

STENCIL

POWERED BY KAARTA ENGINE

KAARTA™

Real-time detailed digital 3D model scanning and generation

Kaarta Stencil™ is a stand-alone, light weight, hand-held, and low cost system unleashing the integrated power of 3D mapping and real-time position estimation not possible with fixed-base scanning systems.

Kaarta Engine, Kaarta's patent-pending advanced 3D mapping and localization algorithms, is at the heart of Stencil, providing highly accurate and robust maps.

Stencil's ease of use, breadth of applications, and streamlined workflow make it the perfect choice for infrastructure inspectors, engineers, security personnel, architects, farmers, or anyone who needs an easy way to document the 3D world quickly and dependably.



SPECIFICATIONS

FORMAT	.ply
MODES	Baseline mapping Add-on mapping for more complex and larger areas Compatible with files produced with Kaarta Contour™
IMU	Internal MEMS-based IMU Six DOF: X, Y, Z, Roll, Pitch, Yaw
PROCESSOR	Intel NUC i7 Dual Core
PORTS	HDMI Type A video 4 USB 3.0 Mini DisplayPort RJ-45 Ethernet
STORAGE	250 GB SSD
OS	Ubuntu Linux OS
LASER	Standard adapter fits Velodyne VLP-16 lidar 100m range 360° horizontal FOV 30° vertical FOV
FEATURE TRACKER	640 x 360 Resolution 50 Hz frame rate Black & white images
WEIGHT	700g (1.54lb)
POWER	12-19 vDC
MOUNTING PLATFORMS	Hand-held Backpack Roadway vehicle Aerial drone

INCLUDED ACCESSORIES	23000 mAh, 85W external battery AC power adaptor Base plate for camera or tripod
OPTIONAL ACCESSORIES	Vehicle Mounting Kit Stencil Accessory Kit
WARRANTY	90 days
MODEL NUMBERS	KRT-STN-FT-60-010: Base + VLP-16 + feature tracker KRT-STN-FT-00-010: Base + feature tracker w/ lidar integration KRT-STN-FT-XX-010: Base + feature tracker no lidar integration KRT-STN-SW-00-010: 1 year software service KRT-STN-HW-01-010: 1 year extended hardware warranty KRT-STN-HW-02-010: 2 year extended hardware warranty KRT-ACC-VH-00-010: Vehicle Mounting Kit KRT-ACC-ST-00-010: Stencil Accessory Kit

KAARTA ENGINE FEATURES
Real-time registered point cloud generation
Real-time localization
Multi-sensor input (IMU, feature camera, lidar)
Continuously self-correcting minimal drift techniques
Implicit loop closure
Point-of-scan work confirmation
Fast, explicit loop closure at point of scan
Point cloud sharpening technology
Patent-pending technology

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CONFIGURATION



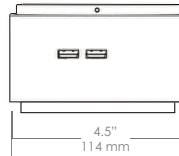
Stencil base configuration is an extruded-aluminum enclosure with machined plates for lidar mounting and adapters as well as mounting points for attachment to vehicles, tripods and more.

Stencil can accept several lidar models including Velodyne VLP-16 and Velodyne HDL-32E. Stencil uses only an Allen wrench for lidar attachment.

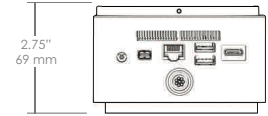
Feature Tracker, a high frame-rate imaging device, is recommended for operation in more open, unstructured environments.

DIMENSIONS

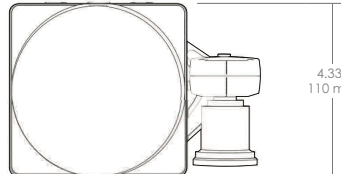
FRONT



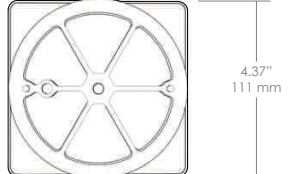
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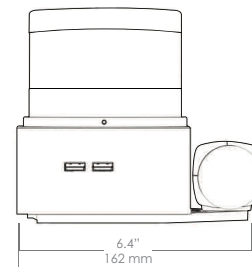
TOP



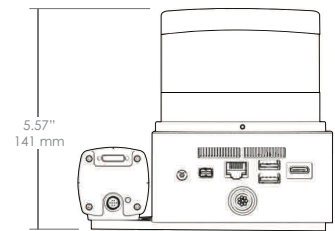
TOP



FRONT



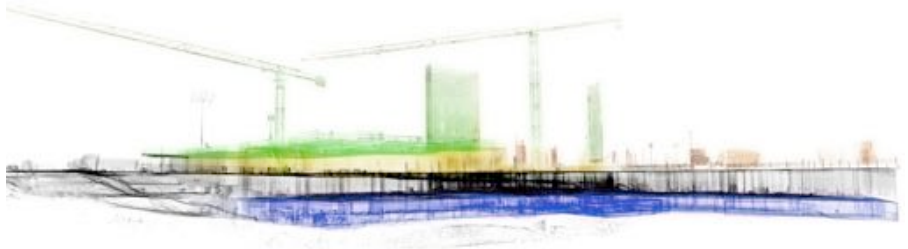
BACK



SAMPLE OUTPUT



C-130 Hercules transport aircraft scanned in 30 min with no post processing except for visualization.



The Tepper Quad, the cornerstone of a complex that encompasses 27,000 sq m (300,000 sq ft) at Carnegie Mellon University. Scanned in less than 90 minutes and merged in real-time on site.