Manuals+ — User Manuals Simplified.

LaserGRBL Laser GRBL Software

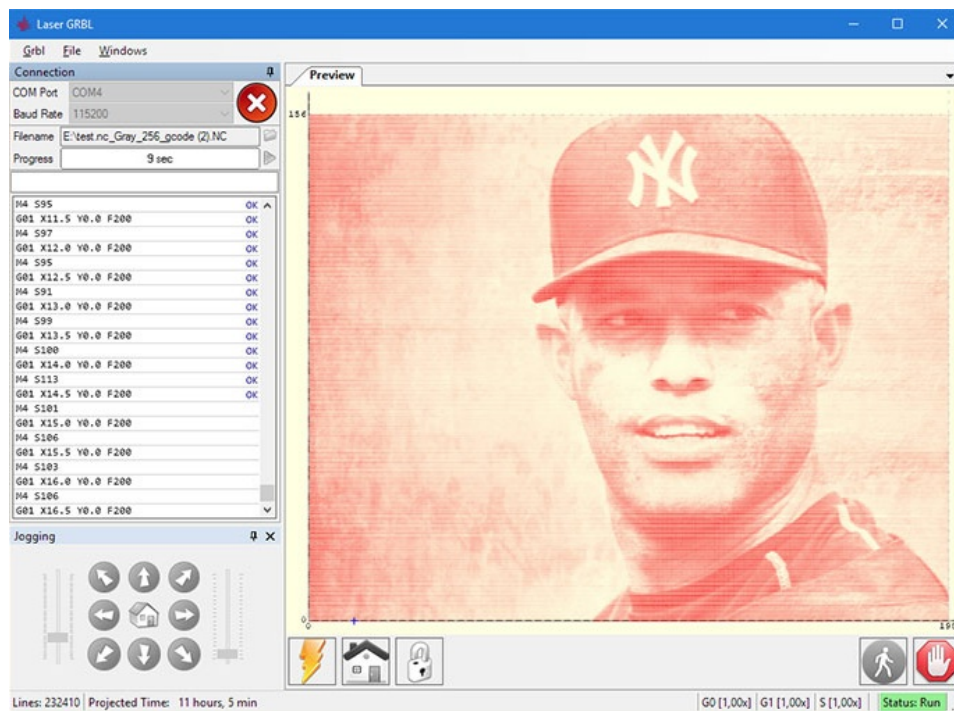# LaserGRBL Laser GRBL Software User Manual

Contents

LaserGRBL Laser GRBL Software

Specifications

- **Software:** LaserGRBL
- **Operating System:** Microsoft Windows OS
- **Supported File Formats:** .nc, .gcode, .jpg, .png, .bmp, .gif
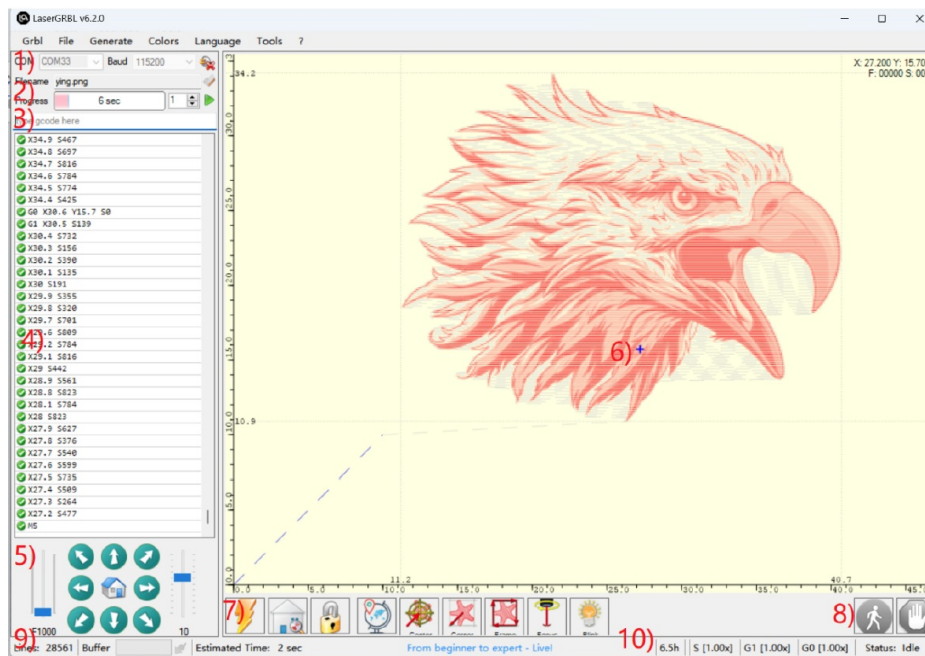- **Baud Rate:** 115200 (common)

Product Usage Instructions

Download link
Download – LaserGRBL

User interface

Once connected, open LaserGRBL and select the appropriate COM port from the port list. Ensure the baud rate matches your machine's firmware configuration.

LaserGRBL user interface

1. **Connection control:** here you can select the serial port and proper baud rate for connection, according to grbl firmware configuration.

2. **File control:** this shows the loaded filename and engraving process progress. The green "Play" button will start program execution.

3. **Manual commands:** Command log and command return codes: show enqueued commands and their execution status and errors.

4. **Jogging control:** allow manual positioning of the laser. The left vertical slider control

5. **Engraving preview:** this area shows the final work preview. During engraving a small blue cross will show the current laser position at runtime.

6. Grbl

7. **Feed hold and resume**: these buttons can suspend and resume program execution sending

8. **Line count and time projection:** LaserGRBL could estimate program execution time based on actual speed and job progress.

9. **Overrides status and control**: show and change actual speed and power override. Overrides is a new feature of grbl v1.1 and is not supported in older versions.


Connect to the engraving machine
Before connecting to the engraving machine, ensure that your Windows OS recognizes the engraver as a serial COM port. Follow the steps mentioned in the manual to install the necessary drivers if needed.

Step 1: Make sure the COM port
Your Windows OS recognize your engraver as a serial COM port, once the engraver is connected, as per the type of control board this port may appear in the computer's device manager with the name "USB-SERIAL CH340" or "USB Serial Device" or something else.
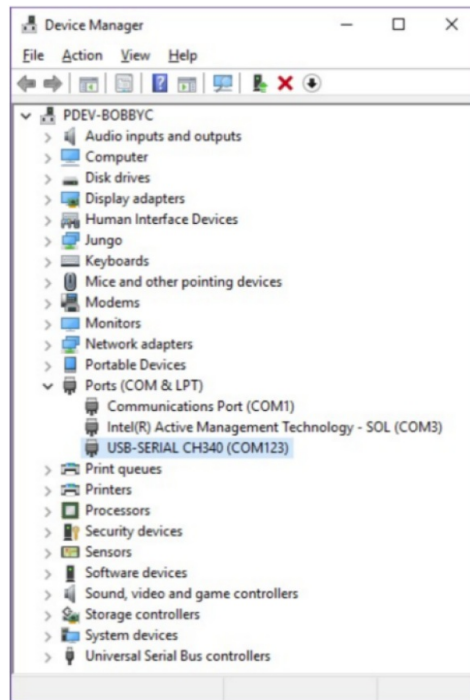
The name it appears as in Device Manager strictly depends on the type of machine; if no name appears,or if a device with error symbols appears, driver may need to be installed.
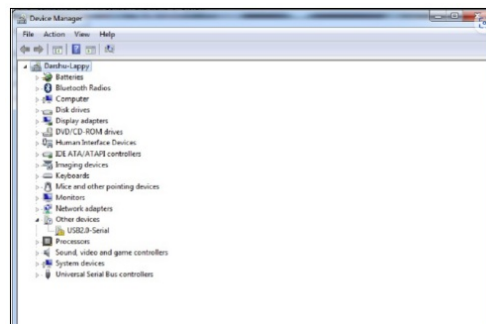

Usually the most common control board uses CH340 chip; If your system cannot recognize the serial port, click 'arduino CH340G' to download and install. Alternatively, you can install CH340 from the Tools menu in LaserGRBL.

Download link

- **CH341SER.EXE –** Nanjing Qinheng Microelectronics (**wch-ic.com**)
- **https://asa.atomstack.com/downloadWindowsDrivers.do3**

**Install CH340 with LaserGRBL from the "Tools" menu:**
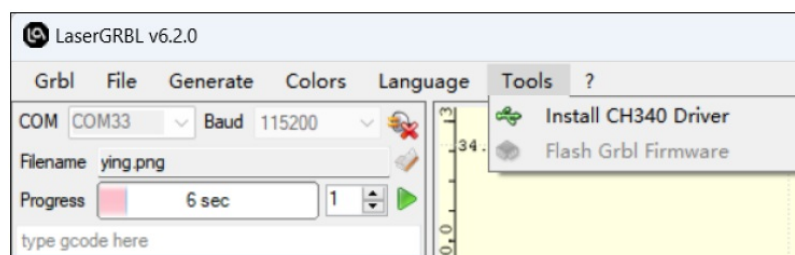

Step 1: Connect to LaserGRBL

LaserGRBL continually checks for available COM ports on the machine. The port list allows you to select the COM port to which the control board is connected. This port number corresponds to the port number displayed near the COM ports in Device Manager. Please select the correct baud rate according to your machine's firmware configuration. The most common baud rate is 115200
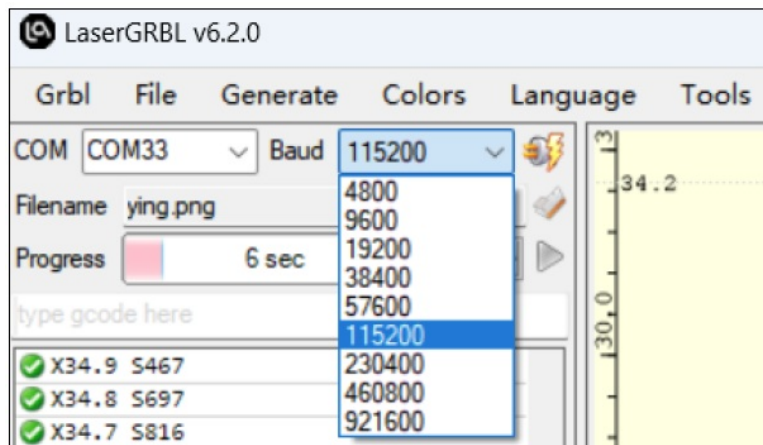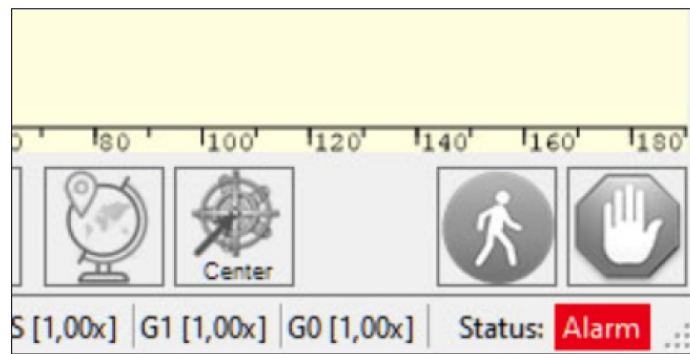

When the correct Com port is recognized and connected, grbl reports "'$' for help showing Grbl firmware version.
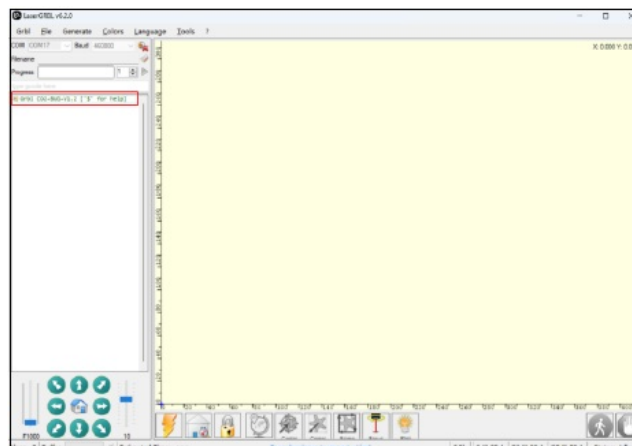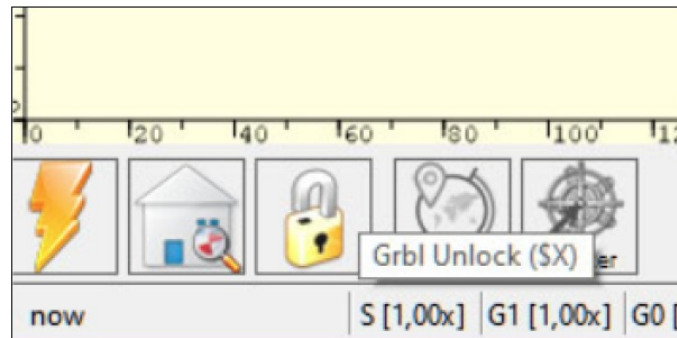

On the bottom-right of LaserGRBL interface you should read "Status: Idle"
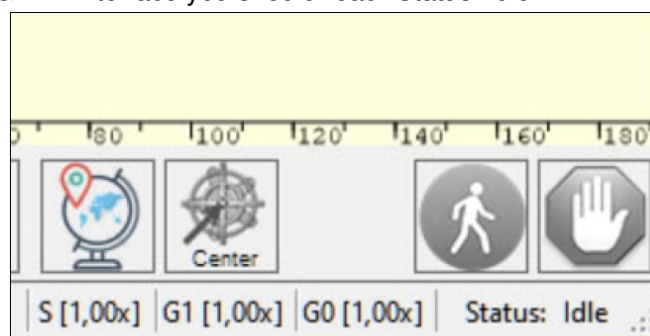
If you see "Disconnected" or "Connecting"in status,no response from the engraver, you might need to change your COM port configuration.

Normally it is possible to exit the alarm state using the "$X (Unlock)" command or by carrying out the "$H (Homing)" procedure – for machines equipped with limit switches.


Load and Send

If no program is running, load a file from disk using the file open button or menu. LaserGRBL supports G-Code files with .nc and. gcode extensions. If we have not a program under execution we can load a file from disk. Use file open button near the "Filename" box, or from the file menu.
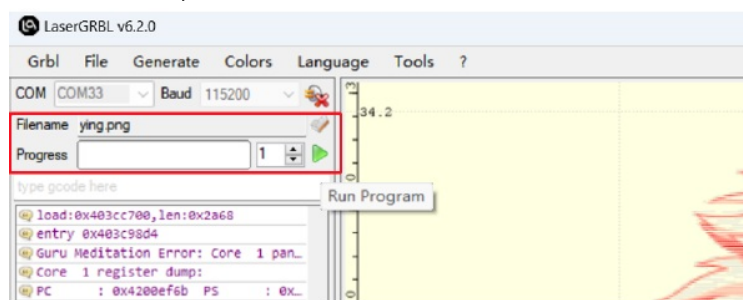

LaserGRBL support G-Code with .nc and .gcode extensions. If your file has a different extension but they are G-Code, you can rename your file to use this extension.LaserGRBL also support opening pictures and raster images in bmp, jpg, png and gif file format.

Multiple engraving/cutting passes setting LaserGRBL has a numeric switch to perform multiple passes.
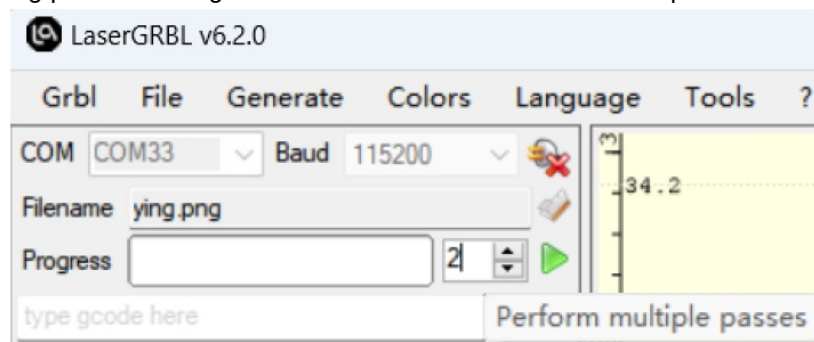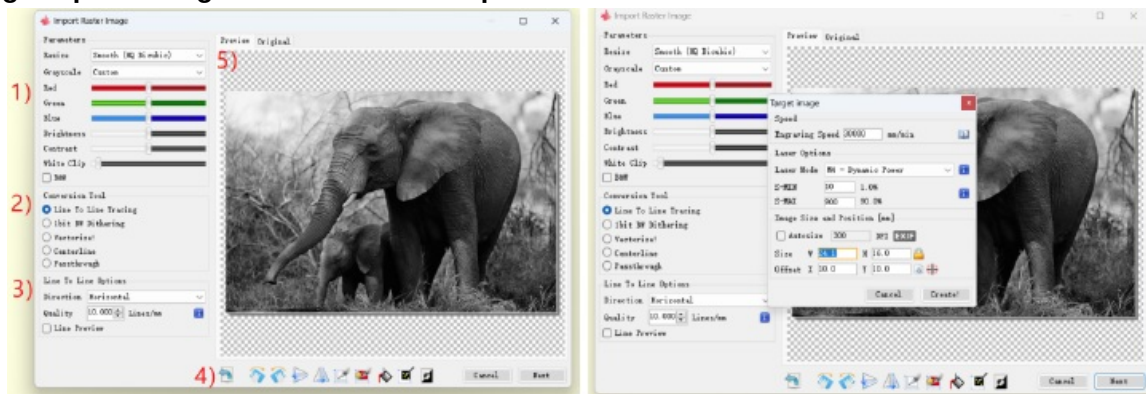

Import pictures

Raster import allows you to load it GCode instructions without the need of photos, clip art, pencil drawings, logos, icons and try to do the best with any kind of image. It can be recalled image of type jpg, png or bmp
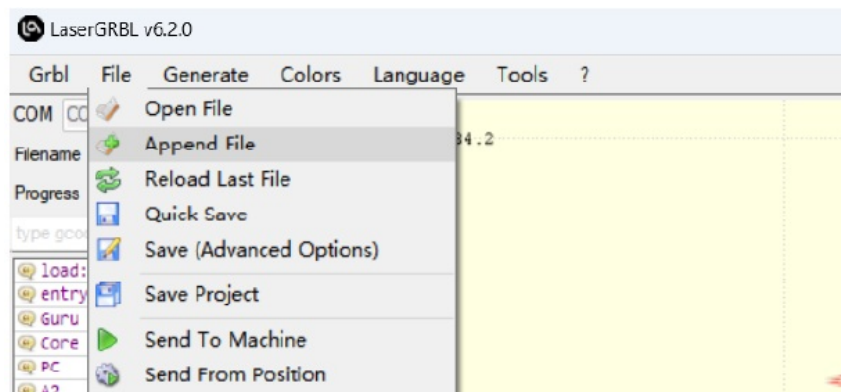
**The image import dialogue box consists of 5 parts:**

1. **Parameters:** transform original image in grayscale or black and white.
2. **Conversion tool:** choose between tools suitable to various types of images.
   - **Line To Line:** for grayscale PWM pictures
   - **Dithering:** for grayscale dithering tecnique
   - **Vectorize!:** produce the best result with logo and hand drawn images
3. **Tool options**: contains a specific set of parameters for each different import tool.
4. Rotate, crop and flip tools
5. Image preview and original image tab
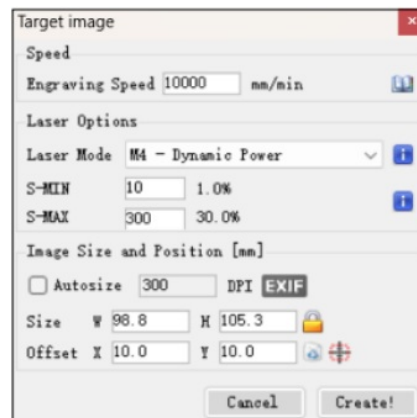
How to use LaserGRBL to engrave/cut
Click "Open File" to open the sculpture model
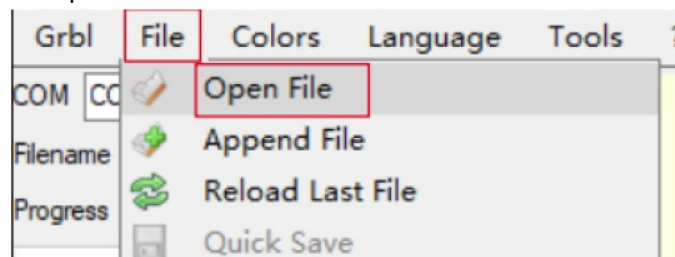
Set image parameters,conversion tool and quality
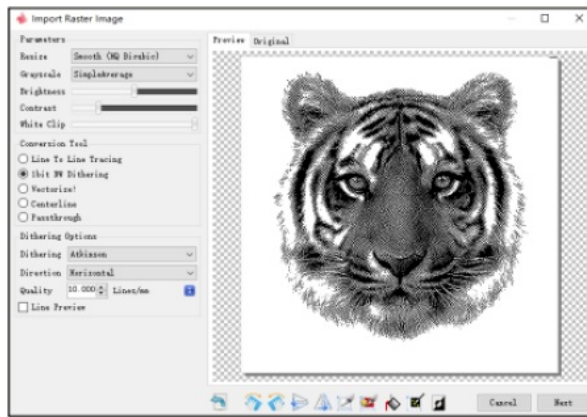
Refer to material settings table to set engraving speed, S-MAX and
passes **https://atomstack.com/pages/material-set**

Determining the engraving position.

Set the current position as the origin for engraving.

Click the "Frame" button, and the laser will begin scanning the external outline of the pattern. You can change the engraving position refering to the scanned external outline. Additionally, you can click the"Frame" button multiple times until the external outline is in the desired engraving position.
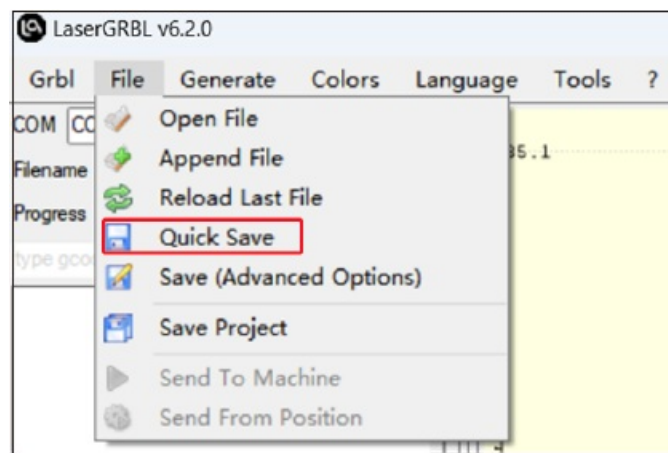

Click send to start engraving
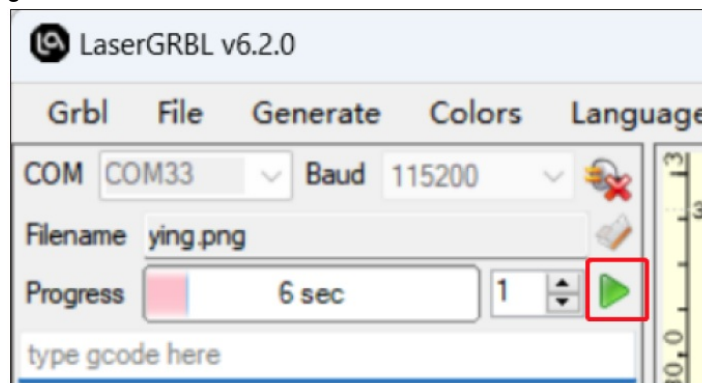
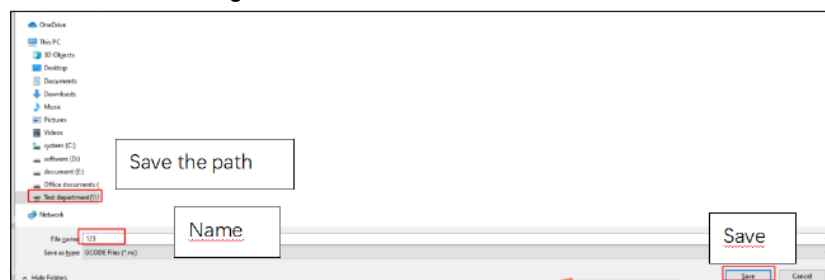After engraving is complete and the laser stops working, you can remove your workpiece

GCode.

Import the image into LaserGRBL, set the parameters, engraving speed and S-MAX, etc. click File and select Save.

Select the save path, and click 'Save' to generate. nc document

Engrave and Cut Settings

LaserGRBL offers settings for multiple engraving/cutting passes. Adjust these settings as needed for your project.

How to Export GCode File

Follow the instructions in LaserGRBL to export your design as a GCode file for engraving or cutting.

FAQ

Q: What should I do if my system cannot recognize the serial port?

A: If your system cannot recognize the serial port, you may need to install the CH340 driver. Refer to the manual for download links and installation instructions.

Q: Can I import images other than jpg, png, and bmp?

A: LaserGRBL supports opening pictures and raster images in bmp, jpg, png, and gif file formats. If your file has a

different extension but contains G-Code instructions, you can rename the file to use the supported extensions.

Documents / Resources

LaserGRBL Software User Manual Contents	**LaserGRBL Laser GRBL Software** [pdf] User Manual Laser GRBL Software, Laser GRBL Software, GRBL Software

References

- **index - NanjingQinhengMicroelectronics**
- **asa.atomstack.com/downloadWindowsDrivers.do3**
- **Material Setting - Atomstack.com**
- **User Manual**