CTS-9D

Ultrasonic Flaw Detector & Thickness Gauge

Triple-control
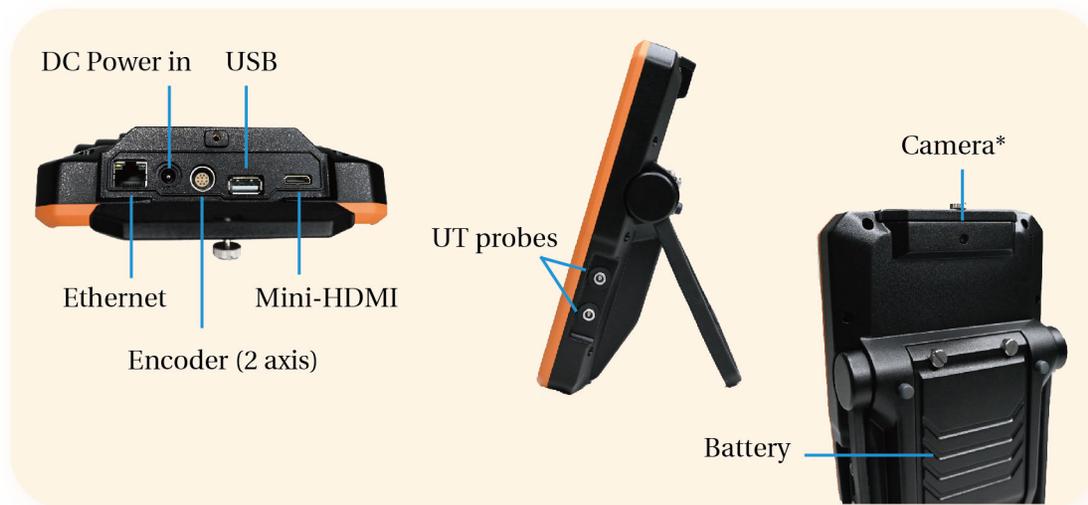
Keys   Touchscreen   Voice

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CTS-9D

Triple-control Ultrasonic Flaw Detector

● **Triple Control System**

CTS-9D is a triple-control ultrasonic flaw detector, supporting keys, voice command, and touchscreen operation for versatile use in any environment.
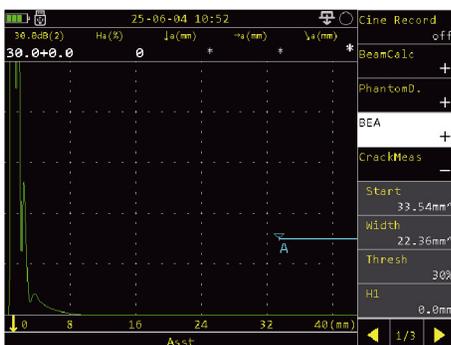

DC Power in   USB

Ethernet   Mini-HDMI

Encoder (2 axis)
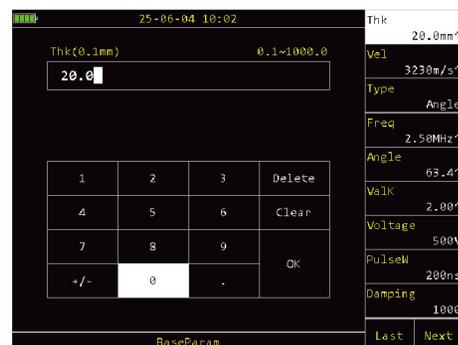
UT probes

Camera*

Battery

● **Upgraded Panel Keys**

● Expanded to 25 Keys to boost inspection efficiency.

● New quick-access keys, such as Save/ Gain/ Gate/ Auto-Calibration/ Detect, to optimize workflow.

● **Touchscreen Operation**

The touch interface with optimize menu layout, achieves intuitive and fast touch operation.

Collapsible menu enables on-demand function expansion during inspection.

A virtual keypad allows precise numerical input.

● **Voice Interaction**

● Featuring voice control function for rapid parameter adjustment, enables hands-free operation.

● More than 60 built-in voice commands, such as AGC on/ Freeze On/ Gate on/ Full screen on…

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Triple-control Ultrasonic Flaw Detector

● Enhanced File Storage with UltraCloud Drive

● Seamless data transfer between internal storage, USB drives, and UltraCloud Drive.
● Access to UltraCloud for real-time cross-regional data sharing and centralized management, eliminating the inefficient manual USB transfer process.
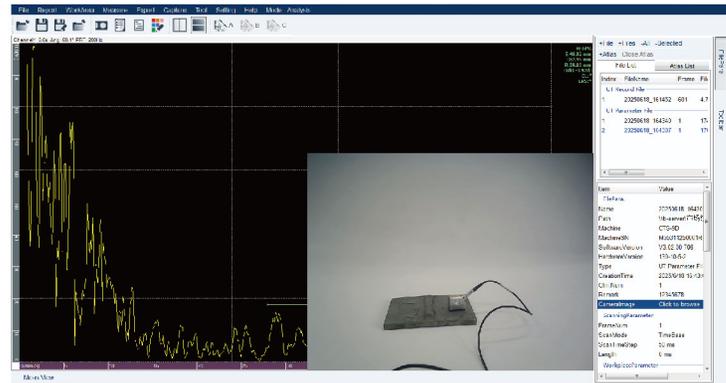
● Integrated Camera*

The camera captures images of the workpiece, probe, and surrounding environment when saving parameters, storing them together with the parameter file to maintain traceable correlation between the inspection settings and the actual physical conditions.

Camera capture image while saving parameter

Parameter with camera image

● Higher A/D Sampling Rate

The 640MHz/12bit sampling frequency enables finer ultrasonic signal acquisition, preserving more original signal details to improve detection of small flaws.

● Advanced UT and TG Functions

CTS-9D supports advanced UT and TG functions to enhance inspection capabilities.

● UT Functions
Standard: DAC, TCG, CrackMeas (crack height measurement), FFT (probe spectral analysis), CSC (curved surface correction), AWS, API 5UE, FlatWeldSim (flat weld simulation)
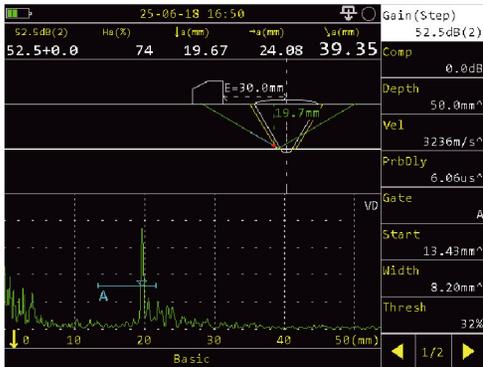Optional: BEA (backwall echo attenuator), B-Scan, C-Scan

● TG Functions
Optional: Thickness Measurement (TG ECHO included), CoatMode, Vpath, TDG (Time Distance Gain Curve), B-Scan, TempComp(temperature compensation), MultiLayers
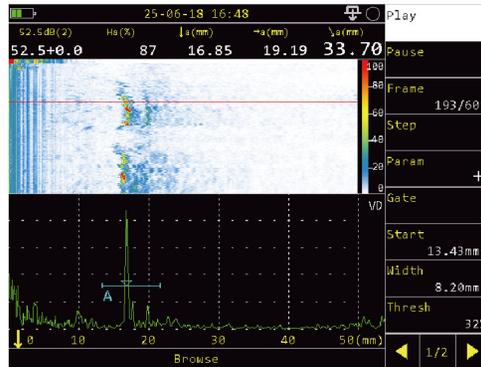
CTS-9D

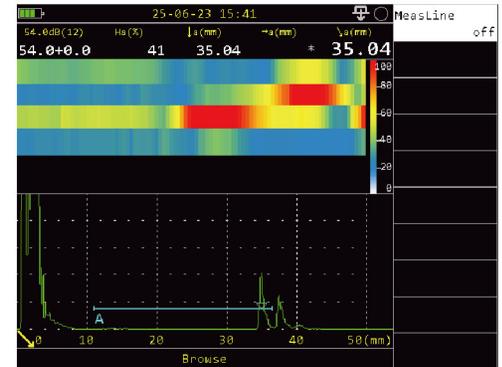## Triple-control Ultrasonic Flaw Detector

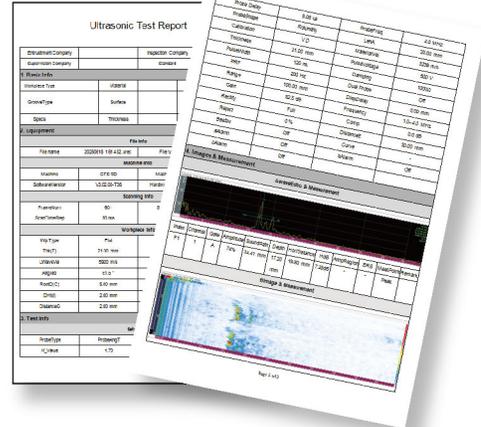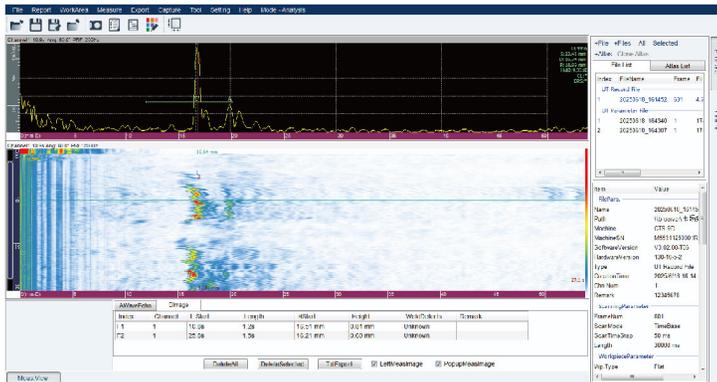### UT Flat Weld Simulation

UT B-Scan

UT C-Scan (2 axis)

SuporUp PC Software

Checking data file, screen capture, measuring data analysis, playback. Generating test reports in word or excel format. Abundant report samples are available.

Application

UT inspection for butt weld

Thickness measurement on step-block

CTS-9D

Triple-control Ultrasonic Flaw Detector

Technical Specification	
No. of Channel	1
Probe Connector Type	LEMO 00 (2pcs)
Pulse	Negative square, Negative spike pulse
Transmitting Voltage	50~500V
Pulse Width	50~1000ns, step 10ns
PRF	5~2000Hz adjustable, step 5Hz
Damping	50/100/200/1000Ω, 4levels
A/D Sampling Rate	640MHz/12bit
Gain	0~120dB, step: 0.1/0.5/2/6/12dB
Bandwidth	0.3～30MHz (-3dB)
Filter	13 levels: 1~4/0.5~10/2~20/1/2.5/4/5/10/13/15/20/0.3~25/15~30MHz
Rectify	Negative/ Positive/ Full/ RF/ Filter
Reject	0~80%, step 1%
Detection Range	0~13500mm, min. display range 2.5mm
Material Velocity	100~20000m/s, min. step 1m/s
Pulse Shift Range	-10~1000mm, min. step 0.1mm
Probe Zero	0~200us, min. step 0.01us
Probe Flank	0~100mm, step 0.1mm
Test Point	Peak/ Flank/ J Frank
Measurement	Gate: amplitude, amplitude dB difference, sound path, horizontal distance, vertical distance, sound path difference between Gate A and B, sound path difference between Gate B and C Cursor: 2 cross cursors, measuring horizontal and vertical positions on B scan image, and distance between cursors
Gate	No. of Gate: 3
	Gate Start: Full range
	Gate Width: Full range
	Gate Thresh: 10~90%, step 1%
Wizard	For weld, plate and forging testing
Calibration	zero point/ velocity/ probe angle calibration
Curve Function	DAC/ TCG up to 6 (curve/ line), each one max. 10 reference points; AVG
Auxiliary Function	Full screen, coordinates switch(sound path/ depth/ horizontal), single/continuous auto gain (10~100%, step:10%), SecColor, WaveComp, WaveFill, PeakEnv, PeakEcho, FastScan, Outdoor, gate magnify, CineRec, PrintScreen, Auto freeze(Gate: A, B, A and B, A or B), manual DAC
Alarm	Audible alarm: positive/ negative
Storage Function	Save, recall, preview, rename, copy and delete the parameters, record files
Time Base linearity	≤0.1%
Vertical Linearity	≤3%
Amplitude Linearity	≤±2%
Attenuator Precision	20dB±1dB
Data Post Processing	Playback, analysis, report generation in SuporUp software.

Software		
	UT	**TG**
Standard	TCG CrackMeas FFT CSC AWS API 5UE FlatWeldSim	——
Optional	BEA B-Scan C-Scan	Thickness Measurement (TG ECHO included) CoatMode Vpath TDG B-Scan TempComp MultiLayers

General Technical Specification	
Display Screen	5.7" high brightness IPS LCD, 640×480 pixels
Dimension (W×H×D)	150 ×235 × 58 (mm)
Weight	Approx. 1.25kg (including a battery)
Battery Capacity	7 Ah /pc, operation time ≥8 hours
External Power Supply for Adaptor	AC 100-240V 50Hz/60Hz
Adaptor Output	12V DC
Power	<13VA
Internal Storage	27 G
Language	English/ Spanish/ German/ French/ Portuguese/ Polish/ Czech/ Italian/ Turkish/ Russian/ Japanese
Measure Unit	Inch/ mm
USB Connector	1 pc
Ethernet Connector	1 pc
Mini-HDMI	1 pc
Encoder	1 pc
Operation Temperature	-10℃-45℃
Storage Temperature	-20℃-60℃
IP Code	IP65
Shockproof Rating	Vibration &Shock test report according to MIL-STD-810G

Certifications	UT: ISO22232-1 or
	    EN12668-1 or
	    ASTM E317
	TG: EN15317

* Note: CTS-9D has two versions, with different configurations as follows.

Two versions for Selection		
	Premium UT version	Standard UT version
Camera*	Yes	No
WIFI*	Yes	No
5G (SIM Card Connector)*	Yes	No

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