SyncScan B 32

32:128PR Phased Array Flaw Detector with TFM

TFM/PAUT/TOFD Solutions

All Equipped

SIUI

SyncScan 3 32

Phased Array Flaw Detector with TFM

● TFM/PAUT/TOFD Solutions All Equipped!

SyncScan 3 32 is 32:128PR PAUT flaw detector with total focusing method (TFM) and 4-ch TOFD, with all kinds of practical solutions, it's reliable for on-site applications in oil & gas, power industries, etc.

- Fast UT/PA/TFM/TOFD mode switch, less than 2 seconds.
- TFM supports 11 propagation modes, and 6 modes simultaneously in one time.
- With DLA/DMA probes, ideal for coarse-grained and high- attenuation materials.
- 4-ch TOFD are especially suitable for welding inspection with thickness up to 300mm.

● Portable with Big Screen, Make You Easier On-site.

● New practical buttons for quick access.

NDT Ultracloud

Measurement

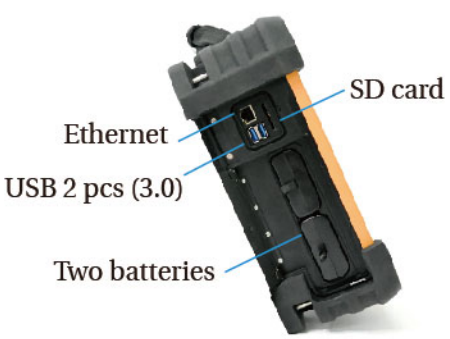
Scan/Stop

Storage

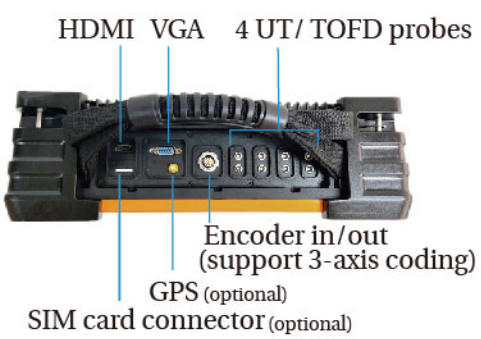
● 12.1" touch screen, for broader vision.

● Upgraded ABS cover for better sealing and anti-impact, with handy switch for easier locking and unlocking.

● Side view (left)



● Top view

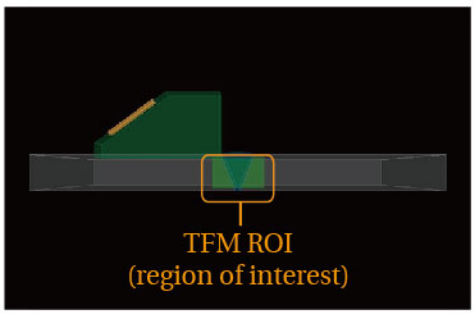


● Side view (right)

● Step-by-step Test Wizard, Friendly Even for First Use.

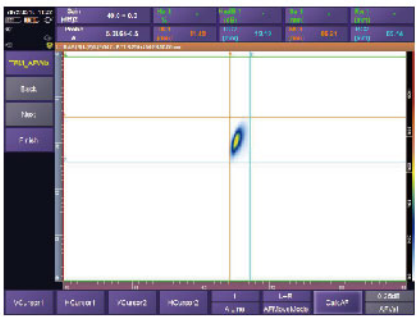
Example: TFM Weld Solution, based on ASME nonmandatory Appendix F-Examination of Welds Using Full Matrix Capture.

Step ①



Parameters setup:
3D weld simulation & ROI for full converge.

Step ②

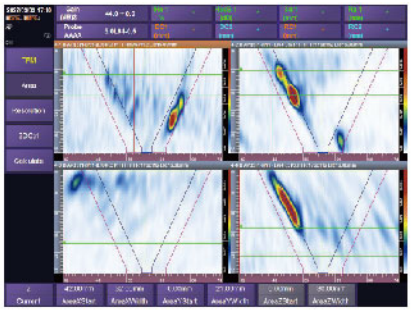


Patent! Amplitude Fidelity calculation:
Calculating AF value to verify the TFM resolution

Step ③

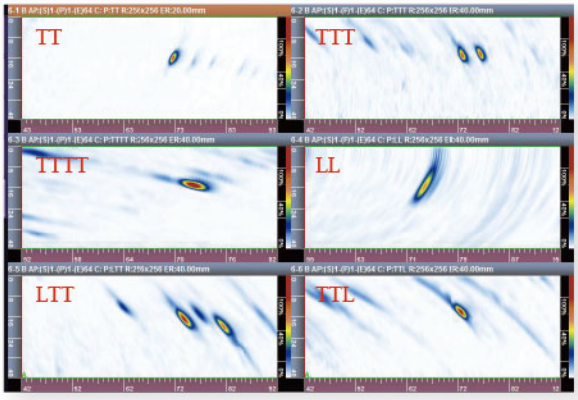
Calibration: TCG calibration
with block for performance verification as per ASME.

Step ④

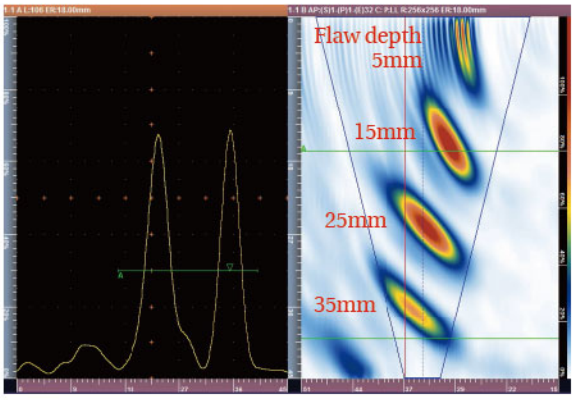


Testing:
Flaw non-fusion found by TT/TTTT/ LTT modes.

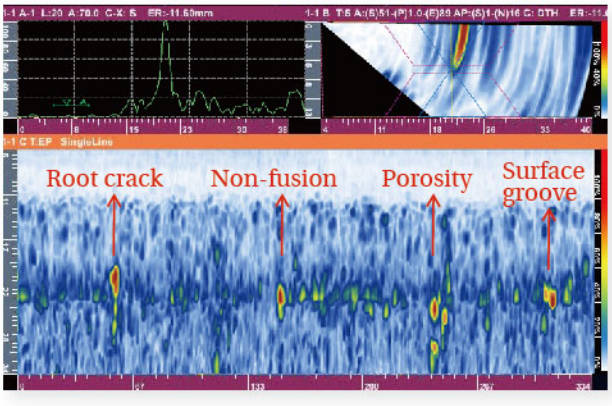
● Application



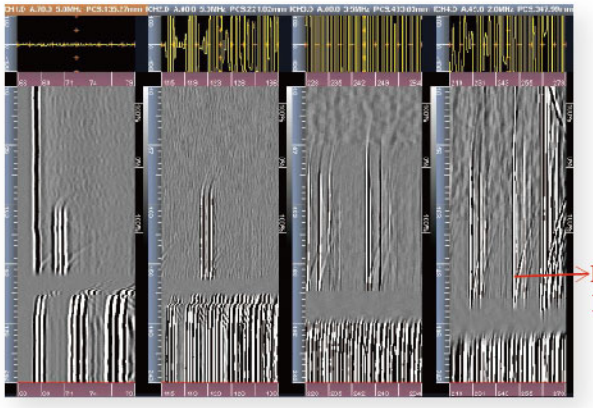
6 TFM modes displayed simultaneously
to better identify and size flaws.



TFM for austenitic block
with DLA probe (Thickness 45mm)



PA for austenitic pipe with DLA probe
(OD114mm, thickness 6mm)



4-ch TOFD inspection
(Workpiece thickness 200mm)

Technical Specification

TFM	
Propagation Modes	LL, LLL, LLLL, TT, TTT, TTTT, TTTTT, LTT, TLT, TLL, TTL
Multi-mode	Up to 6 TFM modes in one time
Image Resolution	Up to 1024×1024; Horizontal/vertical resolution: 64-1024, step 16
Live TFM Envelope	Yes
No. of Channel	32
Probe Connector	Tyco, 1 pc
Max. Supporting Elements	128
Display Mode	B, A + B, A + B + C1, A + B + C1 + C2, A+B+3D
Scanning Length	≤3.2m/scan (default parameter, resolution 256×256, step 0.5mm)
Scanning Speed	≤0.6m/min (default parameter, display mode A+B+C, step 0.5mm)
FMC Data Acquisition	8192points/channel, 16bit/point
PRF	100Hz-6500KHz(resolution 64×64), step: 100/200/500/1000Hz
Pulse Voltage	10-100V, step 10V/20V
Pulse Width	50-1000ns, step: 10ns
Gain	0-80dB, step:0.1/0.5/2/6/12dB
Bandwidth	0.7-20MHz (-3dB)
A/D Sampling Rate	100MHz/12bit
Wizard	Amplitude Fidelity wizard; Velocity/ TCG calibration

	Conventional UT	Phased Array	TOFD
System			
No. of Channel	4	32	4
Probe Connector	LEMO 00, 8 pcs	Tyco, 1 pc	LEMO 00, 8 pcs(same as UT)
Max. Supporting Elements	8	64	8
PR (Pitch & Catch)	——	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 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 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	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
Reject	0-80%, step: 1%	——	——
Scan			
Scan Type	——	Linear/ Sector/ Compound	——
Trigger Mode	——	Time-based/encoder	Time-based/encoder
Scanning Length	——	≤19m/scan (default parameter, step 0.5mm)	≤50m/scan, 0.5mm/step
Scanning Speed	——	≤ 7.5m/min (display mode A+B+C, step 0.5mm, subject to PRF)	≤15m/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

Technical Specification

	Conventional UT	Phased Array	TOFD
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; TCG & DAC: Max. 6 lines & 16 points for each line	TCG & DAC: Max. 6 lines & 16 points for each line; Manual TCG	——
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); CAD import; Probe/wedge import/export	——
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.	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	——
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, A+B+3D, 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	——	——
Dynamic Range	⩾32dB	——	——
Software			
Basic Version	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	——
	SuporUp PC Analysis Software: Analysis Software		
Full Version	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 PA Flat Weld Solution PA Angle Weld Solution PA Corrosion Solution PA Pipe Girth Weld Solution PA Long Pipe Solution PA Corner Joint Solution	1-ch TOFD 2-ch TOFD 3-ch TOFD 4-ch TOFD TOFD SAFT Simultaneous Display of PAUT and TOFD Software
	SuporUp PC Analysis Software:	Analysis Software	
		PA Corrosion Software	Two-ways Activation: •License •Dongle
		PA Emulator Software	
		Acquisition Software	

Technical Specification

General Technical Specification	
Display Screen	12.1" high brightness TFT LCD, 1024×768 pixels
Dimension (W×H×D)	365×270×115 (mm)
Weight	7.7kg with 2 batteries
Battery	Lithium batteries, 2 pcs
Battery Capacity	7.5 Ah /pc, operation time ⩾4 hours
External Power Supply for Adaptor	AC 100-240V 50Hz/60Hz
Adaptor Output	15V DC
Power	⩽70VA
Data Storage	64 GB SSD
Language	English/ German/ French/ Polish/ Czech/ Hungarian
USB Connector	2 pcs (3.0)
SD Card Connector	Standard SD card (64G)
Ethernet Connector	1 pc
Video Output	VGA/ HDMI ports
Encoder Connector	1 pc (14-core); including 6 digital inputs/outputs, TTL
GPS	1 pc (Optional Function)
SIM Card Connector	1 pc (Optional Function)
WIFI	Yes
Bluetooth	Yes
Operation Temperature	-10℃-45℃
Storage Temperature	-20℃-60℃
IP Code	IP65
Shockproof Rating	Drop-tested according to MIL-STD-810G
Certifications	ISO22232-1 or EN12668-1 or ISO 18563-1 (Extra Cost)

Note: Specific configurations are subject to final order.

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