

SonicVizio-TR-S

Track Measurement and Analysis

Adding Value

A complete system designed for rail inspection that automatically detects and lists all track flaws in a single passage. Our smart software allows you to easily measure and assess defects.



Ultrasonic testing is the most reliable solution to find and monitor the rail flaws, helping you to optimise rail replacement operations for better cost efficiency.

SonicVizio-TR-S uses high pitched waves to identify rail flaws such as internal cracks, squats, head checkings, corrosion, weld defects...

20 detection probes are constantly scanning the whole rail showing (and saving) both A-Scan and B-Scan views for maximum information.

Its Smart Software provides automatic detection and listing of defects, all located through GNSS and track localization unit. Data from inspections is recorded, allowing analysis and assessment from the office and keeping track traceability.

→ TECHNICAL FEATURES

Lightness & Robustness

Designed for easy handling and maneuverability on the track. SonicVizio-TR-S's carbon fibre construction ensures a high level of solidity while remaining lightweight.

Easy Maintenance

Minimalist day-to-day maintenance. Worn parts are all suppliable and easily replaceable with basic tools.

Multiple Application Fields

Available for gauges ranging from 1000 mm to 1668 mm. Suitable for all types of rails, including grooved and vignole, whether new or worn, light or heavy.

Doubled Efficiency

Twice as efficient as single-rail inspection systems, equipped with 10 detection probes for each rail.

Versatility

Clever and retractable design, as it can be folded down to 1000 mm wide for transportation and handling into narrow areas.

Automatic Detection Feature

Automatically recognise and index defects into a list along with their locations and characteristics.

→ ADVANTAGES

- User-friendly interface and automatic defect detection feature make the software accessible to all operators in the field regardless of their ultrasonic or informatic skills.
- No heavy maintenance, all operations can be done on-site by operators just with replacement parts and manual.
- Retractable design allowing transportation into small utility vehicles and pick-up trunks.
- Easy exportation of the raw data and PDF reports directly from the software, extensive export and storage management capabilities.



→ COMPONENTS

1. Handle
2. Safety break
3. Water tanks
4. Rugged tablet 14"
5. Probes
6. UT Card 24-channels

→ SPECIFICATIONS

Overview	
UT Smart Trolley	
Weight	35 kg (without irrigation tank)
Operating temperature	-10° to 50°C
Gauge	1000 - 1668 mm
L x W x H	1786 x 1050 x 1071 mm
Tank capacity	40L (approx. 10km)
UT Probes	
Number of detection angles	20
Number of detection crystals per rail	10
Specification	Special anti-wear probes and probe-brackets
Minimum detection wavelength	0,5mm
Angles	40°/ 70° / 0° TR / 40° / 70° - Rail axis -70°/+70° - Gauge corner -70°/+70° - Field corner
Frequency	4MHz for 0° element 2,25MHz for all except 0°
Maximum speed	7km/h

→ MEASUREMENT



Internal Cracks



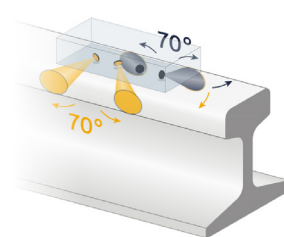
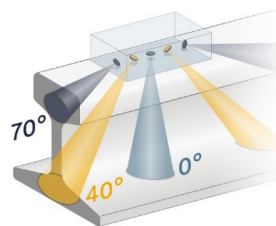
Head Checking



Squat



Shelling / Shaving

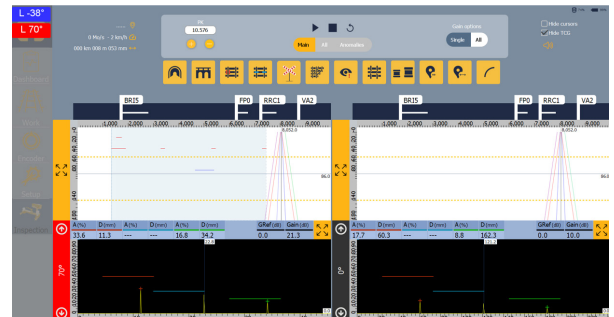


→ SOFTWARE /

Pandrol SonicView UT Software is the perfect tool for efficient on-track inspection and flawless off-track analysis. Our Smart Software has been designed to make easier Ultrasonic Testing of the rail, engineered with user-friendly interface to be accessible for all levels - operators, technicians, engineers.

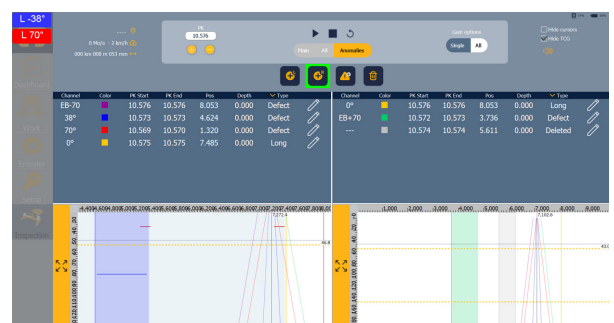
→ FIELD INTERFACE

- Comprehensive interface : A-SCAN & B-SCAN displays with both visual and audible alarms, fully customizable to please experienced users and to fit beginners.
- Offers complete data recording with automatic defect detection, providing end-of-shift reports ensuring inspection documentation and traceability.
- Enables the creation of geolocated events or comments on the track.



→ OFFICE INTERFACE

- Post-inspection data analysis including visualizing the entire inspection or just anomalies, creating new located defects and fill in with characterization data.
- Provides cursors tool allowing measurement of all defect components with an automatic integrated calculator.
- Individual exportation of defect sheet to document separately each defect to be validated by the track manager.



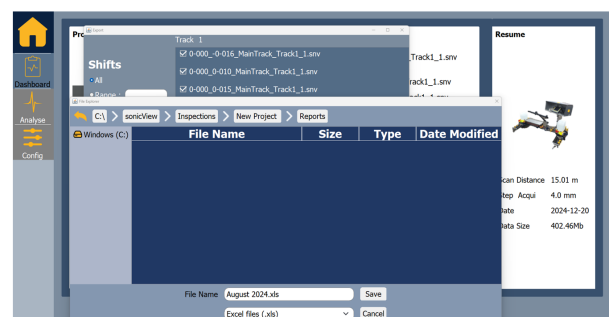
→ REPORTS

SonicView offers multiple export possibilities through all formats (.pdf, .csv, .xls, ...) with filtering and sorting of data to fit user preferences and specifications with 3 different export types :

- Defect sheets : location, dimensions, codification, classification, ...
- Reports : Line, Track, Week and Inspection reports
- Tabulated data : For global traceability and data-base management



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Export menu

SonicBox – Ultrasonic Testing Flaw Detector	
Parameter	Criteria
Connectors	Lemo00
Voltage	5V
Ultrasound channels	8 Ultrasonic channels – P/R mode and T/T-mode
Precision	8 – 12 bits
Encoder inputs	2 encoders – various I/O
OS Compatible	Windows
Power supply / Consumption	5V – 400 mA to 800 mA / 4 W
L x W x H	101 x 38.25 x 73, 5 mm
Weight	350g
Support	Support plate / DIN rail (optional)

Tablet	
Display	14"
Protection	Ruggedized – IP65
Autonomy	8 – 9 hours

UT Acquisition system	
UT smart box channels	8
Selector box	Angle selection
Odometer resolution	5000 pts / tr

Measurement application fields

Multi-angle detection enables the identification of various types of rail defects, including head checks, corrugations, squats, skid spots, indentations, break-outs, and machining errors.

Our comprehensive system covers all these defect types, resulting in prolonged railway longevity without requiring significant operations and reducing the risk of accidents.



The Pandrol SMARTAIL-8M acquisition system acquires and processes 18 detection angles on the rail. Its computing power enables rapid accumulation of all the data needed to know the state of the track.

Options	
Getac Tablet	1 x
Inspection & Analyse Unlimited SonicView License	On demand
SonicView Smart Software	1 x
Security break	1 x

Accessories	
Spare batteries	On demand
Exchangeable probes (On customer request)	On demand

Standard compliance

- EN 16729-1 and 3 : Requirements for ultrasonic inspection and evaluation principles and for identifying internal and surface rail defects
- EN 13977 : EN 1397 : Safety requirements for mobile devices and trolley about construction and maintenance
- EN ISO 22232-1 and 2 : Characterization and verification of ultrasonic testing equipment : Instruments, Probes, Combined equipment.

Standard compliance

- SNCF Homologation n°DEO 19101