SyncScan 2

Maximize your efficiency for PA and TOFD

SIUI

SyncScan 2

SIUI's newly launched SyncScan 2, is a high-end ultrasonic flaw detector with 32:128PR PAUT and 2-ch TOFD, which can maximize your efficiency for PA and TOFD.

Superior Features

- High IP rate: IP 65
- Light weight: 4kg only including battery.
- 8.4" LCD with resolution 800×600 pixels.
- Working temperature: -10℃～45℃
- Faster scan speed(Approximately 3 meters/minute).
- Removable electric fan: cool down the system when it works in high temperature.
- Support PA/TOFD/UT, suitable for weld, forging and plate inspection.
- 32-channel PA is more suitable for inspection on extra-thick wall and high-attenuation material.
- 32-channel PA and 2-channel TOFD work simultaneously, focusing on pressure vessel inspection.
- Support PR mode, focusing on pipe corrosion inspection when with high-end dual-crystal PA probe.
- System ports: encoder, VGA, standard SD card, USB 2.0/3.0.

Application Range

- Phased array inspection on tube, forged piece, bar, casting, weld, composite material, railway and alloy steel.
- TOFD inspection on weld of plate, pipeline, tank and boiler.
- Phased array, TOFD and conventional ultrasonic testing in various industries such as transportation, petrochemical engineering, machinery, metallurgy, railway, shipbuilding, aircraft and building.

Solution

PAUT Solution for Long-distance Pipeline

For one/dual-side inspection on long-distance pipeline in petrochemical industry.
Dual-side phased array inspection and PAUT+TOFD inspection for selection.




PAUT Solution for Small Pipe Weld

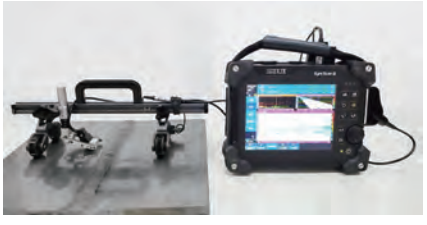
For girth weld inspection on pipe with OD ranging 20.32-114.3mm and wall thickness ranging 4-20mm.

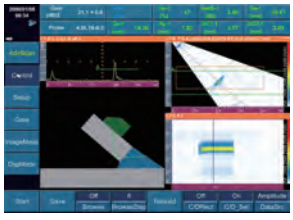
PAUT Solution for Medium Pipe Weld

For girth weld inspection on pipe with OD ranging 100-300mm.

PAUT/TOFD Solution for Flat Weld

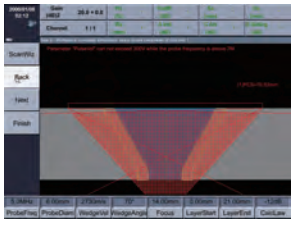
Compatible with different crawlers for various flat weld inspection.



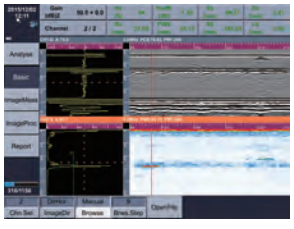


RayTracing (A+B+R scan)

Various Weld Types



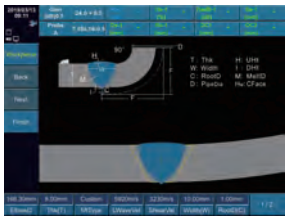
Beam Coverage Simulation



TOFD+Conventional UT
to inspect blind zone area

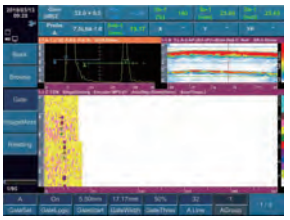
PAUT Solution for Corrosion

With Dual Linear Array Probe and different corrosion mapping scanner, SIUI's PA ultrasonic flaw detector can be used for phased array testing on small&medium areas, immersion pipeline and even for scanning in any direction in two-dimensional space.



Elbow Weld

Flange Weld



Corrosion C scan

Compatible Crawler

Phased array butt weld inspection crawler

Phased array & TOFD crawler

Corrosion mapping crawler

Technical Specification

	Conventional UT	Phased Array	TOFD
System			
No. of Channel	2	32	2
Probe Connector	LEMO 00, 4 pcs	Tyco, 1 pc	LEMO 00, 4 pcs(same as UT)
Max. Supporting Elements	4	128	4
PR(Pitch & Catch) Function	——	Available	——
Pulser	Negative square	Bi-polar square	Negative square
PRF	Adjustable 10-2000Hz Step: 20Hz	100Hz-10KHz Step 100/200/500/1000Hz	Adjustable 10-2000Hz Step 20Hz
Pulse Voltage	50V~400V, min. step 1V	10-100V, step 10V/20V	50V~400V, min. step 1V
Pulse Energy	——	4 levels	——
Pulse Width	30-1000ns, step:10ns	50-1000ns, step 10ns	30-1000ns, step 10ns
Damping	25/75/200/1000Ω,4 levels	——	25/75/200/1000Ω, 4 levels
Pulser Delay	——	0-20μs, resolution 5ns	——
Pulser Focusing	——	Single point focusing	——
Receiver			
Gain	0-110dB, step:0.5/2/6/12dB	0-80dB, step:0.1/0.5/2/6/12dB	0-110dB, step 0.5/2/6/12dB
Bandwidth	0.5-20MHz（-3dB）	0.7-20MHz (-3dB)	0.5-20MHz（-3dB）
A/D Sampling Rate	170MHz/12bit	100MHz/12bit	170MHz/12bit
Sampling Point	1024, 16bit/ point	Adjustable 256/512/1024, 16bit/point	1024, 16bit/point
Rectification	Positive/ Negative/ Full/ RF	Positive/ Negative/ Full/ Filter/ RF	RF
Receiver Delay	——	0-20μs, resolution 2.5ns	——
Receiver Focusing	——	Max. range: 1008 foci per scan line	——
Filter	10 levels: 1-4/0.5-10/2-20/ 1/2.5/4/5/10/13/15MHz	14 levels Band-pass: 0.7-4/2.5-7/4-8.5/7-10/9-15/ 0.7-20MHz High-pass: HPF2.5/HPF4.0/HPF7.0/HPF9.0 Low-pass: LPF7.0/LPF8.5/LPF10.0/LPF15.0	6 levels: 0.5-5/0.5-10/3.5-10/0.5-15/5-15/ 0.5-20MHz
Reject	0-80%, step:1%	——	——
Scan			
Scan Type	A	A/S/L/C/D	A/ TOFD
Trigger Mode	——	Time-based/encoder	Time-based/encoder
Scan Length	——	≤4m/scan (default parameter, step 0.5mm)	≤50m/scan, 0.5mm/step
Focal Laws	——	512	——
Scan Angle Range	——	-89°~+89°, step 1°	——
Angle Spacing	——	0.1°-5°, step 0.1°	——
Line Average	——	——	4 levels, 1/2/4/8
Focus Position	——	3-500mm, step1mm	——
Focal Mode	——	Depth, Sound Path	——
Basic			
Range	0-15000mm Min. display range 5mm	0-1000mm, min. step 0.01mm, min display range 3mm	0-15000mm, min. step 0.1mm
Material Velocity	500-15000m/s, min. step:1m/s	500-15000m/s, min. step:1m/s	500-15000m/s, min. step:1m/s
Display Delay	-10-1000mm, min. step: 0.01mm	0-1000mm, min. step: 0.01mm	-10-1000mm, min. step 0.01mm
Probe Zero	0-200us, min. step: 0.01us	——	0-200us, min. step 0.01us
Probe Flank	0-100mm, step: 0.01mm	——	0-100mm, step 0.01mm
Wizard	DAC, AVG/ DGS, Angle calibration, Auto calibration (velocity, zero), Plate, weld, forging scan	Scan wizard velocity/delay/sensitivity/TCG calibration wizard	Scan wizard, PCS Calculation, Probe Zero Calibration, Ultrasound Parameter, Time Window
Calibration	Zero, Velocity, Angle	Zero, Velocity, Delay, Sensitivity, TCG	PCS, Wedge Delay, PCS/Depth, Time Window, Probe Zero
Test Point Selection	Peak/ Flank/ J Flank/G Flank G Peak	Peak/ Flank/ J Flank/ G Flank G Peak	——
Measurement	Three gates: to measure echo amplitude, amplitude dB difference, sound path, Ra/Da	Three gates for each A scan, max. 18 gates: to measure echo amplitude, sound path, Ra/Da	Flaw height and length measurement.
	Cursor: two cursors to measure horizontal and vertical position of B scan and distance between cursors (active when optional B scan function is available.).	Cursor: two cursors to measure horizontal and vertical position of B/C/D scan and distance between cursors on B/C/D scan.	
Gate Mode	Normal, Tracing	Sound Path, Depth	——
Gate Start	Full range	Full range	——

	Conventional UT	Phased Array	TOFD
Basic			
Gate Width	Full range	Full range	——
Gate Thresh	10`90%, step: 1%	10`90%, step: 1%	——
Display Mode	——	A, B, C, D, A+B, B+C, B+D, A+B+C, A+B+D, 3A+B, A+B+C+D, A+B+R, A+B+C+R, A+[B], A+C, full screen.	——
Measurement			
Curve Function	AVG/DGS DAC: Max. 6 lines&16 points for each line	TCG & DAC: Max. 6 lines, max. 16 points for each line	——
Auxiliary Function	Full screen, coordinates switch (sound path/ depth/ horizontal), auto gain (single/ continuous), second leg color, wave compare, gate expansion, wave filling, peak envelope, auto freeze, Cineloop, screenshot, crack height measurement, API, AWS, UT probe spectrum analysis, CSC(Curved Surface Correction, TCG, B scan, flat weld groove, BEA	Auto gain: Single/ Continuous Auto Search: Search the highest echo amplitude scan line within gate range in B scan.(available when in R view) Group function: max. 6 groups Flat weld groove C Scan In-Depth Probe Element Testing	——
Alarm Signal	Signal and sound alarm: positive/ negative	Signal and sound alarm: positive/ negative	——
Display Measure Value	——	8 positions can be user-defined.	——
Data Analysis	——	Image mode switch, image gate dynamic reconstruction and report generation	LW/BW straightening/ removal, contrast adjust, gain adjust, zoom
Testing Index			
Time Base Linearity	≤0.5%	——	——
Vertical Linearity	≤3%	——	——
Amplitude Linearity	≤±2%	——	——
Attenuator Precision	20dB±1dB	——	——
Dynamic Range	≥32dB	——	——
Software			
Optional Software	——	Flat Weld Solution Angle Weld Solution Corrosion Solution Pipe Girth Weld Solution Simultaneous Display of PAUT and TOFD Software PA Long Pipe Solution	SAFT 1-ch TOFD 2-ch TOFD

General Technical Specification	
Display Screen	8.4" high brightness TFT LCD, 800×600 pixels
Dimension (W×H×D)	284×220×105(mm)
Weight	4 kg with battery
Battery	Lithium battery, 1 pc (0.55kg)
Battery Capacity	7.5 Ah/pc, operation time around 4 hours
External Power Supply for Adaptor	AC 100-240V 50Hz/60Hz
Adaptor Output	15V DC
Power	26VA for PAUT 20VA for UT/TOFD
Data Storage	Standard SD card (16G)

General Technical Specification	
Input/Output	
USB Connector	2 pcs
Ethernet Connector	1 pc
Video Output	VGA port
Encoder Connector	1 pc (14-core)
Environment Tests	
Operation Temperature	-10℃-45℃
Storage Temperature	-20℃-60℃
IP Code	IP65

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