

ENR355 Laser Cutter Tutorial

Xiang Li
Spring 2026



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Scheduling site:

 | Coe College Engineering Physics

INSTRUMENTS GENERAL RULES CONTACT

INSTRUMENT SCHEDULING

Location: Stuart 154

Welcome to the lab booking site. Reserve your equipment sessions below.

Note: Training for each device is required before use.

For off-hour access (non 9-5), please contact the admin.

GENERAL RULES

- Safety first. Read the manuals.
- Be nice to each other. Clean equipment after every session.
- Report all issues to the admin.

FACULTY CONTACT

Xiang Li
Office: Peterson 141
xili@coe.edu

MANUALS & INSTRUCTIONS

LASER CUTTER

[PDF](#) Gweike User Manual

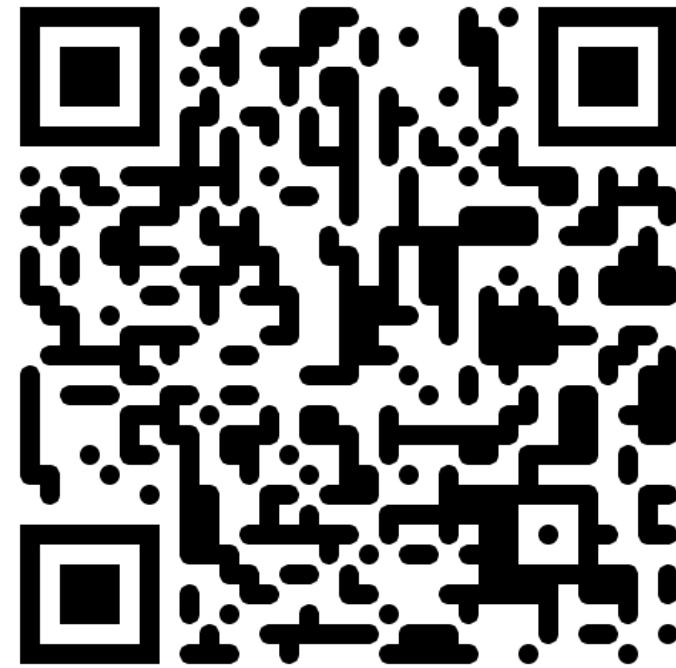
[PDF](#) LightBurn Manual

[PDF](#) Material Settings

3D PRINTERS

[Link](#) Chitubox (slicer) documentation

[Link](#) Phrozen Sonic Mini 8K



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Current laser cutter:



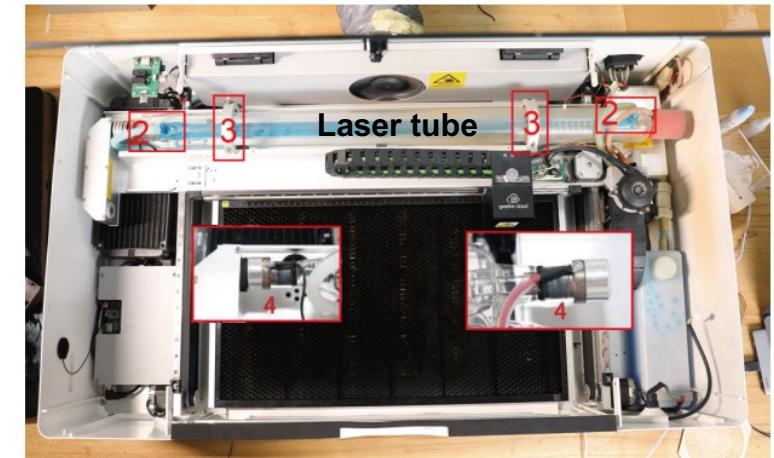
Carbon-dioxide laser

Article Talk

From Wikipedia, the free encyclopedia

The **carbon-dioxide laser (CO₂ laser)** was one of the earliest [gas lasers](#) to be developed. It was invented by [Kumar Patel](#) of [Bell Labs](#) in 1964^[1] and is still one of the most useful types of laser. Carbon dioxide lasers are the highest-power [continuous-wave lasers](#) that are currently available. They are also quite efficient: the ratio of output power to [purr](#) power can be as large as 20%. The CO₂ laser produces a beam of [infrared light](#) with the principal [wavelength](#) bands centering on 9.6 and 10.6 [micrometers](#) (μm).

POWER	550W
Voltage	100-240V
Circuit Current	13amp
Bandwidth	50hz/60hz



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Laser safety

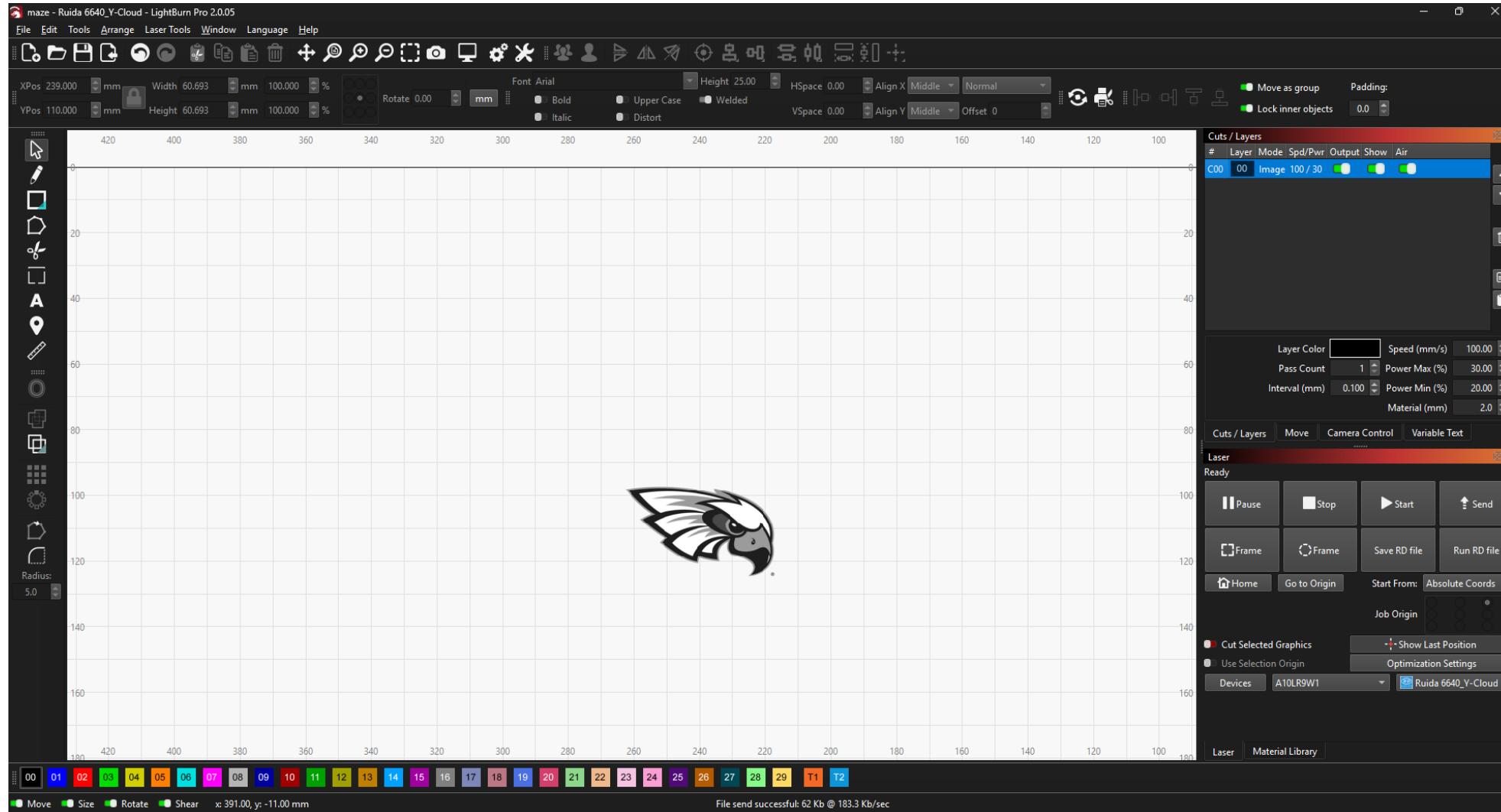
- The laser cabinet has safety interlocks that turn the laser off if any access door is opened during operation.
 - Never operate the laser system with an access panel removed.
 - The visible red dot is not the real laser, but it is still potentially harmful if beamed into the eye directly.
-
- DO NOT disassemble the machine or remove any of its protective covers while the unit is plugged in.
 - DO NOT attempt to defeat the door interlocks.
 - DO NOT view directly into the beam of the Laser Diode Pointer (Red Dot Pointer).
 - DO NOT operate the Laser Diode Pointer (Red Dot Pointer) without the machine's focus lens in place. If the unfocused beam strikes a reflective surface, it could be directed out of the cabinet.



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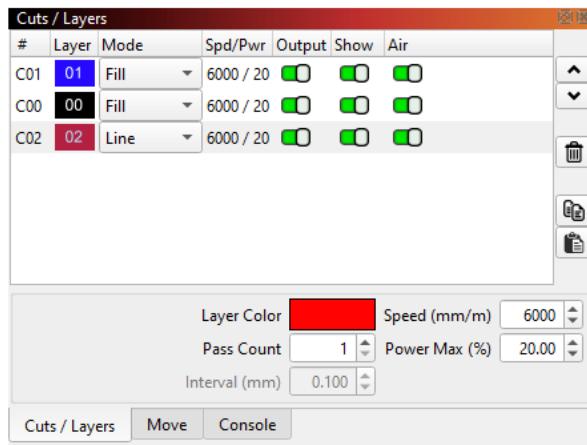
Thanks to the Physics Department

LIGHTBURN
BETTER SOFTWARE FOR LASER CUTTERS

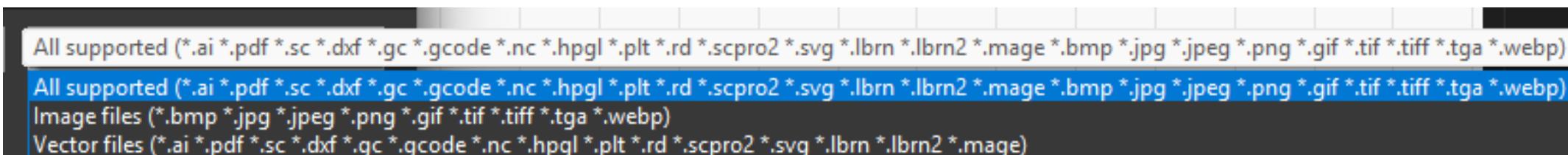


Lightburn tutorial

LIGHTBURN
BETTER SOFTWARE FOR LASER CUTTERS



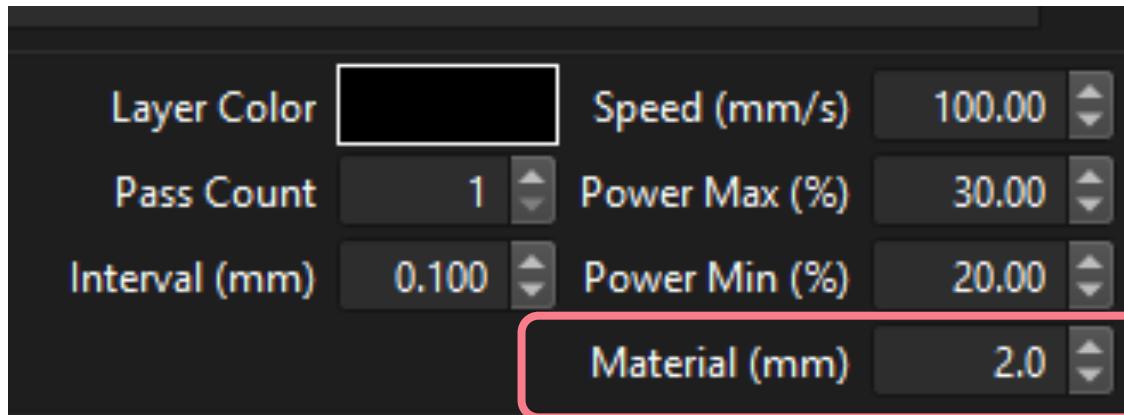
- Lasers don't print in color, so these colors are only used to assign different kinds of operations to the shapes in your design.
- You assign different mode to each layer for line/fill tasks.
Line = Cut: laser power ↑ laser speed ↓
Fill = Draw: laser power ↓ laser speed ↑
- All supported formats:



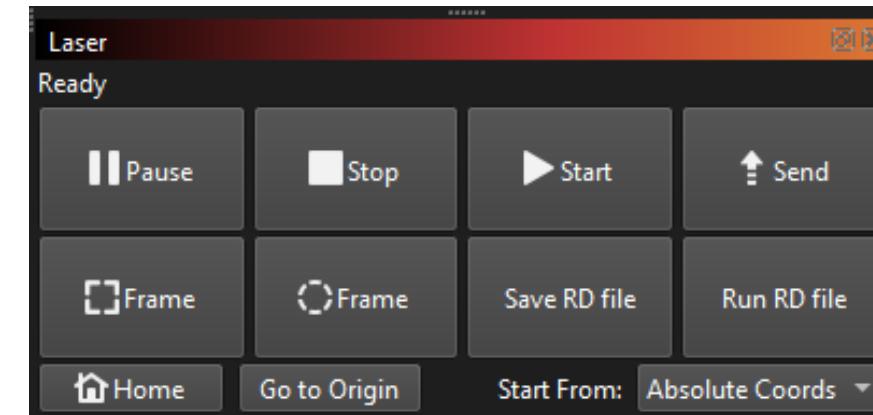
Lightburn tutorial



Then you set:



And you burn:



The laser head will hit the base if
you got this number wrong.

Draw 2D SVG graph:



<https://inkscape.org/>

<https://inkscape.org/learn/>

The screenshot shows the official Inkscape website. At the top left is the Inkscape logo. The main header features the text "INKSCAPE'S PATH v0.35-v1.4.3" above a stylized illustration of a person drawing a large, flowing line on a canvas. To the right is a detailed illustration of a woman with long hair reaching up towards a tree with blossoms, labeled "Artist's Blossom". Below the header are four main navigation sections: "Download Now!", "Explore Features", "Community Gallery", and "Learning Resources". Each section includes a small icon and a brief description.

Download Now!	Explore Features	Community Gallery	Learning Resources
Get the professional vector graphics editor!	Find out what Inkscape is capable of	Showcase of creations from the community	HowTos, Videos, Tutorials and more...



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