

# Speed and Route Profiler (RLVBSRP01)



A common problem in vehicle test drives lies in ensuring that each test is consistent and repeatable, with regard to speed, distance, and route travelled.

As an alternative to written instructions (which can be confusing and dangerous for test drivers) or using secondary vehicles to guide each test vehicle (which is time consuming and has limitations), Racelogic have developed the **Speed Profiler**.

## What is the Speed Profiler?

Displaying simple and accurate instructions to a test driver without the need for training, the Racelogic **Speed Profiler** is designed to save time and build consistency into vehicle tests. The Speed Profiler will enable drivers to follow a set route and conform to set speed requirements for accurate vehicle testing.

## How does it work?

The **Speed Profiler** incorporates an **OLED display** with internal memory connected to a **VBOX Micro** 10Hz GPS data logger.

The display includes a buzzer and arrow indicators, to direct the driver. The system will alert the driver if they deviate from the specified route (but will not direct them back onto it). It will also warn if the driver deviates from the route's speed profile.

To set up a route, the 'master' driver pushes a button on the display whenever they make a turn. In the Speed Profiler Software, on a PC with internet, the master driver can then convert the input points (over a street map) into 'right turn', '2<sup>nd</sup> left at roundabout' etc, and set the distance at which an arrow will appear on the display.

The resultant file is then uploaded onto the Speed Profiler display for the test driver(s). The display instructions help to ensure that no route errors are made whilst the **VBOX Micro** logs each run.



*Above: the speed profiler OLED display is showing a speed of 60km/h, and that the driver must slow to 55km/h. The amount of user deviation permitted from the required speed is adjustable. The speed profiler is also stating that the driver must turn left in 110 meters.*

## Features

- Intuitive operation and easy to set up
- Internal accelerometer: determines orientation and flips display and association of the buttons
- Inverse screen colours or change font options for use in different light conditions
- Intuitive three button operation
- Full Racelogic support if required
- Automotive testing standard fischer connectors
- Compact flash card data logging
- Ability to analyse in VBOX Tools software (included)

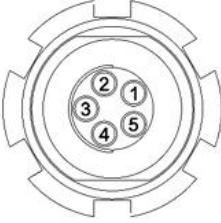

## Applications

- Fuel economy testing
- Durability testing
- Tyre testing
- Real world verification

# Speed and Route Profiler (RLVBSRP01)



## Specification: Speed Profiler OLED Display (RLVBDSP04-4B)

<b>Max journey length</b>	8 hours		
<b>Connection</b>	Fischer 5w socket: use with RLCAB077 lead		
<b>Internal Memory</b>	4 MB		
<b>Unit Connectors</b>	Connector B	 	
	1: Power		
	2: RS232 Rx		
	3: RS232 Tx		
	4: CAN High		
	5: CAN Low		
	Chassis: Ground		
<b>IP Rating</b>	IP66 rating		
<b>Operating Temp</b>	-40 to +70 °C		
<b>Power</b>	1.2W		
<b>Input Voltage</b>	6 – 30VDC		
<b>Internal Warning Buzzer</b>			
<b>Dimensions</b>	115 x 50 x 20mm (exc. connectors)		
<b>Weight</b>	146g (exc. cable)		

### Package Content

VBDSP04-4B	VBOX OLED Speed Profiler Display
RLACS125	Light Weight Mount
VBMIC01	VBOX Micro: 10Hz GPS Data logger
RLVBACS018	GPS magnetic antenna
RLCAB077	Cable to connect VBOX Micro and display
RLCAB079	Cable for connection to display
RLACS162	Speed Profiler programming lead
RLCAB010F	VBOX Micro power lead to Fischer
RLACS106	VBOX Micro Carry Case
RLCAB066-2	USB A – USB Mini B Lead – 2m



**VBOX Micro**  
10Hz GPS Data Logger (overleaf)

# Speed and Route Profiler (RLVBSRP01)



## Specification: Speed Profiler Data logger: VBOX Micro (RLVBMIC01)

Specification: Speed Profiler Data logger: VBOX Micro (RLVBMIC01)			
<b>Velocity</b>		<b>Absolute Positioning</b>	
Accuracy	0.2 Km/h (averaged over 4 samples)	Accuracy	5m 95% CEP**
Units	Km/h or Mph	Height accuracy	10 Metres 95% CEP**
Maximum update rate	10 Hz	Maximum update rate	10 Hz
Maximum velocity	1000 Mph	Resolution	1 cm
Minimum velocity	0.1 Km/h		
Resolution	0.01 Km/h		
Latency	>160ms		
<b>Distance</b>		<b>Acceleration</b>	
Accuracy	0.05% (<50cm per Km)	Accuracy	1%
Units	Metres / Feet	Maximum	4 G
Maximum update rate	10 Hz	Resolution	0.01 G
Resolution	1cm	Maximum update rate	10 Hz
<b>Heading</b>		<b>Time</b>	
Resolution	0.01°	Resolution	0.01 s
Accuracy	0.2°	Accuracy	0.05s
<b>Output: CAN Bus</b>			
Bit rate	125 kbit/s, 250kbit/s, 500kbit/s & 1Mbit/s selectable baud rate		
Identifier type	Standard 11bit and Extended 29bit 2.0A		
Data available	Satellites in view, UTC time, Latitude, Longitude, Speed, Heading, Altitude, Vertical velocity, Longitudinal acceleration, Lateral acceleration, Distance since reset		
<b>Physical</b>		<b>Power</b>	
Weight	Approx 275 grams	Input Voltage range	6-30V DC
Size	105mm x 85 x 30mm	Current	Typically 70mA
Operating temperature	-10 C to +60 C		
Storage temperature	-40 C to +85 C	<b>Memory:</b> Compact flash card	
<b>Definitions</b>			
CEP = Circle of Error Probable.			
95%CEP means 95% of the time the position readings will fall within a circle of the stated radius.			
<b>Lifetime Software Support Contract:</b> Valid for a minimum of 5 years from the date of purchase and limited to original purchaser. Contract includes telephone/email technical support provided by local VBOX distributor and firmware/software upgrades where applicable.			