



# Minorplanet<sup>TM</sup> vmi greenlight<sup>TM</sup> AEM6000 Data Collection Unit

## Flexible vehicle communications hub providing innovative features

The AEM6000 is the latest generation Minorplanet developed Data Collection Unit (DCU). It is a flexible vehicle communications hub providing a number of innovative features including internet and email access, hands-free voice and the ability to integrate with other applications and technologies through 'IP pass-through'.

Keeping vehicles on the road is critical to any organisation involved in fleet management and therefore reliability is a primary consideration. The Communications Hub has 'over-air' fault diagnosis, providing firmware and configuration checks managed by a central Minorplanet server.

The unit communicates with industry standard wide-area network IP protocols. By using industry standards, it becomes a flexible vehicle communications hub able to integrate with other technologies such as PDAs, sat-nav devices and on-board systems.

### Key features

- Internal battery back-up
- IP pass-through connectivity
- Voice hands-free port
- Built-in accelerometer
- Second by second Incident Buffer
- CANbus interface

## Unit Security

The unit has a durable, dust and water resistant (IP54 rated), tamper evident case. If the case is opened, a switch is activated and an incident report is sent to the DCU management server at Minorplanet.

## Accuracy of data and power back-up

The Communications Hub overcomes any potential loss of data, due to vehicle battery voltage drop, with an internal battery back-up. This seamlessly provides power should the supply fail, which ensures constant flow and accuracy of data for up to 3 days on pulsed power.

## Reliability

The unit has the ability to perform over-the-air health checks and fault diagnosis, which enables upgrades, firmware and configuration checks to be managed centrally from a Minorplanet server. This allows us to ensure that data is transmitted as expected, and where necessary issues can be corrected directly reducing the need for taking vehicles off the road.

## Digital Connectivity

The unit contains the following standard digital connection options:

- Vehicle Power
- Ignition sensor
- Vehicle speed input from odometer/drive train
- 6 x digital inputs (for connection to: door sensors, driver ID, panic alarms, motion sensors, fixed dialler)
- 2 x digital outputs

## Serial Connectivity

The Communications Hub has the following standard serial connection options, providing future proof connectivity:

- High Speed Port - to connect high speed peripherals such as PDAs or the Fixed Data Terminal (FDT) (see overleaf)
- General Purpose Port - to connect low speed propriety devices, that do not require much data throughput e.g. weighing systems, temperature monitoring and RFID.
- GPS Port - typically used for satellite navigation, this port outputs Latitude and Longitude position information. Data is in a standard format and therefore can be used for other applications where a Latitude and Longitude is required.

## Chargeable options

### Option 1

A **3-axis accelerometer** is used to measure the forces applied to the vehicle in three dimensions. This can be critical in determining what happened to a vehicle during a crash, or just to identify and modify driving styles such as harsh acceleration, heavy braking or hard cornering. Data from the accelerometer is recorded by the incident buffer (see below) during an accident.

**Incident Buffer** – In the event of an accident or incident, detailed information is captured in the system, measured and recorded second-by-second by an 'incident buffer'. The incident buffer has a rolling 5 minute memory which records and stores precise information including; vehicle location (Latitude and Longitude), speed, direction, temperature and forces applied to the vehicle. When triggered, the buffer returns second-by-second data for the preceding 5 minutes, this vital information can help to determine the events leading up to an incident.

This option is particularly suitable for businesses that want to monitor driver behaviour as part of the commitment to 'Duty of Care' and driver legislation requirements.

### Option 2

**IP Pass-through** – An industry standard RS232 serial port is provided and configured for high speed IP Pass-through connectivity. This means a peripheral can be connected (for example PDAs or the FDT) to provide Internet and email access utilising the same SIM card i.e. the unit has one SIM card for all applications. Data can only be transmitted whilst portable devices are connected in the vehicle. IP pass-through provides email and internet connectivity in cab allowing connectivity to office/clients whilst away from base.

### Option 3

**Fixed voice dialler** – Provides 5 pre-set numbers, and one emergency number, for wiring to an optional microphone and speaker providing hands-free, in-car voice communications through the DCU's internal SIM Card to essential numbers only – no need to pay for another phone. This option provides extended in-cab communications capability without an additional SIM/handset, helping businesses to adhere to Duty of Care legislation.

### Option 4

**CANbus interface** – The Communications Hub can be connected to a vehicle's engine management communications bus and provide detailed vehicle performance information back to Fleet Managers. Depending upon vehicle manufacturer, this can include accurate fuel usage, mileage, CO2 exhaust emissions, servicing requirements (brake wear, oil level etc) and driving style. The CANbus interface enables the fleet manager to be proactive and review detailed information on both driver and vehicle performance.

### Option 5

**Fixed Data Terminal (FDT)** – Minorplanet's advanced 'in-cab' solution combining a touch sensitive screen and a separate, hidden, mini computer with a choice of software options. The FDT, when combined with the Communications Hub, can provide two way communication with drivers via email, intranet/internet access and Satellite Navigation. In addition, jobs can be scheduled and despatched to the FDT via Minorplanet's Fleet Manager, and drivers can use it to provide progress updates.

Visible hardware in vehicles is prone to theft, consequently the FDT has been designed to house the mini computer behind the dashboard, leaving only the screen visible. This can be disconnected from the mini computer and removed, but if it is stolen, it is inexpensive to replace.

Since the FDT uses industry standard software, bespoke applications can be loaded onto it via memory card allowing you to capture data specific to your business.

### Applications:

- Job allocation
- Navigation
- Driver/ base communications
- Bespoke applications

### Hardware:

- Touch sensitive colour wide screen
- Mini Computer

### Software:

- Windows CE 5.0 and above

### Upgrade Options:

- Email client with email push
- Satellite Navigation
- Task Manager



Call free on **0800 092 4925** or visit **[www.minorplanet.com](http://www.minorplanet.com)**

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