VBOX Video HDMI

RLVBVDHD2-H (V10)

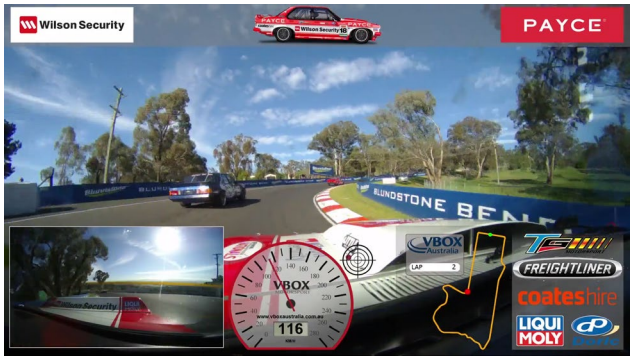
VBOX Video HDMI is the ultimate in video data logging for those who want to achieve better lap times and greater consistency at the wheel. The system consists of dual 1080p cameras, allowing for a main view with embedded picture-in-picture. The lenses are wide angle, ensuring that every moment of track action is captured in stunning high definition. Video is recorded at 30 frames per second to SD card or USB flash drive.

The HDMI output allows you to stream real-time video and audio to an HDMI compatible monitor, recorder, or streaming device such as LiveUSolo. This is ideal for live coverage of motorsport events for TV or social media and provides race teams with the ability to give instant driver feedback.

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.

Graphics are overlaid in real-time and high definition. This gives the user great scope for fantastic dashboard and gauge layouts. The graphics are fully customisable, but several default scenes are available.

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. An optional remote start/stop logging switch 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
- 25 Hz GPS data logging
- HDMI video output
- Records to SD card or USB
- Predictive Lap Timing (with OLED display)
- Real-time, high-definition graphic overlay
- MP4 video & audio recording
- Compatible with AiM dashboards
- Built-in Track database
- VideoSplit - simple to use video editing software to help you share laps and data with friends and on social media.
- Internal power backup for reliable recording
- Powerful data analysis software
- Up to 80 CAN channel inputs
- USB 2.0 host interface (for recording to USB flash drive)
- Camera preview over Wi-Fi
- Bluetooth connectivity

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Inputs/ Outputs

IN

- **2x Camera Inputs** (CAM 1 / CAM 2)
  Resolution: 1920 x 1080p at 30 frames/second; FOV: 119° horizontal, 68° vertical, 135° diagonal
- **Audio Input** (MIC)
  Stereo audio recording with automatic gain control & line level input option
- **Bluetooth**
  for 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 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).

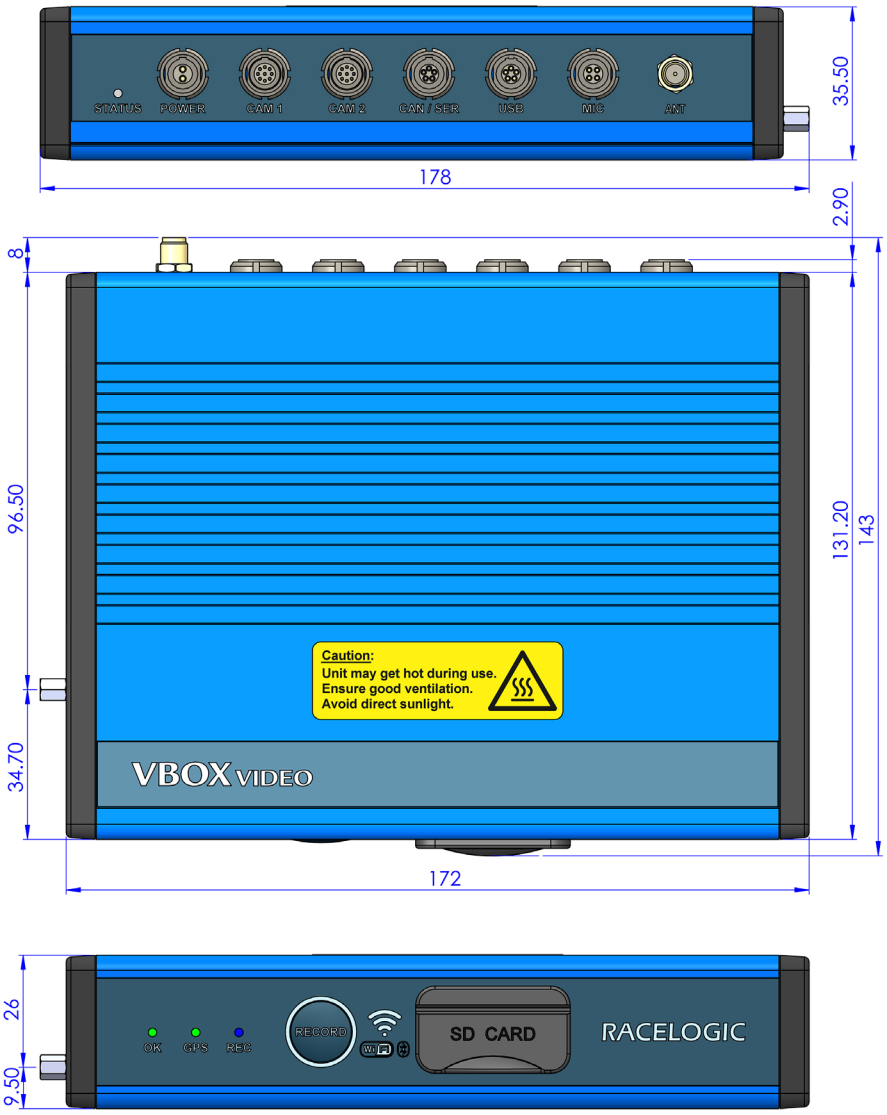
Storage Options

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

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 bit
- Audio Sample Rate: 48 kHz

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 • **Circuit Tools (VBOX Test Suite also available after product registration):** data analysis software

Package Content Example

RLVBVDHD2-H: Two-Camera System

Description	Product Code
1x VBOX Video HD2 HDMI Unit	VBVDHD2-V10
2x VBOX Video 1080p 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 (Class 10)	RLACS231
1x HDMI cable with locking screws (2 m)	RLCAB190

OLED bundle is available.

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.