SIO-232.CF User Manual

Part Number 3101

SEALEVEL®
SYSTEMS INCORPORATED

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OVERVIEW

The SIO-232.CF card is an RS-232 CompactFlash serial card with the following features:

- Type I CompactFlash form factor for CF+ equipped PDAs, Handheld PCs, laptops, etc.
- Supported in Windows 95, 98, 98SE, Me, NT4, 2000, XP, CE and PocketPC
- 16C550 compatible, buffered UART with 16-byte FIFO
- Data rates to 921.6K bps
- Switchable x1 or x8 baud rate supports up to 921.6K baud
- 3.3V or 5V 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 DB-9M connector

ABOUT THE SIO-232.CF

The SIO-232.CF card is an RS-232 serial card designed using a 16C550 compatible UART. The serial data and control lines are buffered using ESD protected RS-232 transceivers.

Industry standard baud rates up to 921.6K bps are supported, together with 16-byte TX and RX FIFOs. A small switch is located at the back edge of the card, which allows selection of "x1" or "x8" baud rate multiplier. This feature allows up to 921.6K bps operation without needing special device drivers on the host (in x8 mode you simply multiply the setting shown on the host by 8 to get the real serial data rate - e.g. 19.2K bps set in software with "x8" mode gives 153.6K bps data rate physically in hardware). See section 5 for the switch settings.

The SIO-232.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.CF is an I/O type device and requires a CF+ capable slot.

INSTALLING THE SIO-232.CF

3.1 Windows 95, 98, 98SE, Me, NT4, 2000, XP

You will first need to install SeaCOM prior to using the SIO-232.CF. Installing the supplied SeaCOM software that comes with your product will copy the necessary files into the proper Windows folders. Windows will use these files to "recognize" the SIO-232.CF card.

Note: Windows NT4 requires additional 3rd party Card & Socket Services (additional charge, not included).

3.2 Windows CE, PocketPC

There is no need to install any software for Windows CE or PocketPC. Simply insert the SIO-232.CF card and it will appear in a list when you go to set up a "Connection".

HARDWARE SPECIFICATION

4.1 PINOUT

The SIO-232.CF is supplied with a 12" long cable that terminates with a DB-9M connector with female jackscrews (to match the port at the back of a PC). The pinout below applies to the SIO-232.CF and the DB-9M connector on the supplied cable (the cable is pinned one-to-one).

PIN	NAME	FUNCTION
1*	DCD	Data Carrier Detect input
2	RX	Receive Data input
3	TX	Transmit Data output
4	DTR	Data Terminal Ready output
5	GND	GROUND (0V)
6	DSR	Data Set Ready input
7	RTS	Request To Send output
8	CTS	Clear To Send input
9	RI	Ring Indicate input
Shield	-	See note**

* Pin 1 is nearest the edge of the card.
** 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.

Technical Note: 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.

Note: The mating connector type: Honda RMC-E9F2S-BSLA2N-A2
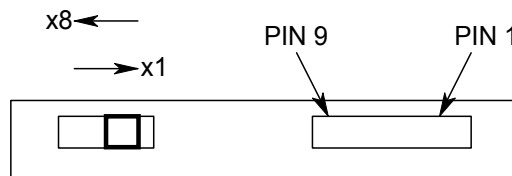
4.2 ELECTRICAL

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

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

ESD PROTECTION: All RS-232 signal lines on the SIO-232.CF card are protected
against electrostatic discharge (ESD)
15kv - human body model
8kv - IEC1000-4-2, contact discharge
15kv - IEC1000-4-2, air-gap discharge

UART CLOCK SPEED: Switch selectable Baud rate multiplier:
x1: UART CLOCK is 1.8432MHz ->115.2K bps max
x8: UART CLOCK is 14.7456MHz -> 921.6K bps max

4.3 POWER CONSUMPTION

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

VCC CURRENT: 20mA typical @ 5V, 13mA typical @ 3.3V
IN STANDBY MODE : 14mA typical @ 5V, 5mA typical @ 3.3V

4.4 MECHANICAL

CARD MASS: 10g typical (0.352 oz.)
FORM FACTOR: 36.4mm x 42.8mm x 3.3 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)

4.6 NOTES ON SERIAL DATA THROUGHPUT

The maximum bit rate of 921.6K bps does not imply that the maximum sustained throughput rate
of the serial port will be as high. The actual throughput that can be achieved depends on many
factors including the host PC speed, the serial data block size, duty cycle, and overall host
interrupt latency.

4.7 BAUD RATE SETTINGS

The table below illustrates the common baud rate values available for each of the baud rate multiplier switch positions:

HOST SETTING	SWITCH = x1	SWITCH = x8
300 bps	300 bps	2400 bps
1200 bps	1200 bps	9600 bps
2400 bps	2400 bps	19.2K bps
4800 bps	4800 bps	38.4K bps
9600 bps	9600 bps	76.8K bps
19.2K bps	19.2K bps	153.6K bps
38.4K bps	38.4K bps	307.2K bps
57.6K bps	57.6K bps	460.8K bps
115.2K bps	115.2K bps	921.6K bps

WARRANTY

Sealevel's commitment to providing the best I/O solutions is reflected in the Lifetime Warranty that is standard on all Sealevel manufactured 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 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 life. 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 or abuse are not covered under this warranty.

Warranty service is obtained by delivering the Product to Sealevel and providing proof of purchase. Return authorization must be obtained from Sealevel Systems before returned merchandise will be accepted. Authorization is obtained by calling Sealevel Systems and requesting a Return Merchandise Authorization (RMA) number. The Customer agrees to insure 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.

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