



**SURFACE SYSTEMS & INSTRUMENTS, INC.**

Custom Test Equipment • Mobile Technology Solutions • FF/FL • ADA Compliance • Road Profilers • Survey Scanning

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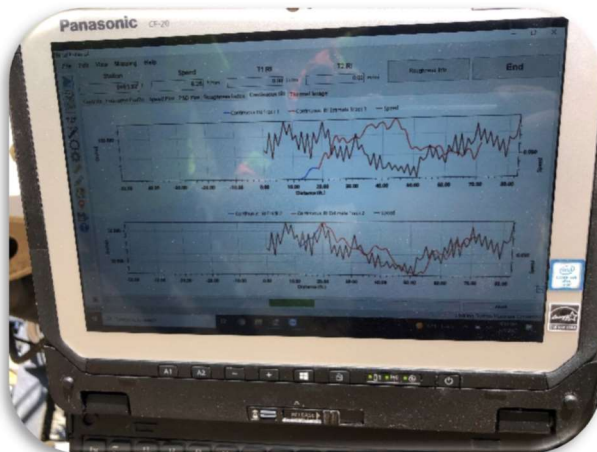
[smoothroad.com](http://smoothroad.com)

# CS7800 DYNAMIC SURFACE PROFILER

## For Asphalt and Concrete Pavers



▲ Installs on Pavement Lay-Down Equipment for Real Time Smoothness Testing ▲



▲ SSI Live Charts: Real Time Profile, Speed, IRI, PSD, GPS, +more ▲



**Panasonic**  
**TOUGHBOOK®**

▲ Multi-purpose Rugged Computer ▲



## CS7800 Dynamic Surface Profiler

HARDWARE FEATURES		SOFTWARE FEATURES	
<ul style="list-style-type: none"><li>• Built for asphalt or concrete pavers.</li><li>• Adjustable sampling interval (default one inch / 25.4 mm). (equivalent to ASTM E950 Class I profiling device).</li><li>• Multiple track configurations available.</li></ul>		<ul style="list-style-type: none"><li>• Real time display of profile, speed, ride values, areas of localized roughness, PSD (power spectral density) and GPS.</li><li>• Multiple profile statistics supported (e.g. IRI, PRI, RN, and RMS).</li></ul>	
<ul style="list-style-type: none"><li>• Modular, portable design. Sensors adjust laterally and vertically for flexibility in configuring system on multiple machines.</li><li>• Core components field installable; store and ship in reusable case.</li></ul>		<ul style="list-style-type: none"><li>• Feature rich Windows software programs for calibration, data collection and analysis.</li><li>• Output formats include ProVal (ERD/ PPF), PDF, Excel, 3D survey (PNEZD, PLLHD, GPGGA), raw profile, and simulated profilograph.</li></ul>	
<ul style="list-style-type: none"><li>• Professionally engineered, durable hardware.</li><li>• Profile measurement by proprietary laser/inclinometer platform.</li><li>• Distance measurement using 5<sup>th</sup> wheel or GPS DMI.</li><li>• Optional wide beam lasers for height measurements.</li></ul>		<ul style="list-style-type: none"><li>• Multiple trace reporting allows cross-surface analysis of parallel profile traces.</li><li>• Append data to existing files for continuous profile measurement.</li><li>• On-Screen user’s manual and instructions for profiling software.</li></ul>	
<ul style="list-style-type: none"><li>• Transfer data to inertial profiler or GPS device for navigation</li><li>• GPS accuracy options from 2.3 ft (.7 m) to ~ 0.8” (2 cm) GPS to RTK.</li><li>• GPS correlated with project stations; real time trace navigation and Google Earth/Maps integration.</li></ul>		<ul style="list-style-type: none"><li>• Profile reports and traces available on-screen, PDF, Excel, or electronic format (for email or desktop computers).</li><li>• Colorized traces and highlights of bonus/penalty profile areas.</li><li>• Encrypted raw data for reanalysis with variable parameters.</li></ul>	
<ul style="list-style-type: none"><li>• Powered by host machine’s 12-48V power supply or generator.</li><li>• <a href="#">Toughbook</a> military specification computer with static hard drive and daylight readable Touchscreen controls.</li></ul>		<ul style="list-style-type: none"><li>• Automatic software updates via internet.</li><li>• Real time diagnostics monitor system health and ease support.</li></ul>	
<ul style="list-style-type: none"><li>• Buy or Rent. • On-site assistance with install, training and support.</li><li>• Optional 3D elevations (RTK GPS or Total Stations).</li><li>• Coming soon: thermal imaging option for intelligent compaction.</li></ul>		<ul style="list-style-type: none"><li>• Configurable analysis parameters (English or Metric units, profile indexes, filters, localized roughness, etc.).</li><li>• Software license for use on other computers.</li></ul>	
TECHNICAL SPECIFICATIONS*			
• Device Classification/Rating		• ASTM E950 Class I equivalent. World Bank Standard—Class 1 profiling device.	
• Test Results and Data Outputs		• IRI, HRI, PRI, RQI, RN, CA Bridge, Variable localized roughness templates. PDF, Excel, ERD/PPF and raw strip trace formats.	
• Localized Roughness		• Dimensions of bumps/dips measured with maximum amplitude of peaks and troughs calculated. Configurable template for reporting localized roughness as IRI, profilograph, straightedge, or DOT specific methods.	
• Measurement Units		• English/Metric (variable, re-writeable).	
• Operating Speed		• 0.0–Maximum speed of any paver.	
• Sampling Interval		• Default = 1 inch (25.4 mm). Alternate sampling intervals configurable.	
• Profile Accuracy		• 0.381 mm (±0.015 inch) per 45.7 meters (50 yards).	
• Height Measurement Precision		• ±0.056mm (0.002 -inches)	
• Grade Measurement Resolution		• 1 in 4.7 or 12 degrees.	
• Longitudinal (Distance) Resolution		• +/- 0.025% (via 5 <sup>th</sup> wheel or GPS DMI).	
• Power Supply		• 12 volt power supply from host machine.	
• Weight		• ~20 lb (9 kg) assembly	
• Dimensions		• 34.5” (L) x 18.0” (W) x 12” (H).	
• Environmental		• Operating Temperature (PCC): 32 -140°F (-0 to 60°C). Storage: -50-170°F (-30-75°C).	
• Data Collection Electronics		• SSI proprietary embedded microprocessor based electronics architecture (ISO 9001 built).	
• Operator Computer		• Panasonic Toughbook military specification notebook PC with touchscreen controls.	
• Operating System		• MS Windows 7/8/10 Pro operating system. • Custom Windows software for calibration, data collection and feature rich data analysis.	
• Data Storage		• Typical notebook hard drive (250-5000GB) stores >200,000 miles (320,000 km) of profile data. Raw data files are transferable through portable storage media or email.	
• Data Formats		• Raw data encrypted. Export routines supplied for ProVal (ERD/PPF) CAD, PDF and Excel.	
• Options:		• 3D Survey (RTK or Total Stations). • Multiple track systems • Texture • Cross-slope.	

\*Specifications subject to change.

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