VBOX Mini 10Hz GPS Data Logger
(RLVBM01)

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 VBOX Tools software.
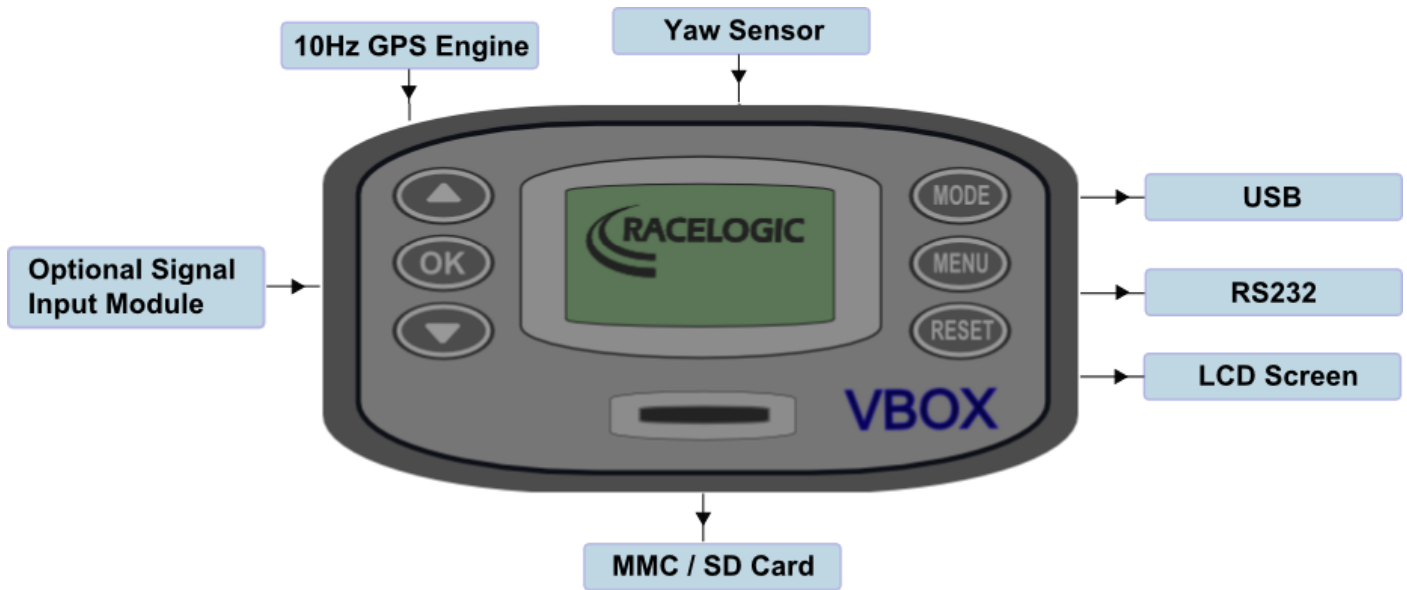
Features

- 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.

13/08/2015

Inputs and Outputs

Inputs	Outputs
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.	**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, 1/4mile, 1/2mile, 1mile). 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, Predictive Lap Timing. **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.

VBOX AUTOMOTIVE

Unit 10, Swan Business Centre, Osier Way, Buckingham, Bucks MK18 1TB, England
Tel: +44 (0)1280 823 803   Fax: +44 (0)1280 823 595   Email: vbox@racelogic.co.uk
www.vboxautomotive.co.uk

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GPS Specification

Velocity		Distance	
Accuracy	0.1 Km/h	**Accuracy**	0.05 % (<50cm per Km)
Units	Km/h or Mph	**Units**	Metres / Feet
Update rate	10 Hz	**Resolution**	1 cm
Maximum velocity	1000 Mph		
Minimum velocity	0.1 Km/h		
Resolution	0.01 Km/h		

Absolute Positioning		Time	
Accuracy	3m 95% CEP*	***Accel/Brake Test***	
Height accuracy	10 Metres 95% CEP*	**Resolution**	0.01 s
		Accuracy	0.1 s
		Lap Timing	
		Resolution	0.01 s
		Accuracy	0.1 s

Acceleration		Environmental and physical	
Accuracy	1%	**Weight**	225 grams
Maximum	4 G	**Size**	113 mm x 63 mm x 93 mm
Resolution	0.01 G	**Operating temperature**	-20°C to +50°C
		Storage temperature	-30°C to +80°C

Memory		Heading	
MMC / SD Card	External memory support	**Resolution**	0.01°
Recording time	Dependent card capacity**	**Accuracy**	0.1°

Power			
Input Voltage Range		6V - 28V DC	
Current		Typically 100mA	

Definitions

* CEP = Circle of Error Probable. 95% CEP means 95% of the time the position readings will fall within a circle of the stated radius.

** Approximately 1.2Mb per hour used when logging GPS

Hardware & Software Support

Support	
Hardware	One Year Support Contract
Software	Lifetime Support Contract: Valid for a minimum of 5 years from the date of purchase and limited to the original purchaser. Contract includes: telephone/ email technical support provided by local VBOX Distributor and firmware/ software upgrades (where applicable).

Package Contents

Description	Product Code
1 x VBOX Mini unit	VBM01
1 x External GPS antenna with 3M MCX right angle connector	RLACS070-R
1 x USB lead A-B 2M	RLCAB042
1 x Cigar power lead	RLCAB010D
1 x Mains power supply US – EU – UK	RLACS074MULTI
1 x Drift box clamp and cradle	DBCLAMP CRAD
2 x Drift box locking knob	DBLOCK KNOB
3 x Drift box suction cup	BDSUCTIONCUP
1 x Carry case	RLACS106
1 x 2GB SD card	RLACS083
1 x CD ROM containing VBOX software	RLVBACS030
1 x CD containing circuit tools software	CDCTCIRCUIT
1 x VBOX Mini user guide	VBMINIMAN

RLVBM01   RLCAB042   RLACS070-R