RailTek

Digital Ultrasonic Flaw Detector for Rail Weld

Professional Rail Weld Inspection

Small Size

Easy Operation

Real-time Cineloop

SIUI

RailTek

Digital Ultrasonic Flaw Detector for Rail Weld

Portable, Easy-to-Use, Reliable

RailTek ultrasonic flaw detector is the portable ultrasonic rail testing machine with powerful functionand easy operation, which is the first choice for rail weld joint inspection.

Compact & Portable: The whole unit weight (battery included) is approx 1.4kg, suitable for aloft and field work.
B Scan Mark Function: Automatically mark alarm signals on the rail weld joint cross section on B scan image.
Easy Operation: There are just a few concisely-defined keys, easy to be operated with only one hand.
Super-low Consumption: The Li-polymer battery can support up to 6-hour continuous operation.
Strong Performance: High defect inspection rate can satisfy precise rail joint inspection.
Dynamic Recording: Real-time Cineloop

Extendable Connectors

Superior Features

- Max. sampling rate 240MHz; Measurement resolution 0.1 mm.
- User-friendly report with quick label for defect properties, position and testing process, enabling easy post-analysis and determination.
- 20-500Hz PRF with 10 steps adjustable: avoid reverberation signals during flaw detection.
- B scan images can be acquired by scheduled scanning.
- Measure crack height by edge peak echo method and image freeze function.
- The DAC curve works with echo compare function, making echo quantification of different distances and amplitudes more convenient.
- 5.7” high brightness TFT LCD.
- Different color schemes can meet the requirements of different application environments and habits.

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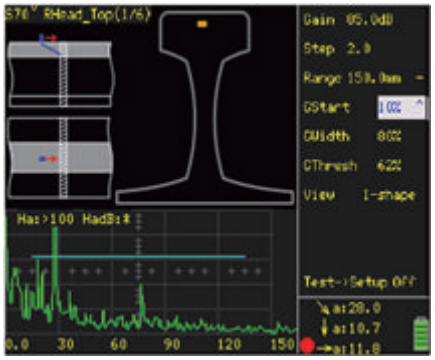
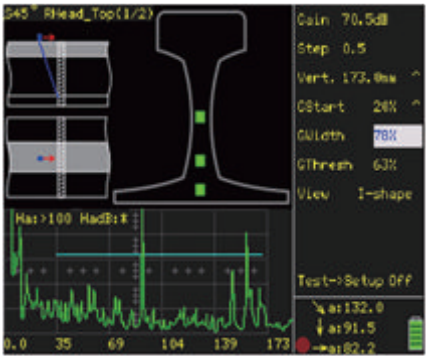
Single 70° Angle Probe



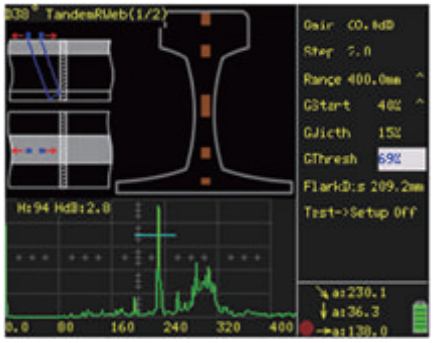
- Use primary wave to scan rail tread and rail side for making DAC curve on No.1-5 SDH in B area of GHT-5 calibration block with single 70° angle probe.
- Rail head inspection.

Single 45° Angle Probe



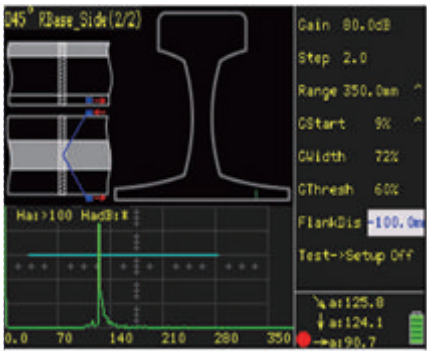
- Use primary wave to scan forward and reverse from rail tread to rail waist with single 45° angle probe.
- Rail inspection from rail head to rail foot.

Tandem Dual-Element Angle Probe



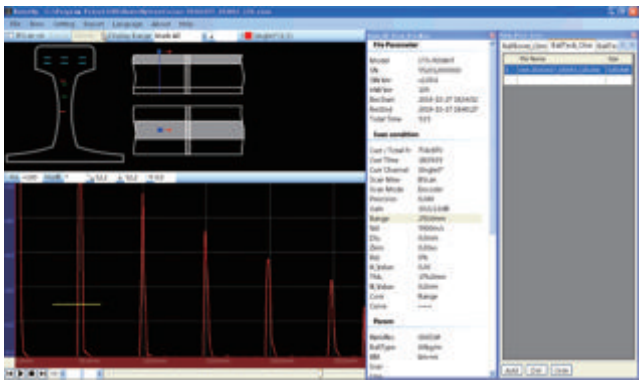
- Use a pair of tandem placed 38° angle probes with a crawler to scan the rail waist.
- Echoes from flat bottom holes in GHT-1 calibration block.

Dual 45° Angle Probe



- Use a pair of 45° angle probes to scan each side of the rail foot and rail head.
- An echo from No. 5 FBH in GHT-1a calibration block.

PC Software



On-site Application

Function	Unit	Specifications
Testing Index		
Attenuator Error	dB	Every 20dB ±1dB
Vertical Linearity Error	%	≤3
Dynamic Range	dB	≥32
Horizontal Linearity Error	%	≤0.5
Pulser		
PRF	Hz	10 steps (20-500Hz adjustable but subject to detection range, material velocity, pulse shift and probe delay.)
Damping	Ω	Low /High, 2 steps (1000 /50)
Receiver		
Operating Frequency Range	MHz	0.5-8
Reject	%	0 ~ 80
Gain Adjustment	dB	Range: 0 ~ 110; Adjustable steps: 0.5 / 2 / 6 / 12
Measurement		
Detection Range	mm	0 ~ 13000（Longitudinal wave in steel ）
Pulse Shift Range	mm	-10 ~ 1000 (Longitudinal wave in steel)
Auxiliary Function		Coordinate switch(sound path/depth/horizontal), freeze, auto gain(40%-100%, step:10%), peak envelop, wave compare, zoom, gate expansion, screen shot, adjustable filtering, cineloop, wave filling, rail type selection(38/43/50/60/70 kg/m), weld I-shape mark(auto/manual), B scan image
Angle Measurement		Measure probe angle
Material Velocity	m/s	400 ~ 15000
Probe Zero	μs	0 ~ 200
Auto Calibration		For calibrating material velocity and probe delay. Calibration mode: Velocity and Zero
DAC Curve		For making, setting and applying DAC curves.
Gate		
Gate		Gate Start: 0~109% Gate Width: 1~109% Gate Thresh: 10~90%
General Technical Specification		
Display Screen		5.7" high brightness TFT LCD, 320×240 pixels
Storage		500 data sets, including system setup, detection state, echo figures, etc.
Power Supply	V	12DC (external power supply); 7.4 (battery)
Battery Operating Time	h	≥8
Operating Temperature	℃	-20 ~ +50
Weight	kg	Approx. 1.4（including battery）
Dimension	mm	152 × 240 × 68 (W×H×L)
Certifications		EN 12668-1

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