



FOR IMMEDIATE RELEASE

Honda turns to LabSat for testing in the absence of GPS

To cover for losses in satellite visibility, which can occur in urban canyons, tunnels and under bridges, most OEM navigation systems have a dead reckoning capability that utilises vehicle wheel speed data and turn rate information. When it comes to testing these systems on the bench, if the dead reckoning signals are not present, the navigation systems will not function correctly. To overcome this, UK based electronics company Racelogic has introduced a full navigation system testing solution comprising of a LabSat GPS simulator, Video VBOX data logger, turntable, yaw rate sensor and wheel speed generation unit.

To record the data, the LabSat and Video VBOX are placed in the vehicle during a simple drive along the desired test route. The wheel speed data is recorded from the vehicle CAN bus, and the yaw rate sensor records the physical movement of the vehicle.

Back in the laboratory, the LabSat recreates the GPS data, the wheel speed generation unit outputs synchronised wheel speeds and the data from the yaw rate sensor drives the turntable on which the navigation system is placed. This unit then has all of the information it requires to operate as normal, under all conditions. As an added benefit, a fully synchronised video is displayed showing the progress of the vehicle along the route, allowing the user to see the exact conditions which were present during the recording of the data.

An alternative method to recording the data during a test drive is to generate an artificial scenario using the SatGen software package. The yaw rate and wheel speed data are then synthesised from the trajectory data in real time, driving the turntable and generating wheel speed data. This gives engineers the ability to simulate any journey, conducting tests from thousands of miles away at any time or date, and still be assured of the results.

For example, engineers based in Tokyo can create a test scenario based around Miami and check that the navigation system still works under these conditions. This trajectory data can be either be drawn on an interactive map, or created using existing NMEA data.

Honda has recently been the first automotive manufacturer to use this new testing solution as their requirement was to test their own navigation unit without the need for repeated field testing, even during periods of total satellite loss.

Now, Honda engineers can replay the same route as many times as is required, ensuring perfect repeatability, whilst simulating every condition that is experienced in a real world situation.

Julian Thomas, Managing Director for Racelogic said: “This is a big advance for GPS testing that requires dead reckoning. Our solution ensured the Honda engineers were able save a lot of time by driving the test route only once, and then repeating the test on the bench multiple times. The great advantage of this method is the total repeatability of the test conditions.”

For more information, please go to www.labsat.co.uk

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About LabSat: LabSat by Racelogic is a low cost GPS Simulator (with GLONASS option) which gives you the ability to record and replay real GPS RF data, allowing you to test almost any GPS device with real world signals, from your bench. www.labsat.co.uk

About Racelogic: Racelogic develop and manufacture electronic systems to measure, record, display, analyse and simulate data from moving vehicles. Their flagship VBOX has become an industry standard way of measuring speed, position, distance and acceleration, whilst their Video VBOX GPS video loggers are increasingly popular in motorsport.

Racelogic design and manufacture innovative electronic systems for the automotive and GPS industries. Based in the UK, they have developed GPS data-loggers, video-overlay systems, traction control, and GPS simulators since 1992.

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