imc Meßsysteme GmbH
Voltastr. 5
13355 Berlin
Germany

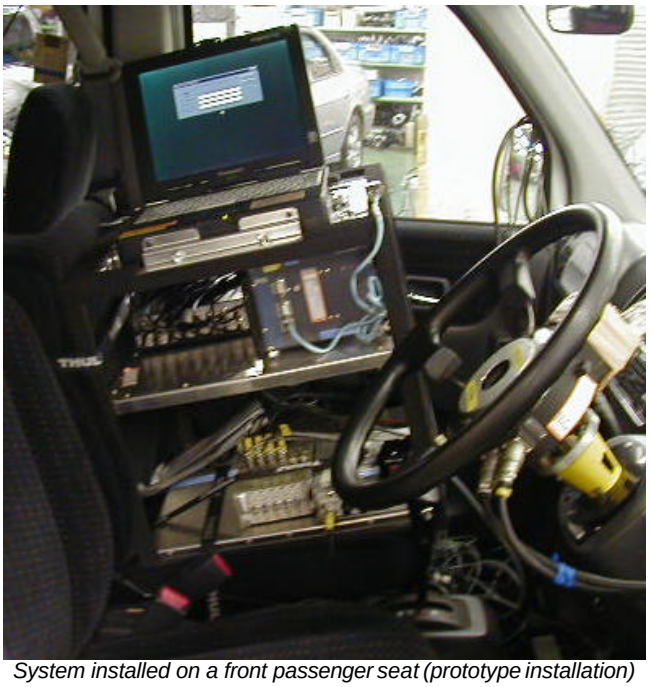
Dept.: International Sales

Vehicle Driveability & Stability Test

Apart from general car test applications such as engine, gearbox or climatic tests, improving a car's stability and drivability are at the very focus of today's car manufacturer.

The Suspension Design and Development Group at Honda R&D has deployed an imc-made intelligent data logger "µ-MUSYCS" (Japanese Product Name: µ-LOGGER) in order to evaluate vehicle dynamics according to test procedures that comply with ISO 1503. The reason for using µ-MUSYCS is that it is the best PC data logger in terms of the following aspects:

- Stable measurements that are independent of PC specs
- Analog filtering features for data logging implemented in its compact encloser
- Online processing of measured signals with the built-in DSP (Online-FAMOS / option)
- Real-time monitoring of measurements and processed signal data
- User-defined flexible functional scalability
- Data storage both in the PC and in the µ-MUSYCS unit



System installed on a front passenger seat (prototype installation)

Data acquired in this application are used in carrying out the following evaluation tests established by Honda R&D:

- Frequency Response Test
- Floating Test of the Turning Performance
- Transient Response Test
- Straight Line Vehicle Stability at High Speed
- Crosswind Stability
- Braking Stability Test
- Steering Effort Test

Driveability & Stability Test Software

Honda R&D was also considering using the u-MUSYCS to implement human ride feeling / comfort test, for which they had been using a standard Human Response Vibration Meter. In response to their request, imc and Toyo Corporation developed and implemented for this vehicle driveability and stability test system a PC data logger program "HONDA Ride Index" that automates ride comfort tests ranging from road surface testing to comprehensive evaluation (Ride Index).