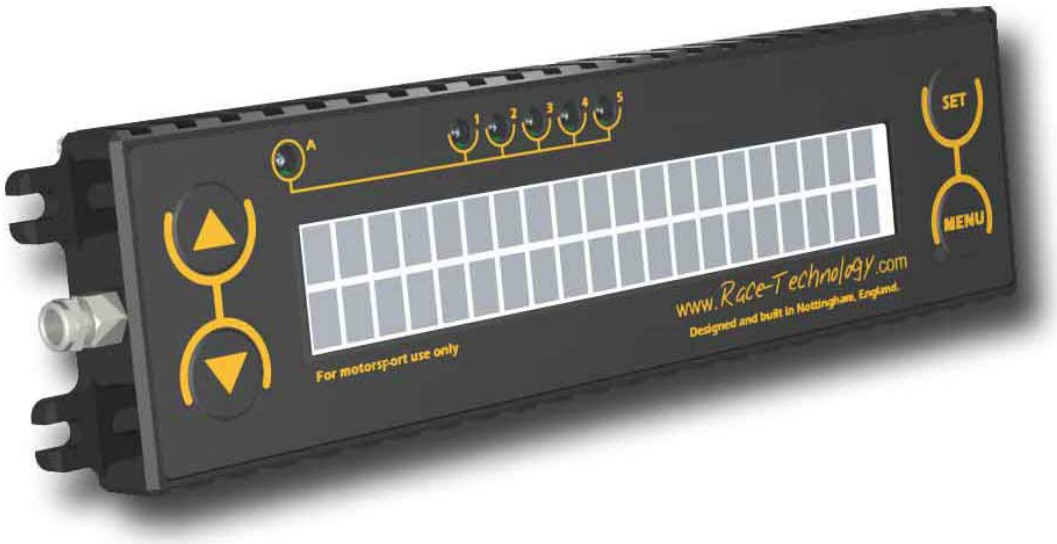
DASH1 Data display



- Robust, billet aluminium enclosure, sealed to IP65
- Real time lap and sector times without a track side optical beacon
- User configurable display, with up to 30 screens of data
- Compatible with the DL2, DL1, AX22 and SPEEDBOX products
- Serial converters available to allow use of other devices such as OBDii.

What is the DASH1?

The DASH1 is a compact, robust, water resistant data display system for use with our range of data logging products. Once the DASH1 is connected to one of our data loggers, it can be configured to display many key parameters including real time lap and sector times calculated from GPS data, any available analogue measurements (e.g. temperatures and pressures), RPM, wheel/shaft speeds etc. The actual data displayed can be set up for the users specific requirements. You can also set independent alarms for all channels.

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Who is the DASH1 designed for?

The DASH1 can be used for road, racing and development applications. It extends the use of our loggers by allowing the user to see the data in real time in the vehicle. The DASH1 is very robust, making it ideal for demanding applications from single seaters to a professional engineering environment.

What does the DASH1 do?

The unit accepts the serial data stream from our range of data logging products converts them to the users preferred units and displays them on the screen. For example you could display exhaust gas temperature or oil pressure, you can also set warning levels for each channel to indicate when an input is too high or low. Crucially, the DASH1 also displays high accuracy lap and sector times, calculated from GPS data without the need for a trackside beacon. The actual data that the DASH1 displays, as well as the units etc can all be configured from a PC to the users exact requirements. Up to 30 different user defined screens can be set up. Depending on the device that the DASH1 is connected to the following channels are available:

Features

- Anodised aluminium CNC machined case, sealed to IP65
- Large, clear, backlit 40 character display (characters approximately 10mm high)
- 4 large 15mm buttons, for easy operation even with gloves
- Single 9 way d-type to accept power and serial data (leads available for AX22, DL1, DL2, SPEEDBOX)
- Configurable from a PC
- Up to 30 user configurable screens with values, bar graphs, or both.

The actual information that can be displayed depends on the hardware that the display is connected to.

	DL2	DL1	AX22	SPEEDBOX
GPS based Lap and sector times	Yes	Yes	Yes	-
Accelerations	Yes	Yes	Yes	Yes
RPM	Yes	Yes	Yes	-
Analogue channels (temperatures, pressures, etc)	16	8	-	-
Frequency channels	4	4	-	-
Speed	Yes	Yes	Yes	Yes
Position/Altitude	Yes	Yes	Yes	Yes

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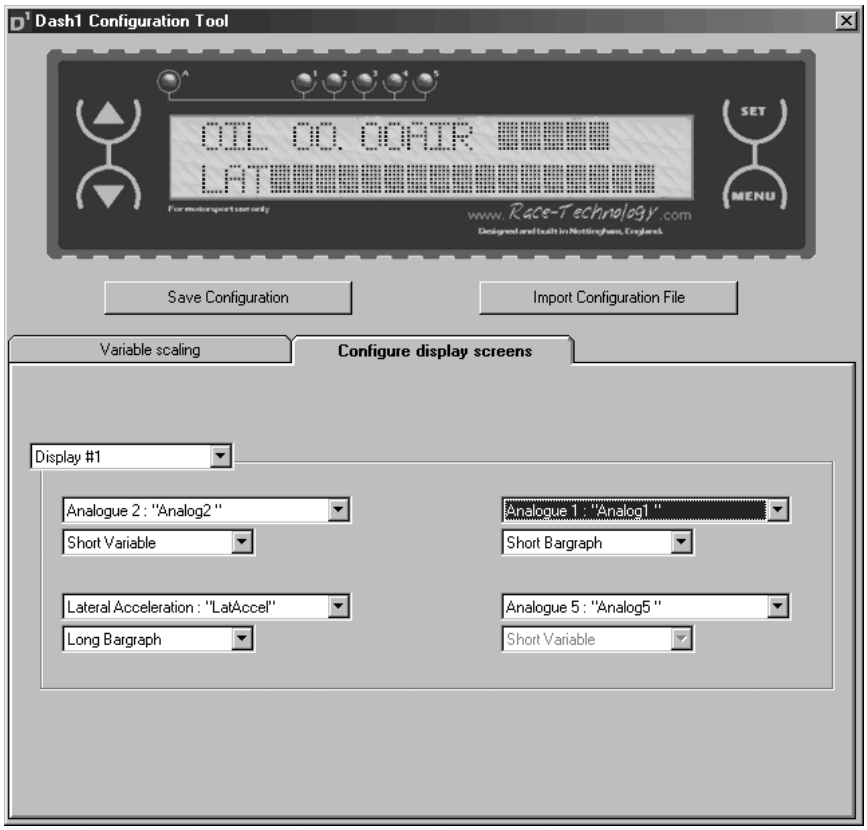
Dashboard configuration

The data that is displayed can be controlled using the PC software provided, meaning that only the relevant data is visible and presented in the most helpful format. Using the software you can control:

- Which channels are displayed
- The name of the channels
- The units displayed
- The scaling of the channels
- The number of decimal places displayed
- Whether 2, 3 or 4 channels are displayed on the screen
- Whether the channel is displayed as a value or bar graph
- The lower and upper warning levels for the channels



Typical screenshot from the configuration software

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Frequently asked questions

How does the lap and sector timing work without a beacon?
Because the system uses the GPS data the system knows it's position on the track, to mark the point as a lap or sector you simply press a button on the DL2/DL1. The DL2/DL1 then calculates the lap and sector times every time you subsequently pass that point on the track and transmits them to the dashboard for display.

If the GPS data is 5Hz, does this mean the times have a resolution of 0.2 seconds?
No, the system calculates the position very accurately and the lap times have a resolution of 0.01 seconds. Sector times are generally far more accurate than a traditional lap beacon system.

Can I directly compare the lap sector times from the display and the analysis software?
Yes, the track markers can be imported and exported from the analysis software.

Does the dashboard work with the DL90 or AP22?
No, there is no serial output from the DL90 or AP22 for the DASH1 to use

Can the DASH1 be used on it's own?
No, it's designed to read a serial stream and doesn't have any other inputs or sensors.

Specification

Display	40 Character, backlit display, character height 9.85mm
Controls	4 x 15mm buttons embedded into custom made front panel
Power Supply Requirements	12v nominal input, minimum of 10v, maximum of 15v. Current consumption of about 180mA.
Case Construction	CNC machined aluminium.
Connector Type	Very high reliability, IP65 9 way d-type
Main Processor	40MHz RISC with embedded flash program memory
Serial Port	RS-232 serial port with automatic baud rate detection for receiving information via the standardised serial stream from our data logging products. Also used for re-flashing, diagnostics and configuration.
Vibration	Factory tested at 25g, 50Hz sinusoid for 5 minutes (without compact flash card inserted). Design tested to 25g in 3 axis for 24 hours.
Temperature	Factory tested from -20^{o}C to 70^{o}C

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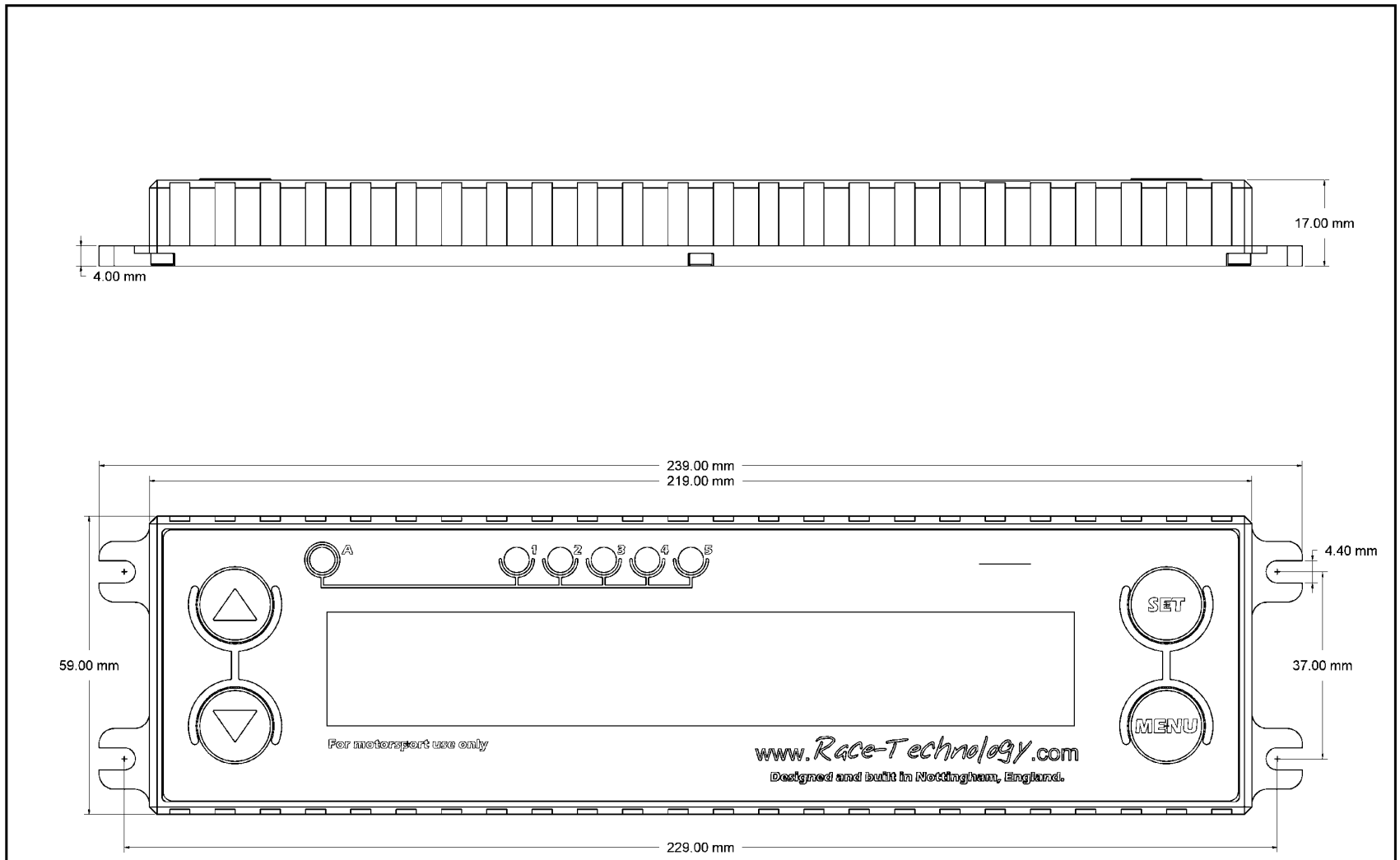

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		FINISH:	N/A	TITLE:	Data Display External Dimensions		
©Race-Technology Ltd 2005 SCALE:	Drawn By: D.Muncaster 050216	TOLERANCE:	±0.2 mm	VIEW:	Top and Side		DRAWING No: N/A

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