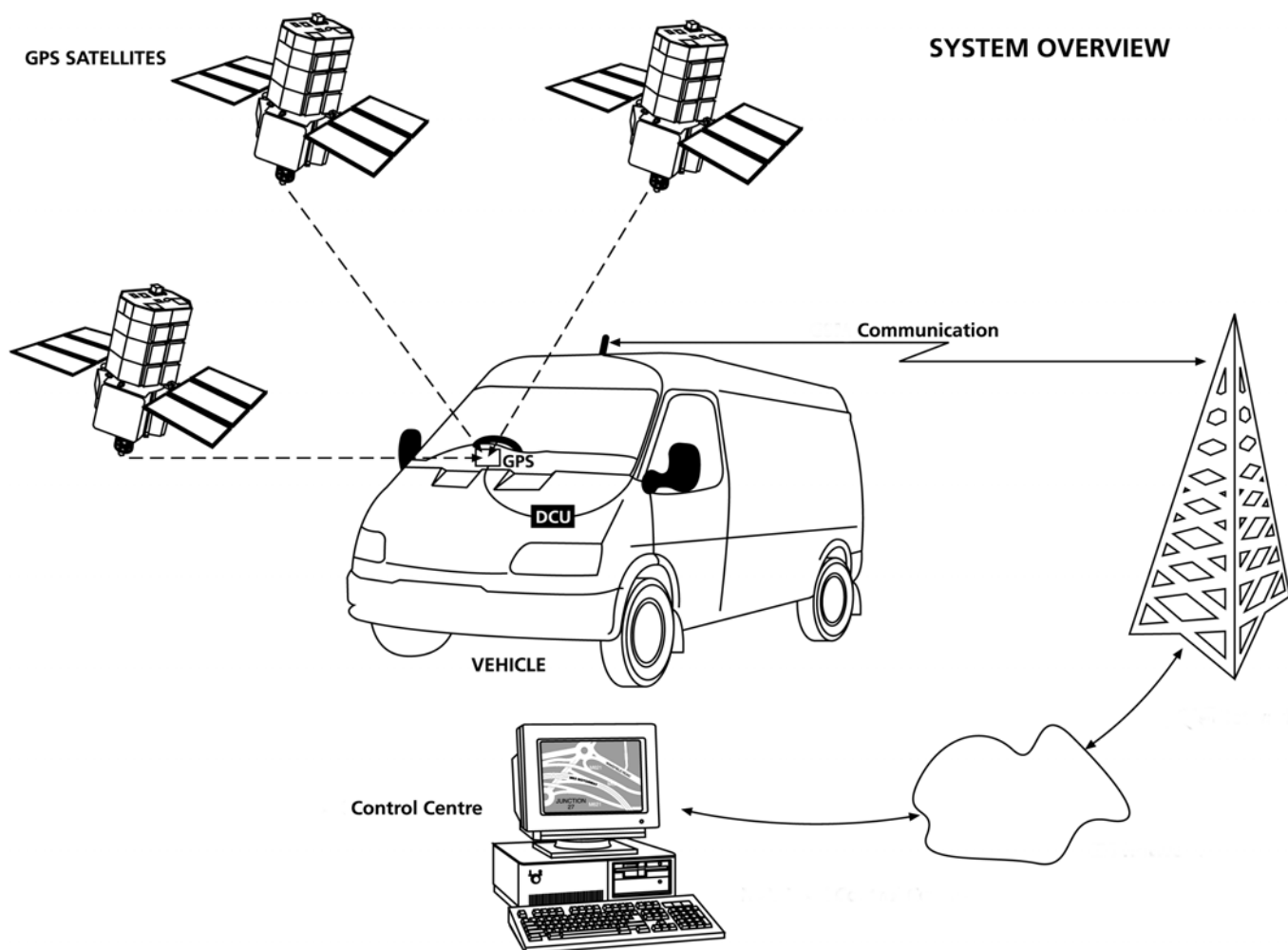


1. OPERATION

1.1 Maptrack System Overview

The Maptrack system brings together satellite based global positioning technology, microprocessor control, low power radio and international GSM communication infrastructure to achieve wide area communication, vehicle location, telematics and communication services.

1.1.1 OPERATION OVERVIEW



1.2 System Overview

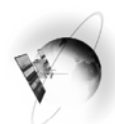
The AEM3000 is an electronic data collection and transmission device, incorporating GPS tracking and GSM communication technologies.

Whilst the vehicle is in use, geographical and operational data is continually monitored and recorded within the DCU (data collection unit) memory. Up to 8 weeks of operational data can be held within the DCU. If the memory capacity is reached before the data is downloaded, the oldest records will be lost as new records are recorded.

Recorded data may be downloaded for processing by the base computer in the following ways;

- bulk download of all held data via the GSM data channel
- snap shot of current 'live' data via the GSM SMS network.
- bulk download of held data via the low power radio interface upon return to base.

Interrogation of the DCU is possible anywhere that benefits from GSM network coverage (subject to roaming agreements with GSM networks).



1.3 System Operation

The Maptrack in-vehicle system consists of the DCU (data collection unit), GPS and GSM antennae. Only power and ignition connections are made to the vehicle electrical system.

When an ignition signal is present at the DCU the system records a start event and activates the GPS receiver, the vehicles geographical position, velocity and distance travelled are then continually recorded within the DCU until the ignition signal is removed, at which time a stop event is recorded, the DCU then performs any outstanding tasks before powering down the GPS receiver and GSM transceiver.

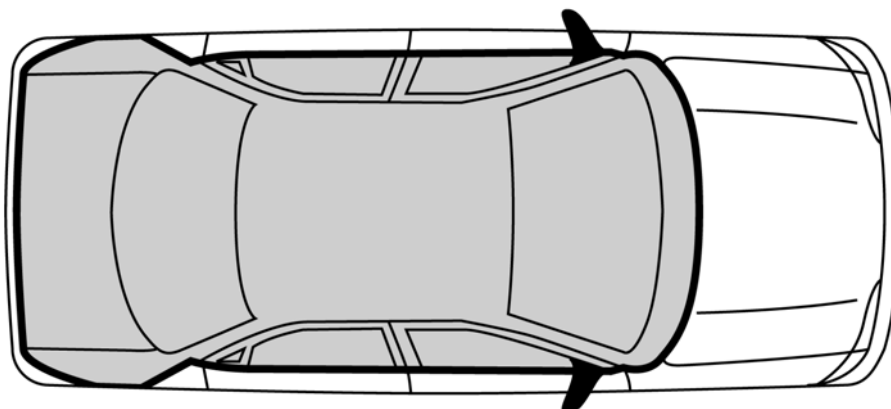
The DCU will stay in this power save mode until either the ignition is turned on or a command is received from the monitoring bureau to reactivate.

1.4 Component Layout

The following equipment positioning guides are for reference only and are not intended to be exhaustive. Actual optimum positions will change depending upon type of vehicle being fitted.

1.4.1 DCU POSITION GUIDE (within vehicle)

DCU Assembly Fitting Zones



1.4.2 TRI-BAND AERIAL POSITION GUIDE (roof of vehicle)

Antenna Fitting Zones

