

i+detect (SonicVizio-WS-S)

Track Measurement and Analysis

Adding Value

The lightest ultrasonic testing system, i+detect is easy to use and to carry both on and off track. Specifically suited for welds inspection, switches and crossings testing, defects confirmation or assessment.



i+detect offers maximum versatility for ultrasonic inspection works on the track. With its lightweight and retractable design, the operator can easily transport the equipment to inspect welds, switches & crossings, and to confirm defects.

The probe equipped with cutting-edge ultrasonic technology provides accurate inspection of any type of vignole or groove rail, as well as adapting to any worn rail profile.

The innovative SonicView software was designed by track inspection experts with the operator in mind. Intuitive features include automatic detection and listing of defects. With the in-built GNSS and track localisation unit, inspection data can then be analysed from the office.

→ TECHNICAL FEATURES

Easy to maintain

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

Robust sliding probe

All the accuracy of a typical sliding probe system but with the durability of wear-resistant equipment.

Data reporting

Easy exportation of raw data and PDF reports directly from the software which boasts extensive storage management capabilities.

Lightweight

Designed for easy handling and maneuverability on the track, i+detect's carbon fibre construction ensures a high level of robustness while remaining lightweight (5 kg).

Widely applicable

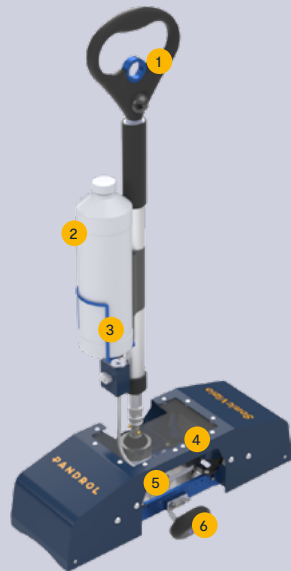
Applicable to aluminothermic and flash butt welds, it is suitable for all surface conditions and rail types.

Accessible

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.

→ ADVANTAGES

- Software provides full display customisation to suit all specifications and user preferences to display A-Scan, B-Scan or defect chart.
- No extraction time – can be used during traffic.
- No heavy maintenance and very few consumable parts.
- The modular system permits quickly changing the probe.



→ COMPONENTS

1. Telescopic handle
2. Water tank
3. Irrigation system
4. Probe
5. Encoder
6. Anti-derailment wheel

→ SPECIFICATIONS

Overview	
UT Smart Walking Stick	
Weight	5 kg
Operating temperature	-10 to 50°C
L x W x H	520 x 700 x 200 mm
Tank capacity	1 l (approx. 2.5 km)
Isolation	Electrically isolated
UT Probes	
Number of detection angles	5
Environmental protection	IP65 – 95% relative humidity
Probe protection	Special anti-wear system
Minimum detection wavelength	0.6 mm for 0° 1mm for inclined elements
Angles	40° / 70° / 0° TR / -40° / -70°
Frequency	4 MHz for 0° element 2.25 Mhz for -/+ 40° and -/+ 70°
Maximum speed	6 km/h
Odometer accuracy	2 ‰

→ MEASUREMENT



Internal Cracks



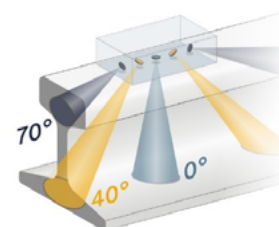
Head Checking



Squat



Shelling / Shaving

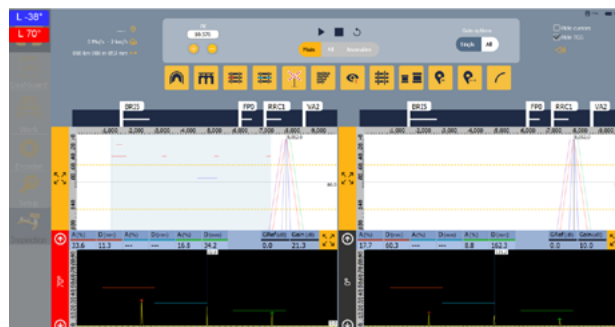


→ SOFTWARE

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 it easier to carry out ultrasonic testing of the rail. The user-friendly interface is accessible for all levels – operators, technicians and engineers.

→ FIELD INTERFACE

- Comprehensive interface: A-Scan & B-Scan displays with both visual and audible alarms, fully customisable to suit both experienced users and 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 visualising the entire inspection or just anomalies, creating new located defects and filling in with characterisation data.
- Provides cursor tool allowing measurement of all defect components with an automatic integrated calculator.
- Individual exportation of defect sheet to individually document each defect to be validated by the track manager.



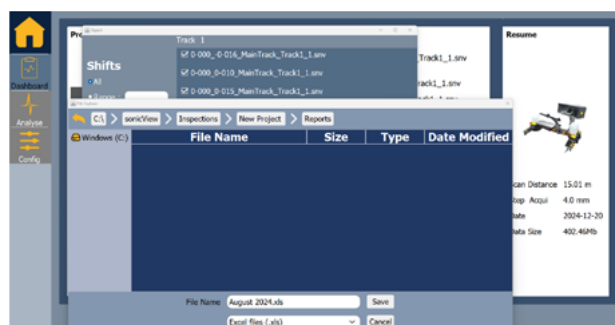
→ REPORTS

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

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



Main menu



Export menu

→ SPECIFICATIONS

SonicBox – Ultrasonic Testing Flaw Detector	
Parameter	Criteria
Connector	Lemo00
Data throughput	Up to 320 Mb/s through USB 3.0
Ultrasonic channels	8
Pulse Repetition Frequency (PRF)	100 Hz – 20 kHz
A-Scan display	RF / Rectified / Enveloppe
B-Scan display	Strip chart / Full B-Scan chart
Operating systems	Windows, Linux, Android
L x W x H	135 x 80 x 45 mm
Weight	0.200 kg
Bandwidth	0.8 to 20 MHz

Tablet	
Display	12.2 inches, 16:10, 1920 x 1200 p
Protection	Ruggedised – IP65
Autonomy	5 hrs / Hot-swappable batteries
Storage	512 GB

UT Acquisition system	
Data recording modes	Full / Defects only
Acquisition step	Down to 2 mm
Odometer resolution	5000 pts/tr

Measurement technology

The Ultrasonic Flaw Detector constitutes the heart of any ultrasonic testing equipment.

Readapted from phased-array technology and simplified for railway needs, Pandrol SonicBox combines versatility and precision at lower cost and with greater accessibility.



Multi-angle detection enables identification with high precision of various types of rail defects, including head checks, squats, cracks, corrosion, break-outs, and machining errors.

→ ADDITIONAL INFORMATION

Package including	
12.2" Tablet	1 x
Inspection & Analyse Unlimited SonicView Licence	1 x
SonicView Smart Software	1 x
Hot-swappable batteries	2 x
Spare parts package	1 x

Options & accessories	
Spare batteries	UTCOM001
Dual dock station – Battery charger	UTCOM002
Vertical defect probes	TRTRC213
Calibration block V1	CLIV1001
Calibration rail	RECAL001
Extra spare parts	UTSPA004
Manual probes	TRTRM001

Standard compliance

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

Additional services are available upon request, including UT theory training, UT equipment training, and technical assistance contracts.

→ LEARN MORE



i+weld



www.pandrol.com