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ATLAS

Advanced Telemetry Linked Acquisition System

ATLAS is a software package which is used to obtain, display and analyse data from control systems such as those used within motorsport and automotive applications.

Familiar controls and extensive use of the mouse, menus and accelerator keys make it easy to set up and to use

ATLAS is used by the professional data analyst working with data acquired by telemetry or uploaded from a data logger. ATLAS is appropriate for an individual data analyst or for many engineers all monitoring telemetry together.

ATLAS is equally suitable for analysis of either lap or open road based data.

Features

- Highly customizable, Workbook containing Pages and Displays
- Graphical Timeline for easy navigation through data
- View, analyse and compare live telemetry data with uploaded logged data
- Checks for automated monitoring of engine and chassis
- Fast data handling to deal in real-time with the large quantities of data
- Highly customizable

Timeline

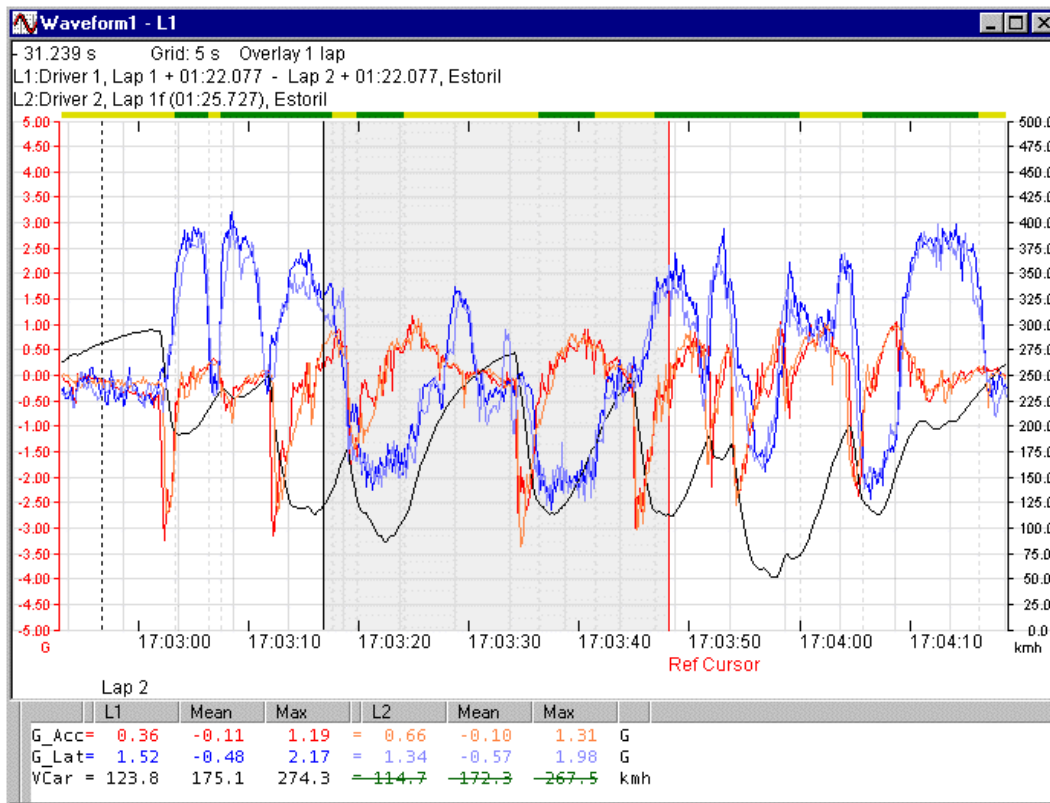
ATLAS has several features to help you navigate through your data. The **Graphical Timeline** acts as a specialised scroll bar with the following features:

- Shows: Out lap, Timed laps and In lap
- The data currently on view is highlighted on the Timeline so you can easily see where you are
- Mouse operations allow quick and easy lap selection
- Linkable displays, enabling the same period of time to be shown, even when scrolling
- Distance and Time modes are supported

Displays

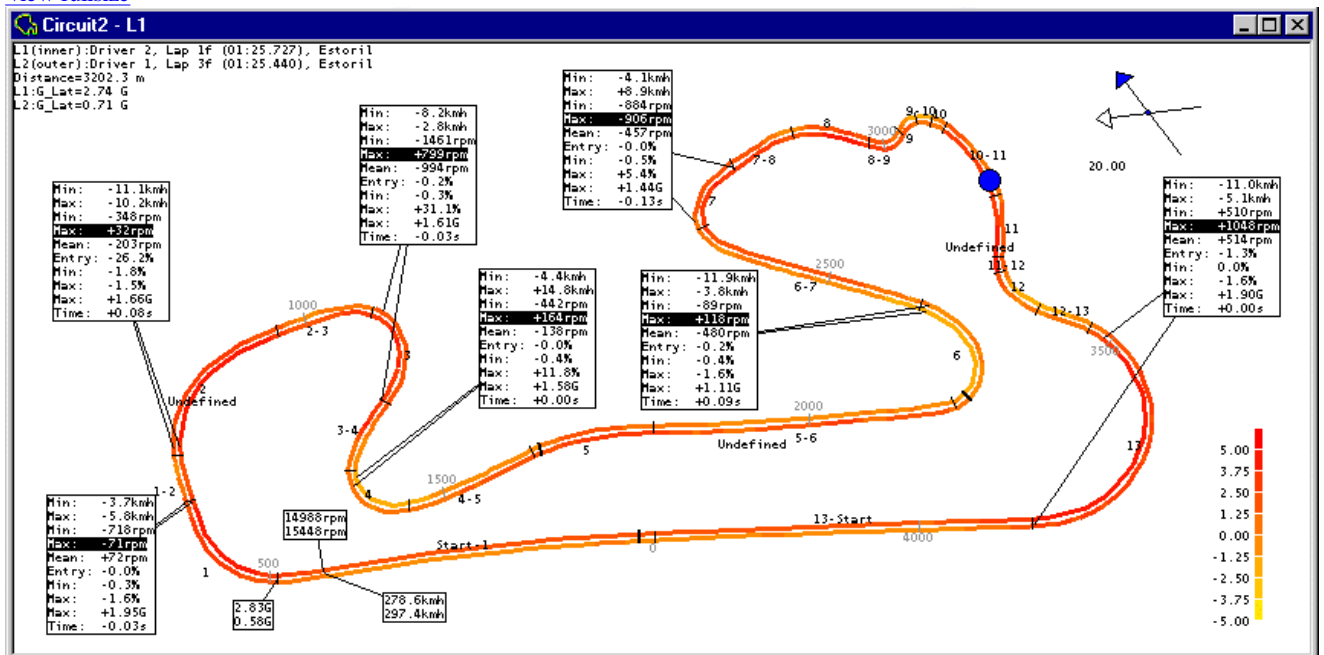
Several types of display are provided to give you different views of your data:

- **Waveform:** shows several parameters as waveforms in an oscilloscope format.
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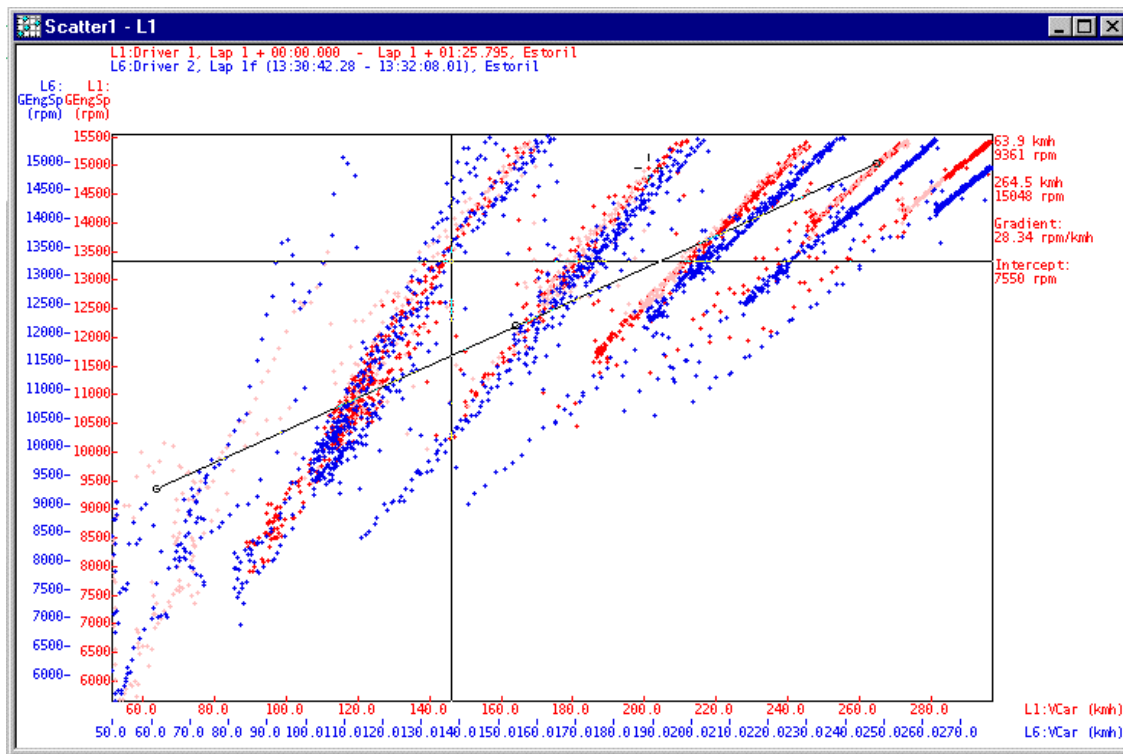
- On-screen controls for: parameter layout; lap offset adjustment; navigation and data selection
- Traces can be hidden or flashed
- Gradient and reference cursors
- Automatic and manual scrolling
- **Circuit:** shows the location of the car on a map of the circuit. This display can be extensively customised to show data at various selected points on the track. ATLAS includes an easy to use facility to generate the circuit map from recorded data.

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- **Bar:** shows parameters as simple bar graphs
- **Numeric:** shows parameters as text
- **Scatter:** shows the relationship of pairs of parameters in a cross plot.

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Many displays can show data in real time as it is received by telemetry. Other displays can be updated automatically as each lap is completed.

You can Zoom in to magnify the view in the Waveform and Scatter displays

Other displays allow you to analyse your data:

- **Loadmap:** shows a 3D plot of one parameter against another. The third dimension is indicated by a colour and shows the proportion of time spent with both parameters in the specified ranges.
- **Histogram:** shows the distribution of a parameter against time
- **Summary:** shows statistics on selected parameters for the whole session arranged by lap, section or segment
- **FFT:** performs frequency analyses on the data. The results can be shown as Fast Fourier transforms, Transfer functions or Correlations
- **Map:** shows logged data superimposed on a 3D wire frame of a 2D map
- **InPlace:** allows you to run ActiveX controls within the ATLAS environment. The Active X controls have full access to the data and can be manipulated by the standard ATLAS menus.

Parameters

ATLAS handles each item of incoming data as a parameter. The value of the parameter is displayed and analysed by including it in a Display:

- Parameters are selected in a browser or dragged from another display.
- Parameter properties allow you to control how a parameter is displayed: they may be either local to a single display or global to the whole workbook.

Analysis

As well as the special analysis displays (Loadmap, Histogram, Summary and FFT), ATLAS offers the following analysis features:

- **Functions:** (also known as Maths Channels) allow you to combine parameter values and perform calculations on them. A sophisticated function editor is provided.
- **Checks:** allow you to check the state of the car or engine automatically
- **Markers:** pinpoint the time when something interesting happens: they can be placed by hand or automatically by a check or an ActiveX command

Software Interfaces

ATLAS can be used to in conjunction with other Windows® applications:

- ATLAS is ActiveX compliant and most ATLAS commands are available to this interface
- The InPlace Display can be used to run other applications within ATLAS
- Session data can be Exported and Imported in various formats including MATLAB
- A third-party Session DLL allows you to write drivers to access other data formats

- Constants, used in functions, can be read from an external application such as a spreadsheet

Recording

ATLAS includes controls to record data from data loggers either directly (by wirelink) or in real time (by telemetry):

- ATLAS supports both narrow and wide band telemetry
- Wide band telemetry can be used in Burst mode (all the stored data is transmitted at one point on the circuit) or Retransmission mode (all the stored data is continually retransmitted and ATLAS uses later transmissions to fill-in drop outs and errors)
- ATLAS supports high speed wirelinks via 100Mbps Ethernet
- Ethernet telemetry allows you to view data at a test bed without any radio telemetry equipment
- Telemetry can be replayed
- The ATLAS package includes Data Servers. These run on a dedicated PC which accepts incoming data and broadcasts it on a network to the PCs running ATLAS
- A special Data Server is available to accept data from a Weather Station and to include it with session data
- Direct CAN logging.

Optional Product Extensions

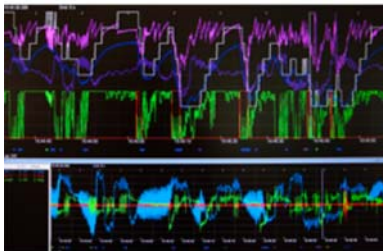
Several optional ATLAS extensions are available:

- Remote Data Server (RDS): Provides the ability to daisy chain two or more data servers remotely. For example, to transmit and transfer live telemetry data between track and factory locations.
- vTAG Server: This control sits within ATLAS and enables users to run MATLAB (Simulink) simulations against ATLAS data.

Licensing

ATLAS is licensed by a hardware device. This can take the following forms:

- USB dongle
- Site Licence by Ethernet



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