**TSLO read me file.**

**Latest update: December 13, 2013**

This document will help to guide you through the resources that are available on this website. The documents are broken up into four sections: Design, Parts list, Software and Electronics.

**Design**

Each optical design has five files associated with it:

1. Zemax file: this has only the optical design of the scanning/descanning elements of the system. It can be used to estimate optical performance of the system
2. Solidworks file: This is a 3-D rendering of the entire TSLO. Each part is individually labeled and can be traced back to the parts list. If you do not have the SolidWorks program, you can download a a viewer eDrawings, for free at <http://www.solidworks.com/sw/support/edrawings/e2_downloadcheck.htm>
3. TIF file: This is a 2D image output from the Solidworks program.
4. Component placement file: This is an Excel file that lists the exact heights and locations of all the optical components in the scanning/descanning part of the path. The heights and locations are relative to a reference point on the breadboard.

**Parts List**

There are three sets of parts lists for 5, 10 and 15 degree field systems (they are almost exactly the same). Each Excel files lists all optics, optomechanical hardware, electronics needed to build the system.

**Software**

There are four programs that are used to run the TSLO

1. **ICANDI** (image capture and delivery interface). This is the main software package which is used to run raw and stabilized image capture, sinusoidal scan correction, and basic stimulus delivery
2. **AOM Control.** This is a Matlab program that communicates with ICANDI. It is generally used to run psychophysics experiments. Users can develop and run their own experiments by writing experiment modules for this software.
3. **HV Field size**: This software allows you to calibrate and set a TSLO scan field size.
4. **FPGA application**: This software is installed directly onto the FPGA board and runs in the background via the ICANDI software.

**Electronics**

The prescription for the circuit board is in the zipped file under ***PCB Files (.rar).***

You can send the entire contents of this subfolder to [www.ourPCB.com](http://www.ourPCB.com) to get a quote to have the circuit made.

The details for the electronics driver box is in the zipped file under ***Electronics Enclosure (.rar).***

Unzip the file and start by opening and reviewing the illustrated guide, Electronics Enclosure Documentation.pdf, whoich outlines all the steps for assembling the electronics.

Use SolidWorks to open the file named ***Assembly3U 13.sldasm***. This file shows the entire electronics box assembly with each component in place (power supplies, circuit board, scanner drivers etc). You can choose the 4-channel or 2 channel options.

The details for the box itself is on the folder named ***Part Files***. It is a list of SolidWorks drawings for each panel of the box. Once you have purchased the box, you can send the box and this set of files to a machine shop to have the box cut to exact specifications.