CTS-2020E

Digital Ultrasonic Flaw Detector

High limit Sensitivity

Innovative Design

Compact & Handy

Easy Operation

Low Noise

SIUI

CTS-2020E

Portable, Easy-to-Use, Reliable

—— New Generation General-Purpose Digital Flaw Detector

The digital ultrasonic flaw detector CTS-2020E is suitable for various detection demands, such as forged pieces, welding lines, steel structural parts and airplane parts.
The CTS-2020E represents the persistent fine tradition of SIUI: innovative technology, advanced process, small size, lightweight, powerful functions and easy operation.

Innovative Technology

Continuous innovation and endeavor towards world-class technology is SIUI's consistent goal. The CTS-2020E combines all good performance of a large ultrasound system in a very small size: at least 62dB detection sensitivity surplus meets various detection demands; The latest color TFT LCD results in optimized read & measure effect and visual comfort; The simple and convenient interface wave tracking function is good for immersion detection; Together with new functions such as DAC, large memory and USB port, the CTS-2020E becomes a compact and portable ultrasonic flaw detector with excellent performance.

Simple, Practical & Convenient

Compact & portable, English/Chinese menu, easy operation and powerful functions, all of which represent SIUI's persistent design concept: simple, practical, convenient and reliable. Better specification and performance!

- EL display screen: It can work under operation temperature of -20℃-40℃, but does not support screen color change.
- Software DGS/AVG
- Software AWS D1.1

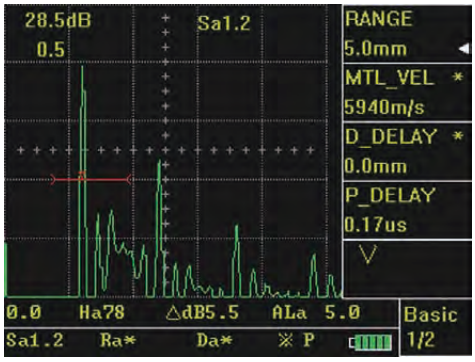
Superior Features

- Max. sampling rate 240MHz; Measurement resolution 0.1mm; Min. display range 5mm.
- Operating frequency range: 0.5~10MHz, at least 62dB detection sensitivity surplus, highlighting advantages of high sensitivity and broadband.
- USB port for saving system stored data and data waveforms to a USB disk, as well as easy printing detection reports.
- Variable PRF: avoid reverberation signals during flaw detection.
- Interface wave tracking function: Immersion detection or precision measurement can be easily achieved through the logic relation between gate A and B.
- Peak value memory function: for quick scanning and measuring workpieces.
- Complete DAC curve function: convenient for echo evaluation.
- Probe angle (K value) measuring function.
- Large memory for saving up to 500 data sets, including wave forms, curves, parameters, detection reports, etc.
- High-brightness color TFT LCD, bringing optimized effect for reading measurement.
- 10 waveform and character colors are available for selection.
- Large capacity lithium battery pack for continuous operation over 6 hours.

*EN-12668-1 compliant

Application Examples

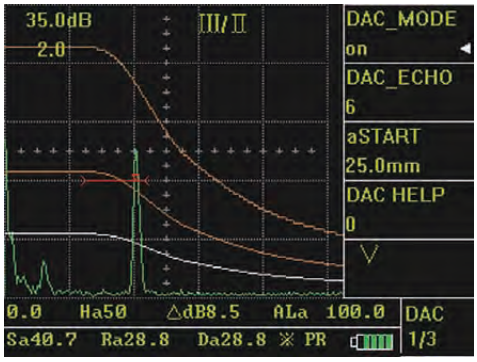
Thin plates



(Bottom echo of a 1.2mm steel plate)

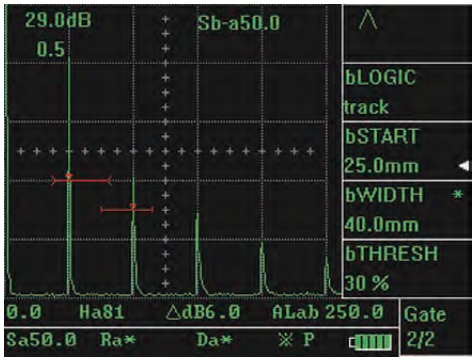
With good near-field resolution, the CTS-2020E is suitable for near-field flaw detection on forged pieces, as well as thickness measurement of pressure vessels and pipes.

DAC



With its complete DAC curves and echo compare function, the CTS-2020E brings easier, more convenient and accurate echo analysis.

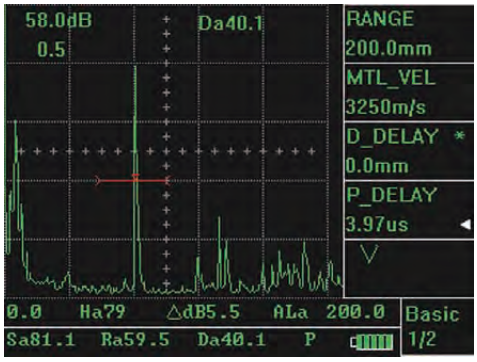
Tracking function



(Gate B tracking function figure)

Gate B tracking function enables easy immersion detection or precision measurement.

Precision testing on flaws when using an angle probe



(From the waveform of Φ1.6, 40mm away from the testing surface, with an angle probe)

With powerful functions of the digital system, flaws can be located accurately.

On-site Application

Function	Unit	Specifications
Attenuator Error	dB	Every 20dB±1dB
Vertical Linearity Error	%	≤3
Dynamic Range	dB	≥32
Detection Sensitivity Surplus	dB	≥62
Far-field Resolution	dB	≥26
Horizontal Linearity Error	%	≤0.5
Noise Level	%	≤20 (1~ 4MHz)
Operating Frequency Range	MHz	0.5 ~10, two steps selectable: 1 ~4 /0.5~10
PRF		10 steps adjustable Approx. 20Hz ~ 500Hz for detection range within 1500mm Approx. 20Hz ~ 200Hz for detection range over 1500mm
Thin Plate Resolution	mm	≤3 (with a 5C10N probe)
Measure Resolution	mm	0.1
Detection Range	mm	0 ~ 15000 (Longitudinal wave in steel), continuously adjustable, minimum display range 5 mm
Pulse Shift	mm	-10 ~ 1000 (Longitudinal wave in steel)
Probe Delay	μs	0 ~ 199.9
Material Velocity	m/s	1000 ~ 9999
Damping		High / Low
Reject	%	0 ~80, linear reject
Rectify		Positive, Negative, Filter, Full
Gain Adjustment	Db	0~110, with steps of 0.5 / 2 / 6 / 12
USB Port		One USB port, through which can save the system internal stored data and data waveforms to a USB disk, print out detection reports.
Printer		Compatible printers: HP-1020, HP-1120, Canon-S100SP
DAC Curve		Up to 10 echo reference points recorded, can be displayed in steps; Db distance between the three DAC curves variable; DAC echo reference point can be inserted, or the selected echo reference point can be modified.
Data Memory		500 data sets, including detection state parameters, echo figures, DAC curves, remarks, etc.
Monitoring Gate		Two independent measure gates. Gate B can be set as interface wave tracking gate mode.
Alarm Signal		Sound & light alarm (built-in buzzer and LED on the panel)
Measure Point Selection		Peak of the highest echo within the gate or the flank of the first echo.
Echo Evaluation		Display of sound path, horizontal distance, vertical distance, amplitude and Db difference.
A-scan Freeze		Freeze detection pictures
Zoom		Two display modes selectable: normal and zoom.
Peak Memory		Echo peak memory display selectable. The background peak waveform can be displayed in different colors.
Display Screen		5.7" high brightness TFT LCD, 320 x 240 pixels
Power Supply		AC or battery
Battery		Lithium battery pack (7.4V, 7.2Ah)
Operating Time	h	≥6 (Depends on backlight brightness)
Operating Voltage	V	6 ~ 9 DC (external power supply); 6.0 ~ 8.4 (battery)
Operating Temperature	℃	-10 ~ 40
Weight	Kg	Approx. 1.68 (excluding battery)
Dimension	mm	260 × 78 × 180 (L×W×H)
Language		Chinese, English, German, Russian, Polish, Czech

SIUI

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