



Survey-Grade Geospatial Data

The Optech Lynx HS-600 Dual is a premium mobile mapping solution designed to maximize data accuracy and cost efficiency for survey-grade projects on high-speed roads. Equipped with two worldclass lidar sensors, the Lynx HS-600 Dual offers not only exceptional accuracy, but also unmatched data resolution.

With 1200 scan lines/second, the Lynx HS-600 Dual delivers high-resolution, evenly distributed data at posted vehicle speeds. Scanner speed is the main bottleneck to achieving "true" resolution (consistent point spacing across and along scan lines) — improvements in sensor measurement rate are only beneficial if the scanner speed is also improved. By doubling the scanner speed of its predecessor the Lynx SG, which was already an industry leader, and increasing measurement rate by 25%, the Lynx HS-600 Dual brings tangible performance improvements: Many more data points capturing much more of the scene than ever before.

With the Lynx HS-600 Dual, a complete and best-in-class workflow is guaranteed. Designed to serve as the central hub for processing data from all sensors, the bundled Optech LMS Pro software workflow solution ensures cost efficiencies and maximizes your return on investment. Using advanced

Lynx HS-600 Dual Mobile Survey System™



processes, LMS optimizes data accuracy and verifies that it meets project requirements, making LMS an essential tool for survey-grade applications. A critical advantage is its ability to obtain a high-quality data product without sacrificing project productivity.

Processing time is minimized by embedded post-mission quality assurance and quality control tools, while interoperability with third-party software significantly streamlines further data post-processing.



APPLICATIONS

- » Corridor surveys
- » Design engineering
- » Rail surveys
- » Utilities mapping



FEATURES

- » Industry-leading scanner speed ensures uniform data at highway speeds
- » Configurable system parameters manage data volume

- » Optech LMS workflow automates high-volume processing
- » Automated boresighting simplifies operations
- » Integrates with up to four 5-Mpix cameras

- » Ladybug 360° camera captures integrated imagery
- » Optech LMS enables efficient and robust QA/QC
- » Real-time LAS output allows in-field QA and rapid access to the survey data



Lynx HS-600 Dual Mobile Survey System™

The Lynx HS-600 Dual Advantage

Premium Lidar Performance

The Lynx HS-600 Dual comes with two lidar sensors, each with an 800-kHz measurement rate, 360° FOV, 600-Hz scanner and 5-mm precision, making it the apex of lidar design and performance.

High-Resolution Data

Data resolution determines the level of physical detail that can be identified from the data, and depends on the point spacing along and across the scan line. While the laser measurement rate is the main parameter affecting the point spacing along the scan line, the spacing between scan lines depends mainly on the scanner speed. If the measurement rate is high but the scanner speed is slow, the resolution is excessive along the scan line but significantly inferior across it. Thus a high scan speed is critical to obtaining a uniform distribution of points ("true" resolution) at high vehicle speeds. The Lynx HS-600 Dual boasts both a high measurement rate and a very high scanner speed – 1200 lines/second (two 600-Hz scanners) – which deliver a uniform point distribution for the highly superior identification of small objects.

Modular System

The Lynx HS-600 Dual's modular design facilitates in-field service, reduces down time, greatly simplifies system mounting and lowers shipping costs.

Maximum Accuracy and Efficiency

The Lynx HS-600 Dual is built to maximize accuracy and efficiency on design survey projects. Its multiple-perspective lidar coverage minimizes shadows, significantly increasing data collection efficiency and quality.

Complete Software Workflow Solution

Optech Lynx Survey and Optech LMS are a complete software solution with best-in-class planning, execution, inertial/positional processing, lidar post-processing and information extraction. Full compatibility with Orbit GT, TopoDOT and other leading software lets you import imagery, lidar data and trajectories to generate deliverables seamlessly for environments like ArcGIS, MicroStation and AutoCAD.

Additional Sensors

The Lynx HS-600 Dual provides a variety of imaging options to meet wide-ranging project needs – a 360° camera and/or up to four highresolution cameras. For even more flexibility, navigation data can be made available to additional auxiliary sensors.

Real-Time System Diagnostics

Lynx Survey enables operators to view lidar/image data and monitor GNSS/INS quality in real time for immediate QA/QC. Real-time LAS file output allows quick in-field coverage checks.

Parameter	Lynx HS-600 Dual
Number of lidar sensors	2
Camera support ¹	Up to four 5-Mpixel cameras and one Ladybug® camera
Timestamp for additional camera/sensor ²	Yes
Maximum range ³	130 m @ 10% reflectivity
Range precision ⁴	5 mm, 1 σ
Absolute accuracy ⁵	± 5 cm, 1 σ
Laser measurement rate	150 - 1600 kHz programmable (150; 400; 800; 1200; 1600 kHz)
Measurements per laser pulse	Up to 4 simultaneous
Scan frequency ⁶	Up to 1200 lines/sec programmable (10-Hz intervals per sensor)
Scanner field of view	360° without obscurations
Operating temperature	-10°C to +40°C (extended range available)
Storage temperature	-40°C to +60°C
Relative humidity	0-95% non-condensing
Laser classification	IEC/CDRH Class 1 eye-safe
Vehicle	Fully adaptable to any vehicle

1. Each lidar sensor supports two 5-Mpixel cameras.

2. Customer can add additional sensors and use existing POS output.

3. Slant range from sensor.

4. Under test conditions. Contact Teledyne Optech for details.

5. Assumes good GPS data (PDOP <4) and 10-m range using a post-processed GPS trajectory. Performance will degrade in the event of poor or lost GPS.

6. Up to 600 lines/sec per lidar sensor.