

## DRIVETEC - GPS



A laptop/Tablet PC and Drivers Aid software are inclusive of this package.

The laptop PC is positioned in the test vehicle when being used as a Drivers Aid.

### MINIMUM TABLET PC SPECIFICATION

- ASUS Transformer Mini T102HA
- 10.1 inch Screen
- Intel Quad Core x5 'Cherry Trail' Processor
- 4GB RAM
- Windows 10 OS
- Micro USB, Micro HDMI, Micro SD, Full Size USB Ports

### GPS SPECIFICATION

- Haicom model HI-206 USB GPS Receiver
- Utilises the Industry standard SiRFIV chipset
- GPS data output in NMEA format (industry Standard)
- Supports Bluetooth connection to a PC
- Uses all "in view" satellites for high accuracy, accurate to within 5 Metres with SBAS enabled
- HI-206 is a GPS receiver with USB connector and built-in active antenna for high sensitivity to tracking signal. HI-206 is very small in size and well suited to system integration and users who use any kinds of mobile devices, such as, Smartphone, PDA, notebook PC, iPad, etc.



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- It satisfies a wide variety of applications for car navigation, personal navigation or touring devices, tracking and marine navigation purpose. Users can simply plug it into a mobile device or other type of handheld PC running with suitable mapping and routing software for navigation.

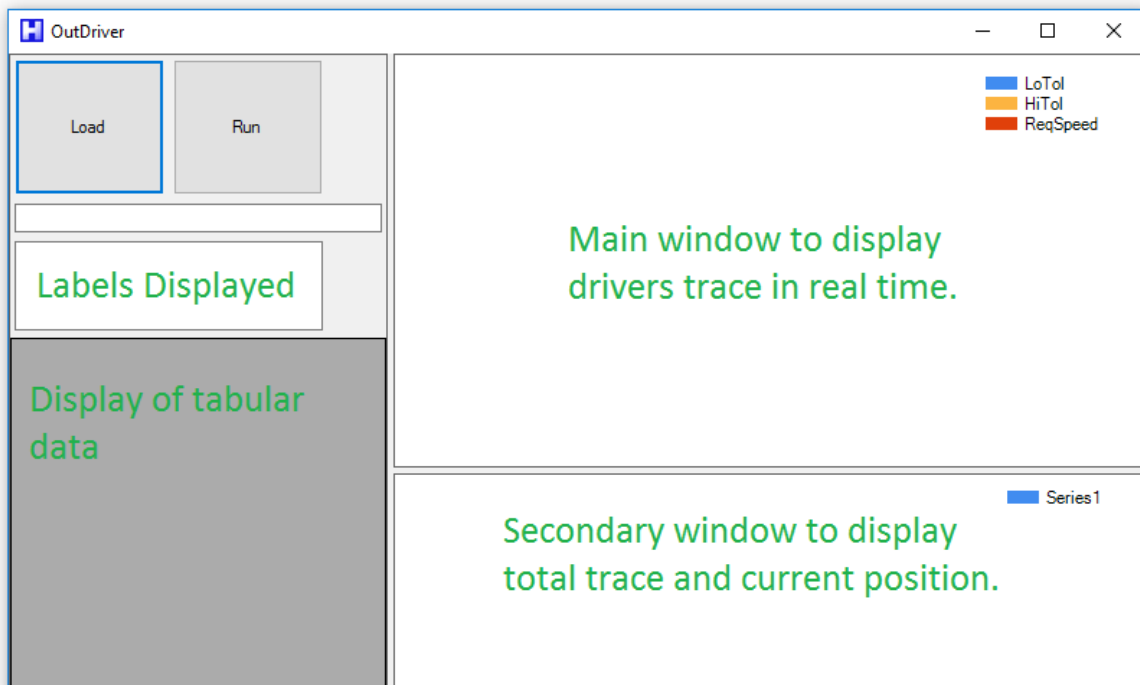
The 'Drivetec - GPS' is a Drivers Aid similar to the traditional Drivers Aid utilised on Chassis dynamometers. However; in this case the vehicle speed input is from a high quality GPS unit mounted on the vehicle.

## GENERAL OPERATION

The application is split into 4 windows that can all be resized. When the application is opened it will recall its previous location, size and internal window sizes.

The four windows are...

Operator controls;	for loading and starting a trace running and displaying information labels. The current GPS speed is also displayed in large format for ease reading
Tabular data;	Displays the trace data in a tabular format, Auto scrolls as the trace is run.
Main window;	Displays an auto zoomed "Live" trace for the driver to follow. Includes; <ul style="list-style-type: none"> <li>• Current trace point speed</li> <li>• Current Max and Min tolerances as specified in the trace file.</li> <li>• Current GPS speed as vertical line</li> <li>• Current placement in the trace file as a horizontal line.</li> </ul>
Secondary window	Displays the complete cycle from the loaded trace file. Includes; <ul style="list-style-type: none"> <li>• Position in the complete trace as a vertical line.</li> </ul>



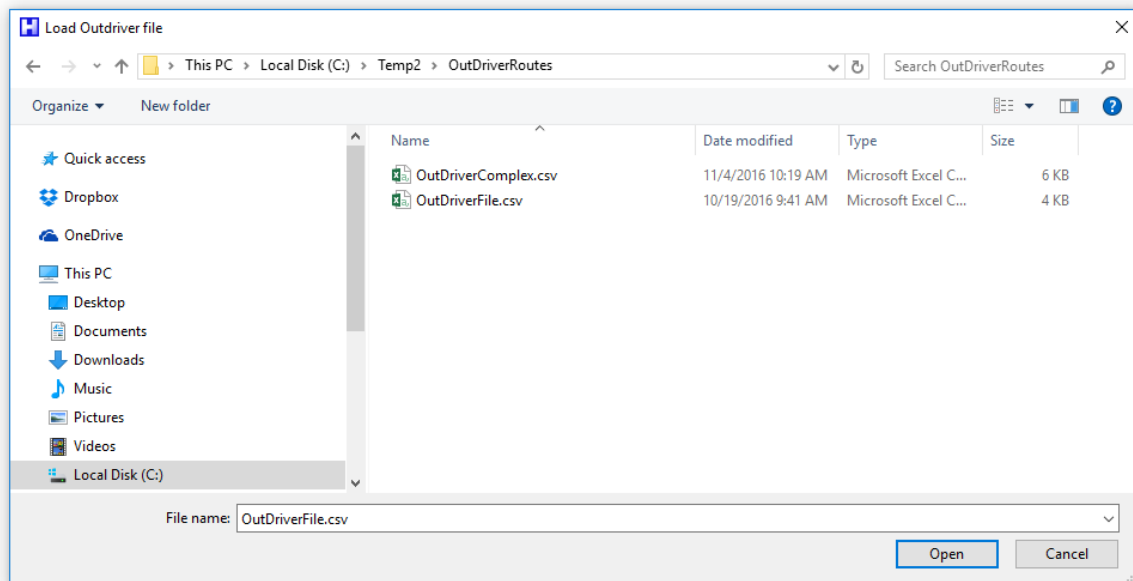
Above shows the main screen of the application. Initially there is no trace loaded. Loading a trace file is carried out by selecting the load button.

## OPEN TRACE FILE

After selecting 'Load' the system will show a Standard Windows OS file open dialog box. From here the required trace can be selected.

Trace files are stored as CSV files that contains 5 columns of information.

1. Time – specified in seconds.
2. Speed – required speed for the driver to follow.
3. Min tolerance – the low speed that the driver should stay above.
4. Max tolerance – the high speed that the driver should stay below.
5. Labels – Textual information for the driver which could contain info such as;
  - Gear changes
  - Start or end of a speed section
  - Warnings
  - Distance from start of trace
  - Next driving style
  - Stage points
  - Turn points



	A	B	C	D	E
1	Time	Speed	LowTolerance	HighTolerance	Label
2	0	0	2	0	Start
3	1	0	2	2	
4	2	0	2	2	
5	3	0	2	2	
6	4	0	2	2	
7	5	0	2	2	
8	6	0	2	2	
9	7	0	2	2	
10	8	0	3	3	
11	9	0	3	3	
12	10	0	3	3	
13	11	0	3	3	
14	12	0	3	3	
15	13	0	3	3	
16	14	0	3	3	
17	15	0	3	3	
18	16	0	3	3	Prepare For Speed Change
19	17	0	3	3	
20	18	0	3	3	
21	19	0.977	3	3	
22	20	1.849	3	3	
23	21	3.035	3	3	
24	22	4.57	3	3	
25	23	6.454	3	3	
26	24	10.152	3	3	
27	25	16.641	3	3	

*Typical trace file data*

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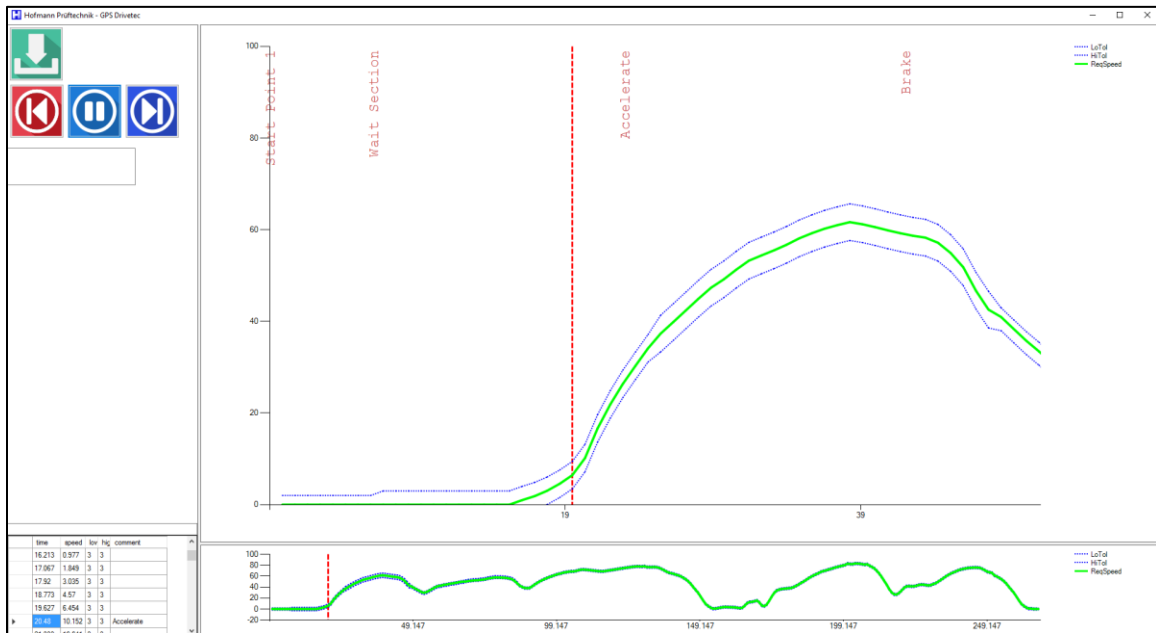
**LIVE DATA TRACE**

Upon loading the trace file data the system will be in the 'paused' state. Pressing the Run/Pause button will release system and the scrolling trace will be displayed in the upper right window.

The GPS will need to have a satellite lock and will display the current GPS speed when it does have.

After pressing the Run/Pause button the trace will scroll through to give a live graphical display of the trace data.

The vehicle driver controls the vehicle speed to have the horizontal and vertical lines centered on the green trace line.



**TYPICAL DISPLAY**

Display of the trace can be enabled or disabled at any time in the cycle allowing cycles to be either trace based, text instruction based or a combination of the two.

Text can be placed on the driver's aid display on a line by line basis on top of the trace area.

The following cycles are provided as standard:-

- US EPA Urban
- US EPA Highway
- 91/441/ ECE (1504) part 1 and part 2
- Consumption Measuring 80/1268/EWG
- Japan Hot Start
- Japan Cold Start
- Sweden/Switzerland/Australia

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- FTP 75
- US 06 & SC03

Quick and simple alterations of existing cycles and also easy implementation of complete new combinations can be implemented on the system with the additional of Microsoft Excel or similar application. (Not supplied).

**CONFIDENTIALITY**

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