

e-Plate

PRODUCT OVERVIEW

What is e-Plate?

e-Plate is an electronically-tagged self-powered number plate developed and patented by Hills Numberplates Ltd of Birmingham, UK. All vehicles fitted with e-Plate can be securely identified whether stationary or on the move. e-Plate is read by a fixed roadside reader at a range of up to 100 metres. Alternatively, for mobile or handheld use, the reader can take the form of a PCMCIA card inserted in a laptop PC or alternatively can take the form of a handheld device.

During manufacture, an active broadcast RFID tag (see fig 1) is permanently embedded in the number plate with a design life of 10 years.

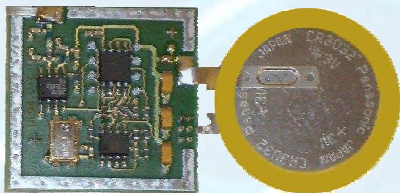


Fig 1. Active Tag

No other modifications are required to the vehicle beyond fitting the tagged plate in the same place as a non-tagged one. Appearance is virtually identical to a standard plate.

After activation, the tagged plate continually broadcasts its encrypted identification. In this way, a positive, secure and totally reliable record of the identity of a vehicle is made when it comes within range of an e-Plate reader.

Each e-Plate reader can read up to 200 moving vehicles per second.

Who are Hills Numberplates?

Hills are a major manufacturer of number plates in the UK. Incorporated as far back as 1927 (as Hills Patents) it has a string of innovations to its credit and boasts a highly automated production plant with an enviable share of the UK market in excess of 50%.

Due to the seemingly unstoppable rise in recent years of serious crime in which vehicles, often with false identities have been used, governments in the UK and around the globe have indicated the need for more secure identification while retaining the conventional license plate. This continues to serve adequately as the prime visual identifier in normal, law-abiding usage but has become increasingly vulnerable to falsification – especially with the growing use of enforcement cameras.

It was to meet this need for a secure number plate that Hills developed the e-Plate concept. Its use is highly applicable to ensuring compliance with valid vehicle documentation, tracking stolen or suspect's vehicles, access control for entry to sensitive areas, commercial parking or inner-city congestion charging.

e-Plate may be seen as a viable, cost-effective alternative or adjunct to camera-based automatic number plate recognition systems (ANPR). It is unaffected by environmental conditions. The e-Plate system can be integrated with existing roadside infrastructure and networks, does not rely on direct line-of-site detection and, most importantly, offers vehicle identification system resistant to falsification of number plates.

e-Plate

SYSTEM COMPONENTS

e-Plate RFID-enabled number plates



❑ **Physical**

e-Plate can be produced in any size, format and construction (aluminium, embossed or flat, or plastic, vinyl etc), reflectivity or colour to suit licence plate regulations throughout the world.

❑ **Position**

A single e-Plate mounted at the front of a vehicle or at the rear in the case of motorcycles in place of a conventional plate is sufficient.

❑ **Tamperproof**

e-Plate is always tamperproof (self-destructing in case of attempts to remove it).

❑ **Mounting**

e-Plate is fitted to the vehicle utilising the vehicle's existing number plate mounting points.

❑ **Other options**

For non-regulatory applications, such as tracking or access control of commercial fleets for operational requirements, a small sign with the embedded tag (*e-Sign*) or the encapsulated tag alone (*e-Tag*) may be specified for installation elsewhere in or on the vehicle instead of the number plate.

e-Plate Readers

Fixed roadside reader station

- The fixed roadside reader station is ruggedised enclosure housing all the required components to enable reliable and accurate detection, storing and transmission of e-Plate enabled number plates. It has been designed to withstand all weather conditions

Communications

- By using a modular approach, the reader station can utilise all existing network infrastructures, such as, Copper, Fibre, GSM and GPRS.

Security

- The housing is of a metal double skin and double lock construction. Tamper switches are fitted to both inner and outer doors which when opened will notify the user immediately.



Picture courtesy of Base2 Australia

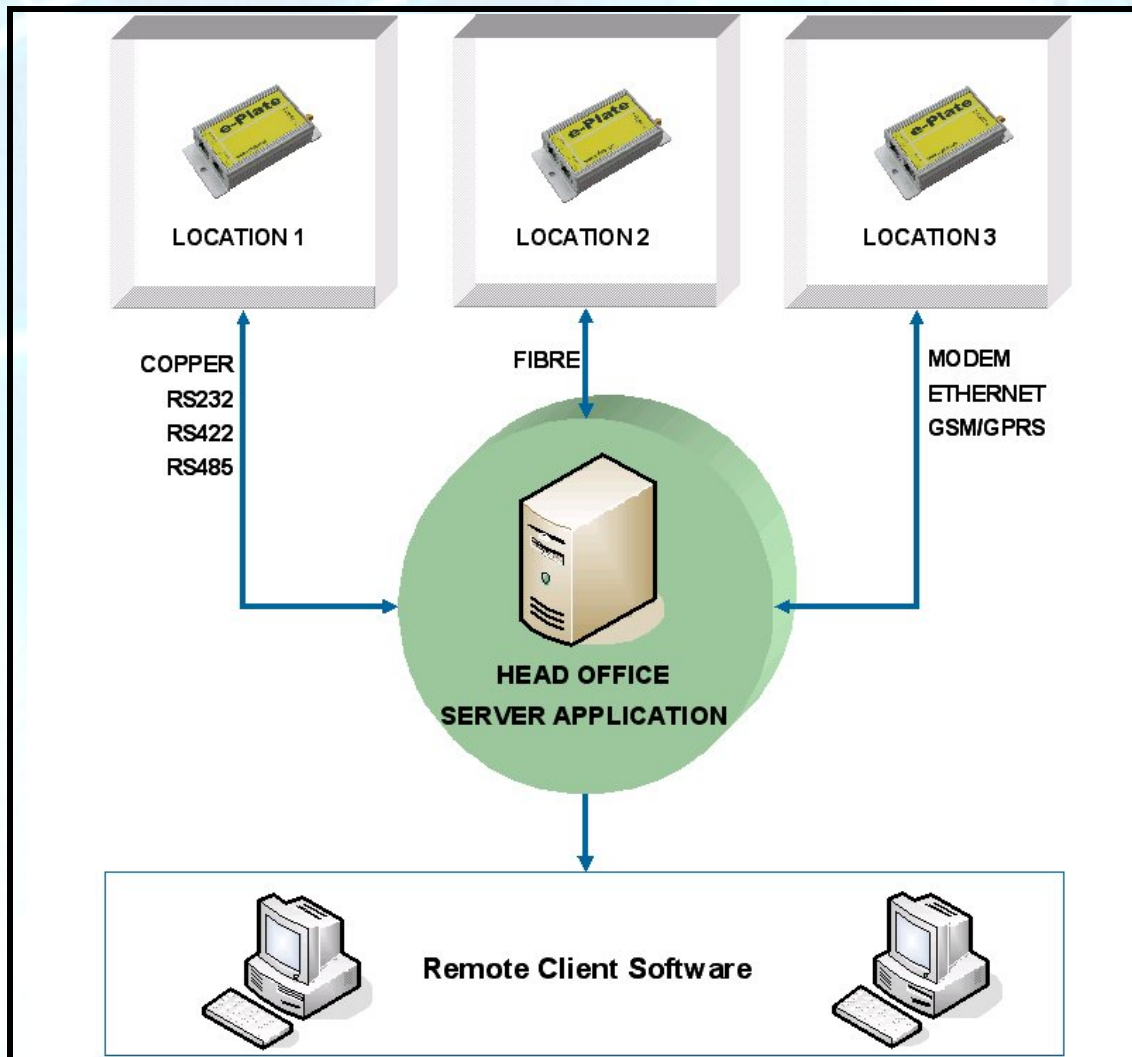
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e-Plate Stand Alone Reader

- The i-PORT R2 is a reader for the e-Plate series of Broadcast Tags. Built into a compact metal housing, the i-Port R2 receives transmissions from the e-Plate tags at distances of up to 100 meters. Connection to the Host System takes place via an RS422 interface, resulting in the ability to connect up to 32 readers in a Daisy Chain using commercially available CAT5 cabling.
- A simple master/slave protocol enables data exchange. Not only does the protocol contain the data received from the tag, but it also provides information about the time of data reception, field strength, and duration stay.
- This reader is an ideal base for integrators who wish to incorporate the benefits of e-Plate into existing systems such as asset tracking, fleet monitoring etc.



Simple Network Configuration



e-Plate

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