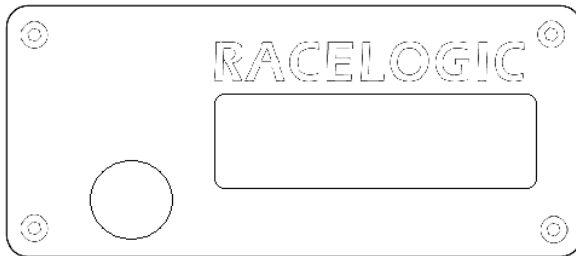


# LED DISPLAY RLVBDSP02

Instruction Manual



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## ***EC Declaration of Conformity***

We declare that this product has been tested to and meet the requirements of:

### **EC Directive 2004/104/EC**

“Adapting to Technical Progress Council directive 72/245/EEC relating to the radio interference (Electromagnetic Compatibility) of vehicles and amending directive 70/156/EEC on the approximation of the laws of the member states relating to the type-approval of motor vehicles and their trailers.”

And has also been assessed, via Technical Construction File, by an independent DTI Competent Body and found to be in conformance with the essential requirements of:

### **EC Directive 89/336/EEC (and amending directives)**

“Council Directive of 03 May 1989 on the approximation of the laws of the member states relating to electromagnetic compatibility.”

DTI Competent Body responsible for issuing certificate of compliance:

3C Test Ltd,  
Silverstone Technology Park,  
Silverstone,  
Northants  
NN12 8GX

## Introduction

The RLVBDSP02 is a LED Display module for use with the Racelogic VBOX. It provides an easy to read display of vehicle speed. In addition to speed the LED display can also show lateral acceleration, current satellite count and height and vertical velocity. Connection to the VBOX is via the 5 pin Lemo connector on the VBOX.

The speed figure shown on the display is heavily smoothed when compared with the actual GPS speed, to allow the user to easily see the vehicle speed when it is changing quickly. Therefore when you come to a stop suddenly, the display will lag behind the real speed being measured.

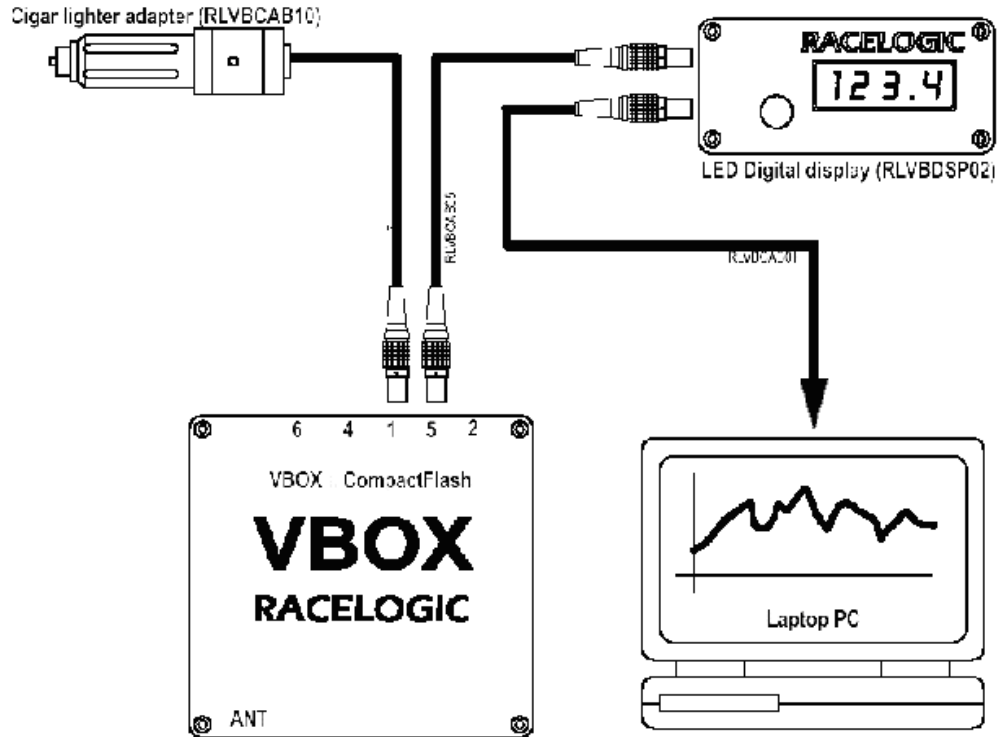
## Parts supplied with RLVBDSP02

1 x RLVBDSP02	LED Display
1 x RLVCAB05	Connection cable to Readout
1 x RLVACS014	Suction mount for LED Display

## Specification

Size - Single	110mm x 50mm x 25mm (4 1/4" x 2" x 1")
Size - Dual	110mm x 50mm x 30mm (4 1/4" x 2" x 1 1/4")
Mounting	Velcro mounting suction cups
Weight	Approx 100g / 14.1oz
Display	4 x 7 segment LED. Daylight readable
Speed	Knots or Km/h or Mph
Height	Metres (Ref WGS84) Max 999.9m
Vertical Velocity	M/S
Power	Approx 200mA
Cable supplied	RLVCAB05

## Connection of DSP02 to VBOX



Using the 5 way LEMO to 5 way LEMO cable (RLVBCAB05) connect socket 5 (RS232) of the VBOX to any of the sockets on the LED display. Power the VBOX using either the 12V cigar adapter or a fully charged battery pack. Connect a PC or Laptop to any of the remaining connectors on the LED display using the RLVBCAB01 serial communication cable.

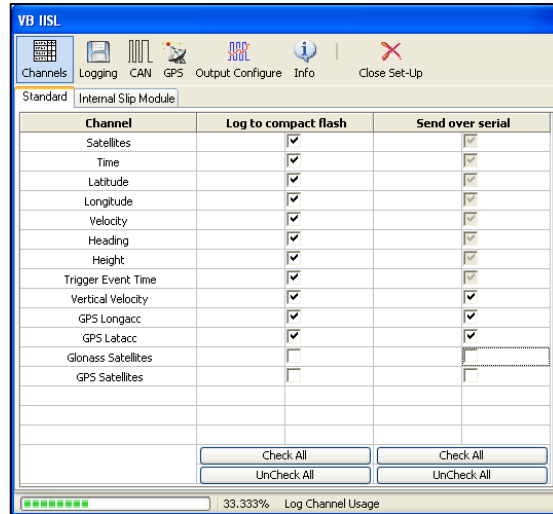
## Using the LED Display

The latest LED Display firmware is capable of displaying the following parameters:-

- Speed in Knots, Km/h and MPH
- Longitudinal Acceleration\*
- Lateral Acceleration\*
- Satellites in view count
- Height
- Vertical Velocity\*

\*Not available with VB10SPS

The Display data is taken from the serial data output from the VBOX. Therefore Vertical Velocity, lateral and longitudinal acceleration (GPS Latacc & GPS Longacc) must be enabled in the 'Serial Data' tab of VBOX Setup in the VBOX software if they are to be shown on the display.



After power is applied the display will perform a brief self test and will illuminate all segments to show correct operation.

When the VBOX has acquired 3 or more satellites the display will change to whatever screen was used last. If the display was last set for km/h then the unit will display km/h on acquiring 3 or more satellites. If, at any time the VBOX can only see 2 or less satellites then the display will revert to displaying number of satellites.

LED Display	Description
[ ]	No communication with VBOX (this can occur if laptop is also connected, but s/w is not running, also during VBOX setup & download)
St 0	No satellites in view
St 1	One satellite in view
St 2	Two satellites in view

## LED Display

Press the button to cycle through SP0-SP7. When the desired parameter number is selected, stop pressing the button. After a short delay of approximately 3 seconds the display will return to operational mode.

**Example.** To select **lateral acceleration** press the button in short succession until the display shows **SP 4**. After approximately 3 seconds the display will start showing lateral acceleration (Before Longacc will work, you must have set the GPSLongacc channel in Extra serial Data under VBOX Setup)

LED Display	Description
SP 0	Display knots
SP 1	Display km/h
SP 2	Display mph
SP 3	Longitudinal Acceleration Ensure you have enabled GPSLongacc in "VBOX Setup" -> "Serial data" settings
SP 4	Lateral Acceleration GPSLatacc in "VBOX Setup" -> "Serial data" settings
SP 5	Display number of satellites in view
SP 6	Display height (Ref WGS84)
SP 7	Display Vertical Velocity m/s

## Contact details

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Buckingham  
MK18 1TB  
England

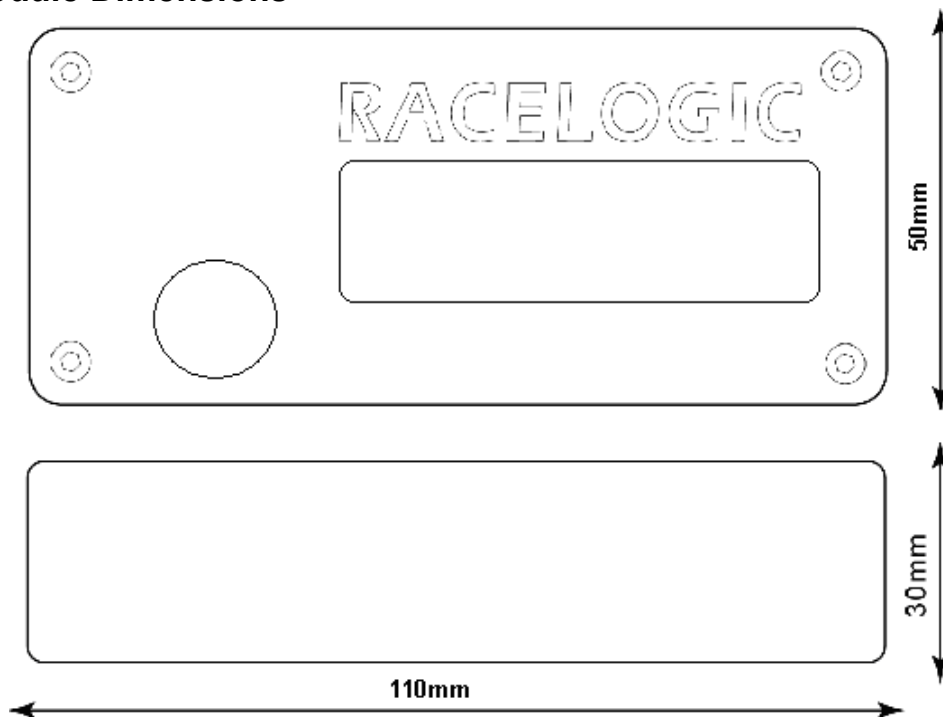
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## Module Dimensions





## Document updates

Revision	Description	Date
1	First issue. KB	6/01/05
2	Update for VB10SPS compatibility	4/4/07
3	Inclusion of Declaration of Conformity Statement	5/6/07
4	Update of Address	30/04/08