

# imajbox® Twin

www.imajing.eu

## Panoramic & Versatile Mobile Mapping System

### Panoramic

Get 120° field of view panoramic images

### Versatile

Combine views according to your projects and choose any orientation

### Flexible

Perform surveying projects for both small and nationwide networks

### Auto-calibrated

Launch a survey in few seconds from one single button

imajbox® Twin is a smart combination of two imajbox® mobile mapping systems, enabling to collect geo-localized images to answer all kind of surveying projects for transportation infrastructures management. Designed like a toolbox, imajbox® Twin can be jointly mounted for panoramic surveying or oriented towards different angles.

imajbox® Twin widens surveying projects configurations and scope of applications to enhance variety of surveys according to requirements and field data needed.



## TECHNOLOGY

### Master & Slave

imajbox® Twin is composed of 2 synchronized imajbox® controlled from a single device.

Regardless the surveying configuration chosen, both imajbox® are connected via a trigger cable\* and work in a Master/Slave mode. imajbox Master triggers imajbox Slave.

imajbox® Twin is then fully auto-calibrated and automated.

### IMU & GNSS navigation

imajbox® Twin uses data from a set of sensors to ensure accurate and continuous geographical positioning – a factory calibrated inertial measurement unit (IMU), a GNSS receiver, a barometric sensor – and operates a patented self-calibration algorithm using the image flow. All the sources are tightly hybridized through a forward extended Kalman filter, and then smoothed by a backward filter.

imajbox® Twin navigation algorithms enable to detect GNSS multi-paths, and switches into dead reckoning when complete loss of GNSS signals – e.g. dense urban, vegetation and tunnels.

imajbox® Twin integrates a GPS+GLONASS L1 receiver and offers various navigation modes for all surveying conditions:

- GPS+GLONASS standalone (1,50m CEP\*\*)
- GPS with SBAS corrections (1,00m CEP\*\*)
- GPS+GLONASS with dGNSS corrections (0,50m DRMS\*\*)

\* Maximum distance between imajbox Master & imajbox Slave : 2m

\*\*Absolute planimetric accuracy values in open sky conditions

### Image processing

imajbox® Twin integrates high quality optics with factory calibrated lens to remove the optical distortion in photogrammetry.

imajbox® Twin enables:

- 7.5MP 120° HFOV or 2\*5MP 80° HFOV
- Calibrated images for photogrammetry
- Natural colors, sharp and detailed images in all daily conditions of light and speed.

### Wi-Fi remote control

imajbox® Twin is a Wi-Fi hotspot, enabling to remotely control all surveys parameters from a single device – smartphone, tablet or computer.

### Data storage

imajbox® Twin stores data on SSD via USB connector.

### External sensors

imajbox® Twin has serial links to integrate optional external sensors:

- Distance Measuring Instruments  
For measuring vehicle's speed
- External GNSS receiver  
For RTK or PPP (TERRASTAR) corrections

## APPLICATIONS

### Field data collection & mapping

imajbox® Twin is designed for high speed data collection, and provides transportation infrastructures managers with up-to-date field imagery.

imajbox® Twin collects tangible geo-localized imagery supports to perform any GIS task for asset inventory and asset management.

- Create accurate and exhaustive geo-database
- Collect data overtime and compare
- Work with common references for different thematics
- Survey whenever needed

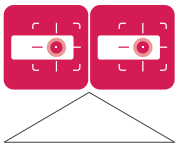
imajbox® Twin enables to cost-effectively perform local surveying projects as well as nationwide surveying projects, according to your own usage.

imajbox® Twin can be used for:

- Roads (highways, national, urban, paths)
- Rails (tramways, railways)
- Cycle ways (paved or unpaved)
- Waterways (canals, calm rivers)

## CONFIGURATIONS

### Panoramic surveying

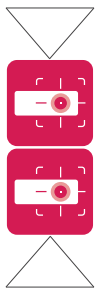


imajbox® Twin can be used as one single system for 120° panoramic surveying.

- **Collect data on wide roads**  
Highways with many lanes, wide streets, train stations
- **Know the network and assets**  
Get an immersive view of the network



### Both direction surveying

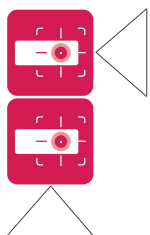


imajbox® Twin can be split in two and mounted towards front and back of the network.

- **Increase productivity**  
Cover networks twice faster and optimize surveying trips
- **Focus on vertical features**  
Inventory traffic signs and traffic lights



### Global and detailed surveying



imajbox® Twin can also be used to get a global view of the environment while focusing on targeted details.

- **Front/pavement oriented**  
Focus on pavement condition
- **Front/lateral oriented**  
Focus on facades, addresses, sidewalks, railway platform, shoulders, public lightening, safety equipments, advertisement, vegetation and utilities.



# IMAJBOX TWIN TECHNICAL SPECIFICATIONS

		imajbox Twin S	imajbox Twin T
Optics	5 mm lens	✓	✓
Image sensor	2*5MP CCD Optimaj 14 bits processing	✓	✓
IMU	DX2	✓	/
	DX3	/	✓
Field of view	120° HFOV or 2*80° HFOV	✓	✓
Survey mode & related planimetric absolute accuracy	GPS <b>2,50m*</b>	✓	✓
	GPS + GLONASS <b>1,50m*</b>	✓	✓
	GPS + SBAS <b>1,00m*</b>	✓	✓
	DGNSS <b>0,50m**</b>	✓	✓
	PPP - TERRASTAR With external receiver <b>0,30m**</b>	✓	✓
	RTK With external receiver <b>0,20m**</b>	✓	✓
Antenna	Patch antenna	✓	✓
	High-end plate antenna	✓	✓
Maximum survey speed	130 km/h - 80 mph	✓	/
	180 km/h - 110 mph	/	✓
Survey type	Roadways, cycle ways	✓	✓
	Railways, waterways	/	✓
Case	Aluminum	✓	✓
Loaded carrying case	462x340x170mm	✓	✓
	3kg	✓	✓
Battery life	4h30	✓	✓
External power supply	18W	✓	✓
Power tension	9 to 24V	✓	✓

\*CEP absolute planimetric accuracy values in open sky conditions

\*\*DRMS absolute planimetric accuracy values in open sky conditions