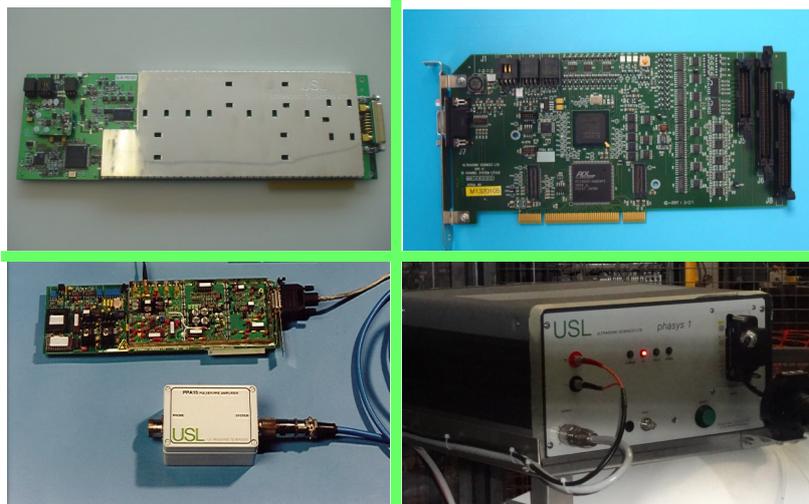


## PC expansion products for ultrasonic testing



- The culmination of over 25 years experience in designing PC expansion boards
- A complete range of boards for ultrasonic testing and data acquisition
- Industry leaders in sensitivity, signal/noise ratio and noise immunity
- Pulser receivers with high speed A-D converter, motion controllers, phased array processor.

Since 1987 Ultrasonic Sciences have been designing and applying PC expansion boards in ultrasonic testing systems. The current range is the most comprehensive available anywhere. We guarantee that you will not find a better combination of sensitivity, noise immunity and acquisition speed from any comparable product. In fact, the performance equals or exceeds that available from even the most sophisticated of conventional "flaw detectors". Examples of applications include:

- Squirter and immersion inspection systems for aerospace composites
- In line systems for tube, bar and plate inspection in manufacturing environments
- Single and multi-channel immersion tanks for industry, laboratory and research
- Systems for inspection of welded tube, pipe and power generating plant
- Scanning acoustic microscopy

This leaflet provides a brief introduction to the range and application - please contact us for more detailed information on any of these products.

## USL expansion boards-brief description and application

<b>PULSER RECEIVERS</b>	
<b>PM30X Pulsar Receiver</b>	<p>This is the most advanced board of its type commercially available, incorporating both pulser receiver and analog-digital converter functions. It combines linear and logarithmic amplifiers for optimum results on the widest possible range of applications and materials. It is used in conjunction with a remote PPA15 pulser preamplifier or remote Multiplexers, giving up to 32 channels.</p> <p>Bandwidth &lt;0.5 to &gt;30MHz at -3dB with switchable option down to 100kHz, instantaneous dynamic range (log) &gt;90dB, gain range (linear) 140dB, programmable filters with variable bandwidth and centre frequency, 20kHz PRF, 60dB TVG/DAC with &gt;1024 points and 20dB/microsec slope. All parameters programmable at full PRF rate.</p> <p>Dual A-D converters each capable of 500Msps (Mega samples per second) with 14 bit resolution.</p> <p>Detection of 0.2mm FBH at 40mms with S/N ratio better than 12dB and 1/64" FBH sensitivity at 250mms in metals. Capture of attenuation in thin carbon and thick honeycomb at the same setting.</p>
<b>PR20 and PR50 Pulsar Receivers</b>	These are legacy boards with a narrower range of functions than the PM30X.
<b>PHASED ARRAY</b>	
<b>Phasys 1</b>	Phasys 1 is a phased array / linear scanning array processor designed for application in scanning systems. Available in configurations from 32/32 to 32/128 it can also be supplied in a format which provides four simultaneous delay laws to increase potential scanning speeds. The main unit is positioned on the scanner close to the array probe and is controlled by Ethernet from the main computer.
<b>DATA ACQUISITION</b>	
<b>ATP4 Amplitude and Time Processor</b>	Single shot measurement of peak amplitude and time of flight at frequencies up to 50MHz. Up to 4 programmable gates. Board can be configured for 1 or 2 time gates and up to 4 amplitude gates, with a total number of 4. 10 nanosec gate delay and width increments. Main bang and interface trigger modes. Formerly used in high speed on-line systems for tube and bar inspection. Now largely superseded as a consequence of the higher data transfer and processing speeds which can be achieved using digitized data.
<b>MOTION CONTROL</b>	
<b>MSC Master System Controller</b>	This is a legacy product previously used for control of PR20/50 boards and for simple motion control.
<b>SI10 10 axis stepper interface</b>	Provides motor control and encoder input for up to 10 axes of motion. Also incorporates an interface for limit switches and other external sensors. The scan program is controlled by the PC software.
<b>EXPANSION &amp; COMMUNICATION</b>	
	Expansion and communication products previously manufactured by USL for control of boards in an expansion "crate" are no longer available. These are superseded by products housed directly in the PC.

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