

Video VBOX Lite

Powerful VBOX datalogging 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 10Hz 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 parent **VideoVBOX**, **Video VBOX Lite** shares many of the same features as the top of the range product.



An example screenshot of a **Video VBOX Lite** scene, showing Speed, G-Force and track position overlaid onto a DVD quality recording of driver and vehicle

Features

- Built in 10Hz GPS engine with VBOX datalogging
- 2 camera inputs with configurable picture in picture
- Optional 580L and 420L Bullet Cameras
- 1 CAN channel
- SD Card logging
- Audio recording
- MPEG4 encoding – approx 2GB per hour DVD quality, PAL or NTSC format
- Customisable real-time graphic overlays, including gauges, bar graphs, circuit plots, lap times, and text
- Preview over USB for camera and graphics set-up
- Small and rugged plastic enclosure
- Tank Circuit – will keep logging even when power is disconnected for up to 10 seconds
- USB 2.0 interface
- Compatible with Racelogic input modules to log RPM and analogue inputs even in vehicles without CAN



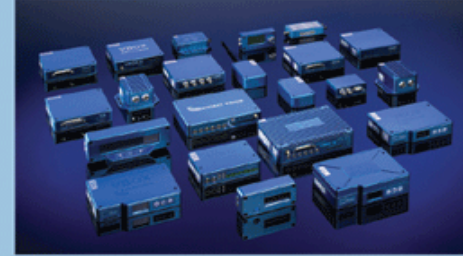
What can Video VBOX Lite do?

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 10Hz GPS engine provides information such as circuit position, lap timing, speed (accurate to ± 0.2 km/h) and acceleration, whilst a single CAN channel can retrieve data such as RPM.

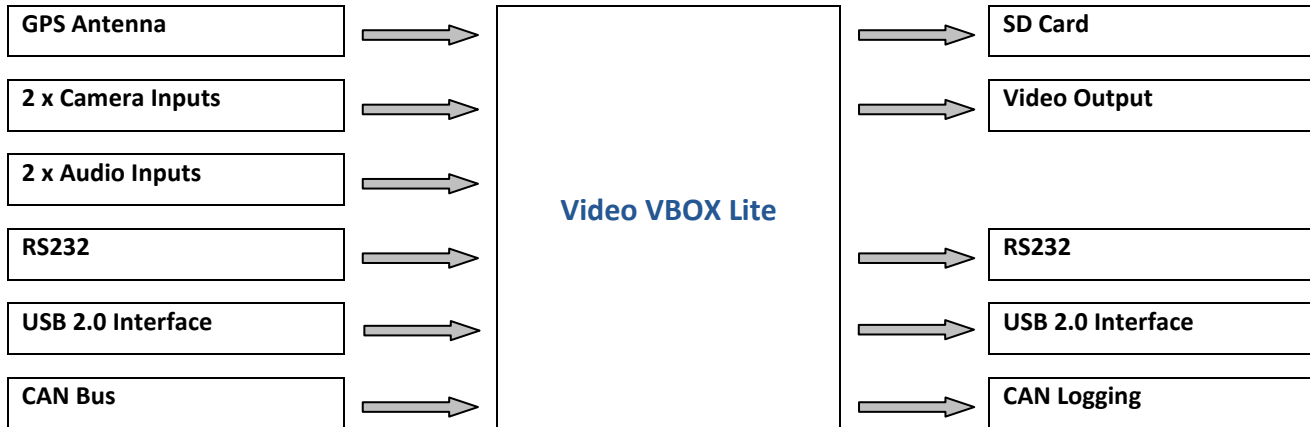
The data is seamlessly integrated with real time graphics, meaning that video game style dials and gauges can be shown on the multi-camera video, with the option to fully customise the graphics using the included **Video VBOX Lite Setup** software.

Lap by lap and comparison analysis is performed with the included **Circuit Tools** software. **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.



Inputs and Outputs



Package Options and Contents

Video VBOX Lite Two Camera Kit (RLVBVD10LT2)

- 580L bullet camera
- 420L bullet camera
- Windscreen camera mount
- Forward facing windscreen camera mount
- 2x Microphones
- Microphone splitter cable
- 4GB SD Card
- Cigar lighter power supply
- GPS Magnetic Antenna
- USB Cable
- CD: Video VBOX Scene Set-Up, VBOX Tools and Circuit Tools Data Analysis Software

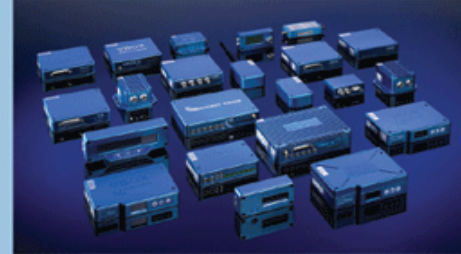


Video VBOX Lite One Camera Kit (RLVBVD10LT1)

- 580L bullet camera
- Forward facing windscreen camera mount
- Microphone
- 4GB SD Card
- Cigar lighter power supply
- GPS Magnetic Antenna
- USB Cable
- CD: Video VBOX Scene Set-Up software, VBOX Tools and Circuit Tools Data Analysis Software

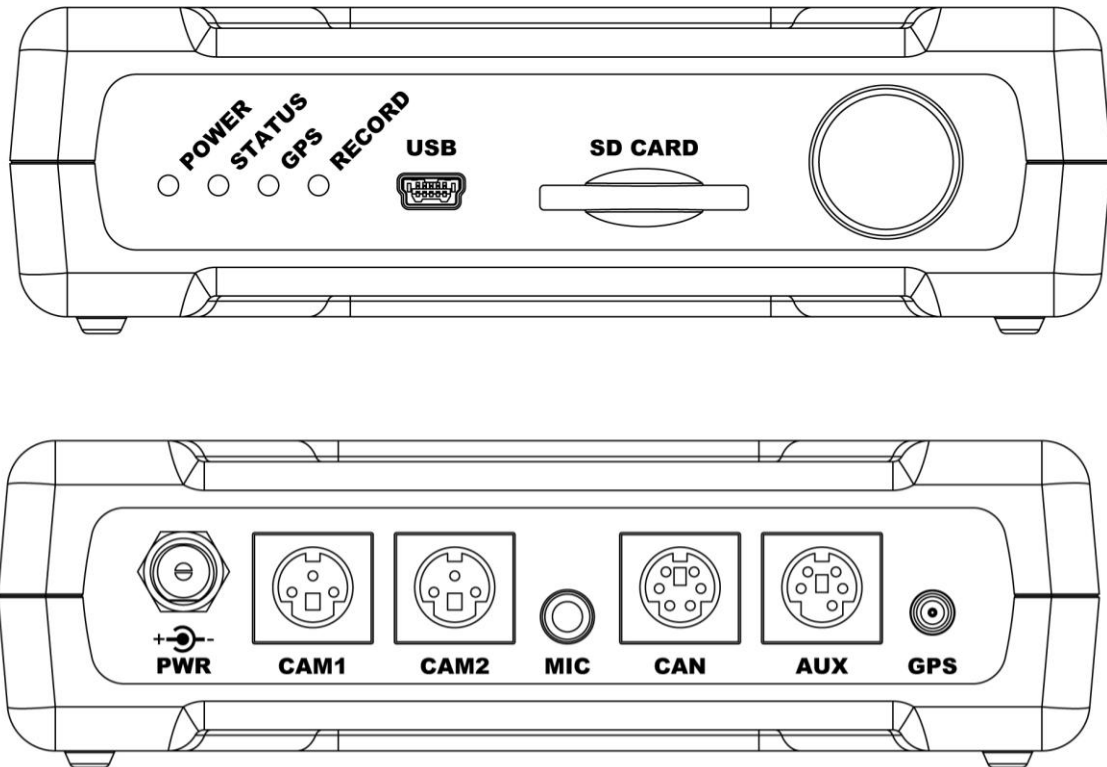
Video VBOX Lite Kit with no cameras (RLVBVD10LT)

- 4GB SD Card
- Cigar lighter power supply
- GPS Magnetic Antenna
- Camera adaptor cable to allow connection to customer supplied bullet camera
- USB Cable
- CD: Video VBOX Scene Set-Up software, VBOX Tools and Circuit Tools Data Analysis Software

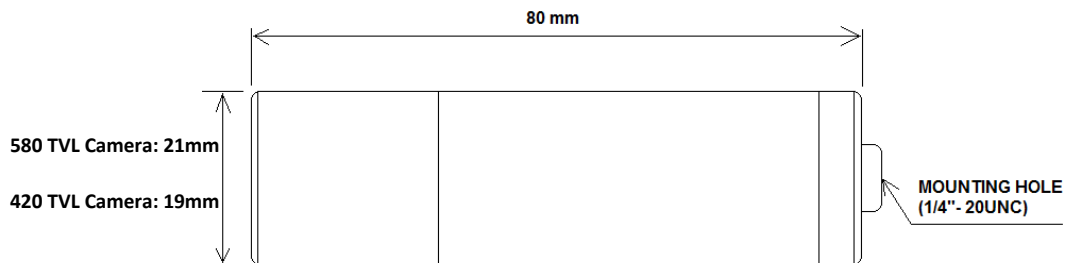


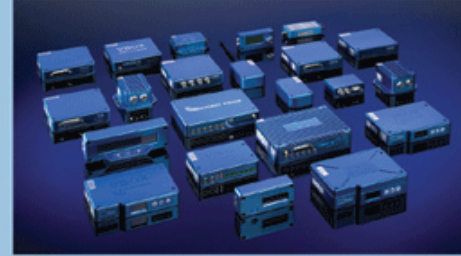
Diagrams

Video VBOX Lite: Front and Back



Bullet Cameras





Specifications

Accuracies and Outputs

GPS Parameters

These parameters can be used to drive gauges, bar graphs, circuit maps and text:
Speed, Track Position, Heading, Height, Vertical Velocity, Longitudinal acceleration,
Lateral acceleration, Distance, Radius of Turn

Accuracies Overview

Update Rate	10Hz
Speed	±0.2km/h
Position	±5m day-to-day; ±0.5m lap-to-lap **
Height	±10m
Lateral Acceleration	±0.5%
Longitudinal Acceleration	±0.5%
Radius of Turn	±5cm
Distance	±0.05%
Time Resolution + Accuracy	0.01 s

Velocity

Accuracy	0.2 Km/h (averaged over 4 samples)
Units	Km/h or Mph
Maximum update rate	10 Hz
Maximum velocity	1000 Mph
Minimum velocity	0.1 Km/h
Resolution	0.01 Km/h
Latency	>160ms

Distance

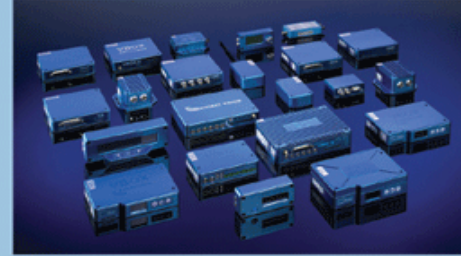
Accuracy	0.05% (<50cm per Km)
Units	Metres / Feet
Maximum update rate	10 Hz
Resolution	1cm
Height accuracy	10 Metres @ 95% CEP**

Heading

Resolution	0.01°
Accuracy	0.2°

Acceleration

Accuracy	1%
Maximum	4 G
Resolution	0.01 G



Definition: ** CEP = Circle of Error Probable

95% CEP (Circle Error Probable) means 95% of the time the position readings will fall within a circle of the stated diameter

Outputs

CAN Bus	1 CAN Channel
Bit rate	125 kbit/s, 250kbit/s, 500kbit/s &
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

Graphics, Sound and Storage

Recording Options

Record only when moving (default); Continuous record; Record start/stop button

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

Resolution Options

DVD 720 x 576 at 25 frames per second PAL (default)
DVD 720 x 480 at 30 frames per second NTSC
CIF 352 x 288
QCIF 176 x 144

Sound

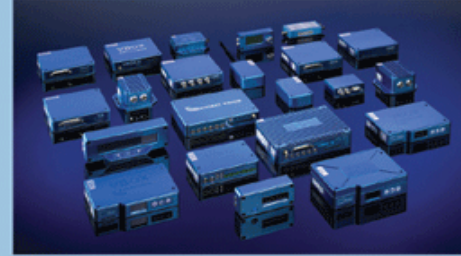
External microphone connection
MP2 (MPEG1 Layer II) encoded into video stream

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. At 2MB/s uses approx. 1GB/hr
For full quality DVD using MPEG-2, set to Max quality. At 8MB/s uses approx. 4GB/hr



Inputs

Inputs	
VCI CAN Input	Allows the user to log one CAN channel

Camera Inputs
2 x AV camera inputs (cameras supplied as an option) with integrated 12v power Picture in picture automatically selected when additional camera is detected

Auxiliary Input	
CAN	Baud rate and message structures completely user programmable, .dbc
RS232	Custom streams can be accommodated – send enquiries to Racelogic
USB 2	Video streaming for camera set-up & preview, SD card reading and setting parameters via a PC

Environmental and Physical

Environmental and Physical	
Input Voltage	9 – 15 V
Power	7.2 W Max
Size	130mm x 122mm x 37mm
Weight	267g
Operating temperature	-10°C to +60°C
Storage temperature	-40°C to +85°C

Software

Software	
Video VBOX LITE Setup:	Configuration software for customising scenes
VBOX Tools and Circuit Tools :	Data analysis software (windows)

Support
One Year Hardware / Lifetime Software Support Contract
Lifetime Software Support Contract is 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 distributor and firmware/software upgrades where applicable.