



Overview

The VBOX Mini is a low cost, self-contained GPS data logging and display system suitable for a large range of vehicle testing applications.

Using a high performance GPS engine, data such as velocity and position are accurately recorded at 10Hz.

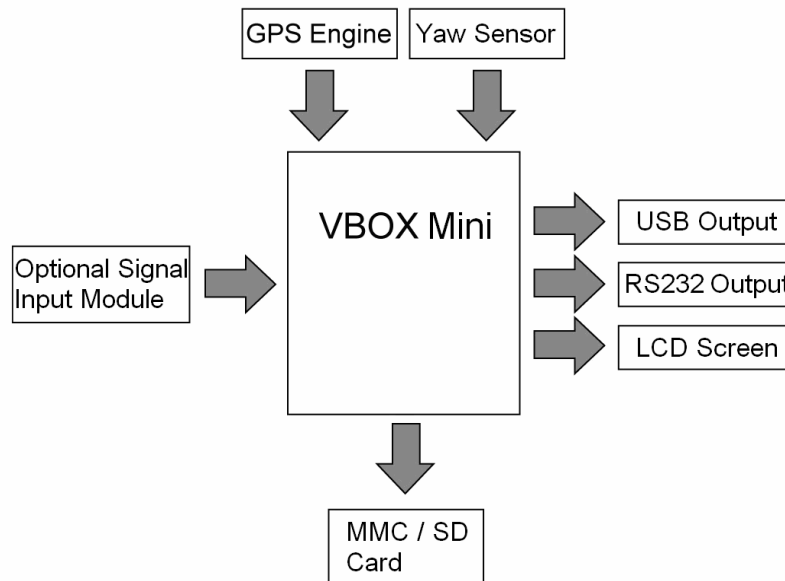
To further enhance the VBOX Mini, an optional Input/Output module is available for collection of data from external signal sources such as throttle position or engine RPM.

In addition to the data recorded onto the flash memory card, data from the VBOX Mini can be output via a direct PC link in real time for live viewing in the included VBOXTools software.



Features

- Non-contact 10Hz speed and distance measurement using GPS
- Internal yaw rate measurement for slip angle and true heading
- RS-232 serial interface
- USB interface
- Data logged to popular MMC / SD cards
- Optional input module available for logging of additional analogue and digital signals



VBOX Mini Input & Output



GPS			
Velocity		Distance	
Accuracy	0.1 Km/h (averaged over 4 samples)	Accuracy	0.05% (<50cm per Km)
Units	Km/h or Mph	Units	Metres / Feet
Update rate	10 Hz	Update rate	10Hz
Maximum velocity	1000 Mph	Resolution	1cm
Minimum velocity	0.1 Km/h	Height accuracy	6 Metres 95% CEP**
Resolution	0.1 Km/h	Height accuracy with DGPS	2 Metres 95% CEP**
Absolute Positioning		Time	
Accuracy	3m 95% CEP**	Resolution	0.1 s
Accuracy with DGPS	1.8m 95% CEP**	Accuracy	0.1 s
Update rate	10 Hz		
Resolution	1 cm		
Heading		Power	
Resolution	0.01°	Input Voltage range	6v-28v DC
Accuracy	0.1°	Power	Max 10.6 watts
Acceleration		Environmental and physical	
Accuracy	0.5%	Weight	Approx 900 grams
Maximum	20 G	Size	170mm x 121mm x 41mm
Resolution	0.01 G	Operating temperature	-20°C to +70°C
Update rate	10Hz	Storage temperature	-30°C to +80°C
Memory		Definitions	
MMC / SD Card	Dependent on flash card capacity*	** CEP = Circle of Error Probable	
Recording time		95% CEP (Circle Error Probable) means 95% of the time the position readings will fall within a circle of the stated diameter	

* Approximately 3Mb per hour used when logging GPS

Outputs	
RS232 / USB	
Output Data Rate	10Hz direct / 5Hz via radio
Data available	Satellites in View, Latitude, Longitude, Velocity, Heading, Altitude, Vertical Velocity, Distance, Longitudinal Acceleration & Lateral Acceleration, Slip Angle, True Heading
LCD Display	
Performance Mode	0-60, 0-100, 2 x User Defined Acceleration Range, 0-XXX-0 (User Defined), Maximum Velocity, Average Velocity, Peak Longitudinal Acceleration, 2 x User Defined Deceleration Range, Time to and Speed at (100m, 200m, 400m, 1km, 1/8mile, 1/4 mile, 1/2mile, 1mile), BHP, Power Losses. Minimum apex speed.
Lap Timing Mode	Current Lap Time, Best Lap Time, Last Split Time, Speed at Split, Minimum Speed, Logged Lap and Split Time Review
Drift Mode	Drift Angle, Speed, Peak Drift Angle, Speed at Peak Drift, Current Sector, Sector Score, Total Score, Peak Longitudinal Acceleration, Average Speed
Speed Display / POI Mode	Current Speed, Average Speed, Local Point Of Interest

Inputs	
Input Module	Ready for connection to optional input module accessory, to allow measurement and logging of analogue and digital input data such as engine RPM and throttle position