

# Video VBOX Lite

RLVBVD10LT2

## Powerful VBOX data logging and video technology in a user-friendly, affordable product

**Video VBOX Lite** is a one box solution, incorporating a solid state video recorder, a VBOX 10 Hz GPS data logger and a real time graphic overlay. This combination allows users to carry out detailed driver training and vehicle analysis without the expense and specialised knowledge involved in professional level data loggers.

Based on the high-end Video VBOX, **Video VBOX Lite** is a more affordable version of what Video VBOX users have called the ultimate track video system. Housed in a rugged plastic box, with a smaller footprint than the **VideoVBOX Pro**, **Video VBOX Lite** shares many of the same features as the top of the range product.



## What can Video VBOX Lite do?

**Video VBOX Lite** takes the video captured from multiple waterproof cameras and combines it with a customisable graphic overlay, streaming the resulting video onto an SD card as a DVD quality MPEG4 file. A 10 Hz GPS engine provides information such as circuit position, lap timing, speed (accurate to  $\pm 0.2$  km/h) and acceleration, whilst a single CAN channel (4 available as standard) can retrieve data such as RPM. CAN upgrades are available to give a total of 8 CAN channels.



The data is seamlessly integrated with real time graphics, meaning that video game style dials and gauges can be shown on the multi-camera video, with the option to fully customise the graphics using the included **Video VBOX Lite Setup** software.

Lap by lap and comparison analysis is performed with the included **Circuit Tools** software. For deeper analysis you can also download **VBOX Tools** software after unit registration. **Video VBOX Lite** is also compatible with the **Micro Input Module**, which provides inputs for 4 analogue voltage channels and an RPM channel.

Using **Video VBOX Lite** is quick and easy. Simply connect the cameras and the GPS antenna, insert the SD card and drive.

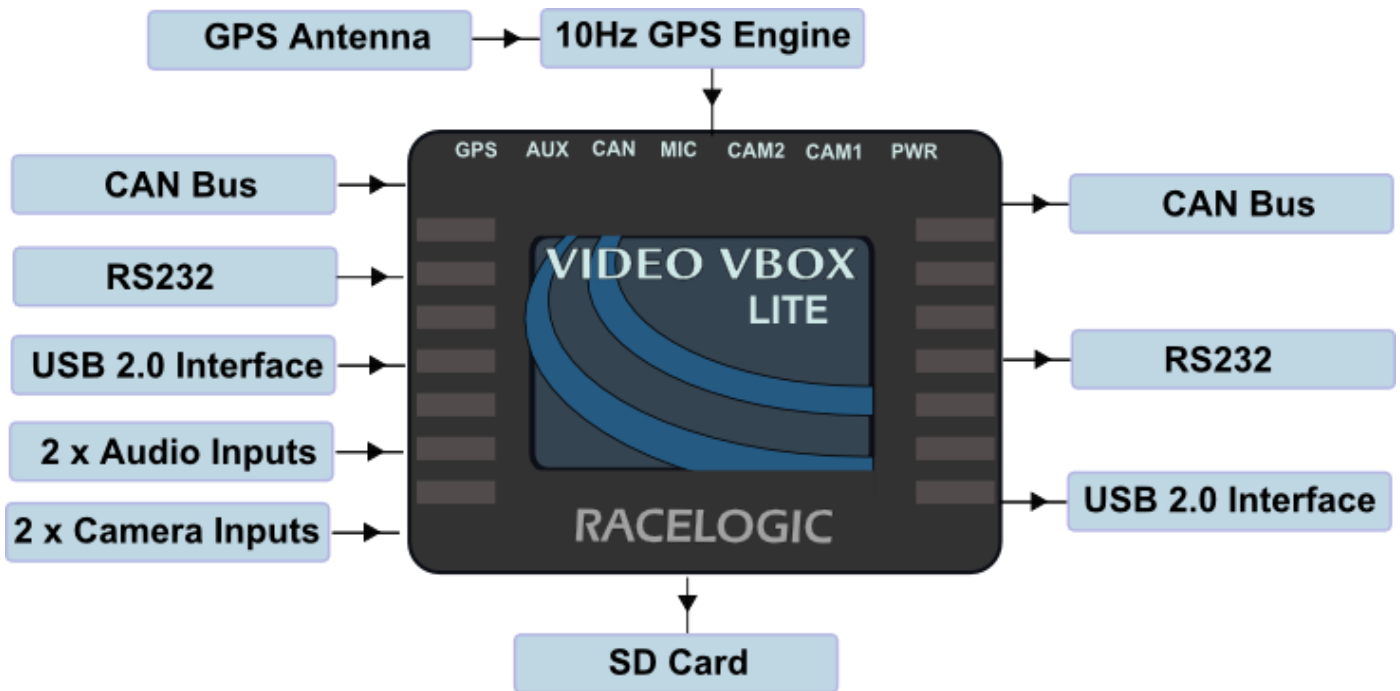
(LEFT: Video VBOX Lite screenshot from the Australian GT)

## Features

- Built in 10 Hz GPS data logger
- 2 camera inputs with configurable picture-in-picture
- Powerful yet intuitive graphics customisation and analysis software
- 580L and 420L Bullet Cameras (optional)
- 4 CAN channels (upgrade for 8 channels available)
- SD Card logging and USB 2.0 interface
- Stereo Audio recording
- MPEG4 encoding – approx. 2 GB per hour DVD quality, PAL or NTSC format
- Customisable real-time graphics, including gauges, bar graphs, circuit plots, lap times, and text
- Preview over USB for camera and graphics set-up
- Small and rugged plastic enclosure with internal battery: keeps logging even when power lost for up to 10 seconds
- Compatible with Racelogic input modules to log RPM and analogue inputs even in vehicles without CAN

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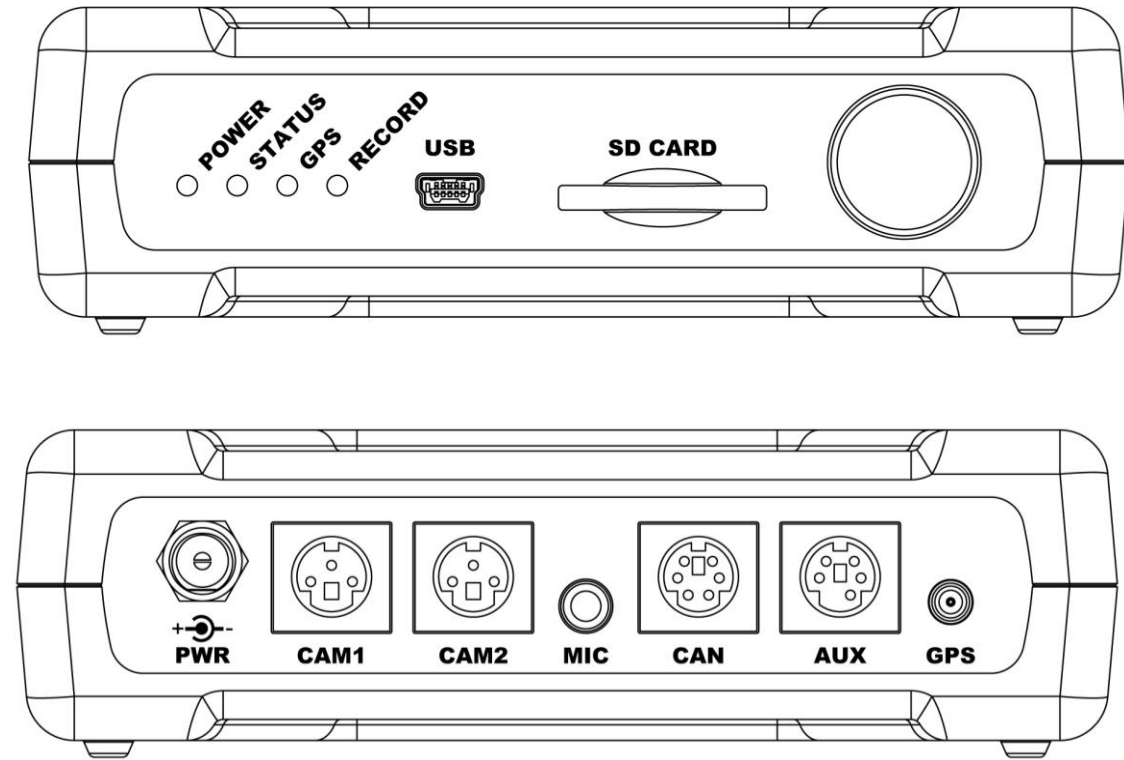
## Inputs and Outputs

Inputs	Outputs
<b>CAN Bus</b> Logs vehicle CAN data from up to 4 channels. Upgradeable to 8 CAN Channels.	<b>CAN Bus</b>
<b>RS232</b> Connects to OLED Display	<b>RS232</b>
<b>USB</b> Video streaming for camera set-up / Preview and for setting parameters via a PC	<b>USB</b>
<b>2x Audio Inputs</b>	<b>Stereo Audio</b>
<b>2x Camera Inputs (Optional)</b> Integrated 12v power. Picture-in-picture automatically selected when additional camera is detected.	<b>Video Output</b> DVD quality video, 720 x 576 at 25 frames per second PAL (default) DVD quality video, 720 x 480 at 30 frames per second NTSC
	<b>SD Card</b> 8 GB card supplied with device

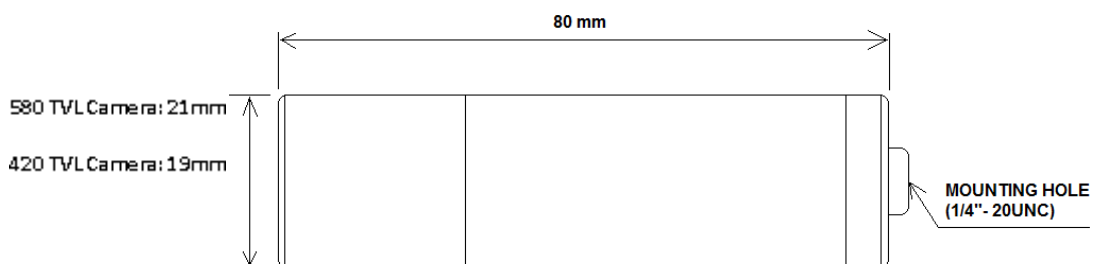
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## Video VBOX unit



## Bullet Cameras



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## GPS Specifications

Velocity		Distance	
<b>Accuracy</b>	0.1 km/h (average over 4 samples)	<b>Accuracy</b>	0.05 % (<50 cm per Km)
<b>Units</b>	km/h or Mph	<b>Units</b>	metres / feet
<b>Update rate</b>	10 Hz	<b>Resolution</b>	1 cm
<b>Maximum velocity</b>	1600 km/h		
<b>Minimum velocity</b>	0.1 km/h		
<b>Resolution</b>	0.01 km/h		
<b>Latency</b>	<160ms		

Position		Acceleration	
<b>2D Position</b>	±3 m 95% CEP *	<b>Accuracy</b>	1 %
<b>Height</b>	10 m 95% CEP *	<b>Maximum</b>	4 G
		<b>Resolution</b>	0.01 G

Heading		Lap Timing (OLED/ Circuit Tools)	
<b>Resolution</b>	0.01° (average over 4 samples)	<b>Resolution</b>	0.01 s
<b>Accuracy</b>	0.1°	<b>Accuracy</b>	0.01 s

### 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

## Graphics, Sound and Storage

### Recording Options

Record only when moving (default); Continuous record; Record start/stop button; Record activated by external signal e.g. CAN wheel speed.

### Graphics

24bit colour plus 256 levels of alpha transparency

Virtually unlimited number of gauges, g-plots, bar graphs, track maps, text and images

Choose from the internal GPS parameters or external CAN/Serial parameters

Standard library of gauges, fonts etc.

User definable gauges, fonts etc.

Alerts: Text and images can change when a parameter is over/under the desired limit

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## Resolution Options

DVD 720 x 576 at 25 frames per second PAL (default)

DVD 720 x 480 at 30 frames per second NTSC

## Compression Options

3 levels of quality – High (default), Medium and Low

Depending on content, rates typically 2MB/s, 0.5MB/s or 0.25MB/s for full frame DVD

## Memory usage

For full quality DVD using MPEG-4 set to High quality. Uses approx. 2GB/hr

## Environmental and Physical

### Environmental and Physical

<b>Input Voltage</b>	9 – 15 V (12 V minimum required for recording)	<b>Size</b>	130 x 122 x 37 mm
<b>Power</b>	7.2 W Max	<b>Weight</b>	267 g
<b>Operating temperature</b>	-10°C to +60°C	<b>Storage temperature</b>	-40°C to +85°C

## Software

### Windows software

**Video VBOX Setup:** Configurable software for customising scenes

**Circuit Tools (VBOX Tools available after registration):** Data analysis software

<b>Support</b>	
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).

# Video VBOX Lite

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## Package Contents

(Two Camera Kit)

Description	Product Code
1 x Video VBOX Lite	RLVBVD10LT
1x Cigar plug power cable (2 m)	RLVBVD10LT
1x External GPS antenna	RLACS070
1x 8 GB SD card	RLACS259
1x USB cable (2 m)	RLCAB066-2
1x Sony 580TVL camera kit – inc. light weight mount	RLACS134
1x Sony 420TVL camera kit (with Hirose connector) – inc. light weight mount	RLACS135
2x Dual mono microphone (2.5 m lead)	RLACS133
2x Camera ring clamp mount	RLACS116