

ComMarker



Laser Marking Machine

B6

Manual

Safety Warning



Before using the laser engraving machine, please read this safety guide carefully.

- **Do not leave the device unattended during operation.** Pay attention to whether it is working properly.
- Check the machine for damage every time before you use it. Do not operate it in any way when any damage or defect is found.
- Ensure that the workspace is clean and flat.
- Do not disassemble the machine or change its structure in any way without authorization. Do not modify or decompile its operating system.
- Keep the inside of the machine clean. Residues and chippings accumulated during cutting and engraving are dangerous and may cause a fire. Clean the chippings and residues inside the work area regularly.

1 Laser Safety

- The machines use Class IV lasers. The lasers are very powerful and can cause eye injuries and burn the skin. It is recommended to wear laser goggles when using the laser engraver.
- Avoid exposing your skin to Class IV laser beams, especially at close range
- Teens must be supervised by parents while using the machine.
- Do not touch the laser engraving beam while it is switched on.

2 Material Safety

- Do not engrave materials with unknown properties.
- Materials recommended:
Metal, including stainless steel, aluminum, bronze, brass, alloy, etc,
Plastics, including PP, PE, ABS, etc.

3 Use Safety

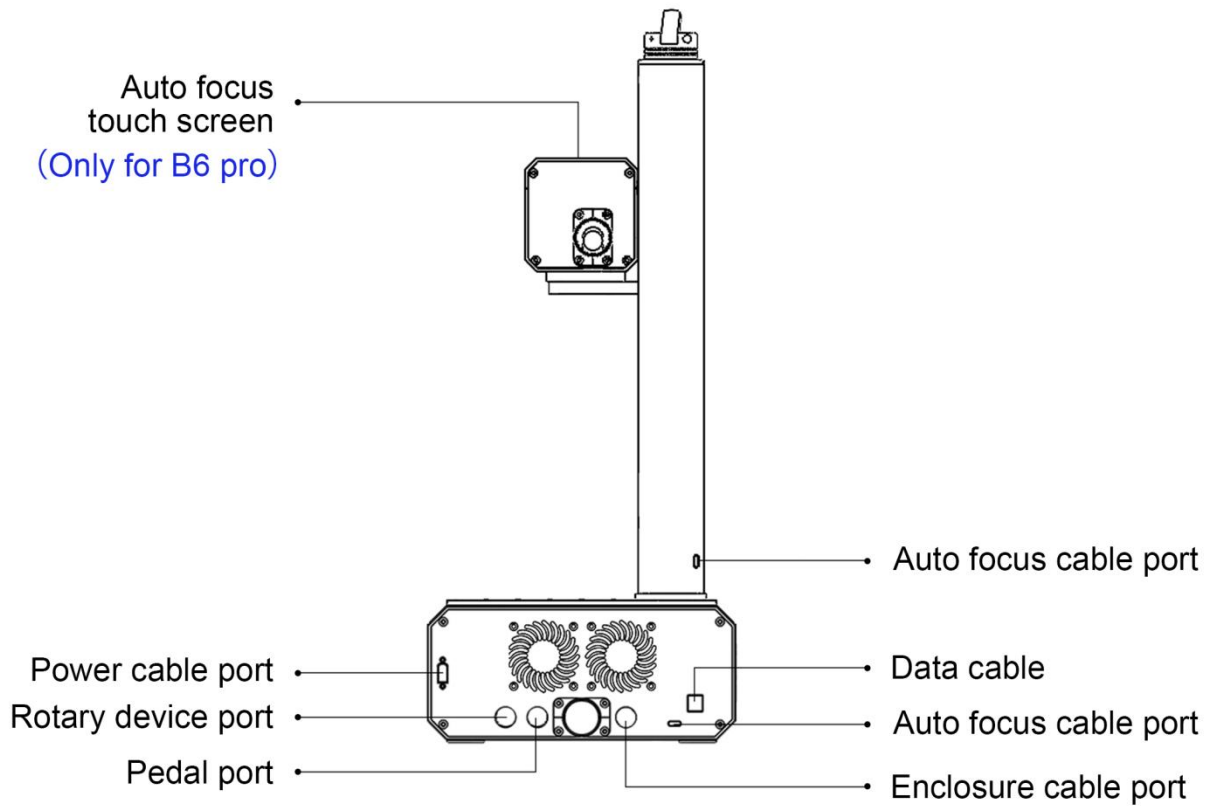
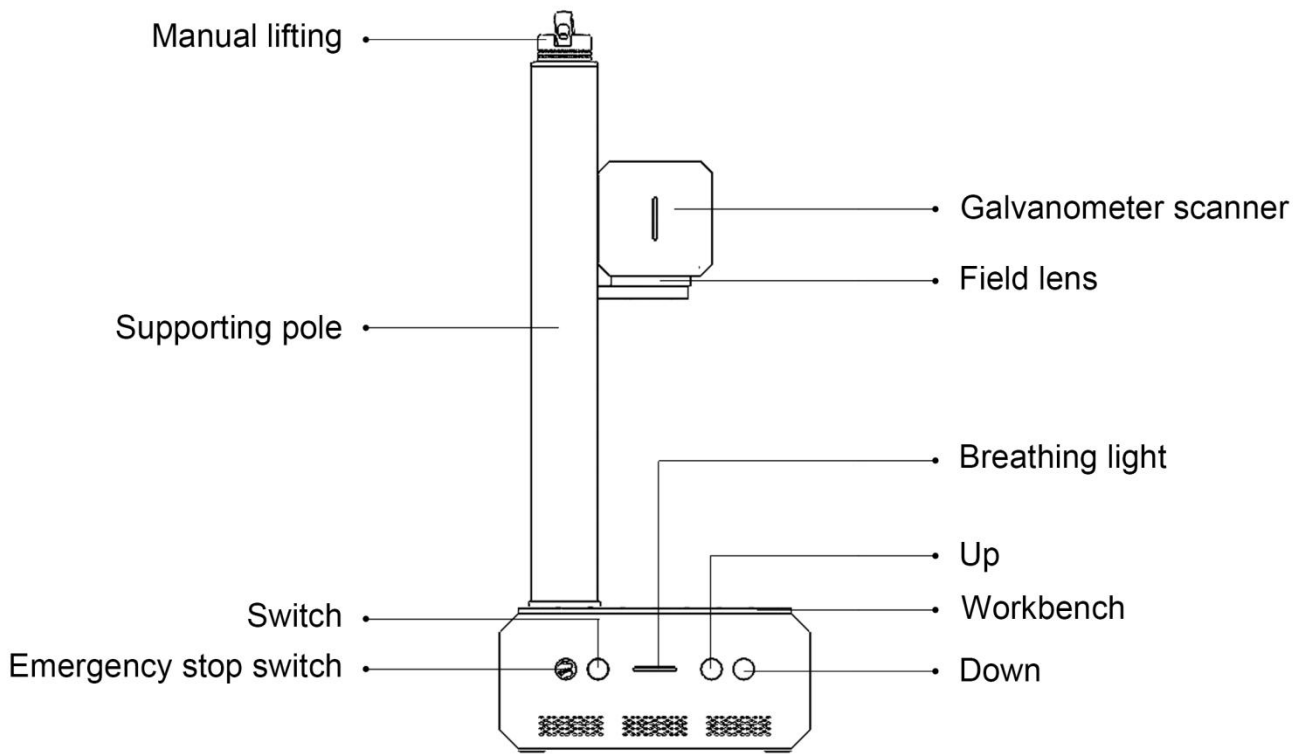
- It is forbidden to point the laser to people, animals or any combustible object, whether it is in working condition or not.
- Use this laser engraving device only in accordance with all applicable local and national laws and regulations.
- Use this device only in accordance with this instruction manual and engraving software manual.
- Any untrained personnel who might be near the device must be informed the danger of the machine before operation

4 Electric Safety

- Only use this device with a compatible and stable power supply with less than 5% fluctuation in its voltage.
- Turn on the power to this device when it is well grounded.
- The area around this laser engraver device should be kept dry, well ventilated, and environmentally controlled to keep the ambient temperature between 40–95°F (5–35°C). The ambient humidity should not exceed 70%.

Notes

The machine operates best at 10-28C, temperatures outside this range may cause the laser to stop working.



List of items



B6 Laser Engraver



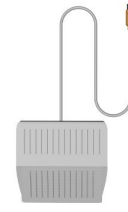
Power Adaptor



Data Cable



Rotary Drive



Foot Switch



Type - C



Riser



Allen Wrench



Placing Helper



Ruler



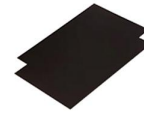
Goggles



OTG Adapter*2



USB Drive



Paperboard



Steel For Testing



Screw M5*14 x6



Screw M5*10 x12



Screw M4*12 x4



Screw M5*12 x2

Specifications

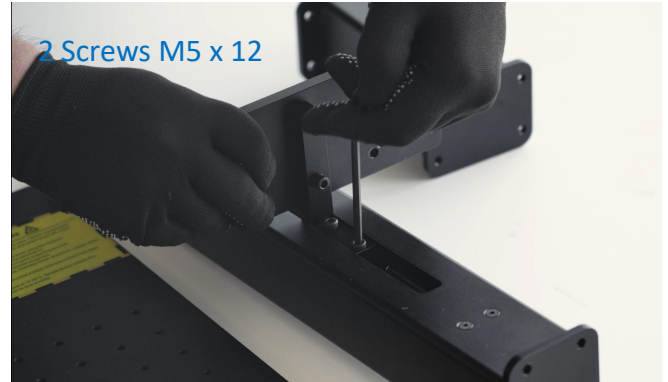
Model	20W	30W	50W	20w MOPA	30W MOPA	60W MOPA
Laser Type	Fiber			Mopa fiber		
Working Area	15cm x 15cm (Optional: 11cm x 11cm/15x 15cm/30x 30cm)					
Wavelength	1064nm					
Frequency	20-60kHz	40-60kHz	50-80kHz	1-4000kHz		
Pulse Width	70-110ns	100-120ns	80-110ns	2-500ns		
Max Pulse Energy	0.7mJ	0.75mJ	1mJ	0.8mJ	0.8mJ	2mJ
Cooling Type	Air Cooling					
Voltage:	110~130V or 200~240V					
Dimension(L*W*H)	53 x 43 x 24cm ³					
Weight (KG)	12.5kg			13.5kg		

Assembly of Machine

1. Place the parts on the table



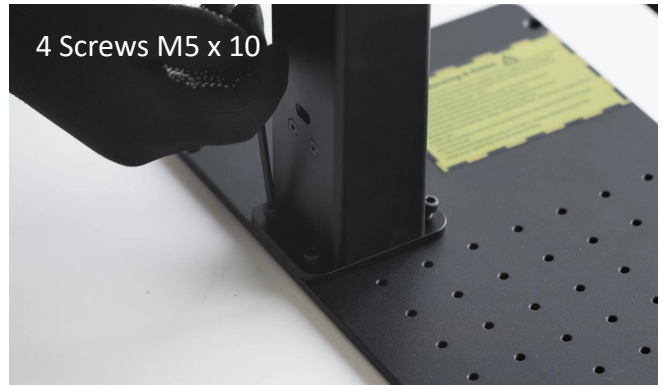
2. Fix the supporting shelf onto the supporting pole



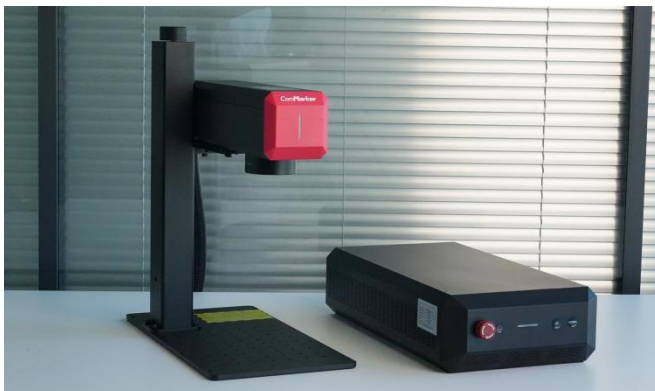
3. Put the laser head on the supporting shelf and fasten the screws to fix the laser head



4. Fasten the supporting pole with the screws



5. Put the split machine on the table. The machine can be used at this state.



6. It can also be assembled as an integrated machine with screws

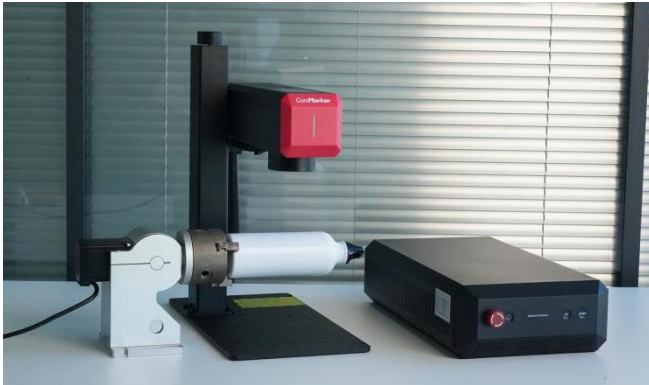


Note:

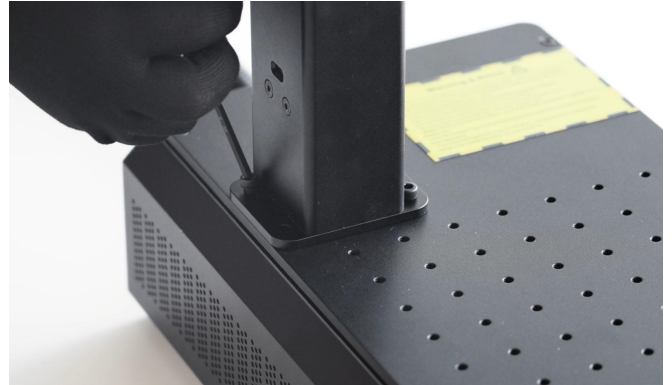
- 1) Adjusting the focus is a necessary prerequisite for laser engraving, please press the "Auto" button or manually move the laser head to adjust focus after placing the engraving material**
- 2) Make sure to remove the plastic protective cover of the field lens before engraving to avoid damage to the field lens caused by laser burning.**

Assembly of Auxiliary Riser (Optional)

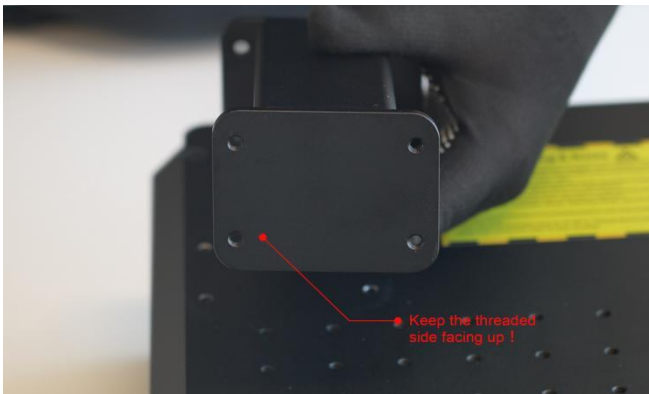
1. In case of engraving a big object, the supporting pole needs to be extended with a riser



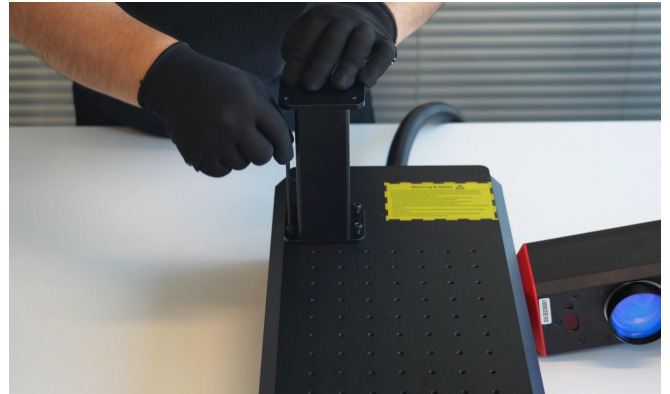
2. Disassemble the supporting pole



3. Make sure the side with the threaded holes face upwards.



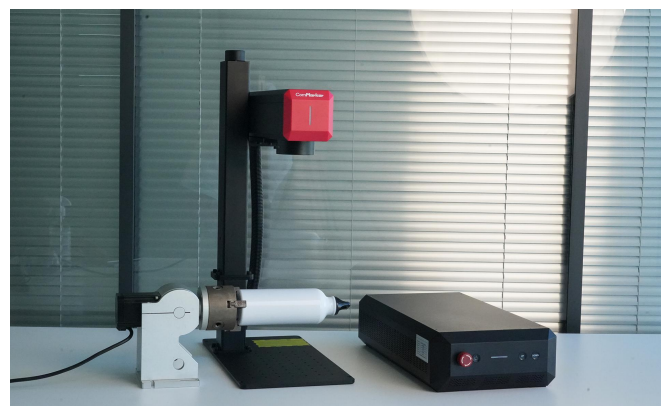
4. Fix the riser on the base board.



5. Connect the riser with the original pole with screws



6. The laser head is raised with enough focus length for bigger objects



Note:

1) It takes about 1 second of pressing the switch button before the machine starts to run.

Replacement of the 300mm x 300mm Working Area Field Lens

The relative position of laser head needs to be adjusted so as to achieve bigger engraving area. The specific operation steps are as follows:

1. Disassemble field lens



2. Fasten the 300mm screws lens



3. Disassemble the laser head by loosening the screws.



4. Move the laser head backward and refix it in the new position.



5. Loosen the four screws on the supporting shelf (note: just loosen them, do not remove them).



6. Adjust the set screws to ensure that the laser head remains level (can use a ruler for measurement)



Note: The screws at the front of the supporting plate should not be tightened, and it is not necessary to fasten the two screws at the back of the supporting plate

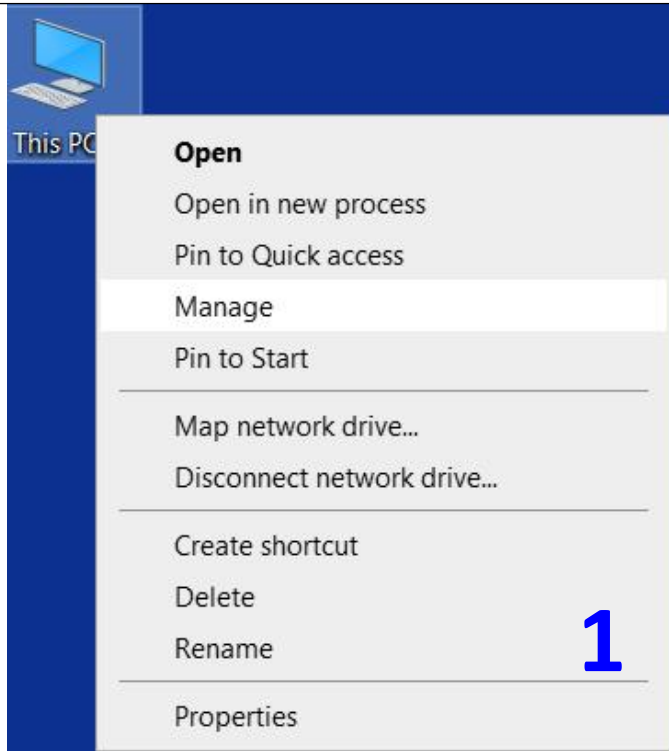
Machine Operation Instructions

1. Install the driver

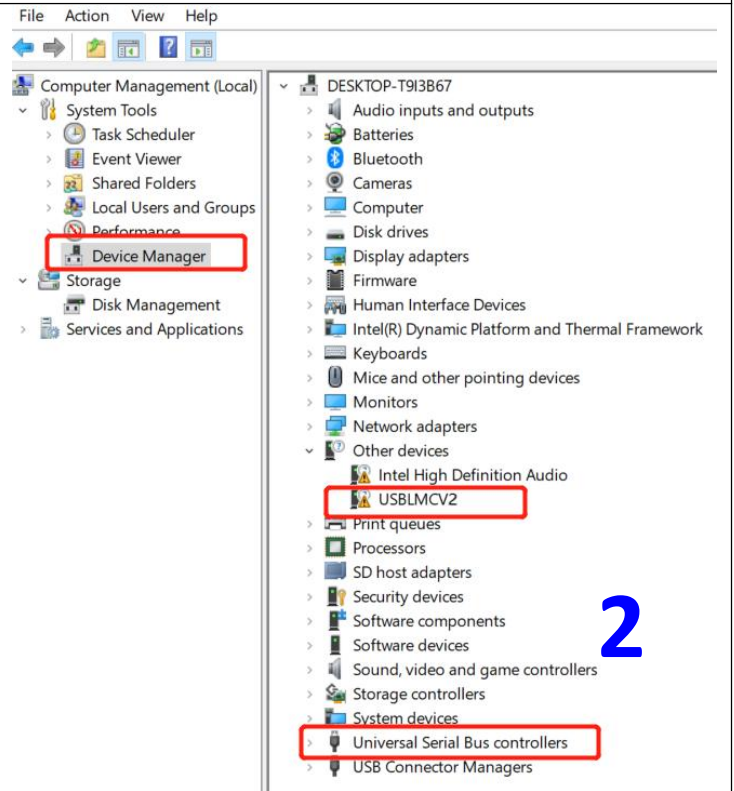
Note: please conduct the following operation before installing the driver

1) The machine is on; 2) Keep the emergency button not pressed; 3) Data cable with the computer is connected ; 4) The Type-C data cable connecting the column to the back of the machine is attached

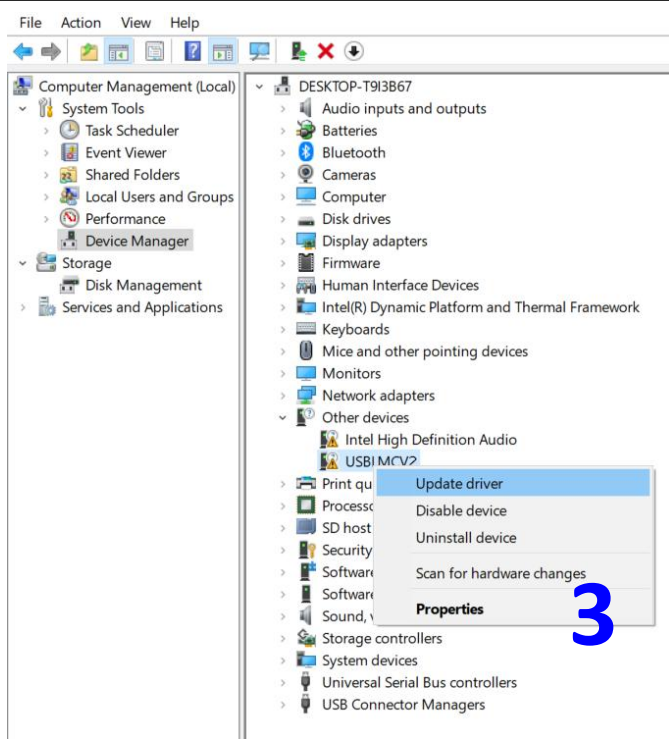
1.Right-click "this PC", click "Manage"



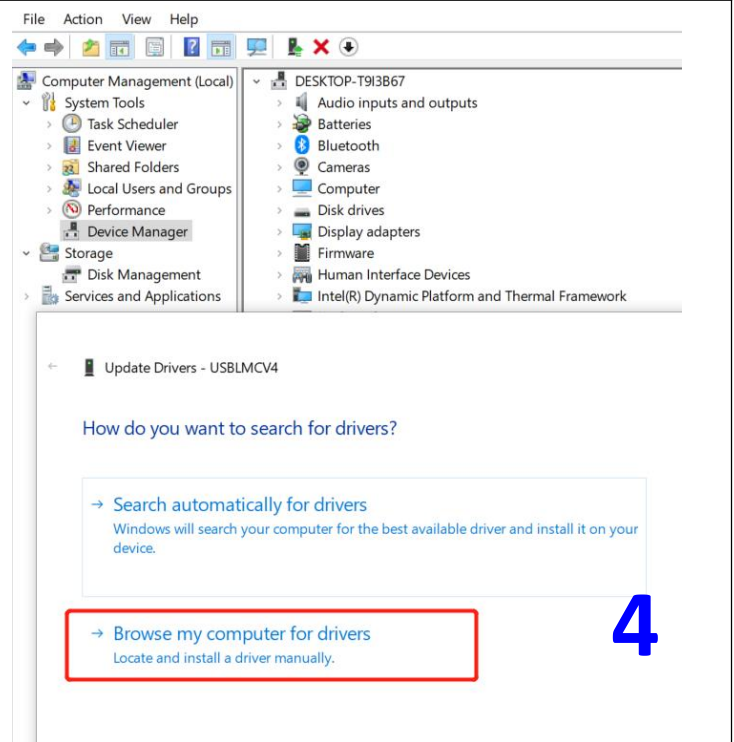
2.Click "Device Manager", find "USBLMCV2", "USBLMCV4" or "Unknown Device" in "Other devices" or "Universal Serial Bus devices"



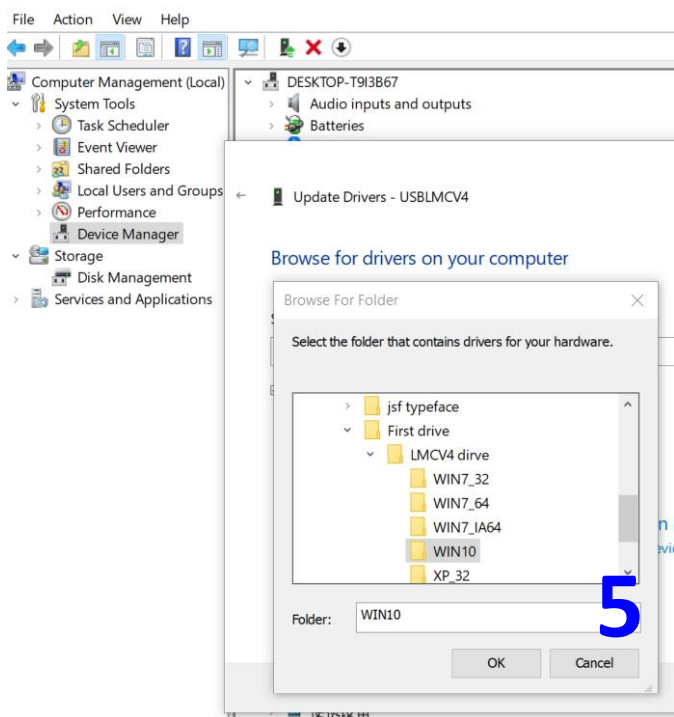
3.Right-click "USBLMCV2", "USBLMCV4" or "Unknown Device" and "Update driver"



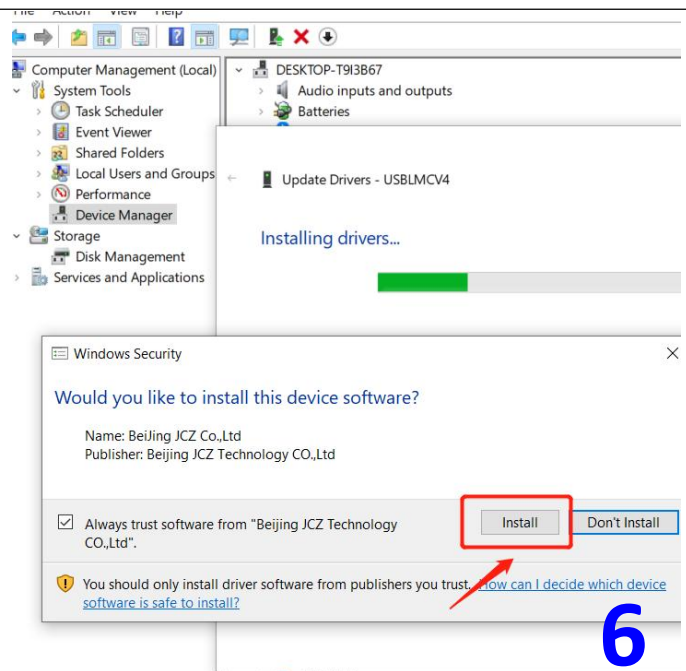
4.Select "Browse My Computer for Drivers"



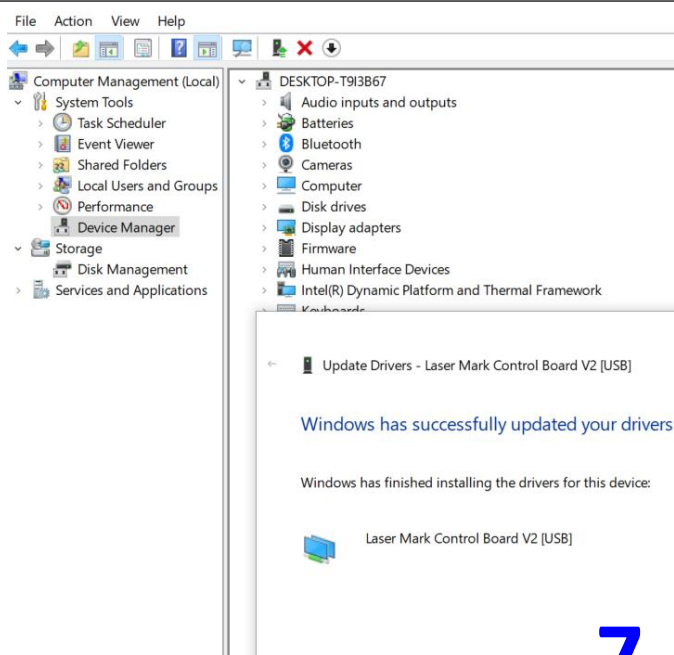
5. Find the corresponding file with window system in the USB drive, click OK



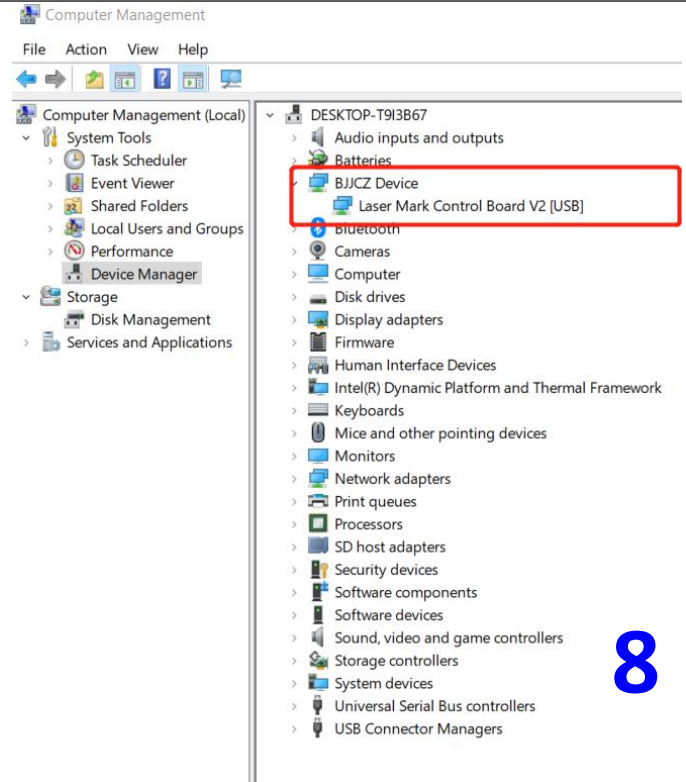
6. Click "Install"



7. Click "finish" if it is successful



8. It will display "BJCZ Device" in Device Manager

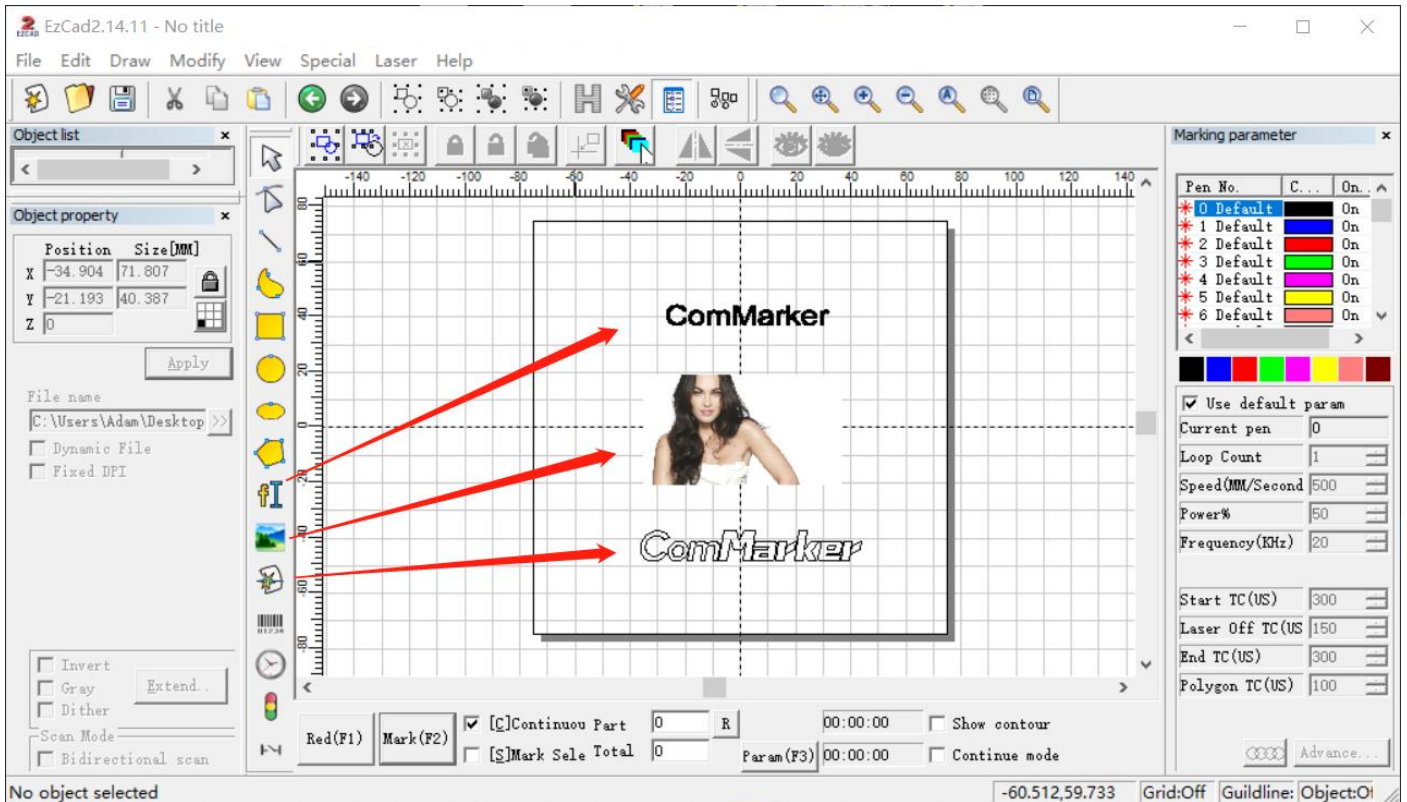


Noted: *It is recommended to copy and paste the files of the USB disk to the computer desktop or other computer disks.

Note: If the driver installation is unsuccessful, please refer to F&Q

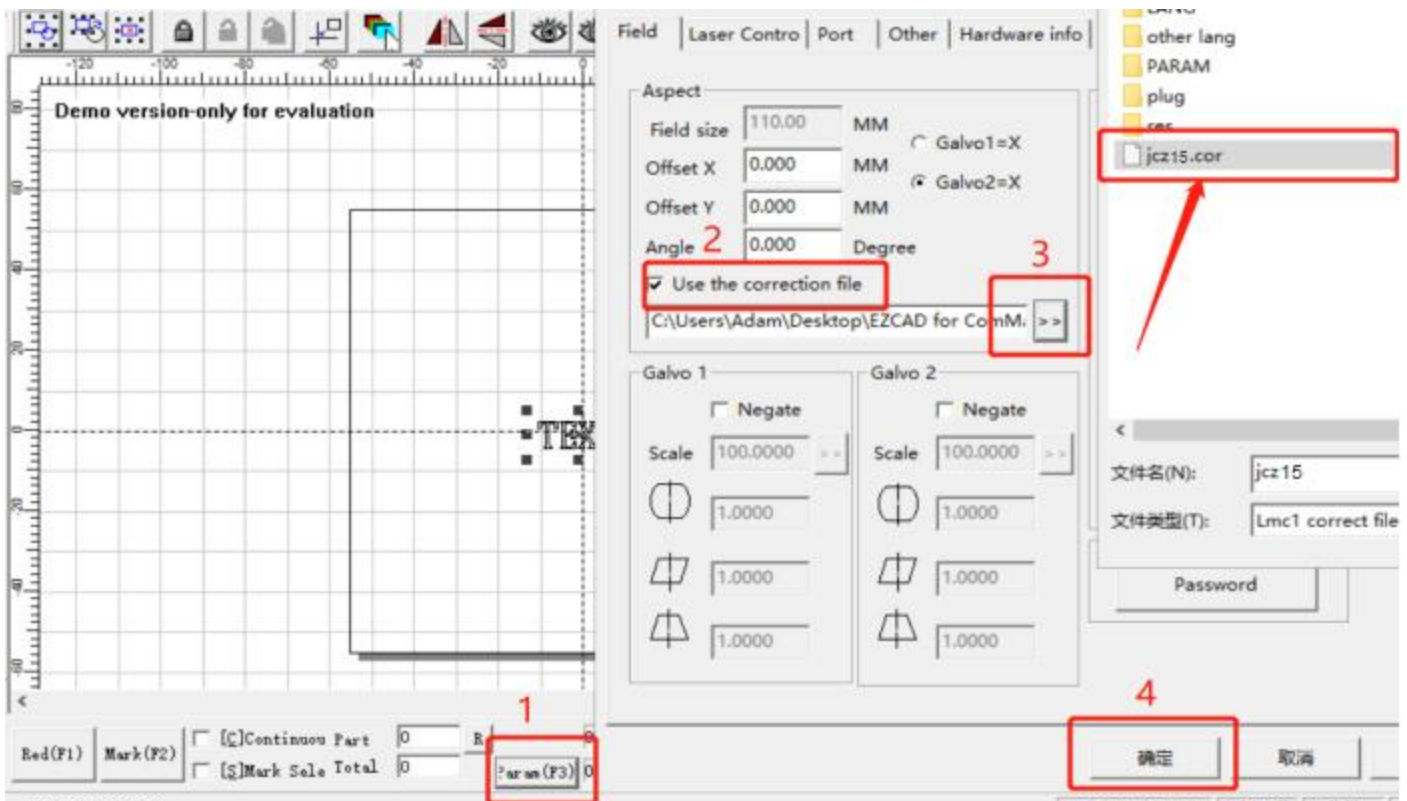
2. Open the software

Open the USB folder, open the "EZCAD for ComMarker" folder, open the software "EZCAD2". You can enter "text", import "picture" or "vector file" as shown in the figure below. It is recommended to select the text to test first.



3. Import the correction file

Select "Parameter (F3)", tick "Use Correct File", select the file ending in .cor in the USB flash drive (or have been copied to the computer disk), and click "OK (确认)".



4. Adjust the focus

For B6 pro: press the "Auto" button to autofocus.

Note: Please refer to next page "Auto Focus Setting" if it the focus is not right

The sensor is not at the center of the engraving area. Please place the material directly under the red dot before pressing the "Auto" button for accurate focusing. After auto-focusing, the material can be moved if necessary For B6 Press up or down button to lift or lower the laser head until the two red light point overlap, this is the best focal point.

The measuring focal length of this machine is:

_____ (70*70), _____ (110*110), _____ (150*150), _____ (200*200), _____ (300*300)

the measuring distance is the length from the bottom line of the laser head to the surface of the material. This parameter is measured manually, and each device has different focal lengths due to changes in laser sources and field lenses.

Note: Please refer to FAQ if the focal point does not match with the overlapping point



B6 Pro



B6

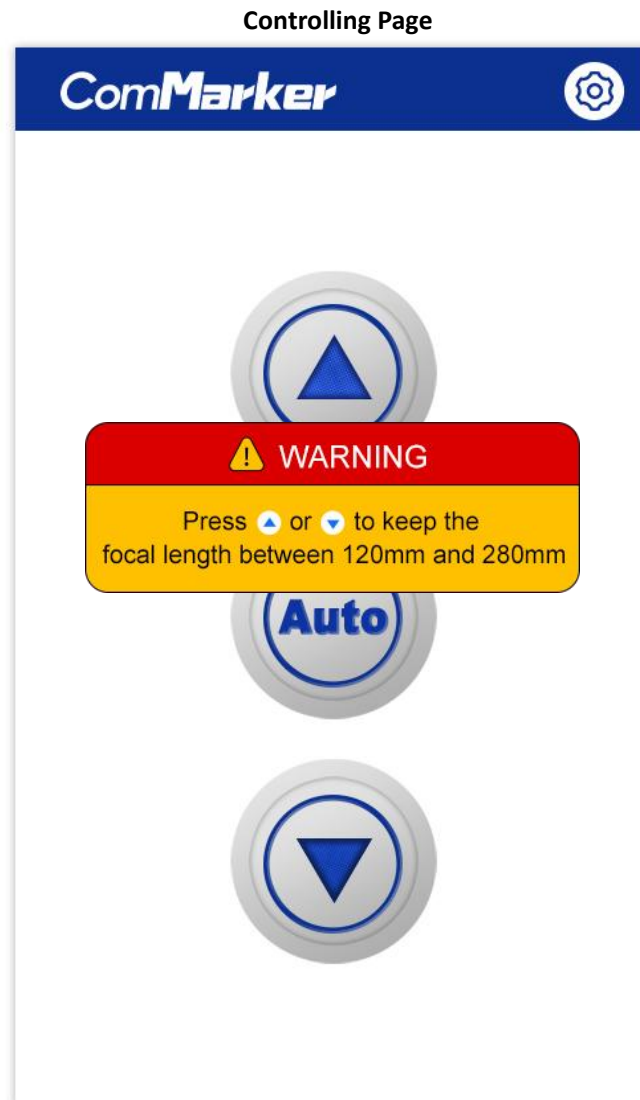
5. Marking test

Place the test engraving material on the machine. Click "Red (F1)", the area shown by the red light is the marking area. Tick "Default Parameters". Click "Mark (F2)" to start marking.

The screenshot shows the EzCad2.14.11 software interface. The main window displays a grid with a 'TEXT' mark in the center. The 'Marking parameter' panel on the right is open, showing a list of pen numbers (0-6) with 'Default' and 'On' settings. A red box highlights the 'Use default param' checkbox, which is checked. Below the grid, there are buttons for 'Red (F1)', 'Mark (F2)', and 'Continuous Part'. A red arrow points to the 'Continuous Part' checkbox with the text 'Do not tick "Continuous Part"'. The status bar at the bottom shows 'Select: 1select object Object:Text Size: X18.937 Y6.377' and 'Grid:Off'.

Auto Focus Setting (Optional)

Setting of auto focus software is optional because the machine was well set before sending out. The following instruction is for your reference just in case something goes wrong with the machine



Lift up: the laser head will go up when pressing the button



Auto focus: the laser head will move the right focal length according to the original setting



Lift down: the laser head will go down when pressing the button



WARNING: The sensor in the machine only works in the range of 120mm to 280mm; this warning will pop up while it is out of the range. Please lift up or down manually to adjust the focus distance in between 120mm and 280mm.

Setting Page

ComMarker

SETTING

Speed 1 Fastest , 10 Slowest

Screw Pitch mm

Pulse Count round

Focal Length mm

Real Focal length mm

EN 中 Send Focus OK

▲ Auto Stop ▼

Speed: Input Number from 1 to 10, with 1 as the fastest, 10 as the slowest. Suggest inputting **10** for B6

Screw pitch: input the distance between two adjacent threads on a screw. It is **8mm** for ComMarker B6

Pulse count: Input the number of pulses required for the stepper motor to complete one revolution. It is **200** for B6

Focal length: the distance from the inner sensor to the engraving surface, the laser head will go up or down according to this focal length number when pressing "Auto" button the focal length number can be input by press the button "Send focus"

Real focal length: display the current focal distance while the laser head goes up or down

Send focus: Input the number displayed on "Real Focal length" onto "Focus Length"

OK: parameters will be stored by the control board by clicking "OK". The Auto button will run according the parameters

EN/中: change the language into Chinese or English



Lift up: the laser head will continuously go up when pressing the button when tapping the button



Auto focus: the laser head will move the right focal length according to the setting parameters above



Stop: the laser head will stop when it is continuously moving



Lift down: the laser head will continuously go down when pressing the button when tapping the button

Lightburn Operation Tutorial (For MacOS)

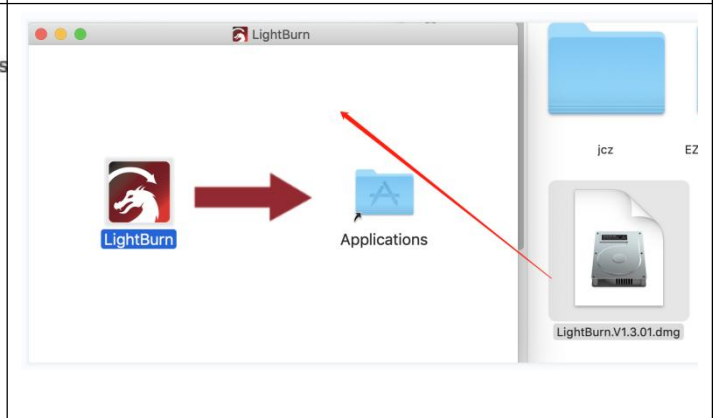
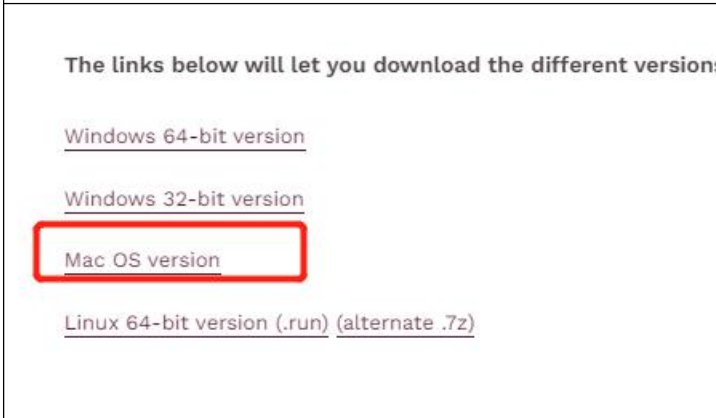
1. Download and install Lightburn software from the website

Note: It is not compatible with our machine if your Lightburn version is lower than V1.3.01, please download a new version and reinstall.

And Lightburn is a paid software with 1 month free trial, you need to buy the licence key for Galvo version.

1. Down load the software from the website:
<https://lightburnsoftware.com/pages/trial-version-tr-y-before-you-buy>

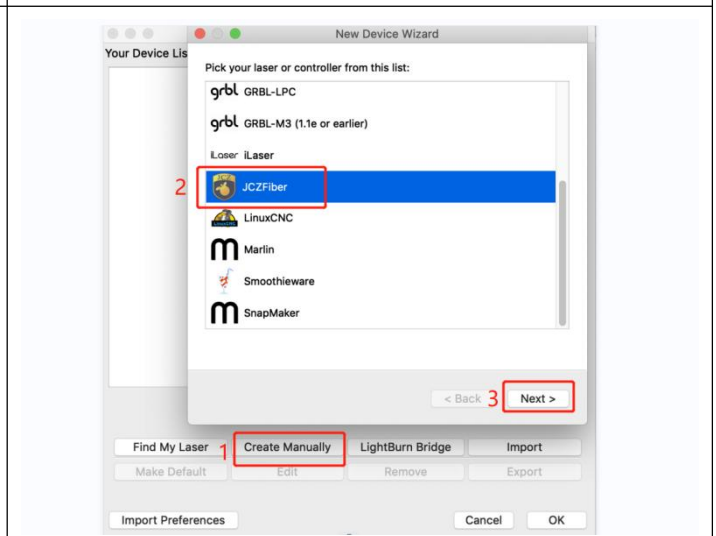
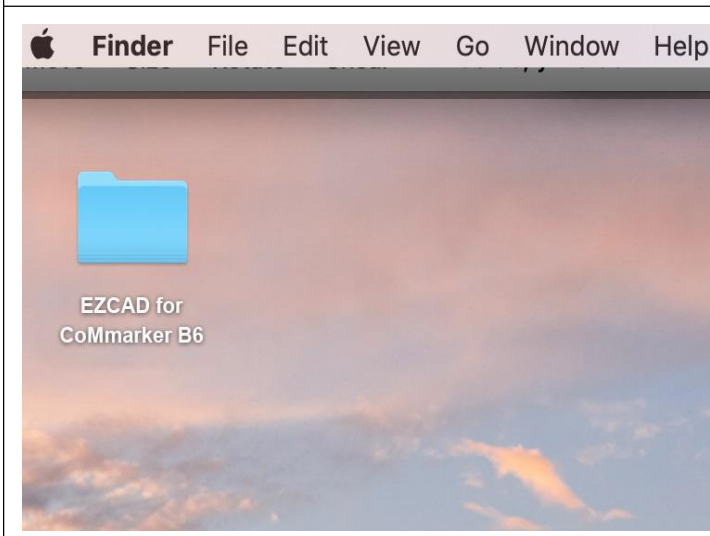
2.Find downloaded file Lightburn V1.3.01, and drag Lightburn icon to the Applications folder



3.Copy the folder “EZCAD for ComMarker B6” from the USB to the desktop

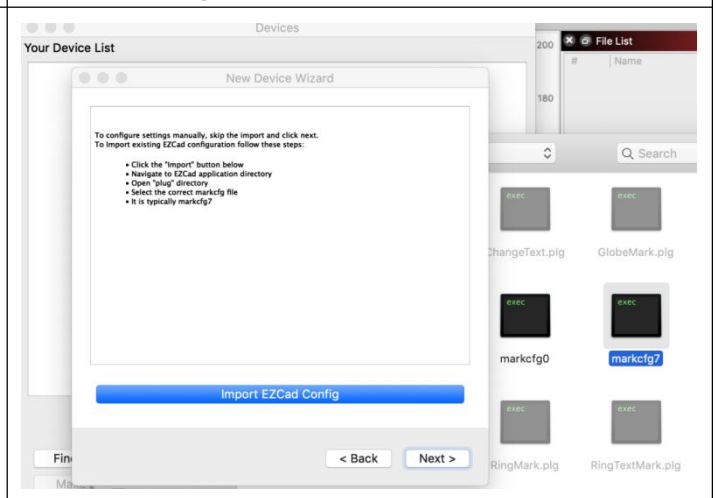
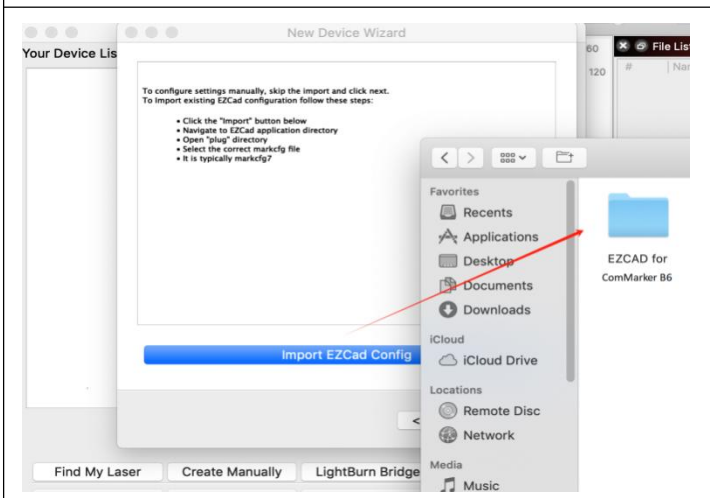
4. A device window will pop out if the software is open the first time, click “Create Manually”, Select “JCZFiber”

Note: Make sure the machine is on and connected via USB

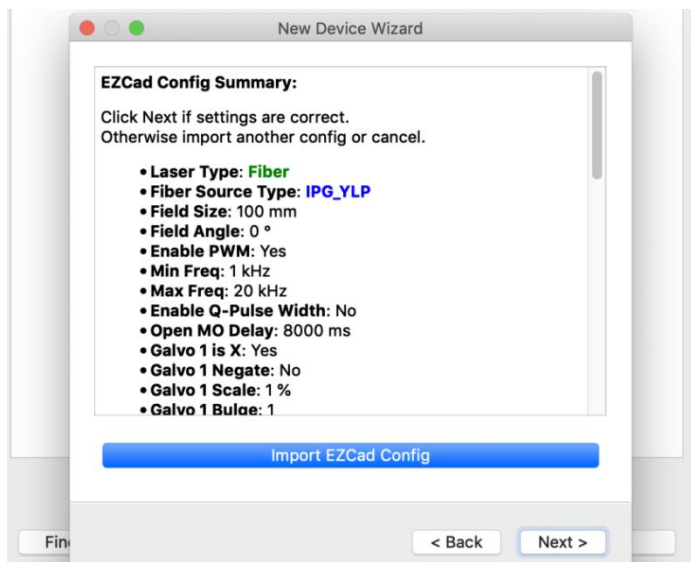


5.Import EZCAD Config and select the folder

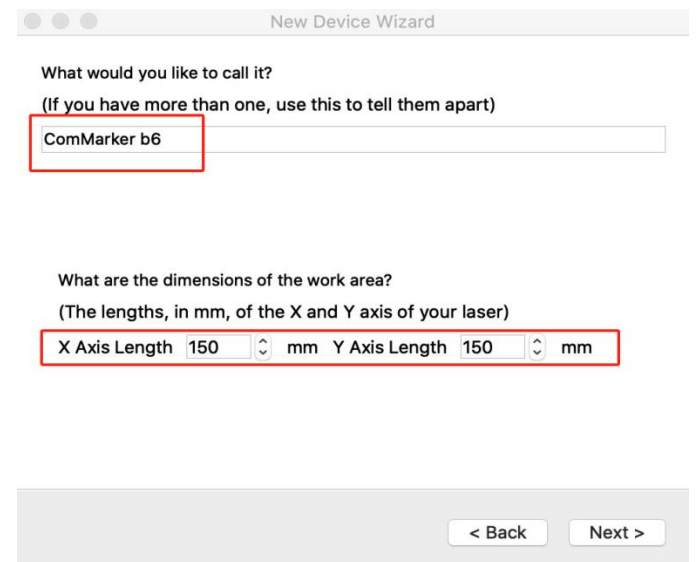
6.Select folder “EZCAD for ComMarker B6”---->” Plug”, and choose “markcfg7” and click “next”



7. You can see the following window if everything goes right, and click “next”



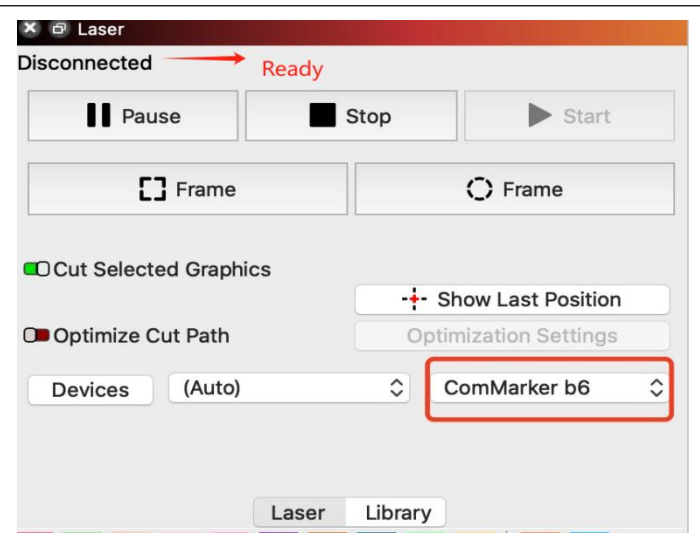
8. Change the name if necessary, and input the right X and Y Axis Length according to the lens. Click “next”



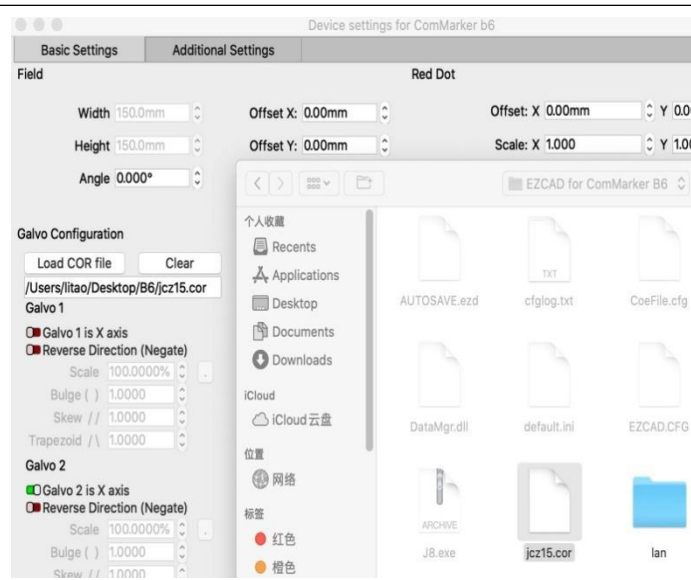
9. Click “finish” and it will in the device list



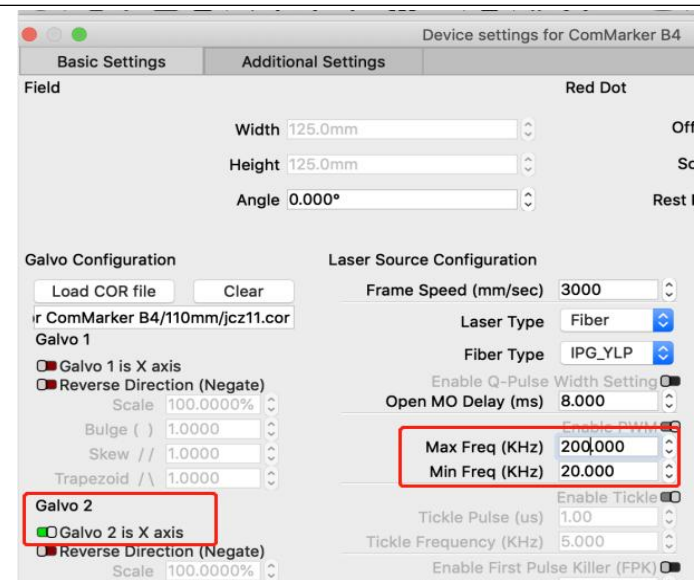
10. The status will change into “Ready” when the machine is on and connected via USB



11. Go to “Basic Settings” from “Device setting” button, click “Load COR file”, Select “EZCAD for ComMarker B6”, Choose file “JCZ15.cor”, Click “OK”

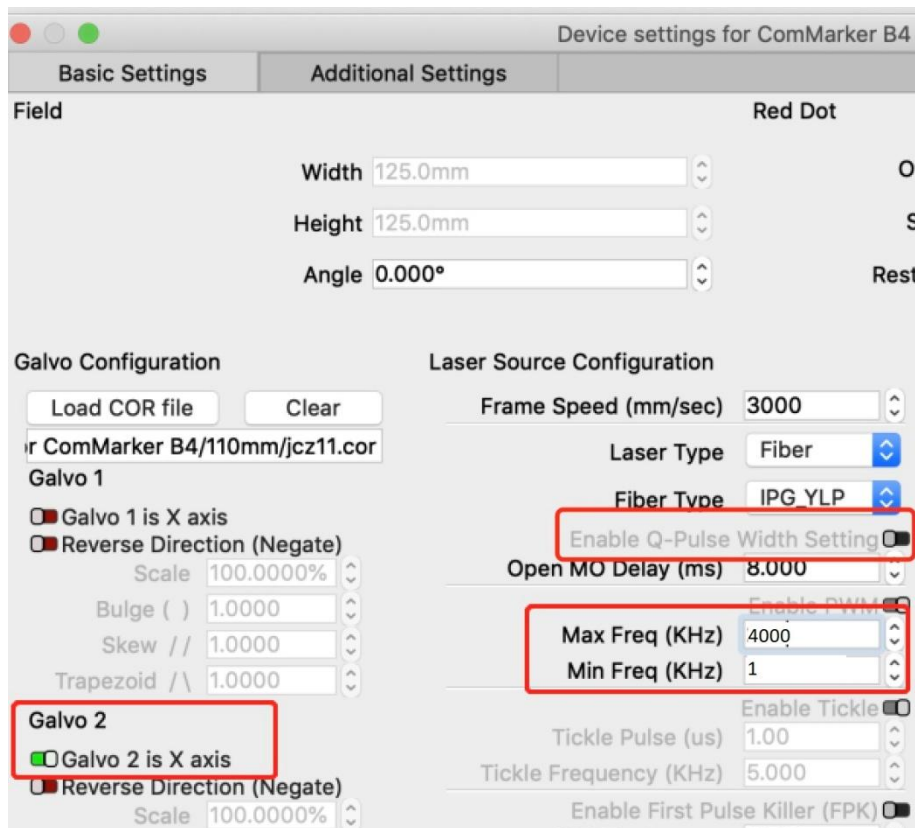


12. Change the setting of Freq “Min 20”, “Max 200”. Switch on “Galvo 2”. And it is ready to control the machine with Lightburn. **(Please refer to step 13 for MOPA machine)*



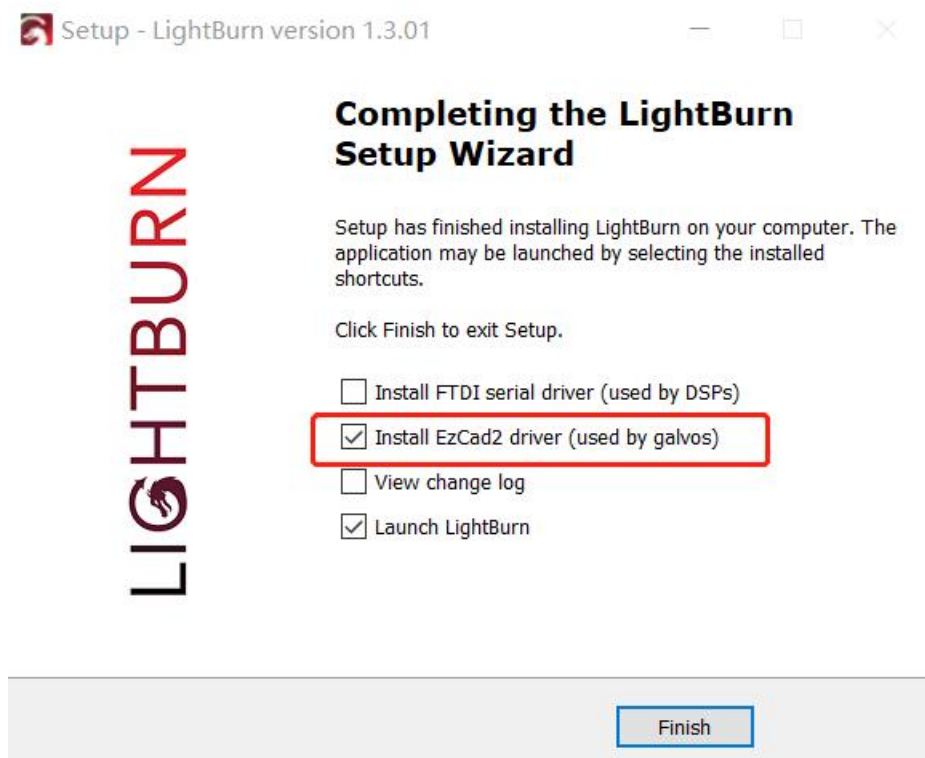
Special Setting for JPT MOPA fiber

13. Change the setting of Freq “Min 1”, “Max 4000”. Switch on “Galvo 2”. Switch on the button “Enable Q-Pulse Width Setting” (Make sure the Fiber Type is “IPG_YLP” or “JPT”)



Lightburn Operation Tutorial (For Window system)

Refer to the operation on MacOS, please don't forget to install the driver when installing Lightburn software as the following picture shows:



ComMarker

Customer Service:

- For more video and supportive materials, please visit our official website at:
www.commarker.com
- For Laser Engraver technical support and service please email:
support@commarker.com