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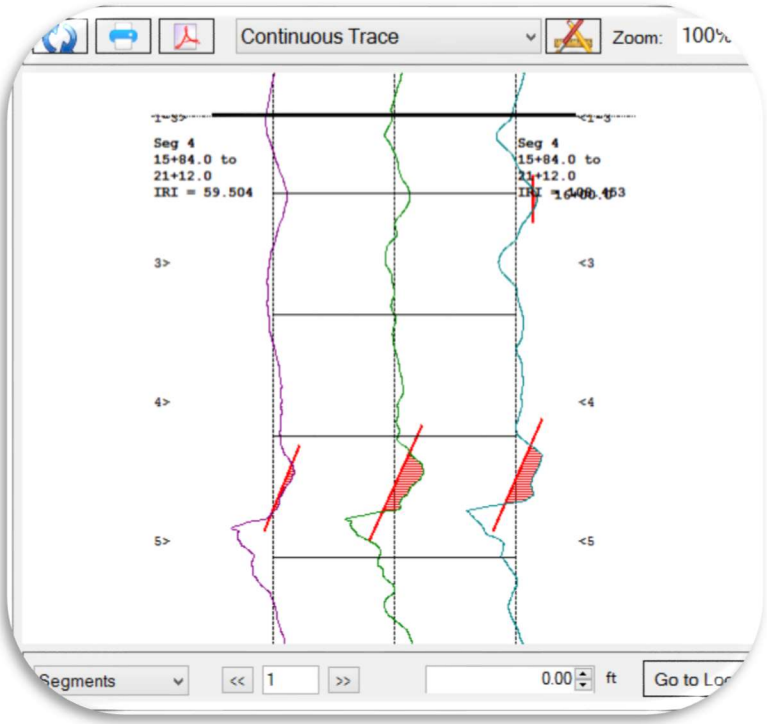
SURFACE SYSTEMS & INSTRUMENTS, INC.

smoothroad.com

Custom Test Equipment • Mobile Technology Solutions • FF/FL • Road Profilers • Panasonic Toughbooks

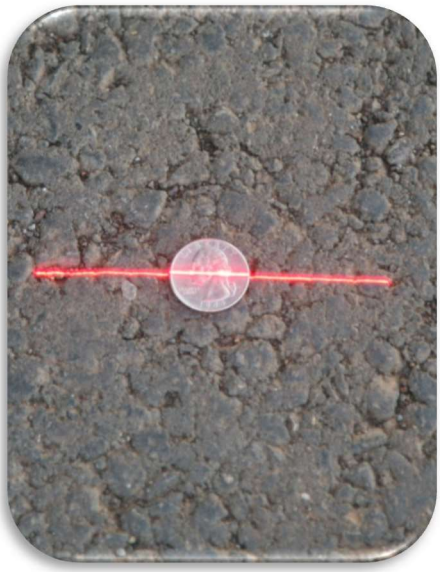
CS8700 Lightweight Profiling System

▲ Polaris Ranger 570EFI Premium Vehicle ▲



▲ Trace Report Details for Each Wheel Path ▲

▲ Real Time Map View of Profile & Localized Roughness ▲



▲ Wide Beam Gocator Laser ▲

CS8700 Lightweight Profiling System

Profiling System Specifications

- Polaris Ranger 500 vehicle collects data up to 50 mph.
- Meets ASTM E950, AASHTO M328, R054, R056-057.
- Meets or exceeds the Class I requirements of ASTM E950.
- ***Zero-Speed Option***: collect certifiable data through vehicle stoppages and at ***ANY*** speed: **0-50 mph**.
- Embedded distance encoder mounted on drive shaft.
- Gocator 5 kHz ***wide beam lasers*** for best results on textured asphalt and concrete pavements.
- ±10g rated Accelerometers. 0.0001g accuracy.
- Proven ability to replicate wavelengths of ~0.25 feet (7.62mm) in excess of 8000 feet (2438 meters).
- All sensors and electronics removable for use on an SSI CS9100 or CS9300 high speed vehicle mount.

Compliance and Equipment

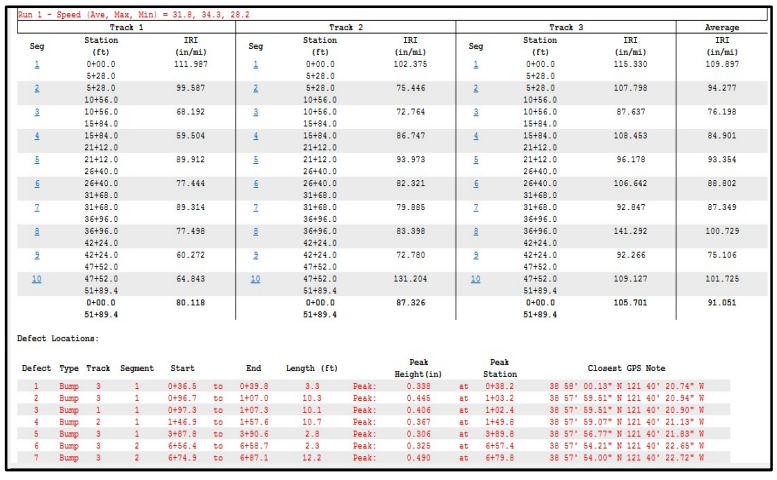
- Complies with all commonly used agency specifications.
- Core electronics manufactured in an ISO 9001 facility.
- TOUGHBOOK rugged computer.
- Computer dock accessible by driver or passenger.
- Operates from host vehicle's 12-volt power supply.

Operation, Training & Support

- One person operation. All in cab operation.
- Speed range: 1-inch sampling for all speeds (5-50 mph)
- Operating temperature: 32°-128° F (0°-53° C).
- Waterproof core components.
- In-field replacement of portable, modular components.
- Automatic software updates with SSI Profiler 3
- **Warranty** and rapid response **customer support** on all profiling system hardware and software components.
- ***Options***: **GPS-DMI**, survey GPS with CAD output, HD camera, rut measurement, texture and more.
- Worldwide multi-lingual operator training available.

Best-In-Class Profiling System Software

- Windows 10 Professional software programs.
- Easy on-screen instructions for bounce test, laser verification, accelerometer and distance calibrations.
- Real time display of profile traces, position and speed.
- Compatible with Google Earth, Maps and ESRI ArcGIS
- Navigate to locations within profile data using real time GPS Tracker. Mapping visualization of surface data.
- User selectable parameters for English and Metric units.
- Electric Eye data triggers on each side of system function at 30+ feet (10+ meters).
- User programmable keyboard shortcuts
- Continuous Collection function tracks vehicle position. below 5 mph and resumes inertial data at 5 mph or more
- Pause areas integrated into collection. View paused areas separately or exclude.
- 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 based roughness with configurable thresholds; Rolling Straightedge, Profilograph must-grind bumps, Texas 1001-S localized roughness, Boeing Bump reporting.
- Raw data is rewritable: change parameters at any time.
- User defined filtering values for high and low pass filters.
- View system diagnostics and raw sensor data for monitoring performance and identifying support issues.
- Patented multiple trace reporting capability.
- Export data into PROVAL (PPF, ERD), PDF, Excel, CSV, PRO, CAD, Survey, GPS, GIS, more.
- Data is encrypted for security.



Run 1 - Speed (Ave, Max, Min) = 31.8, 34.3, 28.2

Track 1 Seg	Track 1 Station (ft)	Track 1 IRI (in/mi)	Track 2 Seg	Track 2 Station (ft)	Track 2 IRI (in/mi)	Track 3 Seg	Track 3 Station (ft)	Track 3 IRI (in/mi)	Average IRI (in/mi)
1	0+00.0 5+28.0	111.987	1	0+00.0 5+28.0	102.375	1	0+00.0 5+28.0	115.330	109.897
2	5+28.0 10+56.0	99.587	2	5+28.0 10+56.0	75.446	2	5+28.0 10+56.0	107.798	94.277
3	10+56.0 15+84.0	68.192	3	10+56.0 15+84.0	72.764	3	10+56.0 15+84.0	87.637	76.198
4	15+84.0 21+12.0	59.504	4	15+84.0 21+12.0	86.747	4	15+84.0 21+12.0	108.453	84.901
5	21+12.0 26+40.0	89.912	5	21+12.0 26+40.0	93.973	5	21+12.0 26+40.0	96.178	93.354
6	26+40.0 31+68.0	77.444	6	26+40.0 31+68.0	82.321	6	26+40.0 31+68.0	106.642	88.802
7	31+68.0 36+96.0	89.314	7	31+68.0 36+96.0	79.885	7	31+68.0 36+96.0	92.847	87.349
8	36+96.0 42+24.0	77.498	8	36+96.0 42+24.0	83.398	8	36+96.0 42+24.0	141.292	100.729
9	42+24.0 47+52.0	60.272	9	42+24.0 47+52.0	72.780	9	42+24.0 47+52.0	92.266	75.106
10	47+52.0 51+89.4	64.843	10	47+52.0 51+89.4	131.204	10	47+52.0 51+89.4	109.127	101.725
	0+00.0 51+89.4	80.118		0+00.0 51+89.4	87.326		0+00.0 51+89.4	105.701	91.051

Defect Locations:

Defect	Type	Track	Segment	Start		End	Length (ft)		Peak Height (in)		Peak Station	Closest GPS Note
1	Bump	3	1	0+36.5	to	0+39.8	3.3	Peak:	0.338	at	0+38.2	38 58' 00.18" N 121 40' 20.74" W
2	Bump	3	1	0+96.7	to	1+07.0	10.3	Peak:	0.445	at	1+03.2	38 57' 59.51" N 121 40' 20.94" W
3	Bump	1	1	0+97.3	to	1+07.3	10.1	Peak:	0.406	at	1+02.4	38 57' 59.51" N 121 40' 20.90" W
4	Bump	2	1	1+46.9	to	1+57.6	10.7	Peak:	0.367	at	1+49.8	38 57' 59.07" N 121 40' 21.13" W
5	Bump	3	1	3+87.8	to	3+90.6	2.8	Peak:	0.306	at	3+89.8	38 57' 56.77" N 121 40' 21.83" W
6	Bump	3	2	6+56.4	to	6+58.7	2.3	Peak:	0.325	at	6+57.4	38 57' 54.21" N 121 40' 22.65" W
7	Bump	3	2	6+74.9	to	6+87.1	12.2	Peak:	0.490	at	6+79.8	38 57' 54.00" N 121 40' 22.72" W

▲ **Immediate Results with Feature-Rich Software** ▲

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