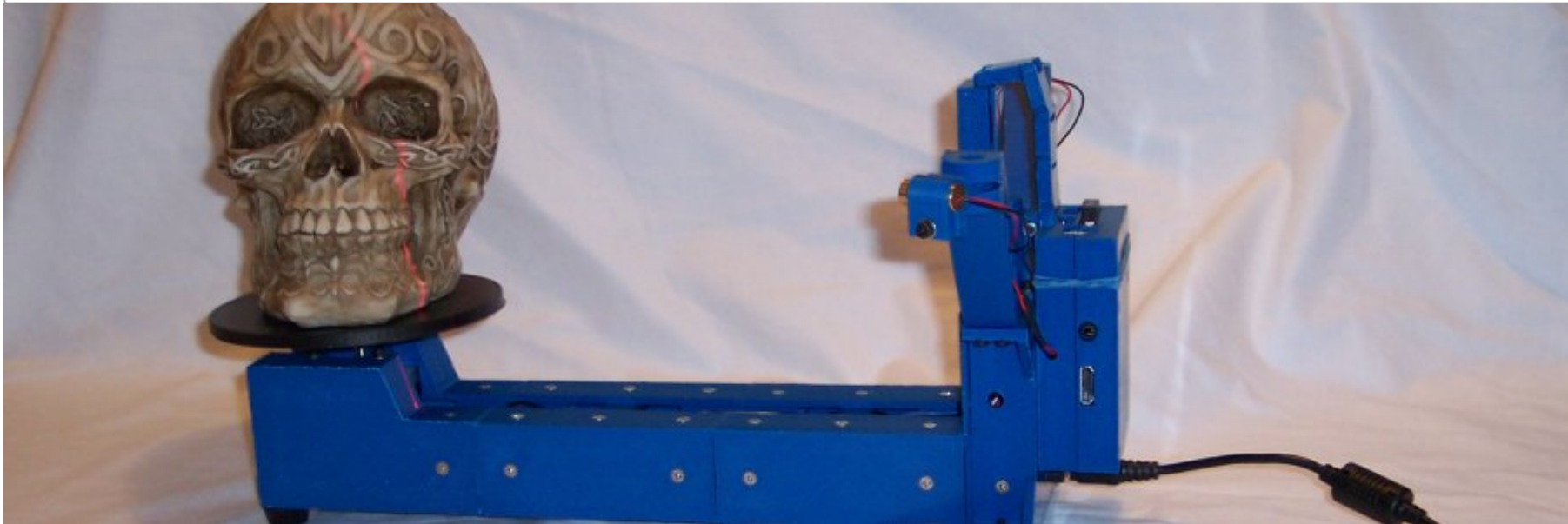




The Free 3D Printable Laser Scanning System



Get a Scanner Kit!

Get an ATLAS 3D scanner kit based on the FreeLSS software from the [Murobo store](#).

About FreeLSS

FreeLSS is a free as in open source, open hardware, and open electronic design 3D printable turn table laser scanning platform based on the [Raspberry Pi](#). It is written in C++ and licensed under the GPL. The scanning software runs self-contained on the Raspberry Pi without the need for a connected computer via USB. The user interface is completely web based and is exposed via [libmicrohttpd](#) on the Pi. Laser sensing is performed

via the official 5 MP Raspberry Pi camera. The camera can be operated in either video or still mode. Video mode camera access is provided by the [Raspicam](#) library. Reference designs for the electronics to control the lasers and turn table are available as [Fritzing](#) files. Access to the GPIO pins are provided by [wiringPi](#).

Features

- Fully 3D Printable
- Point cloud export
- Triangle mesh export
- Assisted calibration
- Support for dual laser lines (right and left)
- Up to 6400 samples per table revolution (with reference electronics)
- 5 megapixel camera sensor
- Support for camera Still mode and Video code
- Configurable Image Processing Settings
- Ability to generate images at different stages of the image processing pipeline for debugging
- Persistent storage of previous scans
- Manual control of lasers and turn table
- Flexible architecture

Formats

FreeLSS can generate results in the following formats.

- PLY - Colored Point Cloud
- XYZ - Comma Delimited 3D Point Cloud
- STL - 3D Triangle Mesh

Download

Download the source on [Github](#).

Download the printable hardware files from [Thingiverse](#).

Electronic design files: [Perfboard](#), [PCB](#)

Screenshots

1. The Main Interface
2. Camera Feed from Scanner
3. Settings Page

Video

Scanning a Celtic skull.



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