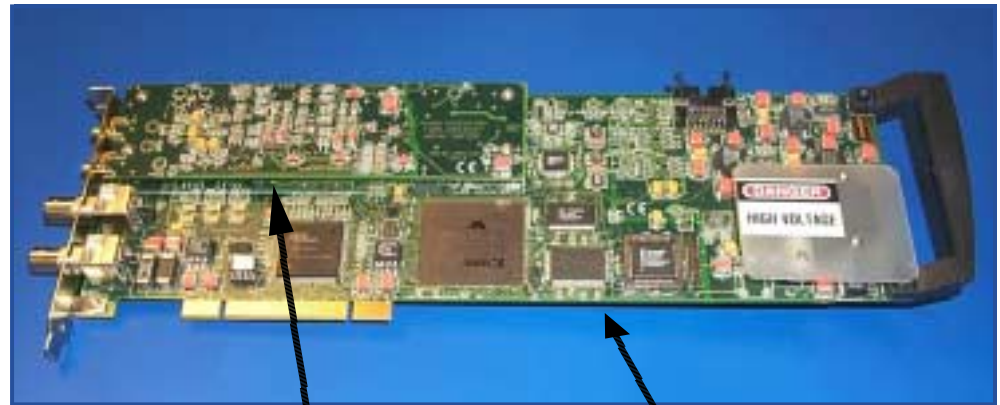


## AD-IPR-1210: Integrated Analog to Digital Converter with Pulsar/Receiver

New from NDT Automation (NDTA), the *AD-IPR-1210* board is a 12-bit, analog to digital converter with an integrated high-performance 300 Volt (400 optional) pulser/receiver module. Utilizing a 10-layer SMT (Surface Mount Technology) printed circuit board, this high speed, **extremely low noise** PCI-bus card is designed for wide bandwidths and fits into one standard PCI slot on a PC. With a tunable (50 nanoseconds to over 1 microsecond) programmable pulse width, the pulser/receiver can be optimized to work with 20 MHz to less than 500 kHz transducers.

It is available as an integrated unit or as a stand-alone (A/D only) board for use with other (internal or external) pulser/receiver options. The board (with or without the integrated IPR option) has many potential uses in industrial, commercial, medical, scientific R&D, instruments and general laboratory work. *(For a detailed description of the AD-1210-PCI portion of the system, please refer to the AD-1210 -PCI Product Bulletin, NDTA #113800).*

The AD-IPR-1210 has been fully integrated with NDTA's ULTRAPAC, LSI and TubeScan ultrasonic inspection systems using ULTRAWIN™ software. In addition, NDTA offers optional Windows and LabView driver software packages for those who want to program their own applications with the AD-IPR-1210.



Optional Pulsar/Receiver Module

AD-1210-PCI (12 Bit Digitizer)

### Key Features & Specifications:

#### UT Receiver:

- 30 MHz bandwidth
- -20 to +80 dB gain in 0.1 dB steps
- 6 Selectable high pass filters at 0.5, 2.0, 4.0, 8.0, 12.5 and 22.5 MHz
- 6 Selectable low pass filters at 2.0, 5.0, 7.5, 12.5, 17.5 and 30 MHz
- Distance Amplitude Correction

#### UT Tunable Spike Pulser:

- Programmable voltage level : 10 volt steps
- 300 Volt tunable spike pulser (<10 nsec rise time) standard
- 400 Volt (<5 nsec rise time) pulser upgrade, available option for critical applications
- Programmable (tunable) pulse width
- Programmable damping values - 4 levels
- Programmable energy levels - 2 levels
- Up to 10,000 pulses per second usable rate

*Upgrading an existing stand-alone AD-1210-PCI to the AD-IPR-1210 configuration is performed as a factory option.*

## Additional AD-IPR-1210 Performance Specifications:

### Physical and Electrical :

- Card Form Factor: Full size and length IBM compatible PCI bus board
- Dimensions: 4.2" (10.67 cm) H x 13.5" (34.3 cm) L x 0.6" (1.53 cm) W
- Weight: < 1 lb (<0.5Kg)
- Power Requirements: < 12 watts, +5V 1.5A, +12V 0.3A
- Electrical Safety Stds: EN60950 (IEC-950)
- EMC Emission Stds: EN55011, EN55022
- EMC Immunity Stds: EN50082-1, IEC-1000-4-2,3,4
- Operating Temp.: 41° - 120° F ( 5° - 50° C)

### UT Receiver:

- Input Impedance: 100 ohm
- Maximum Input Voltage Range: +/- 1 volt
- Output Impedance: 50 ohm
- Bandwidth: 0.5 MHz - 30 MHz (+ 3dB)

### Analog to Digital Converter

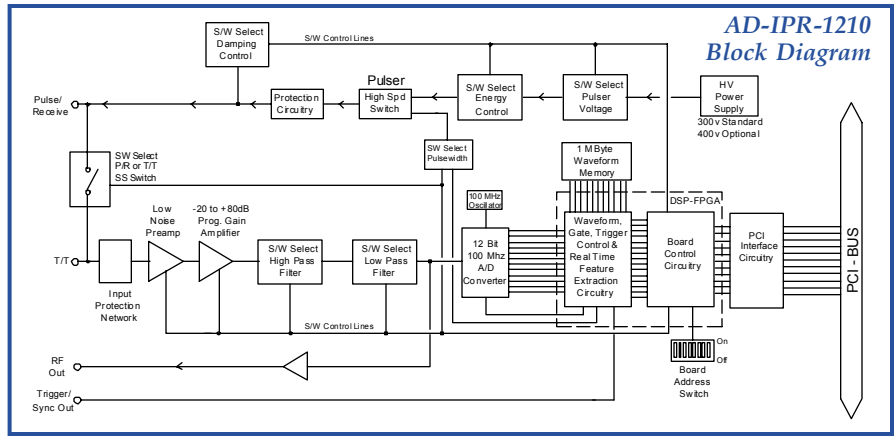
- Resolution: 12 bits
- Offset Control: Programmable with 12 bit DAC
- Sample Rates: 100, 50, 25, 10, 5 M-Samples/sec
- Sample Memory: 1 Mb Synchronous Static RAM (SSRAM)
- Maximum Waveform Sample Size: 512 k samples

### Distance Amplitude Correction

- Memory: 128 kbytes RAM for 64 K points
- Resolution: 0.1 dB
- Duration: 0 - 1.28 msec

### Trigger, Gates & Features:

- Trigger Modes: Software Controlled, External Input, Signal Threshold
- Threshold Control: Programmable 1 - 100% Full Scale
- Post Trigger/Delay: Programmable 0 - 262,140 samples



- Gates: (0 - 2,620  $\mu$ sec)  
4 independent gates (with separate Gate Delay, width controls, sync threshold and detection threshold)
- Blanking: 10 to 2,621,400 nsec (18 bit counter) or 152" in water
- Gate Delay: 10 to 655,350 nsec (16 bit counter) or 160" in Al
- Gate Width: 10 to 655,350 nsec (16 bit counter) or 160" in Al
- Feature Extraction: Real time feature extraction using full wave, positive or negative signal

### Real Time Features:

- Time from trigger to interface (first echo) detection
- Time to maximum peak in gate
- Time to first peak in gate
- Time to threshold before first peak in gate
- Time to threshold before maximum peak in gate
- Peak amplitude in gate
- Amplitude of first peak in gate
- Amplitude Voltage Resolution: 12-bit (488  $\mu$ V)
- Time of Flight Resolution: 16-bit (10  $\eta$ S)

**For more information about  
the AD-IPR-1210 Call (609) 716-4190  
or e-mail us: [sales@ndtautomation.com](mailto:sales@ndtautomation.com)**



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