

## 12-Channel Signal Conditioning Card - Programmable Voltage Excitation per channel, Programmable Digital Filtering & Simultaneous Sampling



### Applications

- Flight Test Instrumentation
- Factory Automation & Process Control
- Strain Gages, Load Cells, Pressure Transducers, ...
- Research Measurements and Experiments

### Features

- 12-Channels per Card
- Simultaneous Sampling Capability
- Programmable Digital FIR or IIR Presample Filtering
  - Software selected FIR filters: 120, 90, 60 and 40 Taps
  - 120 Tap FIR filter provides comparable response to a 12- pole Butterworth Filter
  - Software selected IIR filters: 6-pole and 8-pole Butterworth, 6-pole Bessel and 6-pole Chebyshev
  - Automatic adaptive filter based on format sample rate
  - Analog anti-aliasing filter
- Programmable Voltage Excitation on a per-channel basis
- Programmable Gain and Offset
  - >10,000 settings from 1 to 1,000
- Zero and Voltage Substitution Calibration
- >1,000 M $\Omega$  Input Impedance (Power On)
- $\pm 0.25\%$  System Accuracy (Auto Cal Enabled)
- $\pm 0.5\%$  System Accuracy (Auto Cal Disabled)
- > 1 M $\Omega$  Input Impedance (Power Off)
- Automatic parasitic offset correction on power-up and ZCAL. This feature can be disabled
- $\pm 35\text{VDC}$  Overvoltage Protection
- Compatible with WDAU-20XX operating to 20Mbps
- Windows based Software Included

### Description

The SCD-112D-2 is a 12-channel plug-in signal conditioning card for use in TTC's EDAU-20XX, CDAU-20XX and WDAU-20XX products. The card is intended for applications that require significant signal conditioning flexibility and simultaneous sampling capability. The card provides constant voltage excitation on a per-channel basis, programmable presample filtering, calibration, and user-programmable gain. The user may select between digitally implemented FIR and IIR filters. All filters are phase-locked to the channel format sample rate to maintain time correlation between the input signal and the PCM output.

The filter can be set for 3, 4, 5, 6, 8 or 10 times oversampling (the filter -3dB point will be automatically set to the format sampling rate divided by the oversampling value). Alternatively, a 6th order Butterworth filter with a software-specified -3dB frequency falling within broad limits calculated by TTCWare, may be selected. The conditioned analog signal is digitized at up to 16-bit resolution for transmission in the system PCM output format.

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### SCD-112D-2 Datasheet

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 Specifications subject to change without notice.



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