



Features

- Exceptional Price/Performance
- Portable yet Highly Capable
- Ethernet Link - PS45 to Laptop
- High Speed Real-time Data Collection
- Fast Inspection Speeds
- Extensive Off-line Analysis Tools
- Easy to use Menu's
- Built-in Reporting
- 2 Axis Encoder & Video Tracking

Techniques

- ToFD
- Pulse Echo
- Corrosion Mapping
- Weld Zone Discrimination

Applications

- Pressure Vessel Welds
- Pipeline Welds
- Structural Welds
- Hydrogen Damage Surveys
- Corrosion Surveys
- Forgings & Castings
- Aircraft Components
- Complex Geometries

Software Options

- Pulse Echo
- ToFD
- Strip-Scan
- Long Range (Creep Wave & Corrosion Mapping)
- TD Super-View

TD-PS45 Pocket-Scan Technical Specification

Hardware

General	
Number Of Probe Inputs	8/16
Number Of Software Channels	128
Digitisation	
Main Sampling Frequency	100MHz@8 bit
System Bandwidth(-3dB)	0.25MHz to 30MHz
Pulse Repetition Frequency	Up to 10KHz
Pulser	
Number Of Pulsers	8/16
Single/Twin Crystals	Yes
Output Impedance	6 Ohms
HT Pulse Shape	Negative square wave
HT Pulse Voltage steps of 5V	50 - 200V user definable
HT Pulse Width Range	20ns to 500ns in 2ns steps with < 5ns rise/fall time
Receiver	
Number Of Receivers	8/16
Signal Bandwidth (-3dB)	0.25MHz - 30MHz
Gain Range	0dB to 100dB's in 0.1dB steps
Gain Linearity	0.25dB (typical)
Input Noise Level	1.4nV/(Hz) ^{1/2} (typical) across full system bandwidth
Input Impedance	50 Ohms
Time Corrected Gain (TCG)	
Number Of Curves	8
Gain Range	0 to 100dB in 0.1dB steps on each element
Rate Of Gain Change	Up to 40dB/μs
DAC Time resolution	Automatically controlled using gate Parameters
DAC Start reference	Transmit Pulse or material i/f echo, user selectable
Analogue Signal Filtering	
High Pass Filters (-3dB)	0.25, 0.5, 0.75, 1.0, 2.5, 5, 10, 15MHz
Low Pass Filters (-3dB)	1, 2.5, 5.0, 7.5, 10, 15, 20, 30MHz
Post Rect. Smoothing Filters (-3dB)	No filter, 1, 2, 3, 4, 5, 6, 7MHz, all filters selectable
Filter Roll-Off Performance	60dB per decade
Filter Type	6dB Transitional, minimal distortion
Power Requirement	
DC Input	6V to 12.5V @ 5Watts (approx.)
AC Input	90 to 260VAC @ 40 to 60Hz

Software

General Features	
• Operator definable weld geometry overlays	
• Real-time A, B, C and D-Scan images, with user defined display modes	
• Multiple Time Corrected Gain curves	
• Internal report generation including interactive print-preview & user-definable report fields	
• Full cursor analysis indicating peak depth, amplitude and x,y position	
• Export Bitmap images to any Windows application	
• Easy to use intuitive menu system	
ToFD	
• Clear user-friendly menus	
• Very fast inspection rates up to 400mm/sec	
• Perform multi-channel TOFD and Pulse Echo inspections simultaneously	
• Full suite of image analysis tools for defect/crack sizing	
• Realtime multi-channel averaging significantly improves signal quality	
• Linearisation, Straightening, Synthetic Aperture Focussing Technique (SAFT)	
• File utilities include file join, split, reverse, save partial data output to text	
• Automatically create/export bitmap images to any Windows application	

Rectification	
Type	Unrectified, Full Wave, +1/2 Wave, -1/2 Wave
Linearity	Better than 1% full Scale
A-Scan Digitisation	
A/D Converter	100MHz@8 bit
Number Of A-Scan Points/Channel	8000 points per channel
Sampling delay	0 - 10ms, in 25ns steps @ 100MHz sampling rate
Signal Averaging	
Number Of Channels	All
Averaging Performance	100 million points per second
Averaging Rates	Real-time averaging 1 - 256, user definable
Peak Processing	
Peak Storage Modes	All Peaks, First Peak, Largest Peak/s, Loss Of
Thickness Measurement Modes	Thinnest/Thickest/Between Peaks
Threshold Setup	5 to 100% in 1% steps per hardware Gate
Number Of Peaks Per Gate	64
Scanner Interface	
Input Type	Encoder, Potentiometer or Video Camera
Number Of Axis	2, TTL compatible
Number Of Limit Inputs	2, TTL compatible
Encoder Interface	TTL compatible, 5V @ 250mA(max), 100KHz max
Potentiometer Interface	0 to 2.5V, sampled at 100Hz
Video Camera Input	1Vpp Composite Video (PAL, RS-170)
PC & Operating System	
Computer Type	Notebook or Desktop
Operating System	Windows® 7 / Vista / XP
Processor	Pentium 600 (min)
Memory	512MBytes (min), 2Gbyte recommended
Hard Disk/Storage	5 Gbyte(min)
PS45/PC Link	Ethernet
Size, Weight & Environmental	
Unit Dimensions	8 Channel - 175 x 120 x 53mm 16 Channel - 175 x 120 x 73mm
Weight	8 Channel - 450g / 16 Channel - 600g
Rating	Designed to IP54
Temperature	0°C to 40°C operating, -25°C to 85°C storage

Pulse Echo /Corrosion Mapping	
• Realtime A,B,C and D-Scan images, with user defined display modes	
• Multiple peak data storage modes, including full/selective A-Scan storage	
• Trigger reference modes including Interface Echo or Tx Pulse	
• Multiple TCG curves via user defined gain/time points correct for material attenuation	
• Full suite of analysis, sizing & post processing utilities	
• Automated report generation including interactive print preview	
• Displayed as conventional A, B, C, D-Scan image showing depth and amplitude	
• User defined display option for each scan window	
• Full cursor analysis indicating peak depth, amplitude and x,y position	
• Supports single or dual x-y encoder	
StripScan	
• ASTM E1961/ API 1104 compliant Girth/Seam weld examination software	
• Fast, accurate inspection at up to 200mm/sec	
• Combined TOFD, Time/Amplitude view, Map view, Couplant check, Go/no-go	
• Integrated TOFD analysis at the click of a button	
• Weld zone inspection data displayed as strips	
• Automated defect information tabulation	



Wharton Park House • Nat Lane • Winsford • Cheshire • CW7 3BS • UK
 Web: www.agr.com • Email: utsales@agr.com • Phone: +44(0) 1606 590123

making tomorrow better.