RailRover

Digital Ultrasonic Rail Flaw Detector

- 9 Individual Transmit/Receive Channels
- A & B Scan Display and Recording
- Self-Testing Function on Probes
- GPS Location System
- DAC on All Probes

SIUI

RailRover

Hand-Push, Easy-to-Use, Reliable

—— New Generation Ultrasonic Rail Flaw Detector

Ultrasonic Rail Flaw Detector RailRover is the latest digital hand pushed ultrasonic rail testing machine. It has 9 channels and an independent channel for handheld confirmation testing of welds and rail foot.
RailRover includes a GPS location system, internal memory for saving data and is able to transfer data to a PC or laptop via micro SD card connection, enabling simple and easy defect management.

Detecting Channels

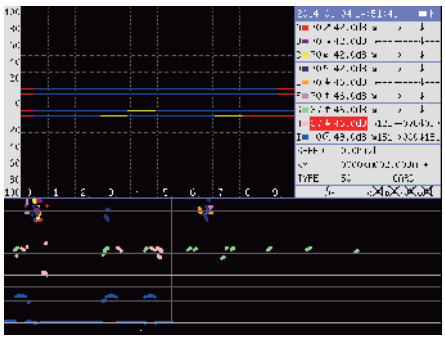
RailRover has 9 individual ultrasonic transmit/receive channels for rail testing and an independent hand held channel for defect confirmation, sizing and manual inspection of the weld or rail foot.

Magnetic Foot Option

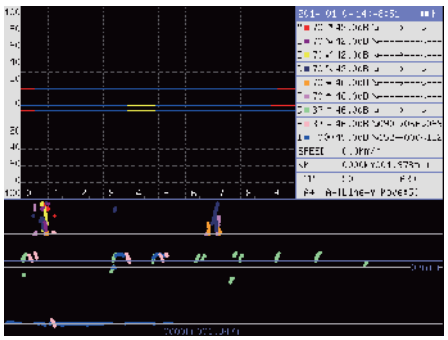
Encoder

Superior Features

Channel Offset Function: to set the hole combine value for the channel. If the user adjusts the probe position or changes the standard installation site of the probe, it will lead to mal-position of relative location in B-mode image. At this time users can use this function to get correct B-mode image.



Channel Offset Function

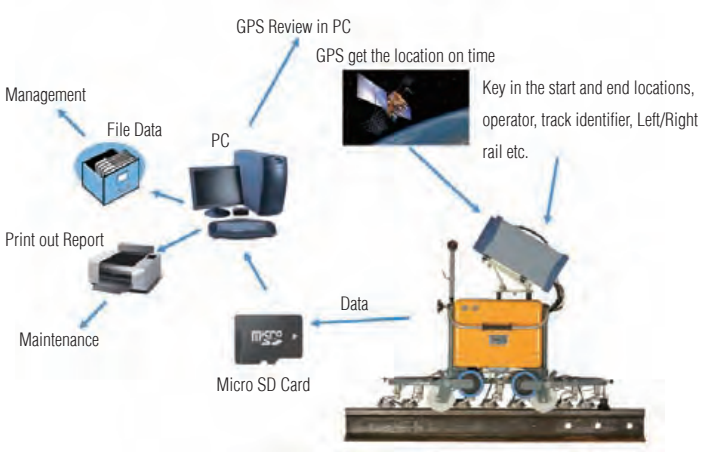


Measurement Function

Measurement Function: to use horizontal and vertical cursor to measure length, depth and position of flaws. The measurement function is active in the B-mode image only. There are two measurement methods: measuring single defect, measuring defect spacing.

GPS Location System

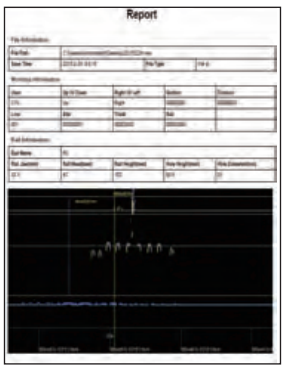
RailRover can record testing time, location, working time, speed and walking distance. All of these information can be recorded and downloaded to a PC for management. The information can be printed out as a report for direct maintenance.



RoverUp---PC Software

The system is configured with RoverUp software for main functions below:

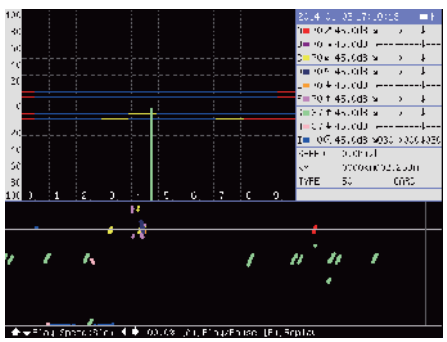
- Browse function.
- Information display.
- Measurement function.
- Dynamic switch of multiple language display.
- Reporting: to generate test reports.



Memory and Review

RailRover can save up to 4GB data files. Each file includes data, time, operator information, defect location, rail size and distance.

Alternatively it can store infinite continuous recording using A or B scan format. Using a micro SD card, it can save data for up to six months of operation. The recorded information can be reviewed directly on site using the RailRover or transferred to a PC using the micro SD card. Software is supplied with the RailRover for the user to manage this data using a PC.



Browse Function

On-site Application

Sample Defects Detected by RailRover

Function	Unit	Specification
Testing Index		
Attenuator Error	dB	10±1
Vertical Linearity Error	%	≤3
Dynamic Range	dB	≥16(normal); 2~6(suppression)
Horizontal Linearity Error	%	≤0.5
Pulser		
Transmission		Negative spike
PRF	Hz/ channel	400
Damping	Ω	500
Receiver		
Attenuation	dB	0～80, Step: 0.5
Bandwidth	MHz	1.6～3.6
A/D Sampling Frequency	MHz	50
Reject	%	25
Measurement		
Detection Range	mm	0 ~ 300
Auxiliary Function		GPS，missing inspection alarm, over speed alarm
Display Measurement Value		sound path, horizontal, depth
Material Velocity		Fixed, 3230 m/s for transverse waves and 5920 m/s for longitudinal waves
Scan		
Scan Mode		A/B
Imaging Wizard		Available
Trigger Mode		Encoder
Rail Type Range	Kg/m	20～80
Gate		
Gate		Gate Start: Full, Gate Width: Full, Gate Height: positive: 50%, negative: 30%
Channel		
Channel Number		9+1
Probe Port Type		BNC
Probe Port Number	pc	20
Probe		
Single 70°	pc	4
Dual 70°	pc	1
Single 37°	pc	1
0°+37°	pc	1
Trolley		
Water Tank Capacity	L	20
Probe Holder Number	pc	7
Encoder		Precision: 2.34mm,Move Mode: Manual Operation
General Technical Specification		
Display Screen		8.4" high brightness TFT LCD, 640×480 pixels
Peripheral Port		DC power supply, Micro SD, Ethernet, encoder, GPS module, hot key and probe ports.
Storage		4GB external storage card
Power Supply	V	Adapter: AC in 100~240; DC out 12, Lithium Battery: 11.4
Battery Operating Time	h	≥10
Operating Temperature	℃	-40 ~ +50
Weight	kg	Approx. 28 (Not include: couplant)
Dimension	mm	750×350×800 (W×H×L)

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