

PC-COMM+232

User Manual | 3622



SEALEVEL®

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Quick Start

Card Setup

The PC-COMM+232 will use I/O Addresses 240H and 248H and allow your operating system to assign the IRQ. If these I/O addresses are already in use, please feel free to contact our Technical Support Representatives to identify possible solutions.

Operating System Installation



Do not install the adapter in the machine until the software has been fully installed.

Please install the proper software for your adapter before installing the hardware. Refer to the [SEACOM software](#) for the correct operating system installation procedure.

Windows 95/98/ME/2000

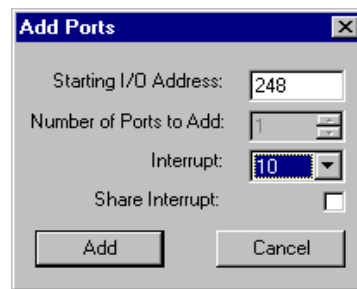
1. Ensure that the PCMCIA services are enabled. This is done in the Control Panel.
2. Begin by locating, selecting, and installing the correct software from the [Sealevel software driver database](#).
3. Select the Part Number (3622) for your adapter from the listing.
4. Select 'Download Now' for the SeaCOM for Windows. The setup file will automatically detect the operating environment and install the proper components. Next (depending on your browser) select the 'Run this program from its current location' or 'Open' option. Follow the information presented on the screens that follow.
5. A screen may appear with the declaration: "The publisher cannot be determined due to the problems below: Authenticode signature not found." Please select the 'Yes' button and proceed with the installation. This declaration simply means that the Operating System is not aware of the driver being loaded. It will not cause any harm to your system.
6. During setup, the user may specify installation directories and other preferred configurations. This program also adds entries to the system registry that are necessary for specifying the operating parameters for each driver. An uninstall option is also included to remove all registry/INI file entries from the system.
7. Using the Device manager, verify that the ports have been installed and what 'Friendly Names' (i.e., COM5: COM6:, etc.) have been assigned to your adapter.

Windows NT 4.0

1. Ensure that the PCMCIA services are enabled. This is done in the Control Panel.
2. Begin by locating, selecting, and installing the correct software from the [Sealevel software driver database](#).
3. Select 'Download Now' for the SeaCOM for Windows. The setup file will automatically detect the operating environment and install the proper components. Next (depending on your browser)

select the 'Run this program from its current location' or 'Open' option. Follow the information presented on the screens that follow.

4. A screen may appear with the declaration: "The publisher cannot be determined due to the problems below: Authenticode signature not found." Please select the 'Yes' button and proceed with the installation. This declaration simply means that the Operating System is not aware of the driver being loaded. It will not cause any harm to your system.
5. During setup, the user may specify installation directories and other preferred configurations. This program also adds entries to the system registry that are necessary for specifying the operating parameters for each driver. An uninstall option is also included to remove all registry/INI file entries from the system.
6. Power down the machine, install the card, and power up. This will allow NT to find the first port at 240H and assign an IRQ.
7. Open 'Advanced Ports' found in the Control Panel. Verify that the first port on your card has been initialized at 240H and identify the IRQ. The IRQ will be the same for the second port.
8. Select 'Add Port.' Type in '248' for 'Starting I/O Address'. Select the same interrupt that has been assigned to the first port. Do not select the 'Share Interrupt' check box.



9. Click the 'Add' button, and then the 'Apply' button.
10. Allow your system to Re-boot with the card installed.
11. Installation is complete.



Windows NT is not 'Plug and Play' nor does it support 'Hot-Swapping,' therefore power down before card insertions or removals.

Linux

Please refer to the [Linux section of Sealevel's website](#) for the software and up-to-date instructions for various Linux installations.

Introduction

The PC-COMM+232 continues the Sealevel Systems tradition of an easy to use, highly reliable, and technically advanced serial I/O solution featuring the advanced EXAR XC16C850 UART. This UART includes 128-byte FIFOs, automatic hardware/software flow control and the ability to handle much higher data rates than the standard UARTs.

Before You Get Started

What's Included

The PC-COMM+232 is shipped with the following items. If any of these items are missing or damaged, please contact Sealevel for replacement.

- **PC-COMM+232 PCMCIA Serial Interface Adapter**
- **Dual DB-9 cable assembly**
- **Impact Resistant Carrying Case (Jewel Case)**
- **One serial loopback plug**

Advisory Conventions



Warning

The highest level of importance is used to stress a condition where damage could result to the product, or the user could suffer serious injury.



Important

The middle level of importance used to highlight information that might not seem obvious or a situation that could cause the product to fail.



Note

The lowest level of importance used to provide background information, additional tips, or other non-critical facts that will not affect the use of the product.

Card Setup

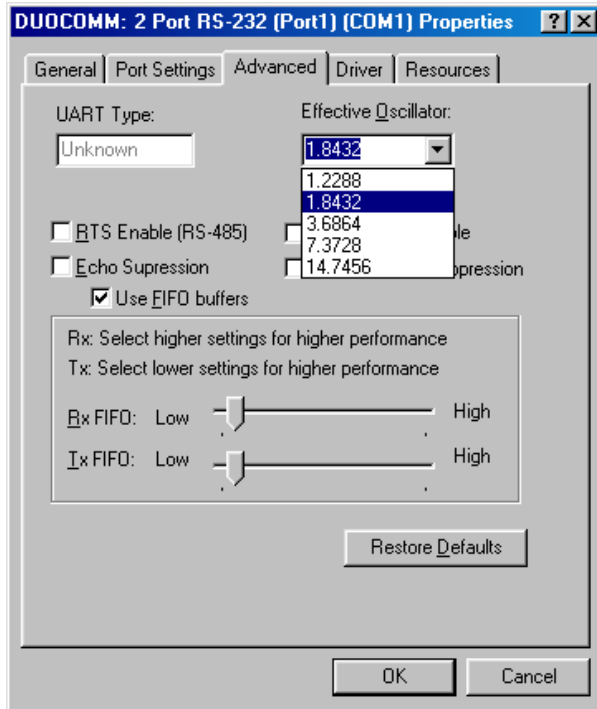
Card and Socket Services must be loaded on the system prior to installing the PC-COMM+232 card. Card and Socket Services should be supplied by the PCMCIA slot provider (i.e., the computer manufacturer or the PC adapter manufacturer). These may be in the form of a third-party add-on Card and Socket Services (e.g., CardSoft's CardWizard) or with your current operating system (e.g., Windows 95/99/ME/NT/2000).

Socket Services are the lowest level of the PCMCIA Software hierarchy. They provide a standard interface to the higher-level drivers and isolate the socket controller's specific hardware details. Socket Services provide the 'BIOS' interface to the socket controller hardware, typically hidden under Card Services, and are rarely directly accessible by application software.

Card Services provide the interface to application software and drivers. Card Services are responsible for allocating card resources and ensuring that card resources do not interfere with other existing system resources. In the case of the PC-COMM+232, the generic Card Services driver available should provide adequate support for most applications. Connecting the PC-COMM+232 to the computer requires no special technical skills. In fact, it is usually done in two simple steps:

1. Begin by locating, selecting, and installing the correct software from the [Sealevel software driver database](#).
2. Select Part Number (3622) for your adapter from the listing.
3. Select 'Download Now' for the SeaCOM for Windows. The setup file will automatically detect the operating environment and install the proper components. Next (depending on your browser) select the 'Run this program from its current location' or 'Open' option. Follow the information presented on the screens that follow.
4. Simply slide the card into a PCMCIA Type II compliant slot on the personal computer. The PCMCIA slot is keyed so that the PC-COMM+232 cannot be installed backwards or upside down. The card should install with a minimal amount of pressure. Do not force the card into the slot. Forcing the card can result in damage to the PC-COMM+232 or to the PCMCIA slot. After the card has been installed into the PCMCIA slot, the I/O cable should be connected to the card. The cable is also keyed to ensure proper installation.

Data Rate Selection



When the PC-COMM+232 is installed in Windows 95/98 or NT, choosing an oscillator value as shown above can control the data rate. This selection is found in Device Manager under Ports COM and LPT in 95/98 by highlighting the port and choosing Properties and then choosing the Advanced tab. In Windows NT select the Advanced tab inside the Control Panel utility Advanced Ports. The PC-COMM+232 ships with a 7.3728Mhz oscillator and choosing that value will result in the data rate selected to be the actual data rate. If you were to choose 1.8432Mhz then the data rate you choose will actually be four times slower than the actual data rate. This is due to the fact that 7.3728 is four times 1.8432. If you have any questions about the setting, please contact Sealevel Technical support. Refer to [Appendix B](#) for contact information.

Technical Description

The PC-COMM+232 provides two RS-232 serial ports utilizing XR16C850 UARTs (Universal Asynchronous Receiver Transmitter). The XR16C850 is compatible with the 16550 UART. The '850 is an enhanced UART with 128-byte FIFOs, automatic hardware/software flow control and the ability to handle much higher data rates than standard UARTs.

Connector Pin Assignments for RS-232 (DB-9 Male)

Signal	Name	DB-9*	Mode
GND	Ground	5	
TD	Transmit Data	3	Output
RTS	Request To Send	7	Output
DTR	Data Terminal Ready	4	Output
RD	Receive Data	2	Input
CTS	Clear To Send	8	Input
DSR	Data Set Ready	6	Input
CD	Carrier Detect	1	Input
RI	Ring Indicator	9	Input



Please terminate any control signals that are not going to be used. The most common way to do this is connect RTS to CTS and RI. Also, connect DCD to DTR and DSR. Terminating these pins, if not used, will help insure you get the best performance from your adapter.



These assignments meet EIA/TIA/ANSI-574 DTE for DB-9 type connectors.

Specifications

Environmental Specifications

Specification	Operating	Storage
Temperature Range	0° to 50° C (32° to 122° F)	-20° to 70° C (-4° to 158° F)
Humidity Range	10 to 90% R.H. Non-Condensing	10 to 90% R.H. Non-Condensing

Power Consumption

Supply Line	Product	Rating (mA)
+5 VDC	3622	25 mA

Mean Time Between Failures (MTBF)

Greater than 150,000 hours. (Calculated)

Physical Dimensions

The PC-COMM+232 conforms to the physical dimensions for all PCMCIA Type II cards as defined in the PCMCIA specification 2.0.

Appendix A – Troubleshooting

The adapter should provide years of trouble-free service. However, in the event that device appears to not be functioning incorrectly, the following tips can eliminate most common problems without the need to call Technical Support.

1. Identify all I/O adapters currently installed in your system. This includes your on-board serial ports, controller cards, sound cards etc. The I/O addresses used by these adapters, as well as the IRQ (if any) should be identified.
2. Configure your I/O adapters so that there are no conflicts with currently installed adapters. No two adapters can occupy the same I/O address.
3. Make sure the Sealevel Systems adapter is securely installed in a PC Card slot.
4. For Windows 95/98/ME/NT/2000, the diagnostic tool '[WinSSD](#)' is installed in the SeaCOM folder on the Start Menu during the setup process. First find the ports using the Device Manager, then use 'WinSSD' to verify that the ports are functional.
5. Always use the Sealevel Systems diagnostic software when troubleshooting a problem. This will help eliminate any software issues and identify any hardware conflicts.

If these steps do not solve your problem, please call Sealevel Systems' Technical Support, (864) 843-4343. Our technical support is free and available from 8:00 AM to 5:00 PM Eastern Time Monday through Friday. For email support contact support@sealevel.com.

Appendix B – How To Get Assistance

Please refer to Troubleshooting Guide prior to calling Technical Support.

1. Begin by reading through the Trouble Shooting Guide in [Appendix A](#). If assistance is still needed, please see below.
2. When calling for technical assistance, please have your user manual and current adapter settings. If possible, please have the adapter installed in a computer ready to run diagnostics.
3. Sealevel Systems provides a FAQ section on its web site. Please refer to this to answer many common questions. This section can be found at <http://www.sealevel.com/faq.htm> .
4. Sealevel Systems maintains a Home page on the Internet. Our home page address is www.sealevel.com. The latest software updates, and newest manuals are available via our FTP site that can be accessed from our home page.
5. Technical support is available Monday to Friday from 8:00 a.m. to 5:00 p.m. eastern time. Technical support can be reached at (864) 843-4343.

RETURN AUTHORIZATION MUST BE OBTAINED FROM SEALEVEL SYSTEMS BEFORE RETURNED MERCHANDISE WILL BE ACCEPTED. AUTHORIZATION CAN BE OBTAINED BY CALLING SEALEVEL SYSTEMS AND REQUESTING A RETURN MERCHANDISE AUTHORIZATION (RMA) NUMBER.

Appendix C – Electrical Interface

RSS-232

Quite possibly the most widely used communication standard is RS-232. This implementation has been defined and revised several times and is often referred to as RS-232 or EIA/TIA-232. The IBM PC computer defined the RS-232 port on a 9 pin D sub connector and subsequently the EIA/TIA approved this implementation as the EIA/TIA-574 standard. This standard is defined as the *9-Position Non-Synchronous Interface between Data Terminal Equipment and Data Circuit-Terminating Equipment Employing Serial Binary Data Interchange*. Both implementations are in widespread use and will be referred to as RS-232 in this document. RS-232 is capable of operating at data rates up to 20 Kbps at distances less than 50 ft. The absolute maximum data rate may vary due to line conditions and cable lengths. RS-232 often operates at 38.4 Kbps over very short distances. The voltage levels defined by RS-232 range from -12 to +12 volts. RS-232 is a single ended or unbalanced interface, meaning that a single electrical signal is compared to a common signal (ground) to determine binary logic states. A voltage of +12 volts (usually +3 to +10 volts) represents a binary 0 (space) and -12 volts (-3 to -10 volts) denote a binary 1 (mark). The RS-232 and the EIA/TIA-574 specification define two types of interface circuits, Data Terminal Equipment (DTE) and Data Circuit-Terminating Equipment (DCE). The Sealevel Systems adapter is a DTE interface.

Appendix D – Compliance Notices

Federal Communications Commission (FCC) Statement



This equipment has been tested and found to comply with the limits for Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and receiver
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/TV technician for help

EMC Directive Statement



Products bearing the CE Label fulfill the requirements of the EMC directive (89/336/EEC) and of the low-voltage directive (73/23/EEC) issued by the European Commission. To obey these directives, the following European standards must be met:

- **EN55022 Class B** - "Limits and methods of measurement of radio interference characteristics of information technology equipment"
- **EN55024** – "Information technology equipment Immunity characteristics Limits and methods of measurement".



Always use cabling provided with this product if possible. If no cable is provided or if an alternate cable is required, use high quality shielded cabling to maintain compliance with FCC/EMC directives.

Caution

Sealevel Systems, Inc. is not responsible for any radio or television interference caused by unauthorized modifications of this equipment or the substitution of attachment of connecting cables and equipment other than those specified by Sealevel Systems. Such unauthorized modifications, substitutions, or attachments may void the user's authority to operate the equipment. The correction of interference caused by such unauthorized modifications, substitutions, or attachments will be the responsibility of the user.

Always use cabling provided with this product if possible. If no cable is provided or if an alternate cable is required, use high quality shielded cabling to maintain compliance with FCC directives.

Canadian Radio Interference Regulations

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Cet Appareil numérique de la classe B respecte toutes les exigences de Règlement sur le matériel du Canada.

Warranty

Sealevel's commitment to providing the best I/O solutions is reflected in the Lifetime Warranty that is standard on all Sealevel manufactured I/O products. We are able to offer this warranty due to our control of manufacturing quality and the historically high reliability of our products in the field. Sealevel products are designed and manufactured at its Liberty, South Carolina facility, allowing direct control over product development, production, burn-in and testing. Sealevel achieved ISO-9001:2015 certification in 2018.

Warranty Policy

Sealevel Systems, Inc. (hereafter "Sealevel") warrants that the Product shall conform to and perform in accordance with published technical specifications and shall be free of defects in materials and workmanship for the warranty period. In the event of failure, Sealevel will repair or replace the product at Sealevel's sole discretion. Failures resulting from misapplication or misuse of the Product, failure to adhere to any specifications or instructions, or failure resulting from neglect, abuse, accidents, or acts of nature are not covered under this warranty.

Warranty service may be obtained by delivering the Product to Sealevel and providing proof of purchase. Customer agrees to ensure the Product or assume the risk of loss or damage in transit, to prepay shipping charges to Sealevel, and to use the original shipping container or equivalent. Warranty is valid only for original purchaser and is not transferable.

This warranty applies to Sealevel manufactured Product. Product purchased through Sealevel but manufactured by a third party will retain the original manufacturer's warranty.

Non-Warranty Repair/Retest

Products returned due to damage or misuse and Products retested with no problem found are subject to repair/retest charges. A purchase order or credit card number and authorization must be provided in order to obtain an RMA (Return Merchandise Authorization) number prior to returning Product.

How to obtain an RMA (Return Merchandise Authorization)

If you need to return a product for warranty or non-warranty repair, you must first obtain an RMA number. Please contact Sealevel Systems, Inc. Technical Support for assistance:

Available	Monday – Friday, 8:00AM to 5:00PM EST
Phone	864-843-4343
Email	support@sealevel.com

Trademarks

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