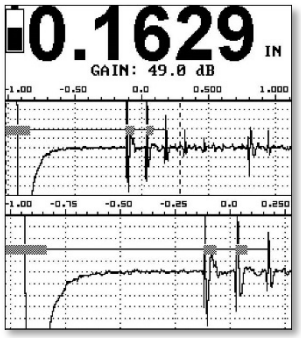
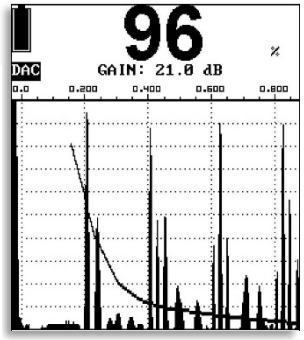
Avenger

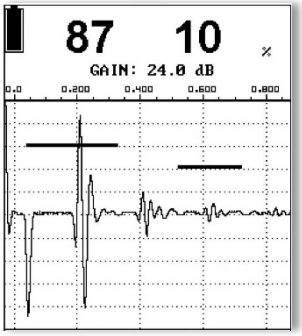
VERSATILE ULTRASONIC FLAW DETECTOR



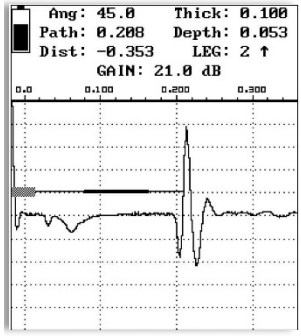
Dual A-Trace 2-3 echo mode



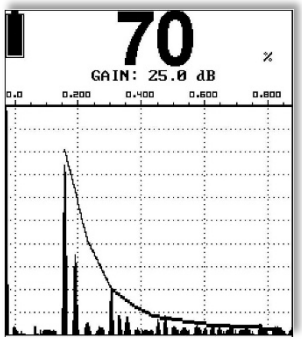
DAC/TCG



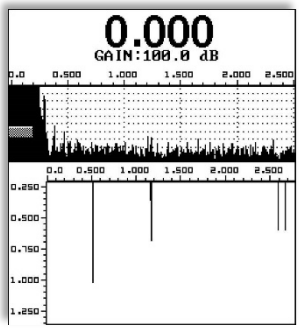
2 independent linear flaw gates



Shear wave mode



DAC curve in FW mode



Time encoded B-Scan

Introduction

The Avenger is a small handheld UT instrument offering both versatile flaw detection as well as a series of thickness gaging capabilities.

While the basic software can perform flaw detection utilizing linear independent flaw gates, an advanced software version is capable of Time Corrected Gain (TCG) by setting up a DAC curve enabling state-of-the-art conventional flaw detection. Special AWS calculations as per the D1.1/1.5 AWS code are available in the AWS software upgrade in order to facilitate such industry-standard inspections in a convenient and fast manner.

Applications

- General ultrasonic flaw detection
- Metals, plastics, composites, glass, rubber
- Tube, pipe tank, pressure vessel
- Investment castings
- Chemical milling
- Turbine blades
- Boilers Glass

Made in U.S.A.

Avenger

VERSATILE ULTRASONIC FLAW DETECTOR

Standard features

- Single and dual element transducers
- Contact, delay/immersion, through-transmission, shear mode
- High-Speed LCD display
- SplitView: Dual A-Trace display
- Peak Echo Hold: Fixed or timed “waterfall” reset
- Default and user programmable setups
- Rugged aluminum case with rubber end caps
- Windows based Data Transfer software optional

Advanced features

Software options	Time-encoded B-Scan	DAC/TGC curve	AWS calculations
Standard	x		
DAC	x	x	
DAC+AWS		x	x

- Time-encoded B-Scan: View A-Scan and B-Scan simultaneously
- DAC- Distance Amplitude Correction – incorporates 20-point DAC curve to compensate for material attenuation and sound dissipation and maintain a true quantitative signal amplitude across the range covered by the DAC curve
- AWS- Calculations – includes standardized calculations required to fulfill compliant AWS inspections and measurements

Avenger AWS Package

- Avenger-L00, including DAC+AWS software upgrade
- AWS0266 shear wave transducer, TBS103 test block
- AWW045, AWW060, AWW070 wedges
- CHRF028-TM contact transducer, BBG01 cable

Technical Specifications

General	Package	Avenger unit, Rechargeable ‘AA’ batteries, AC charger, User manual, COC, Pelican Case
	Display	240 x 320 pixels | 2.3in x 3.1in (58mm x 79mm) | automatic/on/off backlight
	Dimensions	3.25in x 1.4in x 7in, 1.75lbs | 82mm x 35.5mm x 178mm, 0.8kg
	Power source	6 field-replaceable ‘AA’ batteries (autonomy of 8 hours) or AC power
	Operating temp	32 F - 122 F (0 °C to 50 °C)
	Storage temp	-4 F - 140 F (-20 °C to 60 °C)
	Connector type	Dual Lemo00 or Dual BNC or Dual Lemo01
Transducer	Type	Single and dual element | Contact, Delay, Immersion, Shear, Through-transmission
	Frequency	0.5 MHz - 15 MHz
Performance	Measurement Range	0 in – 340 in (0mm – 8636mm)
	Resolution	0.001 in (0.0254mm)
	Velocity	0.0490 in/us – 0.9999 in/us
Gates	Thickness gates	IP-1st, 1st-2nd, 2nd-3rd | IP blocking, IF blocking, IF-1st blocking, 1st–2nd blocking | POS and NEG
	Linear flaw gates	2 independent linear gates | % of FSH for each of both gates
	Alarm types	Auditable and visual | Thickness high, low, both | Amplitude higher, lower
	DAC flaw gates	OPTIONAL: DAC curve (20-point)
Modes	Shear wave mode	Flat plate| Thickness and one linear gate available
	TCG mode	OPTIONAL: TCG (Time Corrected Gain) available in all modes | automatic or manual setup
	AWS-code mode	OPTIONAL: AWS D1.1/1.5 calculations (A, B, C, D values automatically calculated)
Pulser	Pulse volts | PRF	250V | 300Hz
Receiver	Gain	0 - 100dB (up to 0.1 increments)
	Damping | Tuning	25Ω - 375Ω (8 damping levels) | Filter on/off
	Display modes	RF, +HW, -HW, FW
Storage	Internal	2MB data logger – 250 A-Scans storable, up to 20 User setups storable
Connectivity	PC Software	Windows based USB Data Transfer Software: up- and download setups and data (optional)

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