Dash Logger Systems

Stack Dash Logger systems offer the ideal combination of professional hardware and software.

These systems are designed for drivers and teams without a full-time data engineer who still want instant feedback of time gains and losses as a result of changes made between sessions and between different drivers. Offering full upgradability, these systems can be expanded to meet the demands of the highest levels of professional racing.

Our Configurable Dash Logger module has sufficient inputs to meet most engine and driver analysis requirements and, by adding an additional sensor interface module, can be expanded to meet the demands of chassis analysis.

The Configurable Dash Logger systems are supplied complete with harnesses, the full professional version of our DataPro analysis and configuration software, infra-red lap timing system, wheel speed and lateral g sensors. The only additional requirements are the specific sensors necessary for the application.

Summary of Configurable Dash Logger System capabilities...

- 8 configurable sensor channels plus battery voltage and lap timing; expandable to 16+ channels
- Records and Displays any combination of engine, driver and chassis sensors
- Fully configurable LCD display layers; showing up to 6 parameters per layer
- Fully configurable alarms alert driver by display messages and/or warning LEDs
- Individual recording frequency for each channel
- Predictive Lap Time, Performance Meter and Brake Bias display options
- Fully upgradable to 64+ channel Engineering systems
We believe that DataPro is the easiest to use professional data analysis software available.

- All common functions accessed through a single screen
- Unique dockable panes ensure that no data is hidden
- Fully customisable user configurable layouts
- Allows sets of data to be overlaid, aligned & compared
- Standard chart presentation include multiple channel overlay
- Standard presentation options include histograms & X-Y plots
- Flexible zoom level provides rapid analysis of data
- Powerful data export capability
- Includes maths package for creating derived channels
- Comprehensive Run Reports, Statistics and Run Notes
- Fast loading and display of data
- Real time display of Stack data logging system CANBus data
- Windows 98 & ME compatible (data retrieval and analysis)
- Windows 2000 & XP compatible (analysis functions)

**Analysis Software Capabilities Include**

- **A** X-Y plots and histograms update dynamically in real-time as the user selects a portion of the data on either the strip graph or map.

- **B** Engine parameter histograms and charts allow the user to quickly check that the engine is performing within desired operating limits.

- **C** By comparing driver control parameters, such as throttle, steering and brake pressure, charts allow the user to accurately compare driver technique and identify the reasons why one driver is faster than another.

- **D** DataPro is supplied with standard analysis features designed specifically for comparing data from different drivers, different vehicles and different vehicle set-ups.

**Analysis**

**Segmented Lap Report**

This tabular report shows and compares individual segment times and speeds for any two laps.

**Timeline Chart**

This Chart allows the user to analyse the time gain-loss between any two individual laps or selected segments.

**Rolling Lap Time Chart**

This Chart can be used for assessing driver consistency and establishing the true potential lap time on a crowded track.
**System Configuration**

The Data Pro Designer software module ensures that the configuration of the Dash Logger system is simplicity itself.

**Input Configuration**

The Input Configuration tab enables you to set up the individual sensor inputs. For each input:-

1. Choose a channel name, either from the extensive drop-down list supplied, or create a name of your own.

2. Choose a sensor from the library (grouped by sensor type) and drag-and-drop it onto the required channel. If the channel name is from the drop-down list the software will check that the sensor is suitable for the application. The correct calibration values are automatically assigned for the sensor.

**Display Configuration**

The Display Configuration tab allows you to create your own display read out layers including customising parameter names.

1. Use the Add button to create a new display layer or the Edit button to change an existing layer. The Up and Down buttons allow the user to change the order of the layers.

2. The LCD graphic shows how the currently selected layer will appear to the driver.

3. Standard display layers can be simply added to the display layer list by selecting the tick box.

**Alarm Configuration**

The Alarm Configuration tab enables you to configure alarm conditions and control how warning messages and lights are displayed, and their duration.

1. Use the Add button to create a new alarm condition or the Edit button to change an existing condition.

2. Alarms can be “gated” - i.e. two conditions have to exist for an alarm to be activated. Use the Add and Edit buttons to create and edit conditions that other parameters can be “gated” with.

**Recorder Configuration**

The Recorder setup tab allows you to specify which channels you want to record and to set the recording frequency for each individual channel.

1. Select the channels you wish to record.

2. Adjust the recording frequency for each channel from its default, if required.

3. The available recording time is updated dynamically as each channel’s recording frequency is changed.
Configurable Dash Logger Systems

The ST8802S/SP¹ Dash Logger can be configured to work with a wide range of sensors, allowing the system to be set up to suit most engine and driver monitoring requirements. On its own the dash will monitor and record 8 individual sensor channels plus battery voltage and lap times. The ST8803S/SP¹ includes an Input Expansion module to provide 8 further universal sensor inputs.

ST8102S/SP³ Dash Logger Systems

As the market leader in Dash Loggers we believe we understand what racers really need and we have designed the ST8102S/SP³ specifically for the first time data acquisition system user. This system includes all sensors & harnesses and is pre-configured to suit the most popular requirements. It is supplied with a full version of DataPro analysis software, allowing the user to analyse the most important engine, driver and vehicle performance parameters.

Furthermore, when ready for more data, the user can simply upgrade to a more powerful configurable system.

¹ "SP" version includes Predictive Lap Timing, Performance Meter and Brake Bias display options as standard
² ST8803S/SP only
NEW!

Configurable Upgrade for ST8100/8102 Systems

By popular demand STACK are launching an upgrade option to add full configurability to customers’ existing ST8100 Dash Display or ST8102 Dash Logger Systems and, in doing so, provide all the benefits of our ST8900 Professional Engineering Systems. If you have ever needed greater flexibility and feedback from your ST8100/ST8102 then this is the solution. Below are listed some of the key advantages that this upgrade will add to the functionality of your ST8100/ST8102 system:

- Change the inputs on your ST8100/ST8102, without the need to change your existing harness
- Monitor and display parameters from any Engineering System channels
- Customise the LCD display layers and set up your own alarms
- Change recording rates on your ST8102 Data Logger System
- Expand your existing display/logging system with eight more channels

The upgrade to your ST8100 fixed Dash Display System will give additional flexibility and control, allowing you to re-organise the digital display with up to six display layers, each containing either two, four or six parameters. Additionally, channels from an ST890x Configurable Engineering Data Logging System can be displayed and alarms programmed on all available channels via a PC and the DataPro Designer configuration software. Furthermore, input channels can now be tailored to your requirements with any combination of temperatures & pressures on the four resistive sensor inputs. The second pulse channel can be used for speed, boost or exhaust gas temperature (EGT). These features are delivered as an upgrade to the display module that can use your existing harnessing & sensors.

The upgrade to your ST8102 fixed data logging system delivers the same features and benefits of the ST8100 Configurable Dash Display System above. In addition, the recording scheme can be defined with recording rates from 1Hz to 20Hz on each individual channel. Plus an optional expansion module supplies up to eight additional universal input channels for connection to any STACK sensor. Again these features are delivered as a software upgrade to the display module that can use your existing harnessing & sensors.

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Configurable Dash Display/Dash Logger System Architecture

Dash Sensor Options

<table>
<thead>
<tr>
<th>Resistive Sensors</th>
<th>Pulse Sensors</th>
<th>O-5V Sensors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fluid Temperature Sensors 0 to 150 °C</td>
<td>Boost Sensors (ST453)</td>
<td>Boost Sensors (ST740)</td>
</tr>
<tr>
<td>Oil/ Fuel Pressure Sensors 0 to 10 bar</td>
<td>Thermocouples (EGT/ Brake/ Air)</td>
<td>Brake Pressure Sensors</td>
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<tr>
<td>Fuel Pressure Sensors 0 to 2 bar</td>
<td>Speed Sensors</td>
<td>G Force Sensors</td>
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<td>Any from resistive sensors list</td>
<td>Throttle Position Sensors</td>
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<td>Any from resistive sensors list</td>
<td>Steering Position Sensors</td>
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<tr>
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<td>Any from 0-5V sensor list</td>
<td>Suspension Travel Sensors</td>
</tr>
<tr>
<td>Any from 0-5V sensor list</td>
<td>Any from 0-5V sensor list</td>
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</tbody>
</table>

1 “M” and “SP” version includes Predictive Lap Timing, Performance Meter and Brake Bias display options as standard. 2 ST8891 only

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In the interests of continuous product improvement, we reserve the right to alter without notice the specifications and features described in this leaflet. This leaflet shall not form part of a contract involving Stack unless stated in writing.

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