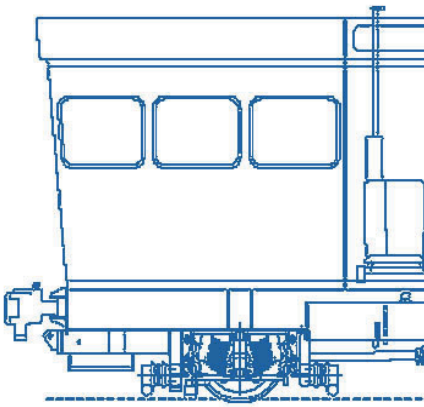
Balfour Beatty
Rail

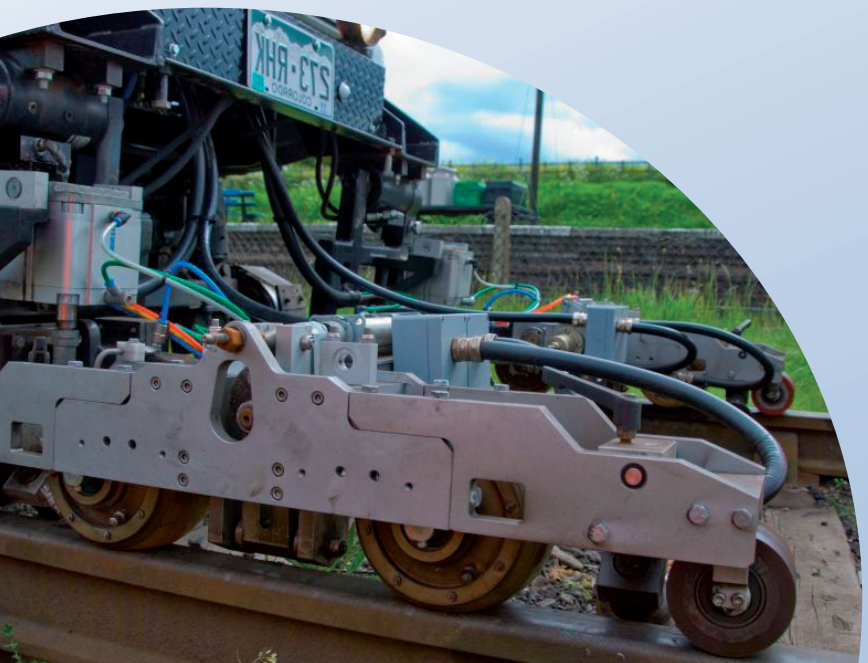
Ultrasonic Rail Testing

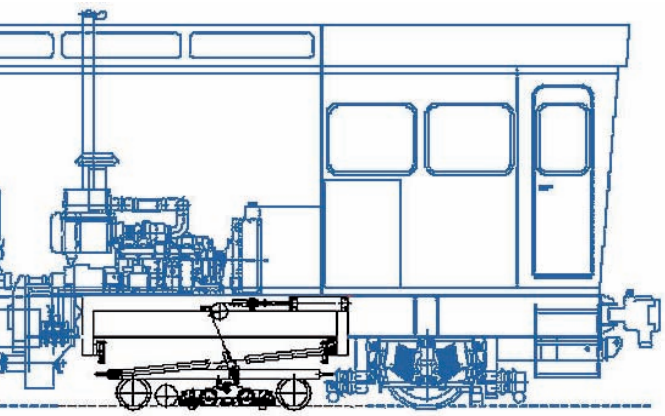
State-of-the-art *Ultrasonic Rail Testing*



Balfour Beatty Rail is working in exclusive partnership with RTI, one of the leading ultrasonic testing organisations, to deliver the **8000SX™** testing system.

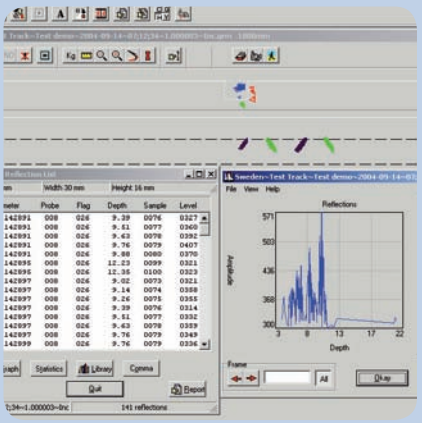
The **8000SX™** Ultrasonic testing system matches in scope and exceeds in resolution other existing Ultrasonic testing technologies commercially available today.





Accurate Fault Detection

The **8000SX™** system employs rolling search units, A and B scan visualisations, and highly developed signal processing facilities. This provides very accurate detection and discrimination of rail faults and ensures the highest Probability of Detection with the Lowest False Call Rate.



Survey to survey defects can be compared. The operator is therefore able to anticipate previously recorded defects, the operator can immediately assess defect growth by comparing the previous size to the newly recorded size.

Total Flexibility – service or product offering

Balfour Beatty can deliver the **8000SX™** Ultrasonic testing system as an inspection service, incorporating the benefits of our wider rail knowledge and total infrastructure care capabilities.

Alternatively, our flexible approach means we can supply testing equipment (train borne, road-rail borne, trailer mounted or walking stick mounted) for those infrastructure controllers who wish to operate their own testing regimes.

Proven Technology

The RTI 8000SX™ is proven technology and is now in its fourth generation.
It is used by a growing international client base across mainline, metro and heavy haul operators. The RTI client list comprises over 40 clients worldwide including:

- BHP Billiton
- Queensland Railways
- Companhia Vale do Rio Doce (CVRD)
- Transportacion Ferroviaria Mexicana
- TransAdelaide
- Adrail
- Alstom
- Thiess Infraco
- Transfield
- Whyalla Railway
- Loram
- Freight Australia
- Great Southern Railroad

System Features

- The 8000SX™ system can be train borne,road-rail borne, walking stick or trailer mounted
- Proven at 15-20mph in road-rail mode; average performance of 60 miles in 6-hour period
- Up to 40mph testing speed in train-borne or trailer mode
- Proven with some of the most demanding railways in the world
- Using latest Data Signal Processing (DSP) large-scale gate array technology, sample rate is 18MHz
- Individual transducer input DSP to process and analyse signals in real time
- Multi-functional software capable of running the DSP based system whilst simultaneously performing background tasks such as printing or reporting
- Three windows of previous ultrasonic surveys or ultrasonic and geometry data can be loaded simultaneously and compared on the run whilst still collecting data
- Handheld portable systems available

Balfour Beatty Rail Ultrasonic Rail Testing is state-of-the-art and offered as part of a family of Rail Infrastructure Care Products and Services.

Comprehensive Offering

A family of rail infrastructure care products and services

Bringing together a wide range of knowledge, expertise and technology we provide innovative solutions that help deliver a sustainable, safer rail infrastructure.

Our capability spans all the major areas of railway infrastructure engineering, manufacturing, technology, and design.

Our technology products, software systems and services include:

- Rail flaw detection
- Track geometry
- Infrastructure gauging
- Event monitoring
- Condition monitoring
- Intelligent infrastructure systems

Holistic Approach

towards Predictive Maintenance and Total Asset Management

Utilising **DataMap**™, ultrasonic testing data for specific points along the railway can be viewed and analysed alongside other railway infrastructure data.

DataMap™ provides a single universal view of rail infrastructure and surrounding assets. It aligns data run on run to sub metre accuracy and shows all data spatially synchronised at a location regardless of data collected or source.

DataMap™ supports more efficient and effective maintenance and improved rail safety.

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