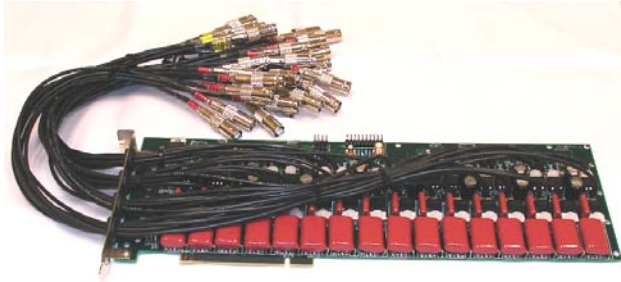


FEATURES



- Fires simultaneously or with slight delays for phased array ultrasonic systems
- Supports up to 16 pulser/receiver channels per board and many boards per computer
- Available with single-pulse pulser and tone-burst pulser
- Selectable pulse echo or through transmission mode for each channel
- Pulse voltage up to 300 volts for square-pulse pulser or +/-150 volts for tone-burst pulser
- Build a phased array system or a simultaneous pulser/receiver system (requires PCIAD1650 or PCIAD850)

DESCRIPTION

The **PHA8** and **PHA16** are multi-channel simultaneously firing pulser/receiver boards with square pulse pulsers. The **PHA8T** and **PHA16T** are multi-channel simultaneously firing pulser/receiver boards with tone burst pulsers. Each channel can be set to single transducer (pulse echo) mode or dual transducer (through transmission) mode. The pulse from each channel can be delayed slightly to create a phased array system.

PHA8(T) and **PHA16(T)** are slave boards and should work with the **PCIAD850** or **PCIAD1650** multi-channel simultaneous data acquisition boards. At each trigger event (software trigger or external trigger) the pulser/receiver channels will fire at user-specified delays and the data acquisition channels will simultaneously convert the analog signals to digital data with user selected post trigger delay, waveform length, gain, DC offset, low and high pass filters.

Multiple boards can be installed in the same computer for a data acquisition system with more than one hundred channels. With one board set as the master and remaining set to slave mode, all channels on the slave boards will start taking data upon receiving a trigger signal from the master board. The jitter between channels is less than 2 nanoseconds.

The optional distance amplitude gain (DAC) sets various gains at different times during the acquisition. This is very useful for the inspections of materials thicker than 1 inch.

Up to 2 encoder counters can be added to the board to enable position-based data acquisition and generate precise ultrasonic images.

Users can develop their own software with the provided Windows dynamic libraries for Microsoft C/C++, Visual Basic, and LabVIEW. See the user's guide for **PCIAD850** or **PCIAD1650** for more details.

Applications include flaw mapping, thickness mapping, material evaluation and characterization, rail road inspections and pipeline girth weld inspections. They also can be used for EMAT and guide wave inspections.

SPECIFICATIONS

Square Pulser Global Parameters

Pulse Voltage:	-40 to -300 in 256 steps
Pulse Width:	30 to 500 ns in step of 10 ns
Trigger Source:	External
Pulse Jitter:	<2 nanoseconds

Square Pulser Channel Based Parameters

Damping Resistor:	510 ohms
Transducer Mode:	Programmable single and dual elements
Pulse Delay:	0 to 40,950 ns in 1.25 ns increment
Channel Firing:	Firing all the channels or user selected channels

Tone Burst Pulser Global Parameters

Pulse Voltage:	+/-20V to +/-150 in 256 steps
Pulse Frequency:	20 kHz to 6.5 MHz
Pulse Cycles:	1 to 30 half cycles
Pulse Polarity:	Starting positive or negative
Trigger Source:	External
Pulse Jitter:	<2 nanoseconds

Tone Burst Pulser Channel Based Parameters

Damping Resistor:	510 ohms
Transducer Mode:	Programmable single and dual elements
Pulse Delay:	0 to 40,950 ns in 5 ns increment
Channel Firing:	Firing all the channels or user selected channels