



## FEATURES

- PCI pulser/receiver board featuring 4 channels on a single 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
- Selectable low-pass and high-pass filters
- Control software for Windows 95/98/2000/NT
- Optional distance amplitude correction (DAC)
- Optional logarithmic amplifier
- Optional Windows 95/98/2000/NT software development kits for C/C++, Visual BASIC, or LabView

## DESCRIPTION

The PRM is a 4-channel 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, sampling rate, trigger source—internal or external, digital inputs and outputs, and internal trigger rates. The user selects the pulsing channel and the receiving channel, which are not necessarily the same.

Optional add-ons include digital inputs and outputs, a trigger-sync output connector, a logarithmic amplifier, up to 4 encoder counters, a higher pulse voltage, narrow and wide pulse widths, distance amplitude correction (DAC), and Windows software development kits.

Refer to the PCIPR300 pulser/receiver board and the DT16B 16-channel pulser/receiver switching board for solutions requiring more channels. For your analog to digital conversion needs, please refer to our UTM board—the 100 MHz analog to digital converter PCI board with 4 pulser/receiver channels.

## SPECIFICATIONS

<b>Pulse Voltage</b>	-40V to -300V, 256 steps. Higher voltages are available upon request.	<b>Waveform</b>	Full rectify, + half rectify, - half rectify, or RF
<b>Pulse Width</b>	50 ns to 484ns, 256 steps	<b>Trigger Source</b>	external, internal, or software
<b>Damping</b>	500 Ohms, or 50 Ohms	<b>Transducer Mode</b>	Single (pulse/echo) or dual (through transmission)
<b>Internal Trigger</b>	1 Hz to 5000 Hz in 10 Hz increments when internal trigger is selected.	<b>Dimensions</b>	12.5"x4.25" not including BNC and PCI edge connectors
<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>Connectors</b>	BNC connectors: 4 Pulse out, 4 receiver in, 1 signal out, and 1 external trigger in.
<b>DC Offset</b>	-2.5V to 2.5V in 5mV increments	<b>Add-on Options</b>	- BNC trigger-sync output connector - Logarithmic amplifier - Up to 4 encoder counters and connectors - High pulse voltages - Distance amplitude correction (DAC) - Software development kits
<b>Low Pass Filter</b>	All, 48MHz, 28MHz, 18MHz, 8.8MHz, 7.5MHz, 6.7MHz, or 5.9MHz		
<b>High Pass Filter</b>	4.8MHz, 1.8MHz, 0.8MHz, or 0.6MHz		