

Technology for Modern Enforcement



USDOT 076555



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INTERNATIONAL ROAD DYNAMICS INC.

Vehicle Measurements



The foundation of any Intelligent Transportation System (ITS) is the ability to reliably detect and measure vehicles traveling through the system. Designed with the knowledge and experience gained in over 30 years of ITS deployments, the IRD **iSINC™** is the industry leader in reliability and flexibility.

The iSINC™ electronics form the core of IRD's Intelligent Transportation Systems. Out of the box, iSINC™ provides the foundation for a broad range of ITS functions from data collection and web-based traffic monitoring to automated electronic screening and weigh-station control. Its modular hardware and software technologies can be configured and scaled to meet the requirements of any ITS system, from the simplest to the most complex. The open architecture of the iSINC™ allows fast and reliable integration to third party systems.

The iSINC™ monitors and controls a variety of equipment and systems including:

- Sensors: Bending Plate™ WIM Scale, IRD Single Load Cell WIM Scale, Lineas® Quartz WIM Sensors, MSI and Thermocoax Piezo Electric Sensors, Loops, Over-dimension Detectors
- Imaging: Vehicle Overview Camera, License Plate Camera (LPR), USDOT Camera.
- Automatic Vehicle Identification: LPR Optical Character Recognition, USDOT Optical Character Recognition, Transponder Detection.
- Smart Road Side Systems: Web Based Vehicle display, Automatic Compliance Screening System, Automatic Credential Screening System, Automatic Signing Systems.

Imaging

Today's ITS systems demand a wide range of imaging solutions from simple vehicle overview imaging to high resolution imaging suitable for USDOT optical character recognition. With over 15 years experience integrating imaging into ITS systems IRD has the experience and the products to meet the full range of those demands.

The iSINC™ electronics will initiate the capture of vehicle images, correlate them with other vehicle information, and transmit the information for display and storage. Every iSINC™ electronics comes out of the box ready to integrate to the full range of imaging solutions and adding following types of imaging to a new or existing systems is both fast and cost effective.

Overview Imaging System:

- Auto select between color images during the day and monochrome images at night
- Infrared illumination to ensure a high quality image regardless of weather or lighting conditions.

License Plate Imaging System:

- Automated Control of image exposure to ensure a high quality image regardless of weather or lighting conditions.
- Infrared illumination for effective license plate image capture in diverse weather and lighting conditions.

USDOT Imaging System:

- Captures USDOT Numbers displayed anywhere on the side of a passing commercial motor vehicle.
- Captures images from both sides of the commercial motor vehicle simultaneously.
- Captures images under day and night lighting conditions, 24/7.



is the World Leader in Weigh-In-Motion Systems

Automatic Vehicle Identification

With the ever increasing traffic on today's highways there is a constant challenge to maintain an effective inspection and screening program while allowing traffic to move in a safe and efficient manner. The key to this challenge is to automatically identify and target potential violators while allowing compliant vehicles to continue on their way.

The iSINC™ electronics will initiate automatic vehicle identification of vehicles, correlate the identification with other vehicle information, and transmit the information for display and storage. Whether the situation calls for optical character recognition (OCR) or radio frequency identification (RFID) the iSINC™ electronics has been designed to integrate these systems. The iSINC™ will interface with the following automatic vehicle identification systems:

License Plate OCR

- Scans each image and converts detected license plate into an ASCII text string containing the license plate and jurisdiction.
- Determines the confidence level for each license plate number decoded.
- Supports variants of the Optical Character Recognition (OCR) engine that are tailored/designed for a specific state or regional license plate population
- Supports OCR updates to address changes in the state's license plates over the life of the system

USDOT OCR

- Employs neural processing algorithms to scan each image and convert detected USDOT numbers into an ASCII text string representing the observed number.
- Determines the confidence for each USDOT decoded.
- Determines the decoded USDOT with the highest confidence for each vehicle.

RFID

- Supports detection of CVISN compatible transponders.
- Supports signaling of CVISN compatible transponders.



Smart Road Side Systems

The key to a cost effective ITS system is to make the most out of the data that has been collected. The iSINC™ electronics gathers, correlates, and provides vehicle information to a variety of existing applications. This approach allows the data to be used for several different purposes at the same time or to expand the system over time as required.

Data Collection

- Collects data for up to 16 lanes of traffic.
- Supports full range of reports including FHWA TMG reports.

Virtual Weigh Station

- Web based user interface.
- Displays all vehicle data, images, and vehicle identification gathered by the iSINC™ electronics.
- Screens vehicles based on weight and credentials and highlights violators.
- Supports credential screening against SAFER data.
- Supports screening against PRISM targeted vehicles and carriers.
- Supports screening against state specific permits and credentials.



Weight Station Automation

- Displays all vehicle data, images, and vehicle identification gathered by the iSINC™ electronics.
- Screens vehicles based on weight and credentials and highlights violators.
- Supports credential screening against SAFER data.
- Supports screening against PRISM targeted vehicles and carriers.
- Supports screening against state specific permits and credentials.
- Automatically controls signals and message signs to direct vehicles based on the screening results.
- Tracks vehicles through the system.

Ensure public safety.

We make highways talk™

International Road Dynamics Inc. (IRD) is a highway traffic management technology company specializing in supplying products and systems to the global Intelligent Transportation Systems (ITS) industry. IRD is a North American company with sales and service offices throughout Canada, the United States, Latin America, India and China.

With more than 30 years of experience, IRD is a multi-discipline company offering proprietary technologies that include automated truck weigh station systems, Virtual Weigh-In-Motion systems, advanced traffic control, management and data collection systems, automated toll road systems, and in-vehicle driver monitoring systems. The Company supports its products and solutions with long-term service and maintenance contracts.

IRD has installed its world-leading ITS solutions in countries around the globe, and currently has the world's largest installed base of Weigh-In-Motion with a growing presence in other related ITS applications and markets.



Corporate Office

702-43rd Street East
Saskatoon, Saskatchewan
Canada S7K 3T9
Tel: +1 (306) 653-6600
Email: info@irdinc.com

U.S. Office

2402 Spring Ridge Drive, Suite E
Spring Grove, IL
USA 60081
Tel: +1 (815) 675-1430



IRD International

South Asia
IRD South Asia Pvt. Ltd.
Tel: +91 129 411 6986

Latin America
PAT Traffic Ltda.
Tel: +56 2 223 9713

China
Xuzhou PAT Control Technology Co., Ltd.
Tel: +86 516-87737998

Mexico
PAT Traffic Mexico, S.A. de C.V.
Tel: +56 2 223 9713

Brazil
PAT Traffic Sistemas de Transportes Inteligentes Ltda.
Tel: +55 11 5093 0830



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