Laser Cutting Basics

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Download Beam Studio

Begin by looking up Beam Studio or clicking this link and choose "Beam Studio Stable" and click on the drop down menu and choose the correct version that fits your device.

Connecting to your machine

	File	Edit	View	**Machines**	Help

Machine Setup   Ctrl+N
Test Network Settings
Beambox (lan)   ›
beamo laser cutter   ›

How do you wish to connect?

📶   Wi-Fi
🖵   Wired Network
🖨   Direct Connection
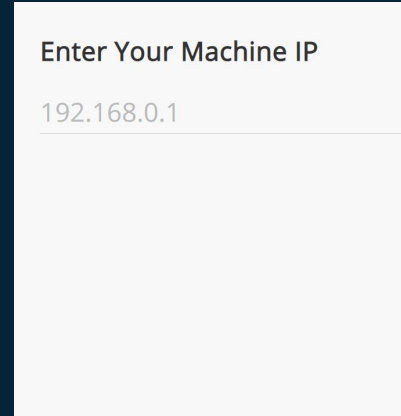
Cancel

Enter Your Machine IP

192.168.0.1
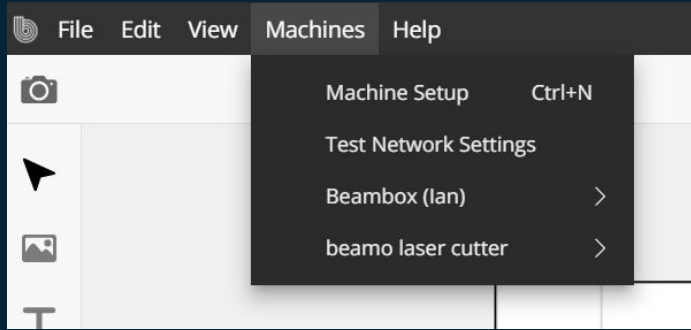
To set up your machine you first have to go to the top left of beam studio and click on Machines then Machine Setup or by pressing Ctrl and N at the same time
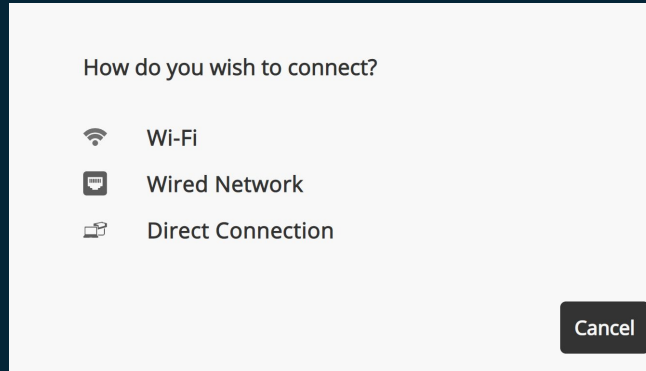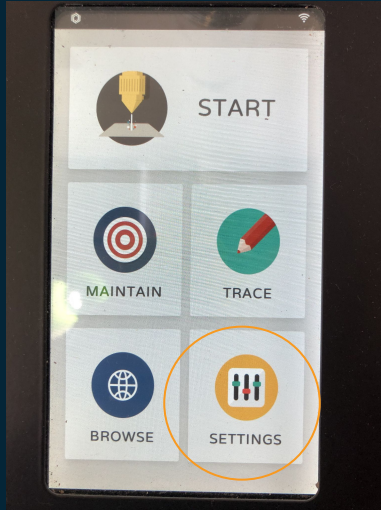
And then select the way you would like to connect to your laser cutter. For this tutorial we will be using WI-FI
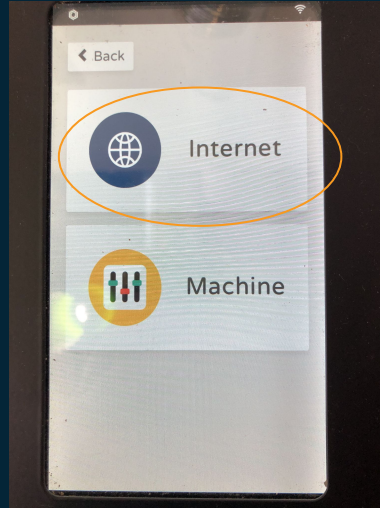
Keep this screen up and go over to your laser cutter to obtain the IP address
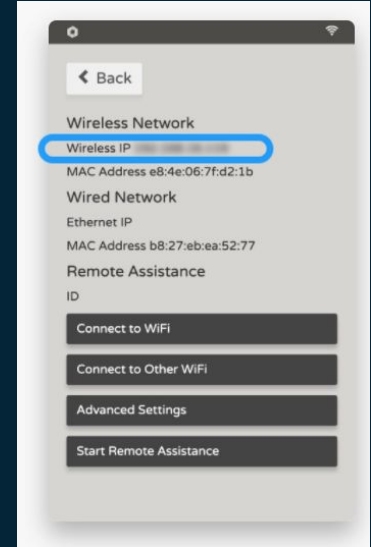
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Connect to the Machine continued

Go over to your laser cutter and selecting the settings button on the main menu

Then select the internet button

Finally copy the IP given on the laser cutter and type it into the box in Beam Studio

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Creating a design

Before making the cut you need a design for this tutorial I will be using the Fluxspace logo which I copied off of google images and pasted using ctrl + v into Beam Studio
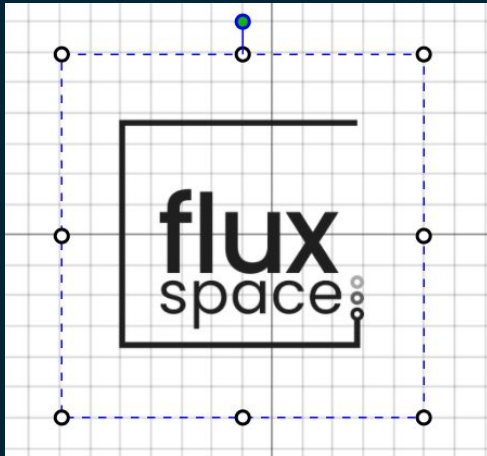
When the image got imported into beam studio it came as a gradient. This is not what we want to fix this we want to turn off gradient. Below that we now have a slider that is called "threshold brightness" this is used to select what colors will be included and which colors wont.
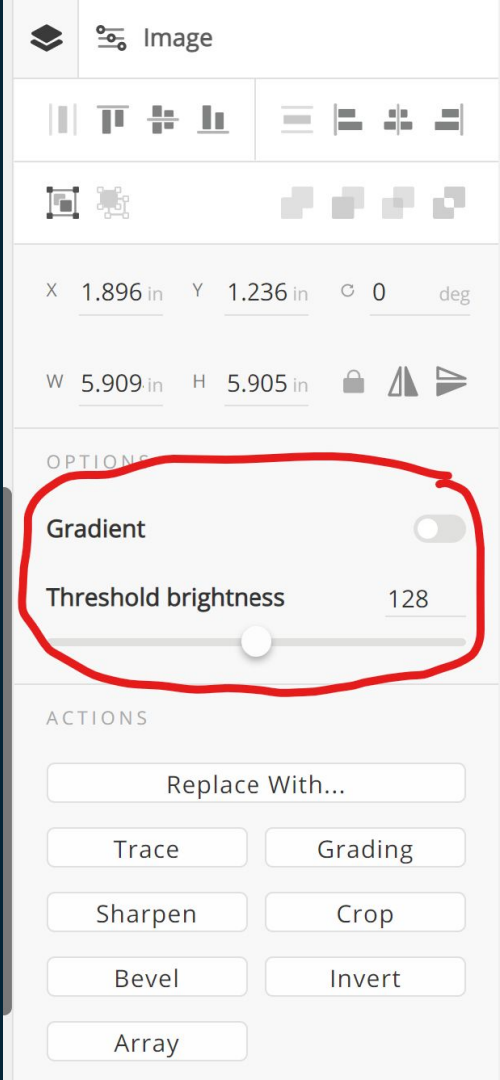
Creating a new layer

To create a layer click on the plus sign on the right side of your screen to create the layer. Click on the layer to select it. We will be on layer two for the next part of this tutorial A layers are used to allow your laser cutter to do different actions for different shapes and images.
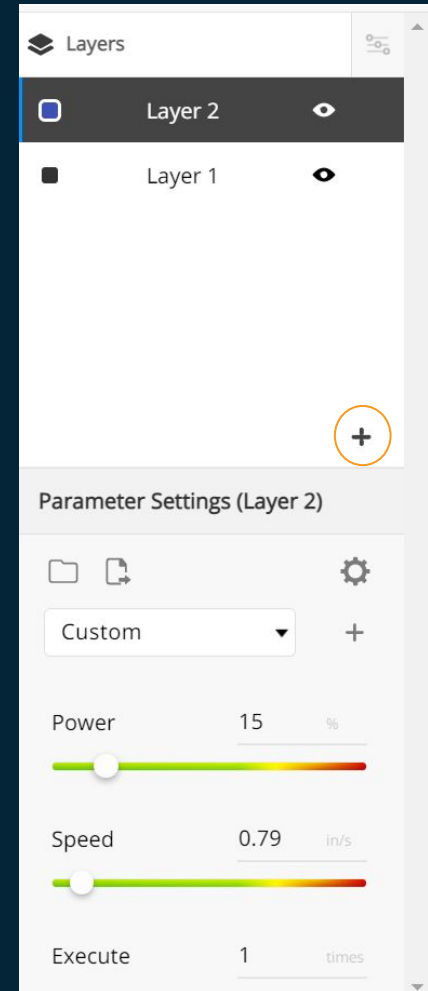
Creating a design continued
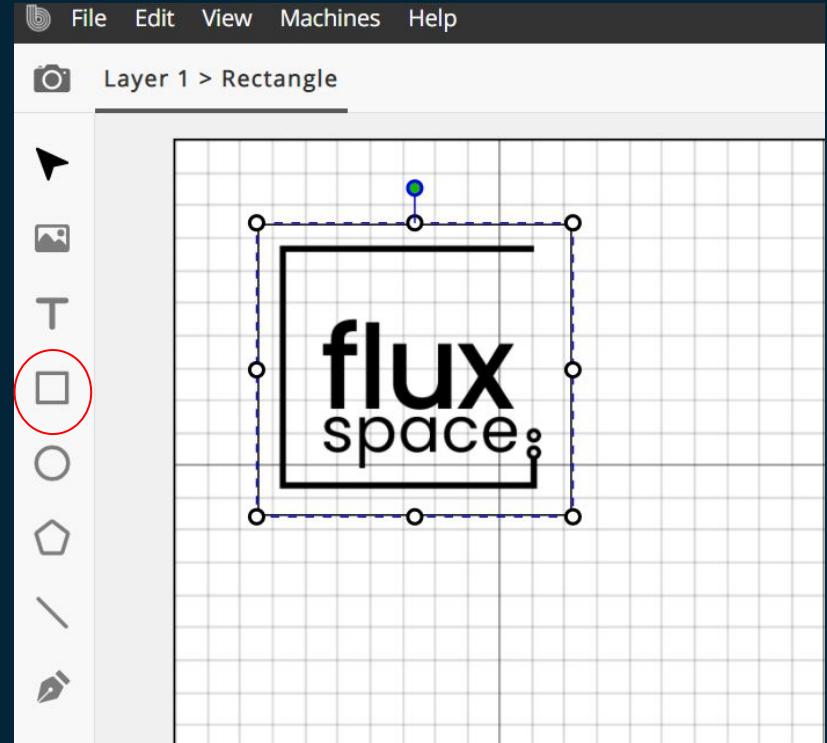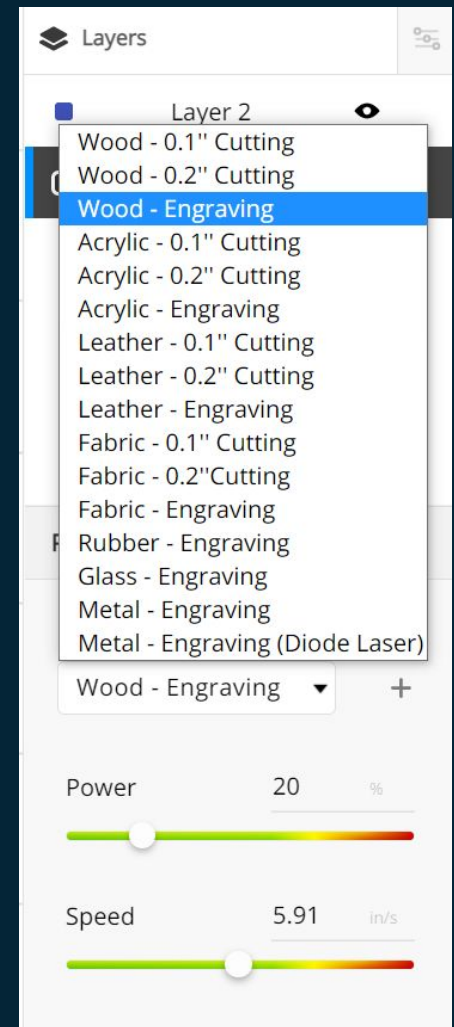
To make a shape in Beam Studio click on the shape that you would like to make which can be found on the left side in this tutorial i will be choosing the square and then clicking and dragging the shape into the area that I want until it is the correct size and position IF you would like to trace your picture with the trace tool you can use this tutorial.
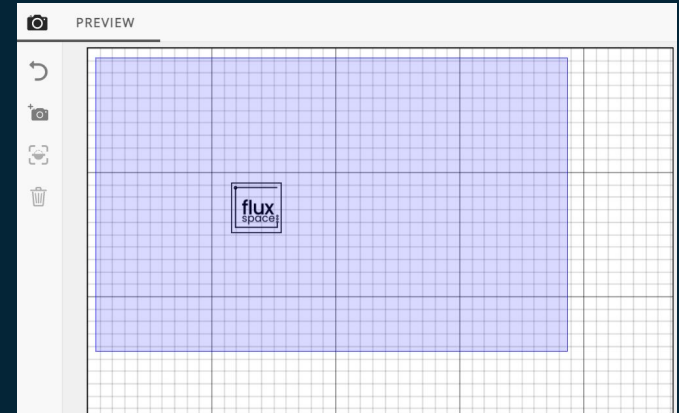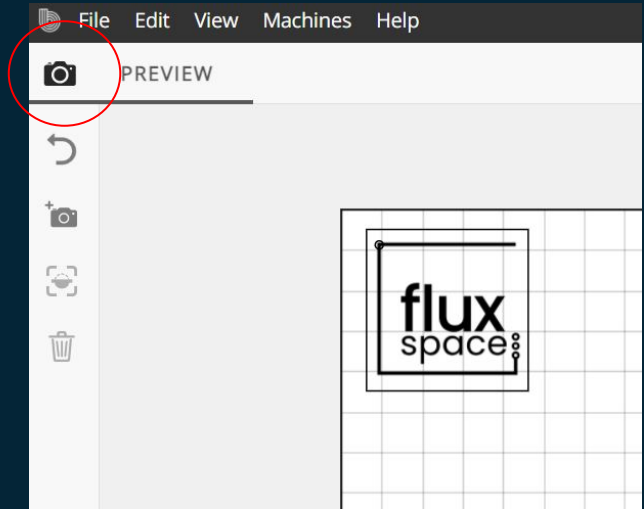
Engraving and cutting

Before you are ready to cut you have to select what you want to do on each layer. You can choose either to cut or engrave into the material. When cutting the laser will most likely go all the way through the material that wants to be cut compared to engraving which only cuts a few layers deep into the material showing a design underneath. On the far right side you should see a drop down menu that gives you all sorts of options. Depending on the material you are using you can select it. If the material you are cutting with doesn't show up or it is causing issues you can always move either the power or speed slider to increase or decrease either variable.

Layers

Layer 2

| Wood - 0.1" Cutting |
| Wood - 0.2" Cutting |
| Wood - Engraving |
| Acrylic - 0.1" Cutting |
| Acrylic - 0.2" Cutting |
| Acrylic - Engraving |
| Leather - 0.1" Cutting |
| Leather - 0.2" Cutting |
| Leather - Engraving |
| Fabric - 0.1" Cutting |
| Fabric - 0.2"Cutting |
| Fabric - Engraving |
| Rubber - Engraving |
| Glass - Engraving |
| Metal - Engraving |
| Metal - Engraving (Diode Laser) |

Wood - Engraving   +

Power   20   %

Speed   5.91   in/s

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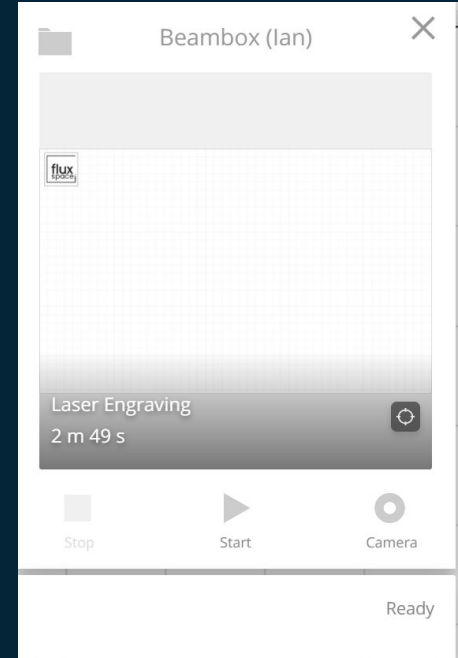space

Scanning your bed

To make sure that you are cutting and engraving on the correct surface you need to scan your bed to do that you need to click the camera in the top left hand corner and then click and drag on the grid if your image does not line up with the material you are cutting you can highlight your image and drag it on top of a location where the material is it

Starting the laser cut

Layer 2 ⬜ 👁

Layer 1 ⬛ 👁

GO ▶

Beambox (Ian)

Laser Engraving
2 m 49 s

Stop   Start   Camera

Ready
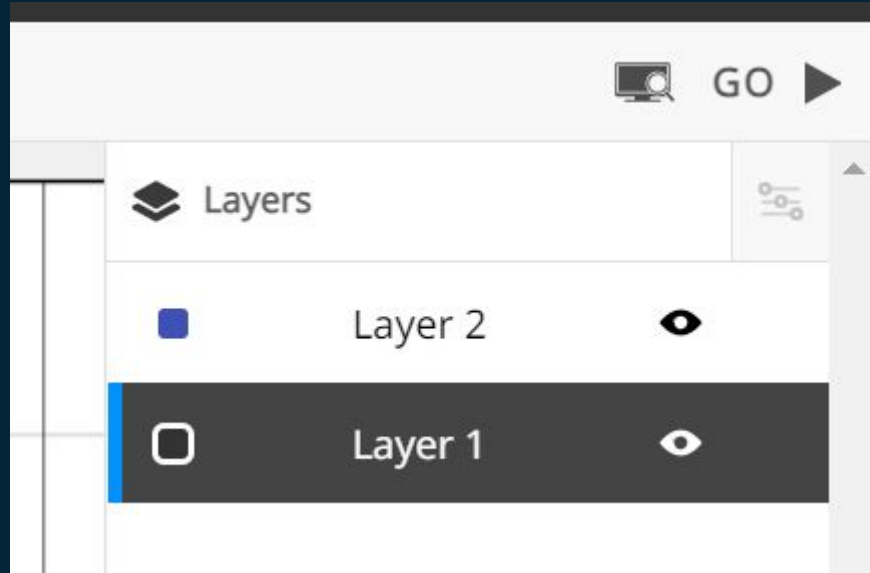
In the top right hand corner select the go button

Finally make sure all the images you want to cut are there and press start!