

Ladar 2D500 laser radar system

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Ladar 2D-500 500 meter range laser radar system



Ladar 2D-500 is a special unit designed for application tests and research.. It is modular design and flexible operation and can easily be updated with different sensors and characteristics. System can be scanned up to 400 degree in booth axis and speed and angles are controlled by software. Image shows a set up with a 500 meter sensor and in this image we test harbour surveillance to replace short range radar systems by a laser.

Technical specifications in short

Range	500 meter to a grey surface min 1 square meter
Measuring speed for distance values	1000 Hz in laser class 1 operation
Distance accuracy	+ 10 cm measured at +1 Sigma definition
Scanning speed	Max 90 degree / sec
Beam diameter at 100 meter distance	2 cm x 18 cm elliptic / square shape
Weight	8 kg
Encapsulation	Standard open frame IP 27 and optional IP 54
Operating voltage	12 -24 VDC max 100W
Adjustment	2 axis by micrometer screws
Laser safety class	Class 1 to international standards (eye safe)
Connection	System operates with a PC under Linux software PC can have web interface when needed.

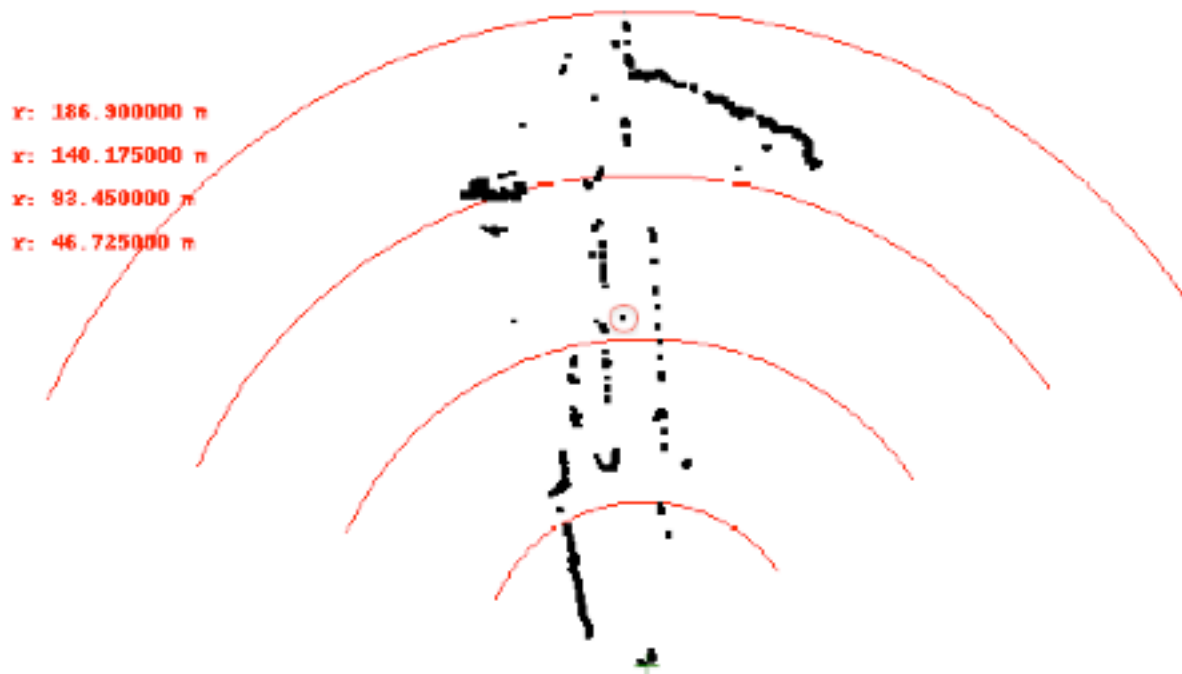
Laseroptronix

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Software demo and test system

The software is aimed for research and tests of the ladar technology in different applications



Radar style window

Here we scan and plot all reflexes in angle and distance. System can auto-scale distances when scene changes. Red ring shows the reflex on one of the paper box that is visible on the photo.

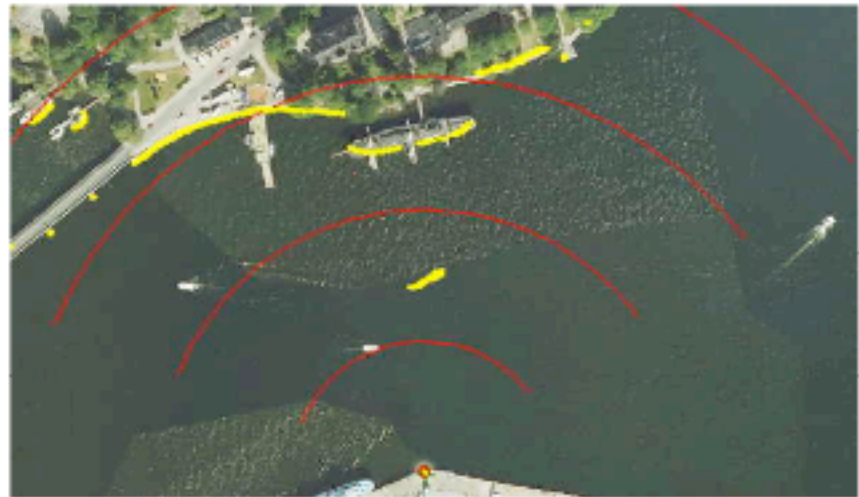


Image over scanned area with houses etc. As you see the trees gives strong signals and are easy to find. Here we have a less 10 cm accuracy of all coordinates in numbers.

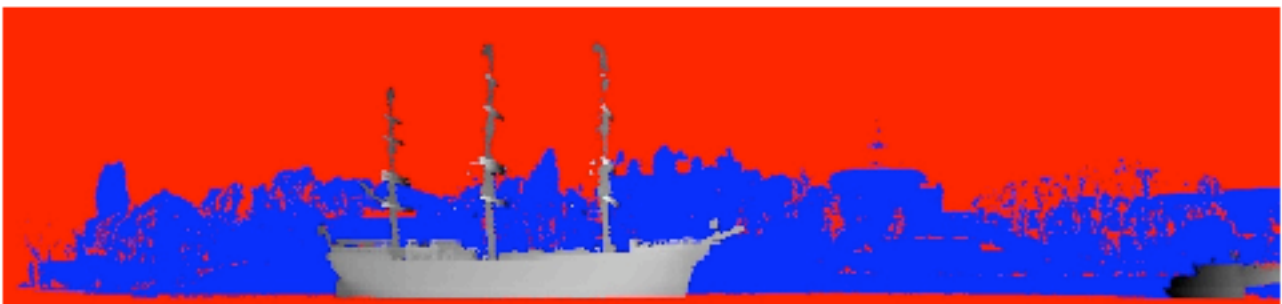
In full speed mode we can get several Hz in scanning speed over a scene like this.

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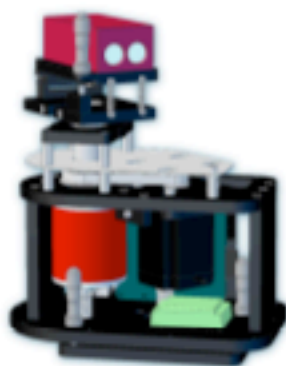
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Set up for a test in Stockholm with over lay from Google earth. Here we scanned a scene in 2D with globally positioned dots as an over lay on Google and an earth image of a boat in Stockholm. Yellow marks are laser hits. Here we see lamps and trees 10-20 cm in diameter at up to 400 meter in range.



Same view but we manually tilted the system for getting a real 3D image of the area. As an option we can add a third axis to system for getting a real 3D matrix image.



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