

KEY FEATURES

- Fully synchronized imagery and laser scanning collection
- Up to 1 million points per second at highway speed
- Precise positioning using a tightly coupled GNSS/INS (inertial) system
- Efficiently manage terabytes of data
- Use RTK, VRS or post processing
- Trimble Trident software to extract survey, GIS and construction deliverables

BENEFITS

- Survey highways without road closures
- Undertake huge projects with a single vehicle
- Facilitate change analysis impossible using other technologies
- Rapidly survey hazardous areas
- Automated and manual feature extraction capabilities
- Faster, safer project execution



SPATIAL IMAGING AT HIGHWAY SPEEDS

The Trimble® MX8 combines premium laser scanning, positioning and imagery technologies to collect georeferenced point clouds and high-resolution imagery. Rigidly mounted and fully calibrated, the MX8 is capable of collecting over one million points per second, allowing high fidelity as-built asset and infrastructure modeling.

Trimble's market leading positioning technologies deliver extremely fast position updates (up to 200Hz) and high-accuracy results even when GNSS signals are interrupted. The scan rate and 360 degree field of view allow dense data to be collected, without gaps, from a moving vehicle at regular traffic speeds. Combined with ground control, the MX8 achieves

industry-leading accuracies, allowing surveyors, engineers, and geospatial professionals to conduct projects that would be too slow, cost-prohibitive, disruptive, dangerous or simply impossible using traditional survey methods. The result is incredibly accurate and detailed 3D infrastructure geometry, captured in a single pass.

Combined with Trimble Trident Analyst productivity software, the Trimble MX8 provides a complete mobile mapping and survey workflow to help infrastructure managers plan, design, build and maintain modern infrastructure while maximizing safety and effectiveness.



Trimble MX8 Mobile Spatial Imaging

SYSTEM SPECIFICATIONS

Laser Subsystem

The Trimble MX8 is available in configurations of either one or two of the following scanners:

	VQ®-250 Configuration	VQ®-450 Configuration
Accuracy	10 mm ¹	8 mm ¹
Precision	5 mm ²	5 mm ²
Maximum effective measurement rate	600,000 points/second (2 x 300,000 points/second)	1,100,000 points/second (2 x 550,000 points/second)
Line scan speed	up to 200 lines/second (2 x 100 lines/second)	up to 400 lines/second (2 x 200 lines/second)
Echo signal intensity	high resolution 16 bit intensity	high resolution 16 bit intensity
Range	up to 500 m @ 100 KHz (natural targets ρ ≥ 80%)	up to 800 m @ 150 KHz (natural targets ρ ≥ 80%)

Positioning Subsystem

The Trimble MX8 is available with either Applanix POS LV420 or POS LV520.

	POS LV 420 ³		POS LV 520 ³	
	Post Processed ⁴	RTK	Post Processed ⁴	RTK
X,Y Position - with GPS	0.020 m	0.035 m	0.020 m	0.035 m
Z Position - with GPS	0.050 m	0.050 m	0.050 m	0.050 m
Pitch and Roll - with GPS	0.015°	0.015°	0.005°	0.008°
True Heading - with GPS	0.020°	0.020°	0.015°	0.020°
X,Y Position - with GPS Outage (1 km or 1 minute)	0.120 m	0.340 m	0.100 m	0.300 m
Z Position - with GPS Outage (1 km or 1 minute)	0.100 m	0.270 m	0.070 m	0.100 m
Pitch and Roll - with GPS Outage (1 km or 1 minute)	0.020°	0.020°	0.005°	0.008°
True Heading - with GPS Outage (1 km or 1 minute)	0.020°	0.030°	0.015°	0.020°

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Imagery Subsystem

Individual camera resolution 5.0 MP
 Standard system 3 x forward facing and 1 x rear pavement facing
 Optional Additional 3 x rear facing cameras

System Components

- Computer System for capturing, recording and managing the vehicle trajectory, point cloud and imagery data
- Reinforced Universal Vehicle Mounting Kit (Universal Rack, Roof Bars, Connectors)
- Capture software supplied: Trimble Trident Cam Capture, Trimble Trident Laser Capture
- Vehicle positioning aid: DMI - Distance Measuring Indicator which computes wheel rotation information.
- Supports: Applanix GNSS Azimuth Measurement System (GAMS™) - dual antenna GNSS capability
- Weight (on vehicle "pod") approx. 70 kg



- 1 Accuracy is the degree of conformity of a measured quantity to its actual (true) value. One sigma at 50 m range under test conditions.
- 2 Precision or repeatability is the degree to which further measurements show the same result. One sigma at 50 m range under test conditions.
- 3 All accuracy values given as RMS. Assumes typical road vehicle dynamics.
- 4 For post processing use POSpac MMS industry-leading software for direct georeferencing of mobile mapping sensors using GNSS and inertial technology. Accuracy values quoted are for system with GNSS coverage (not during GNSS outages).

Specifications subject to change without notice.

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