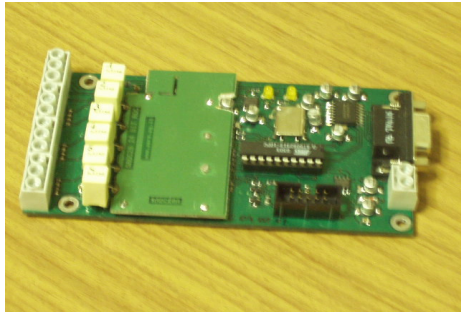


# SADC20 SEISMIC A/D 24 BIT CONVERTER



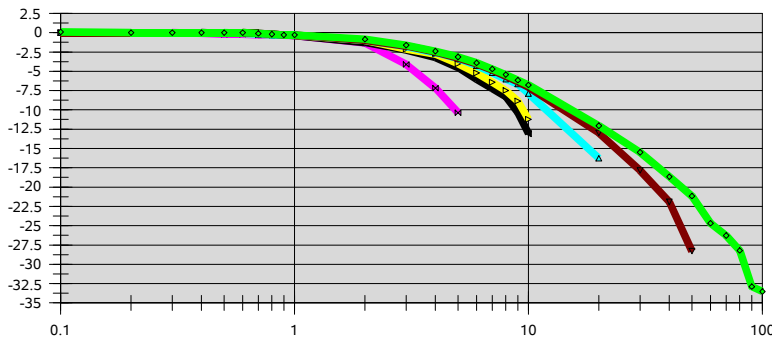
The SADC20 is a powerful, low cost and low noise A/D converter with 24 bit word resolution.

Designed to be directly connected to velocimeters without additional preamplifier units.

### Overview

The SADC20 A/D conversion board is one of the seismic converter with the best cost/quality ratio available on the market. Using one converter per channel assures the complete sampling synchronization. And the Sigma-Delta A/D monolithic chip achieve an ENOB better than 24 bit at 1 Hz. It is optimized for geophone use so no external preamplifier is needed and it is compatible with SEISMOWIN, SEISLOG and SEISCOMP.

SADC20 standard frequency response in dB from 0.1 to 100Hz  
Sampling rates 10, 20, 25, 50, 100, 200 Hz



### Technical features

- Analogue channels: 3
- Anti alias filter: 1 poles 8.8Hz low-pass filter (customizable by user replacing capacitors)
- A/D converter: monolithic 24 bit sigma delta
- Input type: differential or single-ended
- Input range: standard +/- 1V (customizable from +/-0.25 to +/-2.5)
- Input Impedance: >300kOhm
- Crosstalk rejection: > 144dB
- Skew time: 0mS (simultaneous sampling on all 3 channel)
- Clock: crystal clock 10ppm stability (with in -10/+40 °C range)
- Precision: 1 ppm at 20 °C
- Firmware: on flash memory
- Communication: 1 RS232 port from 4800 to 115200 autoselect speed
- Protocol: binary proprietary SARA format
- Sample frequency: 10,20,25,50,100,200 (upon request also 300,400,480,600,800,1200)
- Power supply: 8-15Vdc - 0.1W
- Oper. temperature: -20/+70 °C
- Dimensions: 120x62x35mm

The diagrams shows the frequency response at various sampling rate. Notice that with 100 SPS (brown curve) at 30Hz the attenuation is 17.5dB this allow the a/d to be used with the native LP filter for the majority of purposes.

The dynamic range / frequency diagram (at 100 SPS) shows the ENOB (Effective Number Of Bits) is very good in the range 1-10Hz where is from 22 to 24 bit. Below 1 Hz the range is outstanding with virtually more than 24 bits allowing to use the board also with broad band sensors.

With the standard gain the board has a sensitivity of 119nV/count.

