VBOX Video HD2

RLVBVDHD2

The new **VBOX Video HD2** system from RACELOGIC moves video data logging technology onto the next level and will once again be highly beneficial in the world of automotive testing.

Dual cameras record 1080p video at up to sixty frames per second and the output is, as you would expect, perfectly synchronised with 10 Hz GPS data. The graphical overlay – also high definition – is produced in real time, embedded within the footage, and is entirely customisable by the user. One of the benefits of a 16:9 HD output is that multiple parameters can be displayed simultaneously without impinging on what the cameras are recording, so the graphically enhanced video not only has greater impact, but it also imparts a great deal of information.

Greater processing power also means that the number of incoming CAN channels has increased to eighty – the greatest CAN logging capacity of any VBOX to date and especially useful for those carrying out validation of complex vehicle systems, particularly in the world of ADAS/autonomous development. Having this much information available with synchronised video is also highly advantageous in post processing, as it is possible to display a small number of channels within the footage itself but log many more for later software analysis.

An app for Android and iOS devices connects via the VBOX Video's inbuilt Wi-Fi 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 all motion 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.

Features

- Dual Camera 1080p system
- 10 Hz GPS data logging
- Records to SD card or USB
- Up to 80 CAN channel inputs
- Real time, high-definition graphic overlay
- MP4 video & audio recording

- Internal power backup for reliable recording
- Powerful data analysis software
- USB 2.0 host interface (for recording to USB flash drive)
- Camera preview over Wi-Fi
- Bluetooth connectivity

Inputs/ Outputs

IN

- **2x Camera Inputs** (CAM 1 / CAM 2)
  Resolution: 1920 x 1080p at 30 (default) or 60 frames/second;
  FOV: 148° horizontal, 86° vertical, 163° diagonal

- **Audio Input** (MIC)
  Stereo audio recording with automatic gain control & line level input option

- **Bluetooth LE**
  for start/stop logging switch or OBD dongle

- **RS232** (CAN / SER)
  for communication with OLED Display

- **CAN Bus** (CAN / SER)
  allows user to log up to 80 CAN signals

OUT

- **SD Card**
  Fast 32 GB card supplied with device
  Fast SD card required – tested up to 512 GB supported

- **USB 2.0 Host Interface**
  for recording to USB flash drives
  Fast USB drive required

- **Wi-Fi**
  for camera setup/preview

- **RS232** (CAN / SER)
  for communication with OLED Display

VBOX AUTOMOTIVE

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GPS Specifications
10 Hz system (All data recorded at 10 Hz)

Velocity		Distance	
Accuracy	0.1 km/h (averaged over 4 samples)	Accuracy	0.05 % (<50 cm 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	±3 m 95 % CEP[1]	Accuracy	1 %
Height	±10 m 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 100 km/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

- 24-bit 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

Compression Options

- 3 levels of quality – High, Medium, and Low
- Bit rates: 16 Mb/s (high); 12 Mb/s (medium); 8 Mb/s (low).
  Typical values – can vary according to conditions

Memory usage

Typical values – can vary according to conditions

- 7 GB per hour (high)
- 5.25 GB per hour (medium)
- 3.5 GB per hour (low).

Storage Options

- SD card (Fast SD card required) – tested up to 512 GB
- Optional USB adaptor for USB flash drives (fast USB drive required)

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Environmental and Physical

Environmental and Physical			
Input Voltage	8 – 30 V DC	Size	172 x 132 x 36 mm
Power	25 W Max	Weight	870 g
Operating temperature	Recorder: 0 – 65°C (for temperatures of 50 – 65°C, the Harsh Environment Fan Accessory is recommended) Camera: -10°C to +60°C **IMPORTANT** - The ambient operating temperature should not exceed 65°C		
Storage temperature	-20°C to +85°C		
IP Rating	IP50		

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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 Content Example

RLVBVDHD2-2: Two-Camera System

Description	Product Code
1x VBOX Video HD2 Recorder Unit	VBVDHD2-V5
2x VBOX Video 1080p Camera (IP65)	RLACS222
1x VBOX Video mono microphone – 2.5 m	RLACS221
2x Lightweight Windscreen Suction Mount	RLACS287
1x Un-terminated Power Supply Cable – 2 m	RLCAB010LE
1x GPS/GLONASS/Galileo Magnetic Mount Antenna with 3 m cable	RLACS262
2x VBOX Video HD2 Camera Clamps	RLACS269
1x 32 GB SDHC Card (Class 10)	RLACS231

Optional extras include OLED Display, Bluetooth start/stop logging switch, stereo microphone, stereo mic splitter, CAN/RS232 splitter, Clip-on CAN interface, unterminated power supply cable, tyre temperature sensors, and more.

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