

The SER8CH-HLF products are precision 24 bit data acquisition systems sampling eight analog channels each at a 1/2 Hz rate ( HLF = Half = 1/2 Hz = 2 second period ). Data is returned to a host computer over a standard RS232 port in ASCII text readable format. The distinguishing feature of the "-1in" model is its small size, measuring only 1 inch wide x 3 inches long.

Equipped with a single 24 bit sigma delta A/D converter, the systems use a multiplexer to sequentially perform conversions on each channel, resulting in small boards with low power consumption. The analog inputs are buffered through a high impedance op amp between the eight channel mux and A/D converter to reduce cross talk to a minimum.

The RS232 interface requires only RX and TX. It is compatible with common USB serial port dongles, and also single board computer UARTS without any additional buffering. RS232 cables between the host computer and SER8CH may be 1000 feet long without trouble, using CAT5e for long runs. The software interface is easy to use, with an "h" command issued over the serial port returning a help listing. A DVM program with a multichannel display is also included for GUI use.

## HARDWARE FEATURES

- Ideal for applications requiring 24 bit A/D conversion on 8 channels at 1/2 Hz
- Single 24 bit A/D converter with 8 channel mux, op amp buffered
- High precision 6 digit analog accuracy, 1/2 microvolt / count
- Differential analog inputs with 0 to 5 volt range, 10M ohm input impedance
- Based on Linear Technology LTC2498 A/D chip
- Precision buried zener A/D analog reference VREF for exceptional stability
- Buffered VREF and VREF/2 for ratiometric stimulus and apps
- On board temperature sensor continuously recorded for TC corrections
- Low 10 milliamp current draw, runs for over 200 hours on 8 AA batteries
- Small footprint 1x3 inch board
- *In the box* system includes all cables, etc to run immediately
- Excellent for use with Raspberry PI and Beagle Bone Black single board computers

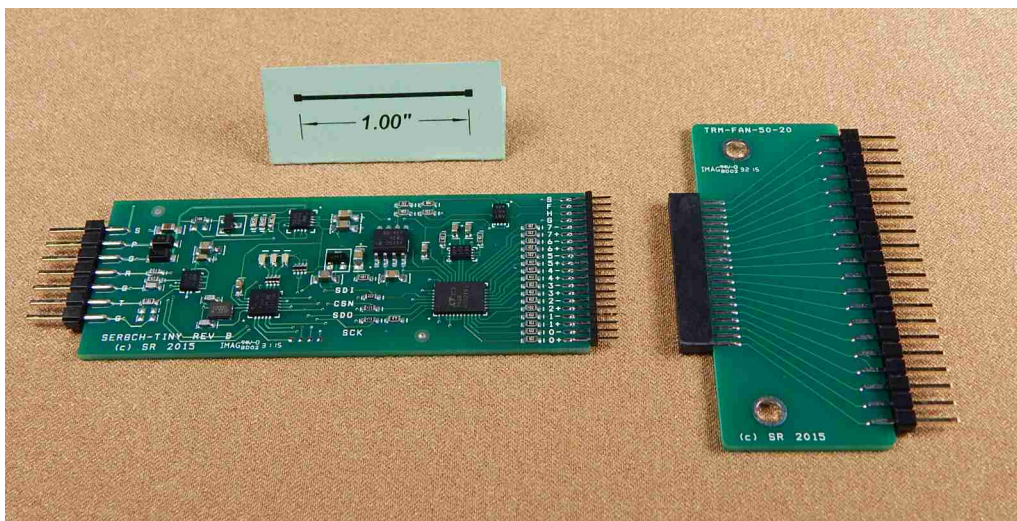
## SOFTWARE FEATURES

- Simple RS232 interface, no driver required, ASCII text data feed to host
- Ready to go DVM ( digital voltmeter ) GUI program for immediate acquisition and display
- PDF user manual with interface circuit diagrams
- Free software downloads for product review and upgrades at [www.symres.com](http://www.symres.com)

SR Product	Description	Price
SER8CH-HLF-1in - BOARD ONLY	RS232 eight channel muxed 24 bit A/D, board only	\$85
SER8CH-HLF-1in - IN THE BOX	Full starting kit, cables, power supply, etc	\$180

see page 2 for photos ...

The photo below shows the small size of the SER8CH-HLF-1in wide board. The header on the left is for power and RS232, while the 50 mil small pitch header on the right is for the analog input channels and buffered reference voltages. For easy access during development, the TRM-FAN board spreads the fine pitch header out to a standard 100 mil pitch header. FFC flat flex cable can also be soldered directly onto the pads of the SER8CH board if preferable. The SER8CH-HLF-1in is also known as the SER8CH-TINY.



Below is a screen shot of the DVM Windows GUI application. It allows for calibration into units like volts or physical sensor units, along with saving data to files in several ASCII formats.

