VBOX Video HDMI

RLVBVDHD2-H (V10)

The **VBOX Video HDMI** 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.

The system features 2 camera inputs, allowing for a main view with embedded picture-in-picture. Video is recorded at 30 frames per second to SD card or USB flash drive, and the output is perfectly synchronised with the **25 Hz GPS data**. The **HD graphical overlay** is produced in real time, embedded within the footage, and is entirely customisable by the user.

With up to **80 CAN channel inputs**, the unit is 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.

The HDMI output allows you to **stream real-time video and audio** to an HDMI compatible monitor, recorder, or streaming device, such as the LiveU Solo. The live footage can be shared with engineers outside the test vehicle or departments working remotely.

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.

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
- 25 Hz GNSS data logging
- Up to 80 CAN channel inputs
- HDMI video output for live streaming
- Records to SD card or USB
- Real-time, high-definition graphic overlay
- 1080p 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
- Lifetime support

VBOX AUTOMOTIVE

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www.vboxautomotive.co.uk

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Inputs/ Outputs

IN

- **2x Camera Inputs**
  FOV: 119° horizontal, 68° vertical, 135° diagonal

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

- **Bluetooth**
  for start/stop logging switch, heart rate monitor 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

- **HDMI video output** (side connector)
  HDMI 1.3 with EIA/CEA-861-D video format support, max. pixel rate of 74.25 MHz at 1080p30

- **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

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GPS Specifications

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	25 Hz	**Resolution**	1 cm
Maximum velocity	1800 km/h		
Resolution	0.01 km/h		

Position		Acceleration	
2D Position	±2 m 95 % CEP[1]	**Accuracy**	1 %
Height	±4 m 90 % 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 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)

HDMI

- HDMI 1.3 with EIA/CEA-861-D video format support
- Max. pixel rate: 47.25 MHz at output resolution of 1920 x 1080 30 Hz
- Audio Channels: Stereo LPCM 16 bits
- Audio Sample Rate: 48 kHz

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Environmental and Physical

Environmental and Physical			
Input Voltage	8 – 30 V DC	**Size**	178 x 143 x 35.5 mm See diagram below
Power	25 W Max	**Weight**	870 g (approx.)
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	IP 50		
Dimensions			

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Software

Windows software
• **VBOX Video Setup:** Configurable software for customising scenes • **VBOX Test Suite: D**ata analysis software

Package Content Example
RLVBVDHD2-H: Two-Camera System

Description	Product Code
1x VBOX Video HD2 HDMI Unit	VBVDHD2-V10
2x VBOX Video Camera (IP65)	RLACS329
1x VBOX Video mono microphone – 2.5 m	RLACS221
2x Lightweight Windscreen Suction Mount	RLACS287
1x Cigar Plug Power Supply Cable – 2 m	RLCAB010LE
1x GPS/GLONASS/Galileo Magnetic Mount Antenna with 3 m Cable	RLACS262
2x VBOX Video HD2 Camera Clamp	RLACS269
1x 32 GB SD Card (CL10 UHS-1)	RLACS231
1x HDMI cable with locking screws (2 m)	RLCAB190

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, tyre temperature sensors, and more.

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