



# Lynx HS-600 Mobile Survey System™

## Summary Specification Sheet

### 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
- Ladybug 360° camera captures integrated imagery
- System design enables easy installation in minutes
- Real-time LAS output allows in-field QA and immediate deliverables
- Fully upgradeable to the Lynx HS-600 Dual configuration

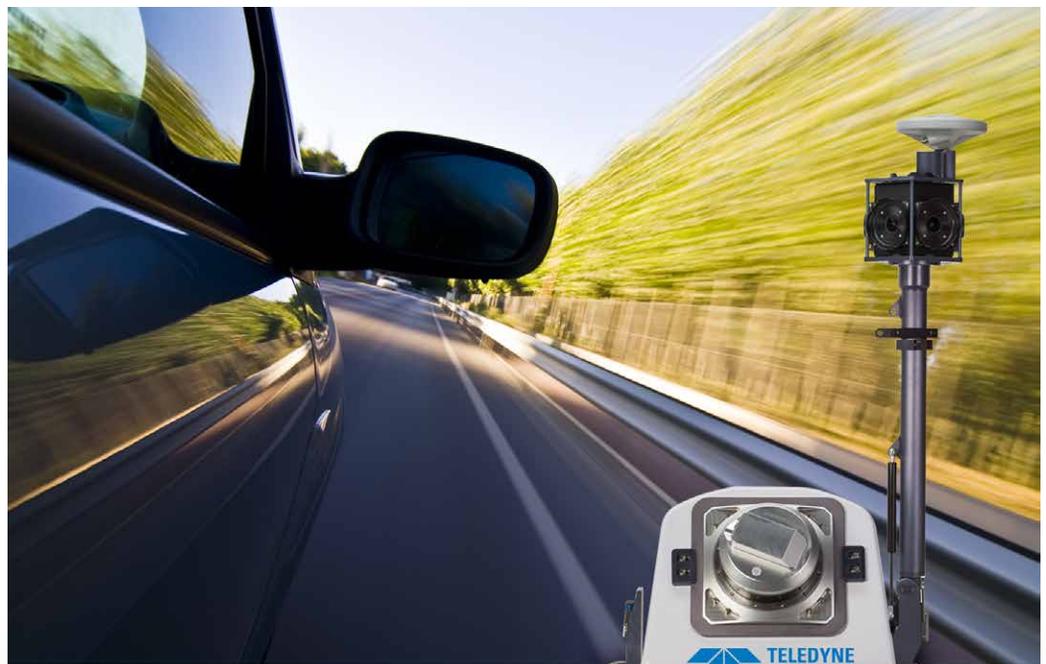
### Applications

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

### Survey-Grade Geospatial Data

Equipped with the fastest scanner in the industry, the Optech Lynx HS-600 is the best single-head mobile solution for survey-grade projects on high-speed roads. At 600 scan lines per second, the Lynx HS-600 delivers high-resolution, evenly distributed data at posted vehicle speeds.

By doubling the scanner speed of the Optech Lynx SG series, which was already an industry leader, the Lynx HS-600 marks a significant advance in mobile lidar technology. Scanner speed is the main bottleneck to achieving a “true” resolution (consistent point spacing across and along scan lines) at highway speeds — improvements in sensor measurement rate are only beneficial if scanner speed is also improved. The Lynx HS-600 improves performance by increasing the measurement rate and, most important, significantly increasing the scanner speed.



The Lynx HS-600 is simply the best solution on the market for projects that demand survey-grade accuracy from a single lidar/camera installation. It is tightly integrated with the optional Point Grey Ladybug@5 camera to produce high-resolution, accurate lidar and image data.

Bundled with a robust and comprehensive software workflow solution, the Lynx HS-600 maximizes your return on investment and cost efficiency. Designed to serve as a single central processing hub for raw trajectory, lidar and image data, Optech LMS Pro employs powerful least-squares algorithms with batch processing methods and the latest distributed and multithreaded processing routines to maximize data throughput. Embedded QA/QC tools enable you to comprehensively optimize and validate your data accuracy — without using external toolsets.

With a best-in-class hardware and workflow solution, the Lynx HS-600 ensures that your most challenging projects are delivered with high-quality data — on time and on spec. The Lynx HS-600 is fully upgradeable to a Lynx HS-600 Dual configuration, letting you maximize data collection efficiency as your business expands while protecting your initial investment.

## The Lynx HS-600 Advantage

### Word-Class Lidar Technology

The Lynx HS-600 boasts an 800-kHz measurement rate, an unobstructed 360° FOV, 5-mm precision, and a fast and accurate scanner for high-density data at high vehicle speeds.

### Camera Options

The Point Grey Ladybug camera delivers high-resolution 360° imagery with images calibrated and boresighted by Optech LMS in a simple, tightly integrated workflow.

### Complete Software Workflow Solution

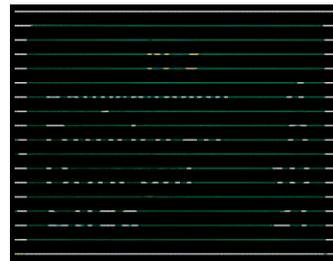
Optech Lynx Survey and Optech LMS are a complete software solution with best-in-class planning, execution, inertial/positional processing, lidar post-processing, and information extraction. Full compatibility with Orbit GT, TopoDOT and other leading software lets you import lidar data, imagery, and trajectories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

### Portable and Upgradable

The self-enclosed design reduces installation time to minutes, enabling operators to remove and store the sensor securely overnight. The system is fully upgradeable to a Lynx HS-600 Dual configuration as business expands.

### 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 (fig. a). Thus a high scan speed is critical to obtaining a uniform distribution of points (“true” resolution) at high vehicle speeds. The Lynx HS-600 boasts both a high measurement rate and a very high scanner speed, which deliver a uniform point distribution for the highly superior identification of small objects (fig. b).



200-Hz scanner (a)\*



600-Hz scanner (Lynx HS-600) (b)\*

Parameter	Lynx HS-600
Number of lidar sensors	1
Camera support	Ladybug®5 camera
Timestamp for additional camera/sensor (1)	Yes
Maximum range (2)	130 m @ 10% reflectivity
Range precision (3)	5 mm, 1 $\sigma$
Absolute accuracy (4)	$\pm 5$ cm, 1 $\sigma$
Laser measurement rate	75 - 800 kHz programmable (75; 150; 300; 600; 700; 800 kHz)
Measurements per laser pulse	Up to 4 simultaneous
Scan frequency	Up to 600 lines/sec programmable (10-Hz intervals)
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. Client can add additional sensors and use existing POS output.

2. Slant range from sensor.

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

4. 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.

\* Simulated data – illustration purpose only