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**SURFACE SYSTEMS & INSTRUMENTS, INC.**

Custom Test Equipment • Mobile Technology Solutions

[www.smoothroad.com](http://www.smoothroad.com)

# SURVEY • DESIGN • PROFILE



CS8750 GeoProfiler™

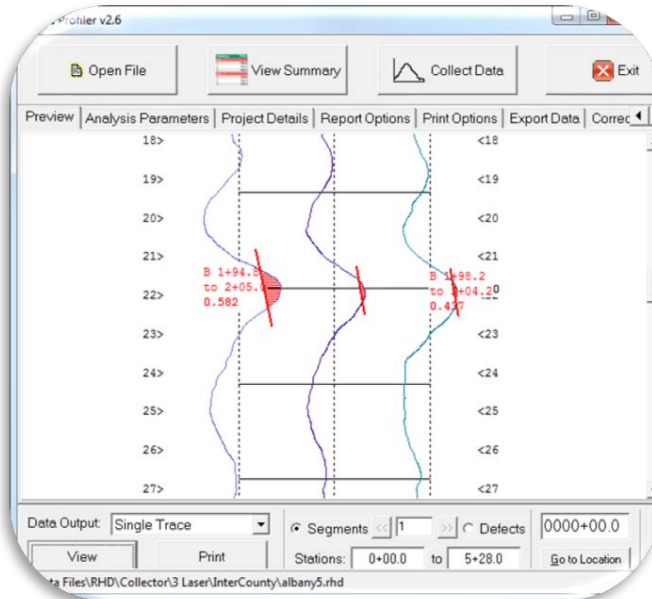
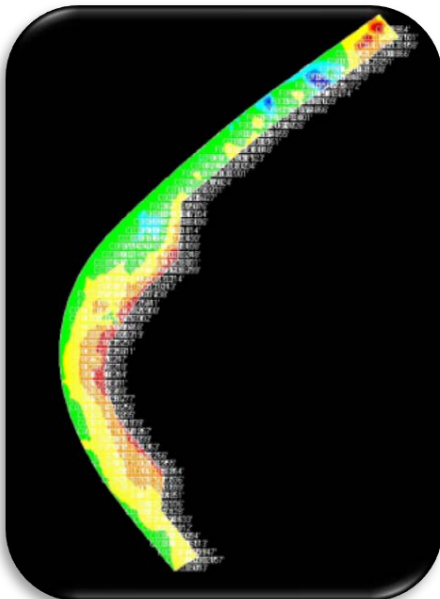


Merge Profile Slope & GPS



CS9350 GeoProfiler™

**SSI GeoProfiler™---One System Delivers Two Solutions:  
Mobile 3-D Surveying and QA\QC Ride Quality Testing**

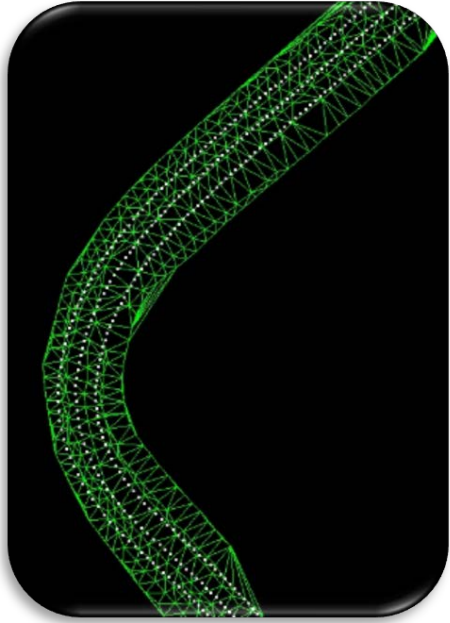
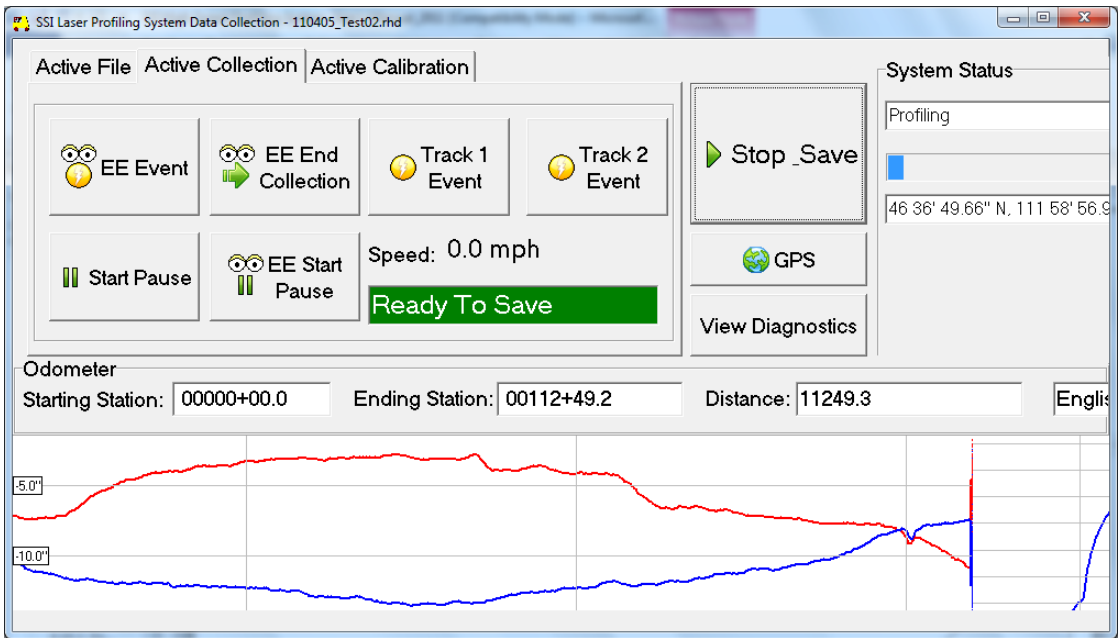


•Quickly Generate Rich Topographies

•In-Cab Touchscreen Computer

•DOT Ride Quality Testing for QA\QC

HARDWARE FEATURES	SOFTWARE FEATURES
<ul style="list-style-type: none"> <li>• Measure open area 3-D topography at speeds of 5 to 35 mph.</li> <li>• Collect roadway cross-sections by merging multiple collections taken along laterally spaced horizontal alignments into a single topography.</li> </ul>	<ul style="list-style-type: none"> <li>• Inertial profiling system data combined with slope and corrected GPS for highest resolution surface topography.</li> <li>• Create a design file with 3-D topography map in conventional survey formats, but with higher resolution and tighter triangles.</li> </ul>
<ul style="list-style-type: none"> <li>• Multiple configurations available:               <ul style="list-style-type: none"> <li>• 2-paths profile and cross-slope outputs 2D relative profile.</li> <li>• 3 paths profile with cross-slope and RTK GPS for 3D Topo.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Use Topo data in engineering software to analyze existing surface, design subsurface modifications and optimize final pavement.</li> <li>• Design flexibility—resurvey surface to assess changes as project build progresses. <i>Build based the True Surface Profile.</i></li> </ul>
<ul style="list-style-type: none"> <li>• Choice of vehicle platforms:               <ul style="list-style-type: none"> <li>• Portable high speed system mount attaches to a 2"/50.8 mm receiver tube (typical towing receiver hardware).</li> <li>• Integrated system installed on lightweight XRT950 vehicle for concrete pavements.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Compatible with many machine control systems for construction of designed surface from mobile survey/profile data.</li> <li>• System can Interface with different brands of GPS and machine control equipment for surveying, grading and paving.</li> </ul>
<ul style="list-style-type: none"> <li>• Interface with external GPS roving devices to avoid redundant hardware purchases. Optional GPS and radio boards embedded within profiling system electronics.</li> <li>• RTK corrections with static base or networked reference stations.</li> </ul>	<ul style="list-style-type: none"> <li>• Separate or combined data formats: profile only, GPS only, integrated profile and GPS data.</li> <li>• Data formats include PNEZD, PLLHD, GPFGA, Excel, CSV, ERD/PPF &amp; PDF.</li> <li>• Data functions on various machine control systems.</li> </ul>
<ul style="list-style-type: none"> <li>• One setup for multiple passes, slopes, and lanes.</li> <li>• Detachable hardware. • Reusable shipping/storage container.</li> </ul>	<ul style="list-style-type: none"> <li>• Easy calibration, collection and analysis software operated on Touchscreen Toughbook with Windows operating system.</li> </ul>
<ul style="list-style-type: none"> <li>• ASTM E950 Class I inertial profiling system allows separate QA/QC testing of finished surfaces.</li> <li>• Profiling system complies with AASHTO protocols (M328, R054, R056 and R057).</li> </ul>	<ul style="list-style-type: none"> <li>• Profile data reported under commonly used profile indexes (IRI, MRI, HRI PRI, RN).</li> <li>• User-selectable data collection and analysis parameters (project details, filtering methods, blanking band, bump/dip templates, etc.).</li> </ul>
<ul style="list-style-type: none"> <li>• Panasonic Toughbook rugged operator interface computer.</li> <li>• Patented technology.</li> </ul>	<ul style="list-style-type: none"> <li>• Surface profile data complies with DOT/FHWA specifications.</li> <li>• Exact areas of localized roughness calculate for corrective work or bonus/penalty results.</li> </ul>



- Data Collector Program Generates 3-D Topography Data Compatible with Engineering Design & Machine Control Applications
- Profiling System Data for QA\QC Ride Quality Testing • **Guaranteed** to Meet DOT Agency Specifications and Test Methods.

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