



### FEATURES

- Pulsar/receiver board with tone burst pulser for PCI bus
- On-board microprocessor for custom applications
- On-board encoder counters featuring optional position-based data acquisition
- Pulsar 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 PCIPR300T is a tone burst pulser/receiver board for the PCI bus. The board generates a series pulse chain 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 reflected echoes 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 frequency, number of pulse cycles, 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, distance amplitude correction (DAC), and Windows software development kits.

When used in conjunction with our DT16T 16-channel pulser/receiver switching board, the PCIPR300T becomes a multi-channel ultrasonic inspection system capable of up to 256 channels. Multiple PCIPR300T boards can be installed in one computer to create 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 PCIUT3100T board — a 50 MHz analog-to-digital converter for PCI bus.

### SPECIFICATIONS

<b>Pulse Voltage</b>	-40V to -300V, 256 steps. Higher voltages are available upon request.	<b>High Pass Filter</b>	633 kHz, 205 kHz, 15 kHz, or 14 kHz
<b>Pulse Frequency</b>	20 kHz to 6.5 MHz	<b>Waveform</b>	Full rectify, + half rectify, - half rectify, or RF
<b>Pulse Number</b>	1 to 32 half cycles with configurable polarity	<b>Trigger Source</b>	external, internal, or software
<b>Pulse Shape</b>	Square wave	<b>Transducer Mode</b>	Single (pulse/echo) or dual (through transmission)
<b>Pulse Polarity</b>	negative or positive	<b>Dimensions</b>	12.5"x4.25" not including BNC and PCI edge connectors
<b>Damping</b>	510Ω	<b>Connectors</b>	4 BNC connectors: Pulse out, receiver in, signal out, and external trigger in.
<b>Internal Trigger</b>	10 Hz to 5000 Hz in 10 Hz increments when internal trigger is selected.	<b>Add-on Options</b>	- EXT TRIG connector - BNC trigger-sync output connector - Logarithmic amplifier - Up to 4 encoder counters and connectors - High pulse voltages - Distance amplitude correction (DAC) - Software development kits - Multi-channel control option
<b>Receiver Gain</b>	0 dB to 80 dB in 0.1dB increments, or 0 dB to 40 dB fixed and 0 dB to 40 dB DAC.		
<b>DC Offset</b>	-2.5V to +2.5V in 5mV increments		
<b>Low Pass Filter</b>	All, 48MHz, 28MHz, 18MHz, 8.8MHz, 7.5MHz, 6.7MHz, or 5.9MHz		