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

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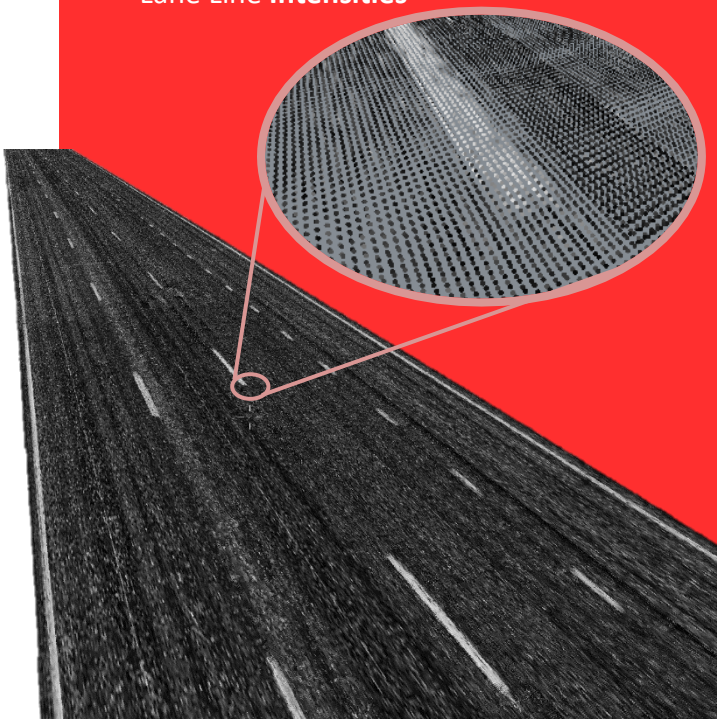
CSL-90 Pavement Scanner

▲ CSL-90 PORTABLE SCANNING SYSTEM ▲

Key Features

- **Pavement Facing** LiDAR Sensor
- **Highway Speed** – No Traffic Control
- **Multi-Lane** Stitching
- **0.45mm LiDAR Vertical Accuracy**
- **2D and 3D Surfaces** at Highway Speeds
- **Zero-Speed Profiler**, variable speeds
- Used as **ASTM E950 Inertial Profiler**
- **13.1-foot Wide Scan** Path (4-meter)
- Lane Line **Intensities**

▲ CSL-90 CAN BE PAIRED WITH AN INERTIAL PROFILER ▲



▲ Dense LAS Point Cloud ▲

CSL-90 LiDAR Survey Scanner

All Properties Dependent on System Build and Features Installed:

Conforming Specifications	ASTM E950, AASHTO R56 & R57, ASTM E1926, TxDOT 1001-S
Collection Speed	0-160 mph for inertial system with Zero-Speed upgrade 55 mph for <1-inch grid on scanning system
Report Metrics	**IRI, MRI, HRI, RN, RMS, PRI**
Localized Roughness	IRI, Straightedge, Profilograph must-grinds, Texas 1001-S method
Data Export Formats	ProVAL (PPF, ERD), GIS, Excel, PDF, TxDOT PRO, CAD, Txt
Survey Scan Export Formats	LAS, DXF, Text/CSV (PNEZD)
Software Requirements	Windows 7+ (Windows 10 Pro Supplied)
GPS Features Available	**Constellations:** GPS, Glonass, Galileo, Beidou; L1/L2 frequencies; **Correction Services:** WAAS, SBAS, PPK/RTK, NTRIP
PPK GPS Accuracy	~10mm horizontal, ~25mm vertical
Inertial Profiler Laser Vertical Accuracy	< 0.01-inches (Per AASHTO r56)
Inertial Profiler Laser Standoff Height	12-inches
Inertial Profiler Laser Width	100-150 mm (4-6 inches)
LiDAR Scanner Vertical Accuracy	0.45 mm (0.018-inches)
LiDAR Sensor Measurement & Frequency	1 million points/second 28,000 solid state measurement points
LiDAR Sensor Scan Width	13.1-feet (4-meters)
Scanning LiDAR Standoff Height	78-inches (2-meters)
Accelerometer	±10g (0.0001g resolution)
GPS-DMI Accuracy	< 0.05%
Encoder DMI Accuracy	< 1-ft/528-ft
IMU Pitch/Roll Accuracy	0.02 degrees
IMU Heading Accuracy	0.01 degrees
Power Connection	Straight to battery or 7-pin trailer
Power Supply	12V DC
Power Draw	3 amps

Features: *25 Years Refined*

- Guided calibrations for bounce test, laser verification, accelerometer, and distance.
- Immediate reporting of IRI, texture and rutting results
- Built-in GPS Post-Processing (**PPK**)
- 2D differential modeling surfaces
- SSI Survey Correction Program merges all scan data and extracts lines for analysis
- Intellicut Corrective Grind Optimization Software.
- Profile Design software creates smoothed machine control models based on machine dynamics and IRI values
- Navigate to defects and locations with our real time **GPS Tracker**
- Real time display of traces, speed, position during collection.
- Configurable hot-key shortcuts.
- Real-time system health monitoring and diagnostics
- Support for Google Earth and Google Maps.
- User configurable analysis parameters and data editing.
- Rewritable raw data: change parameters at any time.
- 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.

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