BluLaser Lightburn Set Up

Lightburn is a fully functional CAD, CAM and Sender for your laser attachment. Why I like and support this software is because it is intuitive and cheap at only $40usd (about $60aud) for two computers.

You can download a trial copy and use for 30 days with all functions here:
https://lightburnsoftware.com/pages/trial-version-try-before-you-buy

Check to see which version of windows you have, either 32 or 64bit.

Once you are happy to purchase a license, you can do that here
https://lightburnsoftware.com/collections/frontpage/products/lightburn-gcode

At the moment, only Lightburn and GRBLaser is supported with your BluLaser.

Prerequisites

You will need to operate your BluLaser

1. A CNC
2. Your laser connected to the TTL & GND of your CNC controller
3. 12V power supply connected to your BluLaser

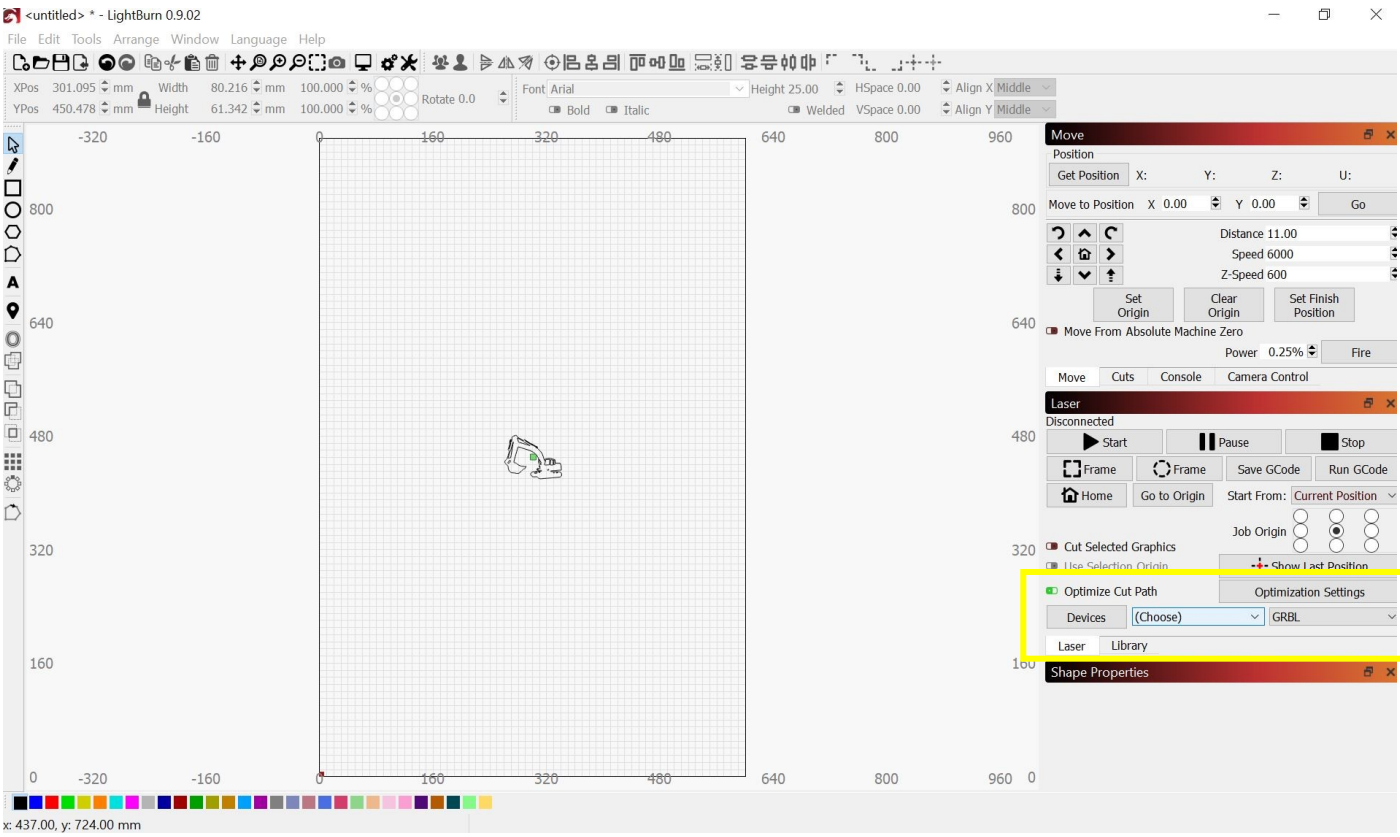
Safety

Your BluLaser is a Class4 10W 445nm laser diode. Together with common sense and vigilance, the following safety precautions are to be followed.

1. Only use the 12v power supply provided with your blue diode laser. Attempts to connect your 24v controller power supply may destroy your laser
2. It is a condition of the purchase of the BluLaser that the user is competent and will not use the laser for any harmful purposes
3. Whilst the power is connected and or laser is in operation;
    a. do have the laser connected to the appropriate mount, attached to the Z axis with the laser module pointing down
    b. do **not** leave your laser unnattended at any time
    c. do wear appropriate PPE including appropriate safety goggles specific for blue diode lasers
    d. do **not** have any body parts near the laser beam
    e. **do not** look directly at the laser beam, even if the laser is off and not firing
    f. do lock the door of the room/ garage/ shed the laser is situated to prevent persons without PPE specific to the use of lasers from entering
4. Choice of materials
    a. Beware that burning material may contain harmful fumes
    b. Ensure there is adequate ventilation for fumes to escape including a fuses extractor
    c. Do not laser plastics due to harm fumes such as chlorine
    d. Do not laser certain plys or material with adhesives which may become flammable
    e. Using the incorrect power and speed settings may cause your material to catch fire

BluLaser Set Up In LightBurn

After installing Lightburn, in the ***Laser*** console, click on **Devices**



Once in the **Devices** window

1. Click on **Create Manually**
2. Click on grbl GRBL then **Next**
3. In the How do you want to connect to it? screen, click **Next**
4. Name what you would like to call your laser, or leave as GRBL
5. Under What the dimensions of the work area? Input the following for a 1x1m set up

   X Axis Length 750 mm Y Axis Length 750 mm

   For 1x1.5m set up

   X Axis Length 750 mm Y Axis Length 1250 mm
6. Click **Next**
7. Choose bottom left as origin

   Where is the origin of your laser?

   (Where is X0, Y0 ?)

   Rear Left ○ ○ Rear Right

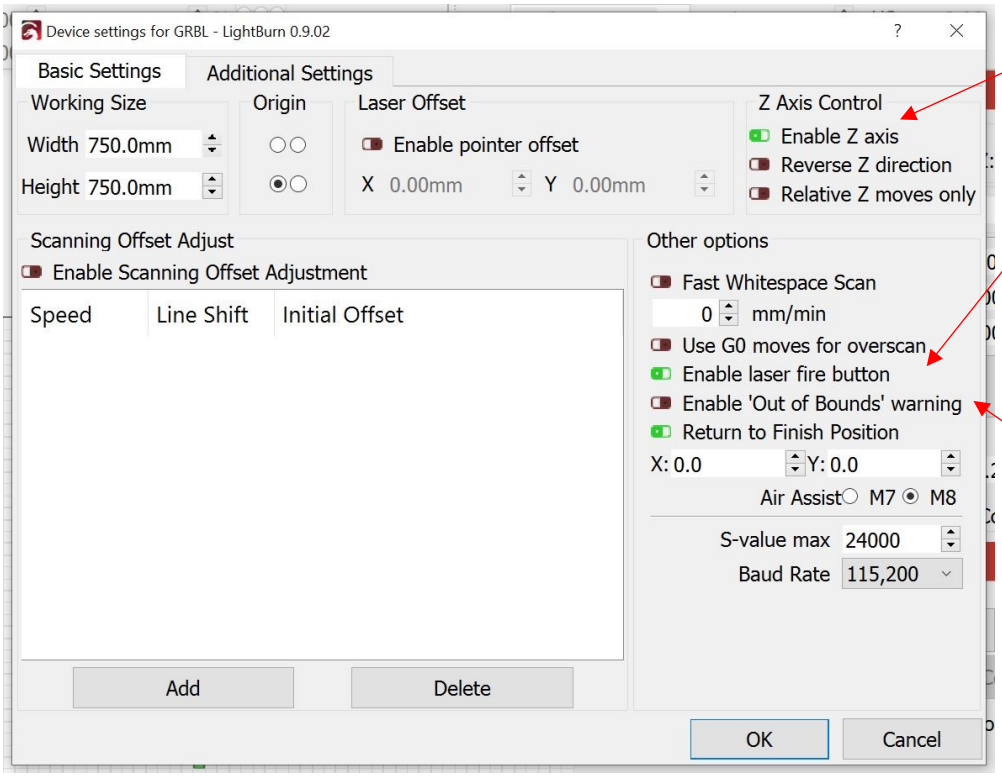
   Front Left ◉ ○ Front Right
8. For practicality, do not enable home on start up

   Auto "home" your laser on startup?
9. Click **Finish** to complete the set up of your BluLaser

Lightburn Settings

After setting up your device, it is best that you change the settings that will mimic the way the CNC behaves like in Easel

Edit > Devices

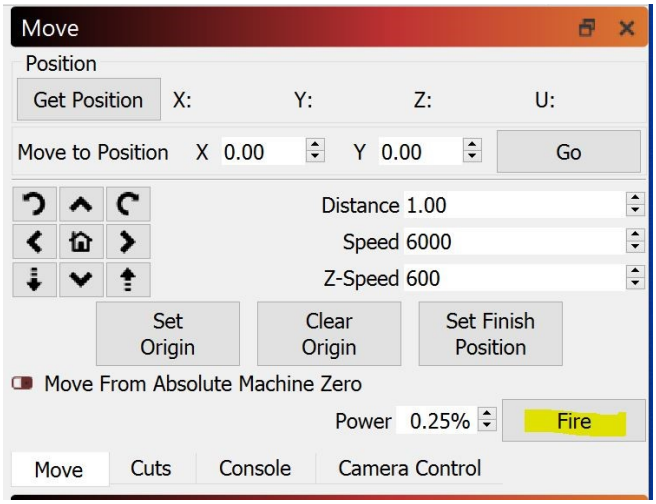


Allows for cutting material

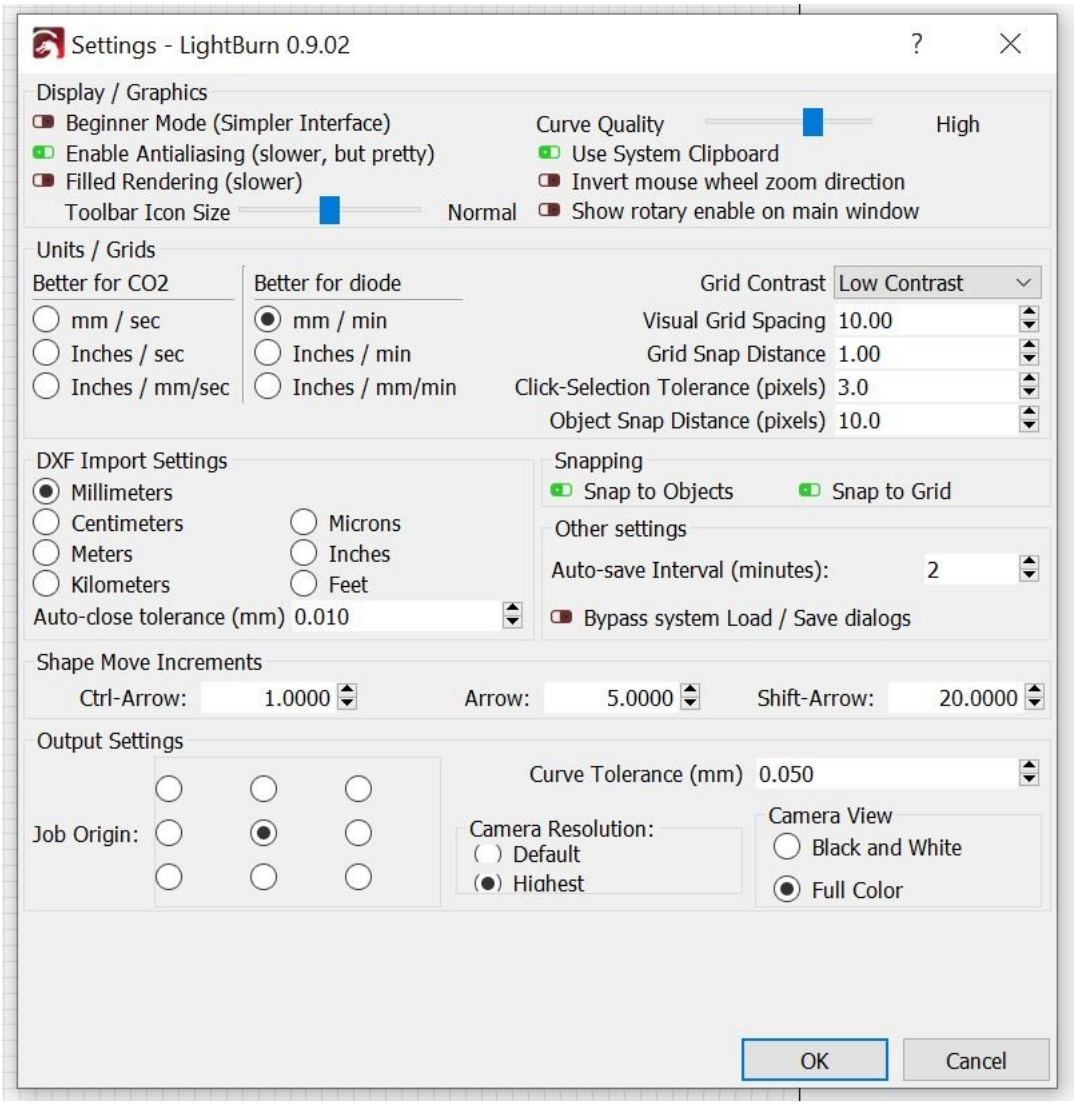
Allows for positioning of laser to material

Stops this annoying warning popping up

To enable **Fire** buttom, restart Lightburn. You will then find a new button in the ***Move*** console.

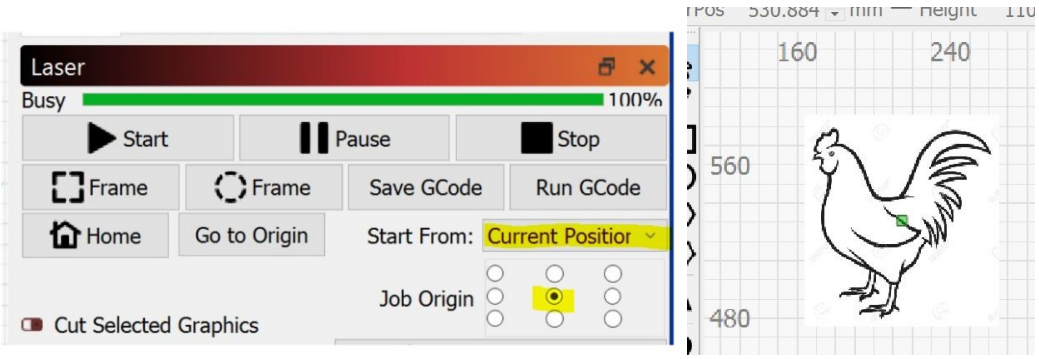


Edit > **Settings**



Under ***Laser*** console, select under **Start From:** Current Position.

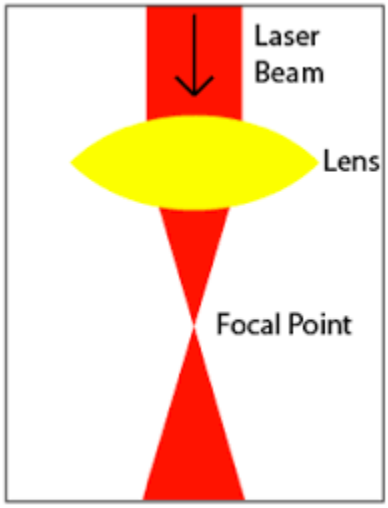
The next option is up to you. You can choose the XY start position to be where you want. To know where your CNC will position its XY is to see where the green square is positioned. In this case, middle of the chicken.



Focusing your laser

Wear safety glasses at all time your BluLaser is powered

Next is to test your laser. Go to the **Move** Console, once safe to do so, press **Fire** to see if the laser fires. This button is also used to check for your lasers focal point. Your laser shots a beam as a V which means that you need to be within a mm to achieve the crispest of engraves.



To focus your laser

1. Disable **Fire** if you already done so
2. Place an anodised piece of metal or material that will allow for a clear dot to appear
3. Loosen the two M3 screws at the back of the mount
4. Once safe to do so, enable **Fire**
5. Your aim is to move the laser up and down till you achieve a dot about this size or as close to > .
6. Tighten the two M3 screw on the back of the mount
7. Once you have achieved your desired focal point, measure from the material to a point on your BluLaser. This is your marker for future engraving