

## Specifications

### Analog Input

- Number of channels: 2 simultaneous-sampled single-ended
- Resolution: 14 bits
- Maximum sampling rate
  - •65 MS/s for 2 inputs
  - •130 MS/s for Ping-Pong mode
- On-board sample memory
  - •128 MB, standard
  - •up to 512 MB, optional
- Bandwidth (-3 dB): 30 MHz minimum
- Input signal ranges: (software programmable)  $\pm 5\text{ V}$ ,  $\pm 1\text{ V}$
- Input Coupling: DC
- Overvoltage protection

Range	Overvoltage protection
$\pm 5\text{ V}$	$\pm 14\text{ V}$
$\pm 1\text{ V}$	$\pm 5\text{ V}$

- Input Impedance (soldering selectable): 50  $\Omega$ , 1.5 M $\Omega$
- Crosstalk: -80 dB, DC to 1MHz
- Total harmonic distortion (THD): -75 dB
- Signal-to-Noise ratio (SNR)

Range	SNR
$\pm 5\text{ V}$	66 dB
$\pm 1\text{ V}$	62 dB

- Spurious-free dynamic range (SFDR): 75 dB
- Data transfer: bus mastering DMA with scatter-gather

### Auto Calibration

- On-board reference: +5 V
- Temperature drift: 2 ppm/ $^{\circ}\text{C}$
- Stability: 6 ppm/1000 Hrs

### External Timebase Input

- Connector: SMB
- Impedance: 50  $\Omega$
- Coupling: AC
- Input amplitude: 1 V<sub>pp</sub> to 2 V<sub>pp</sub>
- Overvoltage protection: 2.5 V<sub>pp</sub>
- Frequency range: 500 kHz - 65 MHz

### Triggering

- Analog triggering
  - •Modes: pre-trigger, post-trigger, middle-trigger, delay-trigger
  - •Source: CH0 and CH1
  - •Slope: rising/falling
  - •Coupling: DC
  - •Trigger sensitivity: 256 steps in full-scale voltage range
- Digital triggering
  - •Modes: pre-trigger, post-trigger, middle-trigger, delay-trigger
  - •Source: external digital trigger from SMB
  - •Slope: rising/falling
  - •Compatibility: 5 V/TTL
  - •Minimum pulse width: 10 ns
- Repeated trigger rearming interval: 2 cycles of timebase
- Pre-trigger depth: 64 MB to 512 MB, depending on memory option
- Post-trigger depth: 64 MB to 512 MB, depending on memory option

### General Specifications

- I/O connector
  - •BNC x 2 for analog inputs
  - •SMB x 2 for external digital trigger and external timebase
- Operating temperature: 0 to 50  $^{\circ}\text{C}$
- Storage temperature: -20 to 80  $^{\circ}\text{C}$
- Relative humidity: 5 to 95%, noncondensing
- Power requirements

Power Rail	Current
5 V	895 mA
12 V	295 mA
3.3 V	310 mA (with 128 MB SDRAM) 430 mA (with 512 MB SDRAM)

- Dimensions (not including connectors) 175 mm x 107 mm

### Accessories

- **SMB-SMB-1M**  
1-meter SMB to SMB cable
- **SMB-BNC-1M**  
1-meter SMB to BNC cable
- **ACL-SSI-2**  
SSI Bus cable for 2 devices
- **ACL-SSI-3**  
SSI Bus cable for 3 devices
- **ACL-SSI-4**  
SSI Bus cable for 4 devices



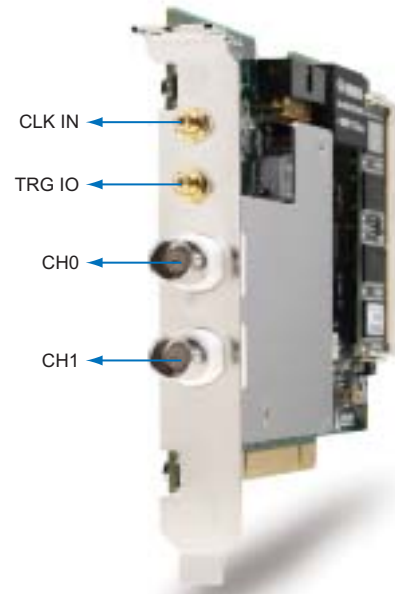
SMB-SMB-1M



SMB-BNC-1M



ACL-SSI-2/3/4



### Ordering Information

- **PCI-9820D/128-0**  
2-CH 65 MS/s 14-Bit Digitizer with 128 MB Memory
- **PCI-9820D/512-0**  
2-CH 65 MS/s 14-Bit Digitizer with 512 MB Memory

- 1 Software Solutions
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