OLYMPUS®

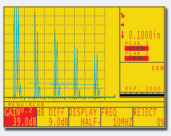
Your Vision, Our Future

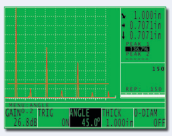
Innovation in NDT™

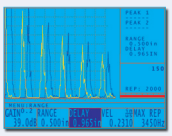
Sonic 1200S+
Flaw Detector

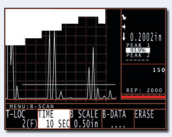
FEATURES

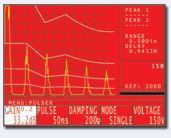
- Lightweight, less than 4 lbs. (1.8 Kg)
- Single Li-Ion battery
- 8+ hour battery run time
- Variable repetition rate control
- 150/300 volt square wave pulser
- Dual flaw gates
- Peak Hold for angle beam inspection
- Angle Beam Trig Function for flaw location
- Angle beam curve correction
- Customer interchangeable displays:
  - Hi-Brite Electroluminescent
  - Monochrome Liquid Crystal
  - Color Liquid Crystal
- Thickness gauging:
  IP-1st or Echo to Echo
- Narrow band receiver tuning
- PowerLink™ Technology - automatic transducer recognition and instrument set-up
- VGA output
- Analog out option
- Windows-based FlawMaster™ Software


Thickness


Angle Beam


Reference Memory


B-Scan


DAC
(Distance Amplitude Correction)

SONIC™

ULTRASONIC FLAW DETECTOR

Weighing less than 4 lbs. (1.8 kg) with customer-interchangeable displays, the Sonic 1200S+ offers users outstanding ultrasonic resolution. The availability of a color LCD or monochrome LCD for indoor or bright outdoor conditions or a Hi-Brite Electroluminescent (EL) display for normal to dark conditions provides the ultimate in flexibility and convenience. Its rugged, well designed housing, uncomplicated front panel, SmartKnob™ and built in PowerLink™ technology, make it a truly revolutionary user-friendly hand held portable ultrasonic flaw detector.

The Sonic 1200S+ can operate on your choice of a single lithium ion battery or optional D-Cell battery pack. DAC, data logging, and numerous other options come standard on the Sonic 1200S+ with a storage limit of 5,000 measurements and 100 A-scans. An RS-232 port provides bi-directional communication and print capability.

FlawMaster™ Windows-based software provides a user-friendly interface for communication between the Sonic 1200S+ and PCs. A-scans, instrument settings, thickness readings, and report contents are all available for review, archive, uploading, and downloading via a PC.

The High Resolution (HR) option was designed for applications requiring high resolution, such as thickness gauging of thin materials. Enhancements such as 15 MHz narrow band receiver setting and square wave pulser with width control to 15 ns and enhanced signal processing provide the HR option with the ability to measure down to 0.005 inches (0.127 mm) of steel.

SONIC 1200S+ SPECIFICATIONS*

PULSER

Type: Square wave

Pulse Width: 15 to 1000 ns

Pulse Voltage: Selectable 300/150 volts

Damping: 25, 50, or 200 ohms

Modes: Selectable single (pulse echo), dual, or through transmission

RECEIVER

Frequency Band: 0.3 to 20 MHz

Tuning: 1, 2.25, 5, 10, Wideband (0.3 - 20 MHz), Highpass (3 - 20 MHz)

Gain Control: 0 to 110 dB

Control: Continuous adjustment in selectable 0.2, 0.5, 1.0, 2.0, 6.0, or 12 dB

Linear Reject: 0 to 80% full screen

Modes: RF, fullwave, half+, half-, fullwave filtered: 10, 5, and 2.25 MHz

GATES

Functions: Dual flaw gates. Gate 1 time of flight, or amplitude detection, flaw alarm. Gate 2 amplitude detection, flaw alarm or time of flight for echo-to-echo mode. Gate 1 selectable IP or IF sync

Indicator: Flashing LEDs and horn

Peak Amplitude: Peak amplitude of gated signal in percent of screen height

RF Gates: Positive logic requires that a signal cycle of either polarity cross a gate level; negative logic requires that no signal cross a gate level.

TIME BASE

Range: 0.048 to 296 inches (1.23 to 7511 mm) of steel (0.418 to 2560 µs)

Delay: -1.16 to 185 inches (-29 to 4.694 mm) of steel (-10 to 1600 µs)

Velocity: 0.025 to 0.600 in/µs (635 to 15240 m/s) Horiz. Linearity +/- 1% of full screen

Pulse Rate: Selectable maximum; 50 Hz steps, 50 to 3450 Hz, limited by range and pulser settings

THICKNESS

Range: 0.005 inches (0.127 mm) up to the maximum display range setting

Modes: IP - Gate 1, IF to Gate 2, Gate 1 to Gate 2

Trigger Modes: Peak or edge

Trig. Functions: Angle beam calculations, curved surface correction

Angle: 0° - 90° in 0.1° increments

DISPLAY FEATURES

Signal: Hollow or filled

Screen Freeze: On command, currently displayed signal is frozen.

Waveform Recall: Select and display stored waveform

Peak Hold: Displays peak amplitude with active signals under peak signal

A-scan Storage: Up to 100 A-scan waveforms may be stored for future playback or printout

Update Rate: 60 Hz

ADDITIONAL FEATURES

VGA Output

RS-232: DB-9P connectors

PowerLink™: Automatic transducer recognition and application setups. Transducer identification on printouts

Program Storage: Up to 200 test setups

Clock, Calendar: Time and date information is stored and printed with each waveform.

Languages: Selectable - English, Spanish, French, and German

Software: Windows-based FlawMaster™

GENERAL

Dimensions: 9.5" L x 5.5" W x 3.5" D (241 mm x 140 mm x 89 mm)

Weight: 3.8 lbs (1.7 kg)

Display: Customer-interchangeable QVGA (320 x 240 pixels) monochrome backlit liquid crystal display (LCD), color LCD or Hi-Brite EL display

Operating Temperature: -4° to 140° F (-20° to 60° C)

Storage Temperature: -40° to 176° F (-40° to 80° C)

POWER

DC: One Li-Ion battery, optional external D-Cell battery pack

AC: 90 264 volt, 50-60 Hz mains

Battery Operating Time: 10+ hours

Humidity: Safe operation in exposure to Class 3 temperature/humidity environments (5 to 95%)

Classification: Based on Class 2 specifications from the MIL-PRF-28800F

Altitude: Maximum operating and non-operating altitude - 15,000 ft. (4600 m)

Hazardous Area Operation: Safe operation in explosive atmosphere as defined by Class I, Division 2, Group D, as found in the National Fire Association Code (NFPA 70), Section 500, and tested using MIL-STD-810E, Method 511.3, Procedure 1

DAC

Type: Segmented, 25 selected points

Gain: 40 dB, total of gain and DAC limited to 110 dB maximum

Display: Multiple curves showing compensation: 1 curve at signal level (0 dB), 3 curves at +6 dB, 0 and -6 dB levels, 4 curves at +6 dB, 0, -6 dB and -14 dB levels, DAC compensated echoes only, 1 curve with DAC compensated echoes

Reference Memory: Recall waveform displayed simultaneously with active signal

Data Logging: Up to 5000 readings

HIGH RESOLUTION (HR) OPTION

Sonic 1000HR+: Thickness measurements to 0.005 inches (0.127 mm), thickness resolution to +/- 0.0002 inches (0.005 mm), accuracy to +/- 0.001 inches (0.0254 mm), 0.048 to 296 inch (1.22 mm to 7.5 m) screen range, 15 MHz narrow band amplifier, RF or video thickness gauging, variable rep rate control, square wave pulser control down to 15 ns

CE

OLYMPUS

Olympus NDT
421 North Quay Street, Kennewick, WA U.S.A.
TEL 509-736-2751 • FAX 509-735-4672
e-mail: nortecsonic@staveleyndt.com

www.olympusNDT.com