

# ADR-6000™

## AUTOMATIC DATA RECORDER

### DATA COLLECTION

Traffic in the United States has increased 30 percent in the past ten years, and the number of cars on the road is projected to increase by 50% in the next decade. As vehicular traffic increases, it has become increasingly difficult to collect traffic data accurately in congestion using traditional sensors such as piezos, road-tube or standard inductive loops. As freeways and urban areas become more congested, data quality deteriorates. Traditional sensors do not count accurately at low speeds or with bumper-to-bumper or stop-and-go traffic. Traditional Inductive Loop technology can join vehicles resulting in lower counts. Piezos and road tube sensors miss axles or miscalculate spacing at low or irregular speeds resulting in inaccurate vehicle classification. States have not been able to provide accurate data to the FHWA from major arterials and urban freeways, especially at peak times because traditional sensors are unable to cope with recurring congestion due to sensor saturation.

Peek Traffic has responded to this critical problem by combining 40 years of expertise in both data collection and inductive loops with advanced inductive loop detection algorithms called Idris® Smart Loops developed by Diamond Consulting Services Ltd (DCS).

By combining the Idris algorithms with special Peek inductive loop detectors, Peek Traffic and DCS developed the first urban data collection device to collect accurate axle classification and volume data in heavily congested areas ( 95% accuracy in congestion or free-flow), using inductive loop technology.

The ADR-6000 utilizes sophisticated signal processing techniques to extract minute changes in inductance from standard loops. This provides intelligent profiling classification and wide area tracking of vehicles under conditions ranging from free-flow to stop-and-go traffic, ideal for demanding ITS and urban data collection requirements. The ADR-6000 allows Transportation Engineers to better understand traffic characteristics in urban environments, during peak hours, or anywhere accurate data historically has been unobtainable.



### FEATURES

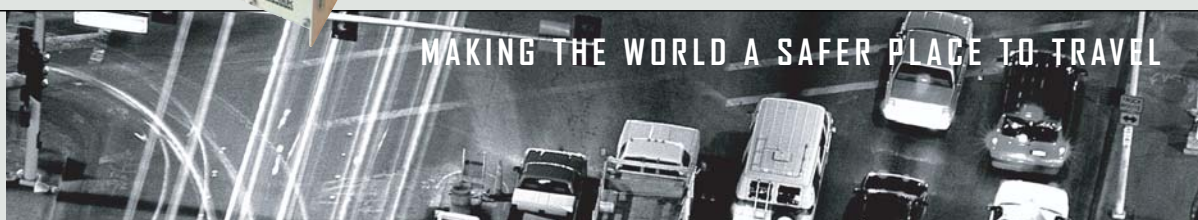
- ▶ High accuracy classification in congestion.
- ▶ Axle classification using only loops.
- ▶ Recognizes straddling and tailgating vehicles.
- ▶ Modular single or multilane data collection system.
- ▶ Permanent rack mounted traffic counter/classifier.
- ▶ Up to 24 loop inputs (6 lanes).
- ▶ Scheme "F" or custom classification.
- ▶ Long sensor life (10+ years on loops).
- ▶ High-speed communications and telemetry.
- ▶ Increased storage capacity.
- ▶ US standard or metric units.
- ▶ Enhanced by Idris® technology.

### OPERATIONAL CHARACTERISTICS

The ADR-6000 is a modular single or multilane data collection system that offers accurate vehicle count and axle based classification in traffic conditions ranging from free flow to stop and go congestion. The classification scheme used is configurable based on any features extracted by the ADR-6000. These features include vehicle length, speed, or number and spacing of axles.

The ADR-6000 can be set up and operated by remote telemetry or directly in the field with a computer using simple communications software. The remote telemetry link can be via modem or direct connection and can be simple ASCII transfer or protocol protected. If the ADR-6000 is part of a complex system, it will continue to operate as a standalone unit in the event of telemetry link failure.

**Accuracy:** Overall axle class accuracy in a standard vehicle population: 95% minimum.



## PHYSICAL DESCRIPTION

The ADR-6000 is an instrument rack-based unit expandable by plug-in modules. The ADR-6000 can also be shelf or panel mounted. Electrical connections (external) are via rear-mounted plugs and sockets for loop inputs and serial communications. Optional plug in modules are available for additional detectors. All modules are Eurocard in size with DIN standard connectors.

## PEEK ADR-6000 SUPPORTIVE SOFTWARE

Of importance to the user of modern counters/classifiers is the operating and reporting software, which supports, controls and formats the resultant data. A user-friendly Windows software package is available to complement the Peek ADR-6000. This software is the Traffic Operations Processing Software (TOPS) program, which is available from Peek.

The TOPS program provides multi-file processing, stores data files into a single database for easy file sharing among TOPS users, allows for edit and preview of reports before printing, provides for both ADR and 241 data processing protocols, enables remote or local setup of Peek ADR units and collection of data by direct manual connection or by the added functionality of automatic telemetry polling of field sites via modem connection (auto polling and weigh-in-motion support are add-in options). The TOPS program reads all files and generates a suite of daily, weekly and monthly reports. A user-definable classification function, within the program, provides the ability to customize classification and to transfer the new scheme to the Peek ADR-6000. Processed data may be exported to various other software packages.

## TWO YEAR LIMITED WARRANTY

Peek Traffic warrants this product against manufacturing defects in materials and workmanship for two years from date of shipment from Peek Traffic. Specific contracts and regional laws may vary or alter these terms.

*Idris is a registered trademark of Diamond Consulting Services Ltd. The Idris Technology is protected by one or more of the following patents: EP0879457, USA6345228, 6337640 and 6483443. Further patents pending.*

## SPECIFICATIONS

Characteristic	Description
Power supply	115 VAC
Weight	Less than 12 pounds.
Dimensions	5.25"H x 11.125"W x 7.75"D (133mm x 283mm x 197mm)
Temperature range	-4°F to +158°F (-20°C to +70°C)
Inputs	Up to 24 inductive loops - standard (consult factory for higher capacity).
Microprocessor	Pentium-class processor.
Storage capacity	▶ 64 MB CompactFlash ▶ 32 MB SDRAM
Operating system	Linux®
Communications	▶ Two RS232 ports serial baud rate 300 to 38,400. ▶ One port dedicated for local engineering user, front socket provided. ▶ One port for user system interface configurable for modem or direct connection.
Options	▶ Up to 6 lanes from one unit. <i>Lightning Surge Suppression Panel (Recommended)</i>



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