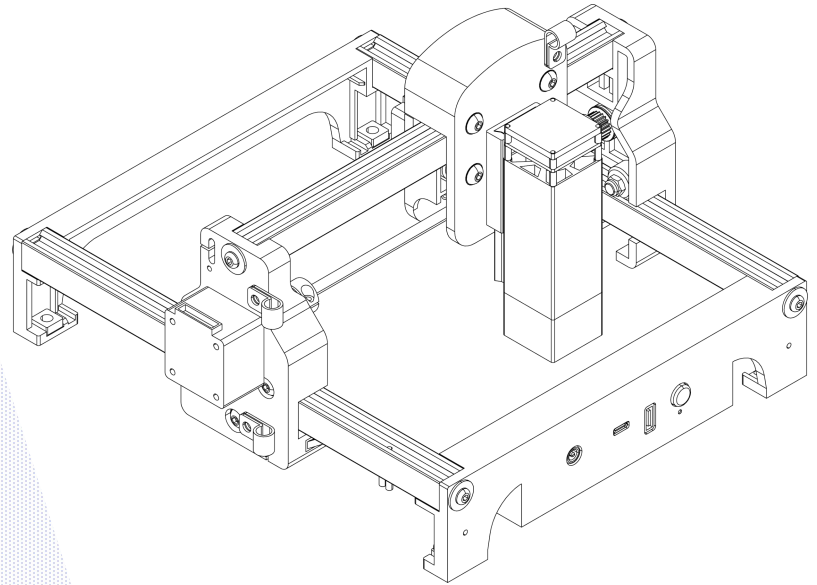




A7 MINI User Manual

Please read this instruction manual carefully before using the product and keep it in a safe place.



Model: A7 MINI

FCC SDOC

Warning

To assure continued compliance, any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

FCC ID:2BHH8-A7MINI

FCC Statement

This equipment complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) This device must accept any interference received, including interference that may cause undesired operation.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Radiation Exposure Statement:

The equipment complies with FCC Radiation exposure limits set forth for uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body.

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Safety Precautions

In order to prevent damage to your personal and property safety, and so that you can use this product safely and correctly, please read the instruction manual carefully and follow the steps in the instruction manual.

Safety Precautions

- ★ Before operating the equipment, the user must read the instruction manual carefully and strictly follow the operating procedures.
- ★ Laser processing can be risky and the user should carefully consider whether the object to be processed is suitable for laser work.
- ★ Processing objects and emissions should comply with local laws and regulations.
- * This equipment uses a Class IV laser (strong laser radiation), which may cause the following conditions:
 - ① Ignition of flammable materials in the vicinity;
 - ② During laser processing, other radiation and toxic and hazardous gases may be generated depending on the object to be processed.;
 - ③ Direct exposure to laser radiation can cause human injury, the use of the place must be equipped with fire-fighting equipment, prohibited in the workbench and equipment around the stacking of flammable, explosive substances, while making sure to maintain good ventilation.
- * The environment where the equipment is located should be dry, no pollution, no vibration, no strong electricity, strong magnetism and other interference and influence. Working environment temperature 10-35 °C, working environment humidity 5-95% (no condensation)
- ★ Equipment working voltage: AC100-240V.
- * The engraving machine and any other equipment associated with it must be safely grounded before it can be turned on and operated.
- ★ When the equipment is on, it needs to be guarded throughout the whole process, and all power must be cut off before the personnel leave to prevent abnormal conditions from occurring, and if it happens, please disconnect the power supply immediately to deal with it!
- * It is strictly prohibited to place any irrelevant fully reflective or diffusely reflective objects in the device to prevent the laser from reflecting on the human body or flammable objects.
- * The equipment should be kept away from electrical equipment that is sensitive to electromagnetic interference and may cause electromagnetic interference to it.
- * There is high pressure or other potential danger inside the laser device, and disassembly by non-professionals is strictly prohibited.

Security instructions



Do Not Look Directly

1. The brightness of the laser is harmful to the eyes, so please do not look directly at the laser.



3. When the laser is turned on, it should not be directed at people, animals or flammable objects to avoid skin burns and fires.



2. Hands should not be close to the machine when it is working to avoid injury.



4. Turn the machine off when it is not in use to avoid misuse by third parties.

Maintenance and upkeep

Laser modules are consumables;

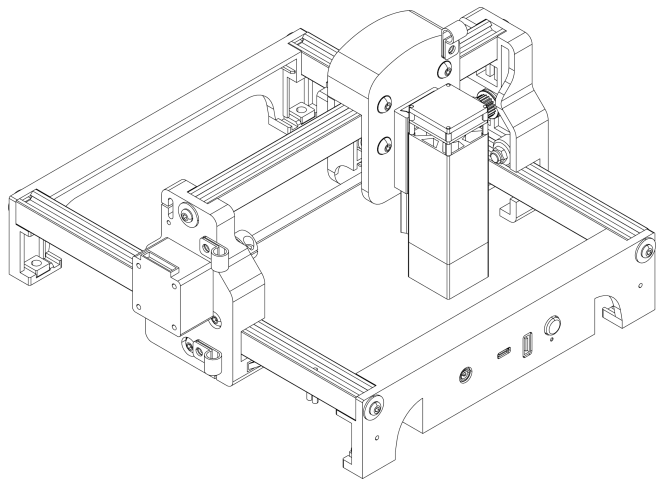
suggestion:

Turn off the machine for 5 minutes after 1 hour of cutting;

Turn off the machine for 5 minutes after 2 hours of engraving..

1. Do not use the machine in humid/high temperature conditions.
2. Do not operate the machine by touching it with wet hands.
- 3, the machine's lens, please regularly wipe with a cotton swab dipped in alcohol, is conducive to the protection of the lens.

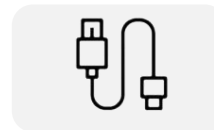
Accessory Details



Standard accessories



Power supply



Type-c data cable



Glasses



U disk



Wrenches



User Manual

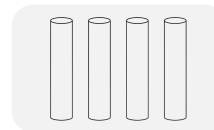


Hexagonal wrench

Optional accessories



RT5 Roller

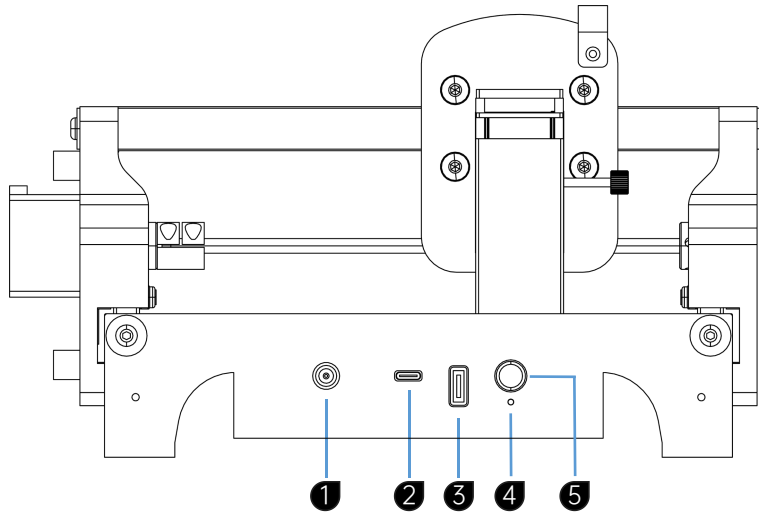


Heightening

Product Parameters

Product Model	A7 MINI
Main material	ABS+ High Strength Metal
laser wavelength	Blue light: 455nm Infrared light: 1064nm
Engraving speed	8000mm/min
Laser lifetime	>10000h (at 27°C ambient temperature)
Focus mode	fixed focal length
Engraving area	120*120mm
Engraving precision	±0.1mm
Engravable Materials	Blue light can engrave most non-metallic materials, non-transparent materials (paper, wood chips, plastic, leather, fabric, cardboard, leather) Infrared light can engrave all metal materials and some non-metallic materials
Machine power	≤ 60W
Input Voltage	DC 24V 2.5A
Data transfer	USB wired transmission, Bluetooth wireless transmission
Cooling method	air cooling
support system	DJLaser software (windows、macOS、Android、IOS) LightBurn software (windows、macOS)
Supported formats	picture format: JPEG/BMP/JPG/PNG vector format: DXF/PLT
Machine net weight	1KG
Machine Size	259*255*154mm (L*W*H)

Interface Introduction



❶ 24V2.5A power input

❷ tpye-c connection to computer

❸ Connecting Roller

❹ status indicator

1.Blue light is always on: power on state;

2.Green light is always on: the software is connected;

3.Green light flashing: Engraving work in progress.

4.Red light blinking: warning status;

Tip: In the alarm state; the machine is unable to preview and engrave operations.

❺ power switch

1. Short press to turn on the power;

2.With the power on, press and hold for 1 second to turn off the power.

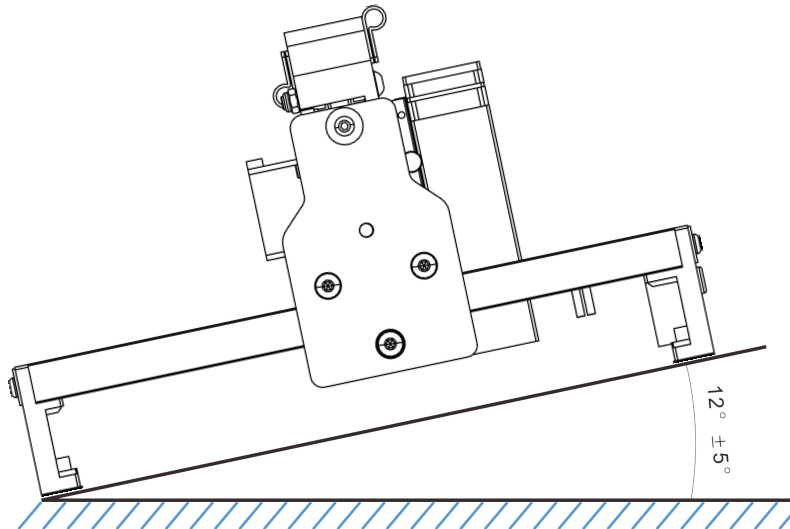
3.Press twice quickly to reset the machine.

Tilt protection function

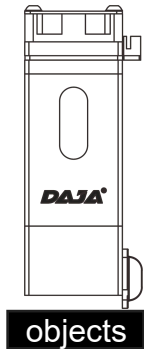
Description of tilt protection function

Host and the level of inclination greater than $12^\circ \pm 5^\circ$, and keep more than 1s, the machine immediately stops running, the laser module to stop the laser output, into the protection state, the machine must be level to restore normal function. (This function can be turned off in the settings)

Tip: Machine tilts, status indicator flashes red.



Laser module focusing method

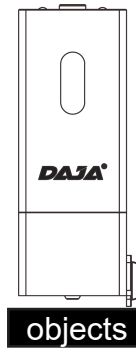
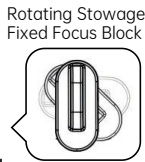


5W Blue Laser Module

Focus mode: fixed focus

Rotate the focusing block, the best focus is when the block touches the surface of the object. Adjusting focus is paramount.

1. The fixed focus block touches the surface of the object as the best focus point.
2. The distance has to be readjusted for carving objects of different heights.

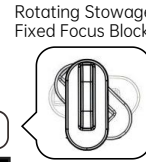


10W Blue Laser Module

Focus mode: fixed focus

Rotate the focusing block, the best focus is when the block touches the surface of the object. Adjusting focus is paramount.

1. The fixed focus block touches the surface of the object as the best focus point.
2. The distance has to be readjusted for carving objects of different heights.

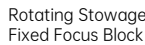


1W Infrared Laser Module

Focus mode: fixed focus

Adjusting focus is paramount:

1. The fixed focus block touches the surface of the object as the best focus point.
2. The distance has to be readjusted for carving objects of different heights.



Note: Laser module is an optional accessory, the actual purchase shall prevail.

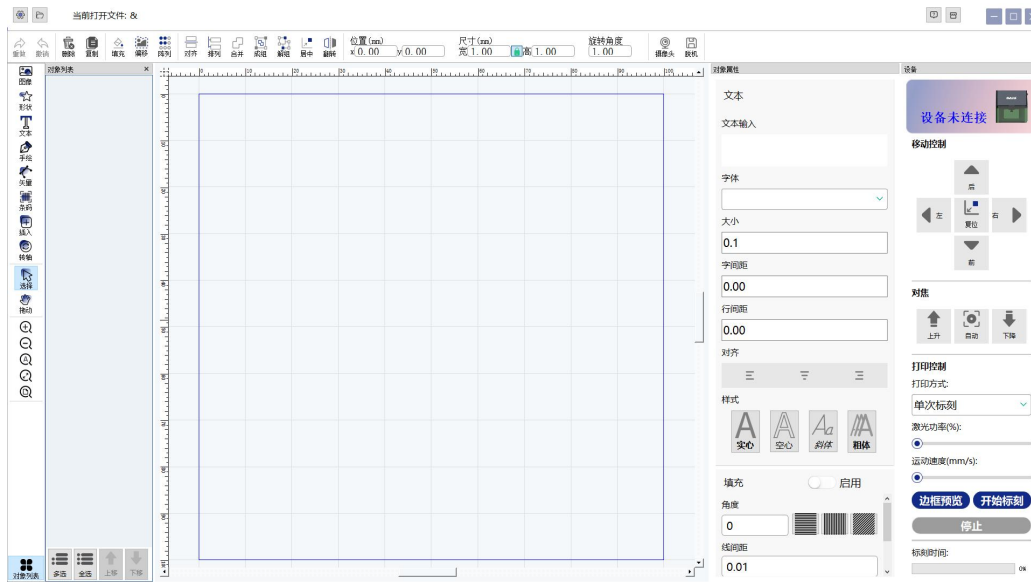
Software Acquisition and Installation

Method 1:

1. Install the U disk drive file "1 driver" copied to the computer desktop, open the folder, double-click "CH341SER.exe" to install the driver
2. "2 software" copied to the computer desktop, open the folder, double-click "DJLaser.exe", after installation to start the software;

Method 2:

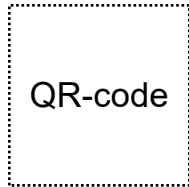
Please go to our website: mr-carve.com/pages/software-and-manual to find the corresponding machine model for download.



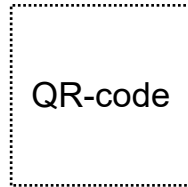
software interface

Mobile APP download and connection

1, Scan the following QR code to download the mobile app



Android



IOS

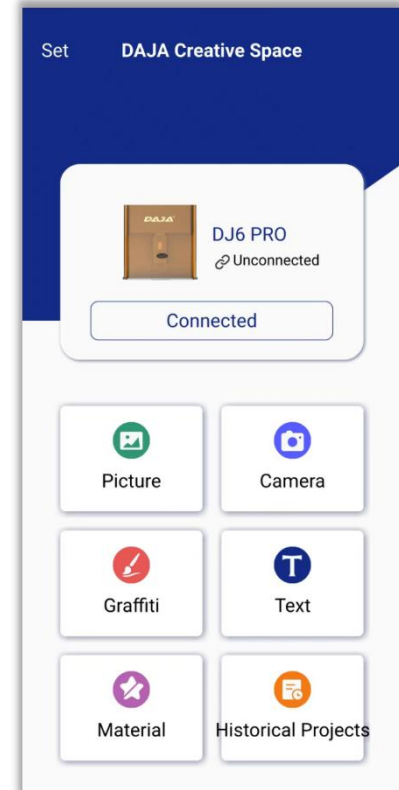
System requirements: Android:7.0+, IOS:13.0+

Note:

- 1, Android phones need to use the mobile browser to scan the QR code to download;
- 2, after successful installation you need to give relative permissions;



DJLaser

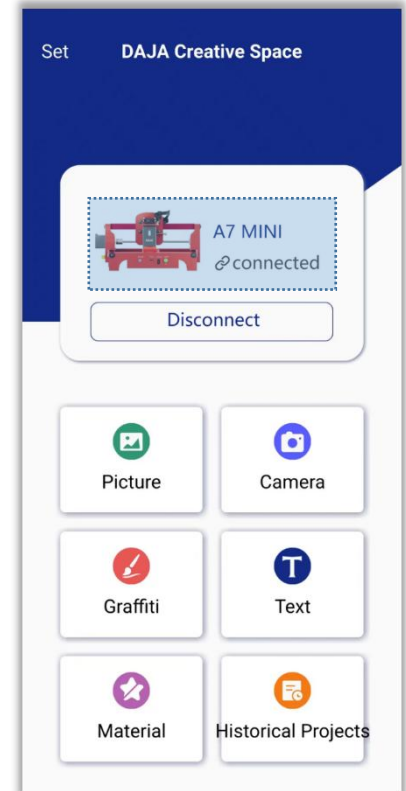
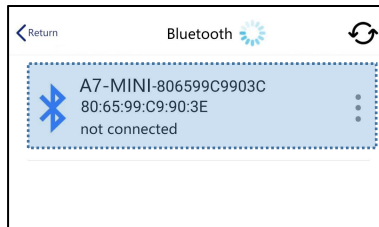


app interface

1. Plug the machine into the power supply and turn on the Bluetooth function on your phone.

2. Click [Connected] and find A7 mini xxx in the Bluetooth list; click Connect;

3. After successful connection, the device appearance picture and connection status will be displayed.



Note:

After the app is connected, the phone please do not rest the screen, answer the phone call, switch the app to the background of the phone, if any of the above operations to do will lead to the connection is not responsive, if the operation is not responsive, please exit the cell phone app completely, and then repeat the steps 1-3 to re-try to connect.



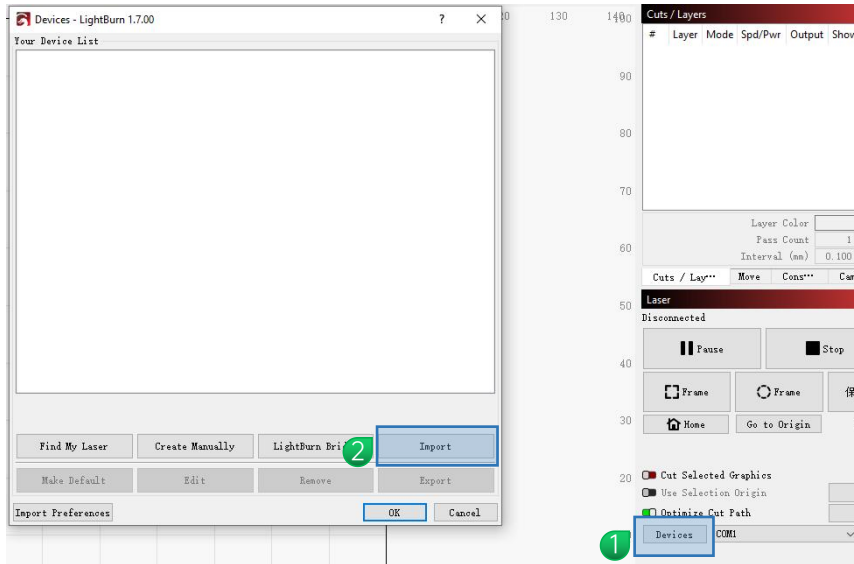
LightBurn Software connectivity

Note: This document only provides tutorials for connecting the machine to LightBurn, it does not provide tutorials for the software or its use;

LightBurn software can be purchased and downloaded at lightburnsoftware.com;

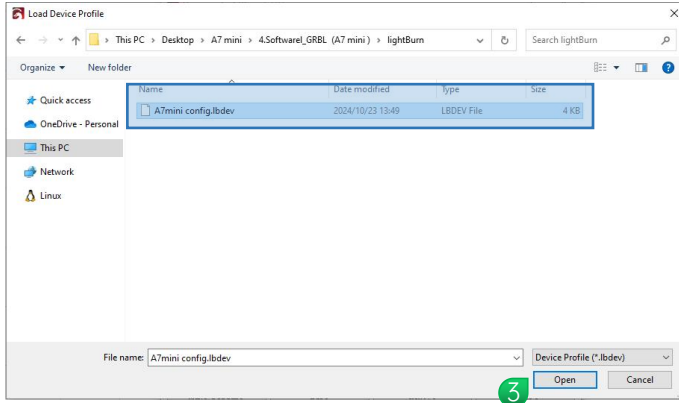
For tutorials on how to use the LightBurn software, please search the web yourself.

1, the machine is plugged into the power cord and data cable to turn on the machine.



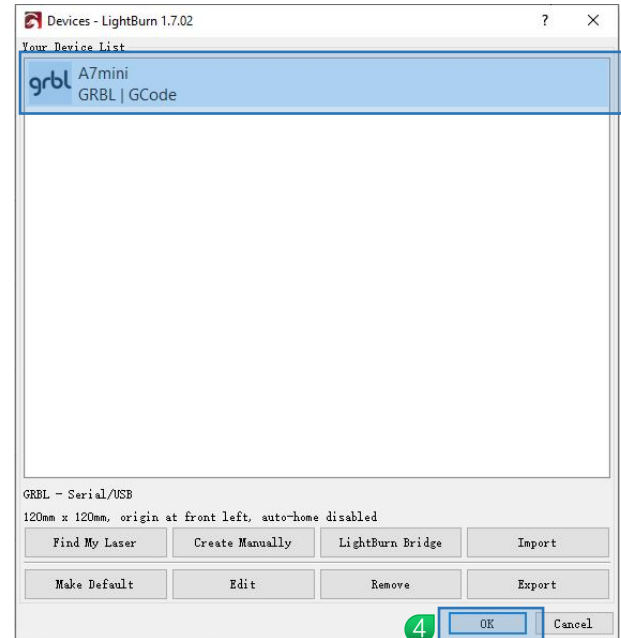
1 Click on "Devices"

2 Click on "Import"

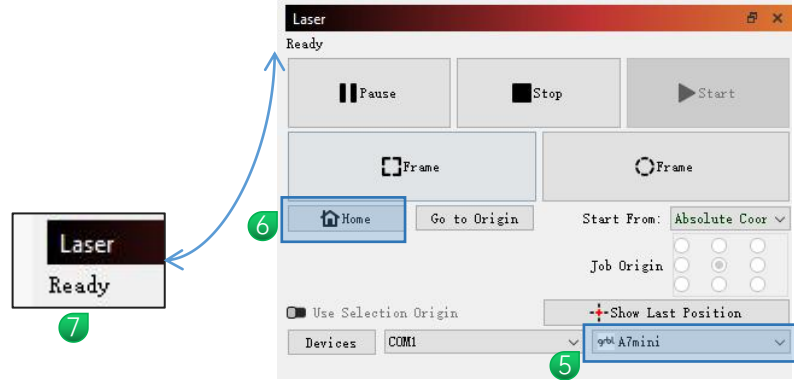


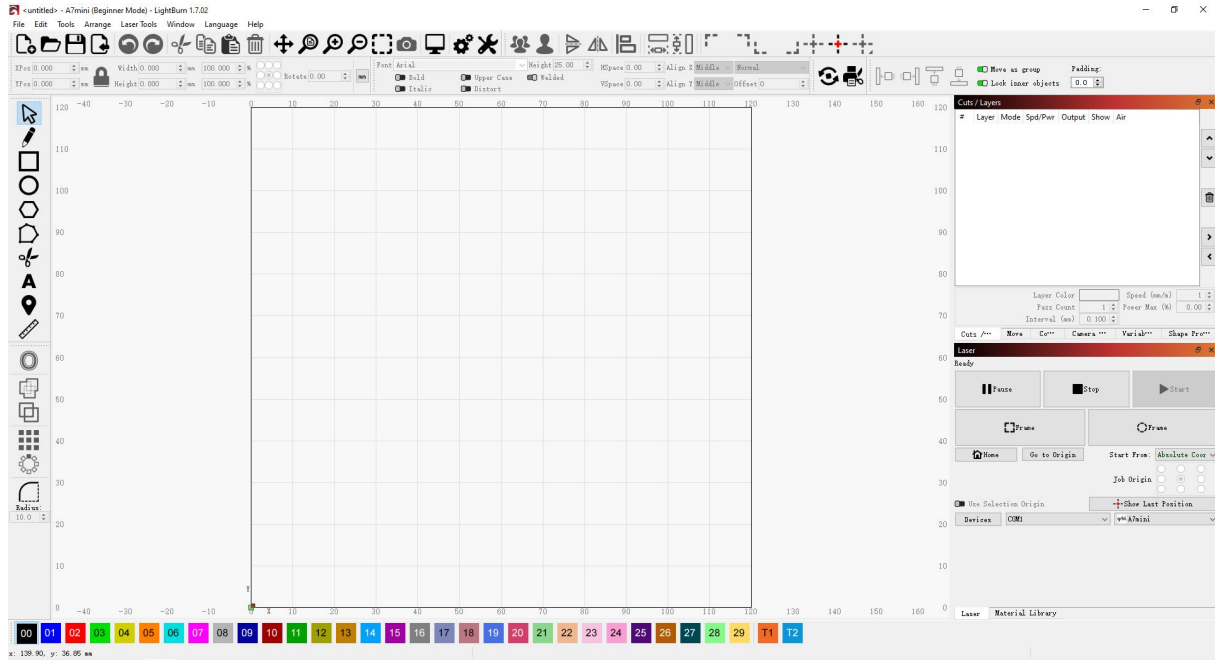
3 Import configuration file "[A7 mini config.lbdev](#)"
file path "[A7 mini\4.Software_GRBL \(A7 mini\)\lightBurn](#)".

4 Click on "OK"



- 5 Select the newly added device
- 6 Click on "Home" The device will reset
- 7 The display of "Laser Reay" indicates a successful connection.





LightBurn Software Interface

A7 mini FAQ

►The machine does not respond when powered on

1. No power: Check the socket, switch, power socket on the machine, etc. to ensure that they are plugged in and powered normally; check whether the power switch is turned on.

►Unable to connect to the computer

1. The USB cable is not connected: Check the computer end and the machine interface of the USB data cable to ensure that they are plugged in. The USB interface on the front panel of some desktop computers is invalid and needs to be connected to the socket on the back of the machine.
2. The driver is not installed normally: Follow the operating instructions to complete the driver installation. After the installation is complete, the computer recognizes the device as a serial port, which means that the hardware connection is OK.
3. Other special cases: Unplug the USB data cable and power supply, and reconnect the device after the device is completely powered off for 5S.
4. This device will conflict with the printer device port. It is recommended to remove the printer data cable before operation.
5. To prevent the anti-virus software from falsely reporting and causing the driver or software installation to fail, please manually close the anti-virus software before installation.

►The engraving effect is very shallow or there is no trace

1. Inaccurate focus: Read the focus section of the user manual for accurate focus.
2. Engraving speed: too fast, burning time is too short, read the engraving parameters in the manual to readjust the parameters.
3. The picture is too light: the imported picture should be clear, the lines are too thin, and the color is too light, which will directly affect the engraving effect.
4. Placement of engraving objects: the object to be engraved is placed at an angle, and the focal length of the laser is fixed, so the object to be engraved should be placed flat and parallel to the machine body. Otherwise, the focal length is inaccurate, resulting in abnormal engraving effect.
5. Engraving deformation and engraving ghosting: Check whether the machine screw connection position is loose, check whether the Y-axis coupling screw is tightened, and if the machine is raised, please observe whether the raising is stable.



All content on this material has been carefully checked. If there are any printing errors or misunderstandings, please contact the company. Note: If there are any technical improvements to the product, they will be enhanced in the new version of the manual without prior notice. If the appearance and color of the product are changed, the actual object shall prevail.