

VIDEO VBOX

WATERPROOF



Video VBOX Waterproof combines a powerful GPS data logger with a high quality multi-camera video recorder and real-time graphics engine, allowing you to carry out detailed driver training and vehicle analysis whatever the weather.

Housed in a water resistant anodised aluminium casing, Video VBOX Waterproof incorporates a flange and mounting holes to permit users to bolt the rugged system anywhere on their vehicle.



Multi Camera Recording

Video VBOX Waterproof takes video from up to two bullet cameras and combines it with a customisable graphical overlay, **recorded** on to SD card or USB stick in DVD quality.

Data Acquisition

A 10 Hz GPS engine provides parameters such as circuit position, lap timing, speed and acceleration (accurate to ± 0.1 km/h). The CAN interface (which comes with 8 channels as standard) retrieves vehicle data such as throttle angle, RPM and brake pressure.

What is your application?

The robust portability and functionality of **Video VBOX Waterproof** means it is ideal for a variety of applications from automotive testing, to motorsport, driver training and industrial applications. Whether you need a system for race

recording and analysis, or development and verification of Advanced Driver Assistance systems – **Video VBOX Waterproof** offers a new dimension to data logging.

Intuitive software (included)

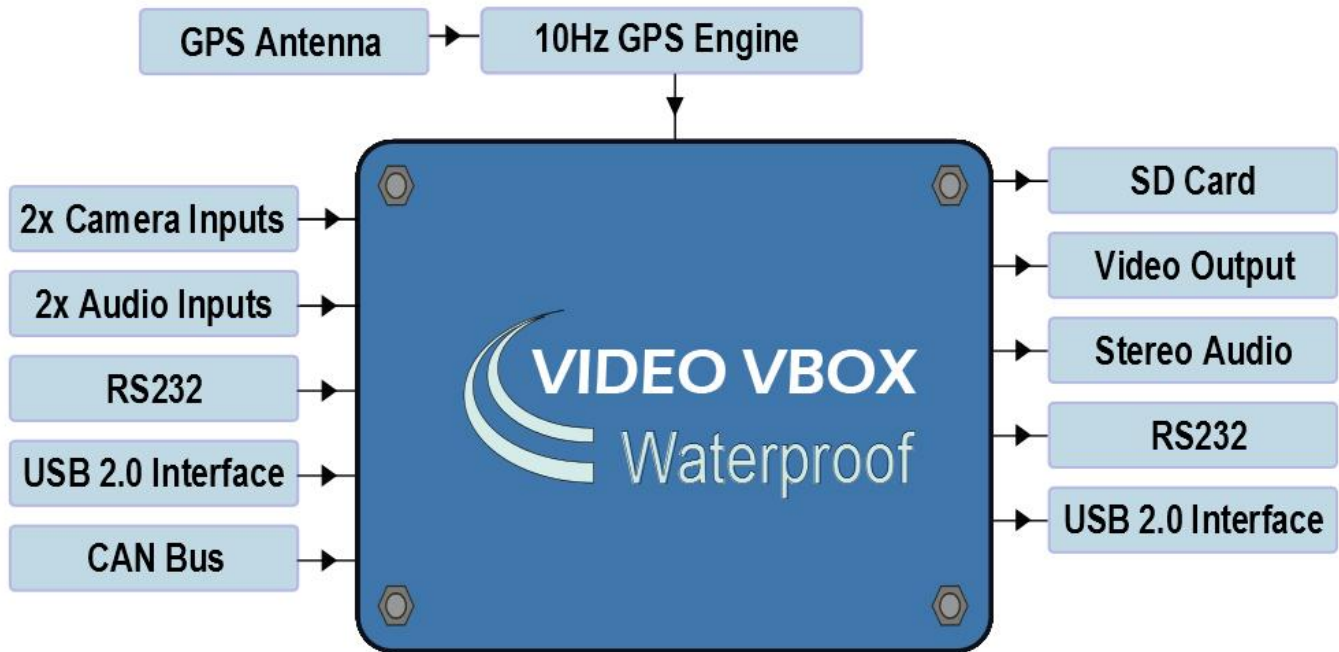
Video VBOX Setup software allows you to choose standard dashboard styles and maps or customise your own. **Circuit Tools** software provides you with an intuitive way to analyse the data recorded by the system alongside the video.

Features

- Built in 10Hz GPS data logger
- 2 camera inputs with configurable picture in picture
- Powerful yet intuitive graphics customisation and analysis software.
- 580L and 420L Bullet Cameras with Hirose connectors
- 8 CAN channels
- USB / SD Card logging and USB 2.0 interface
- Stereo Audio recording
- MPEG4 encoding – approx 2GB 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
- Robust, light aluminium enclosure with internal battery: keeps logging even when power lost for up to 10 s
- Compatible with Racelogic input modules to log RPM and analogue inputs even in vehicles without CAN



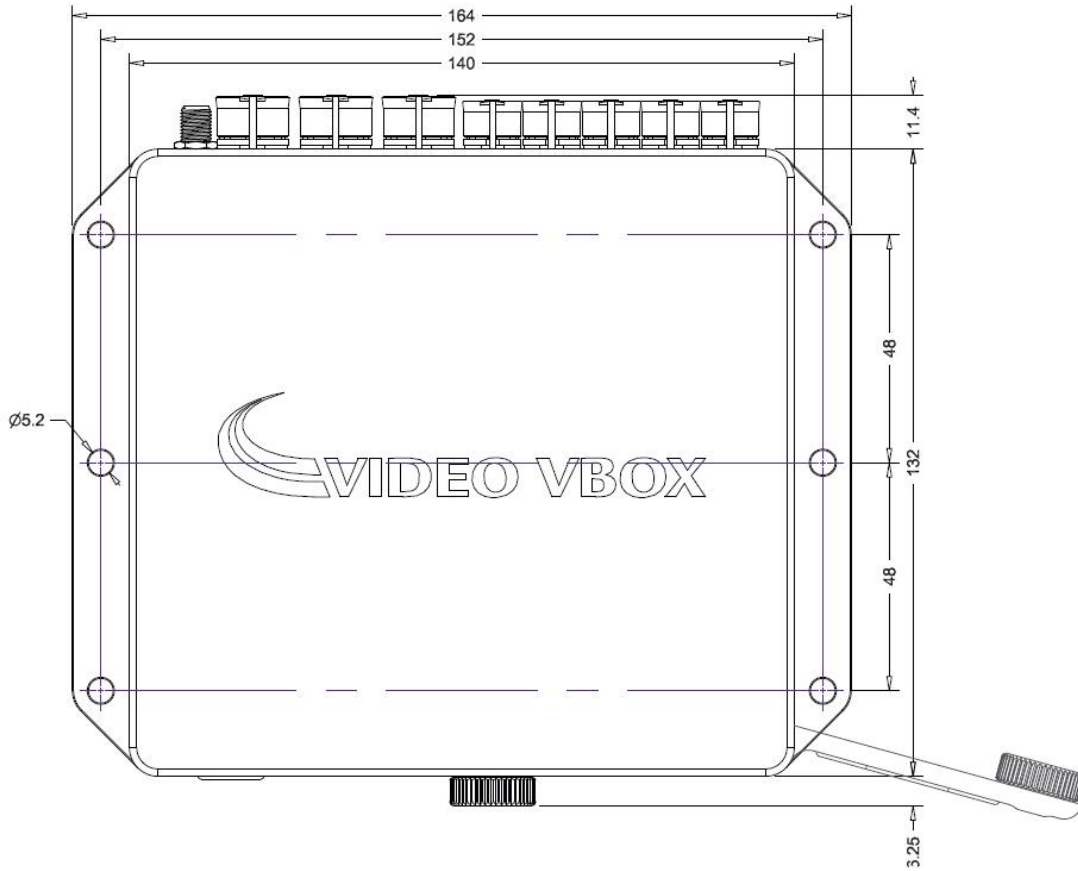
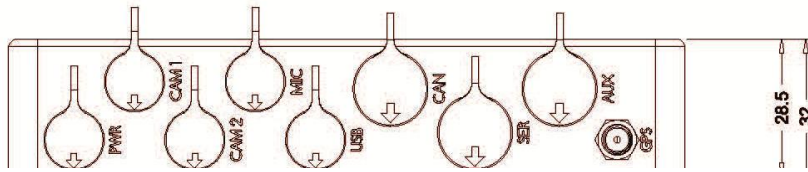
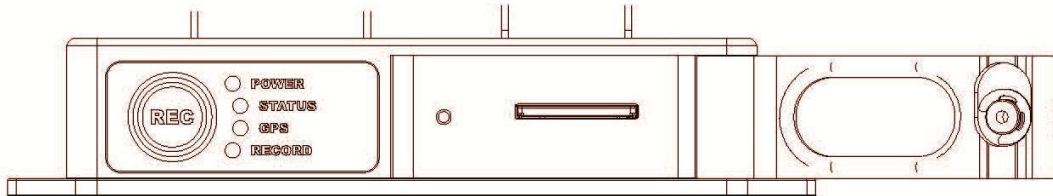
Inputs and Outputs



Inputs	Outputs
2x Camera Inputs (with Hirose connectors) Integrated 12v power. Picture-in-picture automatically selected when additional camera is detected.	SD Card 4Gb card supplied with device
2x Audio Inputs	Video Output
RS232	Stereo Audio
USB Video streaming for camera set-up & preview. SD card reading and setting parameters via a PC	USB Video streaming for camera set-up & preview. SD card reading and setting parameters via a PC
CAN Bus Allows user to log vehicle CAN data: 8 Channels.	

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GPS Specifications

(All data recorded at 10Hz)

Velocity		Distance	
Accuracy	0.2 Km/h (averaged over 4 samples)	Accuracy	0.05 % (<50cm per Km)
Units	Km/h or Mph	Units	Metres / Feet
Update rate	10 Hz	Resolution	1 cm
Maximum velocity	1600 km/h		
Minimum velocity	0.1 Km/h		
Resolution	0.01 Km/h		
Latency	<160ms		

Position		Acceleration	
2D Position	±5m 95% CEP *	Accuracy	0.05 %
Height	10 Metres 95% CEP *	Maximum	4 G
		Resolution	0.01 G

Heading		Lap Timing (OLED/ Circuit Tools)	
Resolution	0.01° over 4 samples)	Resolution	0.01 s
Accuracy	0.2°	Accuracy	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

** Not using DGPS and crossing the start/finish line at 100km/h

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



Resolution Options

DVD 720 x 576 at 25 frames per second PAL (default)
 DVD 720 x 480 at 30 frames per second NTSC

Sound

External microphone connection
 MP2 (MPEG1 Layer II) encoded into video stream
 Stereo audio output with automatic gain control + Line level input

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

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Input Voltage	9 – 15 V	Size	164mmx132mmx32mm
Power	7.2 W Max	Weight	500g
Operating temperature	-10°C to +60°C	Storage temperature	-40°C to +85°C
IP rating	IP66		

Software

Windows software

Video VBOX Setup: Configurable software for customising scenes
Circuit Tools (VBOX Tools available after registration): Data analysis software

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 Video VBOX Waterproof	VD10WP
1x Video VBOX Unterminated power cable	RLCAB014H
1x External GPS Antenna	RLVBACS018
1x 4GB SD Card	RLACS137
1x USB to Mini USB (2m lead)	RLCAB066H
1x Sony 580TVL camera kit (with Hirose connector) – inc. light weight mount	RLACS134H
1x Sony 420TVL camera kit (with Hirose connector) – inc. light weight mount	RLACS135H
2x Dual mono Microphone (2.5m lead)	RLACS133H2
1x Forward facing camera mount	RLACS116