



SURFACE SYSTEMS & INSTRUMENTS, INC.
Custom Test Equipment • Mobile Technology Solutions

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smoothroad.com

Zero-Speed Inertial Profiler



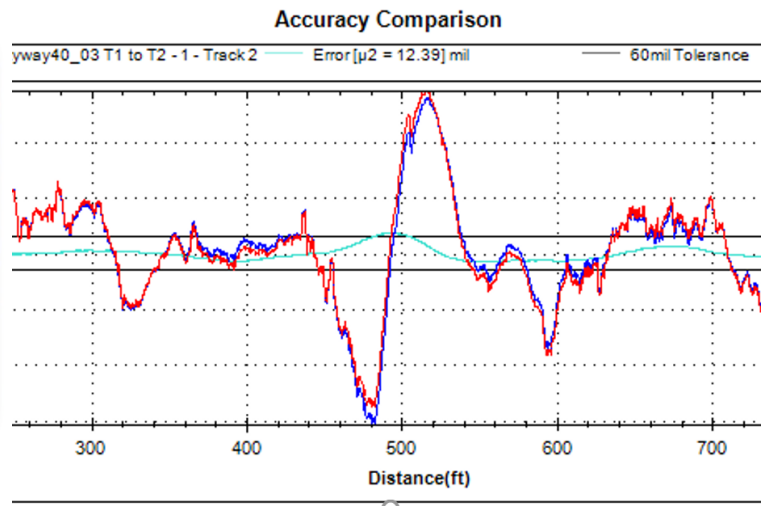
▲ CS9300 Front/Rear Mount Zero-Speed Configuration ▲



▲ CS9100 Mid-Mount Zero-Speed Configuration ▲



▲ Collect Data in Dense Traffic and Through Traffic Signals ▲



▲ DOT Certifiable Inertial Profiler ▲

Precise Profile Measurement Through Vehicle Stops
DOT Compliant Smoothness Testing on All Pavement Types

Meets ASTM/AASHTO Standards No Need for Run-Up or Run-Out Sections Patent Pending Technology

Benefits

- Collect accurate profiles at **ANY speed 0-100 mph.**
- **NO GAPS IN DATA** when vehicle slows or stops.
- Speed changes during collection do NOT affect data.
- **NO NEED FOR LEAD-IN, RUN-OUT SECTIONS.**
- **New:** 6.5" wide beam laser enhances performance. Also more comparable to actual vehicle tire widths.
- **New:** **INS-DMI.** Maintains accurate distance without OBD through GNSS outages. OBD supplied as 2nd backup.
- Choose Encoder/INS-DMI for highest accuracy at any speed (stopping, accelerating, decelerating, etc.)
- Available with precise cross-slope measurement (+/-0.05% accuracy).
- Longitudinal profiles match real-world elevation changes (no accelerometer drift).
- Damage a laser? Damage 2 lasers!? System has 4 lasers and can operate as a basic 2 laser inertial profiler.

Specifications

- Exceeds **M328, R054, R056-057.**

- Exceeds requirements of **ASTM E950.**

- Complies with DOT specifications and certification tests.

Instrumentation

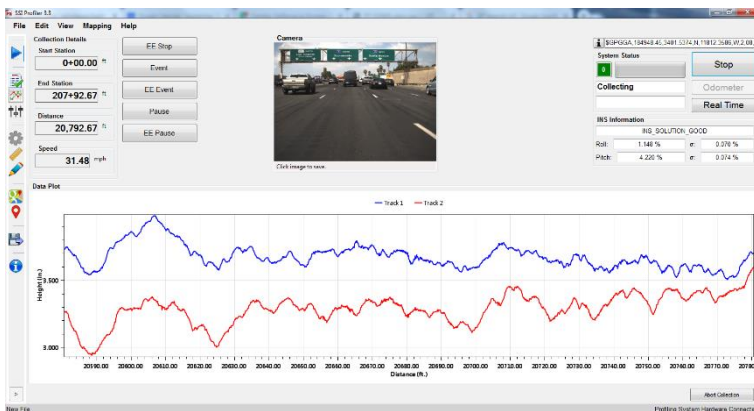
- 5 kHz Gocator **wide beam lasers** neutralize texture on asphalt and concrete pavements.
- ±10g accelerometers with 0.0001g accuracy.
- High performance GNSS solution with all systems (L1/L2 GPS+Glonass+Beidou+Galileo+SBAS, dual antenna).
- **TOUGHBOOK** rugged computer on all systems.
- Docking station with driver/passenger computer access.
- Powered by host vehicle's 12-volt supply.
- **Options:** 2D/3D survey with variable depth design (CAD outputs), ROW camera, texture, rut depth, and more.

Software: 25 Years Refined

- Windows 10 Pro software.
- Guided calibrations for bounce test, laser verification, accelerometer and distance.
- Immediate reporting of results.
- Drive to exact locations within profile data using real time **GPS Tracker** navigation feature.
- Real time display of traces, speed, position during collection.
- Electric Eye triggers on each side function at 30+ FT (10+ M).
- Configurable hot-key shortcuts.
- Real-time system health monitoring.
- Multiple Profile Indexes: **IRI** (International Roughness Index, Mean IRI (**MRI**), Half Car Ride Index (HRI), Profile Ride Index (**PRI**, ASTM E1274), Ride Number (RN).
- Multiple outputs for **Areas of Localized Roughness:** IRI with user defined thresholds; Straightedge, Profilograph must-grind bumps, Texas 1001-S method.
- Support for Google Earth, Google Maps.
- User configurable analysis parameters and data editing.
- Rewritable raw data: change parameters at any time.
- Export data into **PROVAL** (PPF, ERD), PDF, Excel, CSV, PRO, CAD, Survey, and Text.
- Automatic software updates with SSI Profiler 3 .
- Real-time error logging and web-based reporting.

Operation, Training & Support

- Designed for safe, one-person operation.
- Sensor modules adjust to meet different agency specifications.
- Operator training and technical support worldwide.
- Portable, modular components for in-field replacement.
- **Warranty** and rapid response **customer support.**



▲ Guided Calibrations and Detailed Collection Display ▲



▲ Gocator Wide Beam Lasers ▲



▲ Rugged Touchscreen Computer ▲

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