



**SURFACE SYSTEMS & INSTRUMENTS, INC.**

Custom Test Equipment • Mobile Technology Solutions

**California**

1845 Industrial Drive  
Auburn, California 95603

☎ (530) 885-1482



38.9295236N, -121.0945153W

**Kansas**

307 Plymate Lane  
Manhattan, Kansas 66502

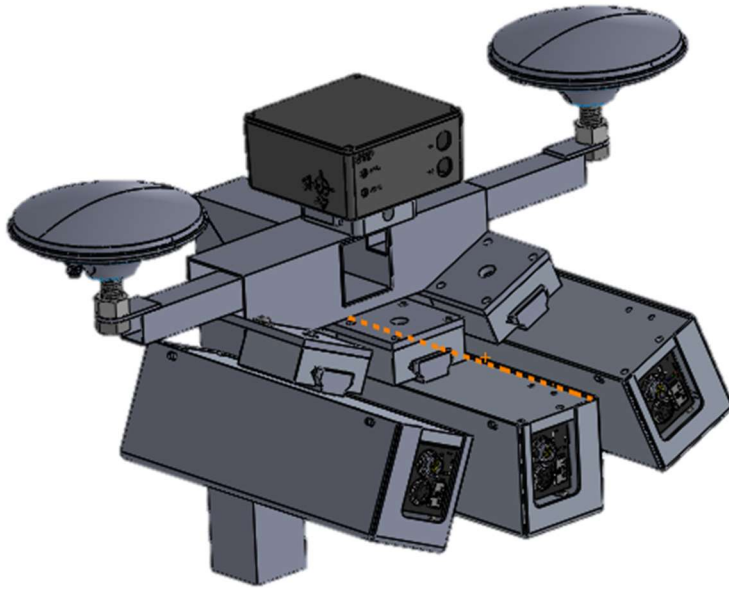
☎ (785) 539-6305



39.1852186N, -96.6082708W

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# Portable 3D Survey Scanner



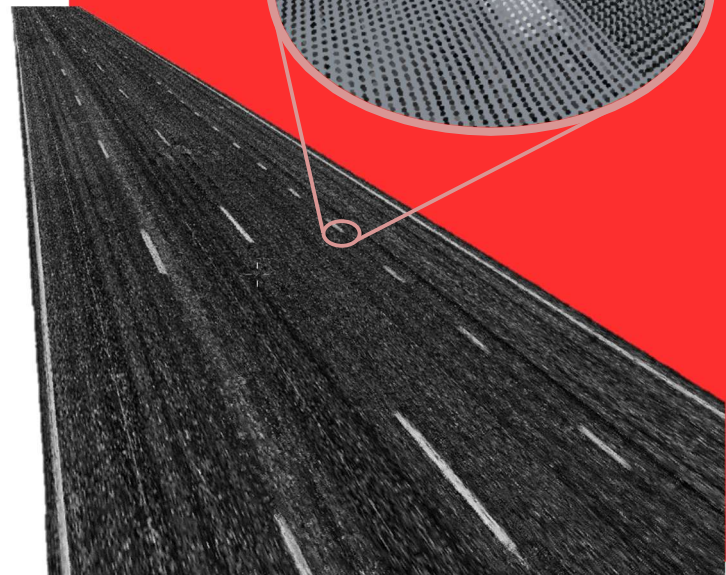
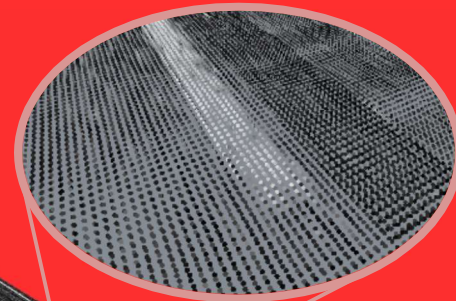
▲ **CS9550** Portable 3D Scanning System ▲



▲ **CS9550** with Zero-Speed Configuration ▲

## Key Features

- **2D and 3D Surfaces** at Highway Speeds
- **Zero-Speed Profiler**, variable speeds
- **Fixed Sampling Interval**
- Can be Used as an **Inertial Profiler**
- **ASTM E950 Compliant**
- **7.5-foot Wide Scan Path** (2.3-meter)
- **Wide Correction Point Spacing**
- **Lane Line Intensities**



▲ **Dense LAS Point Cloud** ▲

*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 56 mph for 2-inch grid on scanning system
Report Metrics	<b>IRI, MRI, HRI, RN, RMS, PRI</b>
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	<b>Constellations:</b> GPS, Glonass, Galileo, Beidou; L1/L2 frequencies; <b>Correction Services:</b> WAAS, SBAS, PPK/RTK, NTRIP
PPK 2D GPS Accuracy	~10mm horizontal, ~25mm vertical
3D Control Point Spacing	2,500 – 4,000 feet (800-1,200 meters)
PPK 3D Elevation Accuracy	< 6mm for ~95% of point cloud
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)
Scanning Laser Vertical Accuracy	0.56 mm (0.022-inches)
Scanning Laser Z-axis Linearity	0.05% of MR
Scanning Laser Measurement & Frequency	1200 points at 5kHz
3 Laser CS9550 Scan Width	7.5-feet (2.3 meters)
Scanning Laser Standoff Height	60-inches
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	2.4 amps per laser

### **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 or 3D surfaces
- SSI Survey Correction Program merges all scan data and corrects elevations to 3D levels
- **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.

## **SURFACE SYSTEMS & INSTRUMENTS, INC.**

### **California Division**

1845 Industrial Drive, Auburn, California 95603  
Tel: (415) 383-0570 • Fax: (415) 358-4340  
[smoothroad.com](http://smoothroad.com)

### **Kansas Division**

307 Plymate, Manhattan, Kansas 66502  
Tel: (785) 539-6305 • Fax: (785) 539-6210  
[info@smoothroad.com](mailto:info@smoothroad.com)