, 7, 9-12 and 15) and DMA channel (0, 1, 2 or 3)
- OEM security feature for software protection
- RS-232 interface modem control signals supported: TD, RD, RTS, CTS, TXC, RXC, TSET, DTR, DSR, DCD
- RS-422/485/530 interface modem control signals supported: TD, RD, RTS, CTS, TXC, RXC, TSET, DTR
- Software programmable baud rate
- Software tool kit including Windows drivers, applications and sample source code provided
- DB-25P interface cable included, EIA-232/530 DTE pin-out
- PC/104 form factor (3.6" x 3.8")



Technical Specifications

ESCC85230-8
 Number of ports1
 Max. data rate1.8432M bps
 Max. data distanceUp to 4000 ft. @ 9600 bps
 RS-485 operationTwo or four wire
 Operating temperature ...-0-50° C
 Storage temperature-20-70° C
 Humidity range10-90% R.H.
 Power requirements+5V only operation
 Current specifications250mA (NMOS SCC)
130mA (CMOS SCC Option)
 Physical dimensions3.775" L x 3.550" H (9.588 x 9.017 cm)
 *Max. data rate dependent on CPU, cable length, etc.



ACB Options

Sealevel Systems Explains "SCCs and Oscillators"

Sealevel Systems ACB cards provide a versatile and flexible high-speed link from the PC to any Sync/Async device or connection. One feature that lends to the card's flexibility is the capability to utilize various serial communications controllers and oscillators to achieve a specific range of data rates. Each oscillator value provides more than 65,000 unique data rates that can be selected to fit the specific application. An example of the more popular combinations is shown below.*



High-Speed Options

Part No.	Description	Price
- B	8530-8	\$10.00
- C	85C30-8	\$12.00
- D	85C30-10	\$14.00
- E	85C30-16	\$20.00
- F	85230-16	\$25.00
- G	85230-20	\$30.00
- H	AM 85C30-16PC	\$20.00
- I	AM 85C30-8PC	\$20.00

Oscillators (in megahertz)

Part No./Speed	Price
OSC6.144	\$25.00
OSC11.0592	\$25.00
OSC14.31818	\$25.00
OSC14.7456	\$25.00
OSC16.000	\$25.00
OSC18.000	\$25.00
OSC18.432	\$25.00
OSC20.000	\$25.00

Cable Options

Part No.	Description	Price
CA104	DB25 Female to DB25 Male 72 in. long	\$7.95
CA107	DB25 Female to DB37 Male 9 in. long (RS-449 to RS-530 Adapter Cable)	\$24.95
CA134	DB15 Female to V.35 Connector 72 in. long	\$59.95
CA159	X.21 Cable (72 in.)	\$19.95
CA178	DB25 Female to V.35 Connector 72 in. long	\$39.95

By offering specific SCC and Oscillator upgrades, Sealevel Systems gives you the flexibility your applications need. Simply add the options to the end of your 4 digit part number and we'll handle the rest.

Note: The Mhz speed of the SCC must always be equal to or greater than the Mhz speed of the oscillator.

*Example:

4111-G-OSC20 - ACB 530 card (Part Number 4111) with a 85230-20Mhz SCC and a 20Mhz oscillator.



SEALEVEL

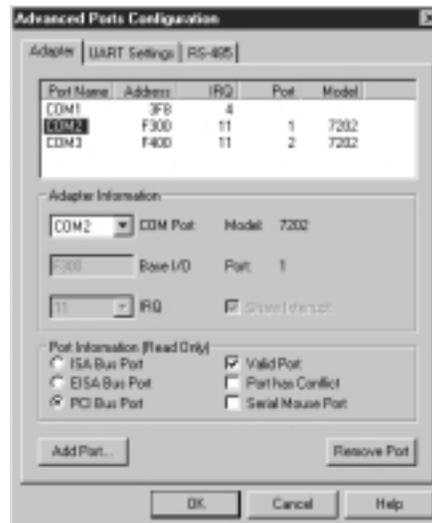
Sealevel Systems is committed to providing the most technologically advanced products available. To make each product as simple to integrate as possible, we are and will continue to develop and offer installation and configuration software to support today's mainstream operating systems.

Each Sealevel Systems product ships with a comprehensive utility suite providing drivers, setup files, samples, application notes and source code where applicable. For the most up to date software visit our website at www.sealevel.com.



Windows® NT/2000 Advanced COM: Driver

We've enhanced the Windows NT and 2000 drivers to provide enhanced features including Advanced UART Support and Auto RS-485 RTS Control. We've even added support for 9 bit data communications, Isochronous communications, and custom data rate selection preselector for use with the 16950 UART. Regardless of your operating system, Sealevel Software simplifies your installation.



Windows® 95/98/ME Advanced COM: Driver

We've enhanced the Windows 95/98/ME COM: driver to provide support for shared IRQs, advanced UARTs and Auto RS-485 RTS control. Now you can install a multi-port serial I/O adapter and assign all ports to a single IRQ without risking data loss. Take full advantage of advanced UARTs (16650 and higher). Our advanced UART tab allows detailed control of UART features not available in the standard Windows 95/98 COM: driver. We've even included Auto RS-485 RTS control for cards that do not have the ULTRA hardware circuit.



WinSSD — Windows® Serial Diagnostics

WinSSD is a Windows Serial Diagnostics Program that we designed specifically for UART based products which use 16x50 or 8250 compatible UARTs. Using WinSSD, the user can verify the board IRQ and address settings, modify the default UART parameters, perform external loopback tests, toggle/monitor modem control signals and transmit test pattern messages. WinSSD also allows terminal mode operations, bit error rate testing and throughput monitoring.



32-bit Windows® Serial Utility Software

Serial Driver/Utility/Diagnostic Software included with UART Cards

Description

The Sealevel Systems Windows Serial Utility Software provides the tools necessary for installing and verifying the operation of Sealevel Systems' UART based products within 32-bit Windows operating systems.

Distribution Information

One copy of the Windows Serial Utility Software is included with each Sealevel Systems Asynchronous serial I/O adapter purchased. The Windows Serial Utility Software has unlimited usage rights, provided a Sealevel Systems' hardware product is used.

Features

- Setup program to guide the user through installation
- Automatically launches INF files and setup utilities based on the product and bus



Windows® Utilities

- 2000 Device Manager Advanced Tab — allows control of Advanced UART and communication control settings.
- NT Advanced Ports Applet — Setup utility for configuring Sealevel Systems' single and multi-port UART based adapters.
- WinSSD — Windows serial diagnostics program for UART based products which use 16x50 or 8250 compatible UARTs. Using WinSSD the user can verify the presence of a specified COM: port and display the configuration of the device when the test was started.
- 98/ME/2000 Port Manager Utility — Shows all COM: ports installed on system, allows COM # to be changed, and allows custom USB data rates.

Drivers

- Windows 95/98/ME Advanced COM: Driver — Our Windows 95/98 Advanced COM: driver provides support for shared IRQs, advanced UARTs and Auto RS-485 RTS control. Take full advantage of advanced UARTs (16650 and higher). Our advanced UART tab allows detailed control of UART features not available in the standard Windows 95/98 COM: driver. We've even included

Auto RS-485 RTS control for cards that do not have the ULTRA hardware circuit.

- Windows NT/2000 Advanced COM: Driver — Our Advanced COM: driver provides support for our PCI serial I/O adapters, advanced UARTs and Auto RS-485 RTS control.



Take full advantage of advanced UARTs (16650 and higher). We've even included Auto RS-485 RTS control for cards that do not have the ULTRA hardware circuit and 16950 UART support for Isochronous communication 9 bit data and data rate prescaler.

LINUX, QNX, DOS and Windows® 3.1x

Serial Driver/Utility/Diagnostic Software included with UART Cards

Description

The Sealevel Systems Serial Utility Software provides the user with all of the tools necessary to verify the installation and operation of Sealevel Systems serial I/O products. In addition, numerous technical notes are provided from years of experience targeted at streamlining installation and operation.

Distribution Information

One copy of the Serial Utility Software is included with each Sealevel Systems Asynchronous serial I/O adapter purchased. The Serial Utility Software has unlimited usage rights, provided a Sealevel Systems' hardware product is used.

Features

Linux and QNX

- We include utilities for our PCI cards to simplify installation. Our ISA serial I/O cards are compatible "out of the box". We even provide step by step instructions to further simplify installation.

Windows Help Files

- Windows 3.1x Help File — Provides a step-by-step guide to installing and configuring serial ports in Windows 3.1x.

DOS Utilities

- SSD — Sealevel Systems Diagnostic. Using SSD, the user can verify the card address and confirm the presence of a UART at the specified address and display the configuration of the device when the test was started.

DOS and Windows 3.1x Drivers

- FindPCI — Identifies existing Sealevel Systems PCI adapters in a system and creates an ".ini" file for use by SetPCI in DOS and Windows 3.1x.
- SetPCI — Sets Sealevel Systems PCI adapters to specific I/O addresses for DOS and Windows 3.1x.
- SeaCOM — Interrupt driven DOS Serial Port Driver. SeaCOM is a BIOS extension and/or replacement that provides extended capabilities in the form of Block I/O and user configurable flow control support. SeaCOM also emulates standard BIOS interrupt calls.

PCMCIA Enablers, Utilities and

Diagnostic Programs

- PCSSD — PCMCIA diagnostic program that will display information regarding PCMCIA systems and installed PC Cards.

DOS



Application Notes

Information on installation and technical notes pertaining to DOS, Windows 3.1x, OS/2 and other operating systems.



Relay/Digital I/O Software

Each Sealevel Systems product ships with a comprehensive utility suite providing drivers, setup files, samples, application notes and source code where applicable. For the most up to date software visit our website at www.sealevel.com.



Seal/O Windows Drivers

The Seal/O software package is a Windows Developer's Toolkit for Sealevel Systems' Relay and Digital I/O products. This family of drivers has a common Seal/O API (Application Programmer Interface) that is implemented in a Windows Dynamic Link Library (DLL). This API gives programmers access to our products from multiple Windows-based development platforms such as Visual C++, Visual Basic and Delphi. Our goal is to provide the developer with a single, high-level programming interface that will function with a variety of hardware products across multiple operating systems.

Seal/O provides simple output capability to control individual relays or groups of relays. Seal/O also offers direct input and programmable timed monitoring of inputs with application event notification. This software package also includes sample application(s) with source code to shorten your development time.



Seal/O supports all Sealevel Systems PCI and ISA Digital I/O adapters. Seal/O can support up to 8 Relay and Digital I/O adapters.

Applications

- **VB Test** — VB Test is a 32 bit Visual Basic sample with GUI (Graphical User Interface). VB Test allows Windows control of individual and groups of relays. It offers timed relay activation and monitoring of inputs. VB Test demonstrates the use of the Seal/O API for Visual Basic developers.
- **Siocmd** — Siocmd allows easy integration of Seal/O functions into batch files.
- **Seaiotst** — Seaiotst is a Windows Console application. Allows the user to exercise the functionality of the driver.



Supported options include:

- Up to 32 Relay walk through
- Turn on all relays
- Turn off all relays
- Read inputs
- Notify on input change

Seal/O Help Files

Seal/O includes two help files to answer any questions that may arise regarding the drivers and applications.

- **Seao.hlp** — Is provided for operational support. Seao.hlp includes information on getting started, current Seal/O drivers, installation, configuration, hardware and software verification, Seal/O API (Application Programmers Interface), sample application(s) with source code and more.
- **Install.hlp** — Includes information regarding software updates, suggestion/feedback forms, bug reports and technical support contact numbers.



SYNCHRONOUS SOFTWARE

Each Sealevel Systems product ships with a comprehensive software suite providing drivers, setup files, samples, application notes and source code where applicable. For the most up-to-date software visit our website at www.sealevel.com.



SeaMAC

Sealevel Systems offers a family of developer oriented solutions for Windows known as SeaMAC (Sealevel Systems Media Access Control). This family of drivers has a common SeaMAC API (Application Programmer Interface) that is implemented in a Windows Dynamic Link Library (DLL). This API gives programmers access to our products from multiple Windows based development platforms such as Visual C++, Visual Basic and Delphi. Our goal is to provide the developer with a single, high-level programming interface that will function with a variety of Sealevel hardware products across several operating systems. Low level drivers communicating through the SeaMAC API provide data formats including SDLC/HDLC and ASYNC.

SeaMAC currently supports the Advanced Communication Board (ACB) family of Synchronous communication cards. The ACB family offers a Synchronous/Asynchronous communications port in most popular electrical interfaces, including RS-232, RS-422, RS-485, EIA-530, MIL-188 and CCITT-V.35



SeaMAC Applications

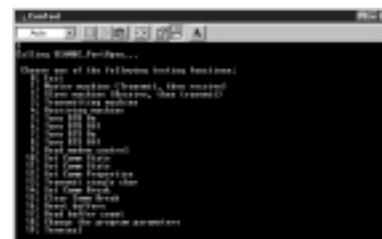
- **SeaBERT** — SeaBERT is a multi-threaded bit error rate test application for verifying communication channel performance. SeaBERT can be used in a loopback or point-to-point test configuration. This software tracks bit errors and Sync losses while displaying transmit and receive frame counts, the number of bytes verified and driver error statistics.
- **SeaTERM** — Binary and text file transfer application for use across Sync/Async communication links. Supports X-MODEM, X-MODEM 1K, Y-MODEM and Y-MODEM G transfer protocols. Fully supports testing of modem control signals.



- **ProTest** — Communications link monitor and analyzer software. Includes macro language support to control transmission and reception of Sync/Async data. Supports both ASCII and hexadecimal display of received data. Also supports several data logging options.

ConTest

- **ConTest** — ConTest is a Windows NT console application designed for testing all API calls to the SeaMAC driver family.



Description

The Windows toolkit includes SeaMAC (Sealevel Systems Media Access Control), our family of Windows drivers. SeaMAC drivers are implemented as either NT kernel mode drivers or Windows virtual device drivers (VxDs) which support the SeaMAC API (Application Programmer Interface).

Features

- Simple setup program for driver installation.
- Supports Sealevel Systems adapters.
- Drivers have a common SeaMAC API.
- Includes applications, sample source code and utilities.

SeaMAC Drivers

ACB Drivers

- Windows 98/ME/NT/2000 interrupt mode HDLC/SDLC — supports 3612 and 5102
- Windows NT HDLC/SDLC — This driver supports SDLC/HDLC packets for multiple channels on ACB adapters.
- Windows NT Async — Async530 is a high-speed Windows NT Asynchronous driver.
- Windows 3.1x/95/98 HDLC/SDLC — HDLC530 is a Windows 3.1x/95/98 SDLC/HDLC packet driver.

Route 56 Drivers

- Windows NT HDLC/SDLC — HDLCC32 is a configurable HDLC driver for the high-speed Route 56.PCI adapter (Part No. 5101).

Windows Drivers, Applications and Utilities

Applications

- SeaBERT — SeaBERT is a multithreaded bit error rate test application for verifying communication channel performance.
- SeaTERM — Binary and text file transfer application for use across Sync/Async communication links. Supports X-MODEM, X-MODEM 1K, Y-MODEM and Y-MODEM G transfer protocols. Fully supports testing of modem control signals.
- ProTest — Communications link monitor and analyzer software. Includes macro language support to control transmission and reception of Sync/Async data.

Sample Applications With Source

- ConTest — ConTest is a Windows console application designed for testing all calls to the driver.
- MFCTerm — MFCTerm includes source code for the SeaTerm 32-bit sample application without the file transfer protocol support.
- VBTerm — VBTerm is a simple terminal program that was taken from the VBTerm example shipped with Visual Basic 4.0.
- Ex1 — Ex1 is a simple 16-bit terminal program which transmits characters typed on the keyboard and displays received data in a text window.



Utilities

- SeaMAC Control Panel Utility — This utility is used for customizing each SeaMAC driver's registry entries (Windows NT) or SYSTEM."INI" settings (Windows 95/98) for particular operating conditions.



DOS ACB Developer's Toolkit

Diagnostic Software/Drivers for DOS

Description

The Sealevel Systems ACB Developer's Toolkit provides the developer with programming samples and technical insight to aid in the development of reliable applications and device drivers for the ACB family of communication adapters.

Features

Utilities

- SSDACB — Diagnostic program for ACB family products which use 85x30 compatible SCCs. SSDACB provides the following tests: Internal and External Loop-back, IRQ, Modem Control Signals, Default Communication Parameters and Terminal Mode operation.
- TDMA — Test DMA on any Advanced Communication Board that supports Direct Memory Access transfers.
- ACBBAUD — Utility program that will calculate baud divisors for the Zilog 85x30 Serial Communications Controller (SCC).
- ACBOSC — Utility program that will determine suitable oscillator values to produce a given baud rate for the Zilog 85x30 Serial Communications Controller (SCC).

Drivers

- SeaMAC for DOS — DOS HDLC/SDLC Packet Driver. SeaMAC for DOS provides fully buffered input and output to Synchronous serial communication ports.
- ComSync for DOS — DOS Async/Clocked Async INT 14h COM: Driver replacement. Comsync for DOS provides fully buffered input and output to Synchronous serial communication ports.

PCMCIA — Enablers, utilities and diagnostic programs for PC Cards

- PCSSD — PCMCIA diagnostic program that will display information regarding PCMCIA systems and installed PC Cards. Card and Socket Services must be loaded before this program is executed.
- SeaPC — PCMCIA Version 2.0 compliant DOS client that will enable the selected PC Card's I/O address and IRQ when inserted.
- SSEnable — PCMCIA utility that will allow the use of a Sealevel Systems PC Card without loading card and socket services.



Application Notes

Information on programming issues and technical notes pertaining to the Zilog 85x30 SCC.

Source Code Samples and ACB runtime library

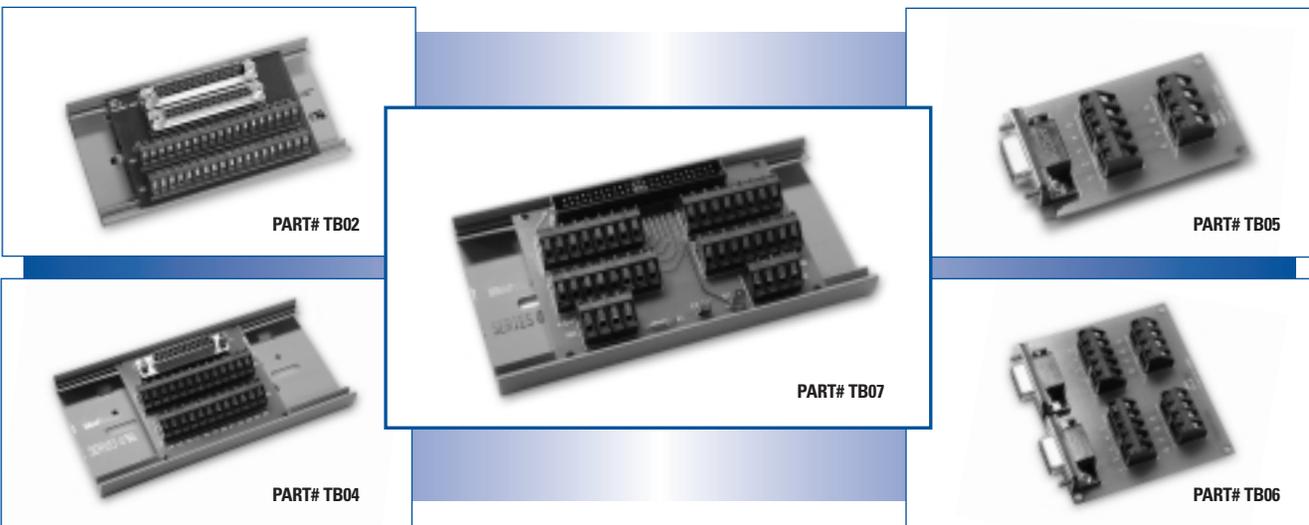
Sample Source is included royalty free to aid development. The runtime library includes the following: ACB I/O routines, interrupt driven programming routines, Direct Memory Access (DMA) routines and buffer routines.



Terminal Blocks

Sealevel Terminal Blocks are designed to simplify wiring connections for Digital and Serial I/O connections. We also provide superior quality cables with foil shielding. Terminal Block Kits include terminal block, snap track, cable and other accessories.

PART#	DESCRIPTION	LENGTH	PRICE
TB02	DB37M/F Term.Block	4"	▶ \$39.95
TB03	DB37F/50 Pin Header (8001)	4"	▶ \$29.95
TB04	DB25F/25 Screw Terminals	4"	▶ \$29.95
TB05	DB9F/9 Screw Terminals	2"	▶ \$19.95
TB06	Dual DB9F/18 Screw Terminals	2"	▶ \$24.95
TB07	50 Pin/32 Screw Terminals	2"	▶ \$39.95
TB08	8011 Terminal Block	4"	▶ \$39.95



Terminal Block Kits

PART#	DESCRIPTION	LENGTH	PRICE
KT101	TB02 & CA112	72" cable	▶ \$48.95
KT102	TB03 & CA135	40" cable	▶ \$38.95
KT103	TB03 & CA167	40" cable	▶ \$38.95
KT104	TB04 & CA104	72" cable	▶ \$36.95
KT105	TB05 & CA127	72" cable	▶ \$28.95
KT106	TB06 & (2)CA127	72" cables	▶ \$43.95
KT107	TB07 & CA167	40" cable	▶ \$48.95
KT108	TB08 & CA185 Kit	72" cable	▶ \$58.95
KT109	(2) TB02 & CA184 Kit	72" cable	▶ \$99.95

Terminal Block Cables and Accessories

PART#	DESCRIPTION	LENGTH	PRICE
CA112	DB37M/F Straight Thru	72"	▶ \$9.95
CA135	IDC <=> Edge 50 Pin Ribbon	40"	▶ \$9.95
CA167	IDC <=> IDC 50 Pin Ribbon	40"	▶ \$9.95
ST101	Snap Track with Slots	6"	▶ \$5.95
STDIN	Snap Track to Din Rail Mounting Clip (use 2 per 6" run)		▶ \$2.95 ea.

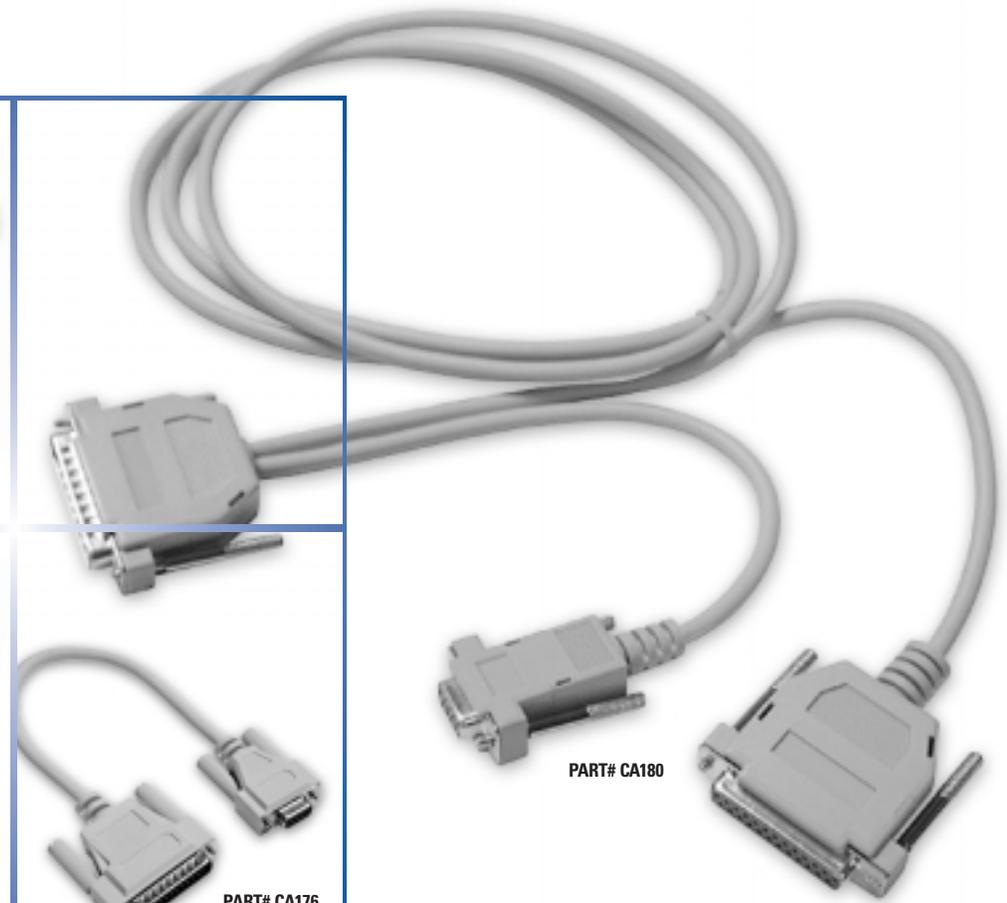
• TB02, TB03, TB04, TB07, TB08, KT101, KT102, KT103, KT104, KT107, KT108 and KT109 include ST101 - 6" snap track and two STDIN clips.

Serial Cables

Sealevel Systems provides specialized cable options for RS-232 and RS-422/485 Serial I/O adapters. Sealevel offers standard cables, converters and custom pinned solutions for all your connectivity needs.

PART#	DESCRIPTION	LENGTH	PRICE
Standard Cables			
CA104	DB25M/F Straight Thru	72"	▶ \$7.95
CA127	DB9M/F Straight Thru	72"	▶ \$9.95
CA140	DB25F/9M Adapter	2"	▶ \$2.95
CA177	DB9F/25M Modem Cable	72"	▶ \$7.95
CA179	USB A <=> B Cable	72"	▶ \$7.95
CA180	Y Cable DB25M <=> 9F/25F	72"	▶ \$9.95
CA181	RJ45 CAT5 Cable	84"	▶ \$7.95

PART#	DESCRIPTION	LENGTH	PRICE
RS-422/530, V.35 and X.21 Cables			
CA107	DB25F <=> 37M (RS530 to RS449)	72"	▶ \$24.95
CA112	DB37M/F Straight Thru	72"	▶ \$9.95
CA113	DB37F/F Straight Thru	72"	▶ \$9.95
CA174	DB25F/M (RS-530)	72"	▶ \$19.95
CA175	DB25F <=> 9M (DB9 RS-422 Pinout)	12"	▶ \$9.95
CA176	DB9F <=> 25M (DB9 to RS-530)	12"	▶ \$9.95
CA159	DB25F <=> 15M (X.21 Sync/Async)	72"	▶ \$19.95
CA178	DB25F <=> V.35 (V.35 Sync/Async)	72"	▶ \$39.95



Adapters and Converters

Adapters, converters and replacement/optional cables are available to suit application requirements.



PART#	DESCRIPTION	PRICE
RJ9P8	DB9M <=> RJ45 Modular Adapter	\$3.95
RJ9S8	DB9F <=> RJ45 Modular Adapter	\$3.95
RJ15P8	DB15M <=> RJ45 Modular Adapter	\$3.95
RJ15S8	DB15F <=> RJ45 Modular Adapter	\$3.95
RJ25P8	DB25M <=> RJ45 Modular Adapter	\$3.95
RJ25S8	DB25M <=> RJ45 Modular Adapter	\$3.95
DB101	Universal DB Converter Kit - Includes (1) DB9M, (1) DB9F, (1) DB25M, (1) DB25F, 8 each M/M, M/F, F/F wires, pin extraction tool, and (2) connector hoods	\$24.95
DB102	DB9 M/F, DB25M/F Modular connectors and CA181 RJ45 CAT5 Cable	\$14.95

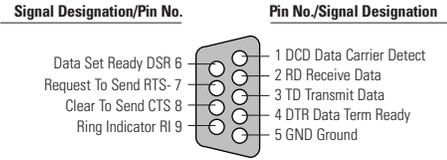
Replacement/Optional Cables

PART#	DESCRIPTION	LENGTH	PRICE
CA105	DB37F <=> (4) 25M (3405, 7401)	36"	\$21.95
CA108	DB37F <=> IDC17 (3098)	6"	\$14.95
CA111	DB37M <=> IDC20 (3093, 4031)	12"	\$9.95
CA119	DB25M <=> IDC13 (4010, 4111, 3512)	12"	\$9.95
CA139	DB78M <=> (8) 25M (3420, 7801)	36"	\$35.95
CA143	DB37F <=> (4) 9M (3440, 7402, 7404)	36"	\$21.95
CA145	DB78M <=> (8) 9M (3420, 7801)	36"	\$35.95
CA162	PCMCIA Dual DB9M (3622)	12"	\$29.95
CA164	PCMCIA DB25M (3602, 3603, 3612)	12"	\$29.95
CA165	DB78M <=> 37M/F (8004)	72"	\$44.95
CA172	DB78M <=> (2) 37F AB/AB (8007)	72"	\$44.95
CA173	DB78M <=> (2) 37F A-side/B-side (8007)	72"	\$44.95
CA184	DB44M <=> (2) 37 M/F (8011)	72"	\$29.95
CA185	DB44M <=> DB44F (8011)		\$19.95

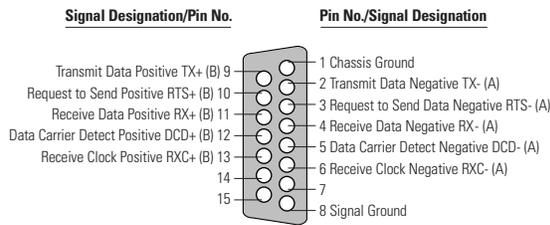
Sealevel Systems' RS-422 pinout for the DB-9 has been incorporated by many adapter manufacturers over the past years. We've included it here as a reference, along with some other more common interface pinouts that are available.



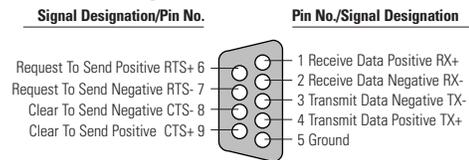
RS-232 Interface (DB9)



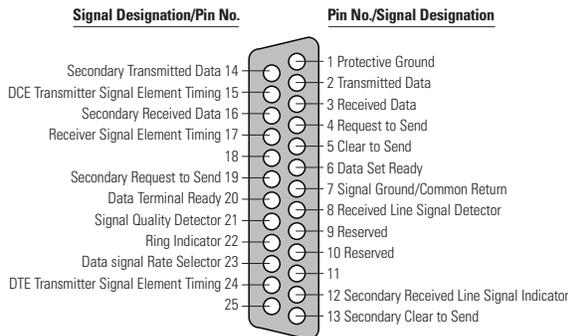
X.21 Interface (DB15)



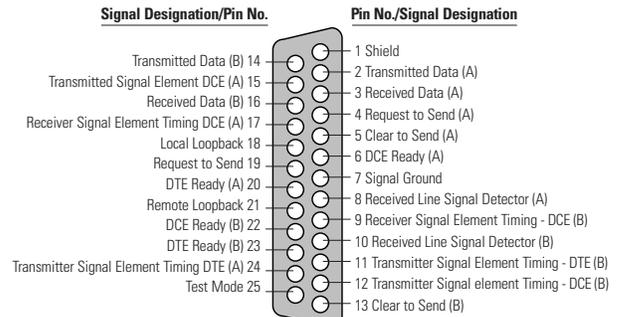
Sealevel Systems RS-422 Interface (DB9)



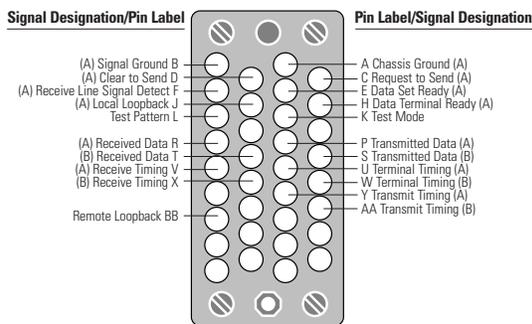
RS-232 Interface (DB25)



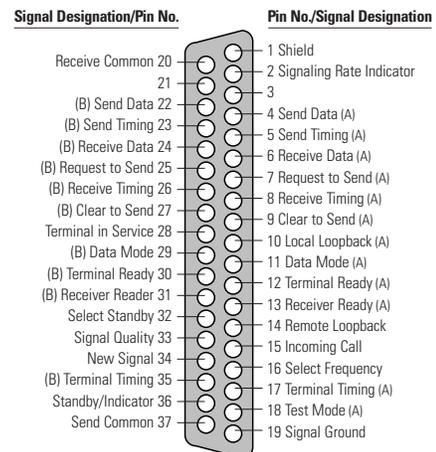
RS-530 Interface (DB25)



V.35 Interface



RS-449 Interface (DB37)



Description	Product Name	Part No.	Price	Page
Serial I/O				
PCI 1 Port RS-232 Interface	COMM+850.PCI	7104	\$129.00	3
PCI 1 Port RS-422/485/530 Interface	ULTRA 485.PCI	7105	\$159.00	12
PCI 1 Port RS-232/422/485/530 Interface	ULTRA 530.PCI	7101	\$169.00	18
PCI Isolated 1 Port RS-232/422/485 Interface	ISO COMM1.PCI	7103	\$229.00	21
PCI 2 Port RS-232 Interface	COMM+232.PCI	7202	\$149.00	3
PCI 2 Port RS-232/422/485 Interface	ULTRA COMM+2.PCI	7201	\$279.00	18
PCI Isolated 2 Port RS-232/422/485 Interface	ISO COMM2.PCI	7203	\$329.00	22
PCI 4 Port RS-232 Interface	VERSA COMM+ 4.PCI	7401	\$249.00	4
PCI 4 Port RS-422/485 Interface	ULTRA COMM+ 422.PCI	7402	\$339.00	12
PCI 4 Port RS-232/422/485 Interface	COMM+4.PCI	7404	\$399.00	19
PCI 8 Port RS-232 Interface	COMM+8.PCI	7801	\$409.00	4
USB 1 Port RS-232 Adapter	SeaLINK+232	2101	\$99.00	5
USB 1 Port RS-422/485/530 Adapter	SeaLINK+485	2102	\$129.00	13
USB 2 Port RS-232 Adapter	SeaPORT+2/232	2201	\$249.00	5
USB 2 Port RS-422/485 Adapter	SeaPORT+2/485	2202	\$279.00	13
USB 2 Port RS-232/422/485 Adapter	SeaPORT+2	2203	\$299.00	19
USB 4 Port RS-232 Adapter	SeaPORT+4/232	2401	\$339.00	5
USB 4 Port RS-422/485 Adapter	SeaPORT+4/485	2402	\$369.00	13
USB 4 Port RS-232/422/485 Adapter	SeaPORT+4	2403	\$389.00	19
ISA 1 Port RS-422/485 Interface	ULTRA 485	3055	\$149.00	14
ISA 2 Port RS-232 Interface	DUOCOM:	3088	\$89.00	6
ISA 2 Port High-Speed RS-232 Interface	DataShark™	3188	\$99.00	6
ISA 2 Port Non Isolated RS-422/485 Interface	ULTRA SIO	3089	\$219.00	22
ISA 2 Port Isolated RS-422/485 Interface	ULTRA SIO	3189	\$289.00	22
ISA 2 Port RS-232/422/485 Interface	COMM+2/EX	3087	\$199.00	20
ISA 4 Port RS-232 Interface	VERSA COMM+4/EX	3405	\$199.00	7
ISA 4 Port Automatic RS-422/485 Interface	ULTRA COMM+422	3440	\$319.00	14
ISA 8 Port RS-232 Interface	COMM+8	3420	\$399.00	7
PCMCIA 1 Port RS-232 Card	PC-SIO-232	3603	\$199.00	8
PCMCIA1 Port RS-530/422/485 Card	Ultra PC-SIO-485	3602	\$199.00	15
PCMCIA 2 Port RS-232 Card	PC-COMM+232	3622	\$299.00	8
PC/104 1 Port RS-232 Module	SIO-104	3501	\$149.00	9
PC/104 1 Port RS-422/485 Module	SIO-104	3500	\$149.00	16
PC/104 4 Port RS-232 Module	C4-104	3521	\$249.00	9
PC/104 4 Port RS-422/485 Module	C4-104	3520	\$249.00	16
PC/104 4 Port Dual Mode Operation Module	C4-104	3522	\$259.00	20
RS-232 to RS-422/485 Interface Converter	IC485	1101	\$99.00	11

Description	Product Name	Part No.	Price	Page
Digital I/O				
PCI 8 input/8 Relay Output Digital I/O Interface	DIO-16.PCI	8002	\$239.00	25
PCI 8 input/8 Form C Relay Output Digital I/O Interface	PLC-16.PCI	8011	\$249.00	25
PCI 16 input/16 Relay Output Digital I/O Interface	DIO-32.PCI	8004	\$399.00	26
PCI 16 Relay Output Digital I/O Interface	REL-16.PCI	8003	\$259.00	26
PCI 16 Optically Isolated Input Digital I/O Interface	ISO-16.PCI	8006	\$219.00	27
PCI 32 Relay Output Digital I/O Interface	REL-32.PCI	8007	\$469.00	27
PCI 24 Channel Digital I/O Interface	PIO-24.PCI	8008	\$159.00	24
PCI 32 Channel Digital I/O Interface	PIO-32.PCI	8010	\$179.00	24
PCI 48 Channel Digital I/O Interface	PIO-48.PCI	8005	\$199.00	24
PCI 96 Channel Digital I/O Interface	PIO-96.PCI	8009	\$299.00	24
USB 48 Channel Digital I/O Adapter	SeaPORT PIO-48	8203	\$319.00	28
USB 96 Channel Digital I/O Adapter	SeaPORT PIO-96	8205	\$359.00	28
ISA 8 Input/8 Relay Output Digital I/O Interface	DIO-16	3096	\$179.00	30
ISA 16 Input/16 Relay Output Digital I/O Interface	DIO-32B	3093	\$339.00	30
ISA 16 Isolated Input Digital I/O Interface	ISO-16	3094	\$149.00	31
ISA 16 Relay Output Digital I/O Interface	REL-16	3095	\$189.00	31
ISA 32 Switched Relay Output Digital I/O Interface	REL-32	3098	\$389.00	31
ISA 48 Channel Digital I/O Interface	PIO-48	4030	\$109.00	29
ISA PIO-48 with (2) 6 in. DB-37P Cables Interface	PIO-48	4031	\$129.00	29
Synchronous I/O				
PCI 1 Channel Multi-Protocol High-Speed WAN Interface	ROUTE 56.PCI	5101	\$499.00	33
PCI 1 Channel RS-232/422/485/449/530/V.35 Interface	ACB MP.PCI	5102	\$309.00	33
ISA 1 Channel High-Speed Sync/Async RS-232/V.35 with RS-232 Async CSU/DSU Interface	ACB 56	4021	\$199.00	34
ISA 1 Channel High-Speed Sync/Async RS-232 Serial Interface	ACB-II/EX	4061-232	\$169.00	35
ISA 1 Channel High-Speed Sync/Async RS-232/422/485/530 Serial Interface	ACB-II/EX	4061	\$199.00	35
ISA 2 Channel High-Speed Sync/Async RS-232 Serial Interface	ACB-III	4010	\$299.00	35
ISA 2 Channel High-Speed Sync/Async RS-530/422/485 Serial Interface	ACB 530	4111	\$319.00	36
ISA 2 Channel V.35 (6ft Cable Included) Serial Interface	ACB-V	4012	\$379.00	35
PCMCIA 1 Port RS-232/422/485/530/V.35 Synchronous Type II Card	PC-ACB-MP	3612	\$339.00	34
PC/104 1 Channel High-Speed Sync/Async RS-232/422/485/530 Serial Module	ACB-104	3512	\$279.00	36

Ordering Information

How To Order

The Sealevel Systems order desk is open from 8:00am to 5:00pm (Eastern Time), Monday through Friday. To facilitate your order and to avoid any undue delay please include the following information:

1. Purchase Order Number
2. Credit Card #, Expiration date and type of card
3. Tax I.D. if Applicable
4. Company Name
5. Telephone Number
6. Shipping Address
7. Billing Address
8. Part Number and Quantity
9. Price

Phone Orders:

Call (864) 843-4343

Fax Orders:

Fax (864) 843-3067

Mail Orders:

Sealevel Systems, Inc.
Attn. Order Desk
155 Technology Place
P.O. Box 830
Liberty, SC 29657 U.S.A.

Special Purchase

Please let us know if your purchase is for OEM, government, resale or educational purposes. You may qualify for special pricing.

Shipping Information

Most orders are shipped the same day (if order placed by 2:00pm). Lead time on shipments can range from stock to 6 weeks depending on quantity.

A variety of shipping methods can be requested. UPS Ground insured is the standard method of shipment while UPS 3 day, 2 day or overnight, and FEDERAL EXPRESS Economy, Standard or priority can also be specified. Saturday delivery is also available by both UPS and FEDERAL EXPRESS.

All shipments are FOB Liberty, SC.

100% Satisfaction

If you are not completely satisfied with your products you may return them for a full refund, exchange or credit within 30 days of original purchase. Returns after 30 days will be charged a 20% restocking fee. Sealevel Systems will not accept returns under the following conditions:

1. Modified products (factory or user modified)
2. Damaged products due to user negligence, misuse, modification, accident or disaster.
3. Large volume or custom order situations. Sealevel Systems assumes that you have evaluated the products for suitability.

Lifetime Warranty

Sealevel Systems warrants its products to be in working order for the life of the product. Should a product fail to be in working order at any time, Sealevel Systems will, at its option, repair or replace the product at no additional charge except as set forth in the following terms. This warranty does not apply to products damaged by misuse, modification, accident or disaster. By using our products, the customer agrees that Sealevel's liability will be limited to replacement of the product or replacement value of the product to be solely determined by Sealevel Systems, Inc.

Returns

Any and all products returned to Sealevel Systems for any reason must be accompanied by a RETURN MERCHANDISE AUTHORIZATION (RMA) NUMBER. To obtain this number please call (864) 843-4343 and request a RMA number. You may be advised to speak with a technician to verify that a RMA is required. Please have the following information on hand when requesting your RMA number:

1. Part Number of the product
2. Reason for the return
3. Name and Phone Number of person requesting RMA

Out-of-warranty repairs will be billed for parts, labor and shipping.

Prices/Design

The prices and specifications in this catalog are subject to change without notice. We welcome you to call our "Order Desk" to obtain current pricing or a written quotation.

Due to our efforts to constantly provide the highest quality and the most technologically advanced communications products possible, some items may differ slightly from their catalog description.

Quotations

Quotes will be valid for a period of 90 days from issuance. Prices apply to written purchase orders only. The FOB point is Liberty, SC.

Terms/Payment

Subject to credit approval, net accounts can be established simply by completing and faxing our Short Credit Application form or, by e-mailing credit@sealevel.com or, by faxing your company credit information to (864) 843-3067. Accounts will be verified and confirmed within 48 hours, if possible.*Other acceptable forms of payment include:

1. Company Check (prepaid)
2. C.O.D. Company Check
3. C.O.D. Cashier's Check
4. Money Order
5. Wire Transfers
6. VISA
7. MASTERCARD
8. AMERICAN EXPRESS

International orders can be transacted using the following forms of payment in US dollars:

1. Check (drawn on US bank)
2. Prepayment
3. Wire Transfers
4. VISA
5. MASTERCARD
6. Letter of Credit (US Bank)



*Terms are net 30 days from date of invoice. A 2% per month service charge will be added to all amounts over 30 days.

SEALEVEL®
SYSTEMS INCORPORATED



Sealevel Systems Incorporated ▶ 155 Technology Place ▶ PO Box 830 Liberty, South Carolina 29657 USA
Tel: 864.843.4343 Fax: 864.843.3067 www.sealevel.com