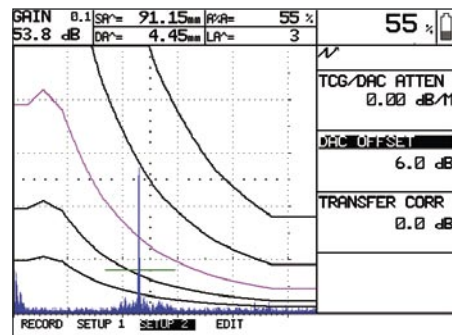


More measurement capability options and inspection data management

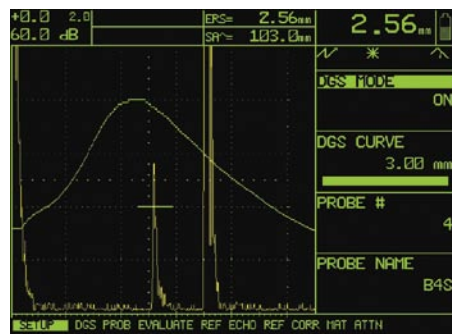
Tools for easy defect sizing

- 40 dB dynamic multiple curve DAC/TCG Option corrects for distance/amplitude variations from material loss and beam spread with ability to edit or insert recorded echoes individually. Up to four DAC curves can be drawn on the screen at one time to show +/- dB curves in addition to the originally recorded DAC curve. Up to 16 data points can be recorded with a maximum curve slope of 12 dB per microsecond. Meets or exceeds industry requirements for TCG.



Multiple curve DAC shows recorded DAC curve in magenta with 4 additional curves based upon dB Offset feature for added flaw sizing assistance. TCG Attenuation and Transfer Correction features make it very versatile for use on other materials and surface conditions.

- DGS (Distance Gain Size) Option displays a curve for a particular equivalent reflector size as a function of the distance from the probe to the reflector for 25 narrowbanded probes. The ERS (Equivalent reflector size) function automatically calculates the corresponding equivalent reflector diameter in mm or inches for any echo in the measurement gate.



User preferred features...

- Simple operation with fast rotary knob adjustments; gain is always directly accessible with the left-hand rotary knob and lockable.
- Auto CAL makes calibration fast & easy
- 65 selectable material velocities at the user's fingertips.
- 15 Hz to 6 kHz (spike mode) PRF and 15 Hz to 2 kHz (square mode) PRF (pulse repetition frequency) with AutoLOW and AutoHIGH settings, Manual adjustment, and External trigger (spike mode only).
- 2 independent gates monitor amplitude and soundpath distance for both flaw detection and thickness measurement applications.
- 250 KHz to 25 MHz capability with 10 selectable frequency ranges to match probe for optimum performance.
- RF display mode enhances signal evaluation and bond inspection of dissimilar materials.
- 4 selectable damping settings (50, 75, 150, 500 ohms) for optimum probe performance.
- .040" to 1100" (1 mm to 28 m) range (in steel) covers thin to lengthy acoustically clean materials.
- dB REF key evaluates subsequent echoes gain value and amplitude against the highest echo in Gate A (reference echo) when activated.
- IF (Interface) Gate Option for automatic start of the display, Gate A, Gate B, and / or DAC / TCG for immersion testing applications.
- VGA Output Option provides an easy way to connect to a PC monitor or PC projector for viewing by large audiences or training purposes.
- RF Output Option outputs the raw RF waveform via a standard Lemo connector for further analysis.

- BEA (Backwall Echo Attenuator) Option allows independent gain control of the region under Gate B for backwall echo monitoring.
- 19" Rack Mount Model for immersion and systems applications.

Documentation and recording

- Store & preview a minimum of 200 user-named data sets with A-Scans for quick recall and instrument setup.
- UltraDOC 4 software program for bi-directional communication with a PC for easy storage of data sets with A-scan and documentation of test results.
- UltraMATETM software program simplifies the transfer, storage, analysis, and documentation of thickness data.
- Reports with A-Scans are output directly to a variety of printers.
- Alphanumeric Thickness Datalogger for flexible, convenient storage of thickness readings in Linear, Grid, or Custom-Linear file structures with user-input filenames, location I.D.'s, notes, memo, & header fields.

LOCATION	VALUE	NOTES
AB.1	1.467	A.D
AC.1		EMPTY
AD.1		EMPTY
AE.1	1.452	A,B,C,D
AF.1	1.457	PAC
AG.1	1.456	
AH.1	1.452	
AI.1	1.451	

GE Inspection Technologies

Ultrasonics

Krautkramer USN 60 Portable Ultrasonic Flaw Detector



The USN 60...analog performance, digital advantages, systems horsepower and color display

The USN 60 combines the powerful advantages of digital design with the detailed dynamic echo information that was previously only possible with an analog display. Unique signal processing displays additional A-scan information as "intensity variations" along the waveform to bring back the "analog look & performance" that has been missing from digital instruments. The high resolution (640 x 480 pixels) color LCD display, 60 Hz update rate, and "single shot" measurement technique produce a fast, smooth response for immersion and critical weld testing.

Two independent flaw gates, an interface gate option, backwall echo attenuator option, 6 kHz pulse repetition frequency, and real-time analog and TTL outputs make it also ideal for a wide range of systems testing applications. The exclusive SmartView feature displays the most important information (relevant shot) for critical scanning and rotating part inspections.

The quality, durability, dependability and ease of use that you have come to expect of Krautkramer's popular USN Series of instruments remains. From rugged field inspections to high resolution thin measurements, long acoustically clean materials, and immersion systems work, the USN 60 extends the range of applications that a portable instrument can perform.

Square Wave Pulser selectable and tunable for optimum probe matching to satisfy a wide range of tough-to-penetrate applications.

Now, either spike or "square wave pulser" is user selectable from the front panel.

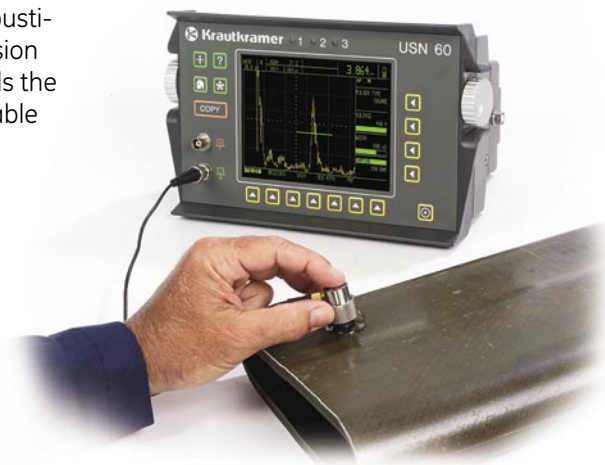
- Spike pulsers are still preferred for everyday use.
- For low frequencies, square wave pulsers allow optimum probe matching by adjusting pulse width and voltage.
- Difficult to penetrate metallic applications and especially non-metals inspection like composite materials are optimized.

- Pulse width is tunable up to 1000 ns in 10 ns steps for optimum probe matching and versatility in meeting a wide range of applications.

- Pulser voltage is adjustable from 50 to 450 V in 10 V steps.

Rugged USN durability, 8 hours of battery use, fast rotary knob operation, outstanding ultrasonic performance, and now "square wave pulser" and "color leg" combine to form a powerful portable ultrasonic inspection tool with new Lithium Ion battery.

Square wave pulser for tough-to-penetrate materials



Square wave pulser with tunable pulse width solves composite testing applications.



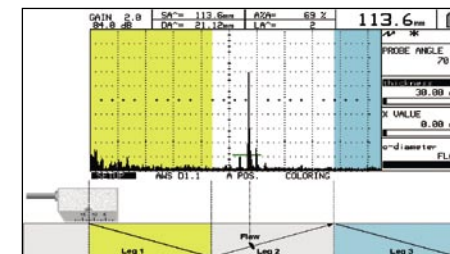
High resolution color display with analog performance and digital advantages

Vibrant colors

- Hi-resolution (640 x 480 pixels) Color LCD Display with unique signal processing produces "Analog Look and Performance" echo dynamics.
- Select from four vibrant display color schemes to match lighting conditions and personal preference.
- Choose from eight A-scan colors to relieve boredom & eye fatigue.
- Adjust brightness for easy viewing under all lighting conditions.
- Gates and gate functions are color coded for easy identification and fast adjustment.

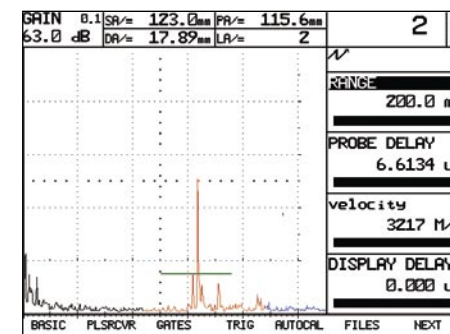
Tools for easy weld inspection

- Color Leg (patent pending) allows easy identification of leg and skip distances for weld inspection.

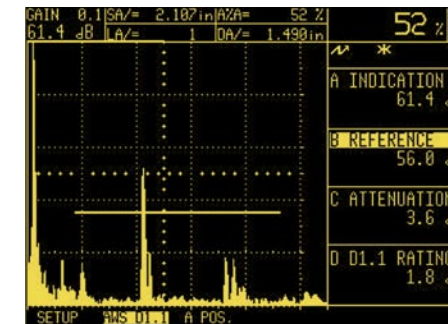


New "Color Leg" indicator displays the legs of the angle beam inspection in different colors

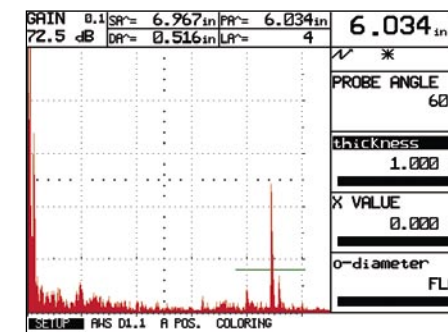
- GRID dynamically changes bands of display background colors for each leg.



- A-Scan dynamically changes the color for each leg of the "live" A-Scan.
- Weld Rating Calculation simplifies the rating of weld indications according to AWS Specification D1.1. (Formula $D = A - B - C$).



- Trigonometric flaw location function with curvature correction automatically calculates depth, surface distance, and sound path to flaw along with the leg of the inspection when using angle beam probes. All TOF measurements can be displayed in mm, inches or μ s.



Four digital reading boxes at top display trigonometric calculations for weld inspection (SA soundpath to flaw in gate A, PA projection distance to flaw in gate A, DA depth to flaw in Gate A & LA leg of inspection that flaw occurs in gate A)

- SmartView function along with variable persistence freeze modes displays the most important information (relevant shot) for a test.
- Real time (single shot) analog and TTL outputs handle a wide range of systems applications.
- Choose from Four Freeze Modes: ALL, Peak Std, Compare or Envelope for optimum waveform evaluation and comparison.
- Three Variable Persistence Modes are selectable in Freeze Envelope to visually assist flaw detection & evaluation for scanning and moving part inspections.
- Behind-the-Freeze mode allows dynamic time base adjustments on frozen echoes. It also stores additional information both before and after the specified range to enable movement of the frozen image.
- Compare frozen reference waveforms to live A-Scans in different colors to easily interpret test results.

