Fiber Laser Marking Machine
User Manual

Please Read Carefully Before Use
and Keep It for Future Reference

PREFACE

Dear Customer,

Thank you for choosing the Monport Laser System.

This fiber laser marking machine is intended for both personal and professional use.

Monport is committed to providing the highest level of customer satisfaction and support. To ensure a favorable customer experience, we kindly suggest that you thoroughly read the User Manual provided with your equipment before operation.

The manual covers the correct installation, adjustment, maintenance, and, most importantly, the safe operation of your new laser equipment. It is intended to be used in conjunction with the manual for the engraving software (BslAppSimple or LightBurn). These programs not only provide image design capabilities but also serve as the main interface for the laser settings and machine controls. You and any other users of this device should thoroughly understand BOTH manuals before attempting to operate the laser. Both manuals should be included if this device is given or sold to a third party.

The instructions for using BslAppSimple are provided only in electronic format and are included on the USB flash drive. The instructions for using LightBurn can be viewed by logging into the LightBurn official website (https://lightburnsoftware.com).

If you have any questions after reading these manuals, please contact us, and our support department will address your concerns as soon as possible. We understand that there may be a learning curve when using any new piece of machinery, but with some effort and patience, you'll soon be operating your new laser confidently and efficiently!

Your usage experience and suggestions are essential for Monport to improve our products and services. We will carefully listen to any opinions and suggestions from customers.

Again, thank you for choosing Monport.

Sincerely,

Monport Product Director

Constantine

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1. Introduction

1.1 General Information

This is the designated user guide for the installation, setup, safe operation, and maintenance of your fiber laser marking machine. It is divided into six chapters, covering: General Information, Safety Instructions, Installation Steps, Operation Instructions, Maintenance Instructions, Contact Information.

All personnel involved in the installation, setup, operation, maintenance, and repair of this machine should read and understand this manual, particularly its safety instructions. Failure to follow these instructions may result in substandard performance, reduced longevity, property damage, and personal injury.

How It Works: Your fiber laser marker emits a powerful laser beam from its fiber laser source. The beam travels through a fiber optic cable, focuses through the galvanometer lens, and uses this concentrated light to etch designs into various substrates.

Features:
Nanoscale Fiber Laser Source: Provides a single-mode output, excellent heat dissipation, high efficiency, and a compact structure.
High Precision: Ideal for detailed laser marking.
Longevity: With typical use, the device has an average lifespan of around 100,000 working hours.

Optimal Usage:
Power Settings: To ensure optimal performance and longevity, use the laser at 10-75% of its maximum rated power. Constant operation above 80% can significantly shorten its service life.
High-Voltage Precaution: As this is a high-voltage device, it is recommended to touch its components with only one hand at a time during use.

Safety Considerations:
This device does not come with a protective housing. It is recommended to use a dedicated room or set up protective screens around the work area.
The active laser is invisible to the human eye. Everyone in or near the working area **MUST** wear special protective eyewear when the laser is in use to avoid potentially permanent injury.

1.2 Symbols Guide

The following symbols are used on this machine's labeling or in this manual:

 These items present a risk of serious property damage or personal injury.

 These items address similarly serious concerns regarding the laser beam.

 These items address similarly serious concerns regarding electrical components.

 Protective eyewear should be worn by anyone around this machine during operation.

 This product is sold in conformity with applicable EU regulations.

 This product contains electrical components that should not be disposed of with regular garbage.

1.3 Designated Use

This machine is intended for engraving signs and other consumer products on applicable substrates. It can process a wide variety of metals, including steel, aluminum, titanium, brass, copper, tungsten, carbide, and chrome. It can also be used with stone and some hard plastics such as acrylic.

Use of this system for non-designated purposes or materials is **NOT** permitted.

The system **MUST** be operated, maintained, and repaired by personnel familiar with the field of use and aware of the dangers associated with the machine and the materials being engraved, including their reflectivity, conductivity, and potential for creating harmful or combustible fumes.

Laser beams are dangerous. The manufacturer and/or seller bear(s) no responsibility and assume(s) no liability for any improper use of this device or any damage or injury arising from such use. The operator is obliged to use this fiber laser marker **ONLY** in accordance with its designated use, the instructions on the device and in its manuals, and all applicable local and national laws and regulations.

1.4 Technical Specifications

Type	GA Series			
Product Name		GA20	GA30	GA50
Voltage		the United States and Canada regions：110-120V 60Hz Europe, UK, and Australia regions：220-240V 50Hz		
Overall Rated Power		600W	600W	600W
Field Lens Specification		4.3x4.3 in. 110×110 mm	5.9x5.9 in. 150×150 mm	7.9x7.9 in. 200×200 mm
Marking Accuracy		0.01mm		
Max. Marking Speed		393.7ips(10000 mm/s)		
Max. Marking Depth (depends on different material)		0.002in. (0.04mm)	0.003in. (0.08mm)	0.004in. (0.1mm)
Positioning Accuracy		±0.1 μm		
Laser	**Rated Power**	20W	30W	50W
	Expected Service Life	100,000 hr.		
	Central Wavelength	1064nm		
	Frequency Range	29~60kHz	30~60kHz	45~170kHz
	Pulse Width	Nonadjustable (Fixed pulse width)		
	Beam Diameter	6-8 mm		
	Beam Quality M2	＜1.5	＜1.5	＜1.6
	Maximum Pulse Energy	0.78 mJ	0.78 mJ	1.1 mJ
Required Operating	**Max. Humidity**	<70%RH(Operating outside the recommended humidity range may reduce the laser's lifespan, degrade performance, or even cause damage)		
Environment	**Temp. Range**	32–104°F(0 - 40°C)		
Provided Operating Software		BslAppSimple		
Applicable	**BslAppSimple**	Windows		
Computer System	**Lightburn (not Included)**	Windows, MacOS		
Applicable Image Formats		BMP, GIF, JPG, JPEG, DXF, DST, Al.etc		
Materials Suitable for Engraving		Brass，Hard Plastic，Titanium，Brick，Marble，Gold，Carbide，Silver，Tungsten，Granite，Steel，etc		

Type	**GA Series**			
Product Name		GA30 MOPA	GA60 MOPA	GA100 MOPA
Voltage		the United States and Canada regions：110-120V 60Hz Europe, UK, and Australia regions：220-240V 50Hz		
Overall Rated Power		600W	600W	600W
Field Lens Specification		6.9x6.9 in. 175×175 mm		
Marking Accuracy		0.01mm		
Max. Marking Speed		393.7ips(10000 mm/s)		
Max. Marking Depth (depends on different material)		0.003in. (0.08mm)	0.004in. (0.1mm)	0.006in. (0.15mm)
Positioning Accuracy		±0.1 μm		
Laser	**Rated Power**	30W	60W	100W
	Expected Service Life	100,000 hr.		
	Central Wavelength	1064nm		
	Frequency Range	1-3000kHz		
	Pulse Width	2-500ns		
	Beam Diameter	7±1mm		
	Beam Quality M2	＜1.35	＜1.8	
	Maximum Pulse Energy	0.8mJ	1.5mJ	
Required Operating	**Max. Humidity**	<70%RH(Operating outside the recommended humidity range may reduce the laser's lifespan, degrade performance, or even cause damage)		
Environment	**Temp. Range**	32–104°F(0 - 40°C)		
Provided Operating Software		BslAppSimple		
Applicable	**BslAppSimple**	Windows		
Computer	**Lightburn** **(not Included)**	Windows, MacOS		
System				
Applicable Image Formats		BMP, GIF, JPG, JPEG, DXF, DST, Al.etc		
Materials Suitable for Engraving		Brass，Hard Plastic，Titanium，Brick，Marble，Gold，Carbide，Silver，Tungsten，Granite，Steel，etc		

1.5 Components

1.5.1 Main Parts

1: Focus Adjustment Wheel

Manually rotate the adjustment wheel to move the laser arm up and down to achieve the correct focal length.

2: Support Column

The support column fixes the laser arm, providing stability and support for the machine's moving parts.

3: F-theta Lens

The F-theta lens marks a consistent and precise light spot at any position within the corresponding range.

4: Work Table

The work table can hold the target material and has optional positioning holes for precise alignment and positioning of the marking target.

5: Control Panel

It is equipped with a control system and various electronic devices, responsible for controlling and managing the operation of the machine.

6: Laser Cable

Transmits the laser beam from the laser source to the laser head.

1.5.2 Buttons

1. Laser Power Switch
2. Start Engraving Button
3. Auto Focus Panel:
   ① Laser Arm Down
   ② Laser Arm Up
   ③ Auto Focus
4. Dual Red Light Switch

1.5.3 Interfaces

1. USB Interface

Connects the marking machine to a computer device.

2. Rotary Axis Socket

Connects the rotary axis port (compatible with the corresponding rotary axis).

3. Power Cord Socket

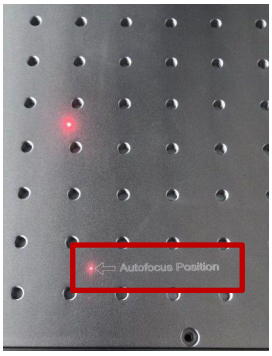
Connects the machine to the power supply using a standard 3-pin power cord.

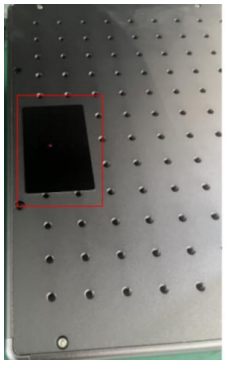
4. Power Switch

This switch controls the power on and off of the machine.

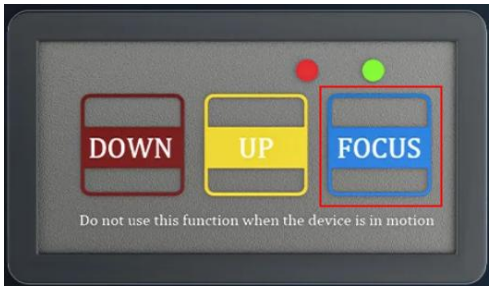
1.5.4 Auto Focus Instructions

1. Place the object to be marked under the red light used for measuring the focal length of the laser.





2. Press the autofocus button and wait a moment for the laser arm to move up and down to complete the autofocus.



3. After focusing, move the object to the position indicated by the red light, then press the 'Start Engraving' button to begin marking

❖ Please consult customer service for operation videos if needed.

1.6 Package List

TYPE	Accessory	Quantity
GA	Power Cable	1
	USB Cable	1
	Flash Disk	1
	Wrench	1
	Position Plant	2
	Screws M6*12	4
	Hand tighten screws	2
	Goggles	1
	Testing Card	10
	USB-TypeC	1
	Intructions	1
	Ruler	1

2. Safety Information

2.1 Disclaimer

Your engraver may differ somewhat from those shown in this manual due to options, updates, etc. Please contact us if your marking machine comes with an outdated manual or if you have any other questions.

2.2 General Safety Instructions

- Use this laser marking device **ONLY** in accordance with all applicable local and national laws and regulations.
- Use this device **ONLY** in accordance with this instruction manual and the manual for the engraving software included with it.
- **ONLY** allow this device to be installed, operated, maintained, and repaired by individuals who have read and understood both manuals. Ensure that this manual and the software manual are included with this device if it is ever given or sold to a third party.
- **DO NOT** operate this device continuously for more than 5 hours. Stop every 5 hours for at least half a hour.

- **DO NOT** leave this device unattended during operation. Observe the device throughout operation and, if anything seems to be operating strangely, immediately cut off **ALL** power to the machine and contact either our customer service or your dedicated repair service. Similarly, ensure the device is **FULLY** turned off in the correct order after each use.
- **DO NOT** allow minors, untrained personnel, or personnel suffering from physical or mental impairment that would affect their ability to follow this manual and the software manual to install, operate, maintain, or repair this device.
- Any untrained personnel who might be near the device while it is in operation **MUST** be informed that it is dangerous and fully instructed on how to avoid injury during its use.
- **ALWAYS** keep a fire extinguisher, water hose, or other flame retardant system nearby in case of accidents. Ensure that the local fire station's phone number is clearly displayed nearby. In case of a fire, cut electrical power before dousing the flame. Familiarize yourself with the correct range for your extinguisher before use. Take care not to use your extinguisher too close to the flame, as its high pressure can produce blow-back.

2.3 Laser Safety Instructions

This machine uses an invisible **CLASS 4 LASER**, the strongest and most dangerous class of laser available for public use. Used without care, it can cause serious property damage and personal injury, including but not limited to the following:

- The laser will easily burn nearby combustible materials.
- Some working materials may produce radiation or harmful gases during processing.
- Direct exposure to the laser will cause bodily harm, including serious burns and irreparable eye damage.
- **NEVER** interfere with the laser beam.
- **DO NOT** place any part of your body under the laser lens during operation. Use screens or personal protective equipment to protect yourself from potentially reflected laser beams.

- **NEVER** attempt to view the laser directly without protective eyewear. **ALWAYS** wear safety goggles or glasses designed to filter the specific wavelength of your engraver's laser with an optical density (OD) of 5+. As even seemingly matte materials can produce harmful reflected beams, care should be taken to keep anyone without protective eyewear from observing the machine during operation. **EVEN WITH** protective eyewear, do not stare or allow others to stare continuously at the laser beam during the operation.
- **DO NOT** leave potentially combustible, flammable, explosive, or corrosive materials nearby where they could be exposed to the direct or reflected laser beam.
- **DO NOT** use or leave sensitive EMI equipment nearby. Ensure the area around the laser is free of strong electromagnetic interference during any use.
- **ONLY** use this machine as described in the **MATERIAL SAFETY SECTION** of this manual. The laser settings and engraving process must be properly adjusted for specific materials.
- **ENSURE** the area is kept free of airborne pollutants, as these might pose a similar risk of reflection, combustion, etc.
- **NEVER** use this marking machine with the fiber source's housing opened, as the closed laser light path is necessary to prevent laser radiation leakage.
- **DO NOT** modify or disassemble the laser and do not use the laser if it has been modified or disassembled by anyone except trained and skilled professionals. Dangerous radiation exposure and other injury may result from the use of adjusted, modified, or otherwise incompatible equipment.

2.4 Electrical Safety Instructions

- **ONLY** use this device with a compatible and stable power supply with less than 5% fluctuation in its voltage.
- **DO NOT** connect other devices to the same fuse, as the laser system will require its full amperage.
- **DO NOT** use standard extension cords or power strips. Use only surge protectors rated over 2000J.
- **ONLY** turn on the power via a firm connection to a 3-prong outlet.

- Turn the device on and off using its power buttons in the correct order. Pushing all the buttons at once, too quickly, or in the wrong order may send electrical current to an ungrounded component, causing short circuits and other electrical hazards.

- **ONLY** use this device with one hand at a time. The laser is powered by an extremely high voltage connection and placing two hands on the machine at one time during operation has the potential to create a closed circuit with the human body, resulting in electrical shock.
- The area around this laser marking device should be kept dry, well-ventilated, and environmentally controlled to keep the ambient temperature between 32–104°F (0–40°C). The ambient humidity should not exceed 70%.
- Adjustment, maintenance, and repair of the electrical components of this device must be done **ONLY** by trained and skilled professionals to avoid fires and other malfunctions, including potential radiation exposure from damage to the laser components. Because specialized techniques are required for testing the electrical components of this marking system, it is recommended such testing only be done by the manufacturer, seller, or repair service.
- Unless otherwise specified, **ONLY** undertake adjustment, maintenance, and repair of the device when it is turned off and disconnected from its power supply.

2.5 Material Safety Instructions

- Users of this fiber marking machine are responsible for confirming that the materials to be processed can withstand the heat of the laser and will not produce any emissions or by-products harmful to people nearby or in violation of any local or national laws or regulations. In particular, **DO NOT** use this device to process polyvinyl chloride (PVC), Teflon, or other halogen-containing materials under any circumstances.
- Users of this fiber laser are responsible for ensuring that every person present during operation has sufficient PPE to avoid any injury from emissions or by-products of the materials being processed. In addition to the protective laser eyewear discussed above, this may require goggles, masks or respirators, gloves, and other protective outer clothing.
- Users must exercise special caution when working with conductive materials, as the build-up of their dust and ambient particles may damage electrical components, cause short circuits, or produce other effects, including reflected laser radiation.

This machine can be safely used with the following materials:

- Aluminum
- Brass
- Carbide
- Gold
- Silver
- Steel
- Stone, including Granite, Marble, etc.
- Titanium
- Tungsten

This machine can be used with some other metals, hard plastics, and other materials with some care. For other materials, if you are unsure about their safety or laser compatibility with this device, seek out its material safety data sheet (MSDS). Pay special attention to information about safety, toxicity, corrosiveness, reflectivity, and reactions to high heat. Alternatively, contact our support department for further guidance.

See section **4.4 Instructions for Specific Materials (Page 24)** for the recommended parameters for the most commonly engraved materials.

This machine **CAN NOT** be used with the following materials or with any materials which include them:

- Artificial leather containing Hexavalent Chromium (Cr[VI]), due to its toxic fumes
- Astatine, due to its toxic fumes
- Beryllium oxide, due to its toxic fumes
- Bromine, due to its toxic fumes
- Chlorine, including Polyvinyl Butyral (PVB) and Polyvinyl Chloride (PVC, Vinyl, Cintra, etc.), due to its toxic fumes
- Fluorine, including Polytetrafluoroethylene (Teflon, PTFE, etc.), due to its toxic fumes
- Iodine, due to its toxic fumes
- Paper and paperboard, due to their high flammability when exposed to the concentrated laser
- Phenolic resins, including various forms of epoxy, due to their toxic fumes
- Wood, including MDF, plywood, balsa, birch, cherry, oak, poplar, etc., due to its high flammability

3. Installation

3.1 Overview

A complete working system consists of the following parts:

- Fiber laser source
- Laser arm with the galvanometer lens
- Computer (not included) with BslAppSimple software
- All applicable connection cables
- Support column
- Working platform

Users can also configure additional accessories (such as a rotary axis) to suit their needs. Use only the hardware, wiring, and power sources that came with or are compatible with this device. Installing equipment that your device is not designed to work with can lead to poor performance, shortened service time, increased maintenance costs, property damage, and personal injury.

Please note the specific requirements of your system's installation. Every customer must understand these notes before installation to execute a proper setup and achieve safe laser performance. If you have any installation questions or problems, contact our technicians and customer support team.

Any auxiliary equipment must be adjusted to the base machine. Queries may be directed to the dealer or manufacturer of such equipment.

3.2 Location Selection

Before assembling your laser marking machine, select an appropriate location for its use, meeting the following conditions:

- Be sure that it meets all the requirements discussed in the **Safety Information** above.
- The location should be stable, level, dry, and climate-controlled to ensure an ambient temperature of 32–104°F (0–40°C) and an ambient humidity under 70%.
- In particular, the temperature and humidity together should **NOT** be close to the dew point.
- It is also advisable to use a windowless room or use blinds and/or curtains to avoid exposure to the potential additional heat of direct sunlight.
- The location should be free of dust and other airborne pollutants and well-ventilated enough to process any fumes produced by the engraving process in accordance with all applicable laws and regulations. Depending on the materials to be processed, this may require the construction of a dedicated ventilation system.
- It should be away from children; combustible, flammable, explosive, or corrosive materials; and sensitive EMI devices.
- The power cord should be plugged into a compatible and stable power source via a grounded 3-prong outlet. No other item should be drawing current from the same fuse.
- There should be firefighting equipment nearby, and the local fire station's phone number should be clearly displayed.
- It is highly recommended to have an extra work table nearby to avoid placing objects on or directly adjacent to the machine, which could become a fire or laser hazard.

3.3 Electrical Grounding

This device uses a powerful laser and operates at extremely high voltage, making proper grounding crucial for safety. To prevent the build-up of static electricity, users must securely ground the device.

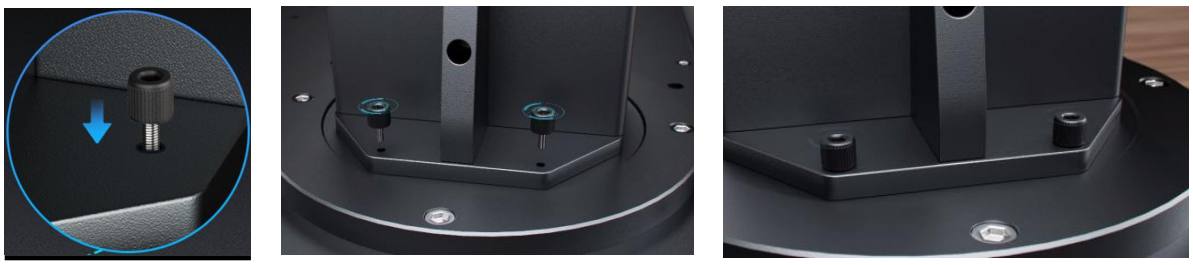
① **Using a Standard Outlet**: Plugging the device into a standard 3-prong outlet provides sufficient grounding.
② **Alternative Grounding Method**: Use the included grounding cable if a 3-prong outlet is unavailable. Ensure the far end of the cable is securely connected to a metal rod driven at least 8 feet (3 m) deep into the soil, located at least 5 feet (1.5 m) from the machine. The resistance along the grounding line should not exceed 5Ω.

Failure to properly ground the device **WILL** lead to equipment failure and pose a serious electrical shock risk. The manufacturer and/or seller(s) do not bear responsibility or liability for any damage, accidents, or injuries resulting from improper grounding connections

3.4 Step-by-Step Assembly

- If you buy a GA series product.
- Prepare the two screws for securing the bracket.
- Lift the folded bracket.

- Align the two holes, insert and tighten the screws.



4. Operation

4.1 Operation Overview

Operate this laser marking machine only in accordance with all the instructions provided in this manual. Failure to follow the guidelines detailed here can result in property damage and personal injury.

This section addresses only some of the options and features provided by the operation software. Before using the machine, ensure you have read this entire manual (particularly the Safety Information section), the separate software manual, and any warnings provided on the machine itself.

4.2 Software Installation

4.2.1 Connecting Computer Equipment

①Connect the machine to the power supply using the provided power cord.

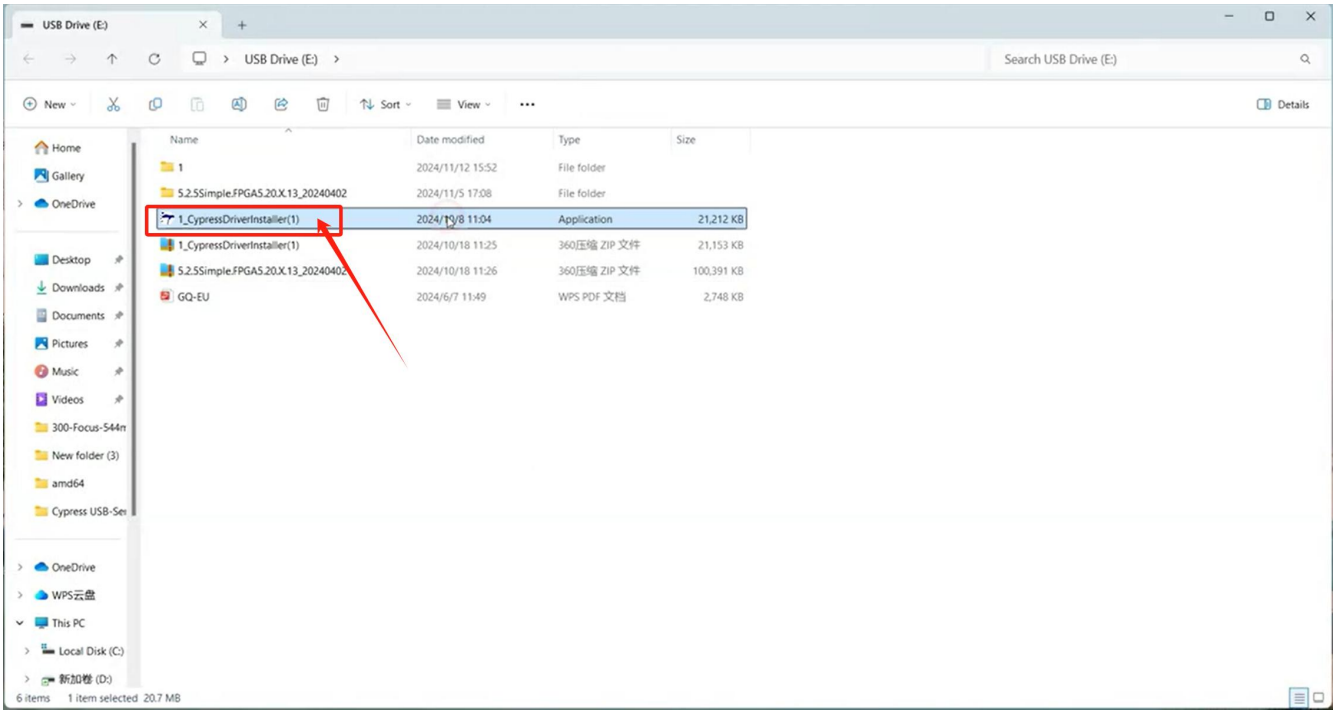
②Connect the machine to your computer using the provided USB cable.

Note: The computer should not be placed more than 15 feet (4.5 meters) from the laser marker to avoid possible signal interference.

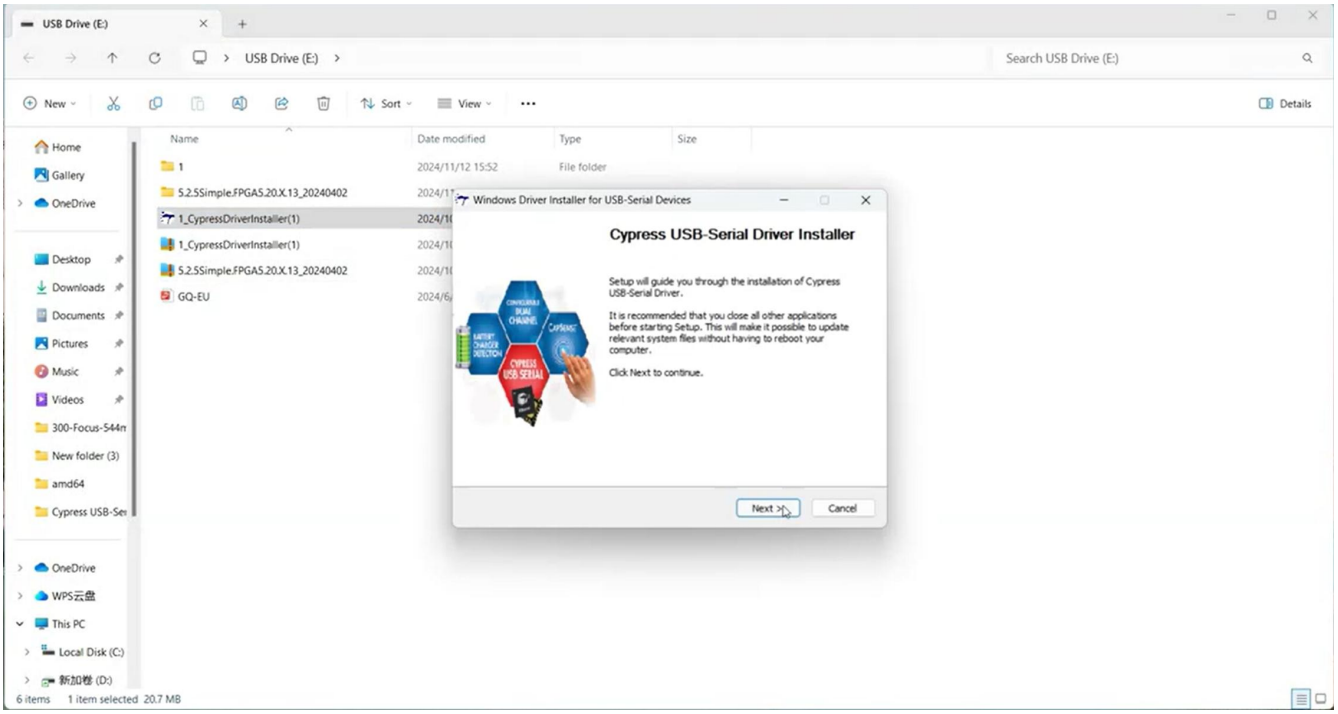
4.2.2 Installing BslAppSimple

Drive installation

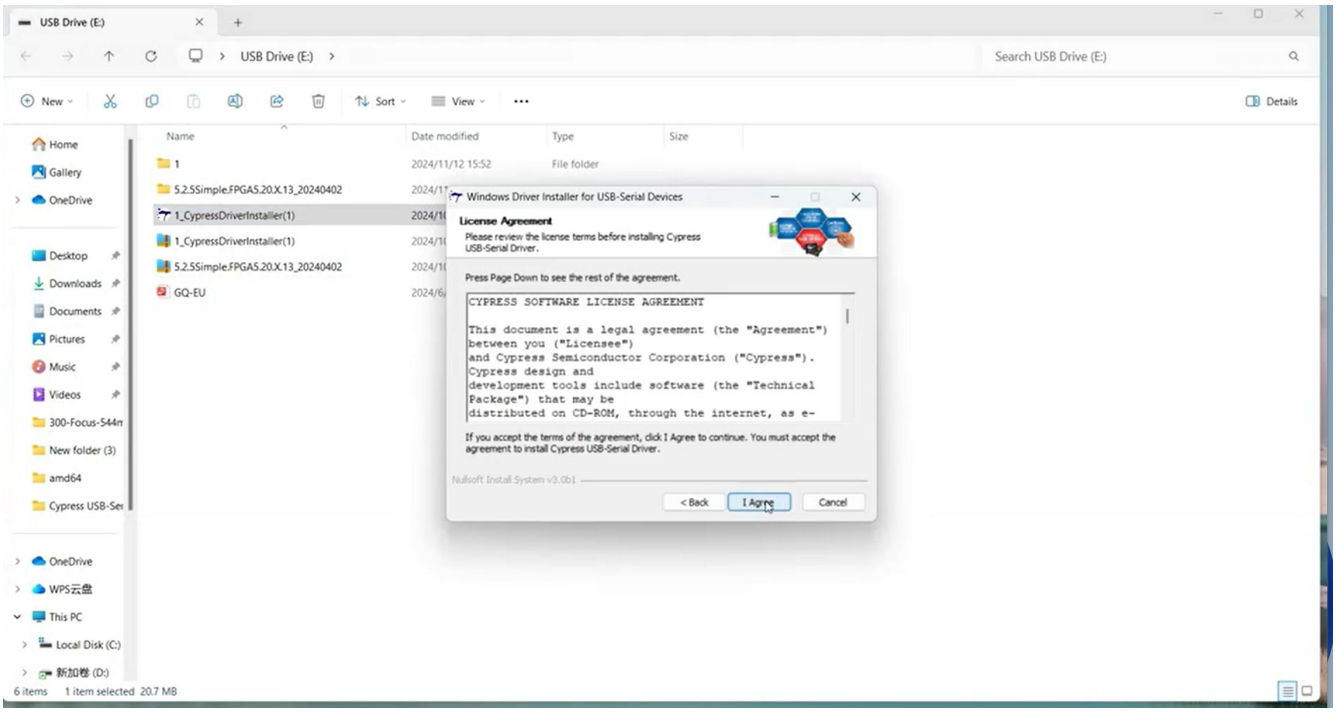
①Double-click the software (as shown in the picture);



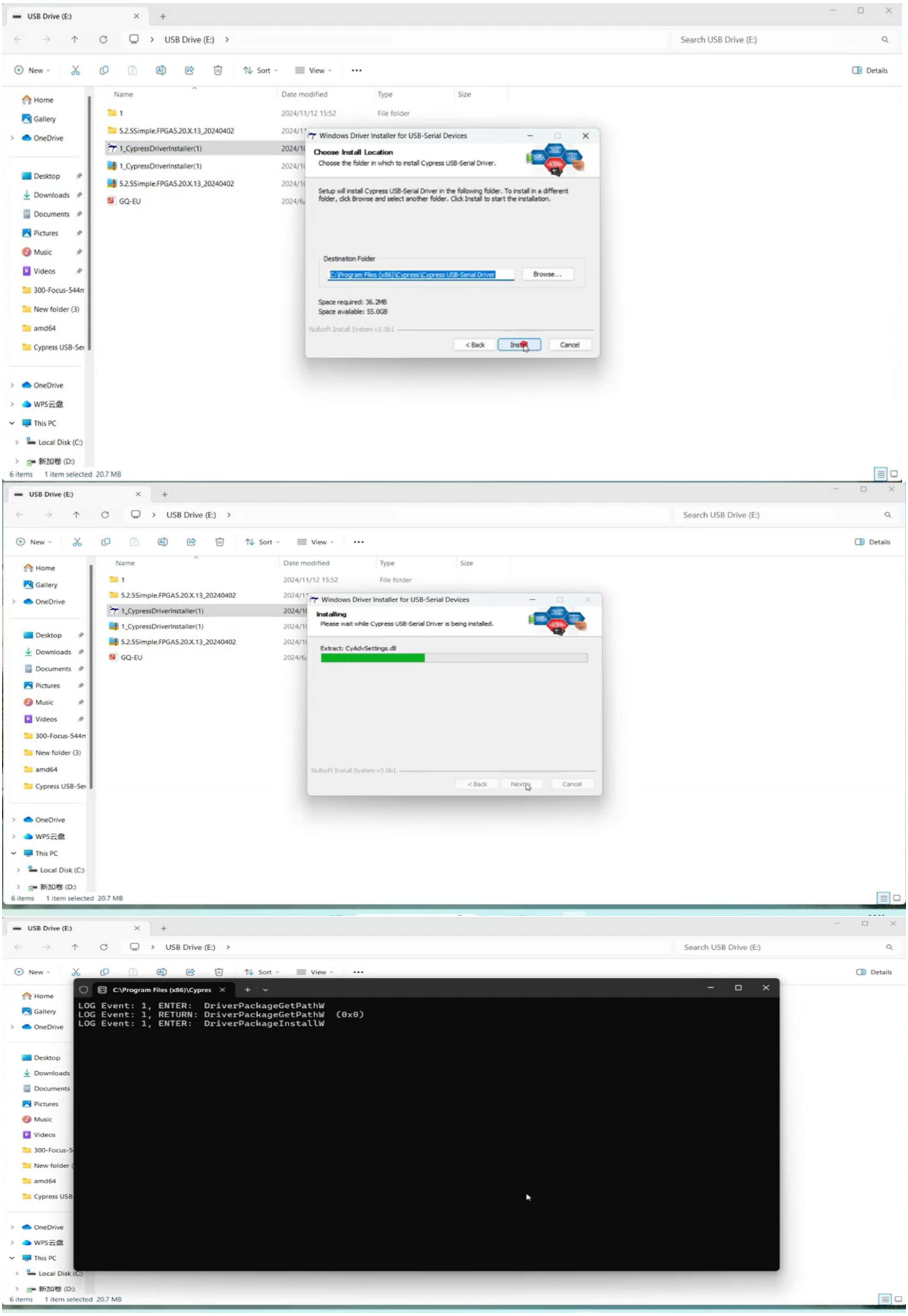
②Click Next;



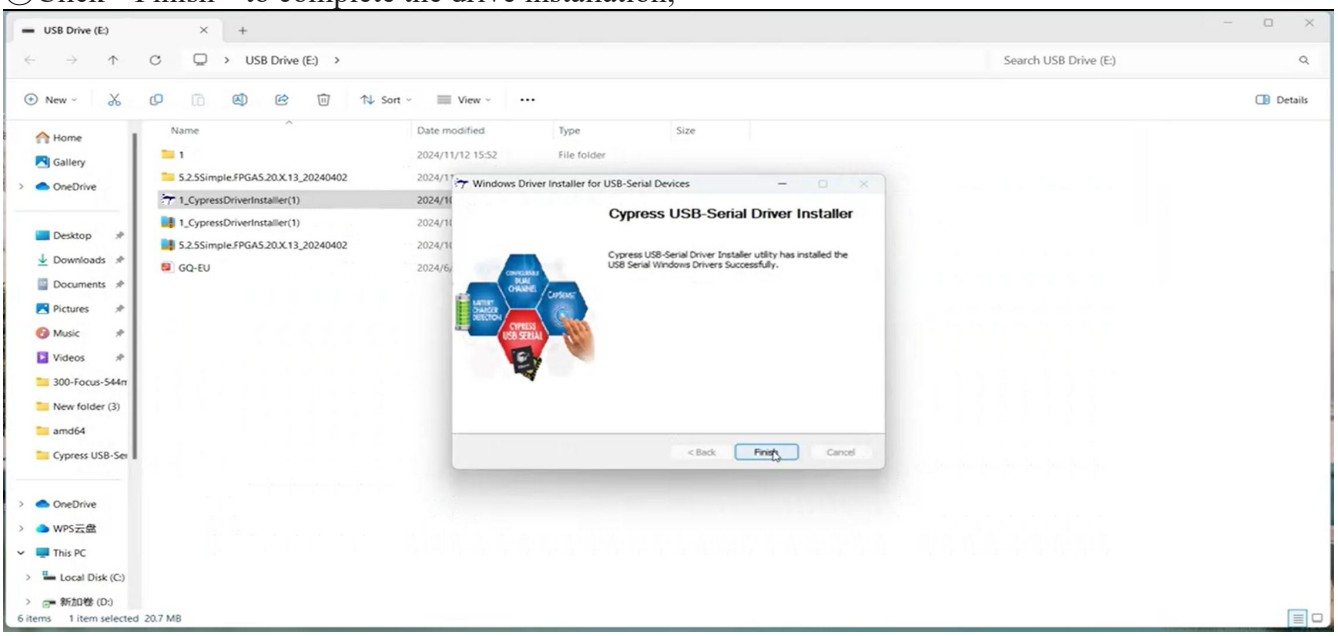
③Click “ I Agree ”;



④Click Next;


USB Drive (E:)
Search USB Drive (E:)
Windows Driver Installer for USB-Serial Devices
Choose Install Location
Choose the folder in which to install Cypress USB-Serial Driver.
Setup will install Cypress USB-Serial Driver in the following folder. To install in a different folder, click Browse and select another folder. Click Install to start the installation.
Destination Folder
C:\Program Files (x86)\Cypress\Cypress USB-Serial Driver
Browse...
Space required: 36.2MB
Space available: 55.0GB
Nullsoft Install System v3.0b1
< Back
Install
Cancel
Windows Driver Installer for USB-Serial Devices
Installing
Please wait while Cypress USB-Serial Driver is being installed.
Extract: CyAdvSettings.dll
Nullsoft Install System v3.0b1
< Back
Next >
Cancel
C:\Program Files (x86)\Cypres
LOG Event: 1, ENTER: DriverPackageGetPathW
LOG Event: 1, RETURN: DriverPackageGetPathW (0x0)
LOG Event: 1, ENTER: DriverPackageInstallW

⑤Click “ Finish ” to complete the drive installation;

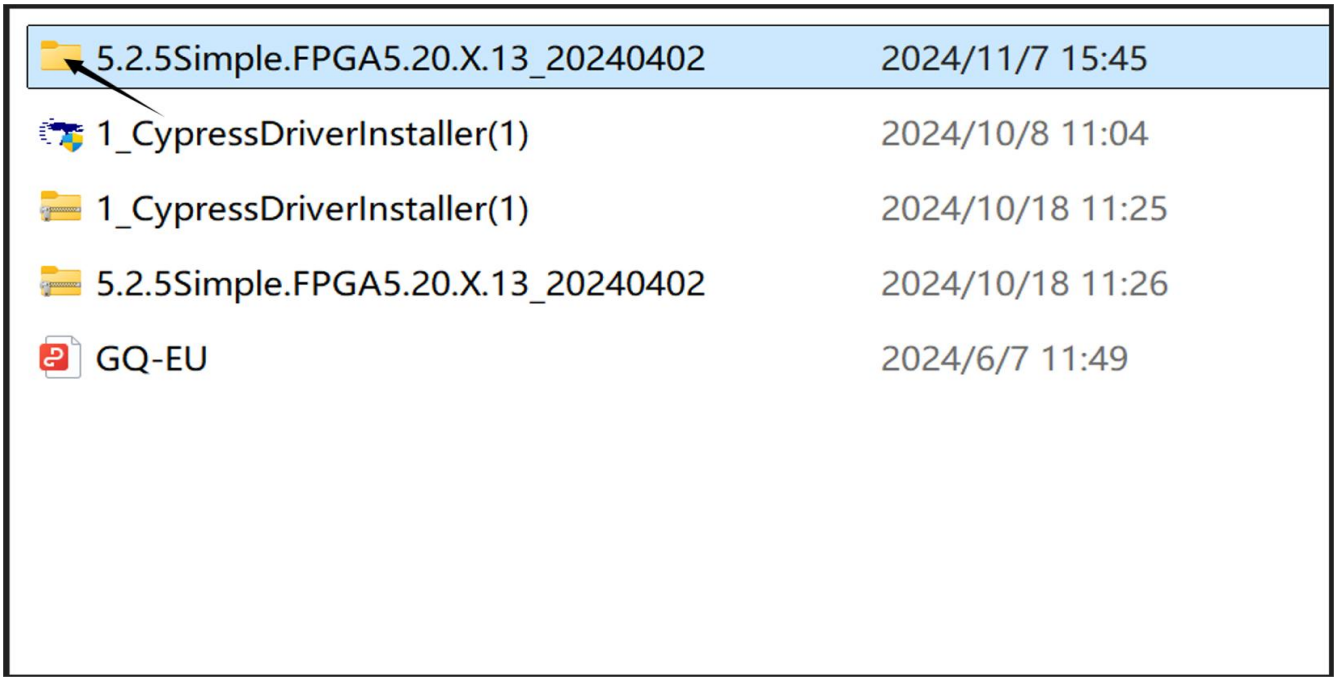


Software installation

This software is a green software that can be used directly or copied to a designated location on the computer after inserting a USB drive.

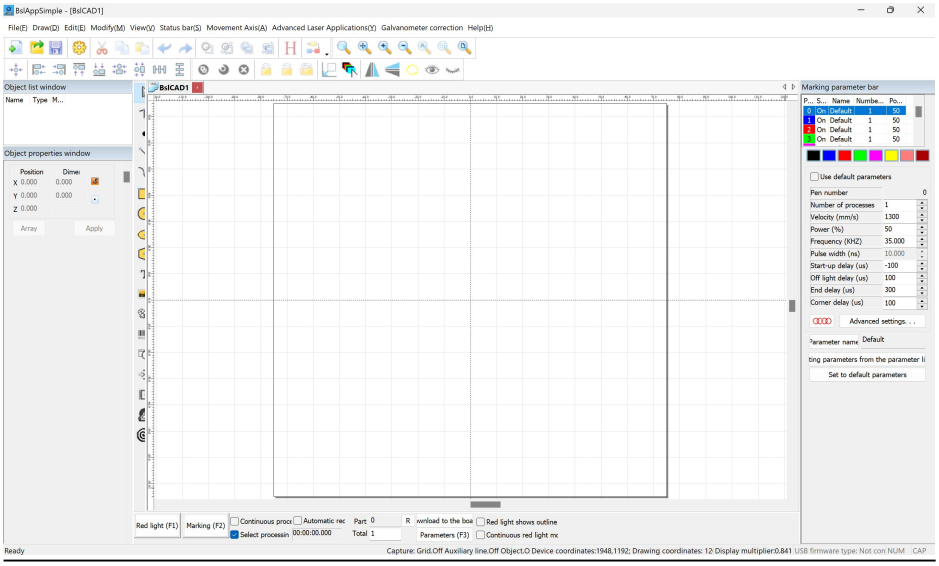
⑥ After inserting the USB flash drive into the computer, the file list shown in the following figure will be displayed;

⑦Next, double-click the folder that the arrow points to;

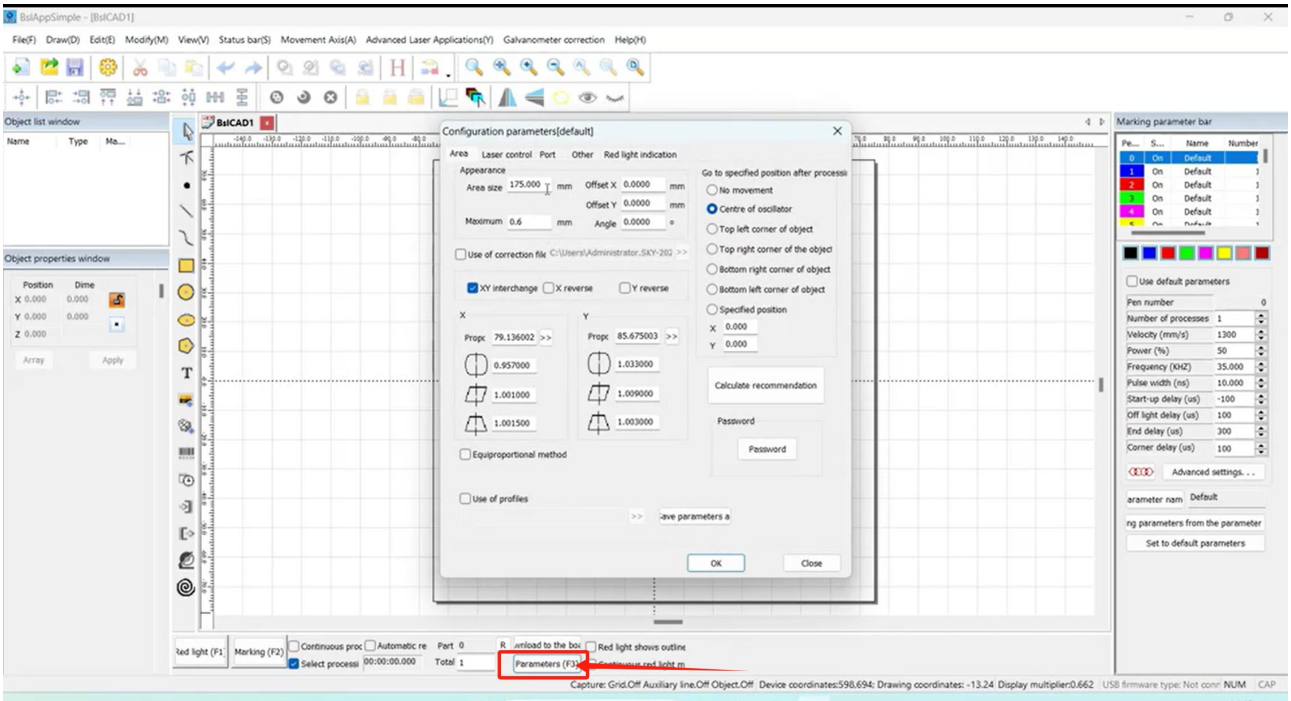


⑧After entering the folder, double-click “ BslAppSimple ” pointed by the arrow;

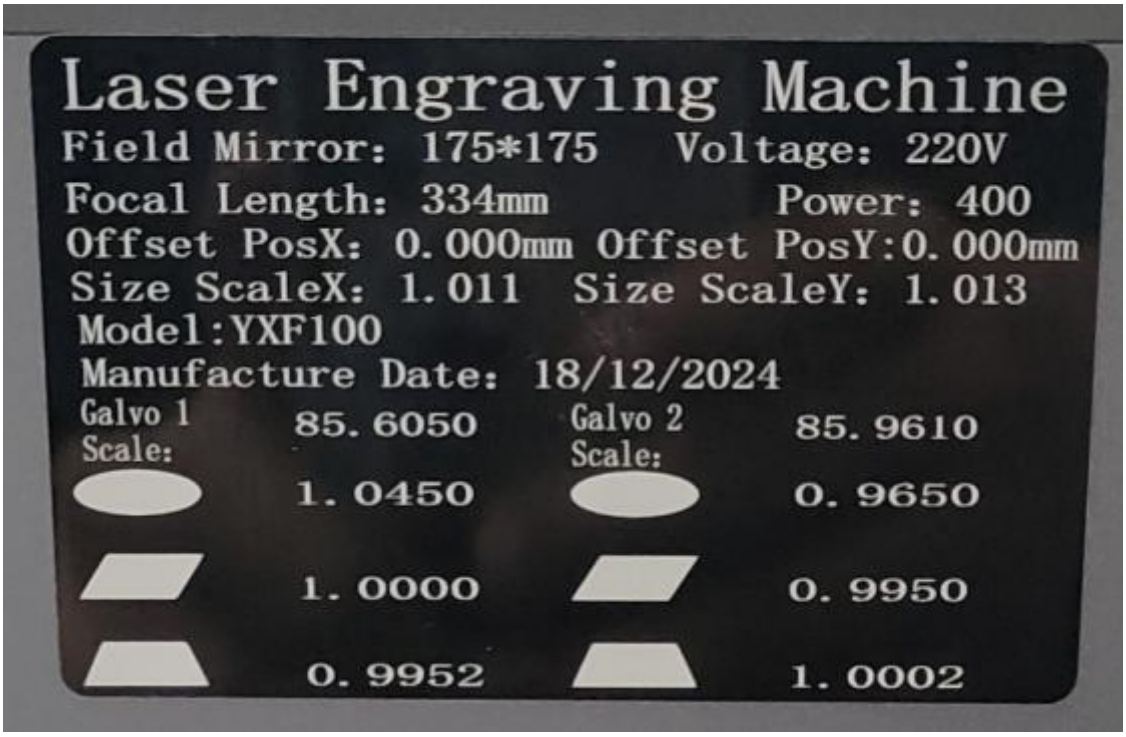
⑨After entering the software, the operation interface as shown below is displayed;



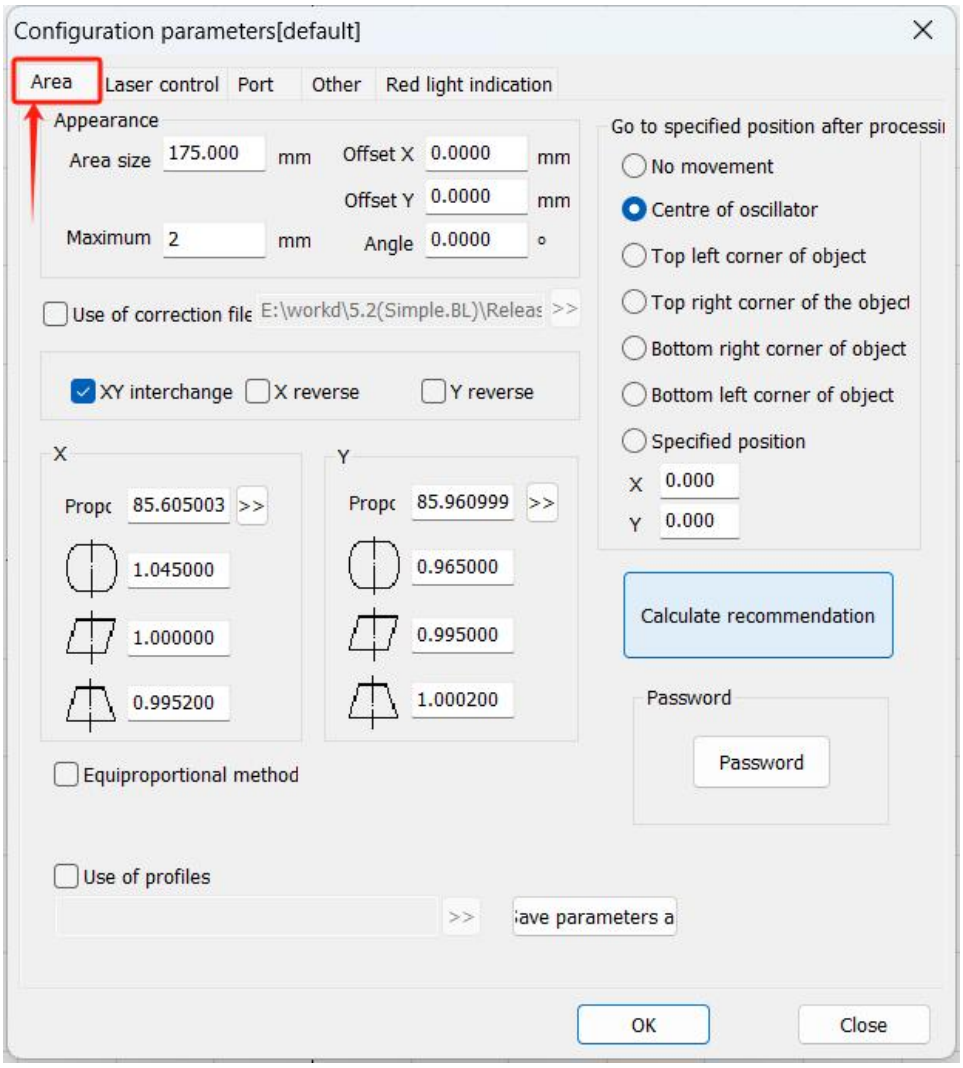
⑩ Set device parameters (device parameters are already set at the factory, if parameter errors occur due to misoperation, you can refer to the following steps for correction);



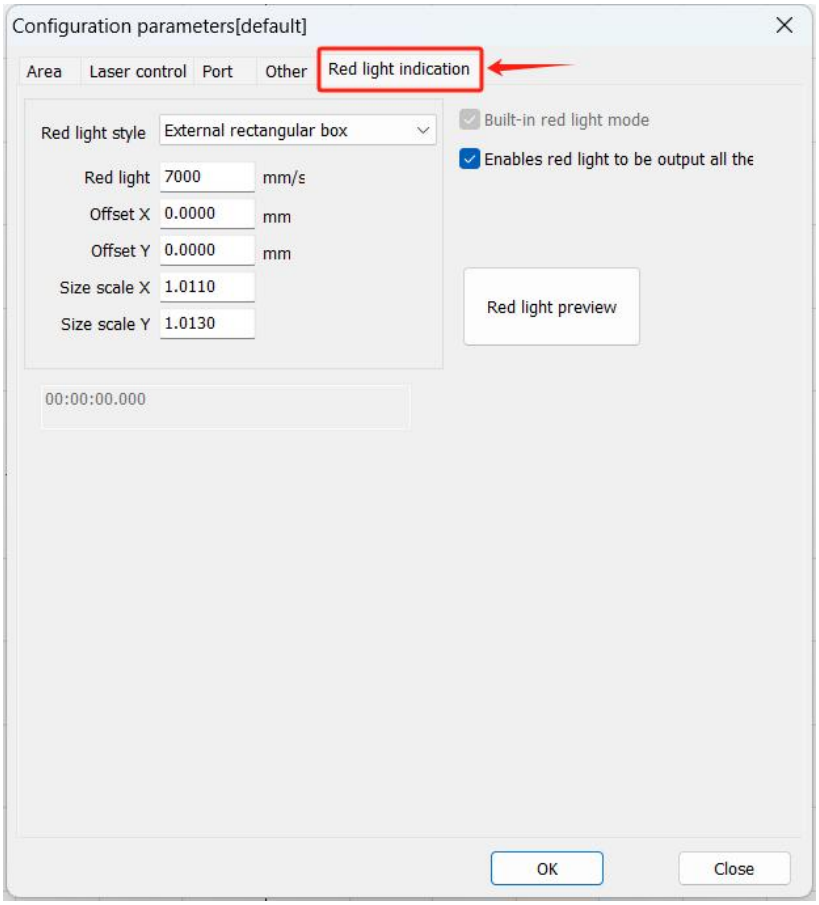
⑪Each device will have a separate parameter nameplate, as shown in the following figure；



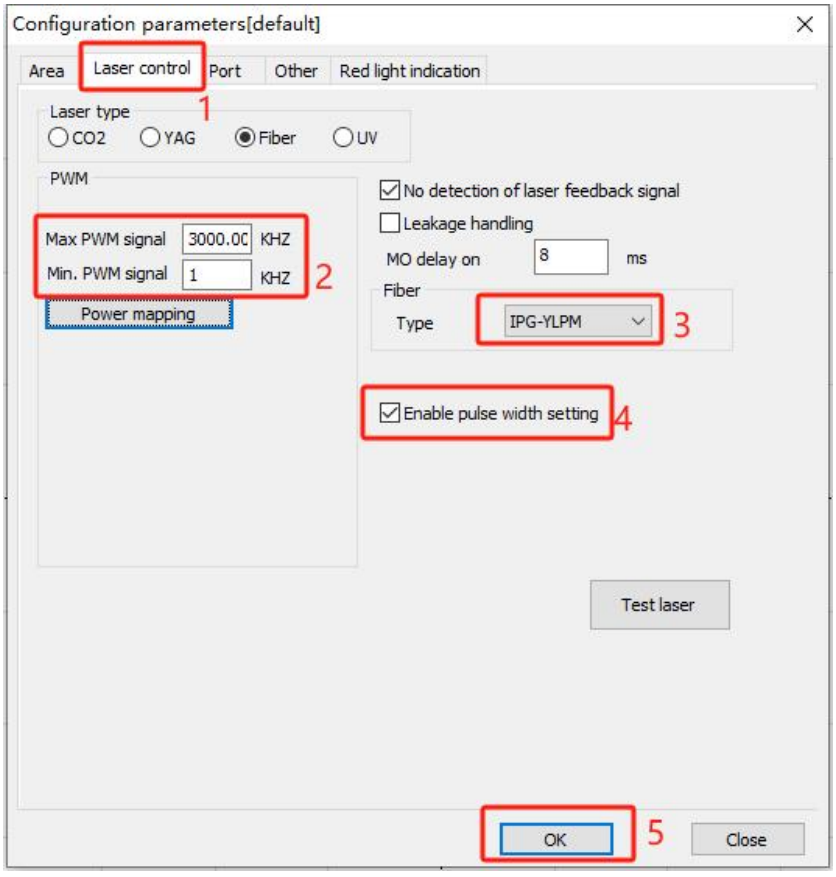
Area part：



Red light indication part:



If you purchase GA MOPA or G Pro series products, you will also add the following settings:



4.2.3 Installing LightBurn

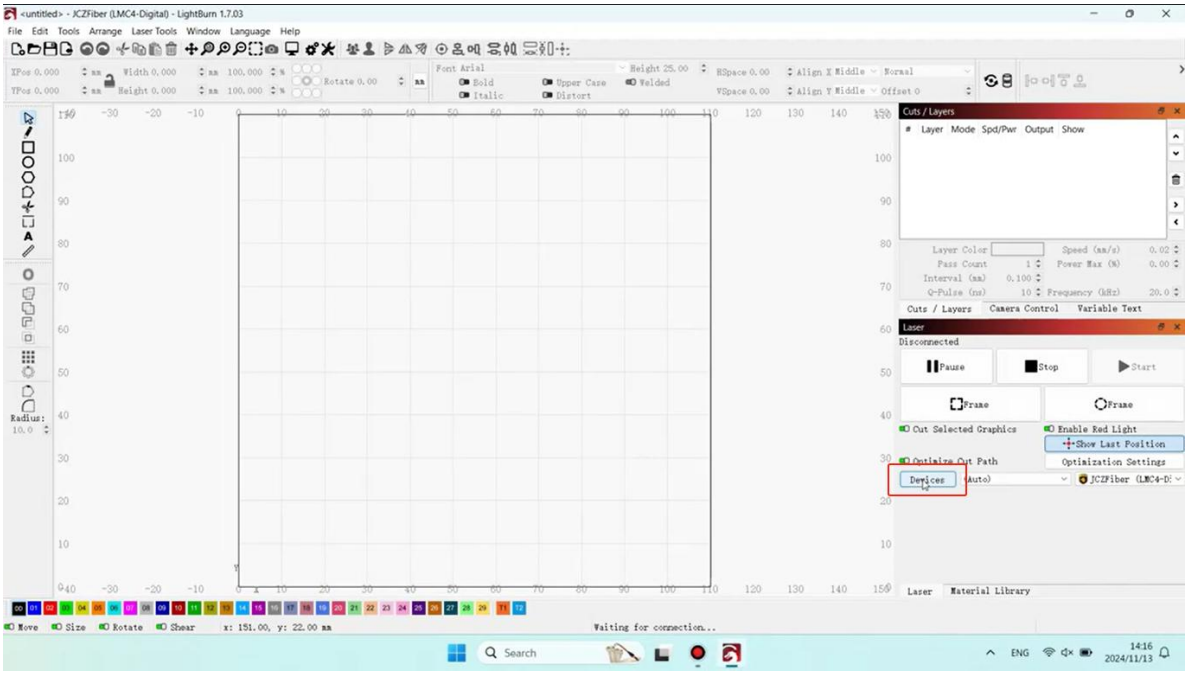
- **Download and install LightBurn software from the website.**
- Note: It is not compatible with our machine if your LightBurn version is lower than V1.7.00. Please download the latest version and reinstall. LightBurn is a paid software with a 1-month free trial; you need to purchase the license key for the Pro version.

The following tutorial uses the GA as an example:

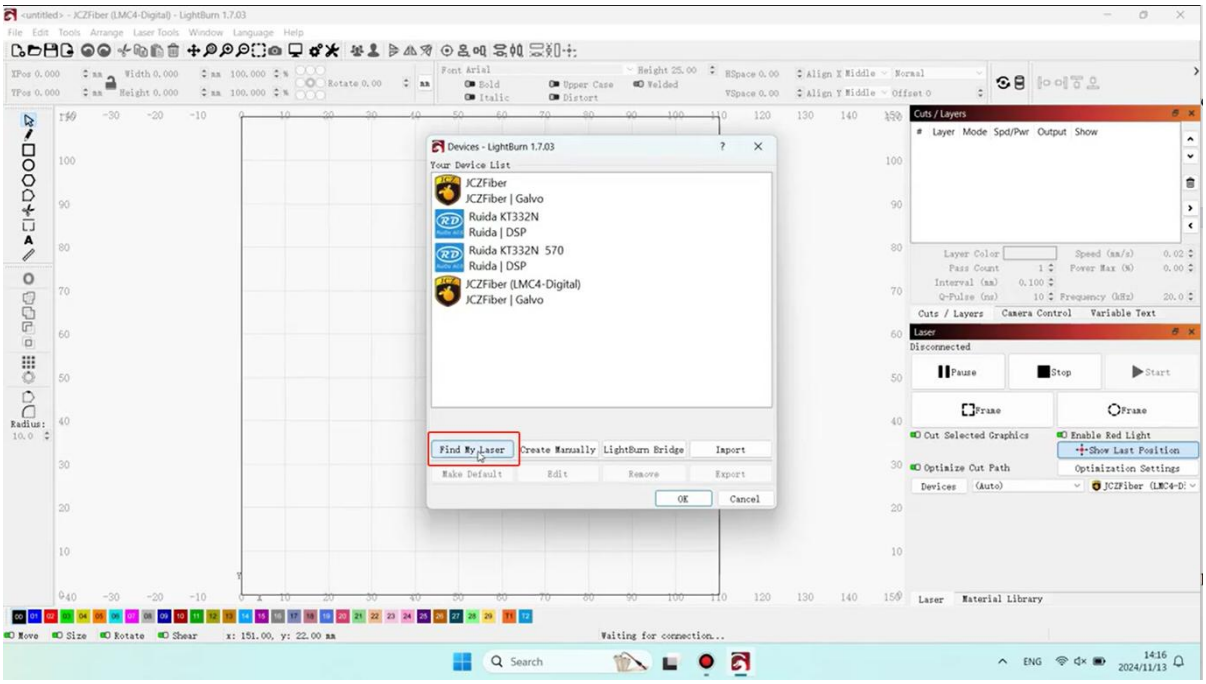
① Download the software from the website:
https://lightburnsoftware.com/pages/trial-version-try-before-you-buy

② Run lightburn after installation;

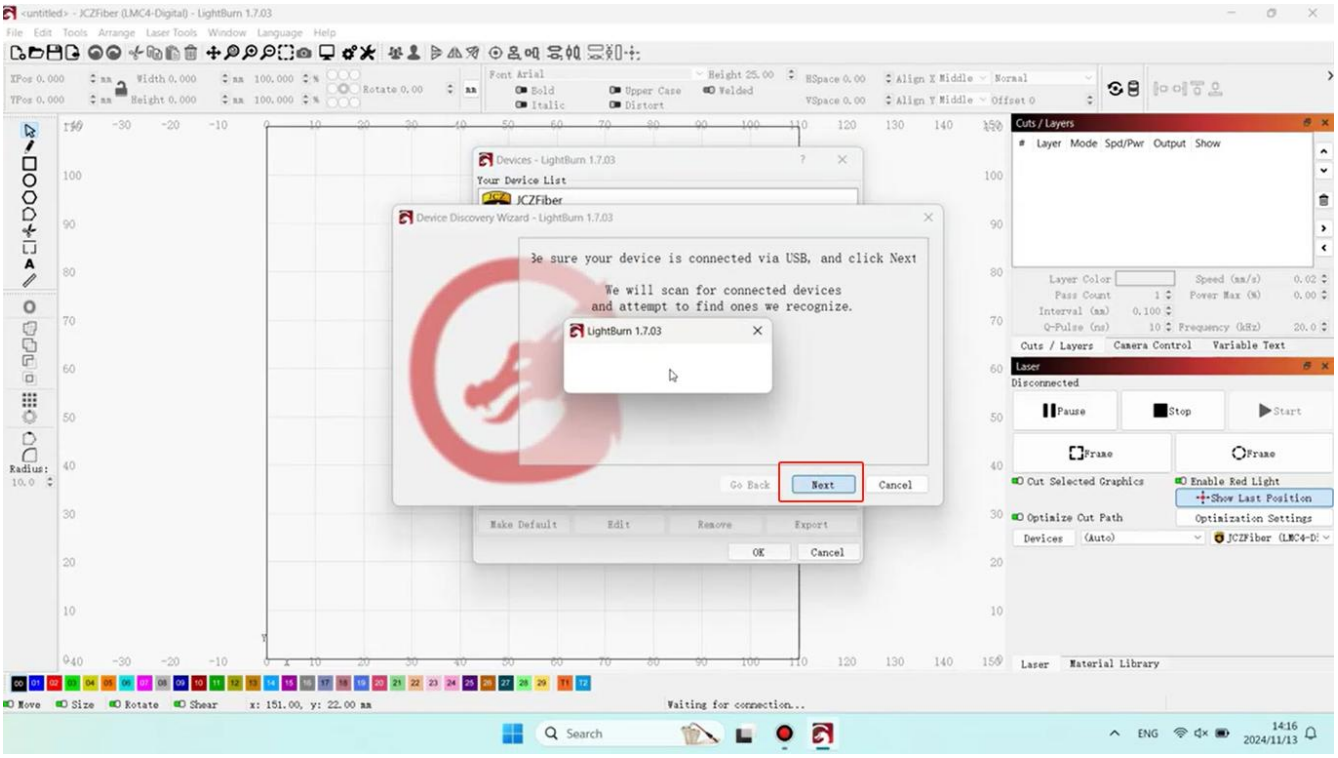
③ Click “ Devices ”;



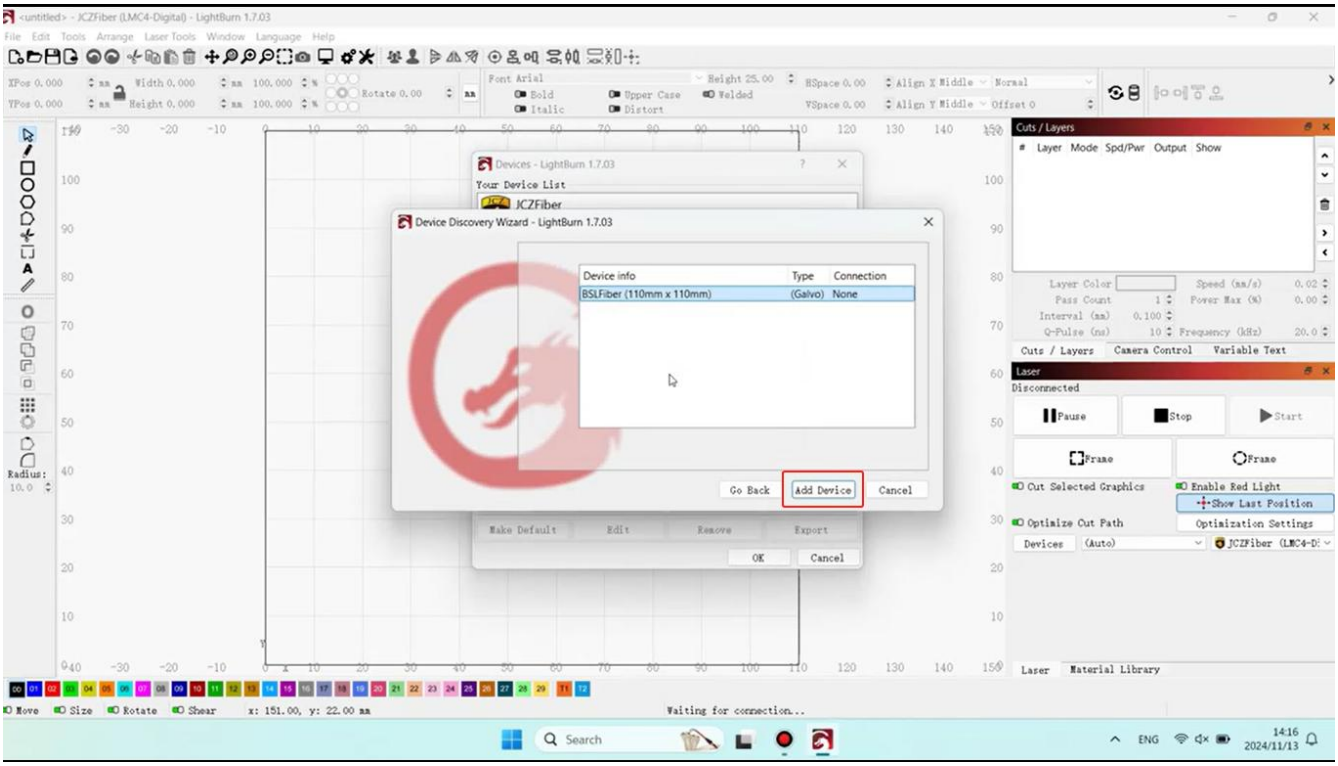
④ Click “ Find My Laser ”;



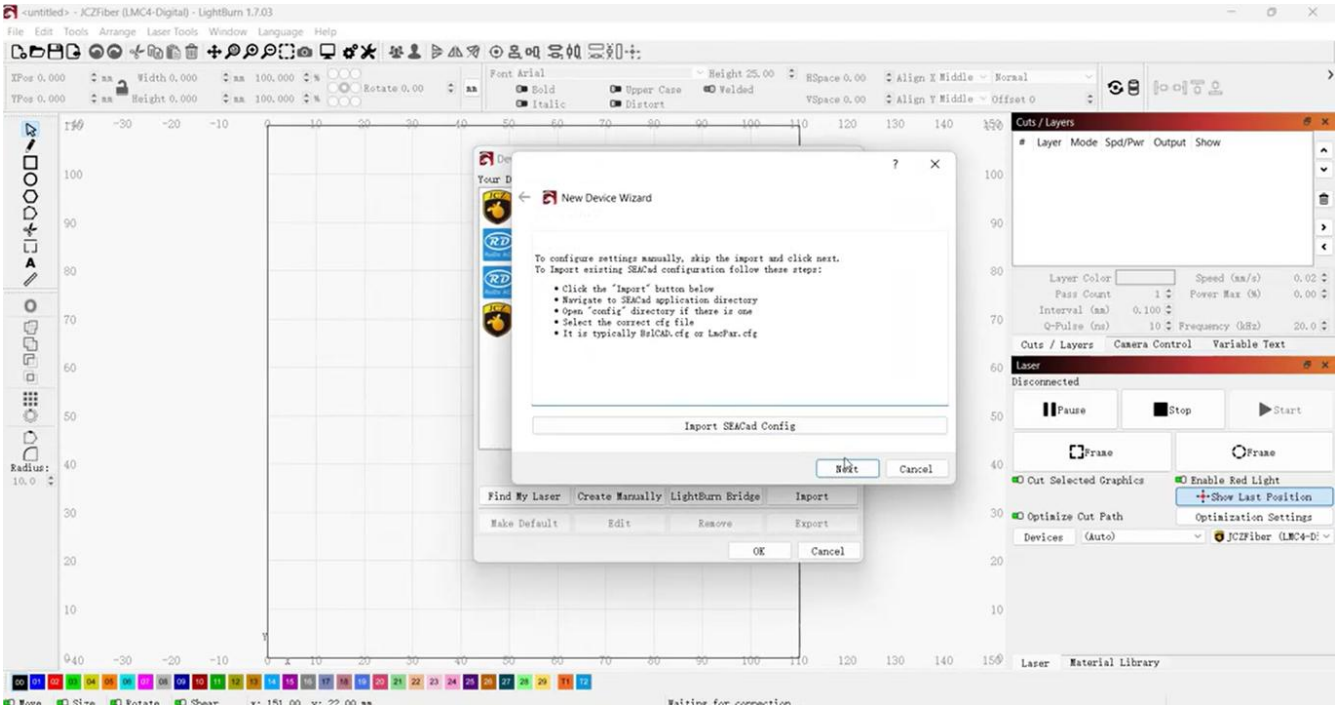
⑤ Click “ **Next** ”;



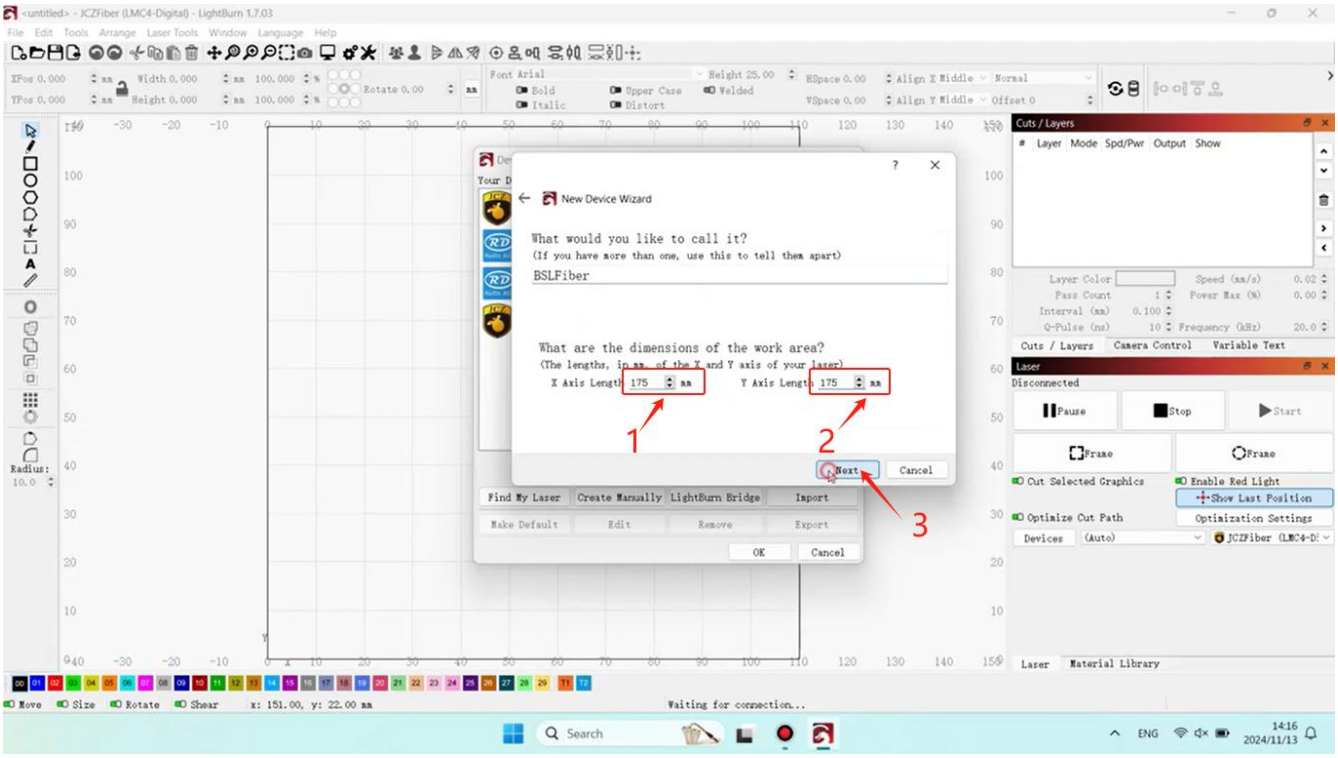
⑥ Click “ **add Device** ”;



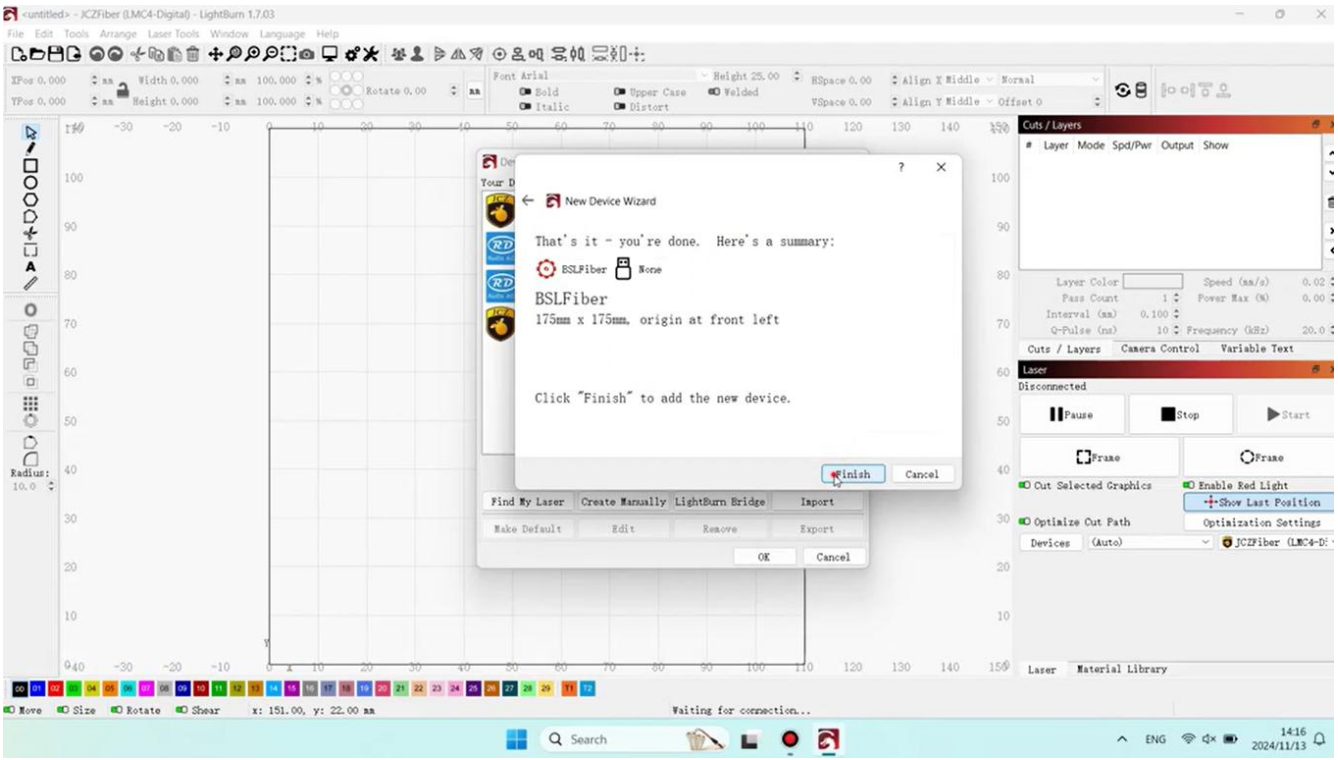
⑦ Display the following interface and continue to click “ **Next** ”;

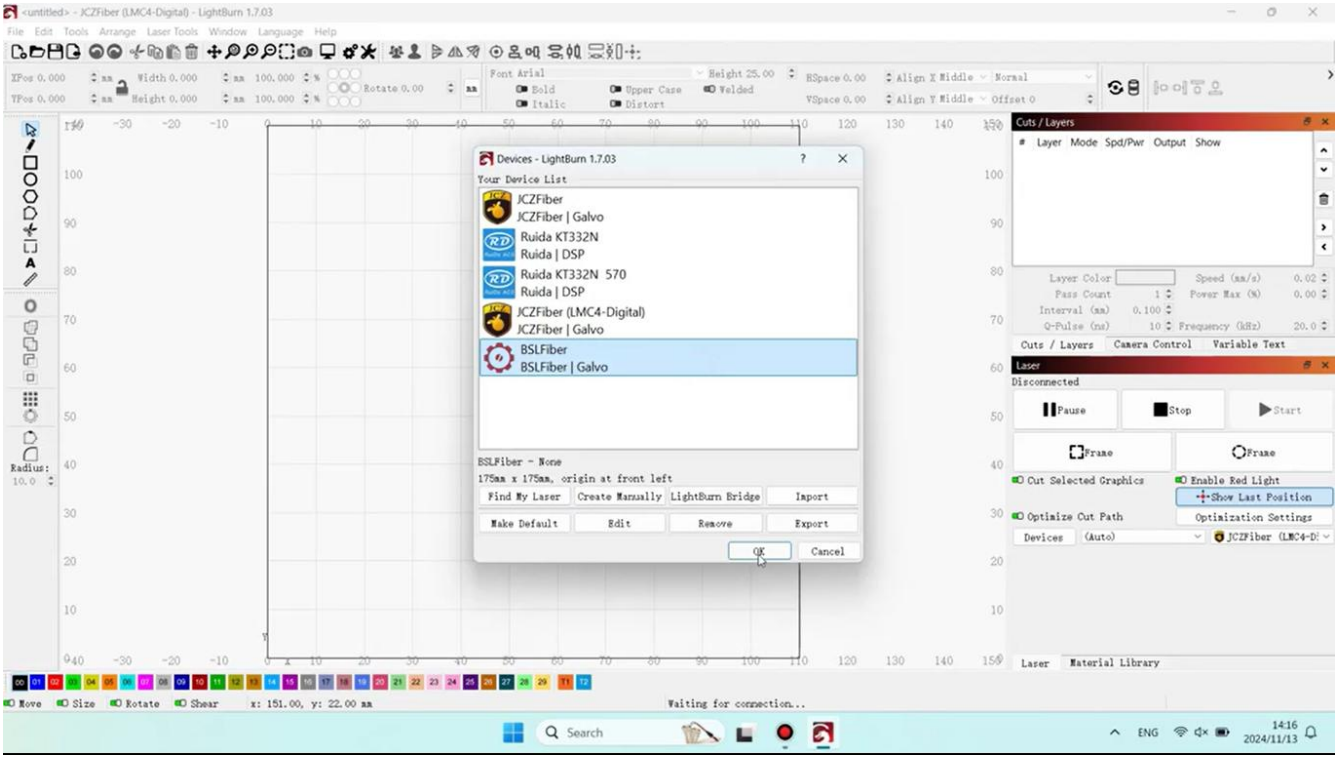


⑧ After the following interface is displayed, according to the actual processing range of the equipment, modify the parameters according to the positions 1 and 2 shown.The processing range of the equipment shown in the figure is 175*175. Click Next to continue after modification;

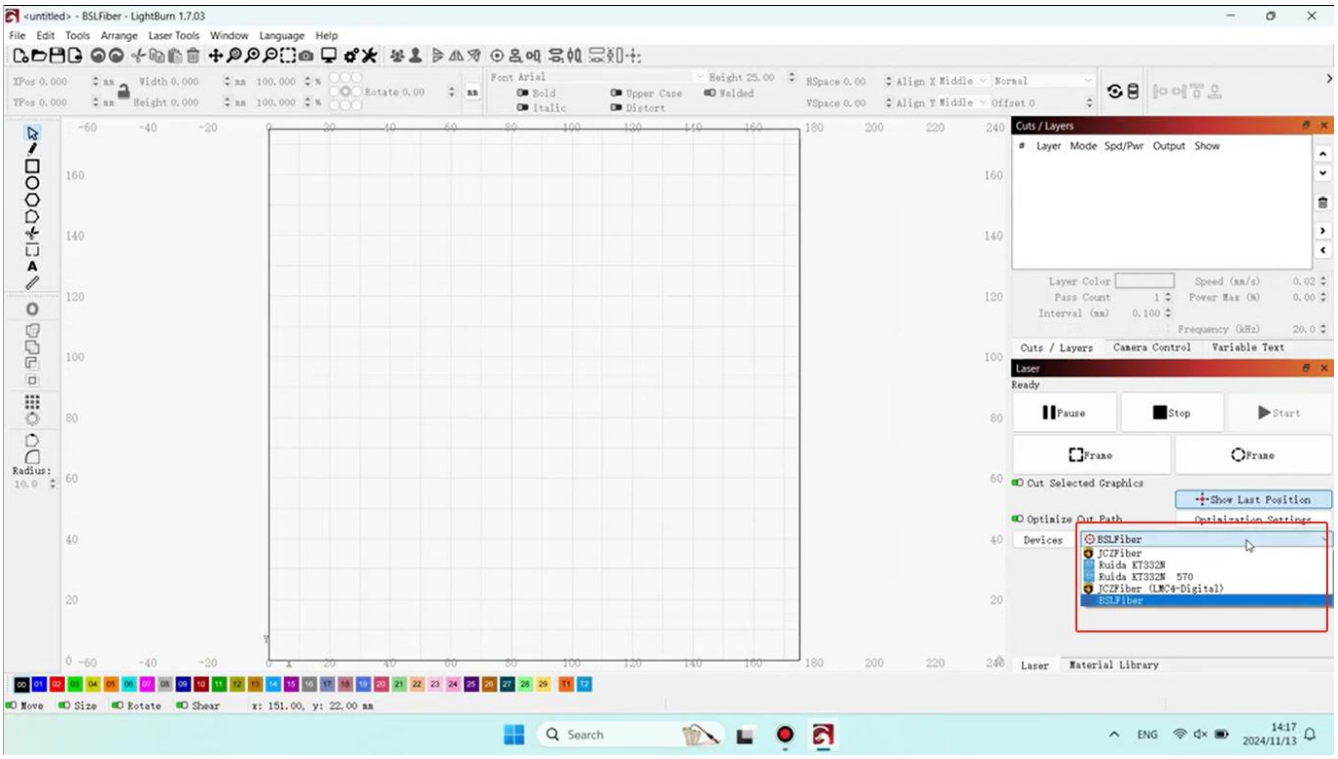


⑨ Click **“ Finish ”**and it will appear in the device list;

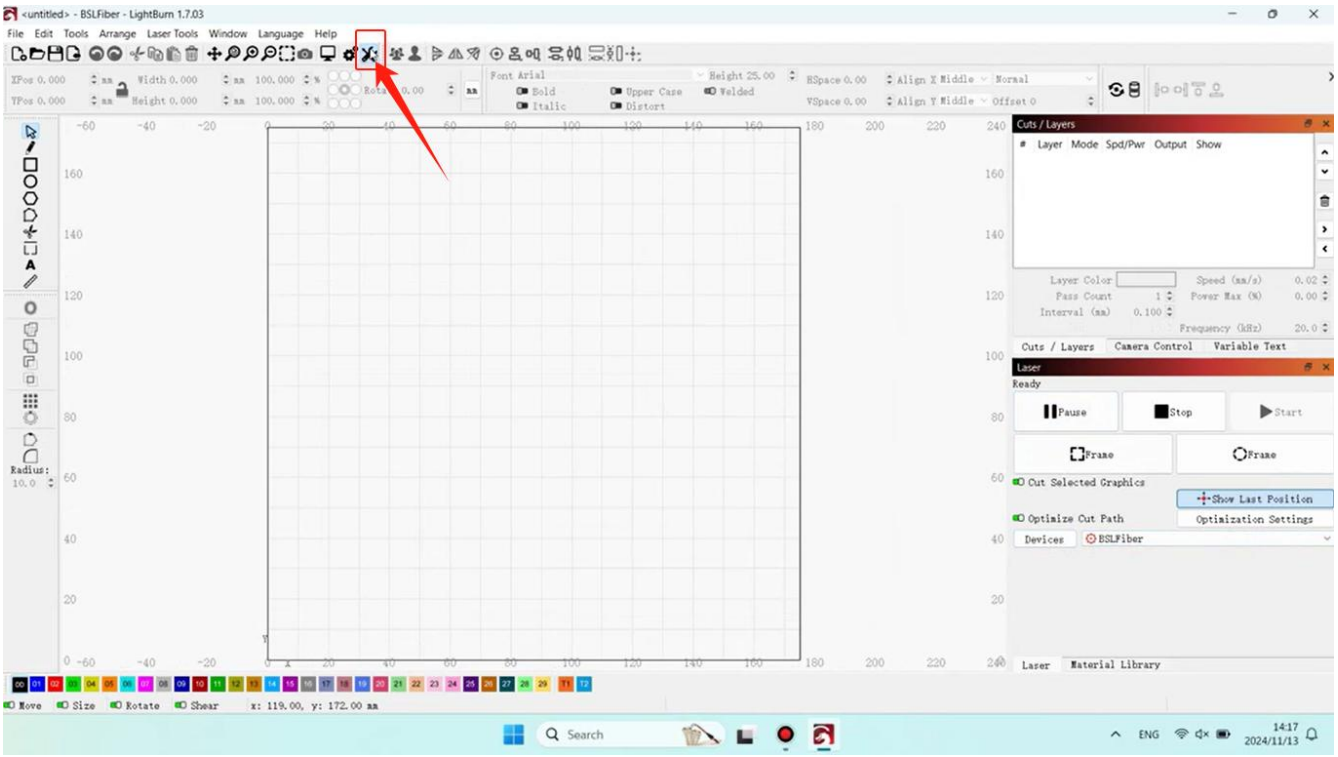




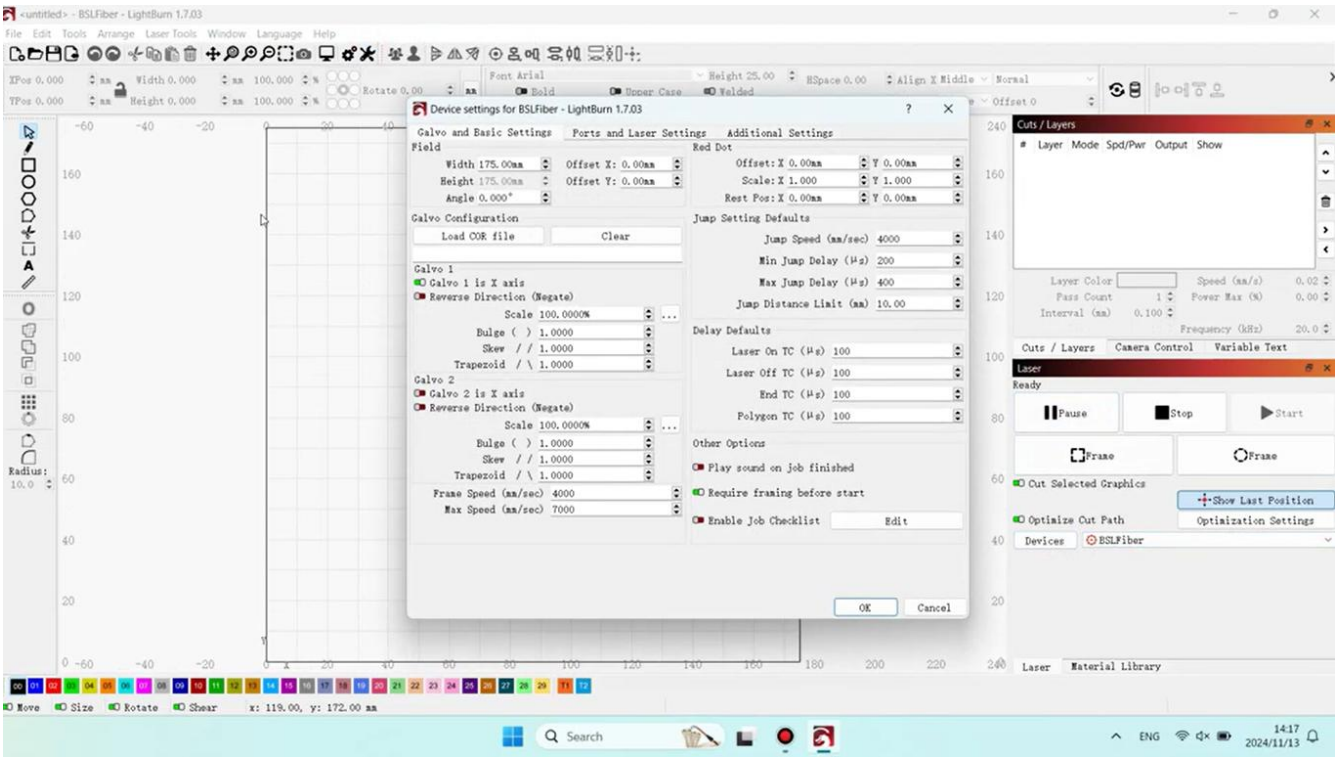
⑩ Click “ BSLFiber ”;



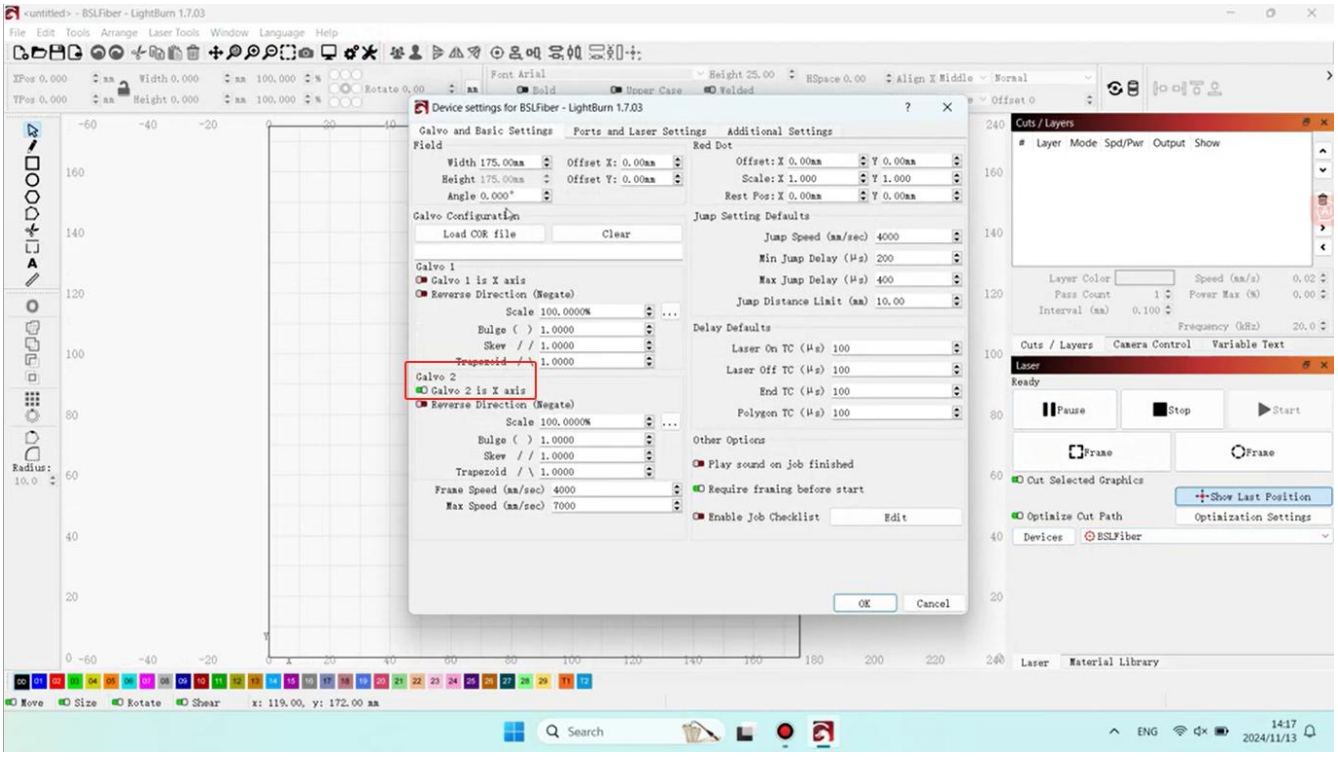
⑪ Click on the set icon;



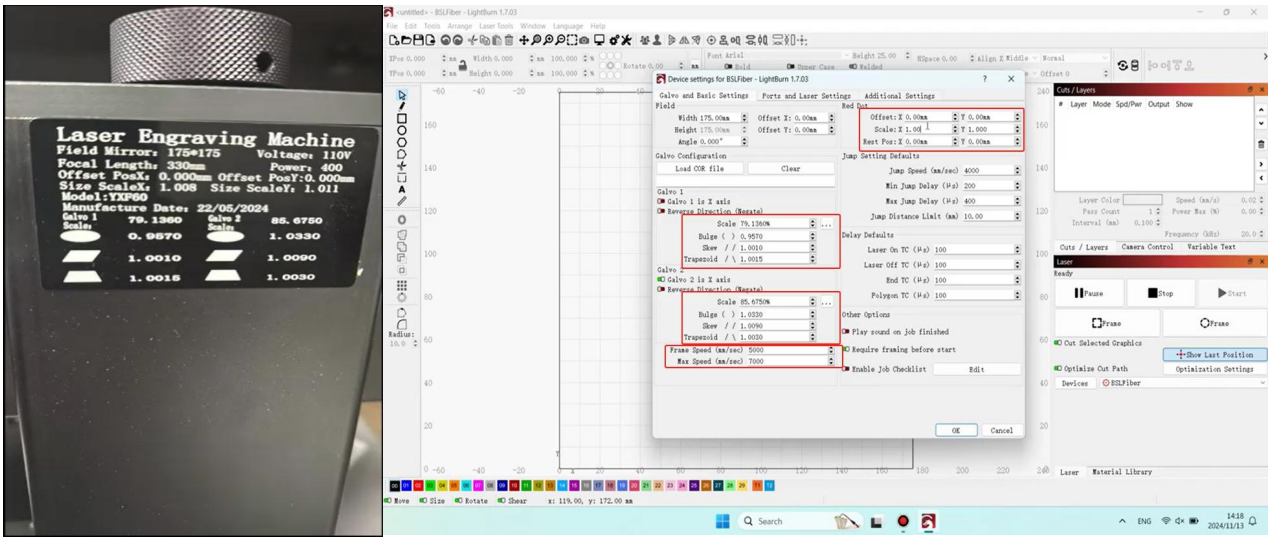
⑫ Enter the icon screen and modify parameters;

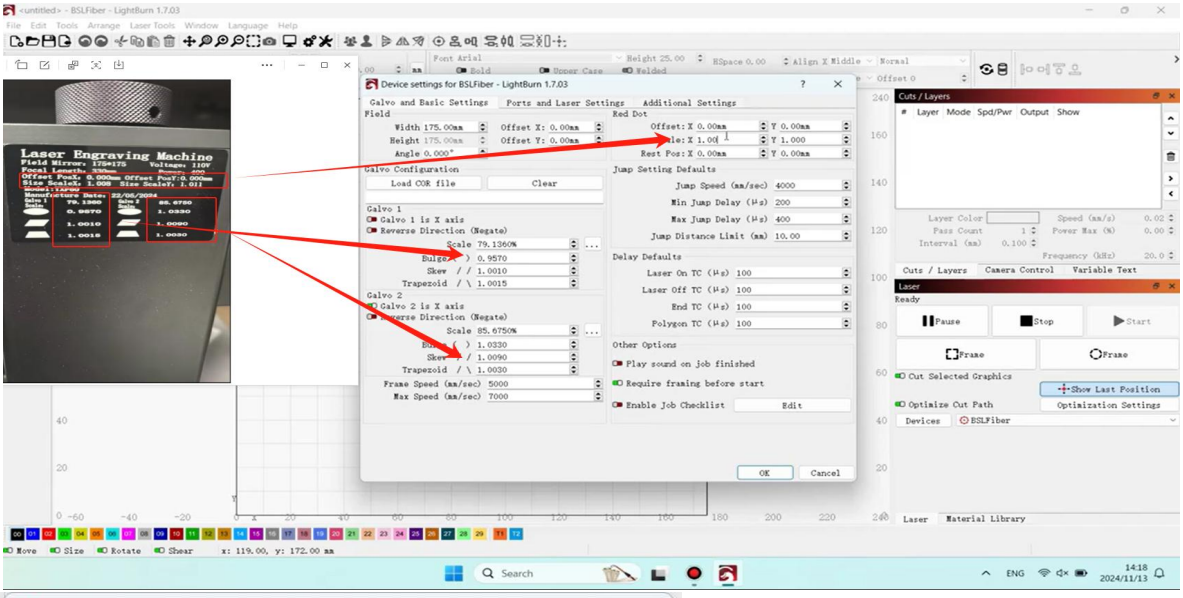


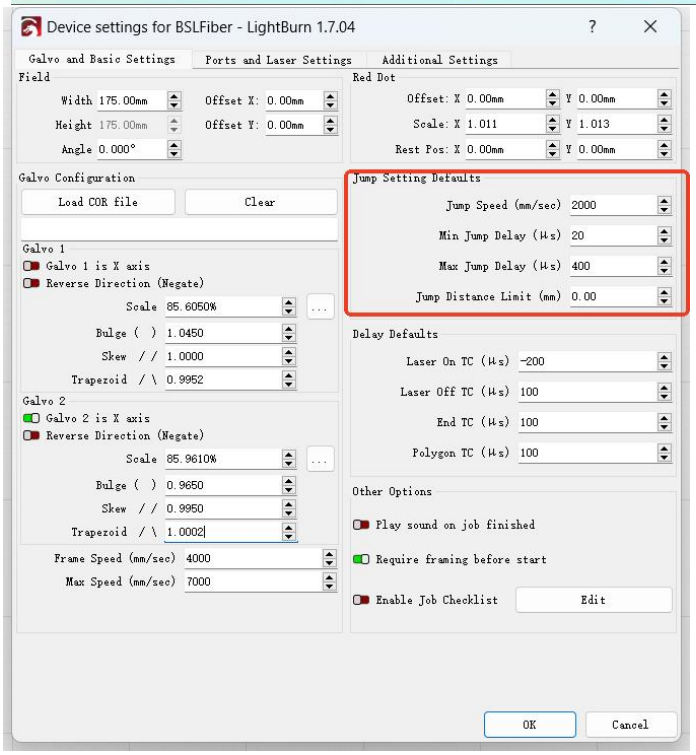
⑬ Click on the icon position.



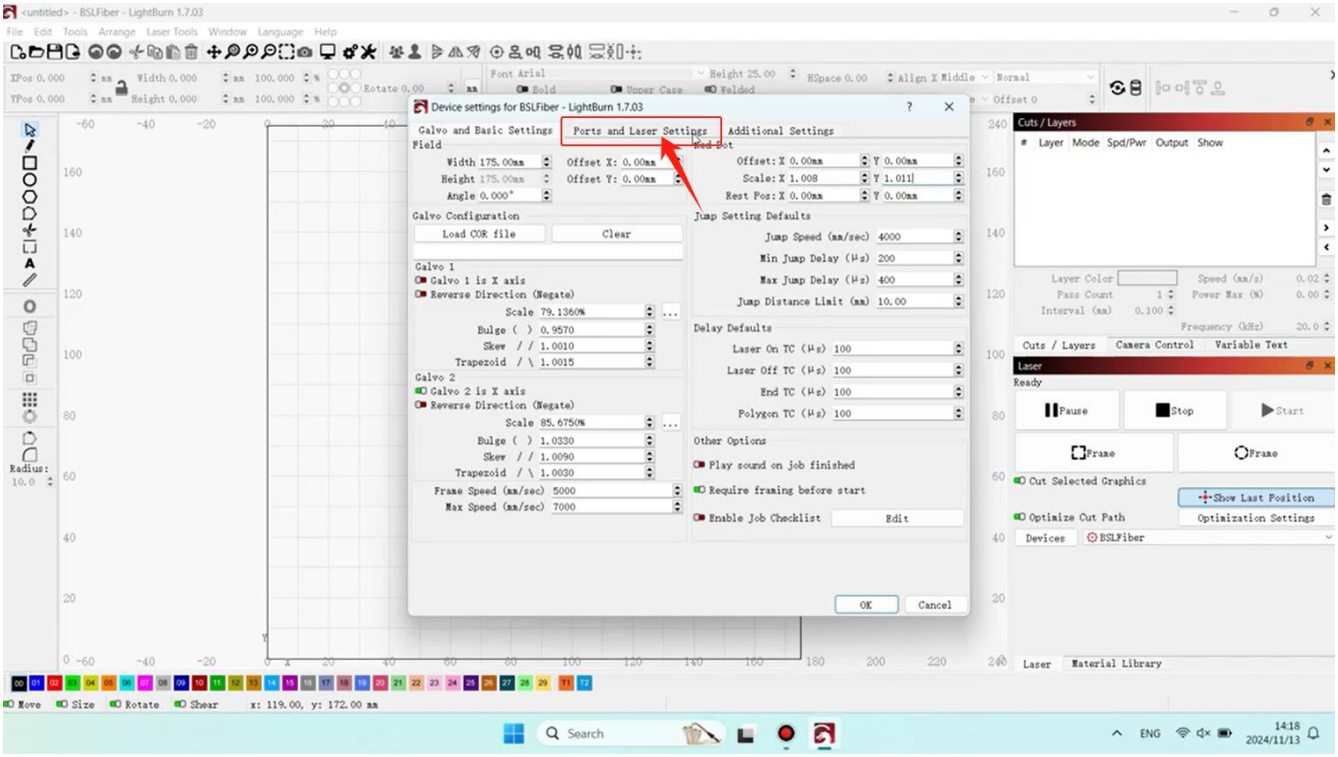
⑭ Modify the device parameters according to the device nameplate (left in the picture).





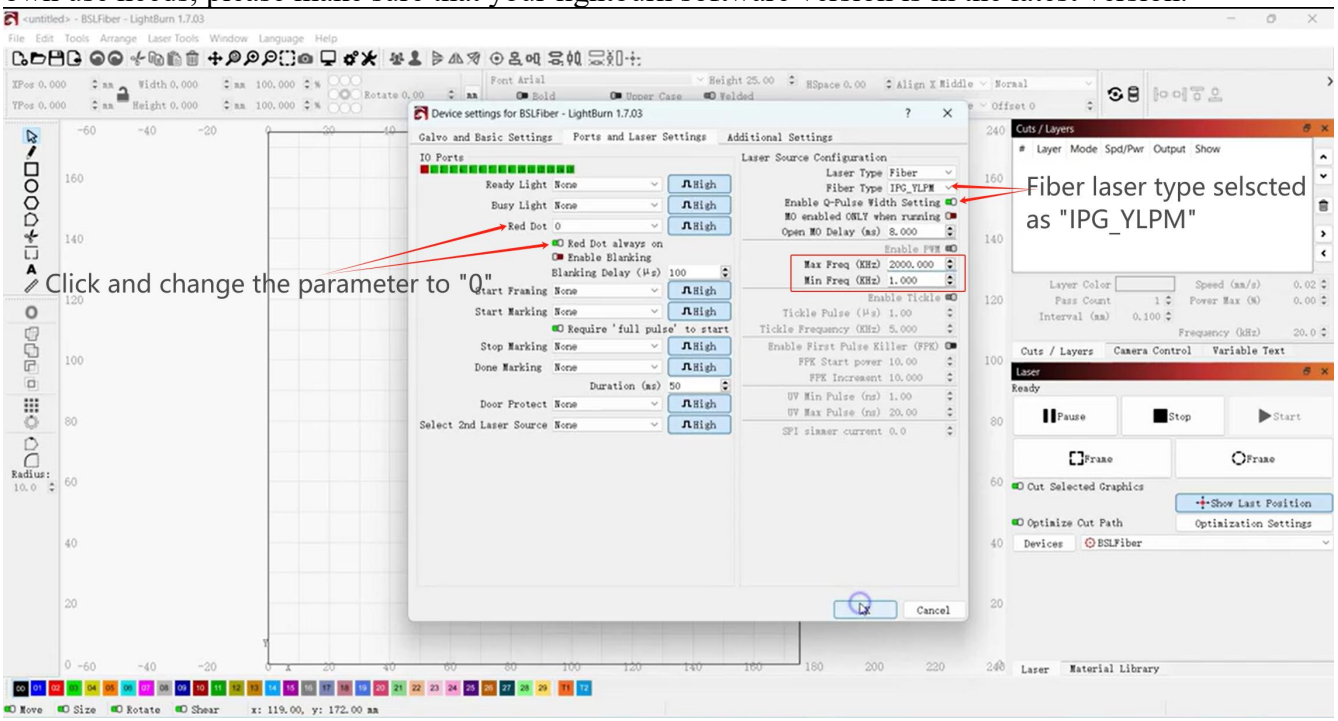


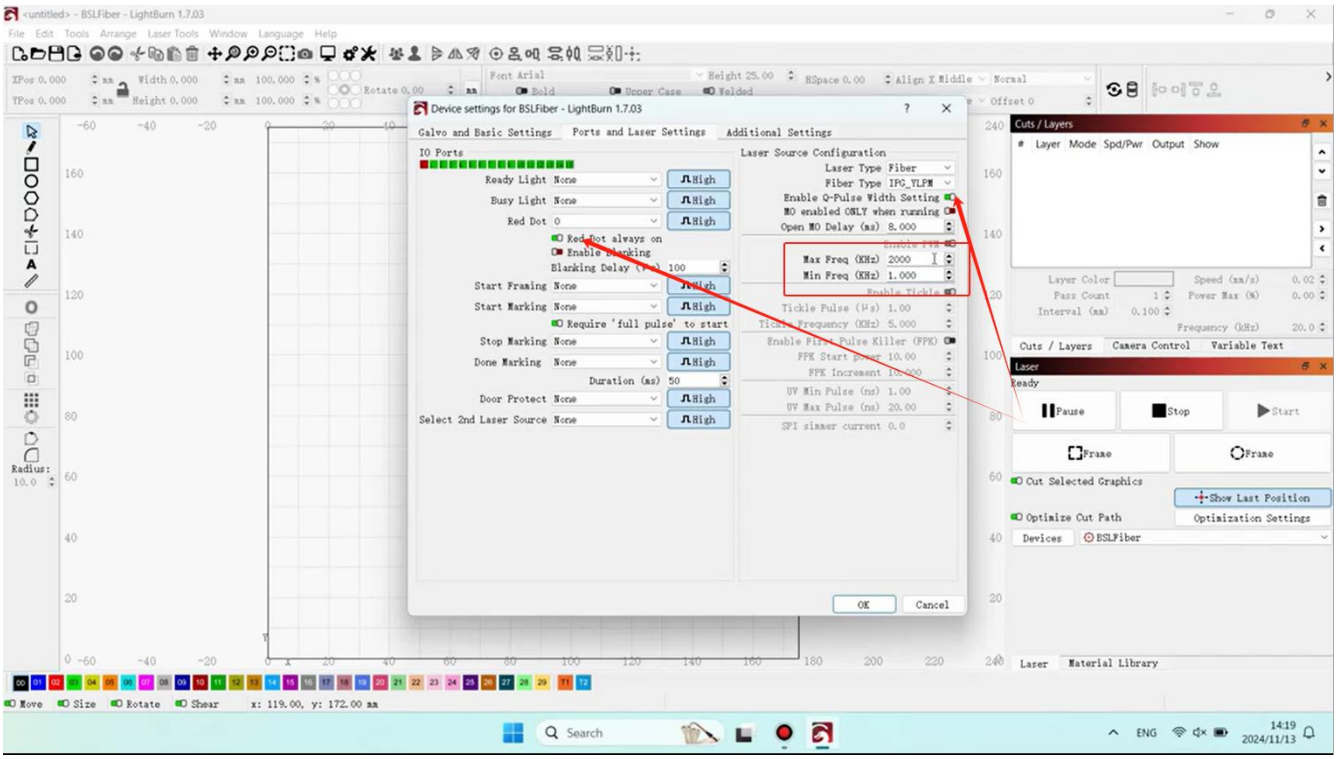
⑮ Modify the parameters and click the icon position.
Red Dot :Click to change to 0;Check "Red Dot always on".



Click OK to complete the setup and start using the device.

If you purchase GA MOPA series products, you will also add the following settings:
Click on "Fiber Type" and select "IPG _YLPM".
Frequency (KHz) adjustment range "1~3000", in order to ensure that you can enjoy the best engraving results, we recommend the frequency(KHz) adjustment range of "1~1000", of course, if you have your own use needs, please make sure that your lightburn software version is in the latest version.





4.2.4 Software Usage Instructions

For detailed instructions on using BslAppSimple, please refer to the separate software manual.

4.3 Instructions for Specific Materials

When engraving a new material, it can be helpful to engrave a test matrix of small boxes produced with various speed, power, and frequency settings to determine the exact effect you are looking for. Here are some general guidelines for commonly engraved materials.
However, these are only guidelines for your convenience, and it is the responsibility of the user to consult material safety data sheets and other sources to ensure the safety of working with various materials and setups.

Some of the materials listed may require additional workspace and personal protective equipment in addition to this engraver:

Metals

When engraving metals, generally use high power, low frequency, and low to medium speed settings.
To avoid using your marker at greater than 80% power for extended periods, you can achieve similar effects by reducing the power somewhat while increasing the number of passes or decreasing the engraving speed.
Be mindful that some metals produce conductive, reflective, and/or toxic dust. Softer metals naturally produce more dust during engraving, while harder metals can require higher power settings that also produce more dust. In addition to the risk to the user's skin and eyes, there may be enough dust produced (especially for repetitive industrial applications) that a full ventilation system is required to address the problem. Operators and others in the work area may need to use breathing PPE such as masks and respirators.

Aluminum: Bare aluminum requires a somewhat higher frequency than other metals and will never produce a strong black mark similar to those created by engraving steel. For darker marking, consider employing anodization or producing a deep engraving that can be darkened with black epoxy or other filler. Anodized aluminum requires a little more speed but a very low frequency.

Powder-Coated Metals: Metals with a powder coating usually require a very high frequency and, for best results, at least three passes to remove the coating and polish the bare lower layer.

Precious Metals: Gold and similarly soft metals should be engraved with less power but at a moderate speed. Silver and other semi-durable metals are best engraved at slightly higher power and slightly slower speed but not at the same power and speed as steel or aluminum.

Plastics

When engraving plastics, generally use low power and high-speed settings. Marking and engraving with too much power or at too low a speed can concentrate too much energy at the point of contact, causing the plastic to melt. This may produce poor engraving quality, noxious fumes, and even fires.

Stone

When engraving various kinds of stone, generally use moderate power and speed at low frequency. As with ceramics and metals, be mindful of the dust created (especially for repetitive industrial applications) and take similar measures to ensure the safety of users and others in the work area.

5. Maintenance

5.1 Maintenance Overview

Unless otherwise specified, perform adjustment and maintenance of this device only when the power is turned off and the power supply has been disconnected. Only trained and skilled professionals should modify or disassemble this device.

5.2 Regular Maintenance Procedures

- Keep the workroom clean and dust-free at all times.
- Ensure the device is fully powered off when not in use.
- Cover the galvanometric lens when it is not in use.
- Clean the worktable after use with a cloth wetted with more than 75% rubbing alcohol.
- **Never** clean this device with abrasive or caustic cleansers, aerosol sprays, or enough water to enter any electrical component. Always allow surfaces to fully dry before further use.
- When removing dust from the device's vents using a vacuum, **ONLY** use the lowest power setting to avoid damage to internal components.

No other servicing should be done by the operator. Do not attempt to service or replace other parts yourself.

5.3 Troubleshooting Guidance

Potential Problems	Possible Solutions
No Laser Output	Correct the focus by adjusting the height of the laser arm.
	Correct the software parameters if they are invalid or mistaken.
	Have a technician fix or establish the connection between the laser and the mainboard.
	Have a technician fix or establish the connection between the laser and its power supply.
	If either the fiber laser source or its power supply has worn out, have a technician replace them.
No Engraving despite Laser Output	Confirm that the material can be safely engraved with this device.
	Correct the focus by adjusting the height of the laser arm.
	Adjust the software parameters to create greater intensity.
	Have a technician check the control panel, scanning lens, and their power supply. Correct any problems or replace the parts.
Other Laser Errors	Have a technician check the fiber. Have a technician check the fiber laser source and the mainboard. Correct any problems or replace the parts.

5.4 Disposal Instructions

Electrical products should not be disposed of with household waste. In the EU and UK, according to Directive 2012/19/EU, used electrical products must be collected separately and disposed of at designated collection points.
Canada and the US may have similar regulations. Contact your local authorities or dealer for disposal and recycling advice.

6. Contact Us

Thank you again for choosing our laser equipment for your needs!

If you're satisfied with the machine's performance, please consider leaving a positive review on the website where you made your purchase. If you encounter any problems with this engraver, please contact us with your order ID.

Monport Laser Customer Support email: **support@monportlaser.com.**

Amazon/eBay Customer Support email: **support@monportlaser.com.**

Our customer service team will respond within 24 hours.

Thank you, and we hope you will choose us again for your next purchase!