



# rip<sup>®</sup> Railcar Inspection Portal

## 360 Degree Modular Intelligent Visualization System

The duostech Railcar Inspection Portal (rip<sup>®</sup>) is a modular intelligent visualization system that provides real-time detailed 360 degree imaging at speeds up to 70 mph. The rip<sup>®</sup> can be used for a variety of inspection criteria on mainlines or in yards. Optional features such as xtd<sup>™</sup> (Extreme True Definition) and AISC (Automated Identification of Structural Components) provides unparalleled high definition imagery and intelligence for analysis. A range of features and options are available offering maximum flexibility and scalability for end users.

### rip<sup>®</sup> features:

- Incorporates a patent pending precision linear speed sensor which allows accurate image stitching at variable speeds up to and exceeding 70 mph. It also allows for abnormal train movements while a train is in the portal including forwards, backwards and complete stop movements.
- The included Linear Panorama Generator assembles images gathered from cameras and stitches all frames to create a continuous view of the entire consist. Operators can quickly select the side of interest and scroll through the continuous panoramic view. This also provides operators with a geo-spatial view of the train.
- Automated Equipment Inventory (AEI) consist data is the primary methodology used to synchronize captured images of each railcar. The system is searchable by using the AEI tag number or sequence in the train. Extreme True Definition (xtd<sup>™</sup>) utilizes megapixel line scan cameras to provide an average image resolution of 224 megapixels per railcar. Images are crisp and highly detailed.
- The modular design allows end users to select which perspectives they need to see. The system is configurable to provide views of either the top, either side, the undercarriage or any combination thereof.
- The operator interface utilizes the centraco<sup>®</sup> Enterprise Information Management platform. This software platform allows controlled and secure distribution of information collected by the system to authorized users through any web browser.
- Multiple optional software algorithms are available to provide the automatic detection of open boxcar doors, missing or open hopper car hatches, and detection of illegal riders on freight trains.



rip<sup>®</sup> with canopy



Vehicle Undercarriage Examiner

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**Duos Technologies Inc.** provides a broad range of sophisticated intelligent technology solutions with an emphasis on mission critical applications. We combine an innovative business philosophy with a focus on customer service. Our specialty is the development and delivery of customized turnkey solutions for rail centric critical infrastructure systems.

All products, systems and solutions are backed by a 24 x 7 x 365 global training, maintenance and service program.

## Standard Railcar Inspection Portal Features

- Precision Linear Speed Sensor
- Linear Panorama Generator
- Single Side or Top View Imaging (Additional views optional)
- Standard Definition Imaging
- Ability to integrate image stream with AEI consist data
- Structured LED Lighting System
- Image capture in excess of 70 mph
- Optical zoom in/out functions
- Resolution to view common defects
- Completely distributive information system
- Ability to interconnect to existing railroad systems
- centraco<sup>®</sup> Command & Control Software

## Optional Modules and Features

- Extreme True Definition Imaging (xtd<sup>™</sup>)
- Automatic Detection of Open Doors on Boxcars
- Automatic Detection of Missing or Open Hatches on Hopper Cars
- Train Rider Detection System (trids<sup>®</sup>)
- Vehicle Undercarriage Examiner (vue<sup>®</sup>)
- Automatic Pantograph Inspection (apis<sup>®</sup>)
- Canopy for environmental lighting controls
- Truss Structure for Panoramic System

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