Sonatest

RAILSCAN 125

RAIL TESTING ULTRASONIC FLAW DETECTOR

Network Rail Approved
Designed specifically for Rail Testing
P67 water resistant case
Clear visibility in bright sunlight
Long battery life
Wide operating temperature

Simplicity | Capability | Reliability

RAILSCAN 125

Setting standards of performance and reliability.

For over 20 years the Railscan name has meant exceptional performance with class leading design. The latest developments in amplifier and pulser technology deliver higher levels of near surface resolution, penetrating power and excellent signal to noise ratio.

Designed specifically for Rail Testing

Network Rail (UK) procedure and approval
Narrow Band amplifiers 2 and 5 MHz G1 +ve trigger,
G2 -ve trigger,
(0.6 second delay for monitoring rail bottom depth).

Long Battery Life

Latest Li-Ion technology
10-16 hours (brightness dependant)
Quick re-charge in 3-4 hours

Walking Stick Compatibility

Sperry walking stick.
Others (e.g, NRS bi-directional walking stick)
Single-shot PRF for high speed multiplexing
RS232 & USB outputs for custom software systems,
(e.g. Sperry palmtop with GPS)

Robust and Reliable

Sonatest's reputation for robust design and proven reliability is an important aspect of flaw detector ownership. Down time is expensive and should be minimised to ensure maximum productivity. The Railscan is constructed to high standards using Xenoy plastics and sealed to IP67, giving excellent water resistance so it can with stand the tough environments in which operators work.The Railscan comes with 2 years warranty, extendable to 5 years with Sonacover, and a worldwide service network.

High Performance with Total Control

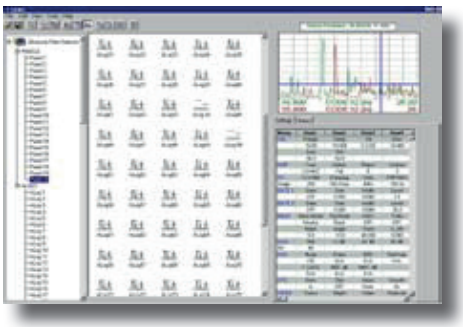
The Railscan delivers high performance and advanced features, yet our engineer's experience in user interface design has ensured it is easy and quick to use. The acknowledged ease of use of the previous Railscan generation has been enhanced with the menu navigation key, providing easy access to functions. The menu structure has been designed to guide the user through their task with operation quickly becoming second nature.

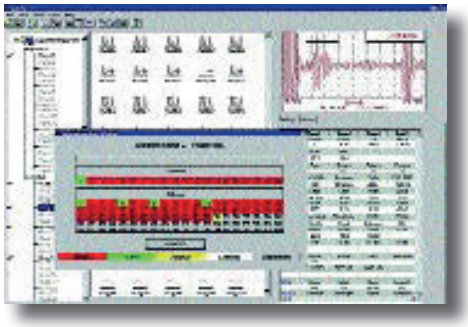
High Visibility Display

For any flaw detector the display is a crucial element. The Railscan has a colour transflective TFT display as standard, providing high visibility at any light level. The choice of colours for menus and waveform display enhance clarity, with the LCD simulation mode giving direct sunlight readability. The TFT does not suffer the typical black out problems or temperature limitations of LCD giving full weather capability. The new Full Screen mode maximises the A-scan area to improve readability further whilst testing and its fast response and peak capture functionality ensure any indication is clearly displayed, even if it only appears for one cycle of the 1 KHz PRF.

SDMS
(Optional Sonatest Data Management Software)

This Windows based data management tool allows the user to interface a Sonatest digital flaw detector with a PC. The software uploads and downloads panel settings and A-scans, which can also be copied and pasted into Word for customised reporting. Thickness readings can be transferred directly into Excel with the ability to produce charts for B & C-Scans, colour 3D mapping etc.





RAILSCAN RS125

Specifications

Test Range	0 – 5mm (0.2in) up to 0 – 10000 mm (400 in.) at steel velocity. Variable in 1mm & 10mm steps.
Velocity	1000 to 9,999m/s continuously variable.
Probe Zero	0 to 999.999 µs, continuously variable.
Delay	Calibrated delay from 0–10000mm in 0.05 mm steps at steel velocity (0–400in. in 0.002 in. steps).
Gain	0 to 110dB. Adjustable in 0.5, 1, 2, 6, 10, 14 and 20dB steps.
Test Modes	Pulse echo and transmit/receive.
Pulser	–200V square wave pulser. Pulse width 100ns. Rise/fall times <10ns into 50 ohms:
P.R.F	1000 Hz.
Update Rate	60Hz (NTSC Mode); 50Hz (PAL Mode).
Retification	Full wave.
Frequency Range	2.5MHz and 5.0MHz.
System Linearity	Vertical = 1% Full Screen Height (FSH). Amplifier Accuracy ±0.1dB. Horizontal ±0.4% Full Screen Width (FSW).
Units	Metric (mm) or inch (in).
Display	Colour Transflective TFT: Display area 111.4 x 83.5 mm (4.39 x
Gate Monitor	Two fully independent gates for echo monitoring and thickness measurement. Start and width adjustable over full range of unit, amplitude variable from 0 to 100% FSH. Bar presentation. Positive triggering for gate 1 and negative triggering for gate 2, both with audible and visual alarms.
Gate Expansion	Expands range to width of Gate 1.
Gate Monitor Delay	Fixed 0.6 seconds delay on Gate 2 negative monitor
Measurement Modes	
Mode 1	Signal Monitor
Mode 2	Depth and amplitude of first signal in gate.
Mode 3	Echo-to-Echo distance measurement. (single gate)
Mode 4	Trigonometric display of beam path, surface distance and depth of indication, curve surface correction and X-OFFSET for probe index. Half skip indication on screen.
Mode 5	T-Min mode for holding minimum thickness reading.
Resolution	0.01mm (0.001in) for distance measurement or 1% FSH for amplitude measurement. Large display of measurement at the top of A-Scan display. Measurement mode selectable between peak and flank.
A-Scan Memory	Maximum of 800 waveforms can be printed or transferred to a PC using optional SDMS software.
Panel Memory	100 stores for retaining calibrations.
Thickness Logging	Storage for 8000 thickness readings configured either by Block/Location/Number mode or pre-programmable work sheets in sequential mode. Readings can be exported to MS Excel using optional SDMS software.
DAC	DAC defined by up to 10 points and digitally drawn on screen. DAC curves meet requirements of EN 1714, JIS and ASME standards, selectable between –2, –6, –10, –12 and –14dB. Amplitude read out selectable between % DAC or relative dB.
Auto-Cal	Provides automatic calibration from two echoes.
Clock	Sets time and date.
Notes	Alphanumeric labelling for panel and A-log allows the user to enter Notes for storage with panel settings and A-scans.
Display Freeze	For capturing the current A-scan image.
Peak Memory	For echodynamic pattern determination.
Keylock	Prevents accidental alteration of parameters
Help Key	For instant operator guidance on using the Railscan unit.
Language Support	Supports multiple languages. User selectable between English, German, Spanish, French, Dutch, Italian, Russian, Polish, Czech, Finnish & Hungarian. Others available on request.
Waveform Smoothing	Gives a smooth signal envelope, simulating analogue equipment.
Outputs	Full bi-directional serial interface to transfer parameters, thickness readings and waveform memories. Composite video, PAL or NTSC compatibility.
External Alarm	Front mounted socket for attachment.
Printers	Supports any printer with PCL support including Hp Deskjet and Epson.
Power	Lithium Ion battery pack 14.4V, 5.0 ampere hours, gives up to 16 hours duration from a fully charged pack. Indication of low battery status. Recharge time 3–4 hrs.
Charger	100 – 240 VAC, 50–60Hz
Transducer Sockets	BNC or LEMO (factory option)
Environmental	Case sealed to IP67
Temperature	Operating –10°C to +55°C (14 to 131°F). –20°C to +70°C. (–4 to 158°F) survivable. Storage: –40° to +75°C. (–40 to = 167°F)
Size	Size 255 x 145 x 145mm (10.0 x 5.7 x 5.7 in)
Weight	2.5kg (5.5lbs) with Li-Ion cells.
Standard Kit Includes	Railscan 125R Li-ion Battery & Battery Charger Fabric Carry Bag Calibration Certificate Instruction Manual (EN12668)

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Part No: (Issue 1_May2016)