# SEALEVEL I/O FAMILY

# 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.



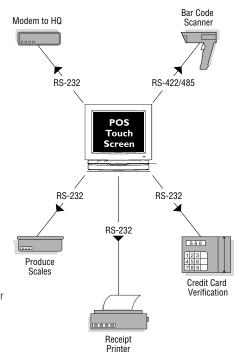
When you see this logo, it indicates that this product features the highest performance UART available **standard**.

### Features

- Each port designed to maximize communications performance
- 16550 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**

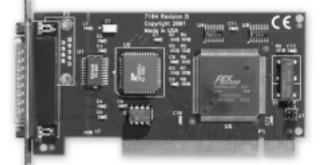
- Point of Sale (POS) interface to bar code readers, scales, scanners, terminals and other peripheral devices.
- Communication server COM: ports
- High-speed ISDN T/A Interface
- Thin client/network computer/multi-user ports
- Interface to printers, plotters, modems, etc.
- Data entry terminals





# COMM+850.PCI

The COMM+850.PCI provides a single PCI bus RS-232 serial port for applications requiring high quality serial communications. Regardless of whether you are connecting to a modem, ISDN terminal adapter, industrial device or OEM equipment, the COMM+850.PCI will provide the speed and power that your application requires.



# Unique Features

- **16850** buffered UART standard with deep 128 byte FIFO supporting PC data rates up to 460.8K bps
- DB9 connector available as OEM option
- 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 16850
Number of ports 1
Max. data rate
Max. data distanceup to 50 ft.
Operating temperature0-50° C
Storage temperature20-70° C
Humidity range
Current specifications+5V @ 300mA,
<u>+</u> 12V @ 50mA,
Connector(s)
Physical dimensions 4.9" L x 2.6" H (12.45 x 6.60 cm)

ORDERING INFORM	ATION	
Description	Part No.	Price
1 Port RS-232	7104	\$129.00
Cable Options		
DB25F/25M Cable	CA104	\$7.95
DB25F/9M Adapter	CA140	\$2.95





# PCI 2 Port RS-232 Interface

# COMM+232.PCI

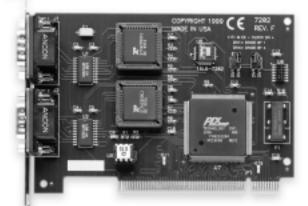
The COMM+232.PCI provides two RS-232 serial ports for interfacing to modems, bar code readers, scanners, terminals and other serial devices.

# **Unique Features**

- Onboard interrupt status port maximizes interrupt sharing efficiency
- Supports standard 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.

ORDERING INFORMATION		
Description	Part No.	Price
2 Port RS-232	7202	\$149.00
w/16850 UART	7202-SE	\$169.00
Cable Options DB9F/25M Modem Cable DB9F/9M Cable	CA177 CA127	\$7.95 \$9.95





# **Technical Specifications**

Communications chip16550
Number of ports2
Max. data rate
Max. data distanceup to 50 ft.
Operating temperature0-50° C
Storage temperature20-70° C
Humidity range
Current specifications+5V @ 240mA,
+12V @ 30mA, -12V @ 50mA
Connector(s)(2) DB9P
Physical dimensions5.0" L x 4.2" H (12.70 x 10.67 cm)



# **UERSA COMM+4.PCI**

The VERSA COMM+4.PCI provides four RS-232 Async links for communication servers, Point Of Sale (POS) systems and other data collection devices.

# Unique Features

- Onboard interrupt status port maximizes interrupt sharing efficiency
- Supports standard 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.
- DB25 and DB9 cable options available

# PCI 8 Port RS-232 Interface

### COMM+8.PCI

The COMM+8.PCI provides eight RS-232 Async links for communication servers, terminals, Point Of Sale (POS) systems and other data collection devices.

# **Unique Features**

- Onboard interrupt status port maximizes interrupt sharing efficiency
- Supports standard 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.
- DB25 and DB9 cable options available

ORDERING INFORMATI	ON	
Description	Part No.	Price
8 Port RS-232 (DB25 Cable Included)	7801	\$409.00
8 Port RS-232 (DB9 Cable Included)	7801-DB9	\$409.00
w/16850 UART	7801-SE	\$449.00
Cable Options DB25F/25M Cable DB9F/25M Modem Cable DB9F/9M Cable	CA104 CA177 CA127	\$7.95 \$7.95 \$9.95



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# **Technical Specifications**

Communications chip 16554
Number of ports4
Max. data rate
Max. data distance up to 50 ft.
Operating temperature0-50° C
Storage temperature20-70° C
Humidity range
Current specifications+5V @ 240mA,
+12V @ 60mA, -12V @ 50mA
Connector(s)
Cable length
Physical dimensions 4.9" L x 3.3" H (12.45 x 8.68 cm)

ORDERING INFORMATI	ON	
Description	Part No.	Price
4 Port RS-232 (DB25 Cable Included)	7401	\$249.00
4 Port RS-232 (DB9 Cable Included)	7401-DB9	\$249.00
w/16850 UART	7401-SE	\$269.00
Cable Options DB25F/25M Cable DB9F/25M Modem Cable DB9F/9M Cable	CA104 CA177 CA127	\$7.95 \$7.95 \$9.95





# USB 1 Port RS-232 Adapter

### SeaLINK+232<sup>m</sup>

Our New SeaLINK<sup>™</sup> USB serial I/O adapter provides a single USB to RS-232 serial port allowing USB connectivity to legacy and non-USB compliant devices. Now your non-USB peripherals can have the same connection simplicity and ease of use as USB-aware peripherals. Our 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
- "Hot swapping"/ Auto configuration
- High speed UART standard with 128 byte TX FIFO and 384 byte RX FIFO supporting standard PC data rates up to 460.8K bps
- 6ft. high-quality USB cable and loopback plug included
- Includes DB25F to DB9M adapter
- Includes advanced COM: drivers, utilities, INF files and help files to simplify installation in Windows 98/ME/2000, Linux and Macintosh O/S

ION	
Part No.	Price
2101	\$99.00
CA104	\$7.95
CA179	\$7.95
CA180	\$9.95
.)	
	<b>Part No.</b> 2101 CA104 CA179

# USB 2 and 4 Port RS-232 Adapters

### SeaPORT+2/232" and SeaPORT+4/232"

Sealevel SeaPORT<sup>\*\*</sup> USB serial I/O products provide two or four USB to RS-232 ports for Point of Sale (POS), Remote Access Services (RAS) and Factory Automation/Process Control Applications. Our SeaPORT products 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 supporting standard PC data rates up to 460.8K 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



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PRODUCT



# **Technical Specifications**

Communications chip USB/UART ASIC
Number of ports1
Max. data rate
Max. data distanceup to 50 ft.
Operating temperature0-50° C
Storage temperature20-70° C
Humidity range
Power specifications From USB cable
Connector(s)(1) DB25P (Male)
DB25 to DB9 adapter included
Physical dimensions3.8" L x 2.3" W x 1.0" H
(9.65 x 5.84 x 2.54 cm)

# **Technical Specifications**

Communications chip USB/UART ASIC
Number of ports 2/4
Max. data rate
Max. data distance up to 50 ft.
Operating temperature 0-50° C
Storage temperature20-70° C
Humidity range 10-90% R.H.
Power specifications From USB cable
Connector(s) (2) or (4) DB9P (Male)
Physical dimensions 7.0" L x 5.25" W x 1.5" H
(17.78 x 13.34 x 3.81 cm)

ORDERING INFORMATI	ON	
Description	Part No.	Price
2 Port RS-232 4 Port RS-232	2201 2401	\$249.00 \$339.00
<u>Cable Options</u> DB9F/25M Modem Cable 6ft.USB A to B Cable	CA177 CA179	\$7.95 \$7.95
DB25 to DB25/DB9 Cable (Multiheaded Y-cable 6ft.)	CA180	\$9.95

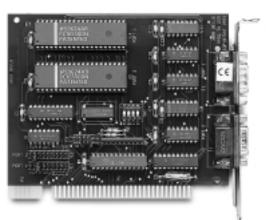




SEALEVEL SYSTEMS INCORPORATED

### 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 chip 16550
Number of ports
Max. data rate
Max. data distanceup to 50 ft.
Operating temperature0-50° C
Storage temperature20-70° C
Humidity range
Current specifications+5V @ 160mA,
±12V @ 50mA ea.
Connector(s)
Physical dimensions

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

### Sealevel Systems Explains

#### "Advanced UARTs"

#### Ουειυίεω

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-theshelf 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 handshaking (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.

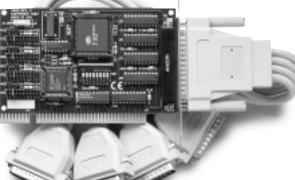
### **UART Reference Table**

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

# ISA 4 Port RS-232 Interface

### **UERSA COMM+4/EX**

The VERSA COMM+4/EX provides four RS-232 Async links for communication servers, Point Of Sale (POS) systems and other data collection devices.



# Unique Features

- · Flexible address selection via dip-switch
- Ten interrupt selections including (3-7, 9-12 and 15)
- Supports standard PC data rates up to 460.8K bps
- Supports Windows, Linux, QNX, DOS and other operating systems.

# ISA 8 Port RS-232 Interface

### COMM+8

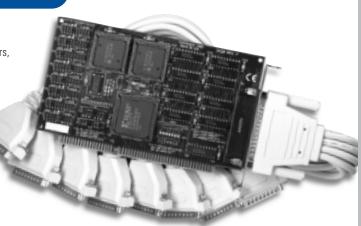
The COMM+8 provides eight RS-232 Async links for communication servers, terminals, Point Of Sale (POS) systems and other data collection devices.

# **Unique Features**

- The ISA 8 Port RS-232 Interface occupies 64 consecutive I/O locations user selectable as: consecutive with DIP-switch or customizable with PAL option
- Shareable IRQ level (2-5, 7, 10-12 and 15)
- Supports standard PC data rates up to 460.8K bps
- Supports Windows, Linux, QNX, DOS and other operating systems.

ORDERING INFORMATION			
Description	Part No.	Price	
8 Port RS-232 (DB25 Cable Included)	3420	\$399.00	
8 Port RS-232 (DB9 Cable Included)	3420-DB9	\$399.00	
w/16850 UART	3420-SE	\$439.00	
<u>Cable Options</u> DB25F/25M Cable DB9F/25M Modem Cable DB9F/9M Cable	CA104 CA177 CA127	\$7.95 \$7.95 \$9.95	





Communications chip......16550

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# **Technical Specifications**



Number of ports.... .8 Max. data rate ... .460K Max. data distance...... .up to 50 ft. Operating temperature.....0-50° C Storage temperature.....-20-70° C ..10-90% R.H. Humidity range..... Current specifications......+5V @ 240mA, +12V @ 30mA, -12V @ 50mA .Onboard DB78 to (8) DB25P Connector(s) Physical dimensions......7.0" L x 4.2" H (17.78 x 10.66 cm)

**Technical Specifications** 

Communications chip16554
Number of ports4
Max. data rate
Max. data distance up to 50 ft.
Operating temperature0-50° C
Storage temperature20-70° C
Humidity range
Current specifications +5V @ 210mA,
±12V @ 80mA ea.
Connector(s)
Cable length
Physical dimensions 4.9" L x 3.3" H (12.45 x 8.68 cm)

ORDERING INFORMATION			
Description	Part No.	Price	
4 Port RS-232 (DB25 Cable Included)	3405	\$199.00	
4 Port RS-232 (DB9 Cable Included)	3405-DB9	\$199.00	
w/16850 UART	3405-SE	\$219.00	
Cable Options DB25F/25M Cable DB9F/25M Modem Cable DB9F/9M Cable	CA104 CA177 CA127	\$7.95 \$7.95 \$9.95	

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### PC-SI0-232

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



### **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 temperature20-70° 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

Car

**P**C Card

### 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

# PCMCIA 2 Port RS-232 Card

PRODUCT

# 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.

ORDERING INFORMATION

Part No. Price

\$299.00

3622

Description

2 Port RS-232

# **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
Max. data rate
Max. data distance up to 50 ft.
Operating temperature0-50° C
Storage temperature20-70° C
Humidity range
Current specifications+5V @ 25mA
Connector(s) (2) DB9P
Physical dimensions Type II PC Card



### PC/104 Serial 1/0

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 chipby-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.

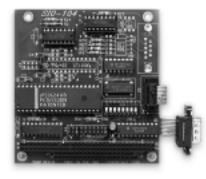
#### **SIO-104**

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





### Technical Specifications

Communications chip 16550
Number of ports1
Max. data rate
Max. data distance Up to 50ft.
Operating temperature0-50° C
Storage temperature20-70° C
Humidity range
Power requirements+5V only operation
Current specifications60mA
Physical dimensions

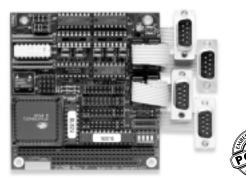


ORDERING INFORMATION			
Part No.	Price		
3501	\$149.00		
CA127	\$9.95		
	<b>Part No.</b> 3501		

# PC/IO4 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



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# **Technical Specifications**

Communications chip16554
Number of ports
Max. data rate
Max. data distance Up to 50ft.
Operating temperature 0-50° C
Storage temperature20-70° C
Humidity range
Power requirements+5V only operation
Current specifications130mA
Physical dimensions 3.775" L x 3.550" H (9.588 x 9.017 cm)

ORDERING INFORMATION			
Description	Part No	o. Price	
4 Port RS-232	3521	\$249.00	
Cable Options			
DB9 M/F Cable	CA127	\$9.95	