

Raptor Takes on the Most Difficult Flaw Detection Applications



The Raptor flaw detector is used daily throughout the aerospace, automotive, composite, and oil and gas industries. Featuring an enhanced color display and the ability to drive scanners for collection of A, B, and C-scan data, the Raptor collects more accurate results than other portable flaw detectors on the market. The Raptor is unique with its C-scan and 3D imaging capabilities, allowing the operator to tackle the most difficult applications in some of the harshest environments.

With its compact size and the capability to drive manual or automated scanners, the Raptor provides maximum value for the price. On-board and PC-based analysis and reporting software and long-lasting battery life allow for extended hours of inspection work. Day in and day out, the Raptor allows users to achieve exceptionally reliable inspection results for less than the cost of a mainstream flaw detector without imaging capabilities.

FEATURES:

- Standard package includes instrument, Pelican style shipping case, manual, batteries and AC
- Split scan view- Display A-Trace and B-scan or C-scan simultaneously
- C-scan imaging
- Imaging view: Encoded B-scan, spreadsheet view, pan & zoom, 3D, histogram
- 20 point DAC included
- Dual A-Trace Split view
- v Time and Encoded B-scan, (scanner optional)
- Multiple Gate capability
- Peak Echo hold: fixed or unique timed 'waterfall' reset
- Calibration- Range, Delay, Zero and Velocity
- Multiple probe capability
- Auto probe recognition or library selectable
- Adjustable Gain
- Display intensity 10% – 100%
- Audible and visual alarm modes, thickness high, low or high/low. Amplitude +/- level
- Programmable user setups
- Auto 80% gain control

- Screen freeze mode, freeze and save
- Selectable resolution
- Windows based RAPWIN software for imaging analysis
- F1-F8 Context sensitive direct access keys
- Direct access keys to major menus

SPECIFICATIONS:

Physical / Case	Weight	5.6lb (2.54kg)
	Dimensions (W x H x D)	5.75in. x 9.50in. x 3.00in. (146mm x 241mm x 76mm)
	Operating Temperature	14 °F to 122 °F (-10 °C to 50 °C)
	Case Construction	Aluminum body, rubber end caps
	Connector type	Dual BNC
Keypad	Keypad construction	Tactile membrane feedback keys, wheel control
Transducer	Transducer type	Single, Dual, Angle, Contact, Delay
	Freq range	0.5MHz to 30.0MHz
	Cable length	6ft (1.83m) standard
Power Source	Power Source	Single Li-Ion battery
	Battery life	8 hours
Display	Display type	Sunreadable Color VGA 60Hz
	Display size	640 x 480 pixels, 3.40in. x 4.55in. (86mm x 116mm)
Certification	Certification	Factory Calibration



Warranty	Warranty	1 year
Measurements	Thickness range	0.01in. to 400.000in. (0.254mm to 10,160mm)
	Units displayed	in. / mm
	Resolution	0.01in. (0.254mm)
	Damping	8 damping levels 25-3750hms
	Delay	0 to 165in./ μ s (0 to 4,191.00mm/ μ s) at Full Range
	Display Mode	RF, +HW, -HW, FW filled or outlined
	Material Velocity Range	0.0490 to 0.9999in./ μ s (1.24 to 25.40mm/ μ s)
	Acquisition Speed	
	Pulser/ Receiver	10Hz to 5000Hz, 50V to 450V- spike and square wave pulse
	Pulse width	20ns to 10,000ns in square wave mode
	Gain	100 dB
	Gates	Contact, IP-1st, 1st-2nd (permits thru coating, delay, bubbler, immersion)
		IP Blocking, IF Blocking, IF-1st, 1st-2nd, Echo Blk, POS or NEG gating
		2 flaw gates
Interface	I/O	USB
Memory		Up to 2GB removable SD card

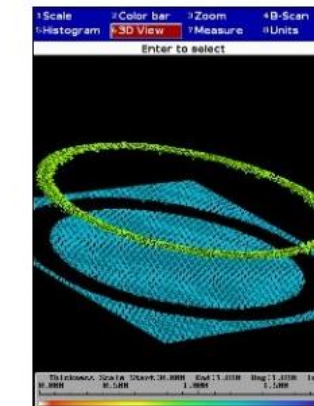
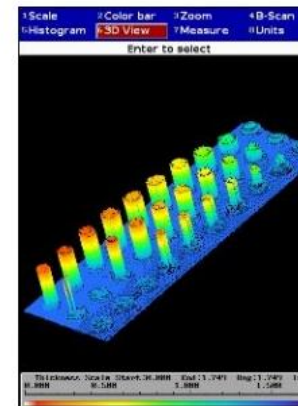
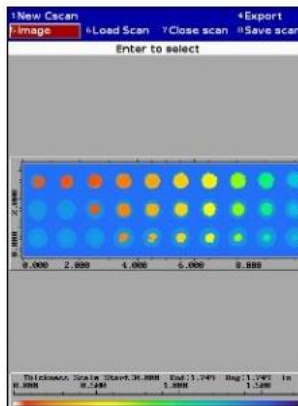
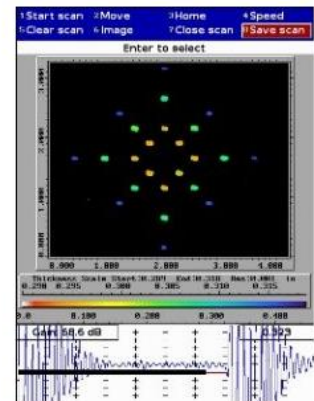
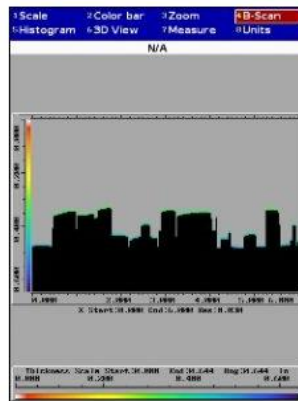
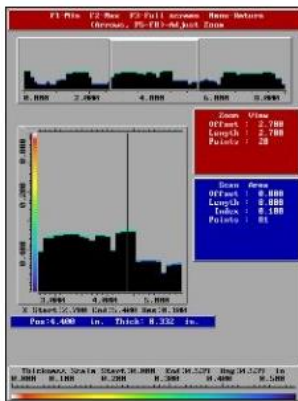
APPLICATIONS:

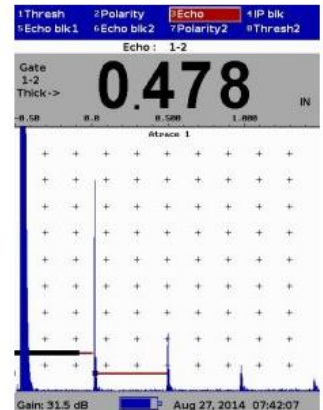
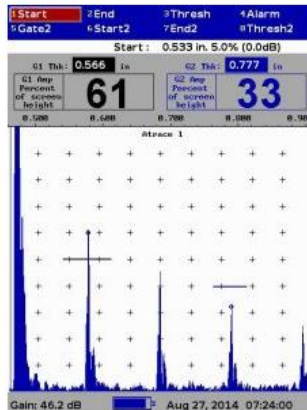
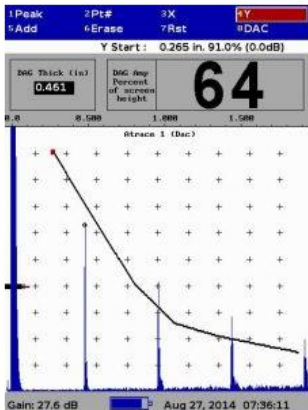
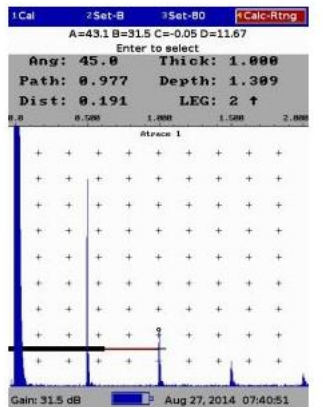
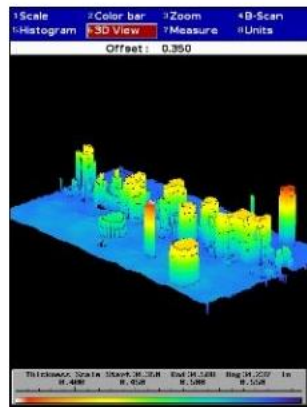
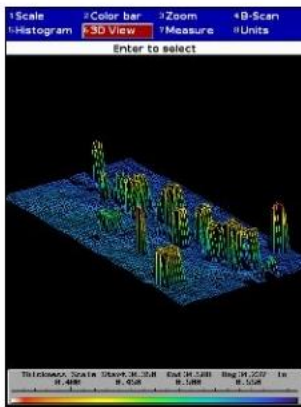
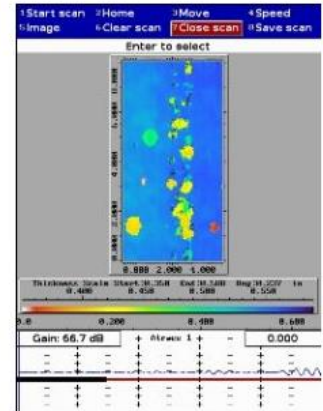
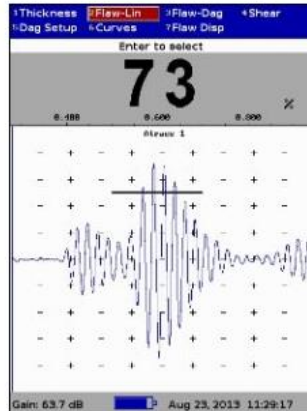
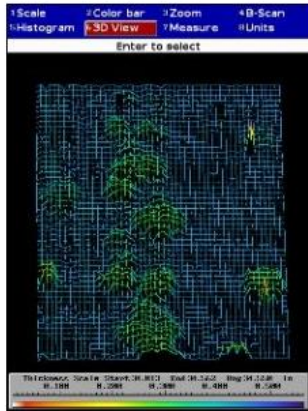
- C-scan flaw detection or thickness gauging
- Composite material flaw detection
- Investment Castings Turbine blades
- Tube and Pipe Corrosion mapping
- Storage Tanks
- Boilers Glass
- Metals, plastics, composites, glass, rubber

ACCESSORIES:

- Various Transducer types
- Full range of Scanners
- Protective carry case

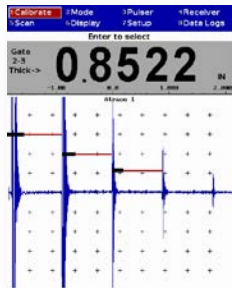
SCREENSHOTS:



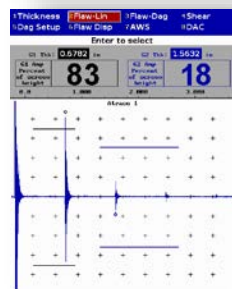


Raptor

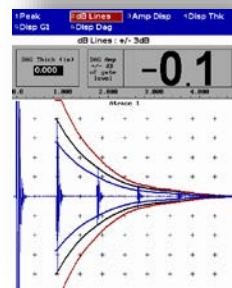
PRECISION ULTRASONIC FLAW DETECTOR



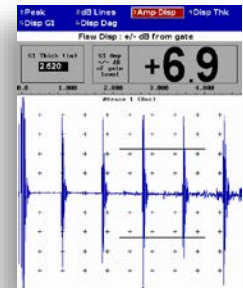
Thickness mode



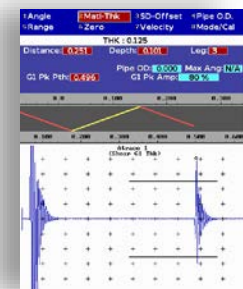
Linear independent flaw



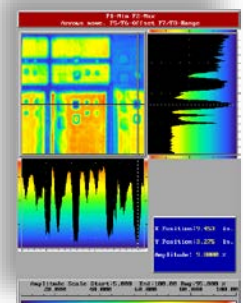
DAC curves (ASME, JIS)



TCG - Time Corrected Gain



Shear mode (flat + curved)



C-Scan + post-processing

Introduction

The Raptor is a high-speed flaw detector, a high-resolution thickness gauge and a versatile and unique imaging system – all in one handheld instrument. B- and C-scan imaging has never been this easy to generate, and helps reducing inspection time along with easy result interpretation.

Applications

- High-end ultrasonic flaw detection
- C-Scan imaging capabilities
- Metals, plastics, composites, glass, rubber
- Corrosion mapping from tubes to pressure vessels
- Storage tanks and boilers glass inspection
- Weld inspection per AWS D1.1/1.5 code
- Investment castings turbine blade inspection

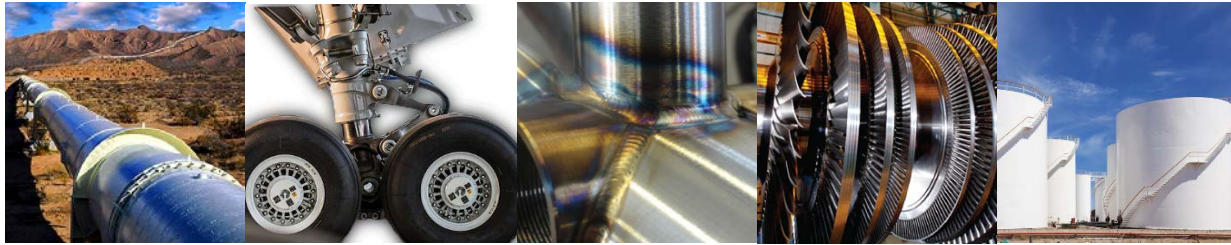
Key features

- Spike or Square tunable wave pulser
- 0.5 MHz - 30 MHz receiver
- 25Ω - 375Ω (8 damping levels)
- 10Hz - 5000Hz PRF for high-speed scanning
- Sun readable full VGA display 640 x 480
- 8 hours of battery autonomy
- DAC/TGC incl. JIS, ASME, ASME-3 compliance
- Shear mode for flat or curved surfaces (CSC)
- AWS calculations as per D1.1/1.5 code
- Imaging view: B/C-scan, spreadsheet, 3D, histogram
- SplitScan view: Display A-Trace and B- or C-scan
- 2GB built-in and 2GB external/removable storage
- Windows based RAPWIN software for post-processing
- Quick and direct access to submenus with F1-8 keys
- Rugged aluminum case with rubber end caps

Raptor



PRECISION ULTRASONIC FLAW DETECTOR



General	Package Display Dimensions Power source Operating temp Storage temp Connector type	Raptor unit, Li-Ion battery, AC charger (110-240V), User manual, COC, Pelican Case Sun readable VGA 60Hz 640 x 480 pixels 3.4in x 4.55in (86mm x 116mm) 5.75in x 9.5in x 3.0in, 5.6lbs 146mm x 241mm x 76mm, 2.54kg Field-replaceable Li-ion battery (autonomy of 8 hours) or AC power 32 F - 122 F (0 °C to 50 °C) -4 F - 140 F (-20 °C to 60 °C) Dual BNC		
Transducer	Type Frequency	Single and dual element Contact, Delay, Immersion, Shear, Through-transmission 0.5 MHz - 30 MHz		
Performance	Resolution Velocity	0.0001 in (0.0025mm) 0.0010 in/us - 1.0000 in/us		
Gates	Thickness gates Linear flaw gates DAC flaw gates Alarm types	IP-1 st , 1 st -2 nd , 2 nd -3 rd IP blocking, IF blocking, IF-1 st blocking, 1 st -2 nd blocking 2 independent linear gates +- dB from gate, % of FSH, % of gate level DAC curve (20-point) +-3dB lines (JIS) +-6dB lines (ASME) -6/-14dB (ASME 3) Auditable and visual Thickness high, low, both Amplitude higher, lower		
Modes	TCG mode Shear wave mode AWS-code mode	TCG (Time Corrected Gain) available in all modes automatic or manual setup Flat plate or pipe (CSC - Curved Surface Correction) All gate types available AWS D1.1/1.5 calculations (A, B, C, D values automatically calculated)		
Pulser/Receiver	Pulse type Pulse width Pulse volts PRF	Spike or Square tunable wave pulser 20ns - 10.000ns (square pulse mode only) 50 to 450V 10Hz - 5000Hz		
Receiver	Gain Damping Tuning Bandwidth Display modes	0 - 100dB (up to 0.1 increments) 25Ω - 375Ω (8 damping levels) BB, 0.5 MHz, 1 MHz, 2.5 MHz, 5 MHz, 10 MHz, 15 MHz Narrow or Wide RF, +HW, -HW, FW		
Storage	Internal External	2GB 2GB SD Card (included)		
Connectivity	PC Software	Windows based RAPWIN software for imaging analysis (included)		
Imaging	Scan type	Time or position encoded B-Scan, position encoded C-Scan		
Scanners	Manual scanners	Armadillo (1-D) StringScan 18x18, 24x24 SlideScan	Motorized Scanners	CrosScan RCA-10, 18 Tunnel Scan I, II, III
	Customized scanners	NDT Systems has been involved in many one-off customized scanning solutions		

Authorized Distributor

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