

ARTISAN®
TECHNOLOGY GROUP

Your **definitive** source for quality pre-owned equipment.

Artisan Technology Group
(217) 352-9330 | sales@artisantg.com | artisantg.com

Full-service, independent repair center
with experienced engineers and technicians on staff.

We buy your excess, underutilized, and idle equipment
along with credit for buybacks and trade-ins.

Custom engineering
so your equipment works exactly as you specify.

- Critical and expedited services
- In stock / Ready-to-ship
- Leasing / Rentals / Demos
- ITAR-certified secure asset solutions

Expert team | Trust guarantee | 100% satisfaction

All trademarks, brand names, and brands appearing herein are the property of their respective owners.

Visit our website - *Click HERE*

ULTRA-PC-SIO-485

User Manual | 3602



SEALEVEL®

© Sealevel Systems, Inc. 3602 Manual | SL9110 7/2021

SEALEVEL®

Contents

CONTENTS 2
QUICK START 3
INTRODUCTION 5
BEFORE YOU GET STARTED 6
CARD SETUP 7
TECHNICAL DESCRIPTION 9
SPECIFICATIONS 10
APPENDIX A – TROUBLESHOOTING 11
APPENDIX B – HOW TO GET ASSISTANCE 12
APPENDIX C – SEAPC AND SSENABLE SOFTWARE 13
APPENDIX D – ELECTRICAL INTERFACE 17
APPENDIX E – COMPLIANCE NOTICES 18
WARRANTY 20

© Sealevel Systems, Inc.

Quick Start

Card Setup

The ULTRA-PC-SIO-485 is a fully compliant PC-Card 'Plug and Play' adapter. I/O address and IRQ selection are auto-assigned by your currently installed Card and Socket Services.

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.

1. Begin by locating, selecting, and installing the correct software from the Sealevel software driver database.
2. Select the Part Number (3602) 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. 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.

Changing settings from the Default in Windows 95/98

Now that the ULTRA-PC-SIO-485 has been added to the system using the previous steps, the resources (i.e., I/O address and IRQ) can be changed using the following steps:

1. Select the Control Panel folder and select the System icon.

2. Select the Device Manager tab and click on the '+' symbol next to the Ports (COM & LPT) selection. Choose the port that corresponds to the ULTRA-PC-SIO-485.

3. Click the Properties button and then select the Resources tab.

4. Select the last Basic Configuration. This typically will allow you to customize both the IRQ and I/O settings.

5. If the message "This resource setting cannot be modified." is displayed, make sure you have selected a Base Configuration which allows this resource to be changed and that the ‘Use Automatic Settings’ checkbox is not selected.

6. When the ‘OK’ button is pressed Windows 95/98 will automatically update your settings. It will not be necessary to re-boot.

Introduction

Congratulations! You have now entered the world of mobile communications via the Sealevel Systems ULTRA-PC-SIO-485 Serial Interface.

In the last few years, the portable and notebook market has grown by leaps and bounds. 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. JEIDA was the first to propose the 68-pin connector standard for memory cards. In 1989, PCMCIA adopted the JEIDA 68 pin standard and worked with JEIDA on further developments.

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 is identical.

The ULTRA-PC-SIO-485 continues the Sealevel Systems tradition of an easy to use, highly reliable, and technically advanced serial I/O solution. Along with the RS-422/485 compatibility, the RS-530 pin-out has been followed to allow interfacing with RS-530 products.

Before You Get Started

What's Included

The ULTRA-PC-SIO-485 is shipped with the following items. If any of these items are missing or damaged, please contact Sealevel for replacement.

- **ULTRA-PC-SIO-485 PCMCIA Serial Interface Adapter**
- **DB-25 cable assembly**
- **Impact Resistant Carrying Case (Jewel Case)**

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.

Card Setup

Card and Socket Services must be loaded on the system prior to installing the ULTRA-PC-SIO-485 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 service (e.g., CardSoft's CardWizard) or with your current operating system (e.g., Windows 95/98/NT).**

Socket Services are the lowest level of the PCMCIA Software hierarchy. Socket Services 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. Socket Services are 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. Card Services are typically implemented as a driver. Almost all PCMCIA type cards require some sort of software driver. In the case of the ULTRA-PC-SIO-485, the generic Card Services driver supplied with the computer system should provide adequate support for most applications. A DOS 'Enabler' is also provided for older systems in which the Generic Enabler is not adequate. Please refer to Appendix C for information on the SEAPC enabler and the diagnostic tool SSEnable. Both of these tools are available upon request from Sealevel Systems' Technical Support.

Connecting the ULTRA-PC-SIO-485 to the computer requires no special technical skills. In fact, it is usually done in a few simple steps:

1. Begin by locating, selecting, and installing the correct software (SeaCOM for Windows) from the Sealevel software driver database.

2. Select the Part Number (3602) 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 ULTRA-PC-SIO-485 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 ULTRA-PC-SIO-485 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 prevent it from being installed incorrectly.

Interface Selection

The ULTRA-PC-SIO-485 ships, by default, in Auto-RS-485 mode with the receiver always turned on. This means that you can use that card as is for RS-422, four-wire RS-485 and two-wire RS-485 echo enabled. Most RS-485 applications do not want echo enabled and that feature should be disabled in software. The Sealevel Systems software utility allows for interface selection as well as turning echo off and on. In Windows 9x this utility is found in Device Manager, Ports COM and LPT. In NT, the utility is installed as Advanced Ports inside the Control Panel. In Windows 2000 the utility can be accessed through Device Manager, Ports COM and LPT. Depending on your operating system, select the ULTRA-PC-SIO-485 in one of the above locations. Select the Advance Tab and look for the PCMCIA options section. Here you choose your electrical interface and whether echo is off or on. It is recommended that you select, in the PCMCIA section, all the options that apply to your application. Even though, by default, the card will work in RS-422 mode as shipped, it is best to select RS-422 mode in the PCMCIA setup if that is what your application uses.

If you have any questions concerning the software setup of the ULTRA-PC-SIO-485 please contact Sealevel System Technical support. Refer to Appendix B for contact information.

Technical Description

The ULTRA-PC-SIO-485 provides one RS-422/485 port utilizing the 16550 UART (Universal Asynchronous Receiver Transmitter).

The ULTRA-PC-SIO-485 is addressable as any COM: port (e.g., COM1:, COM2:, etc.) The ULTRA-PC-SIO-485 provides for selectable IRQs (3,4,5,7,9,10,11,12,15). I/O address and IRQ combinations are very flexible, and information on selecting these combinations is available in the Card Services Documentation and Sealevel System's software. Please refer to the Sealevel Systems, Inc. web site (www.sealevel.com) for the latest versions of manuals, software, and application notes.

RS-485 Enable Modes

RS-485 is ideal for multi-drop or network environments. RS-485 requires a tri-state driver that will allow the electrical presence of the driver to be removed from the line. The driver is in a tri-state or high impedance condition when this occurs. Only one driver may be active at a time and the other driver(s) must be tri-stated. The output modem control signal **R**equest **T**o **S**end (RTS) is typically used to control the state of the driver. Some communication software packages refer to RS-485 as RTS enable or RTS block mode transfer.

One of the unique features of the ULTRA-PC-SIO-485 is the ability to be RS-485 compatible without the need for special software or drivers. This ability is especially useful in Windows, Windows NT, and OS/2 environments where the lower level I/O control is abstracted from the application program. This ability means that the user can effectively use the ULTRA-PC-SIO-485 in a RS-485 application with existing (i.e., standard RS-232) software drivers. If software has been written utilizing the 'RTS' method of enabling, it may still be used. The 'Ultra' circuit will simply enhance the performance of the software.

Connector Pin Assignments for RS-422/485/530

Signal	Name	Pin #	Mode
GND	Ground	7	
TX +	Transmit Data Positive	14	Output
TX-	Transmit Data Negative	2	Output
RTS+	Request to Send Positive	19	Output
RTS-	Request to Send Negative	4	Output
RX+	Receive Data Positive	16	Input
RX-	Receive Data Negative	3	Input
CTS+	Clear to Send Positive	13	Input
CTS-	Clear to Send Negative	5	Input

Specifications

Environmental Specifications

Specification	Operating	Storage
Temperature Range	0º to 50º C (32º to 122º F)	-20º to 70º C (-4º to 158º 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	3602	25 mA

Mean Time Between Failures (MTBF)

Greater than 150,000 hours. (Calculated)

Physical Dimensions

The ULTRA-PC-SIO-485 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 Sealevel Systems adapter so that there is no conflict 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. When running DOS, Windows 3.x or other operating systems refer to the Serial Utilities software for that operating system and the User Manual to verify that the Sealevel Systems adapter is configured correctly. Sealevel System's software contains a diagnostic program 'SSD' that runs under DOS and will verify if an adapter is configured properly. This diagnostic program is written with the user in mind and is easy to use. Refer to the DIAG.txt file in the dos\diag directory for detailed instructions on using 'SSD'.

5. For Windows 95/98 and Windows NT, the diagnostic tool 'WinSSD' is installed in the Sealevel 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.

6. Always use the Sealevel Systems diagnostic software when troubleshooting a problem. This will help eliminate any software issues and identify any hardware conflicts.

For additional support, please call Sealevel Systems' Technical Support, (864) 843-4343. Our technical support is free and available from 8:00AM-5:00PM 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 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.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 AM to 5:00 PM Eastern Time. Technical support can be reached at (864) 843-4343. For email support contact: support@sealevel.com.

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 – SeaPC and SSEnable Software

SeaPC

SeaPC is a PCMCIA Version 2.0 compliant DOS client that will enable the selected PC Cards I/O address and IRQ when inserted. The SeaPC driver is available upon your request. If you have any questions concerning the software for the ULTRA-PC-SIO-485, please contact Sealevel System Technical support. Refer to Appendix B for contact information.

Features

- Allows unique addressing and IRQ selection.
- Provides the highest level of compatibility with installed systems compliant with PCMCIA standard 2.0 or higher.

When should I use the enabler?

This PC Card Client Enabler is not needed in all situations. SeaPC should be used if one or more of the following conditions occur:

- The PCMCIA system software (Card and Socket Services) on the host computer will not configure the cards automatically.
- The PCMCIA system software on the host computer does not supply a configuration utility to allow the PC Card to be configured automatically.
- The configuration utility with the PCMCIA system software does not function properly.

SeaPC System Requirements

SeaPC was designed to operate on an IBM PC / AT or compatible computer. SeaPC requires approximately 3 kilobytes of free conventional memory. If SeaPC is loaded more than once, an additional 3 kilobytes plus buffer space is required for each resident copy. SeaPC may be used with memory managers and loaded into expanded memory. SeaPC requires MS-DOS or PC-DOS version 3.00 or higher and Card and Socket Services that are compliant with PCMCIA version 2.0 or higher.

Executing the Driver

SeaPC is a DOS Terminate and Stay Resident (TSR) program that can be executed from the DOS command prompt or from the AUTOEXEC.BAT file. For additional information on the AUTOEXEC.BAT file please refer to the DOS manual. When SeaPC is executed, a setup file must be specified on the command line.

Command Line Options

To display the available command line options, Type "**SeaPC** /?" at the DOS command prompt. The following should be displayed.

C:>**SeaPC** /?

Sealevel Systems, Inc. **SeaPC** PC Card I/O Enabler Version 1.00

Sealevel Systems Inc. (C) 1994. All rights reserved.

Syntax: **SeaPC** [/F:file] [/U] [/I] [/V] [/?]

/F:[file]	Where file is the configuration file
/U	Unconditional installation
/I	Display info on resident copies of **SeaPC** without installing the enabler
/V	Show verbose installation information
/?	Display command line options, inhibit driver from loading

The /F: option is the only required command line parameter. If the setup file is not located in the default directory, the drive and path must be specified. The following section details the syntax of the setup file.

Setup File

An example setup file named **SeaPC**.INI is available upon your request. Please contact Sealevel's Technical Support for additional information. This file may be edited with the DOS EDIT utility. The following is the syntax for a PC Card configuration:

[card]

BaseIO = *Base I/O address*

IRQ = *Interrupt Request Signal*

Type = *Device Type*

Interface = *Electrical Interface Utilized*

All items in *italics* need to be provided by the user. The following is a description of each entry in the setup file:

BaseIO	Base I/O address in Hexadecimal. Valid ranges are from 0 – 3FF Hex. Some ranges may be reserved by the PCMCIA system software or occupied by other peripherals in the host computer system.
IRQ	Interrupt Request Signal in Decimal. Valid ranges are from 2-15. Please note that some IRQs be reserved by the PCMCIA system software or occupied by other peripherals in the host computer system.
Type	Device Type. Valid option is UART for the 3603
Interface	Electrical Interface Utilized. Valid options are RS-232, RS-422, RS-485. (In the scope of the driver, RS-422 and RS-485 are viewed as the same value.)

A semicolon (;) at the beginning of a line denotes a comment and the remainder of that line is ignored. Note the above syntax is an example for one card. Multiple cards (up to eight) may be configured using the following syntax:

;First Card

[card]

BaseIO=238

IRQ=10

Type = UART

Interface=RS-232

To enable pulse mode interrupts, add the following line to the setup file:

IRQMode = Pulse

Remember this feature will only work on a platform that supports pulse mode interrupts, and if the Card and Socket services support pulse mode interrupts.

SSEnable

SSEnable is a PCMCIA DOS only utility that will allow the use of your PC Card without loading card and socket services. The utility is provided for applications that conflict with card and socket services. Please note that this utility does NOT use card and socket services and greatly reduces the features of the PCMCIA card. SSEnable is available upon your request. If you have any questions concerning the software for the ULTRA-PC-SIO-485 please contact Sealevel System Technical support. Refer to Appendix B for contact information.



One very important thing to remember about SSEnable is that it does not provide 'Hot Swapping' capability for the PCMCIA socket. Hot insertion or removal of the PC Card while using SSEnable could cause damage to the PCMCIA socket or the card.

The command line parameters for the program are listed by typing SSEnable at the DOS prompt. The following are example command line entries for the SSEnable program:

Enable base I/O address 238 hex,-IRQ 5, -memory range d000-dfff, (which has been excluded from any memory manager and is reserved for the PC Card attribute memory) and the PC Card is in socket 1

SSEnable /b:238 /i:5 /m:d000 /s:1

To remove the configuration on socket 1 type:

SSEnable /s:1 /r



SSEnable will only work with Intel PCIC compatible socket controllers

Appendix D – Electrical Interface

RS-422

The RS-422 specification defines the electrical characteristics of balanced voltage digital interface circuits. RS-422 is a differential interface that defines voltage levels and driver/receiver electrical specifications. On a differential interface, logic levels are defined by the difference in voltage between a pair of outputs or inputs. In contrast, a single ended interface, for example RS-232, defines the logic levels as the difference in voltage between a single signal and a common ground connection. Differential interfaces are typically more immune to noise or voltage spikes that may occur on the communication lines. Differential interfaces also have greater drive capabilities that allow for longer cable lengths. RS-422 is rated up to 10 Megabits per second and can have cabling 4000 feet long. RS-422 also defines driver and receiver electrical characteristics that will allow 1 driver and up to 32 receivers on the line at once. RS-422 signal levels range from 0 to +5 volts. RS-422 does not define a physical connector.

RS-485

RS-485 is backwardly compatible with RS-422; however, it is optimized for party-line or multi-drop applications. The output of the RS-422/485 driver is capable of being **Active** (enabled) or **Tri-State** (disabled). This capability allows multiple ports to be connected in a multi-drop bus and selectively polled. RS-485 allows cable lengths up to 4000 feet and data rates up to 10 Megabits per second. The signal levels for RS-485 are the same as those defined by RS-422. RS-485 has electrical characteristics that allow for 32 drivers and 32 receivers to be connected to one line. This interface is ideal for multi-drop or network environments. RS-485 tri-state driver (not dual-state) will allow the electrical presence of the driver to be removed from the line. Only one driver may be active at a time and the other driver(s) must be tri-stated. The output modem control signal RTS controls the state of the driver. Some communication software packages refer to RS-485 as RTS enable or RTS block mode transfer. RS-485 can be cabled in two ways, two wire and four wire mode. Two wire mode does not allow for full duplex communication and requires that data be transferred in only one direction at a time. For half-duplex operation, the two transmit pins should be connected to the two receive pins (Tx+ to Rx+ and Tx- to Rx-). Four wire mode allows full duplex data transfers. RS-485 does not define a connector pin-out or a set of modem control signals. RS-485 does not define a physical connector.

RS-530

RS-530 (a.k.a. EIA-530) compatibility means that RS-422 signal levels are met, and the pin-out for the DB-25 connector is specified. The EIA (Electronic Industry Association) created the RS-530 specification to detail the pin-out and define a full set of modem control signals that can be used for regulating flow control and line status. The RS-530 specification defines two types of interface circuits, Data Terminal Equipment (DTE) and Data Circuit-Terminating Equipment (DCE). The Sealevel Systems adapter is a DTE interface.

Appendix E – 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".

"This product has been tested to meet FCC Class B requirements. If Class B certification is required, please contact Sealevel Systems for Part# FB-101, ferrite bead."

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

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

Artisan Technology Group is an independent supplier of quality pre-owned equipment

Gold-standard solutions

Extend the life of your critical industrial, commercial, and military systems with our superior service and support.

We buy equipment

Planning to upgrade your current equipment? Have surplus equipment taking up shelf space? We'll give it a new home.

Learn more!

Visit us at **artisantg.com** for more info on price quotes, drivers, technical specifications, manuals, and documentation.

Artisan Scientific Corporation dba Artisan Technology Group is not an affiliate, representative, or authorized distributor for any manufacturer listed herein.

We're here to make your life easier. How can we help you today?

(217) 352-9330 | sales@artisantg.com | artisantg.com

ARTISAN® TECHNOLOGY GROUP