

MoTeC

V2 VIDEO KIT



MoTeC's V2 Video Kit is a robust High Definition video recording system designed specifically for motorsport. The V2 unit itself is compact and lightweight, housing the high quality camera and recording components, while the kit provides the mounting hardware and accessories to make installation quick and easy.

► FEATURES

- Genuine high definition with 1080p @ 30 frames per second
- Automatic Start/Stop - eliminates the reliance on drivers to turn it on/off (it's easy to forget)
- Uses vehicle power - no batteries to recharge
- Live gauges automatically recorded on the video - no post processing required
- Extremely compact and lightweight all-in-one camera and recording unit - only 100gms (exc. mounts)
- Flexible roll cage mounting system (compatible with some GoPro mounting hardware)
- Over 14 hours recording at 1080p
- Records to removable storage up to 32GB
- Video can be played directly from the card
- Automatic CAN synchronisation with data in i2.



The V2 will not operate with SD cards larger than 32GB.

Note: This product is not suitable for marine use or exposure to wet environments. See [External Use](#).

► KIT CONTENTS

- 18211 – V2 VIDEO RECORDING UNIT
- 61287 – V2 VIDEO POWER AND COMM LOOM
- 61288 – 32 GB MICRO SD CARD WITH SD CARD ADAPTOR
- 65096 – V2 VIDEO MOUNTING KIT
- 65097 – V2 CAMERA MOUNT

► SPECIFICATIONS

Communications

- CAN: 1 Mbit/sec, 500k/sec, 250k/sec

Power supply

- Operating voltage (from vehicle): 11 to 18V

Operating temperature

- Internal: -10°C to 70°C

Physical

- Case size (mm): 70 x 50 x 36
- Case material: anodized aluminum
- Recording media: removable 32GB micro SD Card
- Weight: 100gms (unit only)

Recording formats

- 1080p: 1920 x 1080 @ 30 fps (default)
- 1080p: 1920 x 1080 @ 25 fps
- 720p: 1280 x 720 @ 60 fps
- 720p: 1280 x 720 @ 50 fps
- 720p: 1280 x 720 @ 30 fps
- 720p: 1280 x 720 @ 25 fps

On-screen data overlay

Depending on installed sensors, data can be overlaid on the video. Channels are overlaid by selecting from supplied gauge sets.

▶ V2 VIDEO MANAGER

V2 Video Manager software is used to configure the video, audio, CAN and on screen display, as well as the Start/Stop recording conditions. This configuration is then saved to the micro SD card for loading into the V2 unit.

Please see the separate "V2 Video Manager Quick Start Guide" for setup instructions.

▶ COMPATIBILITY

- MoTeC Data Loggers: C125, C127, C1212, C185, C187, C1812, CDL3, SDL, SDL3, ADL, ADL2, ADL3 and ACL
- MoTeC M1 Series ECUs (depending on Package)
- MoTeC "Hundred Series" and M84 ECUs
- Other manufacturers' devices may be compatible over CAN, however data sync in i2 won't work

The V2 can be used standalone, but no data will be overlaid onto the video footage.

▶ CONNECTOR AND PINOUT

Power/Communications - 5 pin Autosport Connector

Mating Connector: MoTeC #65033

Pin	Name	Function	Wire Colour
1	Bat +	Battery positive	Yellow
2	Bat -	Battery negative	Black
3	CAN LO	CAN Low	Green
4	CAN HI	CAN High	White
5		Not connected	Brown

⇒ Note: The brown wire in the supplied loom is not used and can be cut off.

▶ USAGE GUIDELINES

Operation and indicators



⚠ Never remove the micro SD Card if the LED is either ON or flashing. This can corrupt the card, cause video loss. Always power OFF the unit before removing the SD Card.

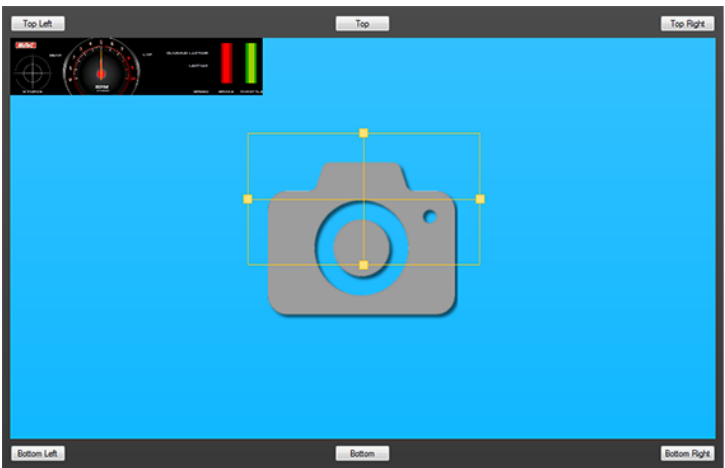
To insert the micro SD Card, push in with your finger until locked in place. To remove, push and release to pop the card out. Do not use a mechanical instrument, such as a pen or screwdriver to insert or remove the card as this may cause damage.

The LED indicates the status as described below.

State	LED
Powering ON or powering OFF	ON solid for a few seconds, orange then red
Powered up, ready to record, but not yet recording	Flashes green ON for 3 seconds and OFF for 0.2 of a second
Powered up and currently recording	Flashes red ON and OFF every 0.5 of a second

Overlaid Gauges

The V2 can record with live gauges overlaid onto the video. This feature is turned on or off in the V2 Video Manager software. There are several gauge sets to choose from and 6 possible positions along the top and bottom of the video window.



The values of the gauges are transmitted by a MoTeC logging device to the V2 using a standard CAN Communications template that is provided with the Dash Manager software.

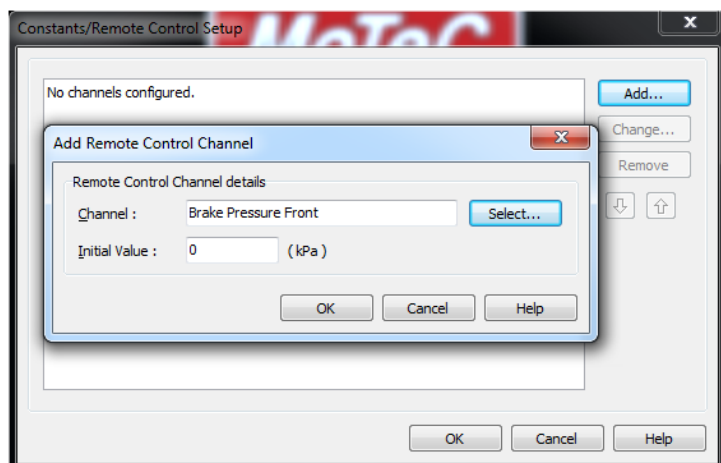
CAN Communications Template

The Communications template is called *v2_transmit_0x01F_version1*. This template is included with the latest versions of Dash Manager products. If you don't have a copy of this template with your current version of Dash Manager, contact your MoTeC dealer for the latest version.

➔ **Note:** Templates with imperial units and M1 channel names are also available on request.

To transmit the required channels to the V2 from the MoTeC Display/Logger, add the *v2_transmit_0x01F_version1* template into the appropriate CAN bus on your Display/Logger configuration.

Ensure that all channels being sent are being generated. If a channel needs to be sent to the Display/Logger, but isn't being generated by your configuration, set the channel up as a constant, as shown in the following example.



V2 Diagnostics

To receive diagnostic information from the V2, add the *v2_receive_0x01D_version1* template to the appropriate CAN bus in your Display/Logger configuration.

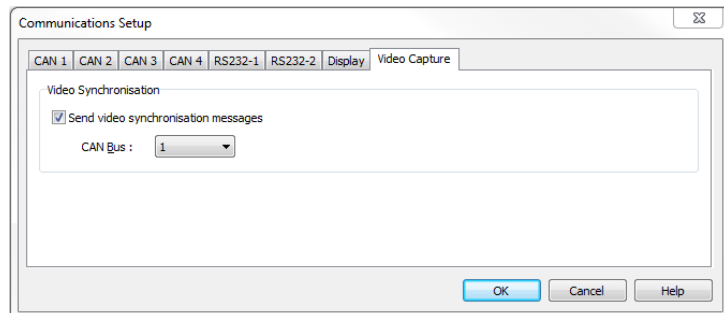
V2 Diagnostic Channel States

Channel Value	Description
0	Initialising
1	Priming video front end
2	Stopped - ready to record
3	Recording
4	Power interrupt
5	Power fail
6	Disk full
7	Abort

Video Sync

MoTeC's i2 Data Analysis software is able to synchronise V2 video with data from the logging device. For this to work correctly the logger must send "sync" messages to the V2 via CAN. The logging device must be configured to send these messages on the CAN bus to which the V2 is wired.

In Dash Manager, go to **Connections > Communications... > Video Capture**. Tick the option to *Send video synchronisation messages* and select the applicable CAN bus.



Recording Modes

Recording modes are managed in the V2 Video Manager software.

The default recording mode is: 1900 x 1080p @ 30 FPS.

See [Specifications](#) for alternative modes.

Start/Stop Recording

The default automatic Start/Stop conditions are:

Starts recording when:

Ground speed > 40

OR

Engine RPM > 2000

Stops recording when:

Ground speed = 0 for 20 seconds

AND

Engine RPM = 0 for 20 seconds

These conditions can be modified in V2 Video Manager.

EXTERNAL USE

If the V2 recording unit is mounted outside the vehicle, please note that wind noise may affect audio quality.

The V2 video camera must not be used externally in rain or in conditions where moisture could impact the device. If exposed to a wet environment, the unit will be susceptible to fluid entry which could cause irreparable damage. Water damage is not warrantied by MoTeC. Please note that for this reason the V2 Video System is not suitable for marine use.

► INSTALLATION INSTRUCTIONS

For correct operation, the supplied ferrite core must be secured to the V2 cable using the supplied cable tie.

Step 1.

Fix the supplied cable tie to the connector end of the V2 cable in the location shown, cutting off any excess tie.



Step 2.

Position the cable into the ferrite core, with the cable tie sitting in the end channel. There is no "right way up" for the ferrite core; it can be used either way.



Step 3.

Close the ferrite core around the cable, locking the cable tie into place. Ensure the tabs "click" shut.

The ferrite core can be reopened if required.



► WARNING

This is a class A product. In a domestic environment this product may cause radio interference, in which case the user may be required to take adequate measures.

This device is granted for use in mobile only configurations in which the antennas used for this transmitter must be installed to provide a separation distance of at least 20cm from all persons and not be co-located with any other transmitters except in accordance with FCC and Industry Canada multi transmitter product procedures.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

► DIMENSIONS AND MOUNTING

Measurements in mm.

