



LaserCutter Training

Best practices

Remote Desktop Protocol



[Windows has RDP installed on most systems](#)



[Mac RDP App](#)



[Linux App](#)

Remote into makerlab PC

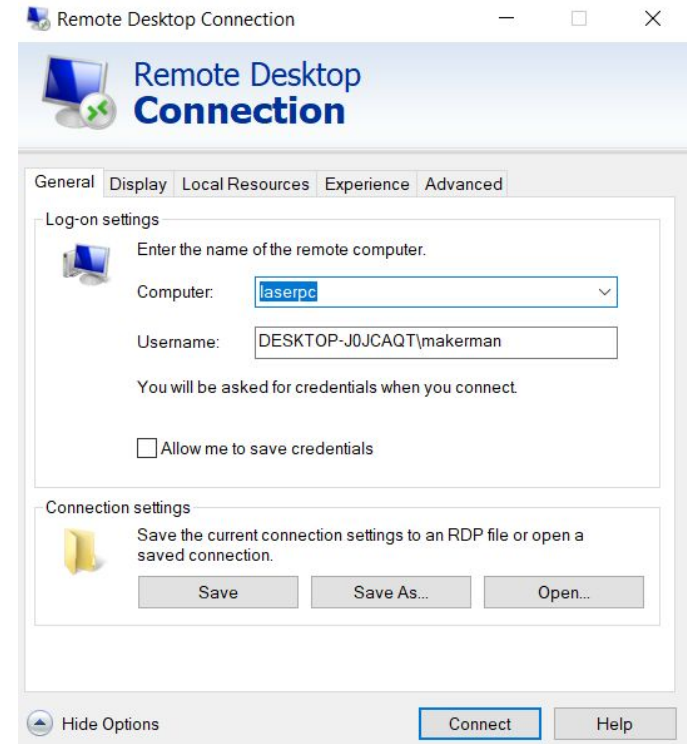
Connect to the Munich Maker lab wifi

Address : 10.10.20.81 OR *laserpc*

Username: *makerman*

Password : *makerman*

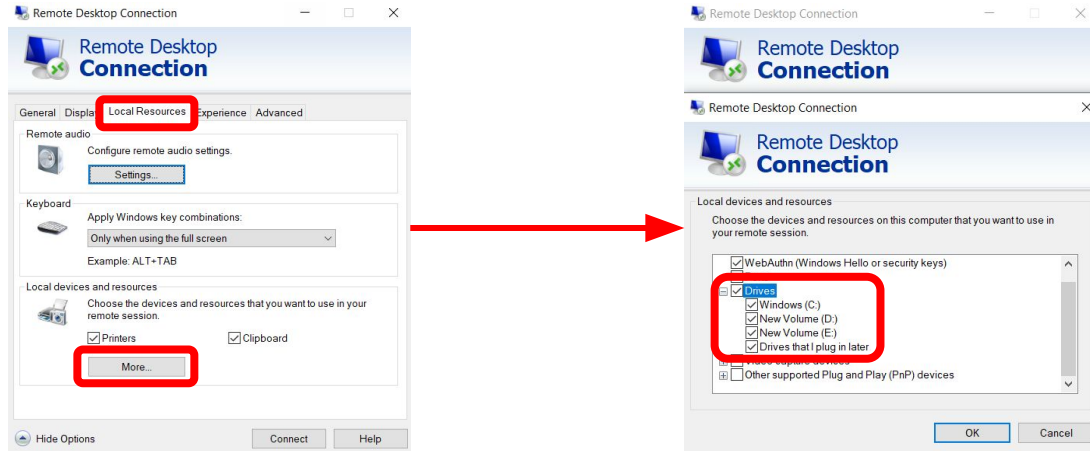
Wait before pressing **connect** to see the next slide !



Shared Drives

You can use the shared folder `Z:\laser\ folder` when on the makerlab Wifi

Or you can attach your drives in RDP step :

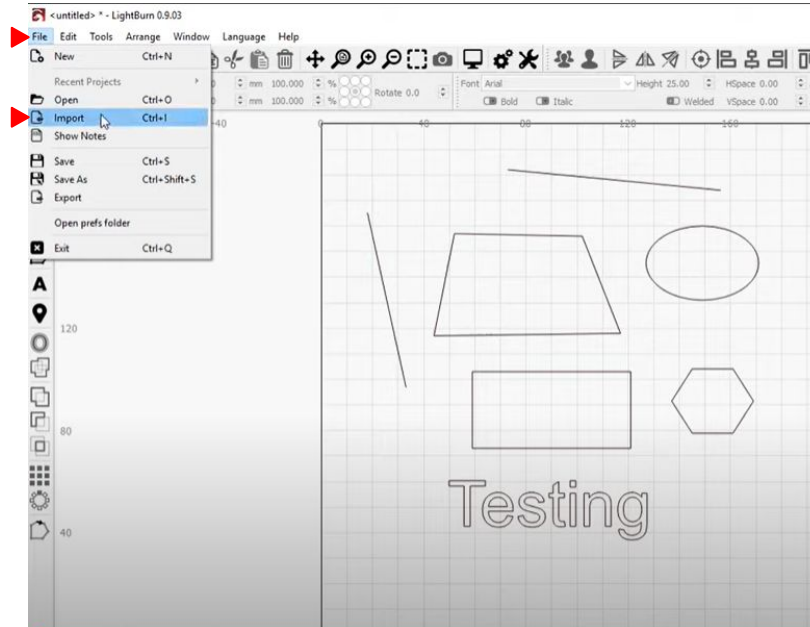


Lightburn ([Link for tutorial](#))

You can import multiple images into lightburn for engraving or cutting.

If you try to **open** multiple images in lightburn they will be treated as separate projects, so to have multiple images, you need to **import** them.

The best image types are vectors (png, svg, bitmap) but other image types are accepted (jpg).



Size control

When you highlight one or more items (images and vectors) you get the outline of the working area of the laser cut head, at the top you can see the width and length of this box (This also applies to individual vectors and images)

You can also change the size by a scaling factor (%)

The X and Y position default to the X and Y coordinates of the center of a selected item and means user can precisely arrange multiple items e.g. Placing a circular image in the centre of a circle drawn in lightburn

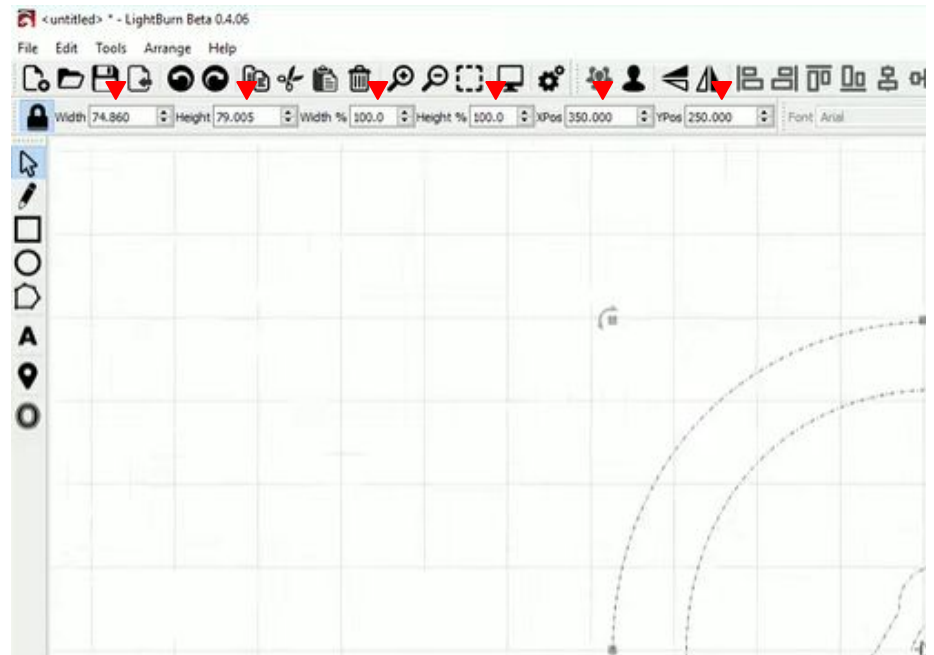


Image Parameters

At the side, you can see the cut group
(First arrow)

You can also see the speed and power
(Min / Max)

These need to be adjusted based on:

- Image size
- Material type
- Material Thickness
- Cut or Engrave
- Other

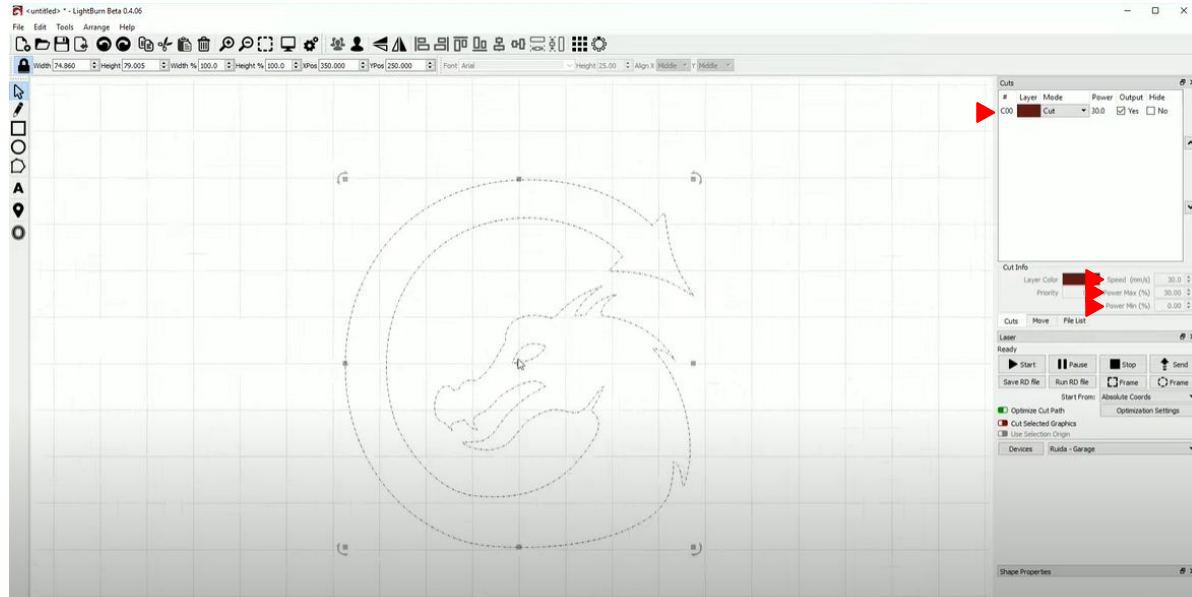


Image Cut Parameters

When you cut an item it is better to go slower and with a higher power

For **MDF** with a thickness of **3mm**, usually:

- Speed **20mm/s**
- Power (Min&Max) **60%**

For **MDF** with a thickness of **5mm**, usually:

- Speed **20mm/s**
- Power (Min&Max) **75%**

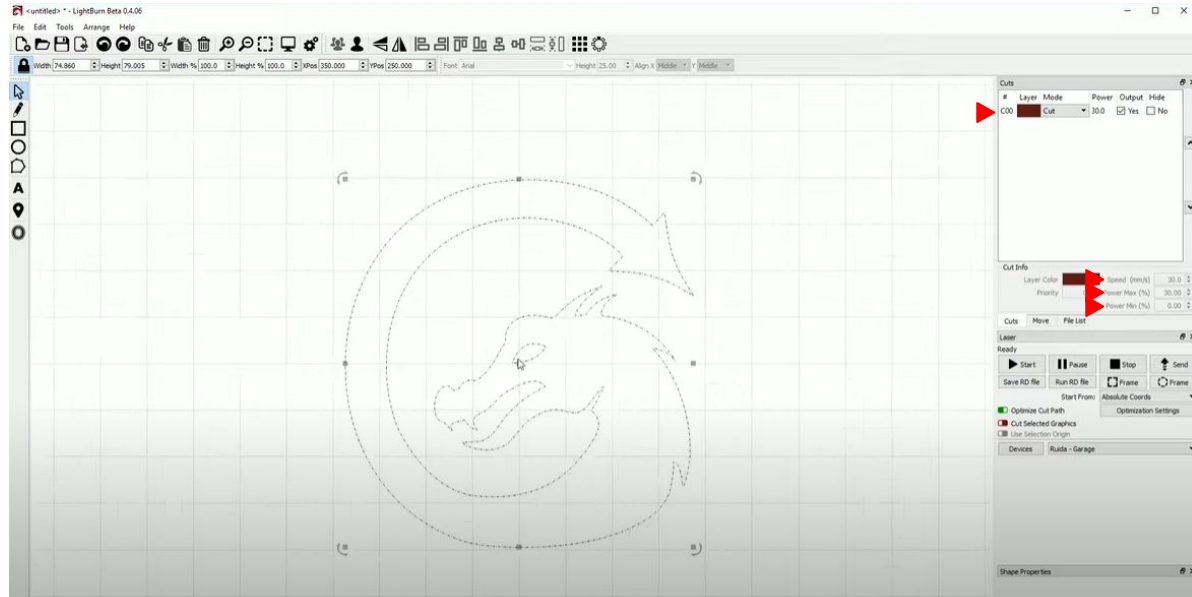


Image Engrave Parameters

When you engrave an item it is better to go faster and with a lower power

For a **lighter** image, usually:

- Speed **300mm/s**
- Power (Min&Max) **10%**

For **Darker** image, usually:

- Speed **200mm/s**
- Power (Min&Max) **12%**

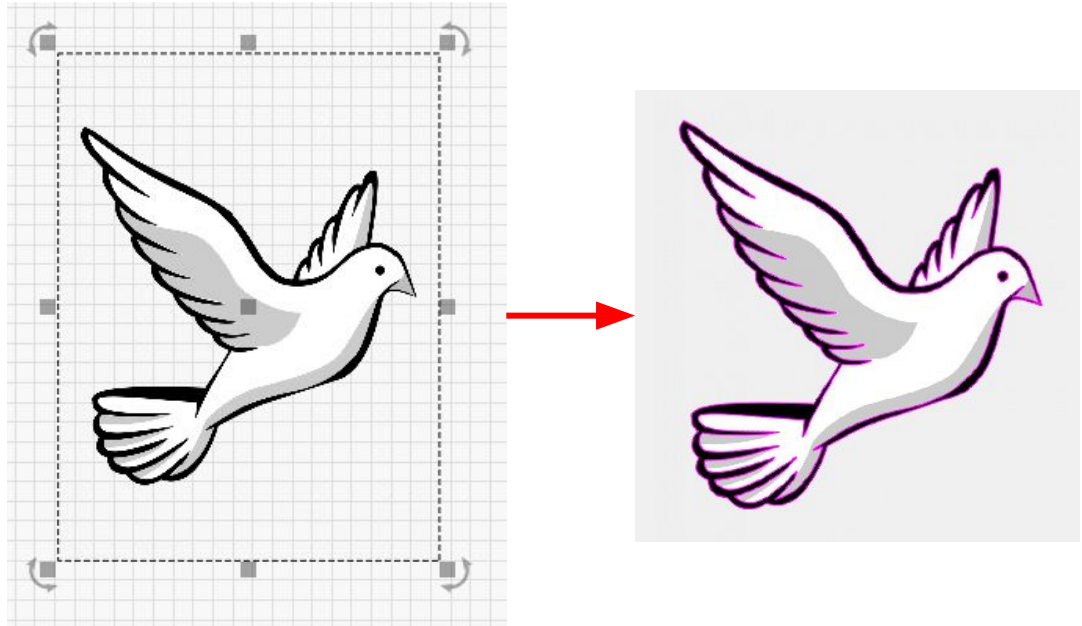


Cut outline of image

If you want to cut out an image instead of engrave you can use :

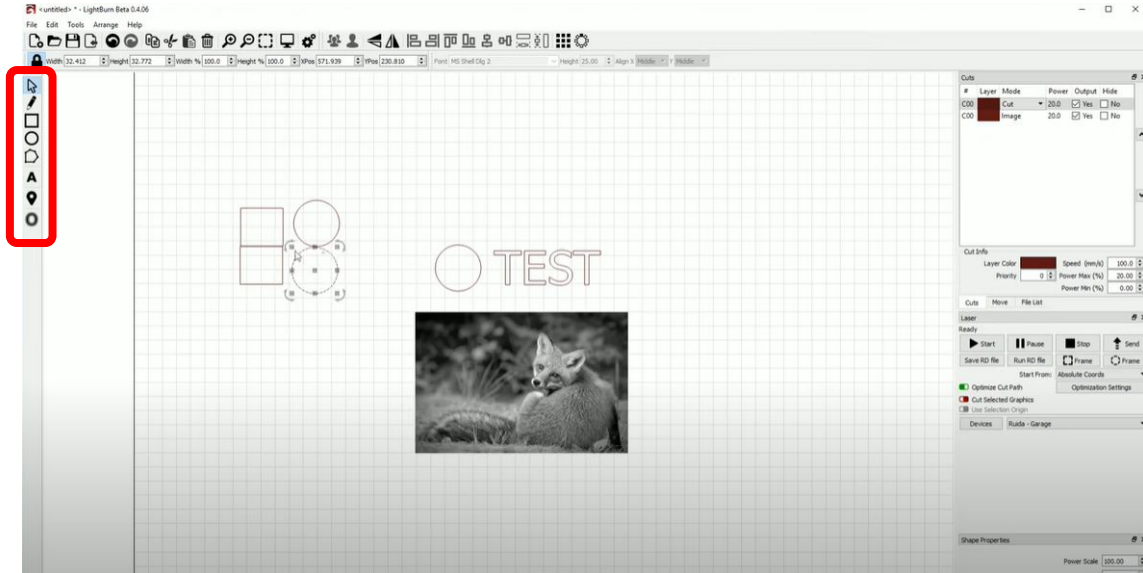
Tools > Trace Image (or press Alt+T)

This will create a vector that can be used to cut (With cut parameters)



Custom Shapes

- Same parameters whether you decide to cut or engrave as previous slides
- Can draw custom shapes in Lightburn software
- Similar toolbar to paint/photoshop/illustrator



Merge Shapes ([Link](#))

You can use a series of boolean operations to either segment or create an outline of two shapes

The icons for each operation describe the new shape (Thick dark lines) from two selected shapes (Dotted light lines)



Boolean Union



Boolean Subtract

Hotkey = Alt + -



Boolean Intersection

Hotkey = Alt + *

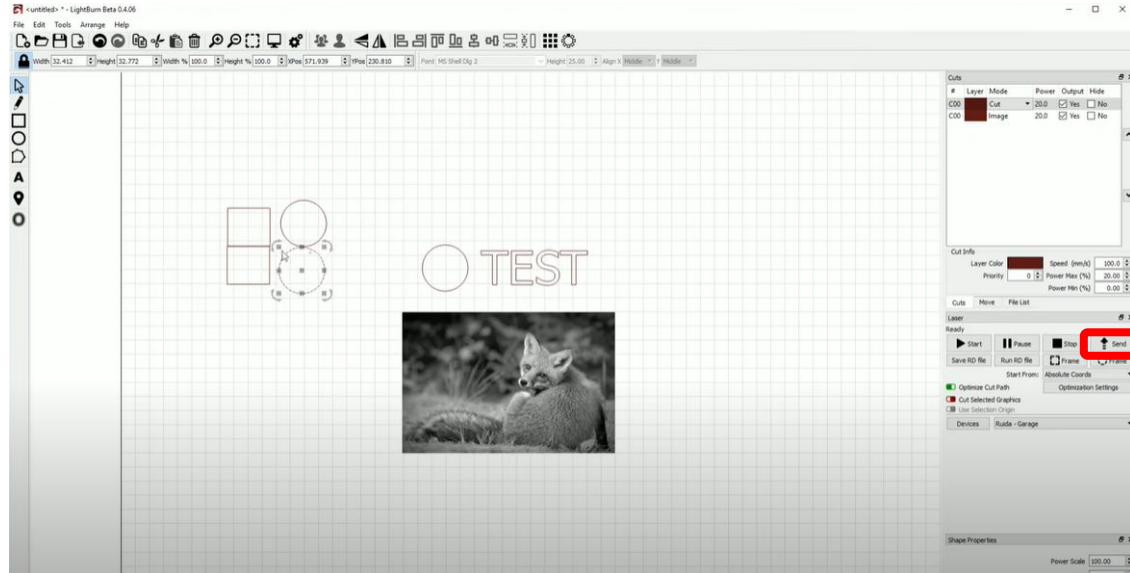
Send it for cut

Once you are happy with an image/vector for cutting/engraving

Click and drag to highlight everything you want to send to the laser cutter

Press **Send**

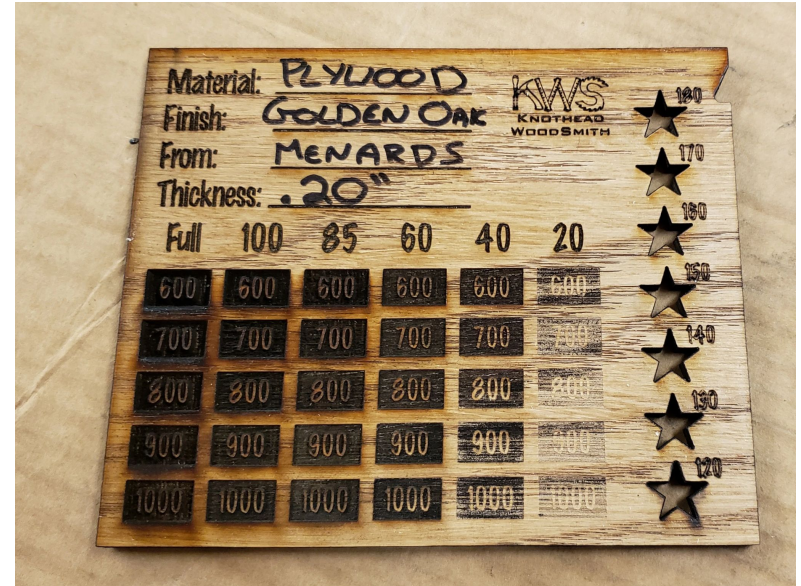
(Keep in mind, the box outlining the highlighted items shows the outline of the laser cutter working area. The top left point of this box represents the *Origin* of the cutter head)



Test Pieces

The parameters suggested will always need tweaking based on application, please always do trial runs to get your best parameters

If you want to do a large cut, please always scale down and see that parameters work before wasting your material !





Any other Q's, please refer to useful sources

<https://docs.lightburnsoftware.com/index.html>

<https://www.youtube.com/watch?v=BkNeVjbZncc&list=PLwL4iB6JZSDxdnUKPOY-Qpv1DnUoLxHue>

<https://www.youtube.com/watch?v=Mg6kHnkg9cs&list=PLwL4iB6JZSDxXuiV8bYxVU5IRcEIJr8Ic>

<https://forum.lightburnsoftware.com/>



Remember

Please be safe

Only use approved materials

Do not try to fix any broken items yourself

When in doubt, please refer to slack channel ([#lasercutter](#)) or contact our board of members



Thanks for listening !