FAQ of Nano Duo Laser Engraver V1.0

Shenzhen Longer Technology Co., Ltd.

Content

1. How to update the firmware

Download the latest firmware from the official website and save it to the root directory of the SD card.

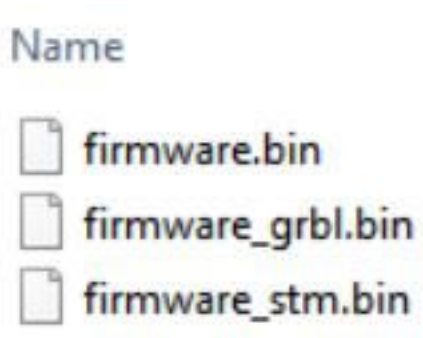
Turn on the machine and insert the SD card into the slot on the side of the Nano Duo. When the main interface displays an upward arrow and the word "SD", it means that the reading is complete.

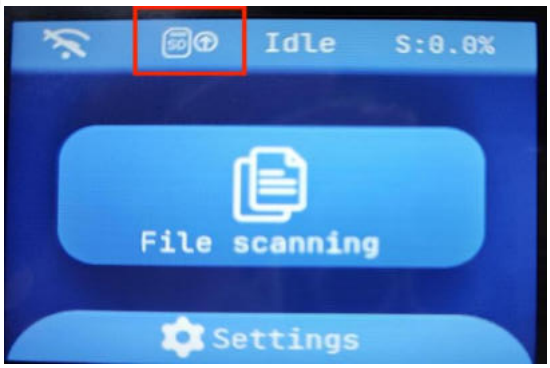
Note: The file names of different firmware are different.Make sure the file name transferred to the SD card is correct, otherwise the firmware cannot be found or even an error may occur.

Screen: firmware.bin

Main control: firmware_grbl.bin

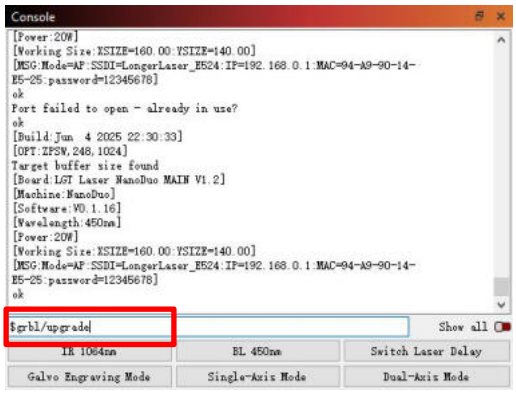
Galvo: firmware_stm.bin





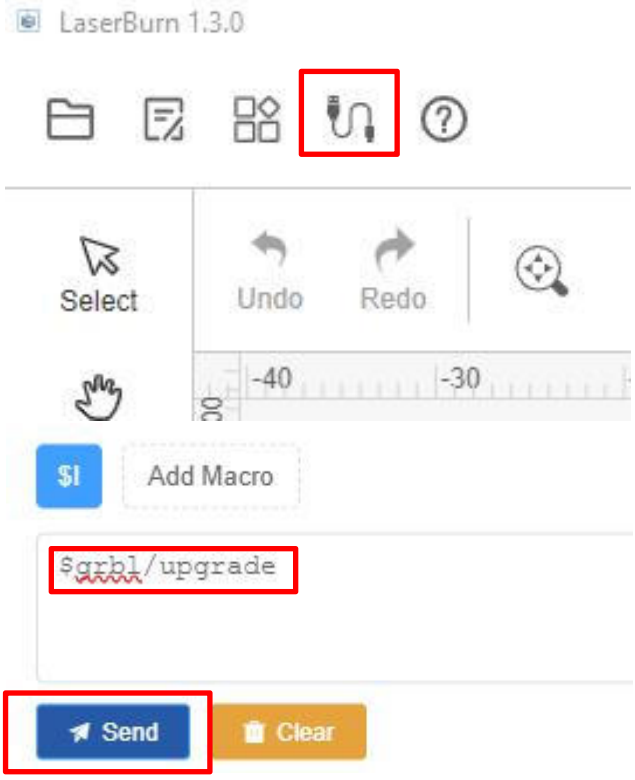
1) Update by LightBurn software

Use Lightburn to connect the Nano Duo and enter “$grbl/upgrade” in the Console window to update the firmware.



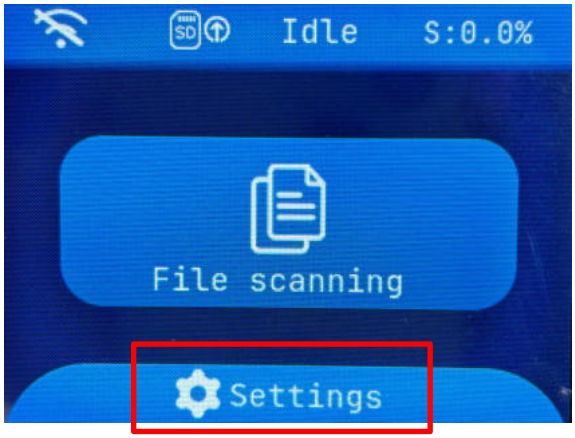
2) Update by LaserBurn software

Click the data window and enter “$grbl/upgrade” in the send box to update the firmware.

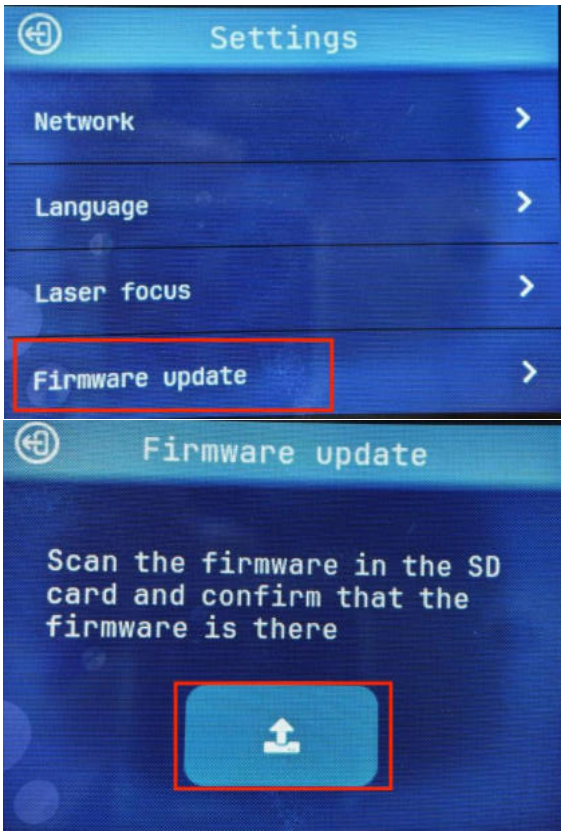


3) Update by Screen

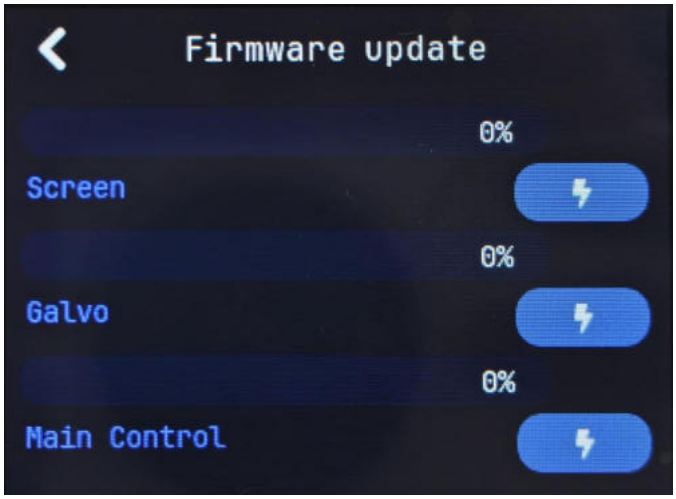
Click the "Settings" option in the main interface to enter the settings interface.



Click the "Firmware update" option to enter the upgrade interface, and click the upward arrow button to upgrade the components.



Screen represents the screen component upgrade, Galvo represents the galvanometer component upgrade, and Main Control represents the main control component upgrade. Select the component you want to upgrade and you can upgrade it.

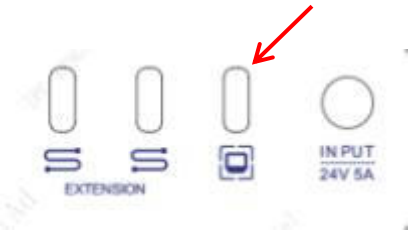


Note: When there is no new firmware in the SD card or the new firmware is not in the root directory of the SD card, the interface will display "Retrieval failed".

2. Unable to connect to Lightburn or LaserGRBL

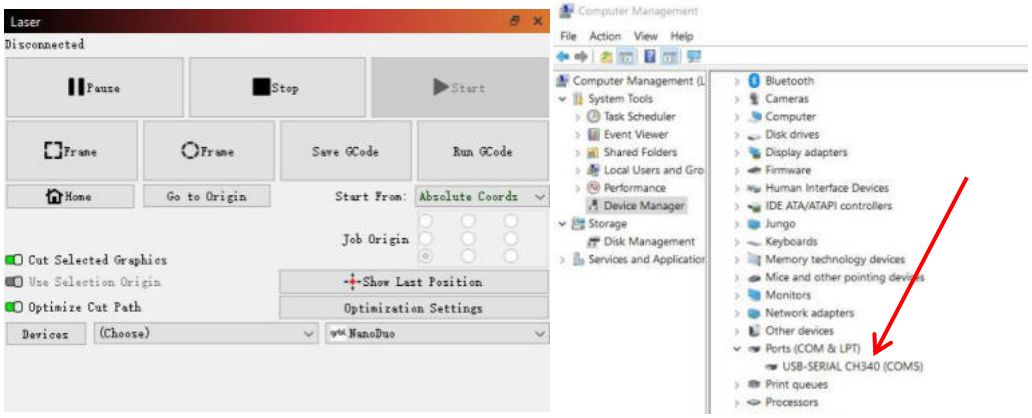
1) Using the wrong Type-c cable

Please use the data cable to connect computer to the third port of engraver. This is .



2) Can not find GH430 driver

For Windows system, it needs to right-click the computer and select Manage, click Device Manager, click to expand Ports (COM & LPT), find the port corresponding to the CH340 driver, and then select this port in the LightBurn, that is to manually choose the right port that the engraver is connected to, by clicking where you see '(Choose)' in the Laser Window.



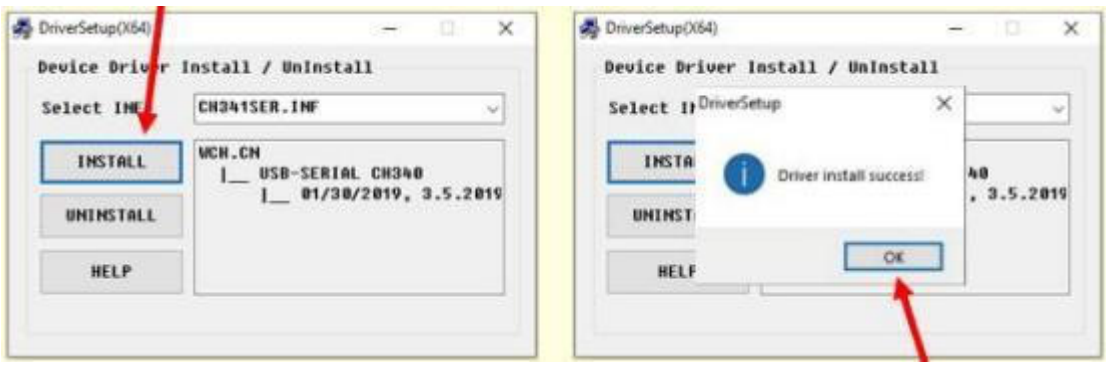
For MacOS, please go to About this Mac > Overview > System Report, select USB under Hardware, there will be USB Serial if the driver is installed automatically, and select cu.wchusbserial14230 port in the LightBurn by clicking where you see '(Choose)' in the Laser Window.

If no ports are listed in the drop-down, it means that no engravers were found, which could mean that it is not plugged in correctly, isn't powered, or the PC is missing a driver. It needs to download CH340 driver from the link and double click it to install:

Tutorial Video for Installing CH340 Drivers on macOS Version 14 and Earlier, https://www.youtube.com/watch?v=FBd1uEA9QUw

Tutorial Video for Installing CH340 Drivers on macOS Version 14 and Earlier， https://www.youtube.com/watch?v=JX-XsjLFei0

https://drive.google.com/drive/folders/1Sc-TKuez-mz--38Vp6DeL-pGmQcQdHW4.



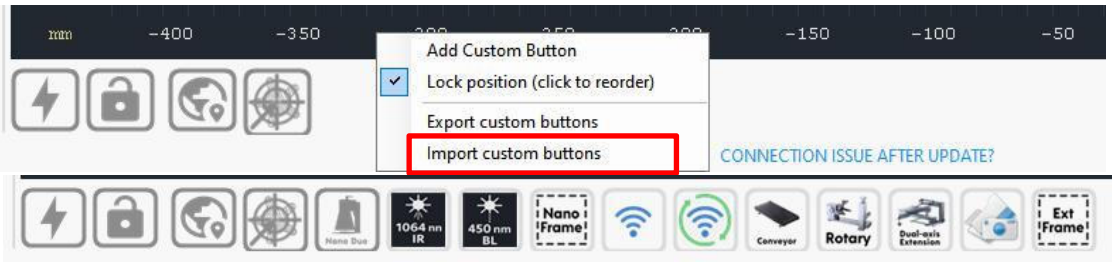
3) GH340 driver port is occipied

Before connecting, please make sure that the CH340 port is not occupied by software such as serial communication tools, cura, etc.

4) The configuration file is not imported or damaged

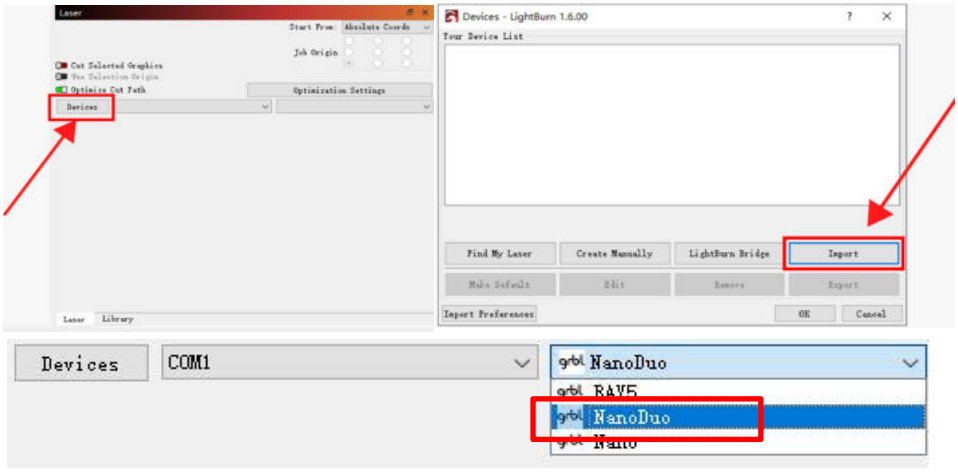
For LaserGRBL, In order to meet the use of Nano Duo in LaserGRBL, it must to import custom buttons. Right-click in the blank area at the bottom and select Import custom buttons, open LaserGRBL_NanoDuo.zbn file to import, click YES to confirm, then there are three new Nano Duo, Slide, 1064nm, 450nm icons etc.

LaserGRBL NanoDuo.zbn file is stored in the softwares directory of the SD cards.



For Lightburn, it will prompt a 'New Device Wizard' or click "Devices" in the laser control module to import the engraver. Click ‘Import’, select the Nano Duo.lbdev file, and click OK to add the Nano Duo configuration to LightBurn. The macro commands will be successfully added in the Console window and Nano Duo device

would appear in the list of devices to the right of the 'Devices' button in the Laser window when the configuration file is imported successfully.

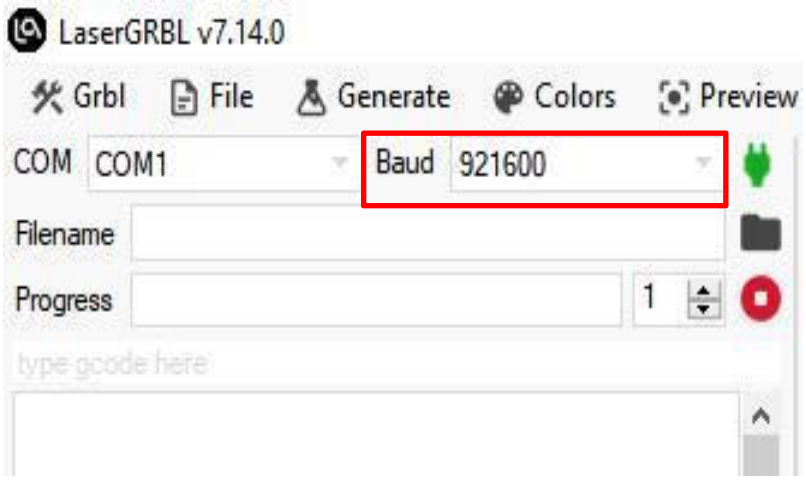


5) Baud rate setting error

If the baud rate is set incorrectly, the machine will be unable to connect.

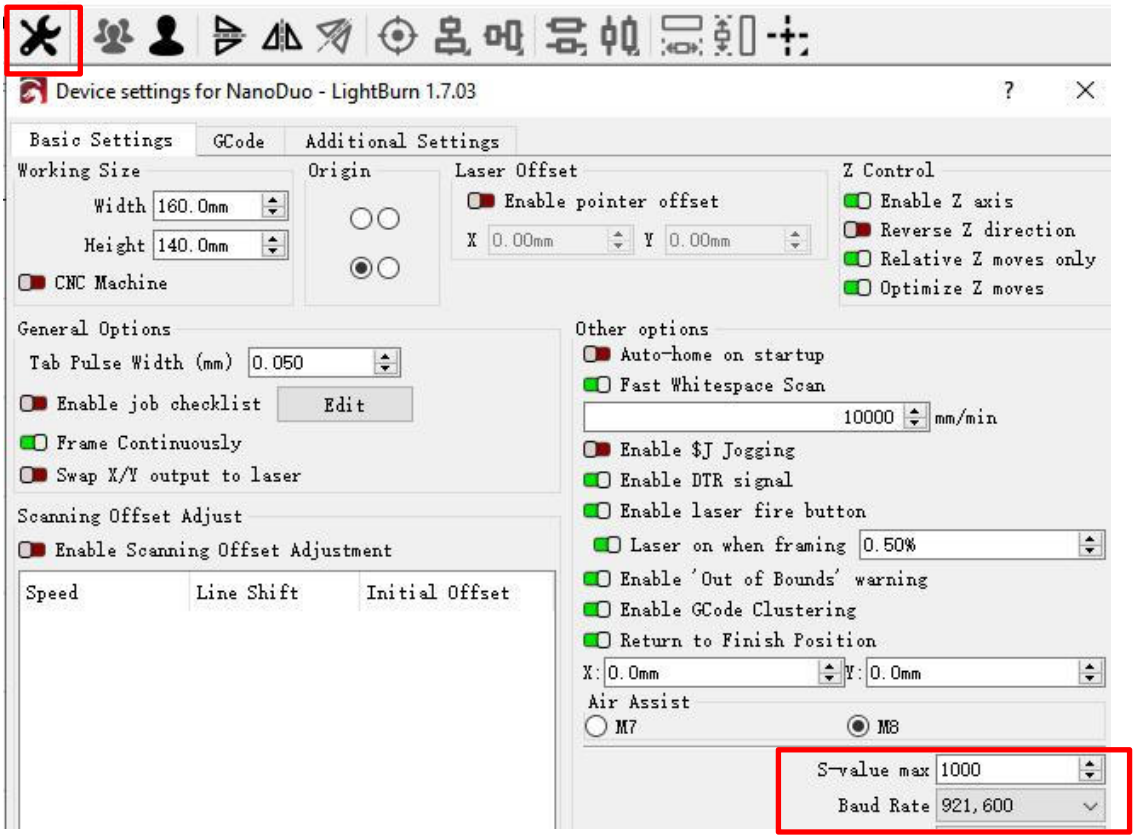
LaserGRBL:

select this port from the COM port list, set 961200 baud rate.



Lightburn:

Click  button,select this port from the COM port list, set 961200 baud rate.

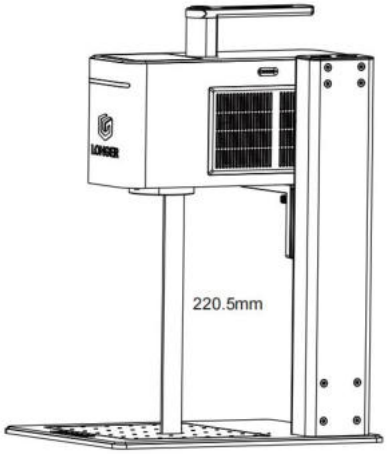


3. Two red light spots cannot overlap at the focal length

1) Find the correct focal length

Use a ruler or a wooden strip (220.05mm) in the packaging box, place one end of it vertically on the surface of the engraved object, and adjust the height of the laser head so that the distance

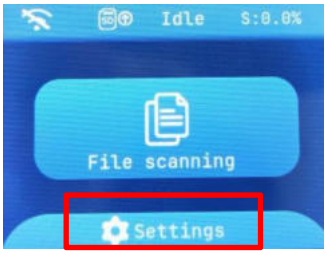
between the bottom of the field lens and the engraved surface is 220.5mm or the bottom of the field lens just touches the wooden strip.

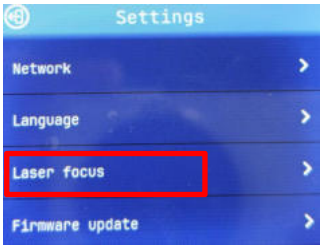


2) Start the red dot focus module

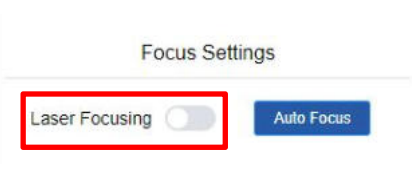
Screen:

Use the screen to turn on the red light focus, click "Settings" --> "Laser focus" --> "Manual"



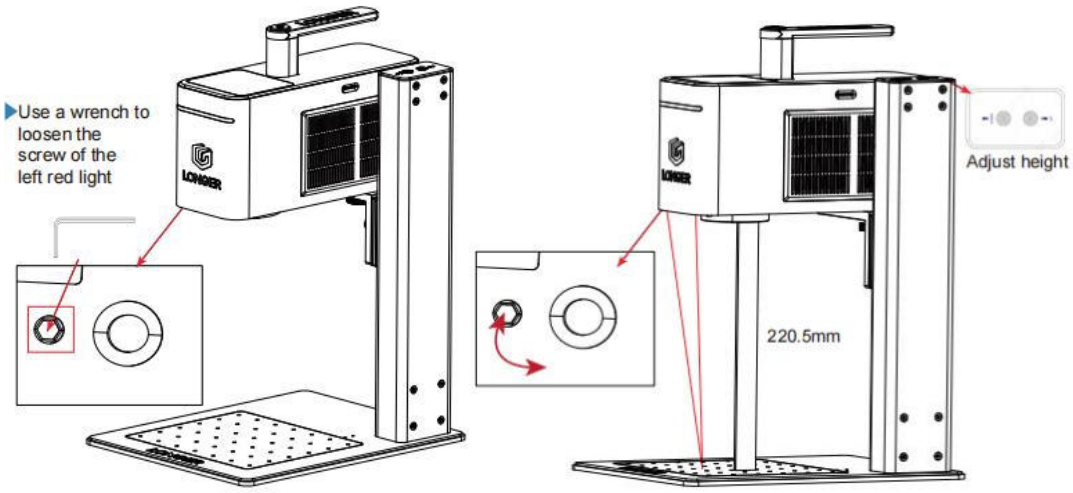


Open Laserburn, click “Device” --> “Engraving” --> “Laser Focusing”



3) Adjust the red dot focus module

If the red dots do not overlap, you need to adjust the red dot focus module. The red dot focus module is selected by the blue box below. The left part is the movable red light. Use a hexagonal wrench to loosen the screw next to it, move the movable red light on the left to make it overlap with the red light on the right, and tighten the screw again.

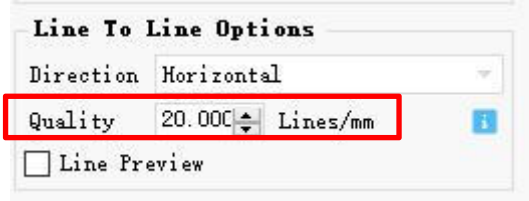


4. Poor image engraving effect

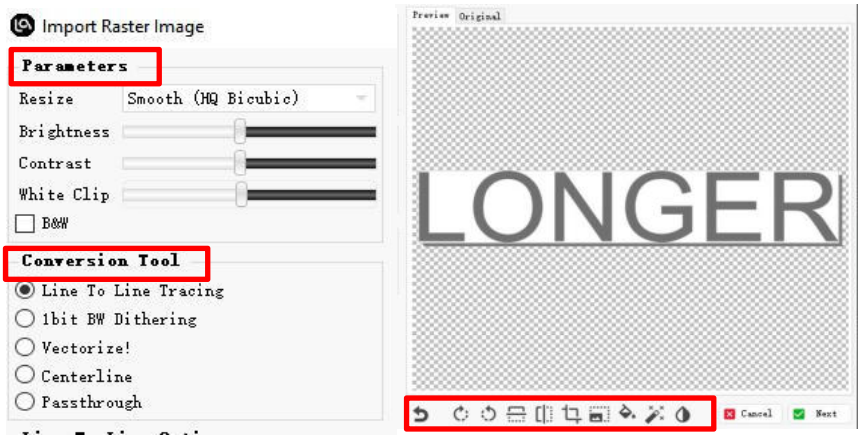
Engraving parameter settings:

1) LaserGRBL

Click File > Open File to add the design to be engraved, set the Quality to 20Lines/mm

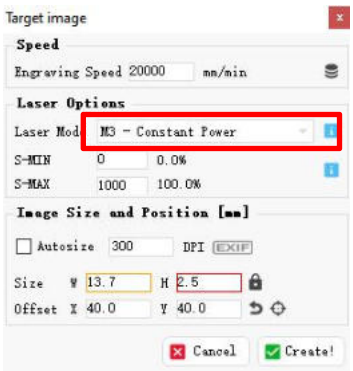


Select different engraving modes in the Coversion TOOL and process the image color in Parameters. If you need to process the image direction, size, etc., you can do it in Preview. click Next,



Refer to the parameter table to set the appropriate engraving power S-MAX and speed. Please note that the laser mode should be selected as **M3-Constant Power**, and the value of S-MAX is 10 times the target laser power, such as when the laser power is 100%,

S-MAX needs to be set to 1000%, if the laser power is 60%, it needs to be set to 600%. Then set the size of the image to scale the design. If the design position is outside the working range, it should set the XY axis offset to adjust the graphics position. Click Greate.



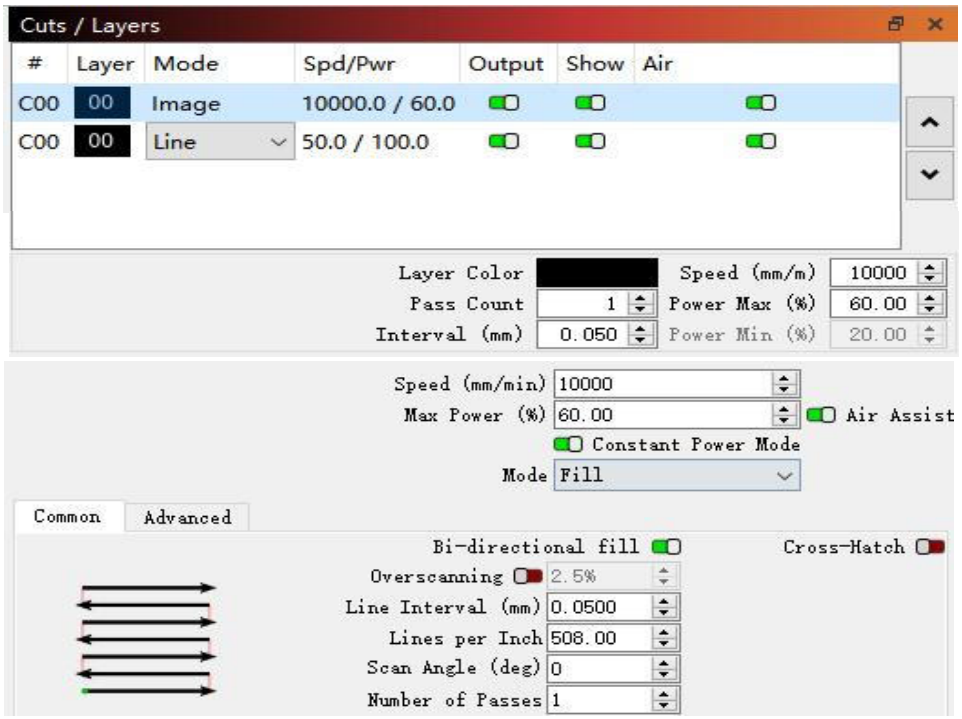
Note: The zero point of Nano Duo is at the lower left corner. If you want to engrave the file in the center, you need to set the Offset.

Offset x=80-(Size_W/2);

Offset Y=70-(Size H/2);

2) Lightburn

Click on different layers in Cuts and Layers Window to set the corresponding parameters, **turn off Bi-directional scanning**, **enable Constant Power Mode** (Please note that for image or fill engraving, the Y interval is 0.05mm, and adjust the specific parameters according to the actual materials and parameter table).



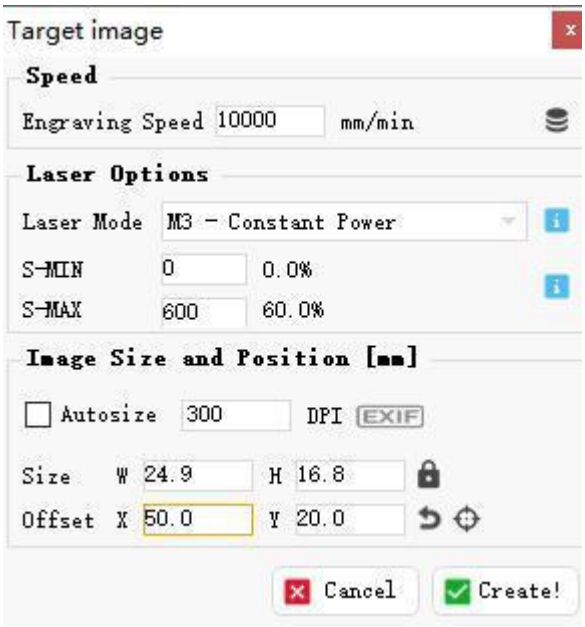
At high speed, if it is fill mode, the engraving effect is not good, you can change the Line interval to 0.025mm.

At high speed, the engraving process may become stuck and the speed may decrease. It is recommended to use an SD card for engraving, which can achieve better engraving results.

When the image is a complex image with a lot of details, the amount of data transmitted by the computer is too large through the USB connection, it will lead to poor engraving effect. It is recommended to use an SD card for engraving, which can achieve better engraving results.

5. How to adjust the position with LaserGRBL

Click File > Open File to add the design to be engraved, adjust the offset of X and Y in the target image window to change the position of the graphics to make sure which is in the range of 160*140mm.



The zero point of Nano Duo is at the lower left corner. If you want to engrave the file in the center, you need to set the Offset.

Offset x=80-(Size_W/2);

Offset Y=70-(Size H/2);

If the values of offset x or offset Y are negative, it means that the engraving file exceeds the Nano Duo range.

6. How to switch between infrared laser and blue laser

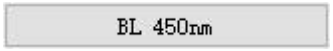
1) LaserGRBL:

If you use infrared laser engraving, click  1064nm IR button, if you use blue laser engraving, click  450nm BL button to engrave, then click  Frame button to determine the material placement, and finally click  Start button to start engraving.

Note: Click Nano Duo botton  before switching between infrared laser and blue laser.

2) Lightburn:

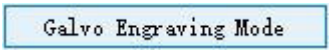
If you use infrared laser engraving, click IR 1064nm button 

, if you use blue laser engraving, click BL 450nm button 

to engrave, adjust the focus of Nano Duo and click the Frame button 

, confirm the placement of the engraving, then click Start 

.

Note: Click Galvo Engraving Mode 

in the console window before switching between infrared laser and blue laser.

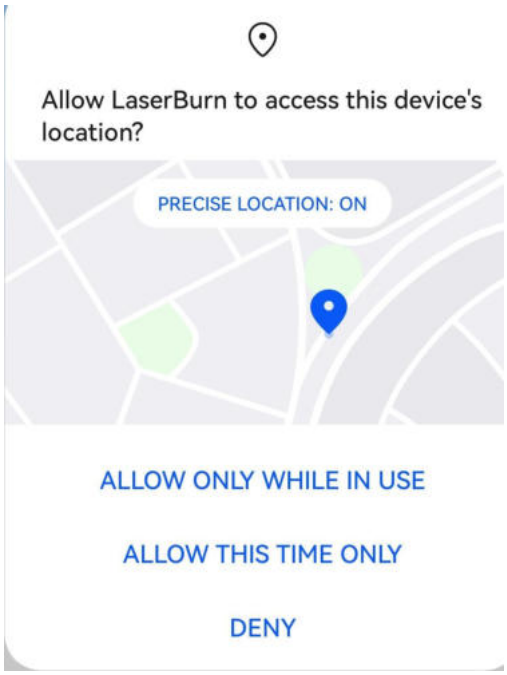
7. LaserBurn APP connot connect to WiFi

1) Update the app to the latest version

Please search for "LaserBurn" in Google play or Apple store to download and update to the latest version.

2) APP is not allowed to discover device's location

When run the app for the first time, select ALLOW ONLY WHILE IN USE when prompted Allow LaserBurn to access this device's location?, or the LongerLaser Nano Duo WiFi can not be found. If have already selected DENY, it needs to change the app's location discovery permission in Settings.



3) Reset the WiFi

If WiFi of LongerLaser Nano Duo can not be found, please long press the WiFi reset button on the back of the Nano Duo until you can hear three buzzers to reset the WiFi, then search the WiFi list again.

4) Not connected to the same router or not 2.4G WiFi

In STA mode, it needs to connect the engraver and mobile phone to the same router WiFi. Make sure it is 2.4G WiFi. 5G WiFi is not supported yet.

5) WiFi signal is too weak

Switch to a router with better signal strength.

8. Blue laser is flashing but not in focus

When start engraving, blue light is emitted through the field lens or window lens, but the blue light is not focused and it cannot see the blue light engraving.

1) The configuration file is not imported or damaged

For LaserGRBL, In order to meet the use of Nano Duo in LaserGRBL, it must to import custom buttons. Right-click in the blank area at the bottom and select Import custom buttons, open LaserGRBL_NanoDuo.zbn file to import, click YES to confirm, then there are three new Nano Duo, Slide, 1064nm, 450nm icons etc.

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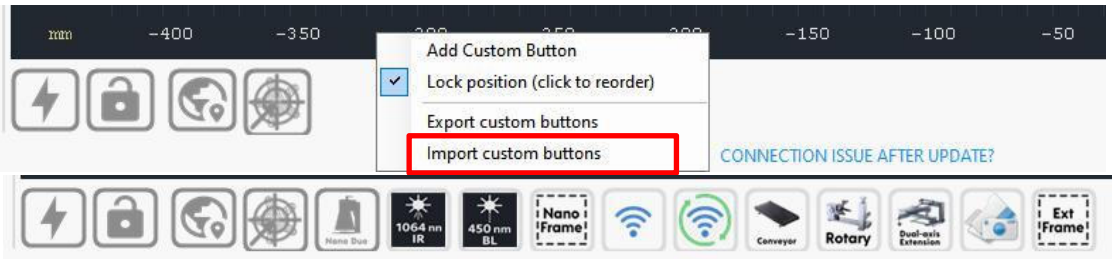

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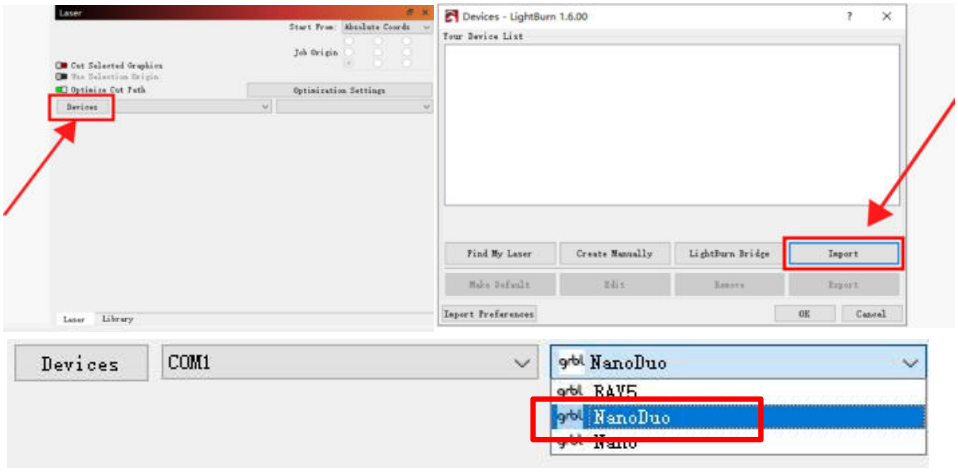
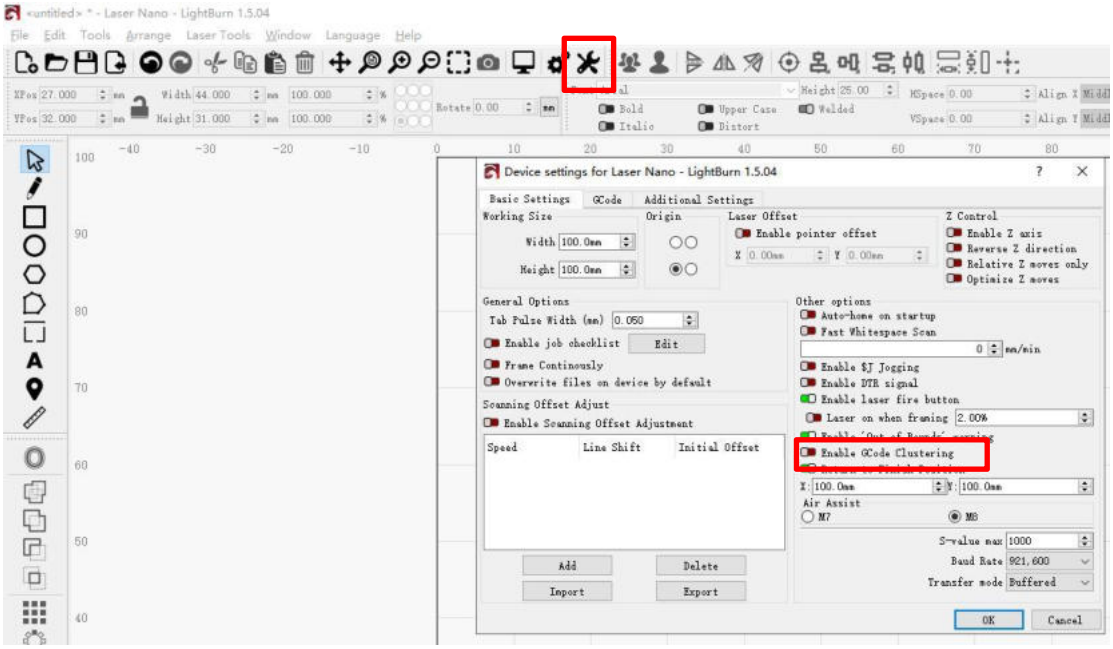


2) Not switch to engraving mode

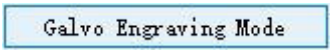
Before engraving,it must switch to carving modes, that is click Galvo Engraving Mode in Console window for LightBurn, or click Nano Duo at the botton for LaserGRBL.

3) Need to close clustering in LightBurn



Click “Device Settings”, close “Enable GCode Clustering”.

9. No blue laser when using LightBurn software to frame

Click Galvo Engraving Mode 

first, then click BL 450nm button 

in the console window before clicking frame.

Note: When you click IR 1460mm button to frame, you will can not see the infrared laser.

10. The place of frame and engraving are different when SD card offline engraving

This happens when the gcode file is saved in a non-absolute coordinate, that is current position or user origin. It needs to choose

"Absolute Coords" in the "Start From" before saving .gc file.