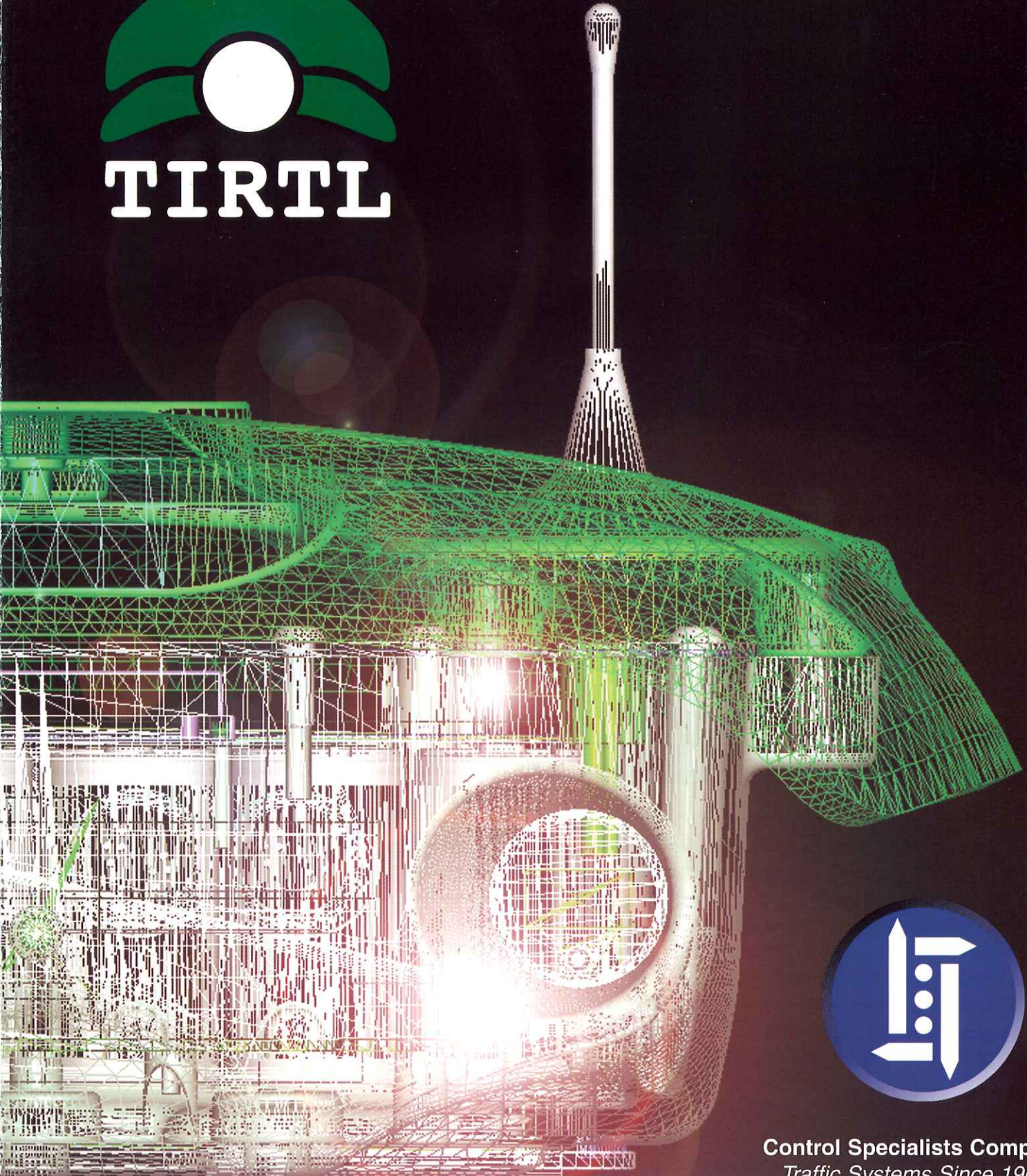# TIRTL

Control Specialists Company
Traffic Systems Since 1965

TIRTL

Description

The Infra-Red Traffic Logger (TIRTL) counts, classifies, determines the lane and measures the speed of passing vehicles using a unique light based technology. TIRTL is a non-invasive device and performs in uni-directional, multi-directional and multi-lane traffic sites. The system consists of a transmitter and a receiver unit on opposite sides of a roadway. TIRTL uses two parallel and two cross light beams at wheel height to measure vehicle information.
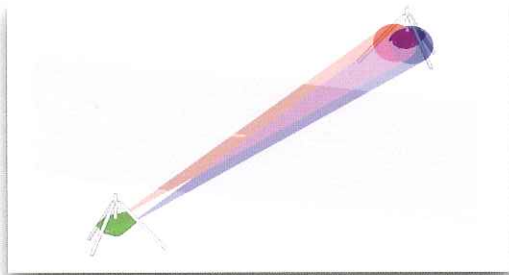
With a speed measurement accuracy of 1% deviation @ 120 mph the system precisely measures axle breaks and separations to classify vehicles. The units are capable of operating in environments from -40 to +185° F. It is IP67 rated and resistant to sunlight, rain, hail, dust and fog.

TIRTL is web-enabled, and has a GPS unit option to communicate with a mobile modem or a fixed line modem to provide real-time and historical traffic data. The software supports SMS text, faxes, emails, and webpage or data file transfers. Communication access to the units is through an infrared data port and two RS232 ports. A Palm PDA or a PC interface is used for installation, setup, maintenance, remote operation and file transfers.

TIRTL communicates through an ASCII protocol. It can be connected to a variable message sign, a WIM controller, a light curtain or to a wide variety of other ITS products.

Constant operation is made possible through ultra-low power consumption. The system will operate with AC power, DC solar power, internal batteries, or an external battery. Its non-invasive measurement technique reduces installation time, road disruption costs, maintenance costs and road repair costs. TIRTL is installed off the highway eliminating the need to close lanes and exposing personnel to accidents. It is portable and easily installed during the day or night and remains hidden from passing traffic. The combination of a large data logging memory and a fast microprocessor allow the creation of many additional features making the TIRTL the most flexible ITS product in the world.

Applications

Advanced traffic detection including vehicle counting, classification and speed measurement
- **Speed and red-light enforcement** (connected to a camera)
- **Point-to-Point speed and travel time enforcement**
- **Tolling** as the primary and secondary count and classification unit
- **Over-height vehicle detection**
- **WIM system support** providing vehicle count, classification, data communications and data logging
- **Remote monitoring** of rural highways for vehicle statistics and oversize vehicle detection.
- **Robust enclosure** resistant to shock and vibration

TIRTL

Features

- **Infrared light** detection system
- **Non-invasive** and hidden from passing vehicles
- **Vehicle classification** based on axle counts and separation with pre-defined and user-defined classes
- **Speed measurement** based on parallel beam breaks
- **Lane identification** based on parallel & cross beam breaks

  - **Traffic data logging** including vehicle count, classification, speed, direction, lane, wheel base, date and time
  - **Portable** with fast, easy installation during the day or night (single and dual person installation)
  - **Ultra-low power** consumption for battery operation
  - **Remote operation,** monitoring and data transfer via a mobile modem or a fixed line modem to a PC in the office
  - **Ease of installation** and data transfer on site via a Palm PDA or laptop
  - **Detachable telescope sight** for easy installation
  - **Optional secondary enclosure** for permanent installations

Performance and Rating

- Vehicle speed measurement accuracy 1% deviation @ 120 mph
- Transmitter / Receiver separation distance up to 330 feet
- Resistant to sunlight, rain, hail, dust and fog
- Operating temperature range: -40 to +185°F
- Environmental rating: IP67 (dust and waterproof)

Power Supply

- Battery powered with internal C-cells (7 - 10 days)
- External power input: 10V to 16V
- Optional rechargeable battery pack with AC & DC inputs
- Optional solar panel to connect with external battery pack

Memory and Processor Specifications

- Microprocessor controlled light based detection
- Single board computer (x486) running LINUX OS
- On-board memory for operation & logging: 8MB - 64MB
- On-board RAM for high speed processing: 16MB - 64MB
- PCMCIA expansion memory card: 16MB - 1,024MB

Interface and Communications

- 2 - RS232 ports to connect with other ITS products
- Optional internal fixed line modem: 33/56 kbps
- Optional external satellite modem at 2.4 kbps
- Optional internal GSM/GPRS mobile modem with antenna supporting 9.6 kbps to 56 kbps+
- Optional GPS unit with antenna for location and security
- SMS text, faxes, emails, web page and data file transfers
- Web-enabled providing Internet connectivity

Graphical User Interfaces

TIRTL*soft* provides an intuitive GUI to TIRTL. The GUI has a clear and comprehensive presentation that allows a real time view of traffic events. TIRTLS*soft* runs under Windows or Palm Handheld operating systems. The windows version provides a comprehensive, fully featured, real time, view of traffice events. The Palm handheld version combines the advantages of portability with an effective user interface suited to the smaller display size of the Palm.

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