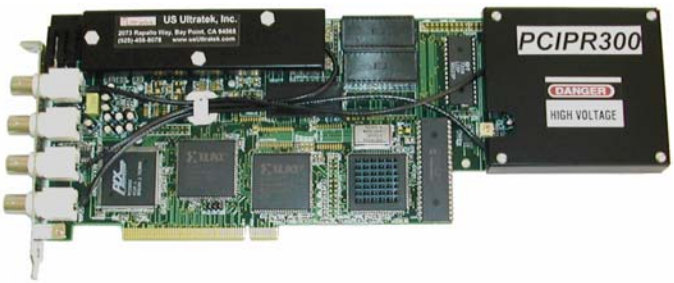
PCIPR300

ULTRASONIC PULSER/RECEIVER BOARD FOR PCI BUS



FEATURES

- PCI bus pulser/receiver board
- On-board microprocessor for various custom applications
- On-board encoder counters featuring optional position based data acquisition
- Pulser switch-off during data acquisition for low noise operation
- Rectifier with RF, full wave, -half, or +half options
- Wide-range dynamic gain
- Adjustable DC offset
- Control software for Windows 95/98/2000/NT
- Selectable low-pass and high-pass filters
- Optional distance amplitude correction (DAC)
- Optional logarithmic amplifier
- Optional Windows 95/98/2000/NT software development kits for C/C++, Visual BASIC, and LabVIEW

DESCRIPTION

The PCIPR300 is a pulser/receiver board for the PCI bus. The board generates an electrical pulse which is transmitted to an ultrasonic transducer. The transducer converts the electrical excitation pulse to an ultrasonic pulse which then propagates into the test material or couplant. The transducer also receives the echoes that are reflected back from the interface and converts the ultrasonic pulse back into an electrical signal which is then processed by the on-board receiver. The signal from the Signal Out connector can be displayed by an oscilloscope or digitized by an analog to digital converter board. This process is entirely adjustable by the end user—configurable properties include: pulse voltage, pulse width, damping, pulse/echo or through transmission mode, receiver gain, DC offset, low-pass filter, high-pass filter, rectification, trigger source—internal or external, digital inputs and outputs, and internal trigger rates.

Optional add-ons include an EXT TRIG connector, a trigger-sync output connector, a logarithmic amplifier, encoder counters, a higher pulse voltage, narrow and wide pulse widths, distance amplitude correction (DAC), and Windows software development kits.

When used in conjunction with our DT16B 16-channel pulser/receiver switching board, the PCIPR300 becomes a multi-channel ultrasonic inspection and system capable of up to 256 channels. Multiple PCIPR300 boards can be installed in one computer to develop a multi-channel ultrasonic system capable of firing multiple transducers and acquiring data at the same time. For your analog to digital conversion needs, please refer to our PCIUT3100 board — the 100 MHz analog to digital converter PCI board.

SPECIFICATIONS

Pulse Voltage	-40V to -300V, 256 steps. Higher voltages are available upon request.
Pulse Width	50 ns to 484ns, 256 steps. Optional 15 ns is available upon request.
Damping	620Ω, 340Ω, 200Ω, 160Ω, 60Ω, 55Ω, 50Ω, or 47Ω
Internal Trigger	10 Hz to 5000 Hz in 10 Hz increments when internal trigger is selected.
Receiver Gain	0 dB to 80 dB in 0.1dB increments, or 0 dB to 40 dB fixed and 0 dB to 40 dB DAC.
DC Offset	-2.5V to +2.5V in 5mV increments
Low Pass Filter	All, 48MHz, 28MHz, 18MHz, 8.8MHz, 7.5MHz, 6.7MHz, or 5.9MHz
High Pass Filter	4.8MHz, 1.8MHz, 0.8MHz, or 0.6MHz
Waveform	Full rectify, + half rectify, - half rectify, or RF
Trigger Source	external, internal, or software
Transducer Mode	Single (pulse/echo) or dual (through transmission)
Dimensions	12.5"x4.25" not including BNC and PCI edge connectors
Connectors	4 BNC connectors: Pulse out, receiver in, signal out, and external trigger in.
Add-on Options	- EXT TRIG connector - BNC trigger-sync output connector - Logarithmic amplifier - Narrow and wide pulse widths - Up to 4 encoder counters and connectors - High pulse voltages - Distance amplitude correction (DAC) - Software development kits - Multi-channel control option

US Ultratek, Inc. 4070 Nelson Ave. Suite B, Concord, CA 94520 USA (925) 687-7688 Fax: (925) 687-7689
Email: sales@usUltratek.com Web: http://www.usUltratek.com