

CTS-5XX1



Multi-Channel Digital Ultrasonic Flaw Detector



SIUI



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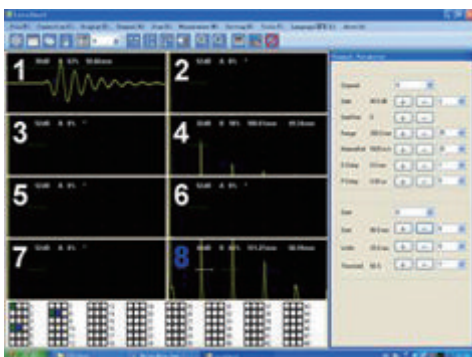
Multi-Channel Digital Ultrasonic Flaw Detector



Based on PC platform and by working with probe detection and mechanical devices, the new series can achieve automatic ultrasound testing with high accuracy, reliability and high efficiency.

Superior Features

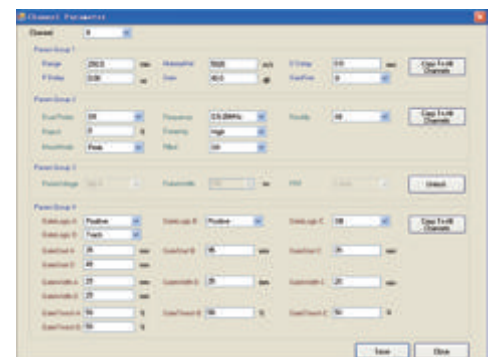
- It can support from 32 to 128 ultrasound channels (there are four types of housing for 32/64/96/128 channels).
- Each PCB has 8 independent T/R channels.
- For the same PCB, any transmission channel can combine with any receiver channel. Each PCB can have combination up to 8 groups.
- For the same PCB, the channels work in turn. Different PCBs can work at the same time or work in turn.
- Each ultrasound channel has conventional UT, with max. PRF up to 2.5KHz/channel.
- High performance T/R front-end. Square wave transmission can be up to 500V.
- Working frequency range: 0.5-20MHz.
- High-speed digital signal processing and transmission.
- A-scan real-time sound and light alarm function, passive measurement or marker interface, input and output control functions.
- B scan full time recording, measurement and calculation, and movie replay functions based on time or encoder.
- 2D rotary encoder connector.
- Automatic inspection of beginning/ending sensor input control.
- Data management and statistics functions.
- Remote control function by PC through LAN connector.
- Wifi transmission.



A scan measurement



B scan measurement



System setup

Technical Specifications

Item	Technical Data
Display Screen	20-Inch LED Backlight Monitor (Dell IN2030M)
Language	English /Chinese
Unit	mm
AC Power Input	AC 100~240V 50Hz/60Hz
Power Supply	When AC is 220V: 32-ch system: ≤170VA 64-ch system: ≤260VA 96-ch system: ≤350VA 128-ch system: ≤440VA
Data storage Unit	internal hard disk
USB Port	Four (Two at the front, and two at the back)
Ethernet Port	1
Video Out	VGA, DVI, composite video out
Encoder Port	2
Sensor Port	2 (4 channels)
Other Ports	1 spray gun output port (4 channels) 2 digital alarm output port (40 channels) 1 analog alarm output port (20 channels) 1 external power boot cable port 1 RS-232C port
Built-in Alarm	2 alarm speakers
Built-in WIFI	Available
Operating Temperature	-10~40℃
Storage Temperature	-20℃ ~60℃
Dimension	32-ch System Dimension (mm): 518×298×311 (L×W×H) 64-ch System Dimension (mm): 518×298×496 (L×W×H) 96-ch System Dimension (mm): 518×298×681 (L×W×H) 128-ch System Dimension (mm): 518×298×866 (L×W×H)
Weight	32-ch System Weight (kg): 25 64-ch System Weight (kg): 40 96-ch System Weight (kg): 55 128-ch System Weight (kg): 65
Display Mode	A / B Scan Up to 8 channels A-scan display simultaneously in debug mode. 3 scanning views: B-scan, flaw detection amplitude view, thickness measurement view
Channels	32-ch: CTS-5011 (8 channels); CTS-5021 (16 channels); CTS-5031 (24 channels); CTS-5041 (32 channels) 64-ch: CTS-5051 (40 channels); CTS-5061 (48 channels); CTS-5071 (56 channels); CTS-5081 (64 channels) 96-ch: CTS-5091 (72 channels); CTS-5101 (80 channels); CTS-5111 (88 channels); CTS-5121 (96 channels) 128-ch: CTS-5131 (104 channels); CTS-5141 (112 channels); CTS-5151 (120 channels); CTS-5161 (128 channels)

Item	Technical Data
Probe Connector Number	Total Channel Number ×2
Max. Supporting Element	Total Channel Number ×2
Probe Connector Type	BNC
Pulser	Negative Square
Transmit Method/ Voltage	Transmit voltage: 50-500V, adjustable step 50V
Pulse Width	50ns~500ns, adjustable step 5ns
PRF	10 levels selectable (200~2.5KHz/ channel)
Damping	High/ low
A/D Sampling Rate	200MHz
Attenuator	0~110dB, step: 0.5/2/6/12dB
Bandwidth	0.5~20MHz
Filter	4 levels: 0.5~16MHz / 1~5MHz / 2~10MHz / 10~20MHz
Rectify	Negative/ Positive/ Full/ Filter/ RF
Reject	0~80% , step 1%
Detection Range	0 ~ 1000 mm (longitudinal wave in steel), minimum display range 5mm
Pulse Shift Range	-10 ~ 500 mm (longitudinal wave in steel), minimum step 0.1mm
Material Velocity	1000 ~ 9999 m/s, minimum step 1m/s
Probe Zero	0~500μs, minimum step 0.1μs
Measurement Point	Peak/ Flank
Measurement	Each channel has four gates, A, B and C are measurement gates, and D is a tracking gate. A scan: gate measured value, sound path, amplitude, A-B gate sound path difference. B scan: B scan image is zoomable, and flaw position and sizing can be measured.
Gate Adjustment	Gate Start: Full range, minimum step 0.1mm
	Gate Width: Full range, minimum step 0.1mm
	Gate Threshold: 10%~90%
Auxiliary Functions	Freeze, waveform filling, channel copy, A scan zoom (1/2/4/6/8 channels can be displayed simultaneously), B scan zoom, flaw detection and thickness measurement grouping, auto test control, print, screenshot, frequency test, network communication, time-base/ shift scanning.
Alarm	Audible and visual alarm (with built-in speaker, general alarm light, software interface virtual alarm light).
Storage Management	Local hard disk storage: standard files (system setting parameters), scanning files (scanning process recording data), screenshot images and so on. B scan process recording and cine replay functions for all channels.
Surplus Sensitivity	≥65dB
Time Base Linearity	≤0.5%
Vertical Linearity	≤2%
Amplitude Linearity	≤±2%
Attenuator Error	20dB±1dB
Dynamic Range	≥32dB
Far Field Resolution	≥26dB
Equivalent Input Noise (EIN)	$< 80 \times 10^{-9} \text{ V} / \sqrt{\text{Hz}}$



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