

Video VBOX Pro (20 Hz)

RLVD20P

Video VBOX Pro combines a powerful GPS data logger with a high-quality multi-camera video recorder and real-time graphics engine.

Its 20 Hz GNSS engine provides parameters such as circuit position, lap timing, speed (accurate to ± 0.1 km/h), and acceleration. The optional 32-channel CAN interface retrieves vehicle data such as throttle angle, RPM, and brake pressure.



Video VBOX Pro records video files in AVI format along with synchronised VBO data. All files are saved to an SD card.

Whether you need a system for race analysis, or for development and verification of Advanced Driver Assistance systems – **Video VBOX Pro** offers a new dimension to data logging.



Video VBOX 4 camera system used in Driver Experiences



Video VBOX 4 camera system used to test Blind Spot Detection

The setup software supplied with the system allows you to choose standard dashboard styles and maps or customise your own. The **VBOX Test Suite** software provides an intuitive way to analyse the data recorded by the system alongside the video.

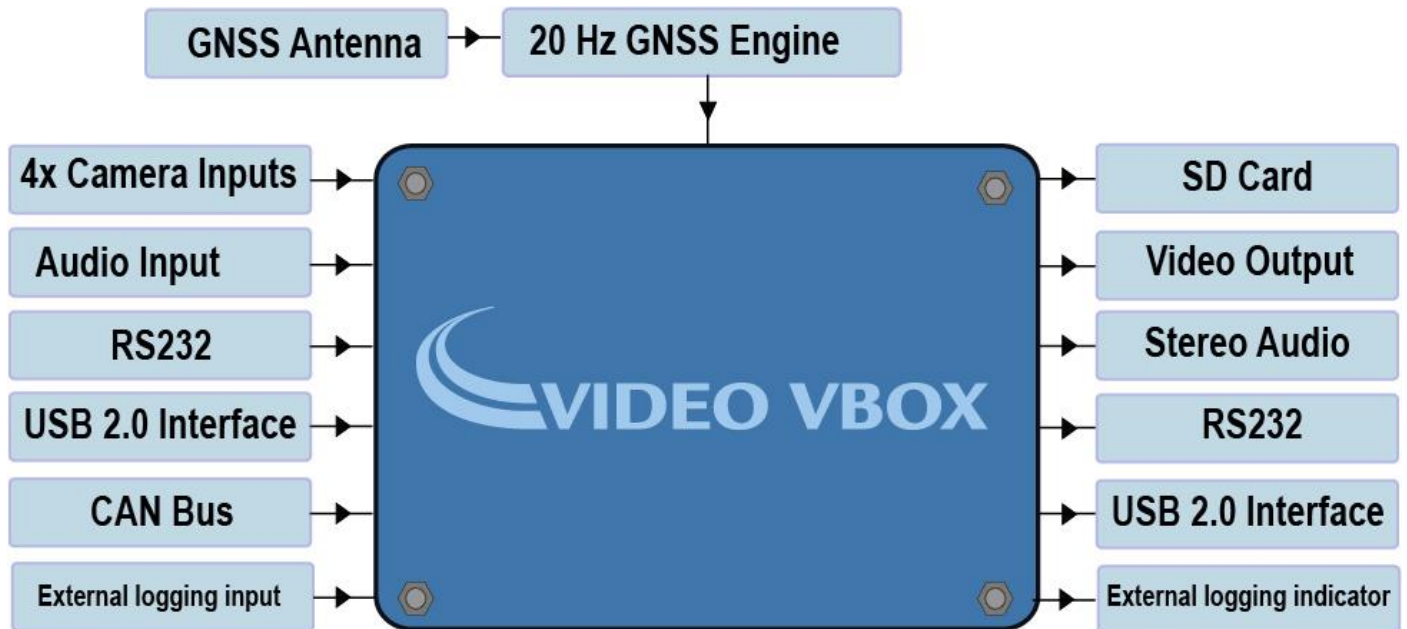
Features

- Built in 20 Hz GNSS data logger
- Up to 4 camera inputs with configurable picture in picture
- Powerful yet intuitive graphics customisation and analysis software.
- 8 CAN channels (upgrade for 32 channels available)
- USB / SD Card logging and USB 2.0 interface
- Stereo Audio recording
- 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

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Inputs and Outputs



Inputs	Outputs
4x Camera Inputs Integrated 12 V power. Picture-in-picture automatically selected when additional camera is detected.	SD Card 8 GB card supplied with device. The format used by Video VBOX is FAT32 .
1x Audio Input Stereo or mono	Video Output
RS232	Stereo Audio
USB Video preview for camera set-up. SD card reading and setting parameters via a PC	RS232
CAN Bus Allows user to log vehicle CAN data: 8 Channels. Upgradeable to 32 CAN Channels.	USB 2.0 Interface Video preview for camera set-up. SD card reading and setting parameters via a PC
External Logging Input Additional module is required, e.g., Micro Input Module (MIC01)	External Logging Indicator

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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	m / ft
Update rate	20 Hz	Resolution	1 cm
Maximum velocity	1600 km/h		
Minimum velocity	0.1 km/h		
Resolution	0.01 km/h		
Latency	<41.5ms		

Position (2D)		Acceleration	
Standalone	0.6 m 95% CEP*	Accuracy	0.5 %
Accuracy with SBAS	0.3 m 95% CEP*	Maximum	4 G
		Resolution	0.01 G

Heading		Lap Timing (OLED/ Circuit Tools)	
Resolution	0.01°	Resolution	0.01 s
Accuracy	0.1°	Accuracy	0.01 s **

* 95% CEP (Circle of Error Probable) 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 100 km/h

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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

24-bit 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 2 MB/s, 0.5 MB/s or 0.25 MB/s for full frame DVD

Memory usage

For full quality DVD using MPEG-4 set to High quality. Uses approx. 2GB/hr

Storage Options

SD card (Fast SD card required for Max and Super quality settings)

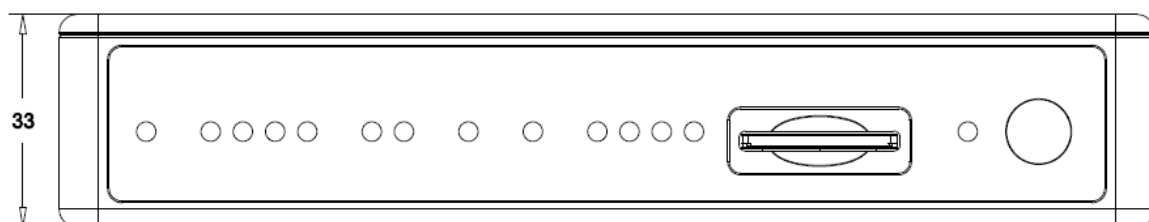
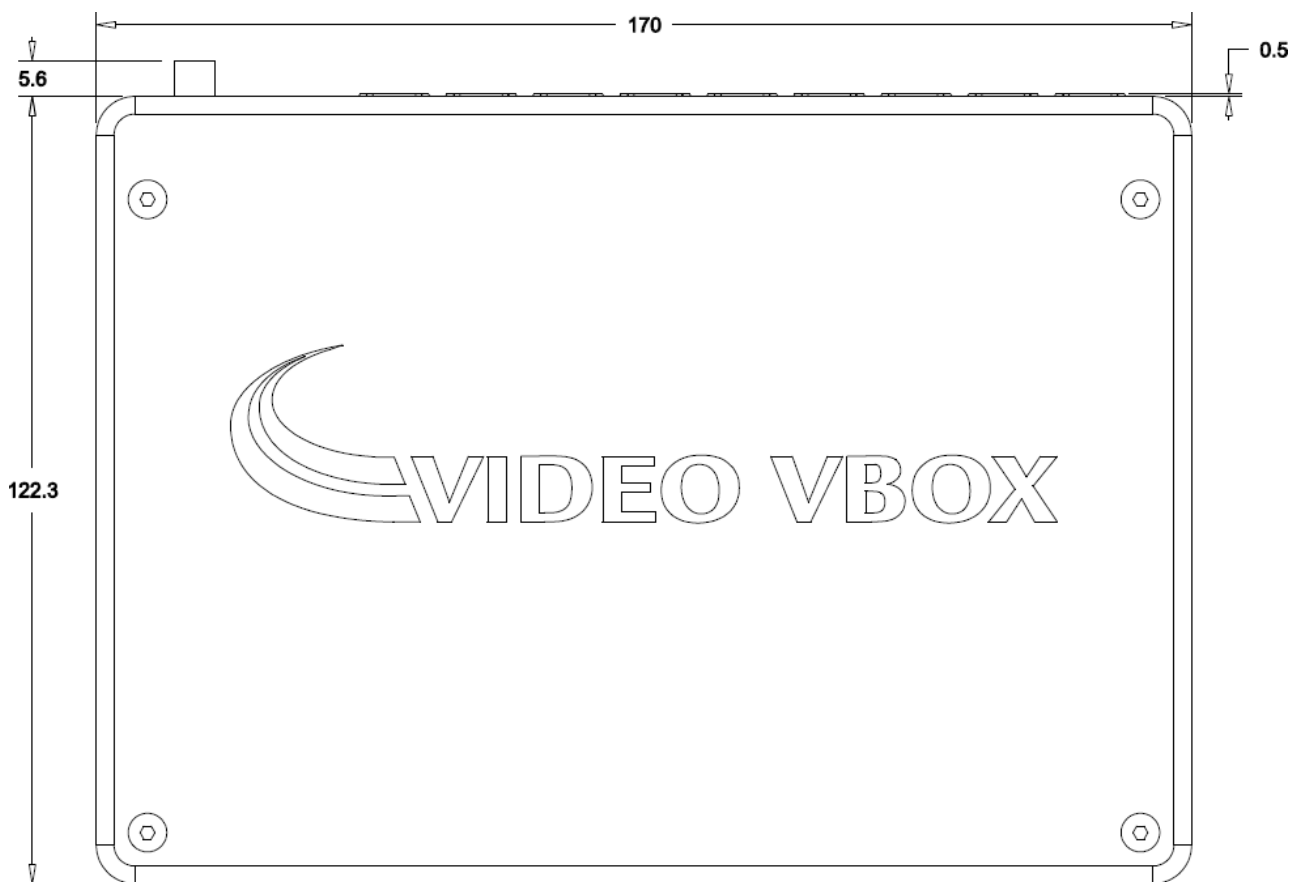
Optional USB adaptor for USB flash drives

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Environmental and Physical

Environmental and Physical			
Input Voltage	9 – 15 V Note that a min. 12 V is required for recording!	Size	170 x 122 x 33 mm
Power	7.2 W Max	Weight	700 g
Operating temperature	-10°C to +60°C	Storage temperature	-40°C to +85°C



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Software

Windows software

Video VBOX Setup: Configurable software for customising scenes

Circuit Tools / VBOX Test Suite: 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

(4-camera system example – RLVD20P4PV)

Description	Product Code
1 x Video VBOX Pro (with full VCI)	VD20P-V3
1x Cigar plug power cable (2 m)	RLCAB010LE
1x Unterminated power/ data cable (2 m)	RLCAB015L
1x Country-specific mains power supply	RLVBACS020
1x External GNSS Antenna (5 m cable)	RLVBACS018
1x 8 GB SD Card	RLACS313
1x USB configuration cable (2 m)	RLCAB072
4x Sony 580TVL cameras - inc. light weight suction mounts	RLACS140
1x Forward facing camera mounting ring	RLACS116
2x Dual mono Microphone (2.5 m lead)	RLACS133
1x Stereo Audio Input Splitter	RLCAB095
1x Carry Case	RLACS117