



# Hovermap ST



SLAM-based  
3D mapping



Omnidirectional  
collision avoidance



Autonomous  
waypoints



GPS-denied  
flight

**HOVERMAP ST IS THE NEW STANDARD  
IN SURVEY GRADE AUTONOMOUS LIDAR  
MAPPING FOR HARSH GPS-DENIED  
ENVIRONMENTS.**

**Its tough, lightweight, IP65 weather sealed design  
enables the capture of valuable data in previously  
inaccessible areas.**

This powerful combination of precision engineering, world-leading SLAM algorithms, and robust drone autonomy capability provide accurate LiDAR mapping for as-builts, surveys, or inspections.

Equally capable above ground or underground, indoors or out, Hovermap ST can easily be switched from a drone flight to a walking, vehicle-, or backpack-mounted scan, providing the versatility needed to capture data anywhere.



**GOOD  
DESIGN  
AWARD®  
GOLD WINNER**

# UNRIVALED SLAM ACCURACY AND WORKFLOW EFFICIENCIES

## HOVERMAP ST AND AUTOMATED GROUND CONTROL FEATURE

Together Hovermap ST and Emesent's automated Ground Control Point feature speed up survey workflows and produce georeferenced, survey grade point clouds.

- Place Emesent ground control targets at surveyed locations in the environment prior to scanning.
- Conduct your non-stop scan. Unlike other SLAM control point solutions, there is no need to stop at each target or place Hovermap on the target.
- Emesent ground control targets are automatically detected by the processing software and used to remove SLAM drift and georeference the point cloud.
- Automatic constellation matching between the detected targets and survey locations removes the need for manual target matching.

In addition to improving accuracy for common mapping tasks, Hovermap ST with automated Ground Control Point feature can be used to create survey grade scans for long, linear assets, large or feature-poor environments that have previously been challenging for SLAM-based systems.

## HOVERMAP ST HARDWARE KIT INCLUSIONS

- Hovermap ST
- Custom-fitted tough case with space for accessories
- Hovermap handle, and belt clip
- 1.5 m power cable (handle-mount/battery)
- V-Mount 98Wh, 14.8v 6600mAh battery
- Standard charger with international adaptors (US/Canada, AUS/NZ and Europe/Japan)
- Emesent data processing licence key with Aura software
- Hovermap scanning software USB

## SOFTWARE

- Aura Software is included in all subscription entitlements

## TRAINING AND SUPPORT INCLUDED

- Introductory training session/video and manual
- Global Support and Service

## ENTITLEMENTS AVAILABLE

- Mapping
- Plus
- Autonomy

## ADDITIONAL HARDWARE

- Emesent Control Point targets
- GoPro and colorization kit
- Hovermap fitting kits for M210 and M300
- Samsung tablet and tablet display kit for DJI Smart Controller

## ACCESSORIES

- Backpack (Hardcase for walking scans and storage)
- Cavity monitoring system (CMS) adaptor kit
- Long Range Radio
- Magnetic or suction-cup vehicle mounts
- Protective cage
- Telescopic boom pole

# HOVERMAP™ ST SPECIFICATIONS

## PHYSICAL

IP Rating	IP65
Operating Temperature	-10 to 45°C (14 to 113 °F)
Weight	1.6 kg 3.63 lb
Supported Drones	DJI M300 DJI M210v1 Acecore Zoe

## MAPPING

LiDAR Sensing Range	0.40 to 100 m 1.3 to 330 ft
LiDAR	Single Return Mode: up to 300,000 points/sec Dual Return Mode: up to 600,000 points/sec 360 x 290° field of view Class 1 Eye Safe
Mapping Output	Full resolution and decimated in E57, .laz, .las, or .ply format point clouds, trajectory file
Mapping Method	Simultaneous Localization and Mapping (SLAM)
Mapping Accuracy	± 20 mm (3/4 in) in general environments ± 15 mm (19/32 in) in typical indoor and underground environments ± 5 mm (7/32 in) isolated change detection capability
Onboard Storage	512 Gigabytes Approximately 8 hours of sensor data
Point Cloud Attributes	Intensity, range, time, return number (strongest & last), ring number, RGB / true color (optional)

## AUTONOMY

Tap-To-Fly and Guided Exploration	Waypoint setting in real time 3D map and autonomous path planning
Collision Avoidance	LiDAR omnidirectional range of 1.2 to 40 m (3.9 to 131 ft) Size of an obstacle > 2 mm wire (3/32 in) In-flight adjustable safety distance
Intelligent Return To Home	Autonomous Return To Home navigation triggered by low battery or excessive dust
Assisted Flight	Non-GPS flight, position hold, and assisted flight, collision avoidance, regulated flight speed



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