VBOX Video HD2

RLVBVDHD2-1/RLVBVDHD2-2/ RLVBVDHD2DSP

VBOX Video HD2 is the ultimate in video data logging for those who want to achieve better lap times and greater consistency at the wheel.

The system consists of dual 1080p cameras, allowing for a main view with embedded picture-in-picture. The lenses are wide angle, ensuring that every moment of track action is captured in stunning high definition – so analysis in Circuit Tools is now even more precise. Video is recorded at 30 frames per second, to SD card or USB flash drive.

Graphics are overlaid in real time – also in high definition. With the high resolution afforded by the 1080p output, this gives the user great scope for fantastic dashboard and gauge layouts. The graphics are fully customisable but several default scenes are available.

An app for Android and iOS devices connects via the VBOX Video's inbuilt WiFi to allow fine-tuning of camera orientation, with real time camera output being displayed on the mobile device's screen.

By default, the system will start and stop logging according to GPS speed. With the addition of the video pre-buffer, this allows every moment of track action – including race starts - to be captured automatically. Optional remote start/stop logging is taken care of via a Bluetooth unit that can be conveniently mounted next to the driver.

An internal battery allows the current file to be correctly closed should power be lost during recording, ensuring that no data loss or corruption occurs.

VBOX Video HD2 represents the very latest in cutting edge technology within the VBOX Motorsport range, giving you a competitive advantage no matter what level of motorsport you compete in.

Features

- Dual Camera 1080p system
- 10Hz GPS data logging
- Records to SD card or USB
- Predictive Lap Timing (with OLED display)
- Real time, high definition graphic overlay
- MP4 video & audio recording
- Internal power backup for reliable recording
- Powerful data analysis software
- Up to 32 CAN channel inputs
- USB 2.0 host interface (for recording to USB flash drive)
- Camera preview over WiFi
- Bluetooth LE connectivity

VBOX MOTORSPORT
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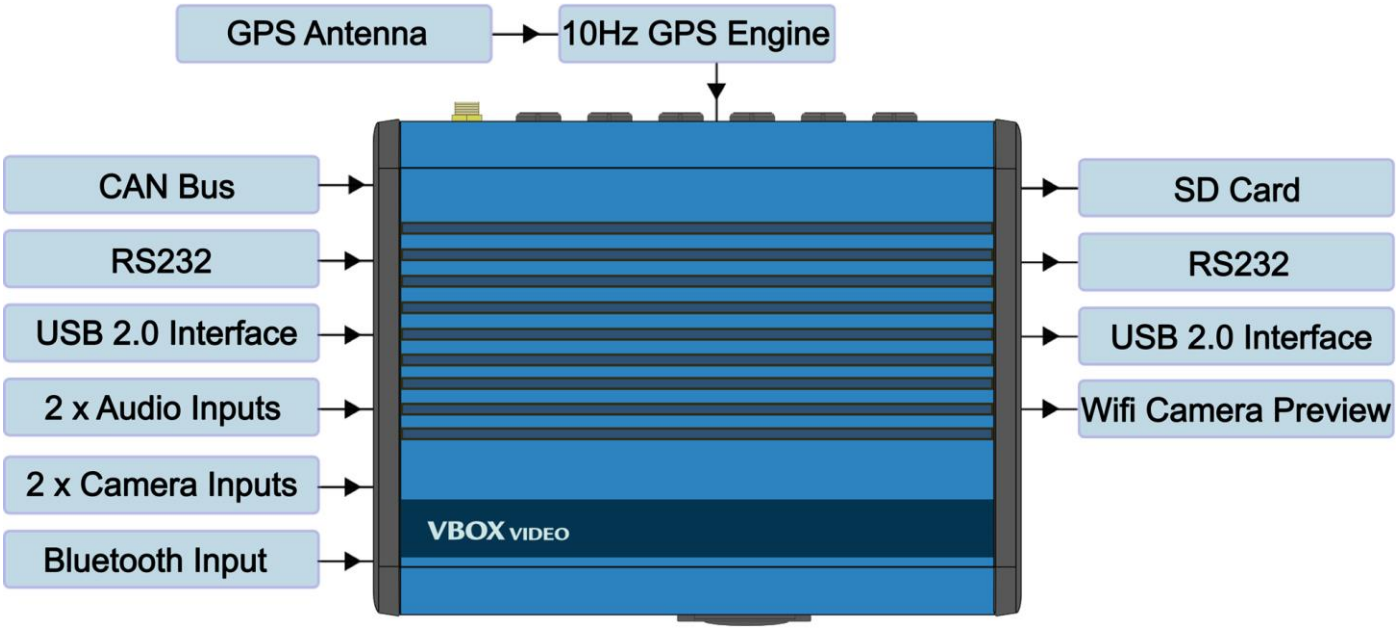
Interfaces



Interfaces

- 2x Camera Inputs
- SD Card – fast 32GB card supplied with device
- USB 2.0 Host Interface – for recording to USB flash drives
- WiFi – for camera setup/preview
- 2x Audio Inputs
- RS232 - for communication with OLED Display
- CAN Bus – allows user to log up to 32 CAN signals
- Bluetooth LE – for start/stop logging switch

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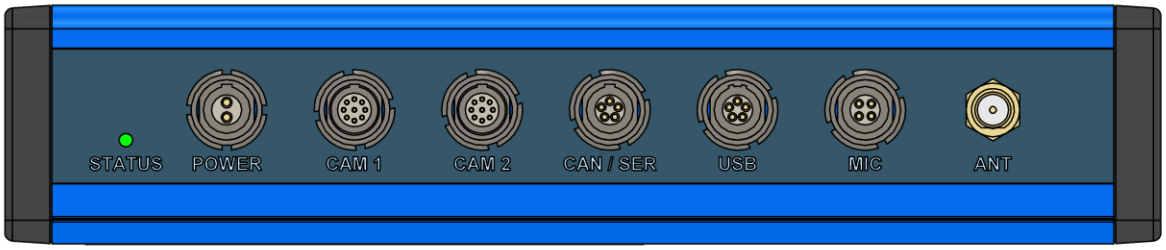

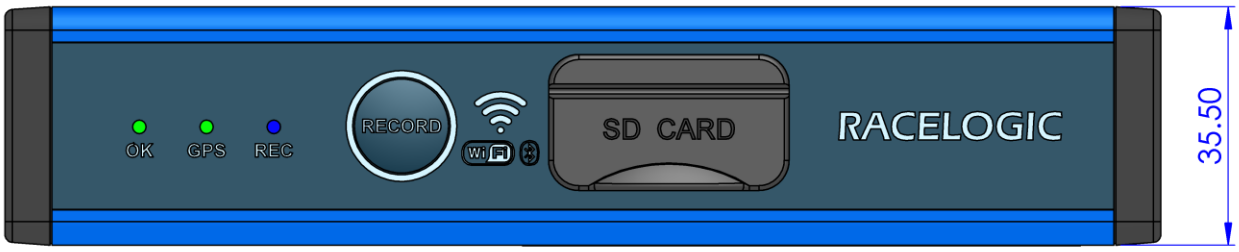

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GPS Specifications

10Hz system (All data recorded at 10Hz)

Velocity		Distance	
Accuracy	0.1 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	0.5 km/h		
Resolution	0.01 km/h		

Position		Acceleration	
2D Position	±3m 95% CEP[1]	**Accuracy**	1 %
Height	±10m 95% CEP[1]	**Maximum**	4 g
		Resolution	0.01 g

Heading		Lap Timing (OLED/ Circuit Tools)	
Resolution	0.01°	**Resolution**	0.01 s
Accuracy	0.3°	**Accuracy**	0.01 s[2]

Definitions

[1] CEP = Circle of Error Probable - 95% CEP means 95% of the time the position readings will fall within a circle of the stated radius

[2] Not using DGPS and crossing the start/finish line at 100km/h

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Graphics, Sound and Storage

Recording Options
Record only when moving (default); continuous record; manual record via front button or Bluetooth remote start/stop button
Video Buffering
Up to 30 seconds of video pre-buffering provided, configurable in software (default setting 10 seconds)

Graphics
24bit colour plus 256 levels of alpha transparency
User-customisable 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, bar graphs, etc.
User definable gauges, bar graphs etc.
Alerts: Text and images can change when a parameter is over/under the desired limit

Resolution Options
1920 x 1080p at 30 frames per second

Sound
External microphone connection
Stereo audio recording with automatic gain control & line level input option

Compression Options
3 levels of quality – High, Medium and Low
Bit rates: 16Mb/s (high); 12Mb/s (medium); 6Mb/s (low). Typical values – can vary according to conditions

Memory usage
7.2GB per hour (high); 5.4GB per hour (medium); 3.5GB per hour (low). Typical values – can vary according to conditions

Storage Options
SD card (Fast SD card required) – up to 128GB supported
Optional USB adaptor for USB flash drives (fast USB drive required)

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Environmental and Physical

Environmental and Physical			
Input Voltage	8-30VDC	**Size**	172mmx132mmx36mm
Power	25W Max	**Weight**	870g
Operating temperature	0°C - 50°C (recorder) -10°C - 60°C (camera)	**Storage temperature**	-20°C to +85°C

Software

Windows software
VBOX Video Setup: Configurable software for customising scenes
Circuit Tools (VBOX Test Suite also available after product 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

(RLVBVDHD2-2: two-camera system)

Description	Product Code
1x VBOX Video HD2 Recorder Unit	VBVDHD2-V1
2x VBOX Video 1080p Camera	RLACS222
1x VBOX Video mono microphone – 2.5m	RLACS221
2x Lightweight Windscreen Suction Mount	RLACS125
1x Lemo 2W Plug – Cigar Plug – Power cable - 2m	RLCAB010L
1x GPS/Glonass Magnetic Mount Antenna with 3m cable	RLACS220
2x VBOX Video HD2 Camera Clamp	MECH0275
2x VBOX Video HD2 Camera Clamp Strap	MECH0276
1x 32GB SDHC Card (Class 10)	RLACS231

Optional extras include: OLED Display, Bluetooth start/stop logging switch, stereo microphone, stereo mic splitter, CAN/RS232 splitter, roll cage mounts, unterminated power supply cable.