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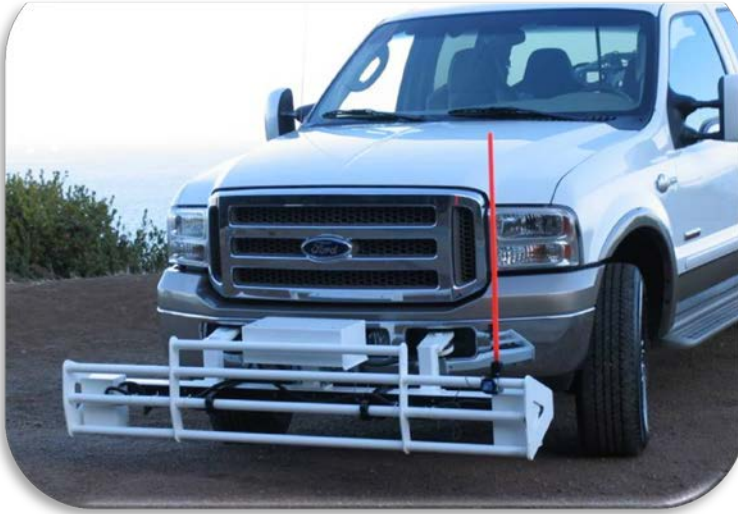
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**SURFACE SYSTEMS & INSTRUMENTS, INC.**

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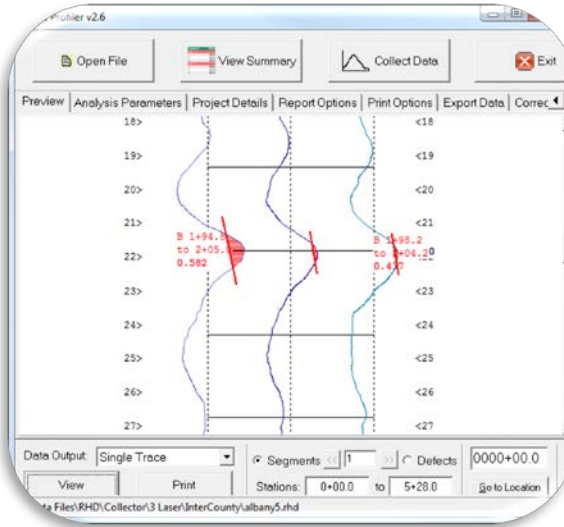
Custom Test Equipment • Mobile Technology Solutions

# CS9000 Surface Profiling System



▲ CS9000 Robust Mount Configurations ▲

## Precise Surface Profile Measurement at Highway Speeds



▲ In-Cab Touch-Screen Computer ▲



▲ Full Featured Collection & Analysis Software ▲



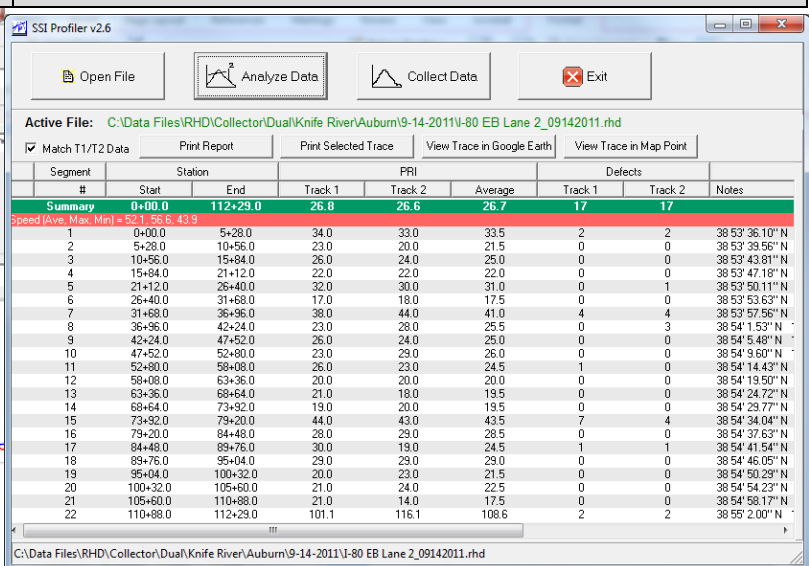
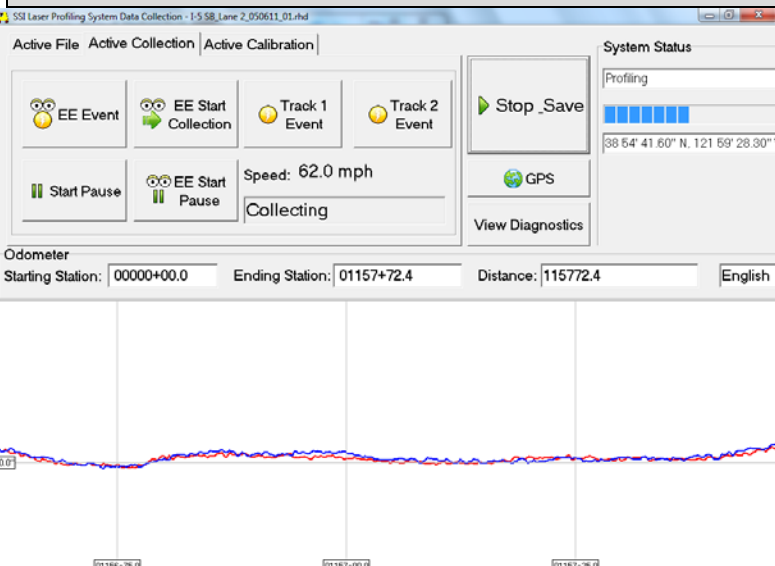
▲ Wide-Footprint Laser ▲

## HARDWARE FEATURES

## SOFTWARE FEATURES

- Robust mount resists impact and damage to key components
  - ASTM E950 Class I profiling system at all collection speeds.
  - Guaranteed to meet or exceed agency requirements (State DOT, Transport Ministry, FHWA, AASHTO M328, R054, R056-R057).
  - On-site assistance with installation and training.
- 
- Modular design. All core components field replaceable with express shipment as spare parts.
  - 100% non-contact inertial system—no sensors touch road surface.
  - Sensor modules detachable for safe storage off vehicle.
- 
- Professionally engineered mounts are vibration free and allow for vertical and horizontal repositioning of sensor modules.
  - Choice of current model [Toughbook 19](#) or [Toughbook 31](#) fully rugged computer with daylight readable Touchscreen controls.
- 
- Single, dual or 3 track systems available. (*Single track module attaches to either side and outputs dual track profiles*).
  - All-in-Cab operation—collect/analyze data without leaving vehicle.
  - Wide range of speeds (5-70 mph / 8-112 kph).
- 
- Multiple triggers for collection, pauses and events: (1) SSI reverse direction mode collects exact stations without pre-marking test sections, (2) right and left electric-eye sensors trigger by reflective tape, and (3) on-screen push button for manual triggering.
- 
- Optional wide footprint laser reduces impact of single point sensor on grooves, concrete tines, and coarse textures on ride index values and areas of localized roughness.
- 
- GPS subsystem with real-time display of GPS position, GPS correlation with profile stations, and Google Earth integration.
  - Survey option combines profile data, corrected GPS, and cross-slope to generate topographies and cross-sections for road design and machine control applications.

- Self-instructing programs for calibration, collection and analysis.
  - Safe operation on touch-screen Toughbook computer.
  - On-Screen user's manual.
  - Real time diagnostics monitor profiling system health and facilitate prompt resolution of support issues.
- 
- Instant test results and on-screen view of profile traces and reports.
  - Collection system pauses when speed drops below <5mph (8 kph).
  - Add new profile data to existing files for comparison of original condition with constructed surfaces.
- 
- All industry standard profile indexes supported [International Roughness Index (IRI and MRI), Half Car Ride Index (HRI), Profile Ride Index (PRI or PI), and Ride Number (RN)].
  - User-adjustable parameters to meet specifications (project details, data filters, bump/dip templates, blanking band, and user defined).
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- Unmatched precision in detecting surface features exact dimensions of localized roughness—*Proven and Guaranteed!*
  - Localized roughness reported by adjustable height and length templates, or by IRI thresholds.
  - Length and peak amplitudes of grind/fill areas separately calculated.
- 
- Profile results available on-screen and in PDF, ERD, PPF, and spreadsheet formats (with populated Excel templates supplied).
  - Colorized traces and highlighted areas of bonus/penalty.
  - Fully compatible with ProVal software.
- 
- SSI Validation Engine software supplied for assessing same surface repeatability, accuracy and cross-correlation.
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- License supplied for use of Profiler software on desktop or multiple computers (allows viewing, analyzing, printing and emailing of profile data by multiple users).
  - Raw data encrypted for security and unlimited post-processing.



▲ Computer Instructed Calibration and Data Collection Routines ▲

▲ Immediate Results and Advanced Data Analysis Functions ▲

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