

SyncScan 2

32:128PR PAUT & 2-ch TOFD Flaw Detector



Maximize Your Efficiency

Multiple Solutions for Welds & Corrosion

SIUI



SyncScan 2

PAUT & TOFD Flaw Detector

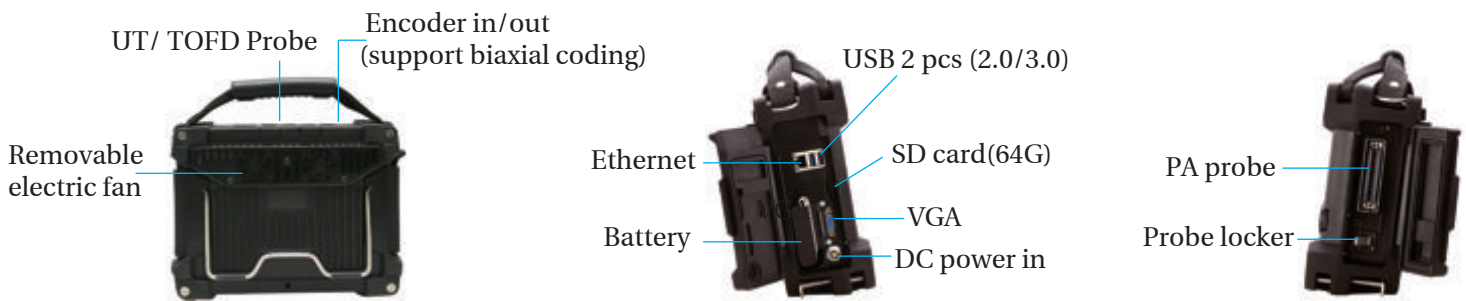
● Maximize Your Efficiency



SyncScan 2 is 32:128PR PAUT flaw detector with optional 2-ch TOFD, which can maximize your efficiency for PA and TOFD.

- Light weight: 4kg only including battery.
- Fast scan speed (Approx. 3 meters/minute).
- Removable electric fan: cool down the system when in high temperature.
- 1 or 2 ch-TOFD for your selection by license activation.
- Support UT/PA/TOFD, 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 on pressure vessel inspection (TOFD can measure thickness up to 100mm).
- Support pitch and catch (PR) mode, corrosion inspection with dual linear array probe.

● Overview



● Advanced Software



Various Weld Types



Elbow Weld

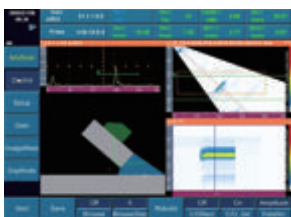


Flange Weld

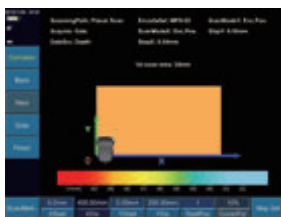


Conner Joint Weld

- Various workpieces and weld types for selection according to different on-site application.



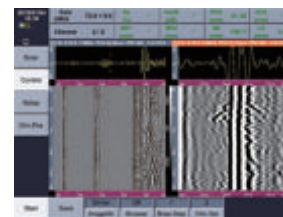
RayTracing (A+B+R scan)



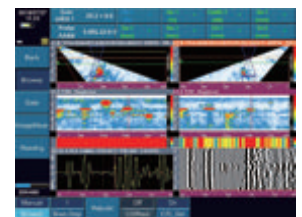
Corrosion Wizard



Color Map Edit



2 ch-TOFD



Simultaneous Display of PAUT&TOFD

- Multi-view mode helps to locate defects more easily.
- Customized color map to visualize different wall thickness.
- PAUT+TOFD inspection enhances the testing efficiency.

SyncScan 2

Multiple Solutions for Welds

Suitable for Different Applications

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

PAUT Solution for Austenitic Weld

With DMA/ DLA probes for inspecting austenitic weld in petrochemical and nuclear power industries.



PAUT & TOFD Solution for Long-distance Pipeline

For circumferential weld inspection on long-distance pipeline in oil& gas industry.



PAUT & TOFD Solution for Small & Medium Tube Welds

For circumferential weld inspection on small and medium tubes in petrochemical, metallurgical, energy industries.



Other Solutions



Tank inspection

Refinery inspection

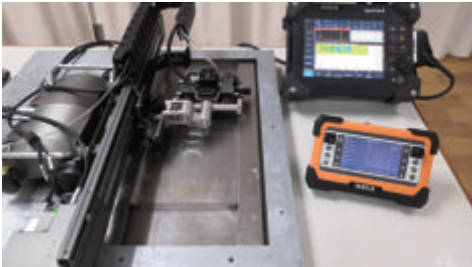
Bridge inspection

TOFD inspection

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Multiple Solutions for Corrosion

PAUT Solution for Corrosion



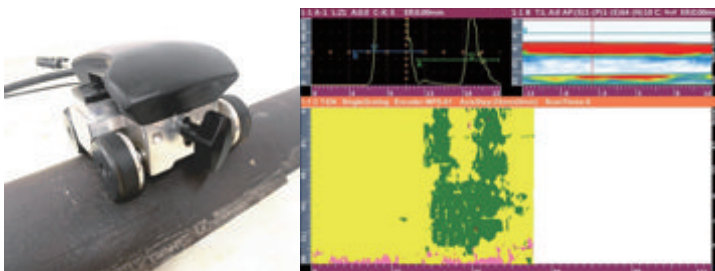
Automated 2-axis scanning



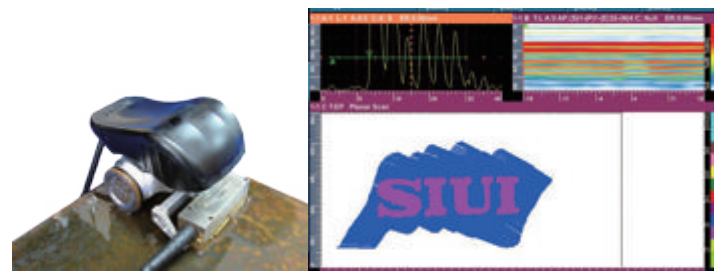
CFRP (delamination depth 0.3mm-4.7mm)



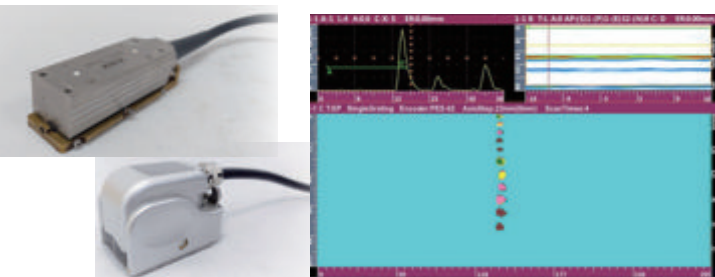
Honeycomb CFRP inspection



PA immersion testing



Free 2D scanning



Coarse-grained and composite materials inspection



Corrosion inspection on-site



SuporUp PC Software

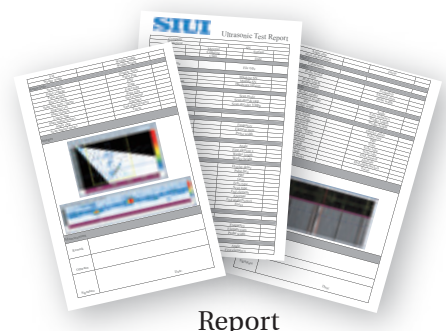
Checking data file, screen capture, measuring data analysis, playback.

Generating test reports in word or excel format.

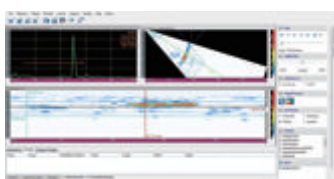
Several files from corrosion solution can be opened and combined.

Abundant report samples are available.

It can be installed in every operator's laptop without extra cost.



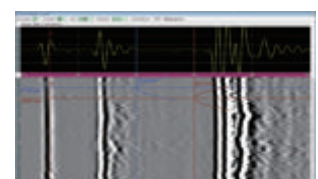
Report



PAUT File Measurement



Corrosion File Measurement



TOFD File Measurement

Technical Specification

	Conventional UT	Phased Array	TOFD
System			
No. of Channel	2	32	2
Probe Connector	LEMO 00, 4 pcs	Tyco, 1 pc (IPEX : optional)	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-20KHz 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 Width	30-1000ns, step:10ns	50-1000ns, step: 2.5ns	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; Fine gain: -4~+4, step:1	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	Digital 10 levels: 1-4/0.5-10/2-20/ 1/2.5/4/5/10/13/15MHz Analog 4 levels: 3/5/10MHz/whole	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	Digital 16 levels: 0.5-5/0.5-10/3.5-10/0.5-15/5-15/ 0.5-20/1-4/0.5-10/2-20/1/2.5/4/5/10/ 13/15MHz Analog 4 levels: 3/5/10MHz/whole
Reject	0-80%, step: 1%	—	—
Scan			
Scan Type	—	Linear/ Sector/ Compound	—
Trigger Mode	—	Time-based/encoder	Time-based/encoder
Scan Length	—	≤4m/scan (default parameter, step 0.5mm)	≤50m/scan, 0.5mm/step
Scanning Speed	—	≤3m/min (default parameter, display mode A+B+C, step 0.5mm)	≤5m/min
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, step: 1mm	—
Focal Mode	—	Depth, Sound Path	—
Measurement			
Range	0-15000mm Min. display range 5mm	0-1000mm, min. step 0.01mm, Min. display range 3mm	0-15000mm, min. step 0.1mm, Min. display range 5mm
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
Test Point Selection	Peak/ Flank/ J Flank/ G Peak	Peak/ Flank/ J Flank/G Peak	—
Wizard	Plate/ weld/forging scan DAC, AVG/ DGS, Angle calibration, Auto calibration (velocity, zero)	Scan wizard, Velocity/delay/sensitivity/TCG/ manual TCG/ Horizontal zero / Wedge calibration	Scan wizard, PCS Calculation, Time Window, Probe Zero Calibration, Ultrasound Parameter
Curve Function	AVG/DGS DAC: Max. 6 lines & 16 points for each line	TCG & DAC: Max. 6 lines & 16 points for each line	—
Auxiliary Function	Coordinates switch (sound path/depth horizontal), full screen, auto freeze, auto gain (single/continuous), second leg color, wave compare, gate expansion, wave filling, peak envelope, Cineloop, screenshot	Auto gain: Single/ Continuous Auto Search: Search the highest echo amplitude scan line within gate range in B scan.(available when in R view)	—
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.	

	Conventional UT	Phased Array	TOFD
Gate Mode	Normal, Tracing	Sound Path, Depth	—
Gate Start	Full range	Full range	—
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.	—
Alarm Signal	Signal&sound alarm: positive/ negative	Signal&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	—	—
Software			
SyncScan 2 Standard Software	UT API 5UE UT AWS UT TCG UT CSC UT FFT UT B-Scan UT FlatWeldSim UT CrackMeas	PA DAC PA Groups PA Probe Element Testing PA FlatWeldSim PA C Scan In-Depth	—
SyncScan 2 Optional Software	—	PA Flat Weld Solution PA Angle Weld Solution PA Corrosion Solution PA Pipe Girth Weld Solution PA Long Pipe Solution PA Corner Joint Solution PA Bolt Solution	1-ch TOFD 2-ch TOFD TOFD SAFT Simultaneous Display of PAUT and TOFD Software
SuporUp PC Analysis Software	Analysis Software (Standard) PA Corrosion Software (Optional) PA Emulator Software (Optional) Acquisition Software (Optional)		Two-ways Activation: •License •Dongle

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 ≥4.5 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	5G
Language	English/ German/ French/ Polish/ Czech/ Hungarian
Input/Output	
USB Connector	2 pcs
SD Card Connector	Standard SD card (64G)
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
Shockproof Rating	Vibration & Shock test report according to MIL-STD-810G
Certifications	ISO22232-1 or
	EN12668-1 or
	ISO 18563-1 (Extra Cost)



*Specific configurations are subject to final order.

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