



AUTOMATED TEST DRIVER

Multiple Vehicle Testing

- Choreographed maneuvers of multiple vehicles
- Intersection/Junction Crossing
- Pedestrian and Cyclist Safety

ADAS Testing

- Crash Imminent Braking (CIB)
- Autonomous Emergency Braking (AEB)
- Dynamic Brake Support (DBS)
- Lane Departure Warning (LDW)
- Lane Keeping Assist Systems (LKAS)

Destructive Testing

- Vehicle Rollover
- Vehicle to Barrier

Vehicle Handling and Stability

- J-Turn, Fishhook, Sine-with-Dwell
- Constant Radius
- Single and Double Lane Change
- Winding Road Course
- Path Following Maneuvers
- Vehicle Speed Control
- Pedal Position and Force Control

Installation and configuration of the ATD is quick and easy, and the system does not interfere with the vehicle airbag. The carbon fiber and aluminum construction creates a minimal moment of inertia (MOI) on the steering wheel. Test data can be monitored in real-time and results are immediately available.

The **Automated Test Driver (ATD)** is a user-friendly device that allows for dynamic vehicle testing of regulatory and performance maneuvers. With the use of steering, brake and throttle robots, this technology can perform a wide array of precise, repeatable, unmanned vehicle tests.

Driving profiles can be selected from a list of stored maneuvers, or quickly programmed through a graphical user interface. The ATD can be deployed in multiple vehicles and equipped with vehicle-to-vehicle (V2V) communications to enable the system to maintain control of even the most complex test scenarios. Whether our clients require dynamic handling tests or complex multi-vehicle scenarios, the ATD can perform them with ease and map the results on a virtual image of any proving ground.



Steering Controller



Brake-Throttle Controller

AUTOMATED STEERING CONTROLLER

Maximum Torque @ 720°/s	> 40 N-m (limited by software)
Maximum Angular Rate	1200°/s
Angular Resolution	< 0.04°
Angular Accuracy (measurement)	0.1°
Angular Accuracy (following error)	< 2° Overshoot and < 0.5° Steady State
Computer Connection	Ethernet
Power Requirements	12VDC @ 10 A
Steering Wheel Assembly (LxWxH)	467 x 625 x 83 mm
Weight	10.2 kg

BRAKE-THROTTLE ROBOT

Maximum Vehicle Pedal Force	450 N
Maximum Vehicle Pedal Position Rate	305 mm/s
Position Resolution	< 1 mm
Force Resolution	< 5 N
Motor Assembly (LxWxH)	203 x 381 x 203 mm
Weight	13.5 kg

ELECTRONICS BOX

Computer Connection	Ethernet
Operating System	Windows
Power Requirements	12VDC @ 10 A
Analog Inputs	4 (± 10 V)
Digital Inputs	4 (Typically used for Trigger Signal)
Data Acquisition	200 Hz
Electronics Box (LxWxH)	406 x 254 x 254 mm
Weight	12 kg
Audible Detection (optional)	In-vehicle Audible Warnings as Triggers for ADAS Testing
Visual Detection (optional)	In-dash Telltale Signs as Triggers for ADAS Testing



VEHICLE DYNAMICS

ENGINEERING - INNOVATION - PRECISION

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