

Industrial Metrics / Holland LP

# Rangecam Office System

Software for

## Track Data Management, Import and Clean-up



### Track Data Management

The Rangecam Office System manages track test data from a variety of sources. Geometry and GRMS test data, optical rail measurement data, and rail flaw test data are all combined in a relational database. Using a single repository for all track test data provides engineers with a complete picture of the track, including all information needed to make well-informed engineering decisions. For example, both rail wear and flaws can be taken into account for rail replacement planning. With the Office System, there is no need to learn multiple software products.

The Office System contains sophisticated tools to recognize rail weights, calculate measurements, and align data in order to achieve the data quality required to support higher-level reporting. Statistical analysis and calculations build on high volumes of low-level track test data to produce information that can be used for near- and long-term planning.

### Imports

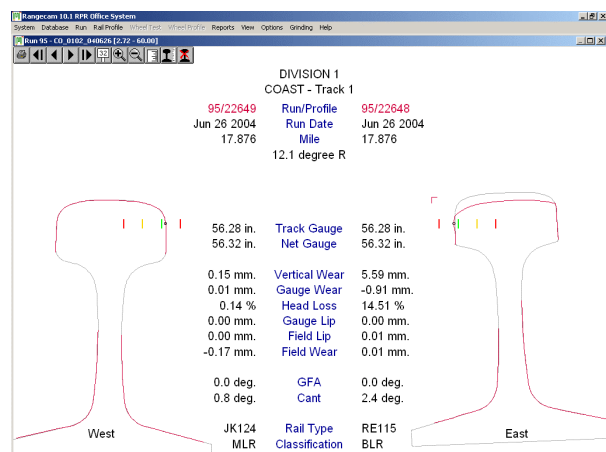
Rangecam Office imports rail profile data collected by ImageMap and KLD systems, as well as by IM's Rangecam Field System. The Office system can be programmed to import geometry, GRMS, and rail flaw data from most source files in CSV or binary format.

### Automatic Rail Recognition

The weight and type of each imported rail profile is automatically identified from the list of rail sections in the territory. Rail type is recognized correctly for more than 99% of rail profiles in most territories (although the success rate will vary with the accuracy of the optical system and the similarity between the rail sections). Any misidentified profiles can be easily fixed through a mouse-driven interface.

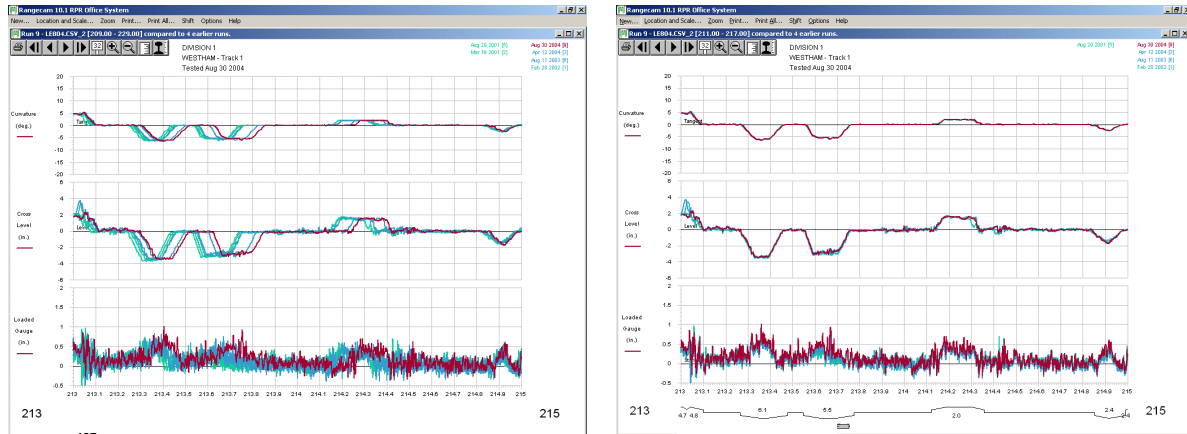
Calculated measurements can include track gauge and net gauge, vertical and lateral wear, head area loss, lip, gauge-face angle, rail cant, and wear classification, according to railroad criteria.

Reporting options include the ability to switch between metric and imperial units, to represent curvature in degrees or radius, to change measurement labels in accordance with railroad standards, and many more. Screens, charts and reports can be easily customized to railroad requirements.



## Data Alignment

Rangecam Office has tools to correct errors in location recording and to align data automatically, using either the data signature or GPS.



*Seven geometry runs before and after automatic data alignment.*

Correct data alignment is essential in order to accurately calculate rates of rail wear and gauge widening. Wear rates are key to much of the higher-level Rangecam reporting, including rail replacement forecasting and curve performance analysis.

## Analysis

The Rangecam Office user has full control over setting thresholds and display colors for rail wear classifications, and geometry and GRMS exceptions. The Rangecam Office System derives geometry measurements such as warp, VMax, and “safe” track class from basic geometry data. It also calculates GRMS channels (GWR and PLG24) from loaded and unloaded gauge and measured loads.

All of the analytical tools found in Rangecam Track Analyst are also part of Office, including rail wear and geometry queries and curve performance analysis.

## Enterprise Scalability

Rangecam Office System supports both desktop MS Access database and terabyte-capacity Oracle or MS SQL Server databases residing on a central server. It can move data from the desktop to the enterprise database, allowing import and editing to take place off-line.

## Additional Features

For convenience, the Rangecam Office System also includes all of the tools and reporting capabilities available in the Track Analyst and Track View products: rail replacement planning, tie planning, curve performance analysis, queries, trend charts, strip charts, and GPS-based location and mapping capabilities. The Rangecam Office System also can be integrated with IM’s add-on Grind Analyst, rail grinding package, and Wheel Analyst, wheel measurement module.

