

# Minuteman EVR



- Tube Recorder / Classifier
- Optimised for Busy Roads
- Easy to Use
- Low Cost
- Sensitive Air Switches
- Congestion Algorithms
- Bicycle Monitoring
- Long Battery Life
- Aluminium Weatherproof Case
- CA Traffic Software Compatible
- 2 Year Warranty

## PC POWER

Every axle impact is recorded by the unit and a high precision time stamp is attached. The information, when returned to the office, is then processed by a sophisticated PC software library which converts the information into vehicles for further analysis by the user.

By using the PC's power to identify the vehicles details, adaptive algorithms that can look behind and ahead can be used to help generate a new level of data quality.

## DESIGNED FOR TODAY

Every part of the EVR has been designed for performance on the heavily congested UK road network. From extremely responsive air switches to high resolution time stamping the EVR is optimised for maximum performance and use in locations well beyond the ability of other tube recorders.

The EVR software library also has special algorithms designed to deal with congested situations and optimised algorithms for dual carriageways.

## CONSTRUCTION

The recorder is housed in a rugged, cast aluminium case with a cast lid that, when shut, creates a weatherproof seal. The front panel of the instrument also creates a protective seal and in addition the PCBs are coated as a final defence against the elements.

The unit has 3 LED's on the front, 2 are used to check the operation of the tubes and the other gives status information to the user.

The EVR is supplied with a padlock and keys and the total weight of the unit is 5 Kg (11 lbs).

**BR009v1**



## RECORDER FEATURES

The Minuteman EVR Recorder is a two channel traffic recorder/classifier designed to record the flow of traffic over one or more lanes using rubber hoses/tubes.

Usability and reliability are major features of the Minuteman EVR. The intuitive Collect for Palm Pilot and Collect for PC software create a simple and functional interface for interacting with the recorder.

The EVR is very low powered and the battery only requires charging once a year. Battery Power is provided by a standard rechargeable 6v 12 Ah battery.

The Recorder is always used on the roadside in the same way with axle events always being recorded. The only thing the user sets up on the system is the site number.

The EVR has been designed to operate over a wide range of speeds and axle weights by using sensitive detectors with advanced tube echo suppression.

## BICYCLE MONITORING

The highly sensitive air switches make the unit very useable as a bicycle monitoring device in mixed flow traffic and on cycle paths.

The cycle flow information is then extracted by the software library to produce separate cycle flow information.

## CLASSIFICATION SCHEMES

The data processing library can be customised for any local scheme. A typical scheme that may be used is shown below.

### FHWA EURO/USA

Class Vehicle Type

1	Motorcycles
2	Car or Light Van + trailer
3	2 axle pickups, vans & motor homes + trailer
4	Buses
5	2 axle, 6 tire single unit
6	3 axle single unit
7	4 axle single unit
8	4 axle or less unit, 1 unit is truck
9	5 axle double unit, 1 unit is truck
10	6 or more axle double, 1 unit is truck
11	5 axle or less multi-unit
12	6 axle multi-unit
13	7 or more axle multi-unit

In addition schemes can be optimised for operation in individual countries to deal with varying vehicle types and or road conditions.

## SURVEY TYPES

The EVR's tube event records, when passed into VDA2 or VDA-Pro, are converted into Per Vehicle Data. As per vehicle data there is a huge depth of analysis that can be done. Speed by Class data can be viewed, speed bins can be altered and speed by gap information can be obtained. All of this information can be printed on reports graphed or exported.

For example, you can have a 50 speed bin by 13 Class bin survey.

VDA2 and VDA-pro also allow every vehicle's information to be viewed in detail.

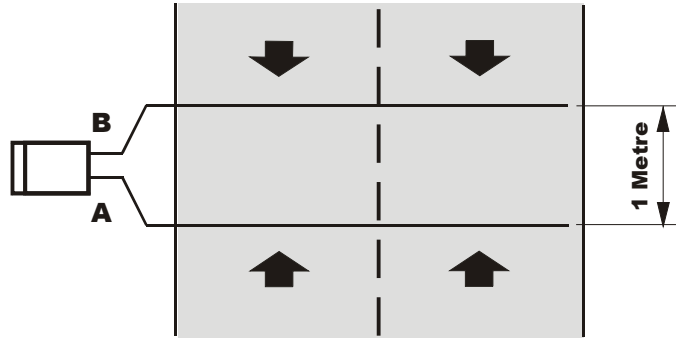
A detailed Speed distribution graph can be generated while looking at the data in per vehicle mode.

## TECHNICAL SPECIFICATION

Battery Life	> 1 Year	Detection Method	Pneumatic Tube/Hose
Accuracy (Class)#	>98%	Memory Size	2 Mb
Accuracy (Speed)#	+/- 2% (98%)	Stored Tube Hits	~1,000,000
Speed Range	3-145 mph (5 - 235 kph)		

# Figures based on a site located following CA Traffic's guidelines.

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## INSTALLATION

Due to the high sampling rate of the EVR, accurate speed and classification can be achieved with the tubes placed 1 Metre apart. With the EVR, the tubes are always installed in this manor. Speed by class data is always collected even if you only require volume information.

Tubes should be installed at a site following CA Traffic's installation guidelines.

## MEMORY

The unit comes with 2 Mb of memory as standard which is enough to perform the length of surveys shown in the table below.

Vehicles Per Day at Site	Estimated Survey Length
3000	74 Days
12,000	18 Days
24,000	9 Days

## DATA PROCESSING

VDA and VDA-Pro, CA Traffic's market leading data processing and management systems fully support the output from the Minuteman EVR. The data processing library can also be integrated into other software packages.

Please contact us for information on conversion into other programs.



**CA Traffic Ltd**  
**Griffin Lane, Aylesbury, HP19 8BP**

Tel: +44 (0) 1296 333 499

Fax: +44 (0) 1296 333 498

Web: [www.ca-traffic.com](http://www.ca-traffic.com)

E-mail: [sales@c-a.co.uk](mailto:sales@c-a.co.uk)