



GM UV Laser Marking Machine

User Manual



Read Carefully before Use
Keep for Future Reference



**Industrial Grade Answers,
Zero Thermal Compromise.**

Zero Heat Drift, Pure Titan Power.

For helpful tips and instructional videos, visit our Help Center or join our official laser group!

If you encounter any issues with your engraver, please contact us. Our support team will respond promptly to resolve your concerns.



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1 Safety Information

1.1 Disclaimer

Read this disclaimer completely and carefully before proceeding with the rest of the manual content.

1. As-Is

- This Monport product is sold 'as is' and without any express or implied warranties, including but not limited to the implied warranties of merchantability and fitness for a particular purpose.

2. Product Modifications

- Any modifications or alterations to Monport products void any warranties and may result in damage or injury. Monport shall not be liable for any damages resulting from such modifications or alterations.

3. Compliance with Laws

- Customers shall be liable for ensuring that the use of Monport products complies with all applicable laws and regulations in their respective jurisdictions. Monport assumes no responsibility for any violations of laws or regulations resulting from the use of Monport products.

4. Correct Use

- Always use Monport products only as directed in the accompanying manuals. Failure to follow instructions may result in injury or damage. Always ensure the assembly, installation, operation, maintenance, or repair of Monport products is carried out by a competent person. Always make maintenance regularly throughout Monport products' lifecycles; you have the liability to keep the products operating as intended. Always wear appropriate protective gear.

5. Third-Party Products

- Monport shall not be liable for any damages or losses resulting from the use of third-party products in conjunction with Monport products. Customers shall refer to the third-party's guidelines or/and warranties (if any) for any third-party products used.

6. Limitation of Liability

- Monport shall not be liable for any direct, indirect, punitive, incidental, special, or consequential damages to property or life, whatsoever arising out of or connected with the use or misuse of Monport products. In no event shall Monport's liability exceed the value of the products sold.

This disclaimer states the entire obligation of Monport with respect to Monport products. If any part of this disclaimer is determined to be void, invalid, unenforceable, or illegal, including but not limited to the warranty disclaimers, liability disclaimers, and liability limitations set forth above, the invalid or unenforceable provision will be deemed superseded by a valid and enforceable provision that most closely matches the intent of the original provision and the remainder of the agreement shall remain in full force and effect.

1.2 Symbol 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 about the laser beam.



These items address similarly serious concerns about electrical components.



These items address similarly serious concerns about fire hazards.



These items address pinching and crushing hazards.



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



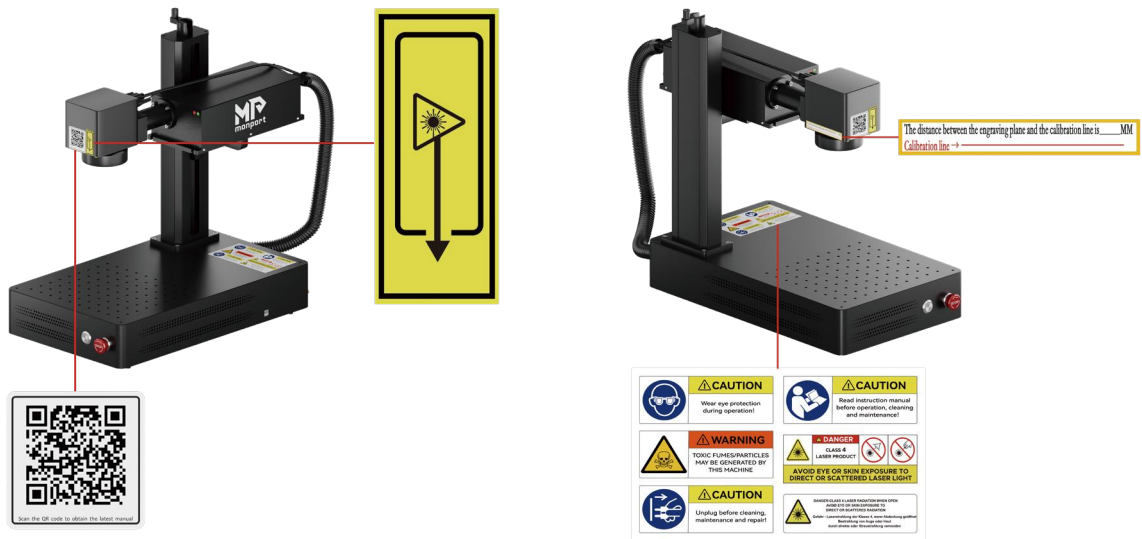
This product is sold in conformity with applicable EU regulations.



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

1.3 General Safety Instructions

Your engraver should come with instruction labels in the following locations.



If any of these labels is missing, illegible, or damaged, it must be replaced.

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, repaired, etc. by others who have also read and understood both manuals. Ensure that this manual and the software manual are both included with this device if it is ever given or sold to a third party.

DO NOT leave this device unattended during operation. Observe the device throughout operation. 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 department's phone number is clearly displayed nearby. In the 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 blowback.

1.4 Laser Safety Instructions

This machine complies with 21 CFR 1040.10 and 1040.11 except for conformance with IEC 60825-1 Ed. 3, as described in Laser Notice No. 56, dated May 8, 2019.

When used in accordance with these instructions, it is a **CLASS 4** laser product. Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure. Used without care, it can also 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 gasses during processing.
- Direct exposure to the laser will cause bodily harm including serious burns and irreparable eye damage.

As such,

- **NEVER** interfere with the laser beam.
- **DO NOT** place any part of your body under the laser lens during operation. Take measures to protect yourself from potentially reflected laser beams including the use of screens or personal protective equipment.
- **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 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 open, 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.

1.5 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 with standard extension cords or power strips. Use only surge protectors rated over 2000J.
- **ONLY** turn on the power to this device when it is well grounded, either via a firm connection to a 3-prong outlet or via a dedicated ground cable firmly connected to the proper slot on the back of the main tower. Do not use with an ungrounded 3-to-2 prong adapter. The device's grounding should be checked regularly for any damage to the line or loose connections.
- Turn the device on and off using its key and power buttons in the correct order. The mainboard, galvanometer, and laser have separate power supplies that are grounded in order. Activating everything 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 40 °F – 95 °F (5 °C – 35 °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.

1.6 Material Safety Instructions

- Users of this UV marking machine are responsible for confirming that materials to be processed can withstand the heat of a class 4 laser and will not produce any emissions or byproducts either 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 UV laser are responsible for ensuring that every person present during operation has sufficient PPE to avoid any injury from emissions or byproducts 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 buildup of their dust and ambient particles may damage electrical components, cause short circuits, or produce other effects including reflected laser radiation.

The UV laser marking system is especially well-suited for processing heat-sensitive materials, high-precision applications, and materials requiring high-contrast marks.

This machine is designed for safe and effective processing of the following materials:

1. Plastics and Polymers

General Plastics : ABS, PC (polycarbonate), PMMA (acrylic), PE, PP, etc. These materials support white marking, foaming, and color-change marking.

Engineering Plastics: PBT, PET, POM (acetal), nylon, bakelite, etc. Marks are clear and well-defined, with minimal deformation.

Special Plastics: Plastics containing brighteners or special additives. UV light can trigger chemical reactions in these materials, producing dark or colored high-contrast markings that are difficult to achieve with infrared lasers.

2. Glass and Ceramics

These materials support fine engraving, creating a matte finish and smooth, crack-free edges.

Commonly used for glassware, mobile phone lenses, optical lenses, ceramic substrates, etc.

3. Metal Materials (Surface Treatment)

Primarily used for marking on surface coatings/platings of metals, such as anodized aluminum, electroplated layers, paint layers, and ink layers. It can remove the top layer's color, exposing the underlying metal to create a high-contrast mark.

For deep engraving on bare metals such as stainless steel, aluminum, or copper, infrared fiber lasers or green lasers are typically required. With precise parameter tuning, high-power UV lasers may achieve light oxidation or color-change marking on certain metals, although this is not the most efficient application for UV lasers.

4. Flexible Materials and Thin Films

FPC/PCB: Marking QR codes and text on flexible and rigid circuit boards without damaging the substrate.

PET/PI Films: Used in electronic applications such as membrane switches and labels.

Food/Pharmaceutical Packaging Films: Supports high-speed on-the-fly marking on the surface. The process is safe, with no thermal effect.

5. Other Materials

Wood and Leather: Fine, light-colored engraving without burn marks.

Jade and Gemstones: Delicate micro-engraving.

Silicon Wafers and Semiconductor Materials: High-precision marking with minimal heat-affected zone.

This machine must **NOT** be used to process the following materials, or any materials containing them:

Processing these materials may generate toxic fumes, pose fire or explosion hazards, or cause severe damage to the equipment when processed with a UV laser.

1. Chlorine-Containing Materials (Most Hazardous!)

Examples: PVC (polyvinyl chloride), polyvinylidene chloride, chlorinated rubber, etc.

Hazard: Highly toxic chlorine gas (Cl_2) and hydrogen chloride (HCl) are released during processing. These gases seriously endanger the respiratory system of operators, corrode equipment, and pollute the environment. **Strictly prohibited!**

2. Brominated Flame-Retardant Materials

Examples: Certain ABS plastics containing brominated flame retardants, printed circuit boards (PCBs), etc.

Hazard: Toxic and corrosive gases such as hydrogen bromide (HBr) may be generated during combustion or laser vaporization.

3. Certain Fluorine-Containing Materials (Extreme Caution Required)

Examples: PTFE (polytetrafluoroethylene, Teflon).

Hazard: Processing may release **highly toxic hydrogen fluoride (HF) gas and perfluoroisobutylene (PFIB, an extremely toxic compound)**.

Processing is strictly prohibited unless performed under absolutely professional conditions with powerful exhaust treatment (e.g., dedicated chemical scrubbers).

4. Other Toxic Materials

Materials containing heavy metals such as arsenic, cadmium, or lead: e.g., certain old paints, special alloys.

Hazard: Toxic metal fumes may be released upon vaporization.

Leather or synthetic leather containing chromium: Traditionally tanned leather contains chromium.

Hazard: Laser processing can generate harmful chromium compound dust/gases.

5. Highly Reflective Materials (Primarily Risk to Equipment)

Examples: Mirror- finished stainless steel, copper, aluminum, gold, silver, etc., which have relatively high reflectance to ultraviolet (UV) laser light.

Risk: Reflected laser energy may travel back along the optical path, **potentially damaging internal optical components or the scanning head of the laser system**. Although UV light is generally less reflective than infrared, caution remains essential. During processing, use dedicated fixtures, adjust the focus and beam angle, or apply verified process parameters.

6. Materials Prone to Releasing Toxic Fumes

Examples: Certain composite resins, epoxy resins, coatings, or materials of unknown composition.

Principle: "If in doubt, do not process." Before processing any unknown material, its Material Safety Data Sheet (MSDS/SDS) must be consulted, or a sample test must be conducted with high-power exhaust ventilation in place.

This machine can be used with certain metals, hard plastics, and other compatible materials with appropriate care. For materials not listed above, or if you are unsure about their compatibility or laserability with this device, consult the Material Safety Data Sheet (MSDS) for guidance. Pay special attention to safety, toxicity, corrosiveness, reflectivity, and high- heat reactions. Alternatively, contact our support department for further guidance.

Golden Rules Before Processing

Identify Material Composition

Always confirm the exact chemical composition of the material to be processed before starting. Exercise extra caution with composite materials, recycled materials, or materials with surface coatings.

Equip High-Power Exhaust and Dust Collection System

Regardless of the material being processed, a professional fume extractor or dust collector must be used to effectively exhaust or filter dust and gases generated during processing. This is the first line of defense for operator safety.

Make Good Use of Test Samples

For new materials or before batch processing, always perform parameter tests on scrap pieces or hidden areas first. Observe the results and evaluate any odors produced.

Consult the Equipment Manual

Different brands and power levels of UV lasers may have specific precautions. Always follow the manufacturer's guidelines.

Wear Protective Equipment

Operators should wear appropriate protective eyewear (rated for 355 nm wavelength) and follow all laser safety guidelines during operation and maintenance.

1.7 Disposal Safety Instructions

Electrical products should not be disposed of with household products. In the EU and UK, according to the European Directive 2012/19/EU for the disposal of electrical and electronic equipment and its implementation in national laws, used electrical products must be collected separately and disposed of at the collection points provided for this purpose. Locations in Australia, Canada, and the United States may have similar regulations. Contact your local authorities or dealer for advice.



2 Introduction

2.1 General Information

This manual is the designated user guide for the installation, setup, safe operation, and maintenance of your UV laser marking machine. It is divided into several chapters covering general information, safety instructions, installation steps, operation instructions, maintenance instructions, and 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. Substandard performance and longevity, property damage, and personal injury may result from not knowing and following these instructions.

Working Principle of the GM UV Laser Marking Machine :

1. The UV laser emits a fine, divergent raw beam.
2. **A beam expander** collimates and expands the beam into a thick, collimated beam.
3. The expanded beam reaches **a beam combiner (dichroic mirror)**, where it is coaxially combined with the indicator laser beam.
4. The combined coaxial beam enters **a galvanometer scanner** for two-dimensional deflection.
5. The beam from the scanner is focused onto the workpiece surface by **an F-theta lens**, forming an extremely fine focal spot for marking

This UV laser marking machine is equipped with a high-performance 355nm UV laser source. Its single-mode output, high efficiency, and compact design make it ideal for high - precision marking applications. Under normal operating conditions, the laser source has an average lifespan of approximately 20,000 hours. To ensure optimal longevity, it is critical to avoid continuous operation above 80% of its maximum rated power. For the best balance of performance and service life, we recommend operating within 10% to 75% of the maximum power setting.

Note : This is a high-voltage device. As a safety precaution, only touch internal components with one hand at a time during operation.

The operating laser is invisible to the human eye. When the laser is in use, all personnel in or near the work area **MUST** wear appropriate protective eyewear to avoid potentially permanent injury. The exhaust system must comply with all applicable laws and regulations related to workplace and environmental air quality.

* Due to variations between production batches, the product's appearance may differ. This does not affect its functionality. Please refer to the actual product.

2.2 Designated Use

The machine is designed for engraving signs and patterns on consumer products or suitable substrates. Its UV marking capability processes materials that are heat-sensitive or require high precision, such as plastics, glass, ceramics, metal surface coatings, and semiconductor materials (see the [Material Safety Instructions](#) on Page 6 for details). The system must not be used for non-designated purposes or with unauthorized materials.

2.3 Specifications

Table 1

Product		GM UV6	GM UV10
Voltage		North America (United States & Canada): 110–120V / 60Hz Europe, United Kingdom & Australia: 220–240V / 50Hz	
Overall Rated Power		400 W	400 W
Max. Working Speed		10000mm/s (393.7 ips)	15000mm/s (590.6 ips)
Max. Laser Cutting Capacity (Basswood)		8 mm in Multiple Passes	12 mm in Multiple Passes
Max. Laser Cutting Capacity (Acrylic)		6 mm in Multiple Passes	10 mm in Multiple Passes
Max. Laser Cutting Capacity (Stainless Steel)		0.6 mm in Multiple Passes	1.2 mm in Multiple Passes
Laser Spot Dimension		0.0019 mm	
XY Positioning Accuracy		±0.001 mm	
Field Lens	Processing Area	5.9 x 5.9 in. (150x150mm)	5.9 x 5.9 in. (150x150mm)
Max Z.height (Field Lens to Workbench)		350mm	
Laser	Laser Type	UV Laser	
	Laser Output Power	6 W	10 W
	Adjustable Power Range	10%–100%	
	Expected Service	20,000 hr.	
	Laser	355 nm	
	Operating Temperature	41–95 (°F) 5–35 (°C)	
	Max.	70%	
	Cooling Type	Water Cooling	
	Class	4	
Supported Materials	Laser Engravable	Glass, Crystal, Acrylic, Wood, Metal, Leather, Plastic, Rubber, Silicone, Ceramic and More	
	Laser Cuttable	Glass, Plastics (PE, PP, EVA, PET, etc.), Fabric, Leather, Acrylic (Not Fully Transparent), Paper, Wood, and More	
Operating Software		BslAppSimple (Included) (Windows 7/8/10/11) Lightburn (Not included) (Windows 7/8/10/11, MacOS)	
Applicable Image Formats		Image files (*.bmp *.jpg *.jpeg *.png *.gif *.tif *.tiff *.tga *.webp) Vector files (*.ai *.pdf *.sc *.dxf *.gcode *.nc *.hpgl *.plt *.svg)	
Product Dimensions		29 x 50 x 54.5 cm (11.4 x 19.7 x 21.5 in.)	
Product Weight		15.6 KG (34.4 lb)	20.6 KG (45.4 lb)

2.4 Package List



A



B



C



D



E



F



G



H



I



J



K



L



M



N



O



P



Q



R

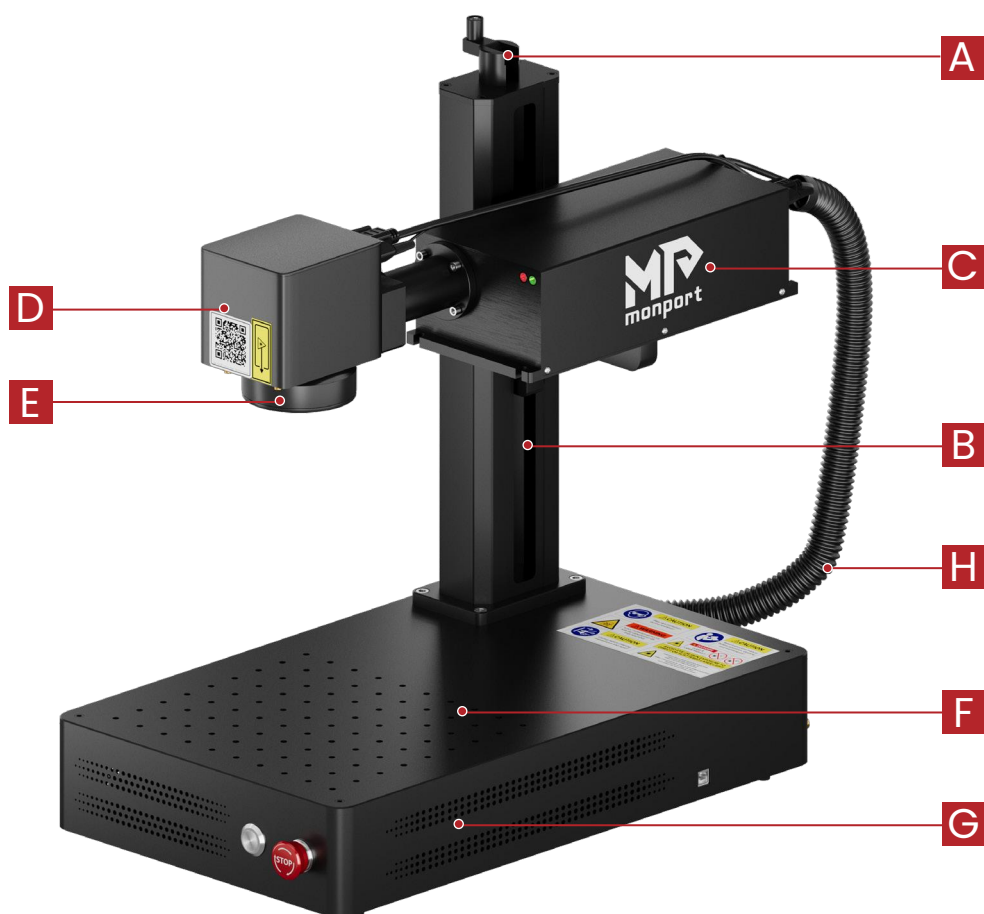


S

No.	Name	Qt.
A	UV Laser Engraver	1
B	Power Cord	1
C	USB Cable	1
D	USB Flash Drive	1
E	Tool Kit	1
F	User Manual	1
G	Goggles (OD7+)	1
H	Wrench Set	1
I	Ruler	1
J	Foot Pedal	1
K	Positioning Bars	2
L	Usb to TypeC Adapter	1
M	Test Aluminum Sheets	10
N	Lens Cover	1
O	Screws M8*12 (For Support Column)	4
P	Screws M5*12 (For Laser Arm)	4
Q	Screws M6*12 (For Positioning Bars)	4
R	Water Pipe, Ø10mm	2
S	Screws M5*12	3

3 Components

3.1 Main Parts



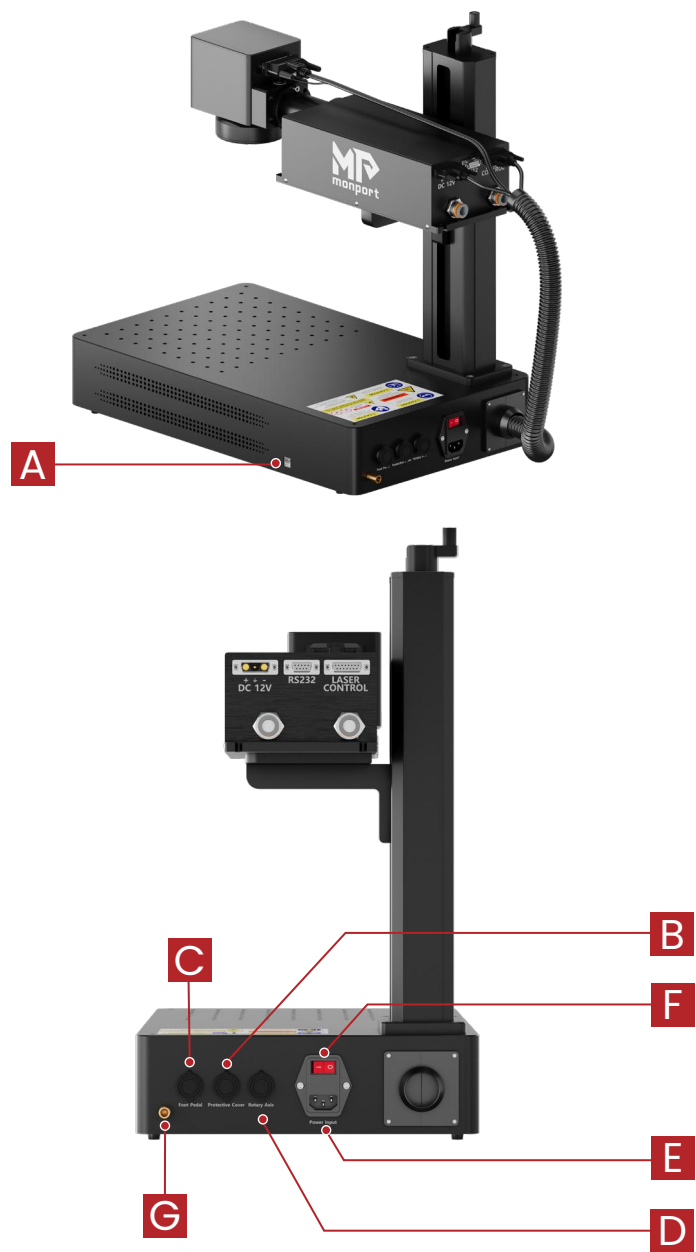
No.	Name	Description
A	Height Adjustment Knob	Manually adjusts the laser arm's height for focusing. The knob allows for manual fine-tuning for materials of different thicknesses.
B	Support Column	The vertical structural column that supports and guides the movement of the laser arm.
C	Laser Arm	Holds and positions the Galvo Lens Head. It moves vertically along the support column to achieve the correct focal distance and contains a UV laser, a beam expander, a beam combiner and a red dot pointer.
D	Scanning Galvo Head	The high-speed galvanometer scanning head uses internal motorized mirrors to direct and focus the laser beam onto the material for precise engraving.
E	Field Lens	Creates vivid markings on flat surfaces by maintaining a consistently focused laser spot throughout the work area.
F	Worktable	The platform that is used for holding the target material. It includes optional alignment bars to secure and position the material accurately.
G	Control Box	Serves as the primary enclosure for the machine's central control system and associated electronic components.
H	Cable	Transmits the laser beam from the laser source to the collimator in the laser arm.

3.2 Control Panel



No	Name	Description
A	Emergency Stop	Cuts all power to the entire machine in emergency situations. Rotate to unlock first during startup, and ensure it is pressed down (engaged) after shutdown.
B	Laser Switch	Activates the UV laser source.
C	Red Dot Focus	Used to power the red dot pointer on and off. Press once to activate, and press again to shut down.

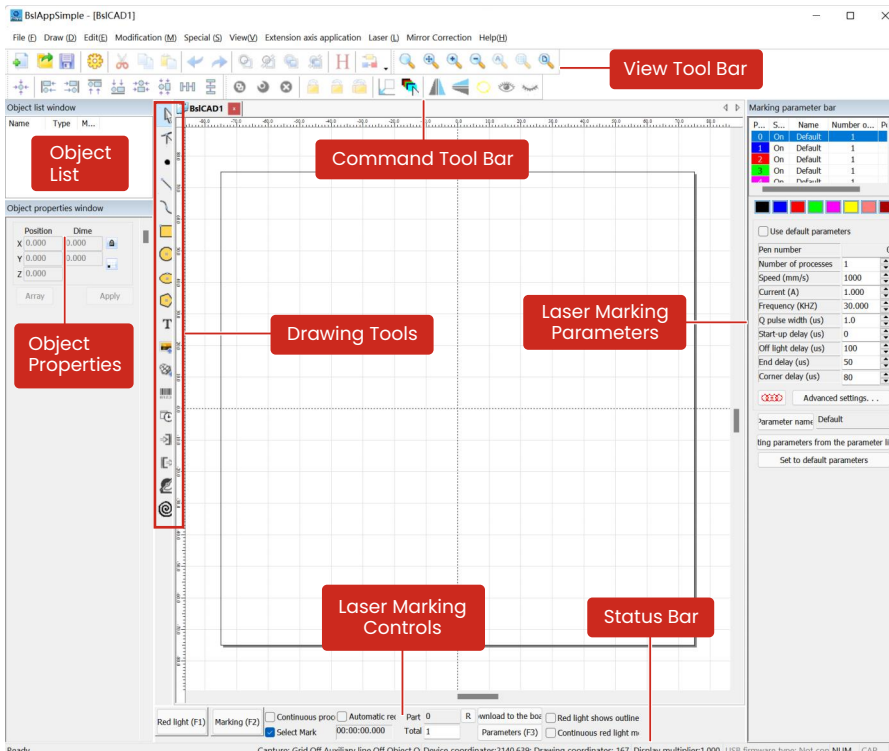
3.3 Connection Inputs



No.	Name	Description
A	USB Port	The USB-B port enables data transfer and machine control by connecting the engraver to your computer.
B	Protective Cover	A 2-pin interlock input for compatible safety enclosures (sold separately). If the enclosure door is opened, this signal will immediately cut power to the laser to prevent injury from reflected beams.
C	Foot Pedal	A 3-pin input for connecting the provided foot pedal. The foot pedal acts as a remote trigger for manual laser emission.
D	Rotary Axis	A 4-pin port for compatible rotary axis accessories (sold separately). Connect the rotary axis, position the workpiece under the Galvo Lens Head, and enable control via your design software.
E	Power Input	The main 3-pin AC power inlet. Used to connect the supplied power cord.
F	Power Switch	The main power switch is used to turn the machine on and off. Move the switch to the I position to power on, and to the position to power off.
G	Grounding Cable Input	Provides a primary grounding point when a properly grounded 3-prong outlet is unavailable. It can also accommodate an optional secondary grounding cable to enhance safety.

3.4 Software Main Interface

The laser marking machine is operated using the **BslAPPSimple** software, which must be installed on a compatible computer. Key configurable parameters and controls within the software are detailed below.



Number of processes: Specifies how many times the laser beam repeats its path over the same area. Increasing the number of passes typically enhances the contrast and depth of the mark.

Velocity: Sets the travel speed of the laser beam in millimeters per second (mm/s). Higher speeds result in shorter exposure time per unit area, generally producing lighter marks, while slower speeds create darker, deeper marks.

Frequency: Regulates the pulse repetition rate of the laser in kilohertz (kHz).

High Frequency: The pulses are very dense, but each pulse has relatively low energy. This tends to produce a "cold processing" effect, meaning it triggers photochemical reactions (such as discoloration or modification) on the material surface without focusing on depth. It creates denser but shallower interaction points, with the primary goal being precision and surface quality, not depth.

Low Frequency: The pulses have longer intervals, and each pulse carries high energy. This tends to produce a "thermal processing" effect, ablating the material through high-energy pulses, which enables deeper engraving or cutting.

Q Pulse Width: The maximum power is achieved at a 1ns pulse width. Power decreases as the pulse width increases.

Preview Function (Red – F1): Projects a visible red beam to outline the intended laser path without actual firing. This allows for accurate path verification and position adjustment prior to marking, preventing material waste and errors.

Marking – F2: After confirming the parameter settings and preview position, click to start processing.

For comprehensive instructions, advanced features, and detailed software navigation for the BslAPPSimple software, please refer to the dedicated software manual provided in the accompanying USB flash drive.

4 Installation

4.1 Installation Overview

A complete working system consists of a fiber laser source, the laser arm with one of a galvanometer, a computer (not included) with engraving software (included), all applicable connection cables, a support column and a worktable. Users can also configure other 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.

4.2 Selecting a Location

Prior to assembling your fiber laser marker, select a location meeting all of the following requirements:

- Be sure that it meets all of the requirements discussed in [§1 Safety Information](#) on Page 1.
- The location should be stable, level, dry, and climate controlled to ensure an ambient temperature 40–95 (°F) | 5–35 (°C) and an ambient humidity under 70%. In particular, the temperature and humidity together should not be close to the dew point. It is recommended to use a windowless room or to 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 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 fire-fighting 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 in order to avoid placing objects on or directly adjacent to the machine, which could become a fire or laser hazard.

4.3 Electrical Grounding



- **DO NOT** use with an ungrounded 3-to-2 prong adapter. The machine's grounding should be checked regularly for any damage to the line or loose connections.
- Poor grounding **WILL** cause equipment failure and create a serious electrical shock hazard. The manufacturer and/or seller bear(s) no responsibility and assume (s) no liability for any damage, accidents, or injuries caused by bad grounding connections.

This machine employs a **CLASS 4** laser which is extremely high voltage and potentially dangerous. Therefore, users **MUST** securely ground it to avoid the buildup of static electricity.

Execute one of the following depending on your situation:



If applicable, execute both grounding methods.

- Connect the main power cable to a standard 3-prong outlet firmly.
- Connect the ground wire on the back of the main tower to a dedicated ground cable. The far end of the dedicated ground wire should be securely connected to a metal rod driven at least 8 feet (3 m) deep into soil located at least 5 feet (1.5 m) from the machine. The resistance along the line should be no greater than 5 Ω .



4.4 Assembly

1. Installing the Upright Column:

Place the upright column vertically at the rear left of the chassis, aligning it with the four mounting holes. Then secure it to the chassis using bolts. When tightening the nuts, gradually tighten them in a cross pattern to avoid uneven force that may cause the column to tilt. Confirm that the upright column is firmly installed.



2. Installing the Optical Baseplate:

Secure the optical baseplate to the upright column with bolts.



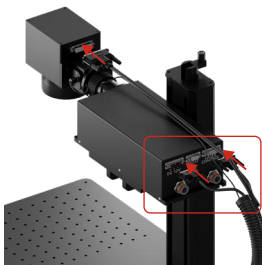
3. Installing the Optical Path:

Place the optical path assembly onto the optical baseplate, aligning it with the four mounting holes. Then secure it to the baseplate using bolts. When tightening the nuts, progressively tighten them in a cross-diagonal pattern to avoid uneven force that may cause misalignment of the optical path. Confirm that the optical path assembly is firmly installed.



4. Wiring:

Connect the Power Cable, the **Laser Control Cable**, and the **Galvanometer Control Cable**, and the galvanometer control cable. Then, connect the red aiming beam terminal.



6W



10W



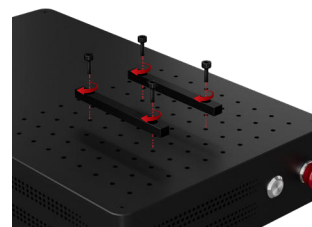
5. Connecting Water Lines:

Insert one end of each water line into the back of the laser unit, and the other end into the UV chiller. Ensure the tubes are fully inserted, otherwise there is a risk of water leakage which may damage the equipment. (The laser unit does not distinguish between inlet and outlet ports, so the tubes can be inserted arbitrarily.)



6. (Optional) Install the positioning bars onto the worktable. They can be left in place for all your projects or can be moved around to suit different projects.

- Simply place the bars over the holes that will form the outer edge of the target material.
- Fasten the positioning bars into place with the provided bolts.



7. Make all necessary connections between the various components.

- Connect the main power cable from the main power port to the power supply.
- Connect the USB cable from the USB port to the control computer.
- (Optional) Connect the foot pedal cable to the Control Box.



Position the cords out of the way to minimize any tripping hazard, using covers and cable managers as needed.

4.5 Installing the Software (BSLAppSimple)

4.5.1 Preparing a Control Computer

1. Prepare a control computer.



The control computer should not be placed more than 15 feet (4.5m) away from the laser marking machine to avoid possible interference with the signal in its line.

2. Prepare the applicable engraving software and its driver to operate the machine.

For your convenience, we provide a copy of the BSLAppSimple software, a BSLAppSimple User Manual and a BSLAppSimple driver in the provided USB drive.

To avoid the risk of data loss, **COPY AND PASTE** the whole USB disk folder onto your computer before using it.



LightBurn is also applicable with this machine; if you want to use it, see its manual to install the software and its driver.

4.5.2 Installing the BSLAppSimple Driver

The BSLAppSimple driver is included in the provided USB drive.

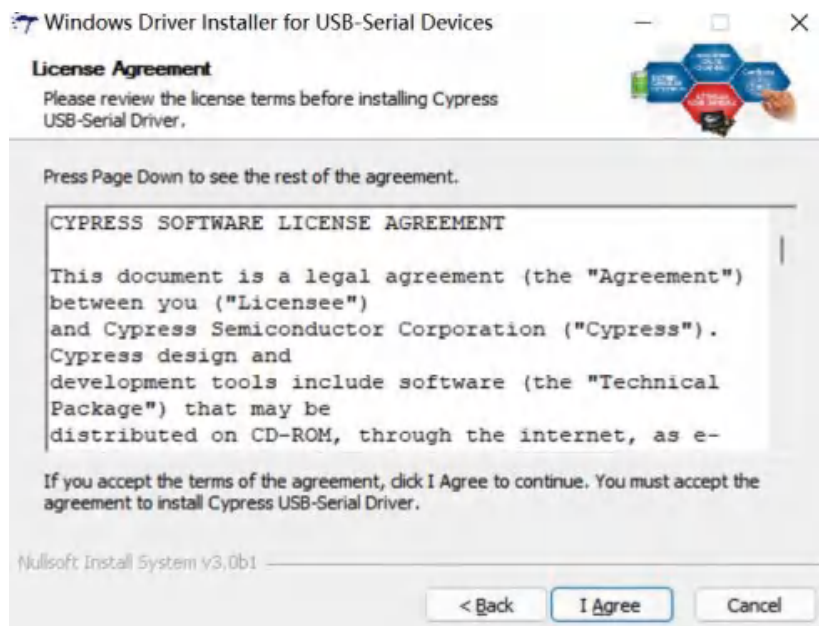
1. Turn on the laser marking machine and your computer.
2. Ensure that the USB cable is connected to the computer and laser marking machine, and insert the provided USB drive into your computer.
3. Open the USB flash drive, locate the BSLAppSimple driver installer named **1_CypressDriverInstaller**, and double-click it to install.



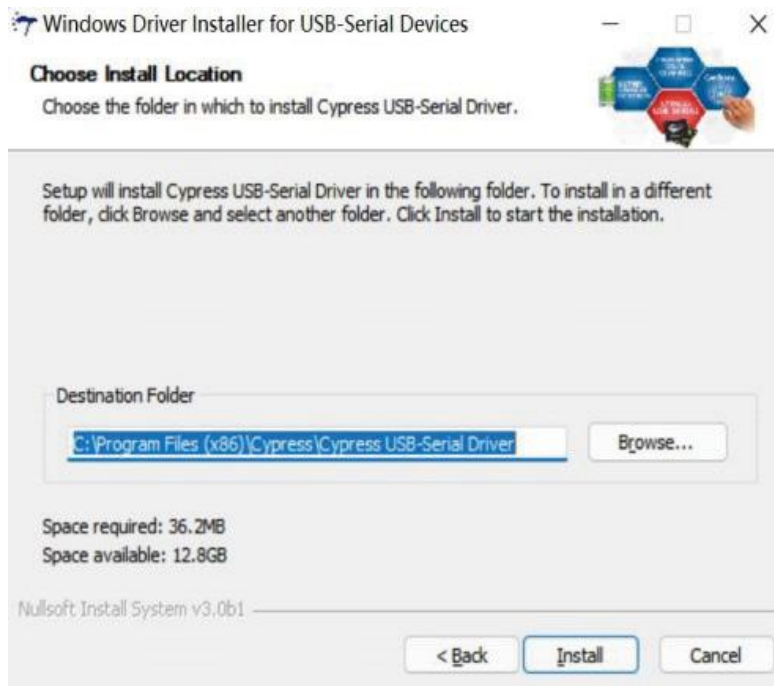
4. Click **Next**.



5. Click **I Agree**.



6. Confirm the installation location and click **Install**. The driver will begin installing.



7. Wait a few seconds, then click **Finish**. The driver installation is now complete.

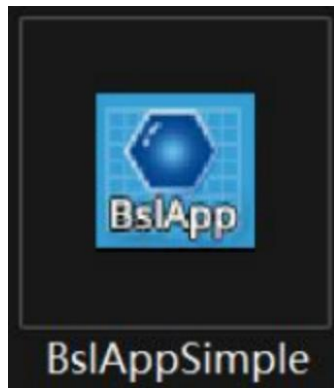


4.5.3 Running the BSLAppSimple Software

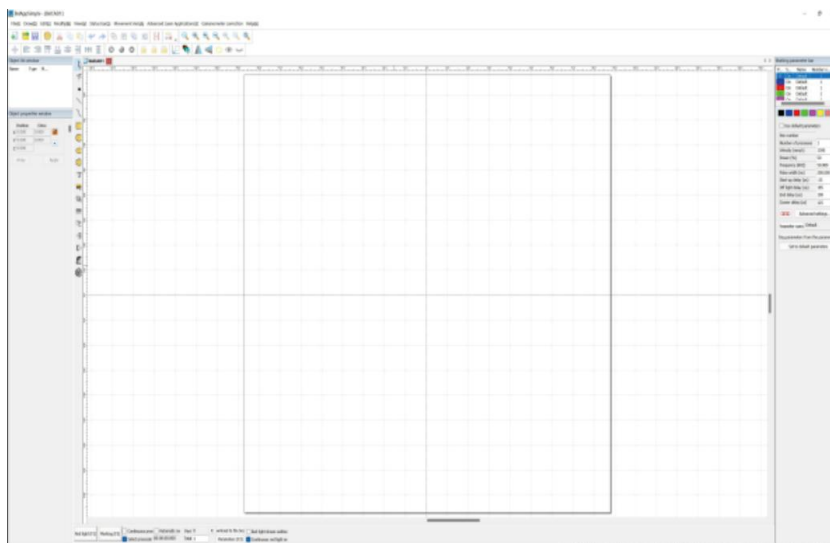
The BSLAppSimple software is included in the provided USB drive. You can use it without installation.

Familiarize yourself with your software's image design features and laser control settings before beginning the operation of the laser marking machine.

1. Double click **BSLAppSimple** to start the software.



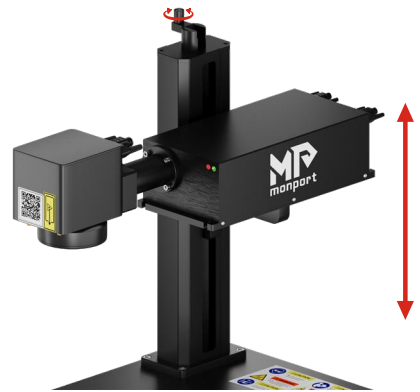
2. Wait for a moment and make sure the software runs successfully.



4.6 Initial Tests

4.6.1 Movement Test

Use the height adjustment knob to confirm that the laser arm moves smoothly and easily through its full range of motion.



4.6.2 Initial Startup Check

1. Check that the power cable is connected to the power supply.
2. Check that the water line between the laser and the chiller is securely connected.
3. Remove the lens cover.
4. Pour purified or distilled water into the chiller until the water level reaches FULL. Turn on the chiller, wait a few seconds, and confirm that water flows through the entire circuit with no leaks.
5. Power on the machine in the following order:
 - a. Flip the switch on the back from O to I.
 - b. Turn the emergency stop button to release it.
 - c. Press the **LASER SWITCH** to power the UV laser source.



Activating these out of order may cause electrical hazards as the separate power supplies are grounded in order. Do not activate them too quickly. Give each power supply time to come on line, activating its fans. 3 seconds is sufficient.

To reduce the risk of electric shock, once the laser power supply is on, try to touch the machine's components with only one hand at a time.

6. Confirm that the button on the galvo head activates the two laser focus dots.



7. Confirm the emergency button works fine. Because of the risk of fire and other hazards during engraving, this machine includes a large and easy-to-reach emergency stop button on its control panel. Press it down to stop the laser instantly. You should test that it works properly before conducting ANY other work with your machine.

a. In **BSLAppSimple**, press Mark or hit F2 to fire the laser. Alternatively, use the foot pedal.

b. While the laser is still active, hit the emergency stop button and observe whether the laser stops instantly. If the laser continues to fire, the emergency stop is not working and must be replaced before the machine can be used. Turn off the machine and contact customer service.



8. Turn off the laser marking machine in order:

a. Press the button to turn off the laser source.

b. Push down the emergency stop button.

c. Turn the switch on the back from I to O. Again, wait about 3 seconds between each step to allow each system to safely disengage.



9. Cover the galvo lens cap.



10. Turn off the chiller.



4.7 Installing the Software (LightBurn)

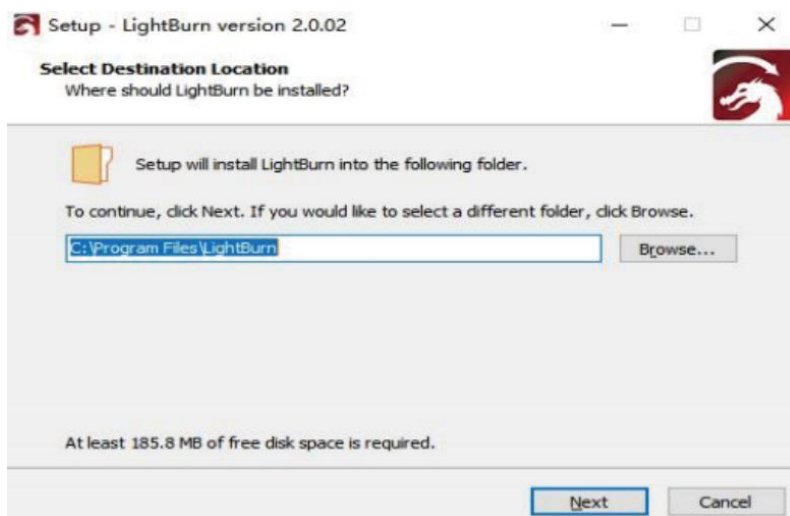
4.7.1 Download and Install the LightBurn

Please visit the official **LightBurn** website:

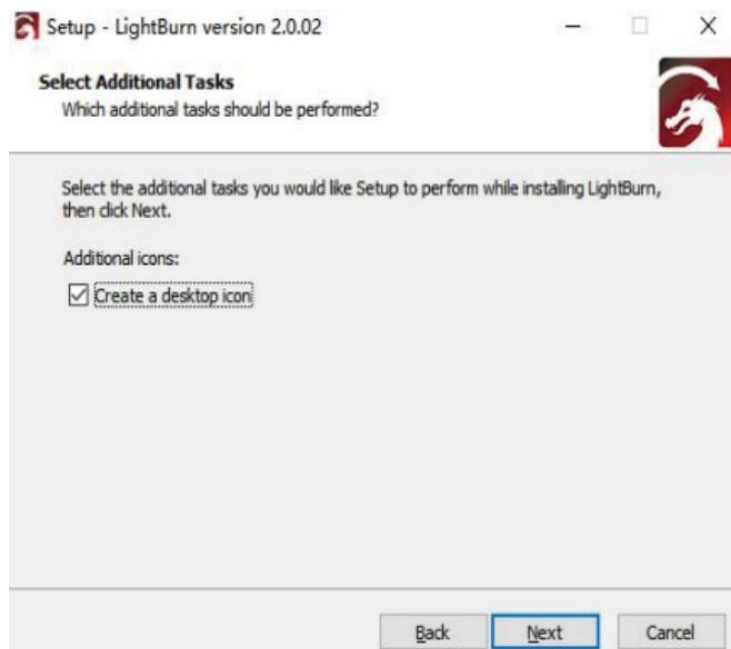
<https://lightburnsoftware.com/pages/download-trial> to download the latest version of the software. First-time users are eligible for a 30-day free trial of **LightBurn**.



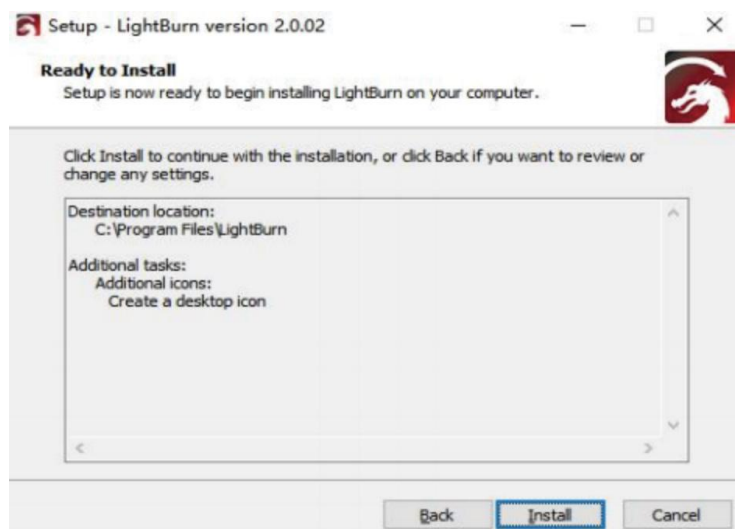
1. Run the LightBurn installation program, select the installation path (it is recommended to keep the default path to ensure system compatibility), and click **Next** to continue.



2. Check the **Create a desktop icon** option and click **Next** to continue the installation.



3. Check the installation summary information (**path/component/license agreement**), confirm it is correct, and then click the **Install** button to proceed with the installation. The system will automatically deploy the runtime environment. Please **do not** interrupt the power or force termination during this process.



4. This interface indicates that LightBurn has successfully completed installation. Check **Install EzCad2 driver** (used by galvos) and click **Finish** to exit the installation wizard.



5. Pop up a window that prompts you to install the driver. Please follow the instructions to proceed with the installation.

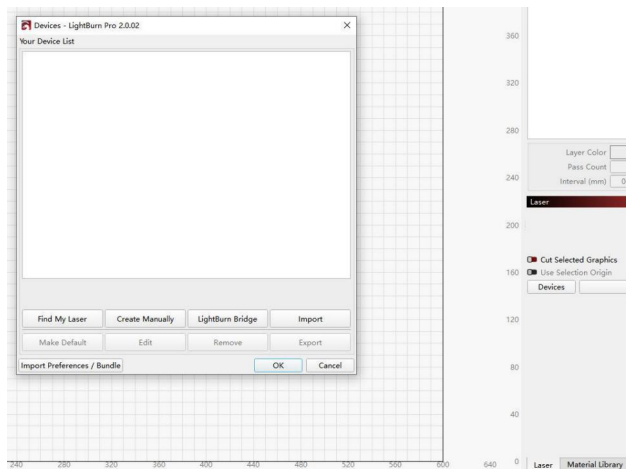
4.7.2 Connect to LightBurn

Note: The device driver must be installed prior to connection. If the driver is not present, please refer to section 4.5.2 for installation instructions.

Confirm that the machine is turned on and the data cable is connected. Open LightBurn and confirm the 30 day trial protocol and operation instructions in sequence in the pop-up window (click **OK**).

On the device selection interface, there are three ways to add a device: "**Import**," "**Find My Laser**," and "**Create Manually**." The following instructions use the most convenient method, "**Import**," as an example.

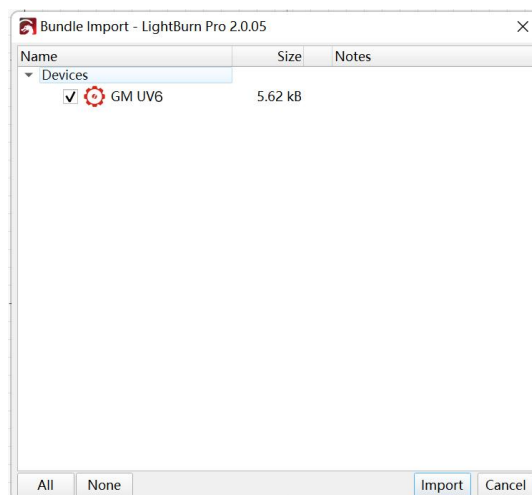
1. Click **Import**.



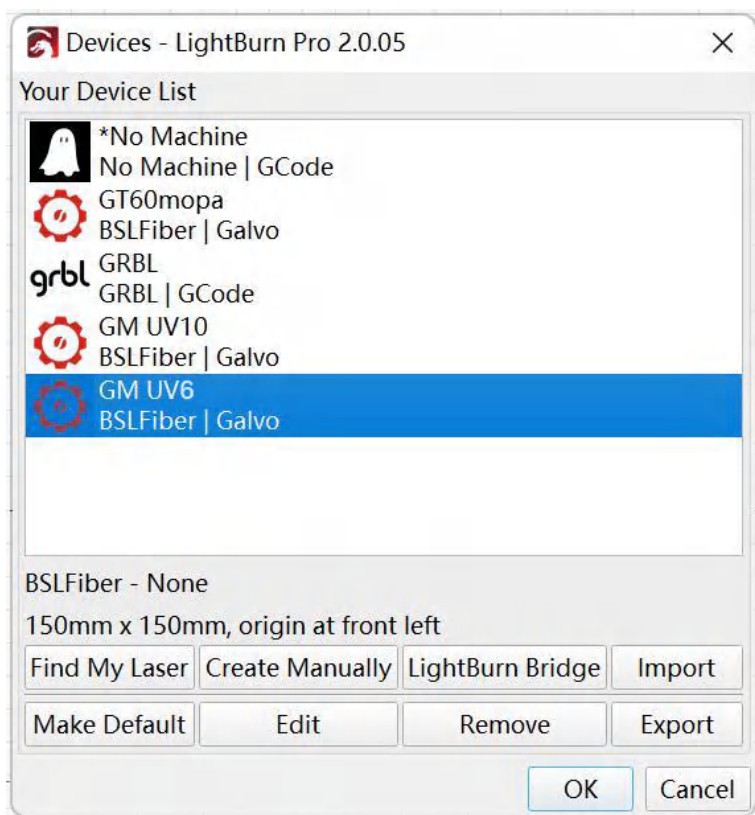
2. Locate and open the "**LightBurn Param File**" on the USB drive. (A device parameter file for connecting to LightBurn has been pre-saved for each machine before leaving the factory; please keep it safely.)



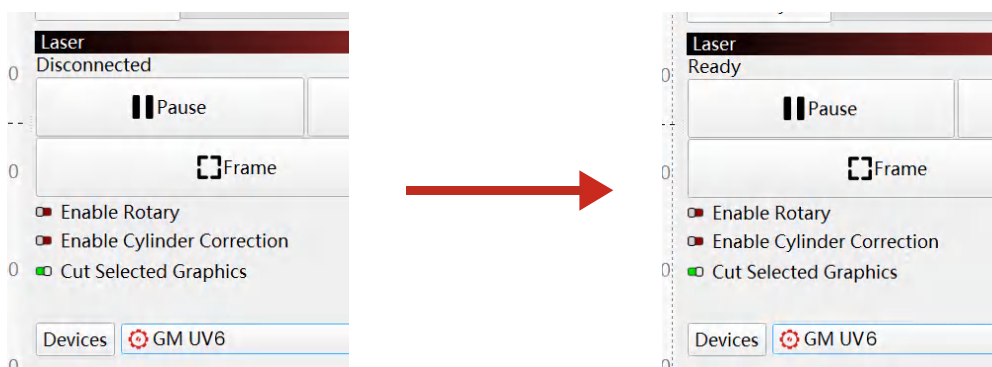
3. Select the device(s) and click **Import**.



4. The appearance of the imported device in the device list indicates a successful import. Click **OK**.



5. Select the device you just added. After a few seconds, the software status will change from **Disconnected** to **Ready**, indicating a successful connection to the machine.



6. The machine connection is now complete and you can begin your creative engraving tasks.

Note : You can also choose the other two connection methods. For details, please contact **Monport After-sales Technical Support**.

5 Operation

5.1 Operation Overview



- **ALWAYS** operate this machine following all the instructions provided herein. Performance of procedures other than those specified herein may result in property damage and personal injury.
- **DO NOT** use this machine for purposes not specified herein.

This section will address only some of the options and features provided by the operation software BSLAppSimple for your reference. Before operating this machine, ensure that you have read and understand this entire manual (particularly [§1 Safety Information on Page 1](#)), the separate BSLAppSimple software manual, and any warnings provided on the machine.

5.2 General Instructions



Anyone else who might be exposed to direct or reflected laser beams **MUST** also wear protective eyewear. Put on any other PPE necessary for your material.

5.2.1 Turning On the Machine



- Powering on the machine out of sequence **MAY** cause electrical hazards as the separate power supplies are grounded in order. Do not activate everything quickly. Give each power supply time to come on line, activating its fans. Three seconds is sufficient.
- **ONLY** touch the components of this product with **ONE HAND** at a time during use to reduce the risk of electric shock.
- The laser must always be operated with a properly functioning UV water chiller. Operating without active cooling may cause permanent damage to the laser source.

1. Check that the power cable is connected to the power supply.

2. Confirm that the UV Laser is connected to the UV water chiller, the chiller is turned on, and water is circulating.

3. Remove the lens head cover.



4. Flip the switch on the back from O to I.



5. Release the **EMERGENCY STOP** button by turning it clockwise if it is locked.



6. Press the **LASER SWITCH**.



7. Press the button on the scanning head to turn on the red dot pointer. The two red dots should be displayed on the working platform when the red dot pointer is on.



5.2.2 Focus

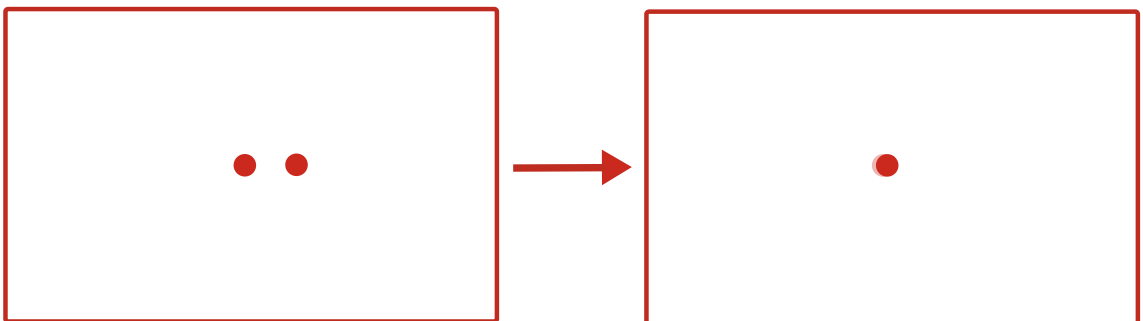


- Make sure the material can be engraved by this machine. See [§1.6 Material Safety Instructions](#) (Page 6) for details.
- The test material should be the same as the actual material.

Manual Focus

Method 1: Using the Red Dot Pointer

Press the button on the scanning head to turn on the red dot pointer. Move the scanning galvo head up or down by pressing the **Up** and **Down** buttons until the two alignment red dots merge into one.



Method 2: Using the Ruler

- a. Use the provided ruler to measure the distance from the calibration line on the scanning galvo head to the surface of the test material.
- b. Move the scanning galvo head up or down by pressing the Up and Down buttons until the measured height matches the value marked on the scanning galvo head. Note that this value may vary depending on the model.

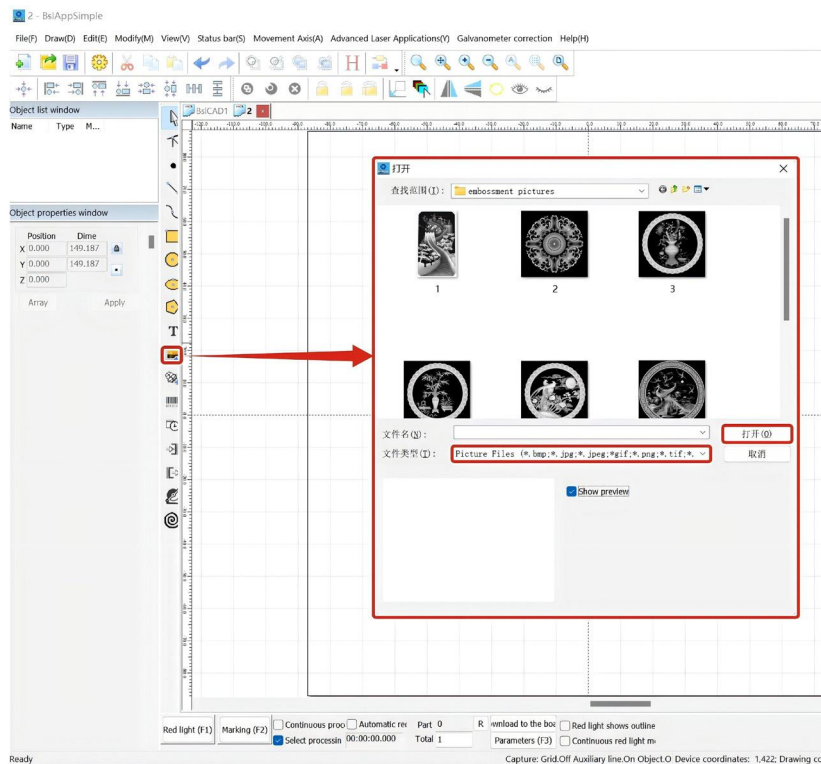


5.2.3 Preparing Your Design

- Make sure the control computer is connected to the machine via the USB cable.
- Double click **BSLAppSimple.exe** in the “software” folder on the USB drive to launch the application.
- Load or create a design in **BSLAppSimple**. This section provides a brief overview of creating bitmap images, vector graphics, and text in BSLAppSimple. For detailed parameter descriptions and settings, see the BSLAppSimple software manual on the USB drive.

Loading Bitmap Graphics

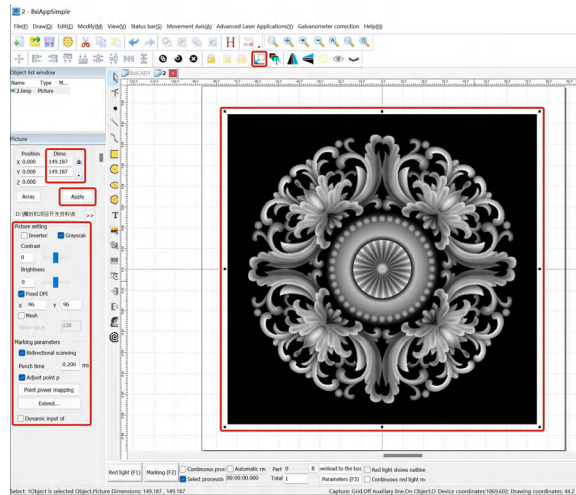
1. Click  to open a bitmap file.
2. Select the desired image. Click “Open”.



3. Setting image parameters:

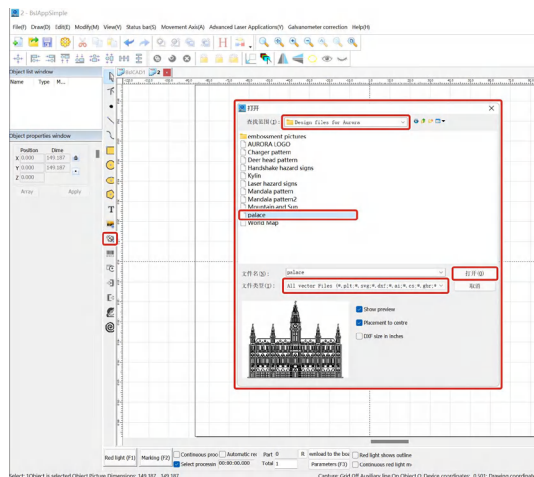
- Select the image.
- Center the image on the canvas.
- Set the image size.
- Set the image parameters.
- Click **Apply** to confirm.
- Set processing parameters: speed, frequency and pulse width.

See §Setting Engraving Parameters on Page 47 for details.



Loading Vector Graphics

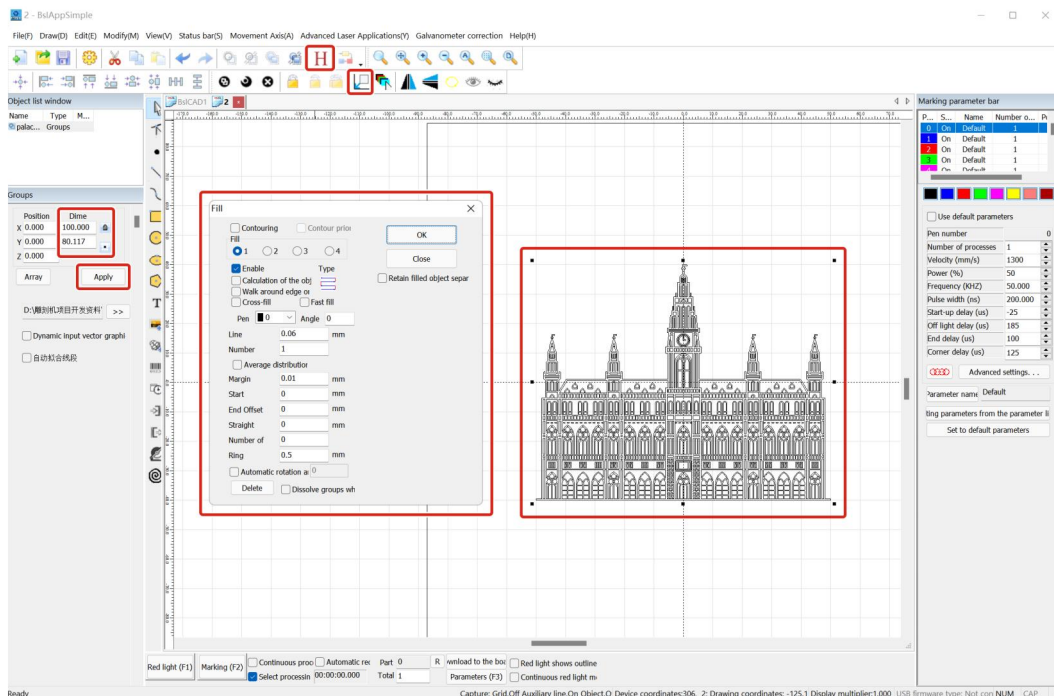
- Click  to open a vector file.
- Select the image you want to mark. Click "Open".



3. Setting vector graph parameters:

- Select the image.
- Center the vector graphics on the canva.
- Set the vector file parameters.
- After setting the graphic size, click **Apply**.
- Click **H** to fill selected objects and set parameters; click **OK** after completing the settings.
- Set processing parameters: speed, frequency and pulse width.

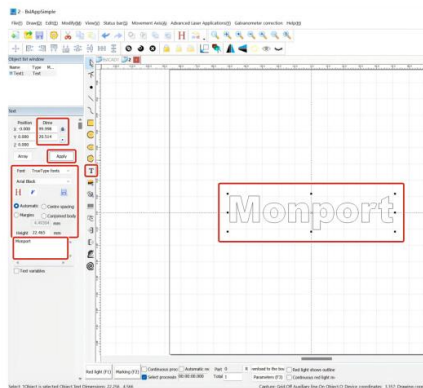
See §Setting Engraving Parameters on Page 47 for details.



Creating Text

1. Click  to create text.
2. Click the left mouse button on the canvas and “TEXT” appears.
3. Modify the text.
4. Click **Apply**. The text content entered is displayed in the canvas.
5. Set the text size.
6. Configure other settings (fill, text style, font, etc.).
7. Set processing parameters: speed, frequency and pulse width.

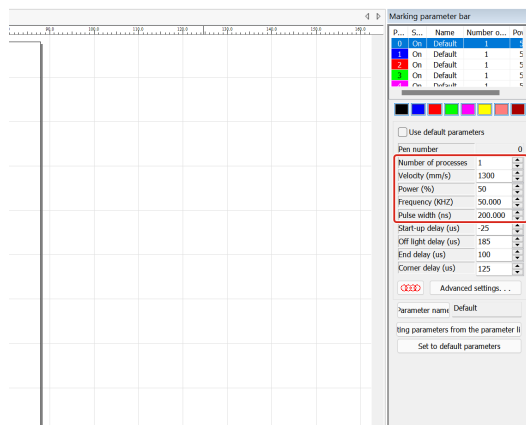
See §Setting Engraving Parameters on Page 47 for details.



Setting Engraving Parameters

Customize your contrast and engraving depth by adjusting the engraving parameters in BSLAPPSimple.

- **Image Contrast:** Increase the frequency to darken the image; decrease it to lighten the image.
- **Engraving Depth:** Increase energy per unit area lowering the speed, lowering the pulse width, or increasing the number of passes.





Excessive engraving depth can compromise image clarity, particularly on coated materials. Continuously operating above 80% of the rated settings may shorten the expected service life of your laser.

Set the resolution to 500 DPI for optimal results. However, if working with certain plastics, a lower resolution may reduce flaming and concentrate pulse energy, leading to superior image quality.

Marking Settings

- **Red (F1)**: Projects a frame around the object without emitting laser energy. This indicates the processing area and helps locate the workpiece. Available on models with a red light pointer. Press F1 on the keyboard to activate.
- **Mark (F2)**: Starts processing. Press F2 on the keyboard to run this command.

For other marking settings, see the BslAPPSimple software manual.



5.2.4 Testing the Engraving

1. Activate the laser guidance system by clicking **Red** in BslAPPSimple or hitting **F1** on the keyboard. The design should be displayed in red dot on the worktable, showing where the laser will fire.
2. Place an expendable piece of the material to be engraved in the location shown by the laser guidance. The test material should be of the same material as the actual one you are going to mark.
3. Click **Mark** in BslAPPSimple or press **F2** on the keyboard to engrave your design. Alternatively, you can activate the laser by using the foot pedal.

The laser is invisible but will create a buzzing noise and sparks and begin engraving when it is correctly focused on your test material.



- **DO NOT** stare at the laser in operation even with protective eyewear.
- When an unexpected situation occurs, press the **EMERGENCY STOP** button **IMMEDIATELY** to halt the machine's operation.
- Watch for possible issues like sparks or fires, and be prepared to quickly extinguish a fire if necessary.

4. Examine the quality of your first run and adjust the laser parameters in BslAPPSimple as necessary to achieve your desired effect.

5.2.5 Stop and Resume

During engraving, if an unexpected situation occurs, press the **EMERGENCY STOP** button **IMMEDIATELY** to halt the machine. To resume normal operation:

1. Release the **EMERGENCY STOP**.
2. Resume operation following the normal operational sequence.

5.2.6 Engraving

1. Replace the test material with the actual material.
2. Use the foot pad or press **Mark** in BslAPPSimple or hit **F2** on the keyboard to engrave your pattern.

The foot pedal is particularly useful for continuous or repeated operation of the laser once you've settled on your design and its ideal parameter settings. You can also achieve more control of the marking process by reducing the laser's speed and using the foot pedal.

5.2.7 Finishing-up

After completing your engraving job, deactivate the systems as follows:

1. Close the **BslAPPSimple**s software and disconnect the USB cable from your computer.
2. Press the button on the scanning head to turn off the red dot pointer.
3. Press the laser button to turn off it.
4. Press the **EMERGENCY STOP** button to turn off the machine.
5. Turn the switch on the back from I to O. For best results, disconnect your marking machine from its power supply between uses. Unplug it or turn off its intermediary surge protector.
6. Fully clean the worktable and the galvanometer lens. Cover the galvanometer lens afterward.
7. Finally, turn off the UV chiller.

5.3 Instructions for Specific Materials

When engraving a new material, it is good practice to begin with a test grid—a series of small squares engraved using a range of speed, power, and frequency settings. This method helps determine the optimal parameters for the desired result. To streamline this process, the following general guidelines are provided for commonly engraved materials. Note that these are for reference only; actual results may vary based on your specific machine, material composition, and operating conditions. It is the user’s responsibility to review material safety data sheets and other authoritative sources to ensure safe operation with any material or configuration. Certain materials may require dedicated workspace preparation and personal protective equipment beyond what is included with the engraver.

5.3.1 Plastics (ABS, PC, PE, PP, PVC, etc.)

UV lasers primarily interact with plastics through a photochemical process, breaking molecular bonds or creating color-changing compounds. This enables high-contrast marking with minimal melting or edge deformation.

Material Application	Typical Result	Processing Guidelines
Marking on black plastics (e.g., ABS)	Produces a bright white , highly adhesive mark.	Use higher frequency with moderate power. Excessive power can cause charring.
Marking on white or light-colored plastics	Creates a mark ranging from gray to dark gray .	Higher power is often required to ensure sufficient carbonization or foaming of the material.
Internal engraving in transparent or translucent plastics (e.g., PC, Acrylic)	Forms a frosted white scattered pattern inside the material, leaving the surface smooth.	Precisely set the laser focus inside the material and use high scanning speed to prevent surface burn.
Marking PVC (chlorine-containing) materials	Easily produces high color contrast (often dark) , resulting in clear marks.	Use low power and ensure adequate ventilation due to the generation of hydrogen chloride (HCl) gas.
Marking PE/PP (polyolefin) materials	Achieving contrast is more difficult; marks often appear light yellow or brown.	Requires higher energy density. Parameter testing is recommended prior to marking for optimal results.

5.3.2 Metals (Surface Treatment)

UV lasers are not ideal for deep engraving of bare metals but excel at precisely removing surface coatings, oxide layers, or platings.

Material Application	Typical Result	Processing Guidelines
Marking on Anodized Aluminum (removing dyed layer)	Produces a permanent, high-contrast white mark.	Use a combination of high frequency, high scanning speed, and moderate power to cleanly ablate the surface dye, exposing the white aluminum oxide substrate beneath.
Marking on Plated or Painted Metals	Selectively removes the top layer to reveal the underlying metal with a different color or finish, creating a crisp design.	Precise power control is key to ensure only the coating is removed without damaging the metal substrate underneath.
Black or Color Marking on Stainless Steel	Creates black or various interference colors (e.g., bronze, blue, gold) by generating an oxide film of controlled thickness on the surface.	Use higher frequency with appropriate energy and employ multiple passes. Generally, slower speeds and more passes yield darker and more saturated colors.

5.3.3 Glass and Ceramics

UV lasers mark these materials by creating micro-cracks or inducing material modifications, resulting in marks with clean, chip-free edges.

Material Application	Typical Result	Processing Guidelines
Dot marking or fine engraving on glass surface	Creates white, opaque marks through the formation of surface micro-cracks that cause diffuse reflection.	Defocusing (negative defocus) is essential to enlarge the spot size and reduce energy density. Power must be carefully controlled to prevent crack propagation or material shattering.
Marking on Ceramics / Zirconia	Produces a clear, permanent dark (e.g., black) mark on the surface.	Typically employs highfrequency, low-thermal-input “cold” processing parameters to densify the surface material or induce a chemical change, resulting in color alteration.

5.3.4 Specialized Materials in the Electronics Industry

UV lasers are ideal tools for marking and processing FPC, PCB, and chips.

Material Application	Typical Result	Processing Guidelines
Selective window opening on FPC coverlay	Precisely ablates the top polyimide coverlay to create a clear window, while perfectly preserving the integrity of the underlying copper traces.	A precision layering process. Requires an extremely small focused spot and high energy density. Fine - tuning of power and speed is critical to vaporize only the coverlay without damaging the copper.
Removing solder mask from PCB	Cleanly ablates the solder mask ink from specified areas, completely exposing the underlying metal pads for subsequent soldering or testing.	A surface precision ablation process. Laser parameters must be tightly controlled to completely remove the solder mask while avoiding thermal or mechanical damage to adjacent areas or the base copper.
Marking on silicon wafers or dies	Creates a permanent, clearly visible mark on the very surface without affecting the electrical performance of the chip.	Must employ a high repetition rate, low pulse energy, and high scan speed "cold processing" regime. This creates an extremely shallow, sub- micron level modification layer, avoiding thermal stress or micro-cracks.

5.3.5 Other Materials

Material Application	Typical Result	Processing Guidelines
Engraving on wood, leather, or paper	Creates a permanent mark with a vintage or natural aesthetic, typically in shades of charred yellow to brown . The engraving depth can add a 3D effect.	Utilizes the laser's high resolution for fine surface engraving. The frequency can be lowered to enhance ablation and achieve a more pronounced textured effect. Power and speed must be balanced to avoid excessive charring. For wood and paper, attention to assist gas is needed to prevent open flames.
Engraving or cutting marks on rubber	Produces clear, permanent, and mold-free recessed marks or precise cut edges on the surface.	Requires sufficient power to vaporize the material to an adequate depth. Adequate ventilation is essential due to significant smoke generation. Adjust the speed and power combination based on the desired mark depth or whether full cutting is required.

5.3.6 General Tuning Procedure (Applicable to Any New Material)

1. Preparation:

Clean the material surface and perform **precise focusing** to achieve the smallest focal spot.

2. Establish Baseline:

Line Spacing: Set to **0.05 mm**.

Speed: Set to a medium value (e.g., **500 mm/s**).

Select a starting **frequency and power** from the table above, based on the material type and desired effect.

3. Perform Matrix Test:

Test 1 (Pulse Width Ramp): With frequency and speed fixed, engrave a set of squares, varying the pulse width from low to high (e.g., 1ns, 2ns, 3ns...).

Test 2 (Frequency Ramp): Using a power setting that yields acceptable results, keep it fixed and vary the frequency (e.g., 20kHz, 30kHz, 40kHz...).

Test 3 (Speed Ramp): With the optimal frequency and pulse width fixed, vary the speed.

4. Analysis and Optimization:

Observe which parameter combination produces the best result.

Weak Effect: Decrease pulse width, or decrease frequency, or decrease speed.

Burning/Excessive Ablation: Increase pulse width, or increase frequency, or increase speed.

Uneven Filling: Reduce line spacing.

5. Record and Save:

Save the optimal parameters to the software's material library for future use.

By following this framework, you can systematically identify the optimal process window for UV lasers across a wide range of materials, enabling effective application in **precision, cold-processing** scenarios.

6 Maintenance

- Adjustment, maintenance, and repair of the electrical components of this machine 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 machine **WHEN** it is turned off, disconnected from its power supply, and fully cooled. For maximum safety, wait about 3 minutes after turning the machine off before adjusting electronic parts. This will allow time for the ground connection to clear any residual charge.

To ensure normal use of the plate laser machine, regular maintenance is essential. Handle with care during maintenance as it contains high-precision components, and follow each part's procedures closely to prevent damage.

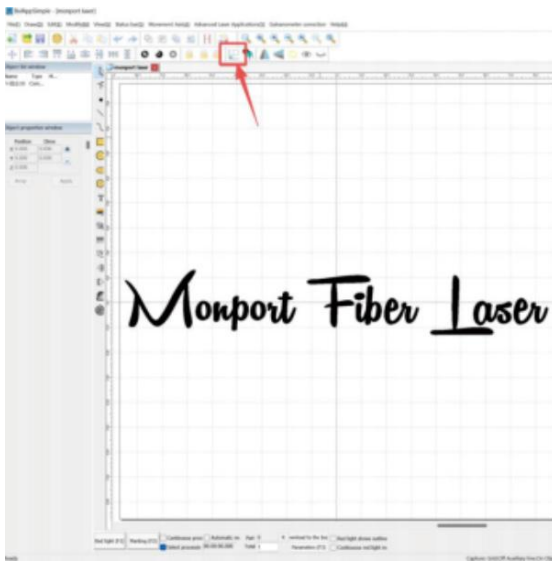
- Must connect the water chiller for use.
- Keep the workroom clean and dust-free at all times.
- Ensure the device is fully powered off when not in use.
- Cover the galvanometric lens when it is not in use.
- Clean the worktable after use with a cloth wetted with greater than 75% rubbing alcohol. **NEVER** clean this device with abrasive or caustic cleansers, with aerosol sprays, or with enough water to enter any electrical component. **ALWAYS** allow surfaces to **FULLY** dry **BEFORE** further use.
- Clean the lens with cotton swab and alcohol wipe. The device can only be used after the alcohol has evaporated.
- If 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 **ANY** parts yourself.

7 Troubleshooting

7.1 Common Problems

Problems	Solutions
The Driver Installation Failure	Make sure you are using an authentic Windows system; if not, use another computer loaded with the right software.
	Use a different data cable.
	The computer port or its board has a problem; try with another computer.
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 laser source or its power supply malfunctions, 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 its power supply. Correct any problems or replace the part.

Problems	Solutions
Other Laser Errors	Have a technician check the laser source and the mainboard. Correct any problems or replace the part.
No/Too Light Red Dots From The Red-Dot Pointer	Adjust the focal length. If it still doesn't work, contact our customer service.
Deformed Preview Or Engraved Patterns	Check and fix the parameters. If it still doesn't work, contact our customer service.
Nothing Displayed On Canvas Board When Importing Text Or Image	Click the practical center button. The picture or text should be in the center of the canvas. 



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