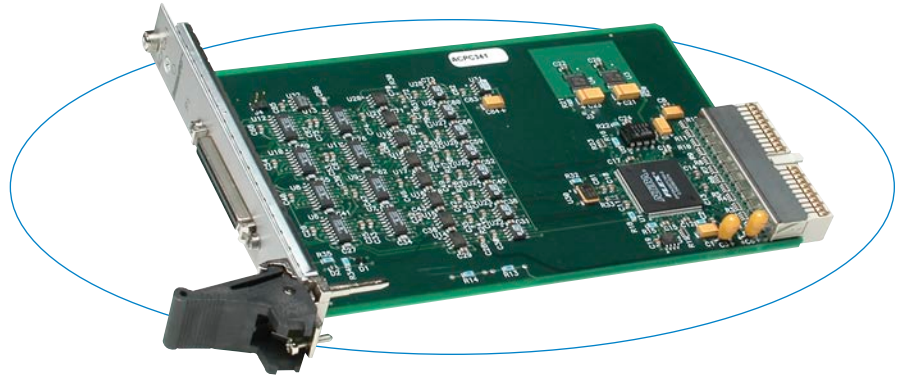


## AcPC341 Simultaneous A/D Conversion Analog Input



AcPC341 boards provide fast, high resolution, simultaneous A/D conversion of eight channels.

These boards have sixteen analog inputs which are sampled as two eight-channel banks. Eight A/D converters (ADCs) permit simultaneous conversion of all eight channels in a bank. All 16 channels share two generous 512-sample memory buffers. Conversion of each bank requires only 8 $\mu$ S, and all 16 channels can be sampled in just 16 $\mu$ s.

Flexible configuration options give you extensive control over the conversion process. The channels or bank to be converted, timing, scan mode, and other parameters are user-programmable. Interrupt support adds further control to interrupt upon a programmable threshold when the data in memory exceeds the set threshold.

### Features

- 16 differential inputs ( $\pm 10V$  DC input range)
- Eight 14-bit A/D converters with simultaneous multi-channel conversion
- 8 $\mu$ S conversion time (125KHz) for 8-channel bank
- Two 512-sample memory buffers
- Data tagging for channel identification
- Programmable conversion timer
- Programmable channel conversion control
- External trigger input and output
- Continuous and single-cycle conversion modes
- Interrupt generation for memory full threshold conditions
- Precision calibration voltages stored on-board

### Benefits

- Simultaneous channel conversion and on-board memory enable megahertz throughput rates.

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This board is ideal for high-speed data acquisition. A large memory buffer reduces CPU interactions for increased overall performance.

### Specifications

#### Analog Inputs

Input channels: 16 differential.  
 A/D resolution: 14 bits.  
 Input range:  $\pm 10V$ .  
 Maximum throughput rate:  
     Eight channels can be simultaneously acquired.  
     One channel: 125KHz (8 $\mu$ S/conversion)  
     8 channels (same bank): 1MHz (8 $\mu$ S/8 channels)  
     16 channels (high & low banks): 1MHz (16 $\mu$ S/16 ch. at maximum 2.2K ohm source resistance).  
 Data sample memory: Two 512-sample memory buffers allows writing to one buffer while reading from the other.  
 A/D triggers: Internal timer, external, and software.  
 Internal conversion timer: User-programmable delay between simultaneous conversion of 8-channel banks. Maximum delay is 2.09 second interval.  
 System accuracy: 2.4 LSB (0.014%).  
 Data format: Binary two's complement.  
 Overvoltage protection:  $\pm 25V$  (power on),  $\pm 40V$  (off).  
 Common mode rejection ratio (60Hz): 96dB typical.  
 Channel-to-channel rejection ratio (60Hz): 96dB typical.

#### Environmental

Operating temperature: 0 to 70°C  
 Storage temperature: -55 to 105°C.  
 Relative humidity: 5 to 95% non-condensing.  
 MTBF: Consult factory.  
 Power: 265mA at +5V (320mA maximum).

#### CompactPCI bus Compliance

Meets PCI spec. V2.2 and PICMG 2.0, R3.0.  
 Data transfer bus: Slave with 32-bit, 16-bit, and 8-bit data transfer operation.  
 Interrupts (INTA#): Interrupt A is used to request an interrupt.  
 Plug-and-Play: The system maps the base address into the PCI bus 32-bit memory space.

### Ordering Information

**AcPC341**  
Analog input board

#### Software

**PMCSW-API-VXW**  
VxWorks® software support package  
**PCISW-API-WIN32**  
32-bit Windows® DLL Driver software package  
**PCISW-API-WIN64**  
64-bit Windows® DLL Driver software package  
**PCISW-API-LNX**  
Linux® support (website download only)

#### Accessories

**5028-378**  
Termination panel, SCSI-2 connector, 50 screw terminals  
**5028-438**  
Cable, shielded, SCSI-2 connector at both ends

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