

Digital Ultrasonic Flaw Detector **CTS-9005**

Function	Unit	Specifications
Vertical Linearity Error	%	≤3
Attenuator Error	dB	Every 12dB ±1dB
Dynamic Range	dB	≥30
Electric Noise Level	%	≤ 10 (Frequency band: 1~4 MHz)
Thin Plate Resolution	mm	≤3 (with a 5C10N probe)
Far Field Resolution	dB	≥26
Horizontal Linearity Error	%	≤0.5
Detection Range	mm	0 ~ 13000 (Longitudinal wave in steel)
Pulse Shift Range	mm	-10 ~ 1000 (Longitudinal wave in steel)
Material Velocity	m/s	400 ~ 15000
Probe Zero	μs	0 ~ 200
Gain Adjustment	dB	0 ~ 110, with steps of 0.5 / 2 / 6 / 12
Operating Frequency Range	MHz	1~4 / 0.5~10
Power		Low /High
Damping		Low /High
Dual probe		Single / Dual
Reject	%	0 ~ 80
Rectify		Positive, Negative, Full, Filter
PRF	Hz	10 steps (20~500Hz adjustable but subject to detection range, material velocity, pulse shift, probe delay, etc.)
Storage		300 data sets, including system setup, detection state, echo figures, etc.
Auto Gain		Enabling the echo amplitude within the gate auto adjusted to a designated amplitude Amplitude setup: 80% / 100%
Gate		Two measure alarm gates. Gate mode: off / positive / negative Gate Start: 0~109% Gate Width: 0~109% Gate Thresh: 10~90%
Alarm		Off / On, enabling and disabling the buzzer alarm
Peak Memory		Display waveform envelope
Freeze		Freeze screen waveforms
Zoom		Screen waveform area zoom-in and zoom-out
Auto Calibration		For calibrating material velocity and probe delay. Calibration mode: Velocity and Zero
Angle Measurement		Measure probe angle
DAC Curve		For making, setting and applying DAC curves
AVG Curve		For making, setting and applying AVG curves
USB Port		Save the system internal data sets to a USB disk via the USB port
Display Screen		5.7" high brightness TFT LCD, 320 x 240 pixels
Screenshot		Print the system screen as an image and output to a USB disk
Parameter Output		Save the screen measurement parameters to a USB disk
Default		Reset the system setup to delivery setup
Power Supply		Adaptor (CD-92) or lithium battery (DC-92) Adaptor: AC Input 100V~240V; DC output: DC9V~12V Battery: 6.0V~8.4V
Battery operating time	h	≥ 7 (Backlight brightness dependent. The brightness will be adjusted automatically according to environment temperature.)
Operating Temperature	℃	-10~+40
Ingress Protection		IP65
Weight	kg	Approx. 1.15 (including battery)
Dimension	mm	152 × 240 × 52 (W×H×L)



- Eye Catching Design
- Complete Functions
- Reliable Quality
- Easy Operation
- Compact Size

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Specifications and appearance are subject to change without prior notice.
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CTS-9005

Portable, Easy-to-Use, Reliable

— New Generation General-Purpose Digital Flaw Detector

Compact & Portable: The whole unit weight (battery included) is approx. 1.15kg, suitable for aloft and field work.

Easy operation: There are just a few concisely-defined keys, easy to be operated with only one hand.

Environmental Protection: This system is designed based on IP65 standard, suitable for complex industrial flaw detection environment.

Super-low Consumption: The configured Li-polymer battery can support up to 7-hour continuous operation.

Strong Performance: High resolution and penetration, achieving precise flaw detection from thin plates to large forged pieces.



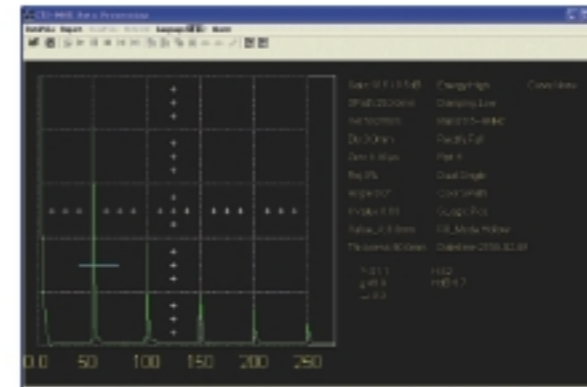
Superior Features

- Max. sampling rate 240MHz; Measurement resolution 0.1mm.
- Operating frequency range: 0.5-10MHz.
- 20-500Hz PRF with 10 steps adjustable: avoid reverberation signals during flaw detection.
- The AGC (auto gain control) function for efficient flaw detection.
- The AVG curve works with echo compare function, making echo quantification of different distances and amplitudes more convenient.
- The 5.7 color TFT LCD of wide viewing angle, high brightness and high definition delivers every clear detail.
- Peak memory function facilitates quick scanning and measurement on workpieces.
- Three different color schemes can meet the requirements of different application environments and habits.
- Up to 300 sets of curve and waveform can be saved for various workpieces and flaw detection standards.



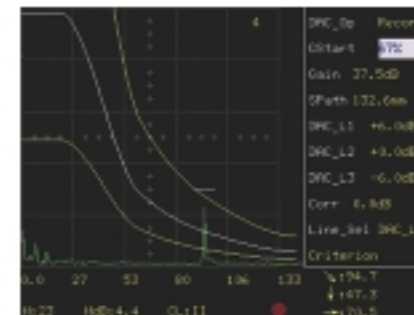
Application Examples

Data Storage



- Detection echoes, curves or parameters may be losslessly stored to a PC via the USB port, facilitating report editing and data management.

DAC Curve



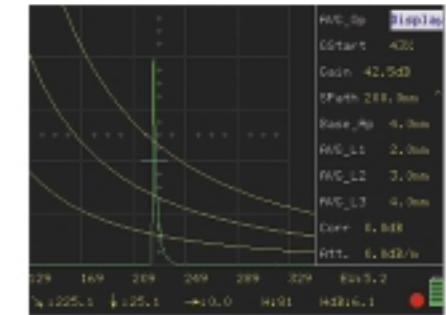
- The DAC curve function brings easier and more convenient flaw evaluation.

Peak Memory



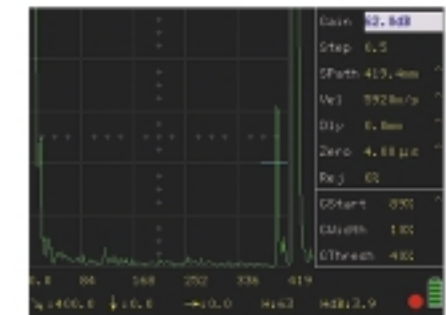
- Refresh the highest echo within the screen range automatically, completing flaw positioning quickly.

AVG Curve



- Three curves of different equivalent values will be auto created by taking a known flat-bottom hole or large flat-bottom echo for reference.

Detection on Large Forged Pieces



- The large detection range and high sensitivity surplus meet the requirements of detection on large forged pieces or coarse crystal materials.
- This picture shows an echo from a 400mm Φ 2 flat-bottom forged test block.