



FEATURES

- Up to 16 pulser/receiver channels per board
- Up to 256 pulser/receiver channels per computer
- Pulse damping selection for each channel
- Controllable pulse/echo or through transmission mode
- High-voltage pulse up to 300 volts
- Adjustable pulse width (50ns to 484ns)
- High-voltage switch-off during data acquisition for low noise operation
- Wide-range dynamic gain for each channel
- Adjustable DC offset
- Selectable low-pass and high-pass filters
- User-specified pulser channels and receiver channels
- User-specified firing sequence

DESCRIPTION

The DT16B is a 16-channel ultrasonic pulser/receiver board containing 16 dedicated pulsers and a multiplexer. In addition to the DT16B, a PCIPR300M pulser/receiver card or a PCIUT3100M card is needed to control the DT16B through one ribbon cable and two coaxial cables. The controllable parameters include pulser channel number, receiver channel number, damping resistance, mode, pulse width, and pulse voltage.

With the help of the receiver on the PCIPR300M or PCIUT3100M card, the signal from the multiplexer can be processed as specified by the user. The receiver features high pass filters, low pass filters, rectifiers, gain, and DC offset adjustments. These parameters are quickly and easily changeable at any time, which is very important for high speed data acquisition requiring fast channel switching.

Windows dynamic libraries for Microsoft C/C++, Visual Basic, and LabView are provided to enable end users to easily develop their own software. With these libraries, the user can set up any firing sequence along with different gains, rectifications, and DC offsets for each channel.

The DT16B board installs into one of the computer's PCI slots. Multiple DT16B cards can be installed in a single computer to build a system of up to 256 channels. Each board has 16 pulser cables and 16 receiver cables. The cables can be equipped with BNC, Lemo00, SMB, or small profile Burndy connectors. A scaled down version of the board is available — the DT8B board features 8 channels instead of 16 for cost sensitive applications.

Applications include flaw mapping, thickness mapping, material evaluation and characterization, and pipeline girth weld inspections.

SPECIFICATIONS

Pulse Voltage	-40V to -300V, 256 steps. Higher voltage is available upon request.	High Pass Filter	4.8MHz, 1.8MHz, 0.8MHz, or 0.6MHz
Pulse Width	50 ns to 484ns, 256 steps	Waveform	Full rectify, + half rectify, - half rectify, or RF
Damping	500Ω, and 50Ω	Card Dimension	12.5" x 4.5"
Receiver Gain	0 dB to 80 dB in 0.01dB increments.	Channels per card	16 channels
DC Offset	-2.5V to 2.5V in 5mV increments	Max cards/Computer	16 cards
Low Pass Filter	All, 48MHz, 28MHz, 18MHz, 8.8MHz, 7.5MHz, 6.7MHz, or 5.9MHz	Options	<ul style="list-style-type: none"> - LEMO00 connectors - SMB connectors - Burndy connectors - Optional output voltage: -350V - Software development kit
Mode	Controllable pulse/echo or through transmission mode with internal relay		