

# Maverick

## Mobile Mapping System



### Portable

Weighing under 9 kilograms (20 lb.), Maverick is easily mounted on a variety of platforms, including vehicles, ATV/UTVs, trains, and backpacks. This highly portable system operates in widely varying conditions, including indoor GNSS-deprived environments, and can be used for projects of any size and scope.

### Powerful

Combining high-resolution 360° imaging, high-definition lidar, and an integrated position and orientation system, Maverick delivers impressive and accurate mobile data. It collects up to 700,000 data points per second, and captures high-resolution images using six high-quality 5-MP sensors. The Maverick system is packaged with real-time display and feedback, along with Distillery software to provide imaging, lidar, and GNSS post-processing.

### Proven

Maverick was developed to fill the industry need for a portable and powerful mobile mapping unit. Its robust and multi-functional datasets are used for numerous projects and applications. To date, Maverick has collected data in the industries such as transportation safety, construction, asset management, rail, utilities, and 3D modeling.

### Accurate

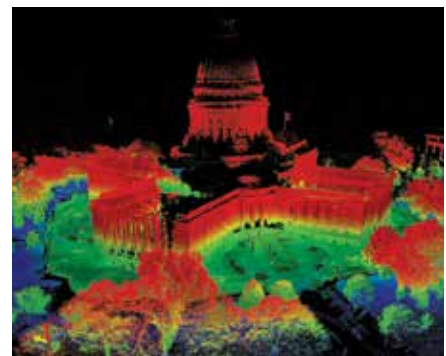
Maverick users can take their data accuracy to the next level with the optional Optech LMS Pro software solution. Besides improving absolute accuracy by using control points and relative adjustment of overlapping passes, LMS Pro also accommodates enhanced sensor calibration that significantly improves Maverick data precision.



- » Transportation Safety
- » Construction
- » Roadway Assets
- » Railway
- » Utilities
- » 3D Modeling
- » Indoor Mapping



Multiple mount options



Dense urban data capture



Operation in GNSS-deprived areas



# Maverick Mobile Mapping System

## Mounting Options

### Actuated Roof Mount (Vehicle Mount)

Type	Option that is installed directly onto the roof rack (e.g., roof rails or Thule bars), using actuators to raise/lower Maverick to/from its survey position.	
Features	<ul style="list-style-type: none"> <li>» Highly adjustable mount</li> <li>» Quick-connect mount adapter</li> <li>» Installed in minutes without specialized tools</li> </ul>	
Weight	13.1 kg (28.9 lb.)	
Shipping Case	Type:	Custom-designed shipping case
	Dimensions:	92 x 37 x 25 cm (36.2 x 14.6 x 9.8 in)
	Shipping weight:	23.3 kg (51.4 lb.)

### Backpack Mount (Wearable Mount)

Type	Option that enables operator to collect Maverick data on foot indoors and in other environments inaccessible to vehicles.	
Features	<ul style="list-style-type: none"> <li>» Unobstructed field of view for both Maverick lidar and 360° camera system</li> <li>» Adjustable height</li> <li>» Quick-connect mount adapter</li> <li>» Battery pack included (specifications below) <sup>1</sup></li> </ul>	
Weight	7.3 kg (16.1 lb.) for backpack frame + empty battery pack 18.1 kg (39.9 lb.) for backpack frame + battery pack + 4 batteries + Maverick unit	
Shipping case	Type:	Custom-designed shipping case
	Dimensions:	92 x 56 x 28 cm (36.2 x 22 x 11 in)
	Shipping weight:	30 kg (66 lb.), including battery pack

### Battery Pack (For Use With Different Mount Options)

Batteries	Up to 4 batteries
Battery extension	Batteries can be hot-swapped to extend operation time <sup>1</sup>
Weight	2.35 kg (5.2 lb.) for empty battery pack 1.8 kg (4 lb.) for 4 batteries
Battery status	Monitoring device to view battery charge

<sup>1</sup>To reduce the risk of serious injury from excessive strain, an operator should only use the backpack mount for 30-60 minutes at a time. Multiple operators are necessary for longer use.



# Maverick: A Complete Software Workflow



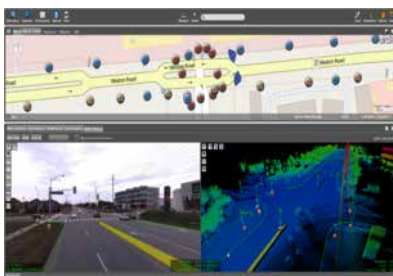
Data Collection



Distillery



NEW - LMS Pro



## Collect

- » Real-time web-based data display and feedback
- » Moving map display, accessible by any device with a WiFi connection
- » Ability to load survey plan

## Process

### Distillery

- » Standard data processing solution
- » Image, lidar, and GPS post-processing
- » Intuitive and simple to use
- » Visualize collected lidar and imagery data almost in real time

### LMS Pro

- » Comprehensive data processing solution
- » Takes Maverick to the next level with improved precision/accuracy and extended capabilities:
  - » Robust quality assurance and quality control tools
  - » Batch, parallel and distributed processing
  - » On-the-fly coordinate transformation
  - » Point cloud colorization

## Extract / Analyze / Share

- » Highly automated feature extraction process
- » Premium data analysis and sharing capabilities
- » Tightly integrated with best-in-class third-party solutions

# Specifications

System			
Operating Temperature	0° to 43°C (32° to 110°F)	Power Supply	12 V - 36 V DC
Dimensions	34.4 cm × 21.6 cm × 36.3 cm (13.60" × 8.50" × 14.28")	Weight	8.85 kg
Mount	Mount bolts to existing roof racks (four 1/4" screws) or quick release installation; specific vehicle mount options available		

Laser Components			
Laser/Detector Pairs	32	Horizontal Field-of-View	360°
Vertical Field-of-View	+10° to -30°	Output	Up to 700,000 points/second
Range Precision	±2 cm (one sigma at 25 m)*	Safety	Class 1, eye-safe

Imaging Components			
Type	Ladybug 5	Megapixels	30 MP (5 MP × 6 sensors)
Imaging Sensor	Sony ICX655 CCD × 6, 2/3"	Optics	6 high-quality 4.4-mm focal length lenses
Field-of-View	90% of full sphere	Spherical Distance	Calibrated from 2 m to infinity
Focal Distance	≈200 cm. Objects have an acceptable sharpness from ≈60 cm to infinity		

Shipping Case			
Type	Durable, custom-designed shipping case	Dimensions	55.9 cm × 45.7 cm × 25.4 cm (22" × 18" × 10")
Shipping Weight	18.14 kg		

\* Using LMS Pro typically improves data accuracy and precision, and minimizes the loss of precision at longer ranges

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