

## Application Note: Driver Identification using iButton

### Overview

The AT100 can be used with Maxim-Dallas iButtons (AKA Dallas Keys) to provide information about the driver of a given vehicle for specific journeys. The benefits for the Fleet manager are significant in helping to fulfil their obligations under the EU Working Time Directive and Drivers Hours Directive.

### Requirements

	Part Number
• GPS/GPRS Vehicle Tracking Module*	AT100
• Combined GPS/GSM antenna	AE003 or AE002
• Power Cable, 1.0m fused	CB001
• AT100 to Link 45 Adapter Cable	CB006
• Link45 1 wire to RS232 adapter	Link45
• iButton Probe (RJ11 or RJ45)	DS9092 / DS1402-RP8
• iButton (keyfob mounted)	DS1990R

\* firmware version 4.41 or later, hardware version H2 or later

### Hardware Configuration

The AT100 NMEA serial port is connected to the Link45 reader using cable CB005. The Link45 requires power in the range of 6-9VDC, so a DC-DC converter (i.e. a 'dropper') is required for 12 or 24V vehicles. The necessary voltage converter is built into the CB006 cable. The usual requirements apply for antenna and power supply to the AT100.

### AT100 Configuration

First, the AT100 NMEA baud rate must be set to match the Link45 default baud rate of 9600. This can be done using the NMEA command:

```
$PARM,CONF,0021,9600
```

After entering this command, it will necessary to change the HyperTerminal baud rate to 9600 also.

The AT100 is enabled for iButton mode using the IBTN parameter. Setting the IBTN parameter to 1 tells the AT100 to expect to see Link45 formatted iButton information through the NMEA serial port.

The IBTN parameter can be set using a NMEA command, as per the example below:

```
$PARM,IBTN,1 // enable iButton mode
```

Once the IBTN value has been set, the AT100 will 'see' all iButton events as reported by the Link45 reader. Three events can be recognised and reported by the AT100:

1. iButton presentation
2. iButton removal
3. iButton presentation and immediate removal (i.e. both the above)

This allows support for applications where the iButton is momentarily touched onto the probe or alternatively where the iButton is held on the probe for the duration of the journey. Presentation or removal of an iButton will trigger a report to the host application, including the ID of the associated iButton. Please refer to the AT100 Reporting Protocol documentation for details of how the iButton data is included in the AT100 report.

## **Additional Features**

The Link45 provides an auxiliary output signal via the RJ45 connection. This auxiliary output can be used to help ensure that the driver does not forget to present the iButton on the probe for each journey. If the vehicle ignition is on (as sensed by the AT100) and the iButton is not present, the auxiliary line will be driven high. Whenever an iButton is present on the probe, the auxiliary output will be driven low. This can be used with an external audible device to ensure that the driver presents his/her iButton. Note that this mode is suitable for use with probes which hold the iButton in place for the duration of the journey.

## **Installation Guidelines**

The AT100 NMEA serial port is connected to the DB9 female connector of the Link45 using the CB006 cable. The CB006 cable has an integrated power feed for the Link45. For information on the Link45, iButtons and associated accessories, we recommend that you contact the companies below:

## **Recommended Suppliers**

Homechip  
15 Drayton Road  
Newton Longville  
Milton Keynes  
MK17 0BH  
UK

Tel: +44 (0) 845 862 0220  
[info@homechip.com](mailto:info@homechip.com)  
[www.homechip.com](http://www.homechip.com)

iButtonLink LLC  
N8921 Stone School Road  
East Troy  
WI 53120  
USA

Tel: + 1 262-662-4029  
[info@ibuttonlink.com](mailto:info@ibuttonlink.com)  
[www.ibuttonlink.com](http://www.ibuttonlink.com)