

Industrial Metrics Inc.

Rangecam Field System

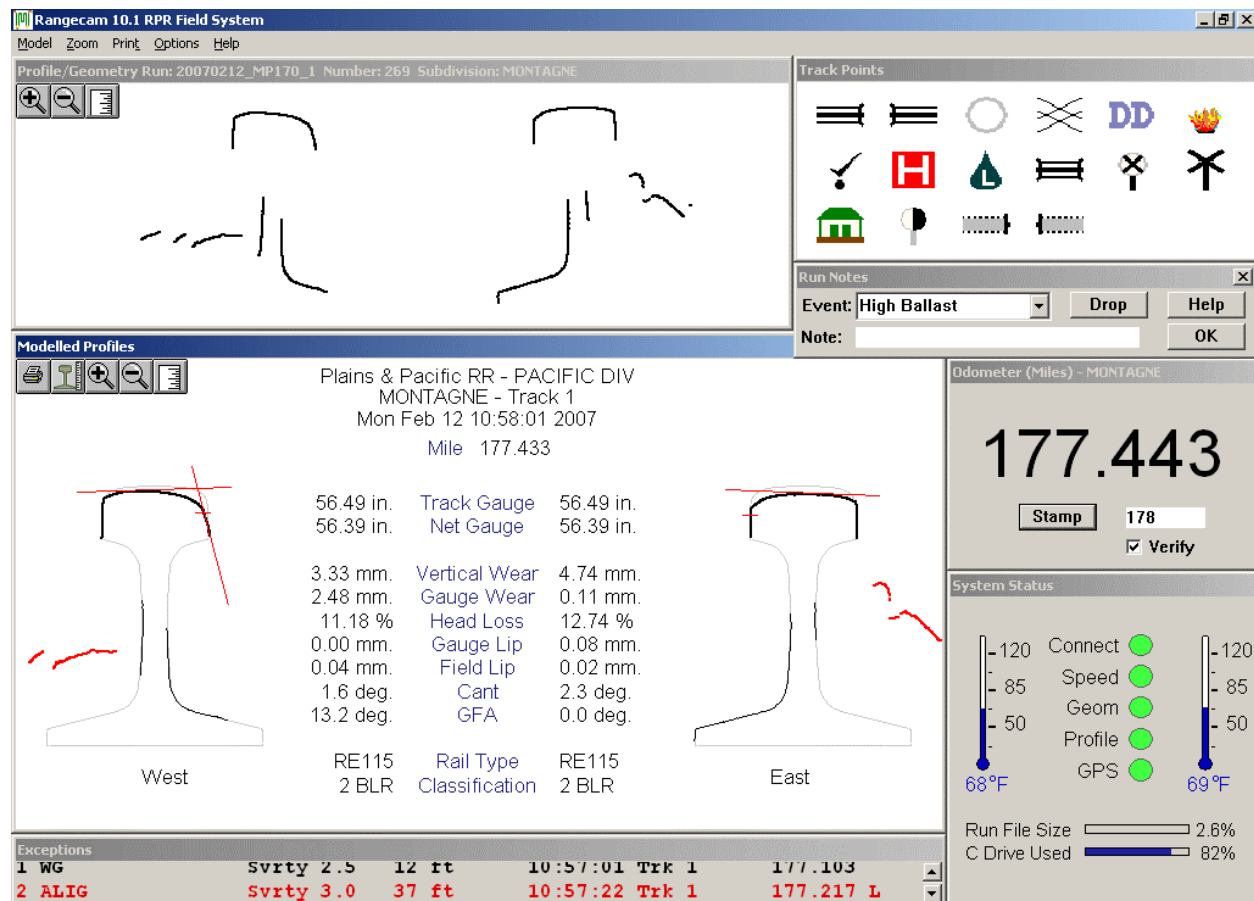
Software for

Mobile Track Testing



Field System Overview

The Rangecam Field System is software that provides control, reporting, and data storage for mobile track testing. The Field System works with the ORIAN rail measurement system from KLD Labs and the SolidTrack geometry system from Andian Technologies. It is suitable for hi-rail or geometry car based testing.



Profile/Geometry Run: 20070212_MP170_1 Number: 269 Subdivision: MONTAGNE

Track Points

Run Notes
Event: High Ballast Drop Help
Note: OK

Modelled Profiles
Plains & Pacific RR - PACIFIC DIV
MONTAGNE - Track 1
Mon Feb 12 10:58:01 2007
Mile 177.433

56.49 in.	Track Gauge	56.49 in.
56.39 in.	Net Gauge	56.39 in.
3.33 mm.	Vertical Wear	4.74 mm.
2.48 mm.	Gauge Wear	0.11 mm.
11.18 %	Head Loss	12.74 %
0.00 mm.	Gauge Lip	0.08 mm.
0.04 mm.	Field Lip	0.02 mm.
1.6 deg.	Cant	2.3 deg.
13.2 deg.	GFA	0.0 deg.

West RE115 Rail Type RE115
2 BLR Classification 2 BLR East

Odometer (Miles) - MONTAGNE
177.443
Stamp 178
 Verify

System Status

120	Connect	120
85	Speed	85
50	Geom	50
68°F	Profile	69°F
	GPS	

Run File Size 2.6%
C Drive Used 82%

Exceptions

1	WG	Svrty 2.5	12 ft	10:57:01	Trk 1	177.103
2	ALIG	Svrty 3.0	37 ft	10:57:22	Trk 1	177.217 L

Main Screen of Rangecam Field System

User-friendly Track Testing

The Field System was designed to minimize operator errors. A verification function prevents most mistakes in milepost recording. Switches, road crossings, and other assets and obstacles are recorded by clicking on an icon. Run start and end times, pause times, and operator notes are written to an electronic

run log. Optical rail measurement errors are immediately seen and reported. The System Status window clearly shows whether measurement systems and communication links are functioning correctly. Geometry exceptions are displayed in a scrolling panel.

A-Z Track Testing RUN LOG										
09-Nov-06										
Unit: AZTT Unit 3					Railroad: Plains & Pacific RR					
Event	Time	Location	Latitude	Longitude	Face	Trvl	Run Name	Type	Data	Ref
Open DB	13:12:41									
Start Run	25 13:13:28	155	N/A	N/A	E	Fwd	11.9.1	Combined	Geom+Prof	Yes
Division: PACIFIC DIV Subdivision: MONTAGNE Track: 1 RR Contact: JH Phone: 604-888-9119 Operator: GC Rail Types: CP85 ARA_A100 RE115 132RE RE136 Profile Spacing: 1 ft. on curves, 1 ft. on tangent Weather: Sunny Temperature: 4 Head Temp: Left 18 C, Right 17 C										
End Run	13:14:24	165	N/A	N/A						
File Size: 0.00 MB										
Close DB	13:15:06									

Electronic Run Log

Automatic Rail Recognition

The Field System recognize rail weights and calculates rail wear on the fly. The weight and type of each rail profile is automatically identified from the list of rail sections in the territory. Measurements include track gauge and net gauge, vertical and lateral wear, head area loss, lip, gauge face angle, rail cant, and wear classification according to railroad criteria.

Rail Grinding Option

IMI's Grind Analyst module can optionally be used with the Field System, providing the ability to develop a rail grinding plan or to monitor grind quality while following the grinder, both using 'live' profiles.

Database Storage

Geometry and rail profile data can be stored directly to the on-board MS Access database in real time. Used with the Rangecam Office System or Track Analyst, this provides full Rangecam reporting from the vehicle as soon as the run is over. Alternatively, data can be stored to run files for later processing by the Office System.

Rail profile data is acquired at the same frequency as geometry measurements, at speeds up to 72 Hz (equivalent to 1-foot spacing at 49 mph). However, rail profiles may be processed and stored at longer intervals (eg 2, 5, or 10 feet) to reduce data volumes and improve system performance when saving data directly to the database.

Performance

- 1-foot geometry and rail profile spacing at 49 mph (72 Hz), saved to run files.
- 1-foot geometry spacing and 2 foot rail profile spacing at 45 mph, saved to database.

