

QuickScan PA



Features

- Dedicated Windows software for in-line applications
- Open architecture enabling the use of multiple units working in parallel when a large number of probes are required
- Up to 8 apertures in parallel of a maximum of 16 elements for eight 128-element probes
- One aperture of a maximum of 32 elements for a 256-element probe
- System bandwidth (–3dB): 650 kHz–20 MHz
- Maximum pulsing rate: >20 kHz
- Inspection modes: pulse echo
- Linear scanning, focusing, and beam steering capabilities
- Advanced automatic calibration tools
- A-scan, B-scan, C-scan, and merged strip-chart displays

The QuickScan PA is a digital instrument, Designed for in-line inspection using phased-array ultrasound:

- ERW Inspection
- Full Body Inspection
- Tube, Bar, and Plate Inspection

Specifications

Pulser/Receiver, for Each UT Channel

Pulse repetition rate	> 25 kHz
Pulse amplitude	–85 V
System bandwidth	0.6 to 20 MHz (–3 dB)
Linear amplifier gain	0 dB to 80 dB, with 1-dB steps
DAC (distance-amplitude correction)	80-dB dynamic range
Filters	Optional factory adjustments

Inspection mode	Pulse echo (128- or 256-element probe). Transmission: (2 probes, 128 or 256 elements, or 4 x 64-element probes).
Pulser/receiver configuration	16 or 32 pulser/receivers in parallel can be multiplexed for a total of 128 or 256 pulser/receivers
Data Acquisition	
Digitizer	8 bits, up to 100 MHz
Acquisition mode	Free-running (up to 20 kHz) or external signal (1-or 2-axis encoder position)
Real-time A-scan data compression	Compression by n (1 to 64)
Detection gates	3 independent gates
Interface gate	1 interface gate for surface synchronization
Peak gate	1 peak gate. Maximum of 128 peaks.
Alarms and I/O for Each UT Channel	
Alarm levels per gate	3 alarm outputs coming from any logic combination of 4 gates
Statistic alarms	Programmable gate crossing (1–16)
I/O (in parallel working mode)	2 analog outputs for amplitude and time of flight in gates
Phased Array Features	
Beam forming	16 or 32 A-scans in parallel for beam forming
Multiple probe capability	P/E mode, 1 probe of 128 elements, 16/128
Pulser/receiver delays	Adjustable from 0 μ s to 25 μ s in steps of 2 ns
Focal law storage	Up to 1024 focal laws can be stored for high-speed multiplexing. Independent focal law for transmission and reception.
Electronic scanning	Many inspection angles along the 128 or 256 elements.
Advanced focusing feature	Dynamic depth focusing function
Application-Specific Software	
Main software	Designed around R/D Tech TomoView software
Real-time display	A-scan and multiple strip charts or C-scan
Setup and data storage	Amount only limited by disk size
Database management	Microsoft® Access interfacing (customer, lot, product number ...)
Automatic calibration	Software setup wizard