




# SEALEVEL SeaLINK+232 Serial Interface Adapter User Manual

[Home](#) » [SEALEVEL](#) » SEALEVEL SeaLINK+232 Serial Interface Adapter User Manual 

## Contents

- [1 SEALEVEL SeaLINK+232 Serial Interface Adapter](#)
- [2 Product Information:](#)
- [3 Product Usage Instructions](#)
- [4 Before You Get Started](#)
- [5 Installation](#)
- [6 Specifications](#)
- [7 Appendix C – Electrical Interface](#)
- [8 Documents / Resources](#)
  - [8.1 References](#)
- [9 Related Posts](#)



**SEALEVEL SeaLINK+232 Serial Interface Adapter**



## Product Information:

- **SeaLINK+232**

The Sea level Systems SeaLINK+232 is a USB to RS-232 Asynchronous serial port device that provides a versatile interface for common RS-232 needs. It allows you to connect devices such as modems, mice, and plotters to your PC without the need for opening the computer case or using I/O ports or IRQs. This product requires a system that supports USB in terms of both hardware and operating system.

## What's Included:

- SeaLINK+232 device
- Software driver
- User manual (#2105)

## Advisory Conventions:

- **Warning**

The highest level of importance 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.

## Product Usage Instructions

- SeaLINK+232

### Operating Systems Installation:

Before connecting the SeaLINK+232 device to a USB port, ensure that the software has been fully installed. Follow these steps:

1. Log in as an administrator or have administrator privileges in Windows.
2. If you are running Windows 7 or newer, follow these instructions:
  1. Locate, select, and install the correct software from the Sea-level software driver database.
  2. Type in or select the part number (#2105) for the adapter from the listing.
  3. Select “Download Now” for SEACOM for Windows.
  4. The setup files will automatically detect the operating environment and install the proper components.  
Follow the information presented on the screens that follow.
3. If you are using an operating system prior to Windows 7, please contact Sealevel by calling 864.843.4343 or emailing [support@sealevel.com](mailto:support@sealevel.com) to receive access to the proper driver download and installation instructions.

### Physical Installation:

The SeaLINK+232 device utilizes a USB UART chip with various features, including programmable baud rate, data format, 128-byte Dual Port RX Buffer, and 256-byte Dual Port TX Buffer. The RS-232 transceiver supports data rates up to 460.8K baud. Refer to Appendix C in the user manual for cable length limitations.

### Features

The SeaLINK+232 device has the following connector pin assignments (DB9 Male):

Signal Name	Pin #	Mode
GND	5	Output
TD	3	Output
RTS	7	Output
DTR	4	Input
RD	2	Input
CTS	8	Input
DSR	6	Input
DCD	1	Input
RI	9	Input

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

## Introduction

The Sealevel Systems SeaLINK+232 equips the PC with 1 USB to RS-232 Asynchronous serial port providing a versatile interface for common RS-232 needs (i.e., modem, mouse and plotter). The advantage of this product over more traditional approaches is that it doesn't require opening the computer case, nor does it require resources such as I/O ports or IRQs. It does require a system that supports USB both in terms of hardware and operating system.

## Before You Get Started

### What's Included

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

- SeaLINK+232 USB to RS-232 Serial I/O Adapter

## Advisory Conventions



### Warning

The highest level of importance 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.

## Installation

### Operating Systems Installation



Do not connect the device to a USB port until the software has been fully installed.



To install Sea level Systems software, you must log in as an administrator or have administrator privileges in Windows.



Only users running Windows 7 or newer should utilize these instructions for accessing and installing the appropriate driver via Sea level's website. If you are utilizing an operating system prior to Windows 7, please contact Sea level by calling 864.843.4343 or emailing support@sealevel.com to receive access to the proper driver download and installation

## instructions.

1. Begin by locating, selecting, and installing the correct software from the Sealevel software driver database.
2. Type in or select the part number (#2105) for the adapter from the listing.
3. Select "Download Now" for SEACOM for Windows.
4. The setup files will automatically detect the operating environment and install the proper components. Follow the information presented on the screens that follow.
5. A screen may appear with text similar to: "The publisher cannot be determined due to the problems below: Authenticode signature not found." Please click 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. The software is now installed, and you can proceed with the hardware installation.



Windows NT is not USB aware and thus cannot support this device.

## Physical Installation

The SeaLINK+232 can be connected to any Upstream Type "A" port either at the PC host or an Upstream Hub, and since it is hot pluggable, there is no need to power down your computer prior to installation. The SeaLINK+232 requires no user hardware configuration. Once you have installed the software simply plug the SeaLINK+232 into an available USB port. The drivers that were installed during setup will automatically be used to configure the adapter. You should see one or more "New Hardware Found", indicating the actual port being created. If you view your systems' Device Manager at this point, you should have a new "COM" port in the Ports (COM & LPT) Device Class. You can access your new COM: port by using the assigned COM: identifier. This assignment will vary from system to system. At this point, the hardware is recognized. To verify operation use Sealevel Systems supplied WinSSD diagnostic utility. WinSSD can be found in the Start, Programs group.

## Technical Description

The Seal INK +232 utilizes a USB UART. This chip features programmable baud rate, data format, 128-byte Dual Port RX Buffer, and 256-byte Dual Port TX Buffer. The RS-232 transceiver supports data rates up to 460.8K baud. Refer to Appendix C for cable length limitations.

## Features

- Hot-Pluggable device that does not require opening the case
- No system resources are required (i.e., I/O ports or IRQ's)
- LED status indicators for "USB Enabled", "TD", and "RD"

## Connector Pin Assignments (DB9 Male)

Signal	Name	Pin #	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
DCD	Data Carrier Detect	1	Input
RI	Ring Indicator	9	Input



These assignments meet EIA/TIA/ANSI-232E DTE specifications for DB-25 type connectors. 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.

## Specifications

### Temperature Range

Specification	Operating	Storage
Temperature Range	-0° to 70° C (32° to 158° F)	-50° to 105° C (-58° to 221° F)
Humidity Range	10 to 90% R.H. Non-Condensing	10 to 90% R.H. Non-Condensing

### Power Requirements

Supply line	+5 VDC
Rating	100 mA

### Physical Dimensions

Length	2.14" (5.44 cm)
Width	1.4" (3.55 cm)
Height	.63" (1.60 cm)

### Manufacturing

All Sea level Systems Printed Circuit boards are built to UL 94V0 rating and are 100% electrically tested. These

printed circuit boards are solder mask over bare copper or solder mask over tin nickel.

## **Appendix A – Troubleshooting**

Sea level Software is supplied with the Sea level Systems adapter and may be used in the troubleshooting procedures. Using this software and following these simple steps can eliminate most common problems without the need to call Technical Support.

1. If your adapter isn't working, first check to make sure that USB support is enabled in the System BIOS and it is functioning properly in the operating system. This can be done by using the Windows Device Manager.
2. Ensure that the Sea level Systems software has been installed on the machine so that the necessary files are in place to complete the installation.
3. When the seal INK +232 is configured properly, the USB Enabled LED (EN) will be lit. This should allow you to use Sealevel's WinSSD utility and the supplied loopback plug to check communications. The supplied loopback plug connects TD to RD. If you decide to test the Modem Control Signals, a full pin loopback plug will be required. Details on loopback plugs are included within WinSSD. Contact Sealevel Systems if you need further assistance.
4. When testing the Sea LINK +232 in loopback mode, you should see both the TD and RD LED's flashing as well as seeing echoed data on the screen. The loopback test first transmits a HEX pattern, 55AA, and then an ASCII string of data. If this test passes, then the Sea LINK +232 is ready for use in your application

If these steps do not solve your problem, please call Sea level 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](mailto:support@sealevel.com).

## **Appendix B – How To Get Assistance**

Begin by reading the Troubleshooting Guide in Appendix A. If assistance is still needed, please see below. 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. Sealevel Systems provides an 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.asp>. Sealevel Systems maintains a Home page on the Internet. Our home page address is <http://www.sealevel.com>. The latest software updates, and newest manuals are available via our FTP site that can be accessed from our home page. Technical support is available Monday to Friday from 8:00 AM to 5:00 PM 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.

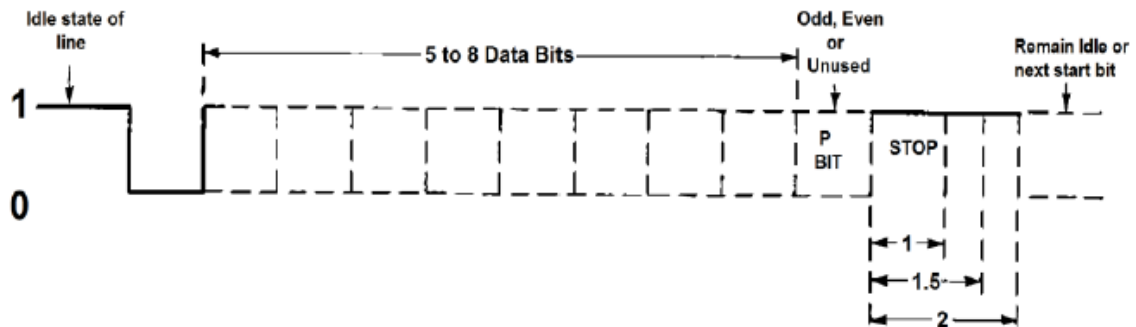
## **Appendix C – Electrical Interface**

### **RS-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 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. 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 SeaLINK+8/232.RJ is a DTE device.

## Appendix D – Asynchronous Communications

Serial data communications implies that individual bits of a character are transmitted consecutively to a receiver that assembles the bits back into a character. Data rate, error checking, handshaking, and character framing (start/stop bits) are pre-defined and must correspond at both the transmitting and receiving ends. Asynchronous communications is the standard means of serial data communication for PC compatibles and PS/2 computers. The original PC was equipped with a communication or COM: port that was designed around an 8250 Universal Asynchronous Receiver Transmitter (UART). This device allows asynchronous serial data to be transferred through a simple and straightforward programming interface. A starting bit followed by a pre-defined number of data bits (5, 6, 7, or 8) defines character boundaries for asynchronous communications. The end of the character is defined by the transmission of a pre-defined number of stop bits (usually 1, 1.5 or 2). An extra bit used for error detection is often appended before the stop bits.



This special bit is called the parity bit. Parity is a simple method of determining if a data bit has been lost or corrupted during transmission. There are several methods for implementing a parity check to guard against data corruption. Common methods are called (E)ven Parity or (O)dd Parity. Sometimes parity is not used to detect errors on the data stream. This is referred to as (N)o parity. Because each bit in asynchronous communications is sent consecutively, it is easy to generalize asynchronous communications by stating that each character is wrapped (framed) by pre-defined bits to mark the beginning and end of the serial transmission of the character. The data rate and communication parameters for asynchronous communications have to be the same at both the transmitting and receiving ends. The communication parameters are baud rate, parity, number of data bits per character, and stop bits (i.e., 9600, N, 8, 1).

## Appendix E – Compliance Notices



Federal Communications Commission (FCC) Statement This equipment has been tested and found to comply with the limits for Class A 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 commercial environment. 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. Operation of this equipment in a residential area is likely to cause harmful interference in such case the user will be required to correct the interference at the user's expense.

## 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 A – "Limits and methods of measurement of radio interference characteristics of information



technology equipment”

- EN55024 – “Information technology equipment Immunity characteristics Limits and methods of measurement”.



This is a Class A Product. In a domestic environment, this product may cause radio interference in which case the user may be required to take adequate measures to prevent or correct the interference.



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.

### **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: 864-843-434

Email: [support@sealevel.com](mailto:support@sealevel.com)

### **Trademarks**

Sealevel Systems, Incorporated acknowledges that all trademarks referenced in this manual are the service mark, trademark, or registered trademark of the respective company.

## Documents / Resources

 The image shows the packaging for the Sealevel SeaLINK+232 Serial Interface Adapter. The box is white with a blue and black design. It features a photograph of the adapter, which is a small blue circuit board with a white cable attached. The text on the box includes 'SeaLINK+232', '2105', and 'SEALEVEL'.	<p><a href="#">SEALEVEL SeaLINK+232 Serial Interface Adapter</a> [pdf] User Manual 2105, SeaLINK 232, SeaLINK 232 Serial Interface Adapter, Serial Interface Adapter, Interface A dapter, Adapter</p>
---	---

## References

- [Sealevel - I/O & Computing Products, Engineering and Manufacturing](#)
- [Sealevel - I/O & Computing Products, Engineering and Manufacturing](#)
- [FAQs - Sealevel](#)
- [Software Driver Search - Sealevel](#)

Manuals+.