TOPCON

IP-S3 HD1

Mobile Mapping System

Superior performance for collecting high-density point clouds in a compact and light weight body

- Easy mounting setup
  Ultra-compact and lightweight design
- High-speed and high-density point cloud acquisition
- Portable carrying case ensures security
- Efficient for mapping and GIS data updating
- World's first Play Back function to check and review the acquired data

Efficiently collect massive spatial data with high-density 3D Point clouds data over a large area.

Highly effective to obtain 3D spatial information in shorter time and in lower cost.

Ultra-compact, lightweight

The IP-S3, in a twice as compact design as its predecessor, enables mounting and set up even on a small car which can drive relatively narrow street.
Only one person is required to mount and dismount the system on to and from a car roof.

Acquire high-density point cloud data

IP-S3 obtains high-quality data.
High-speed scanning of 700,000 points-per-second provides detailed shapes of objects along the driving route. Six 5 MP cameras, capture the high-resolution image data of 360 degrees around the car.

Instant preview of acquired data

Play back function to view the data along with the driving route, just after completing the session.
This ensure if the data covers what are necessary to acquire, before return to the office.

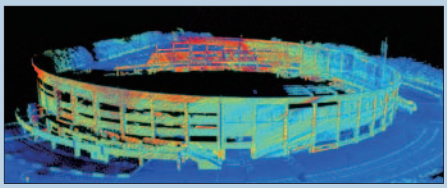
Portable carrying case for easy transport and secure storage

A portable carrying case is provided to protect the system for transportation and storage.
It can be easily taken to a secure area to avoid damage or theft during overnight trips.

Measurement **Acquired Data**

Drive through the area that need to be measured

Omnidirectional Image

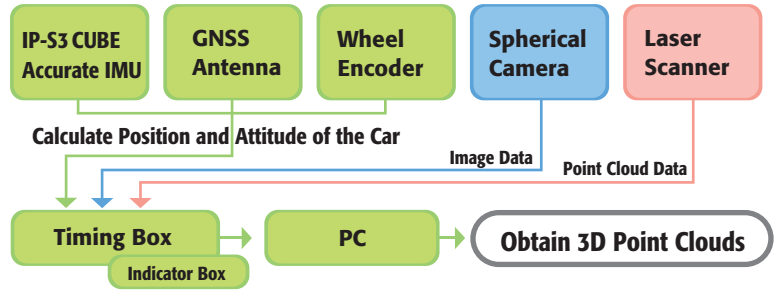


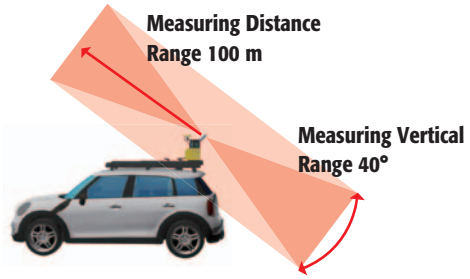
Point cloud data (before texture mapping)

IP-S3 HD1

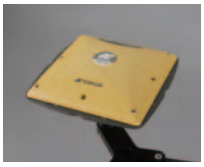
Position, image and point cloud data all are collectively acquired

System Configuration





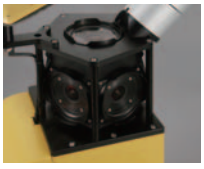
IP-S3 CUBE


GNSS Antenna


Wheel Encoder

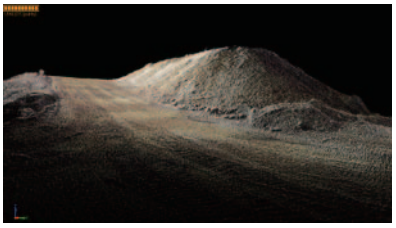

Timing Box
Indicator Box


Laser Scanner


Spherical Camera

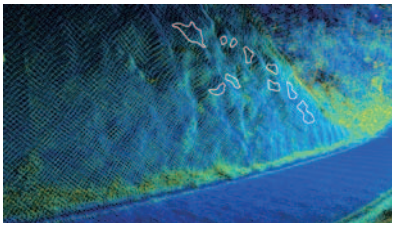
3D point cloud data can be utilized for a variety of applications

Topo measurement at civil engineering site

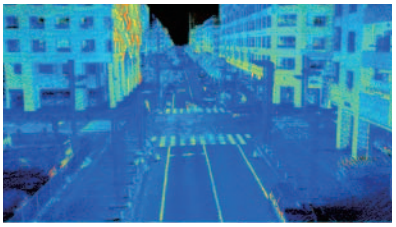


Topographic Mapping

Investigation at Steep slope surface



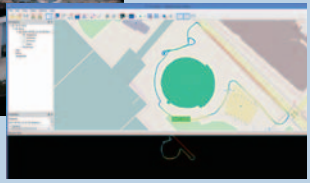
Landscape Simulation



Post Processing


Point cloud data (after texture mapping)

Car Trajectory



Different Applications


Road Signs/White Line


Create base map for 3D GIS

SPECIFICATIONS

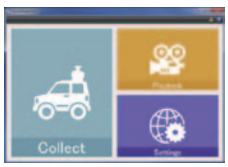
Timing box	
Dimensions	260 (W) x 160 (D) x 121 (H) mm
Weight	3.0Kg
Dustproof / Waterproof	IP65
Input Voltage	9V-36V
Cube	
Dimensions	300 (W) x 500 (D) x 600 (H) mm
Weight	18.0 Kg (including all sensors)
Mount kit	
Dimensions	680 (W) x 173 (D) x 1339 (H) mm (when slide shortened)
	680 (W) x 173 (D) x 1339 (H) mm (when slide extended)
Weight	16.0 Kg (w/o roof carrier)
GNSS Receiver	
Number of channel	226 channel
GPS	L1 / L2 carrier, L1CA, L1P, L2P
GLONASS	L1 / L2 carrier, L1CA, L1P, L2P
Data update	10Hz
Static survey accuravy	H : ±3.0mm +0.5mm / V : ±3.0mm +0.5mm
Kinematic survey accuracy	H : ±10mm +1ppm / V : ±15mm +1ppm
Dustproof / Waterproof	IP67
IMU	
Gyro bias stability	1° / hr
Acceleration bias stability	7.5 mg
Laser scanner	
Point density	700000 points / sec
Valid range	100m
Dustproof / Waterproof	IP67
Spherical camera	
Camera unit	CCD camera (6 pcs)
Maximum resolution	8000 x 4000 pixel
Maximum image capturing speed	10 fps
Wheel encoder	
Pulse rate	2500 PPR
Dustproof / Waterproof	IP67

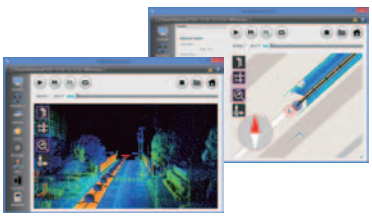
High-speed and more automated post-processing software

Mobile Master Field (MMF) software

The MMF software monitors and controls IP-S3 data acquisition with simple operation.

- With intuitive menus, operation in the cockpit is stress-free.
- Status of all connected sensors can be monitored in real time.
- The included Play Back function to preview the acquired data along with the driven route to check, before going back to the office, if all the necessary area has been measured and data are captured.

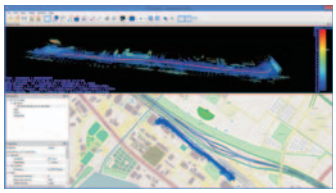


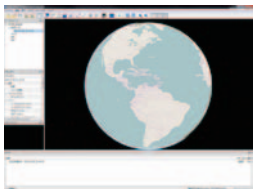


Mobile Master Office (MMO) software

The MMO software is the post-processing software for PC's which provides intuitive and speedy data processing and analysis with a new processing engine.

- Capable to quickly display a large volume of point cloud data and provide smooth operation for data processing and analysis.
- Improved accuracy of car position and trajectory with the enhanced processing engine.





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