ISO-232+2.CF
User Manual | 3201

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Contents

Overview

The ISO-232+2.CF card is an isolated dual-port RS-232 CompactFlash serial card with the following features:

- Type II CompactFlash form factor for CF+ equipped PDAs, Handheld PCs, laptops, etc.

- Software support provided for Windows and PocketPC

- Drivers not required for Windows CE and PocketPC

- 16C550 compatible, buffered UART with 16-byte FIFO

- RS-232 interfaces are isolated up to +/-50 VDC relative to local host ground.

- Data rates to 115.2K bps

- 3.3V compatible

- All modem control signal signals implemented

- Compatible with all standard serial COM software

- Software controlled power management

- Low power consumption

- Detachable 12" cable with two DB-9M connectors

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Introduction

The ISO-232+2.CF card is an isolated dual-port RS-232 serial card designed using a 16C550 compatible UART. The serial data and control lines are buffered using isolated RS-232 drivers that allow the RS-232 interfaces to be isolated up to +/-50 VDC relative to local host ground.

Industry standard baud rates up to 115.2K bps are supported, together with 16-byte TX and RX FIFOs. Each port has TX, RX, CTS and RTS signals, and there is a common ISOGND connection shared by the two ports.

The SIO-232+2.CF conforms to the industry standard CompactFlash+ interface that allows connection of peripherals to the system bus of a laptop, handheld PC or PDA. The CF+ specification extends the earlier memory-only CompactFlash interface to allow I/O devices and extra power for the card. The SIO-232+2.CF is an I/O type device and requires a CF+ capable slot.

Before You Get Started

What's Included

The ISO-232+2.CF is shipped with the following items. If any of these items are missing or damaged, please contact Sealevel for replacement.

- **ISO-232+2.CF - An isolated dual-port RS-232 CompactFlash serial card**
- **12" Y-cable that terminates with two DB-9M connectors with female jackscrews**

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.

Installation the ISO-232+2.CF

Software Installation

Windows Installation

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

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

You will first need to install SeaCOM prior to using the ISO-232+2.CF. Installing SeaCOM software that is available Sealevel's website (www.sealevel.com) will copy the necessary files into the proper Windows folders. Windows will use these files to "recognize" the ISO-232+2.CF card.

1. Begin by locating, selecting, and installing the correct software: Sealevel Seacom Software.

2. Select the link for 'SeaCOM for Windows'.

3. The setup file will automatically detect the operating environment and install the proper components.

To confirm that the SeaCOM driver has been successfully installed, click on the 'Start' button, and then select 'All Programs'. You should see the 'SeaCOM' program folder listed.

You are now ready to proceed with connecting the 3201 to your system. Refer to the Hardware Specification section for details.

In Windows XP SP1, you will need to apply a "hot fix" from Microsoft to correct a bug that causes the ports to appear to be installed properly yet are non-functional. Please contact Sealevel Systems technical support for assistance.

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.

3.2 Windows CE, PocketPC

There is no need to install any software for Windows CE or PocketPC. Simply insert the SIO-485.CF card and it will appear in a list when you go to set up a "Connection".

N The standard OS-drivers allow use of only one port at a time.

For Windows CE and PocketPC, the utility 'vxHpc' is available from Cambridge Computer Corporation, free for a 30-day evaluation or a nominal charge for a license. 'vxHpc' is a high-performance serial and telnet communication software application that can help you connect to various terminal devices and can also be used to perform a simple loopback test.

The latest version and instructions are available here:

https://web.archive.org/web/20101212202122/http://cam.com/vxhpc.html

For additional information on connecting your PocketPC or if you are using older versions of Windows, such as Windows 95/98/ME/NT/2000, 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.

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Hardware Specification

4.1 Pinout

The ISO-232+2.CF is supplied with a 12" Y-cable that terminates with two DB-9M connectors with female jackscrews (to match the port at the back of a PC). The pinout below applies to the DB-9M connectors on the supplied cable. "Port1" and "Port2" is marked on the cables.

PORT1

PIN	NAME	FUNCTION
1	-	-
2	RX1	Receive Data input 1
3	TX1	Transmit Data output 1
4	-	-
5	ISOGND	ISOLATED GROUND
6	-	-
7	RTS1	Request To Send output 1
8	CTS1	Clear To Send input 1
9	-	-
Shell	-	See note*

PORT2

PIN	NAME	FUNCTION
1	-	-
2	RX2	Receive Data input 2
3	TX2	Transmit Data output 2
4	-	-
5	ISOGND	ISOLATED GROUND
6	-	-
7	RTS2	Request To Send output 2
8	CTS2	Clear To Send input 2
9	-	-
Shell	-	See note*

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* The cable shield is grounded at the card-end, runs the full length of the cable and is not connected at the equipment end (i.e., does not connect to the DB-9 shell) to help to avoid ground loops.

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

4.2 Electrical

All figures quoted are typical parameters @ 25°C (77°F)

RS-232 SIGNALS: Typical output level ±5.5V (open circuit voltages)

TX, RX, CTS and RTS are supported on each port

UART CLOCK SPEED: 1.8432MHz, max baud rate 115.2K bps

ISOLATION: Isolation is defined between ISOGND and host 0V supply (metal case of card and cable shield braid) and can be up to +/-50V, DC to 60Hz. The two ports share a common ground (ISOGND): no isolation exists between the two ports.

SCAVENGED POWER: The isolation driver circuit will only supply enough power to guarantee correct RS-232 signal operation into 3K-ohm loads on TX and RTS. Using terminal equipment that scavenges power from the RS-232 signals may not work.

UNUSED SIGNALS: If RX or CTS inputs are not used, make sure they are looped back into TX and RTS respectively to prevent them from floating.

4.3 Power Consumption

All figures quoted are typical parameters @ 25°C (77°F)

VCC CURRENT: 35mA typical @ 3.3V

4.4 Mechanical

MASS: 15g typical (0.352 oz.)

FORM FACTOR: 36.4mm x 42.8mm x 5.0 mm overall (1.43" x 1.68" x 0.13")

4.5 Environmental

HUMIDITY: <80% R.H. (non-condensing)

TEMP: 0-50°C ambient (32-122°F)

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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 space.

3. Try the Sealevel Systems adapter with a unique IRQ. While the Sealevel Systems adapter does allow the sharing of IRQs, many other adapters (i.e., SCSI adapters & on-board serial ports) do not.

4. Make sure the Sealevel Systems adapter is securely installed.

5. In Windows, 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.

6. For Windows CE and PocketPC, the utility 'vxHpc' is available from Cambridge Computer Corporation, free for a 30-day evaluation or a nominal charge for a license. 'vxHpc' is a high-performance serial and telnet communication software application that can help you connect to various terminal devices and can also be used to perform a simple loopback test. The latest version and instructions are available here:

   https://web.archive.org/web/20101212202122/http://cam.com/vxhpc.html

7. Remember, if 'No Echo' mode is selected, a data loopback cannot be accomplished.

8. 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.

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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.

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

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