

User's Manual

SSCF-100 & SSCFR-100

One Port RS-232 Serial CompactFlash Cards



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CompactFlash Card
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Changes or modifications to this device not explicitly approved by Quatech will void the user's authority to operate this device.

Feedback

Quatech, Inc. encourages and appreciates feedback concerning this document. Please send any written comments to the Technical Support department at the address listed on the cover page of this manual.

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1. Overview

The SSCF-100 / SSCFR-100 cards are RS-232 Serial cards with the following features:

- Type I CompactFlash form factor for CF+ equipped PDAs, Handheld, Laptop, & Tablet PCs
- DOS, Windows 95, 98, 98SE, Me, 2000, XP, CE, & PocketPC compatible using standard drivers
- Industry standard 16550 register set
- Transmission rates up to 115.2K Baud as standard.
- Data rates to 921.6 kbps
- 3.3V and 5V compatible
- Full hardware modem control line support
- Compatible with all standard serial communication software
- Compatible with standard PCMCIA slots using CompactFlash Adapter (not included)
- Uses host supply pin instead of “RI” for powering external devices
- Standard PC IO port decode for COM1 to COMn
- “Any”IO port and interrupt decode option for best PNP flexibility
- ESD protected RS-232 ports.
- Available with detachable (SSCF-100) or attached (SSCFR-100) cable
- Software controlled power management.
- Low power consumption.
- Supplied with 300mm DB9-male terminated cable with standard” com port pin-out.

2. About the SSCF-100 / SSCFR-100

The SSCF-100 / SSCFR-100 are RS-232 serial cards implemented with 16550 compatible UART ASIC devices. The serial data and control lines are buffered using ESD protected RS-232 drivers.

Industry standard baud rates up to 115.2K baud are supported, together with 16-byte deep 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 921KBaud 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. 19200Baud set on host with x8 mode gives 153600Baud true rate in hardware). See section 5 for the switch settings.

The SSCF-100 / SSCFR-100 conforms to the industry standard CompactFlash+ interface that allows connection of peripherals to the system bus of a laptop, tablet, 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 SSCF-100 / SSCFR-100 is an I/O type device and therefore requires a CF+ capable slot.

3. Installing the SSCF-100 / SSCFR-100

3.1 Windows CE, PocketPC

There is no need to install any software for Windows CE or PocketPC. Simply insert the SSCF-100/SSCFR-100 card and it will appear in a list when you set up a "Connection." For more information about setting up a "Connection" see the manual for your handheld device.

3.2 Windows 95, 98, 98SE, Me, 2000, XP

The "generic" serial drivers in these Operating Systems support the SSCF-100/SSCFR-100. Before inserting the card, however, execute the SERIALSETUP.EXE program provided on the Quatech Data Communication CD in the *Serial Port Adapters\Drivers\Windows 95, 98, Me, 2000, XP for CompactFlash* directory.

3.3 DOS & Windows 3.1x

Operation in DOS or Windows 3.1 requires 3rd party Card and Socket Services drivers to be properly installed and configured. Follow your software vendor's instructions on how to do this.

The SSCF-100/SSCFR-100 requires no extra drivers to operate in DOS. Insertion of the card should create a familiar "happy beep" as the host software configures the card as a standard DOS COM port. Resource allocation and troubleshooting is all related to the 3rd party software and any issues that may arise during configuration should be addressed to the vendors of this software. The SSCF-100/SSCFR-100 have been tested with: SystemSoft Cardware and Award Cardwizard

4. SSCF-100 Register Interface

The SSCF-100 and SSCFR-100 both appear as 5V cards to the host system because Vs1 and Vs2 are not connected. Thus the host defaults to 5V when possible to provide the strongest RS-232 output signals, and therefore the best noise margins. The Card Information Structure (CIS) does not define any 3.3V tuples because some platforms will also take this as a sign to run at 3.3V even when 5V is available. On a PDA or HPC, the host will power the card at 5V if it is available, or at 3.3V if that is the only option (despite there being no 3.3V tuple entries).

5. Hardware Specification

5.1 PINOUT

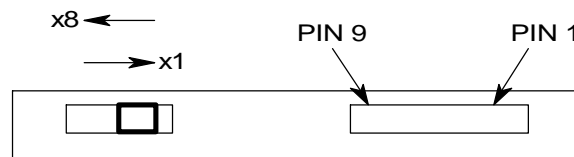
The SSCF-100 is supplied with a 300mm long detachable Type45 cable that terminates with a DB9 Male connector with female screw-locks (to match the port at the back of a PC). The pin-out below applies to **both** the SSCF-100 / SSCFR-100 card and the DB9 male connector on the supplied cable (the cable is pinned one-to-one).

The SSCFR-100 has a permanently attached 300mm cable with the same type of DB9 connector described above.

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

*Pin 1 is nearest the edge of the card.

For ref: mating connector type: Honda rmc-e9f2s-bsla2n-a2



SSCF-100 / SSCFR-100 with Baud Rate Multiplier Switch

5.2 ELECTRICAL

All figures quoted are typical parameters @ 25°C

RS-232 SIGNALS:	Typical output level $\pm 5.5V$ (open circuit voltages)
ESD PROTECTION:	All RS-232 signal lines on the SSCF-100 / SSCFR-100 card are protected against electrostatic discharge (ESD) <ul style="list-style-type: none">• 15kv - human body model• 8kv - IEC1000-4-2, contact discharge• 15kv - IEC1000-4-2, air-gap discharge
UART CLOCK SPEED:	x1: UART CLOCK is 1.8432MHz ->115.2KBaud max x8: UART CLOCK is 14.7456MHz->921.6KBaud max

5.3 POWER CONSUMPTION

All figures quoted are typical parameters @ 25°C

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

5.4 MECHANICAL

CARD MASS:	10g typical.
FORM FACTOR:	36.4mm x 42.8mm x 3.3 mm overall card size
SSCF-100 CABLE:	Detachable 300mm cable with DB-9 male connector
SSCFR-100 CABLE:	Attached 3.9mm thick cable protrudes 10.3mm from the back edge of the card. The oval cable measures approx. 7mm x 1.7mm with shield and 9x 7/0.1mm conductors.

5.5 ENVIRONMENTAL

HUMIDITY:	<80% non-condensing
TEMP:	0-50°C ambient

5.6 NOTES ON SERIAL DATA THROUGHPUT

The maximum serial baud rate of 921KBits/sec does not imply that the maximum sustained throughput rate of the serial port will be as high. The actual throughput rate that can be achieved depends on many factors including the host PC speed, the serial data source's data block size and whether the blocks are "back-to-back", whether the interrupt in use on the host is being shared by other devices leading to increased latency, etc.

As a simple rule of thumb, using the standard serial drivers on a fast PC will allow throughput rates of 400-600KBits/sec, although these rates can't be guaranteed and will be application specific.

5.7 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	300	2400
1200	1200	9600
2400	2400	19200
4800	4800	38400
9600	9600	76800
19200	19200	153600
38400	38400	307200
57600	57600	460800
115200	115200	921600

6. Warranty information

Quatech, Inc. warrants the SSCF-100 / SSCFR-100 to be free of defects for five (5) years from the date of purchase. Quatech, Inc. will repair or replace any board that fails to perform under normal operating conditions and in accordance with the procedures outlined in this document during the warranty period. Any damage that results from improper installation, operation, or general misuse voids all warranty rights. No representation is made regarding the suitability of this product for any particular purpose.

Please complete the following information and retain for your records.

DATE OF PURCHASE: _____
MODEL NUMBER: SSCF-100 / SSCFR-100
PRODUCT DESCRIPTION: One Port RS-232 CompactFlash Card
SERIAL NUMBER: _____

All products returned to Quatech for either warranty or non-warranty repair **MUST** be assigned a Returned Material Authorization (RMA) number prior to shipment. This RMA number must be clearly marked on the exterior of the product's return packaging and in any correspondence to ensure proper routing and prompt attention. To obtain an RMA number, contact Quatech Technical Support Department at 1-800-553-1170 or (330) 655-9000 or complete the RMA request form on the Quatech website. In order to prevent damage to returned merchandise during shipment, please package electronic components in anti-static/shock proof materials.

For **warranty** repair/returns, please have the following information available when contacting the Technical Support department:

1. Model number and serial number of the product under warranty
2. Repair instructions and/or specific description of the problem

For **non-warranty** repairs or upgrades, contact the Technical Support department for current repair charges. Please have the following information available when you call:

1. Purchase order number to cover the cost of the service
2. Model number and serial number of the product
3. Repair or upgrade instructions relative to the product