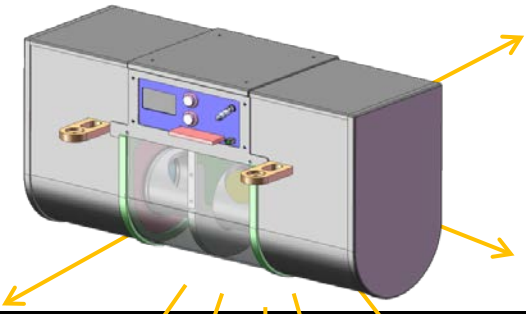
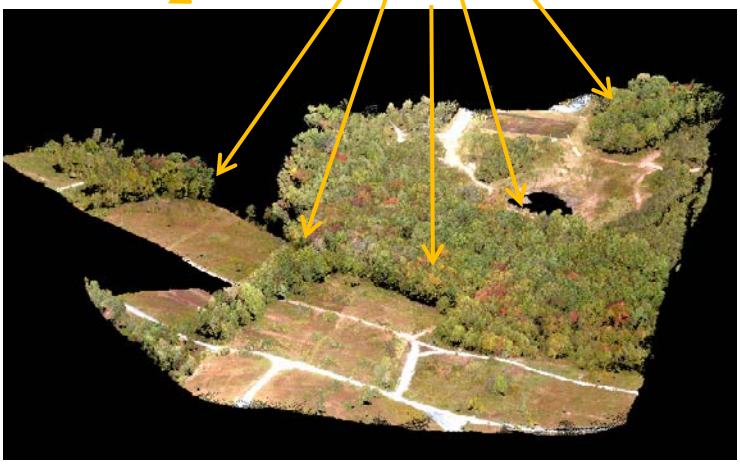
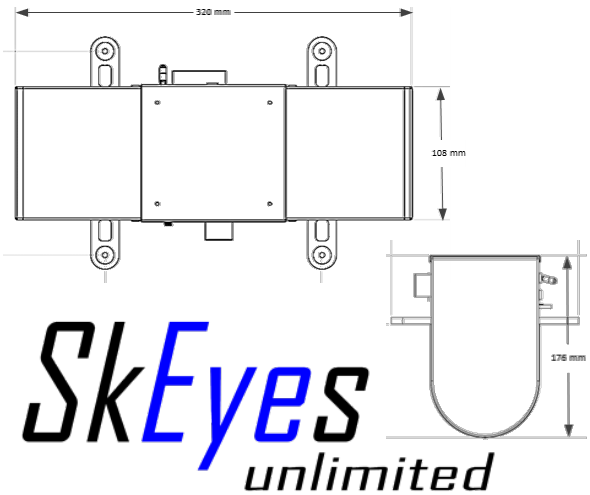
SkEyes-Box II

3D Aerial Mapping System

Laser Specifications	
Range	*0-400 m*
Rangefinder type	*Pulsed Time-of-flight*
Wavelength	*905 nm*
Measurement rate	*100 KHz*
Beam divergence	*2 mrad x 0.25 mrad*
Scan Angle	*270°*
Scan Configuration	*Single plane push-broom*
Range Resolution	*7 mm*
Scan Rate	*Up to 60 Hz*
Laser echoes tracked	*4*
Eye safety	*Class 1 [IEC 60825-1:2014]*
Mapping Specifications	
Mapping Mode	*3D Georegistration*
Map Resolution	*Typ. 10 cm² speed dependent*
Storage	*CF Card (15 GB/h write rate)*
Navigation System Specifications	
IMU	*Tactical-Grade MEMs (ITAR)*
Global Positioning	*RTK GPS*
GPS/IMU coupling	*15th degree Extended Kalman Filter*
INS Mechanization	*Latitude/Longitude*
General Specifications	
Timing resolution	*< 1 µs*
Weight	*3 Kg*
Power	*2 A @ 12 V (24W max)*
Size	*320 x 108 x 176 mm*







The *SkEyes-Box II* builds 3D geo-registered point-cloud maps of the surrounding environment. A time-of-flight pulsed laser senses range to objects while a tightly synchronized inertial navigation system (INS) maintains the global position and direction of the laser transmitter. Knowing where the laser is and where it is pointing to, the system can then use the sensed range to calculate the global position of the reflecting objects. The system integrates a custom-built laser (905 nm, pulsed with 4-return tracking) and scanner mechanism (planar push-broom configuration) with a tightly synchronized (1 µs resolution) INS integrating a tactical-grade MEMs inertial measurement unit (IMU) and an RTK GPS receiver.

SkEyes unlimited

1660 McElree Road
Washington, PA 15301 USA (412) 260-2625

WWW.SKEYES.US