Universal Laser Short Guide

Last reviewed: Marcel Thomas, 5/19/15
Revision #: 1.1
Purpose: This document enables the user to safely cut and engrave laserable materials.
Contact: mw-lasercutter@mit.edu

---

1. Turn on the laser cutter (Power Button)
2. Layout document in Adobe Illustrator.
   a. DO ALL SOFTWARE WORK OFF THE MACHINE.
   b. Make sure output paper size is correct: 24"x12".
   c. Make sure vector lines are <0.1pt thick and red (RGB: 255,0,0). Make sure engraved area is black.
3. Print the file
   a. Go to file-> print
   b. Choose a VLS3.50 as the printer,
   c. Press Print
4. Open the lid and manually focus the laser.
   a. When you open the lid,
      i. The laser head will move forward so the laser cover will not run into the gas springs for the lid
      ii. The laser pointer will turn on
   b. Focus the laser
      i. Put focusing tool (calibrated for the lens) on your part (DON'T LOSE THE FOCUSING TOOL!)
      ii. Move the bed up and down by pressing the up and down buttons on the laser until the edge of the focusing tool comes into contact
         1. Hold the button for rapid move
         2. Press the button for small increments
5. Go to the Universal Laser Program (ULS Control) and move your part to a good position
   a. Zoom lets you zoom in and out
   b. Focus View moves the laser to the position that you click (you can also press the arrow keys to move the laser manually)
   c. Relocate View lets you move the job around on the laser bed
   d. Duplicate View lets you copy the job in a linear pattern

e. Time Estimate view lets you estimate the time of your job (be sure to press Start for your job!)

6. Set the appropriate settings for the job
    a. Click settings
    b. Find the material you are using
    c. Enter the material thickness (there are calipers in the drawer)
    d. Click Apply (if it's grayed out, click Load, close that window)

7. Print your job
    a. Close the lid,
    b. TURN THE AIR ON
    c. Press Play (big green button) in the software

8. You cannot leave the machine while the laser is cutting. Try not to lean on the machine.

9. Usage notes:
    a. The PAUSE button pauses the job at the end of a vector, not necessarily when you press the button.
    b. The START button moves starts the job from the beginning, the resume button in the software starts the job from where you left off.

10. CLEAN UP
    a. Turn off laser cutter (hold the power button)
    b. Remove scrap material and close lid

Materials to use on the machine: We will use the list at AtX Hackerspace for now, but eventually we will have a laser cutter Wiki.