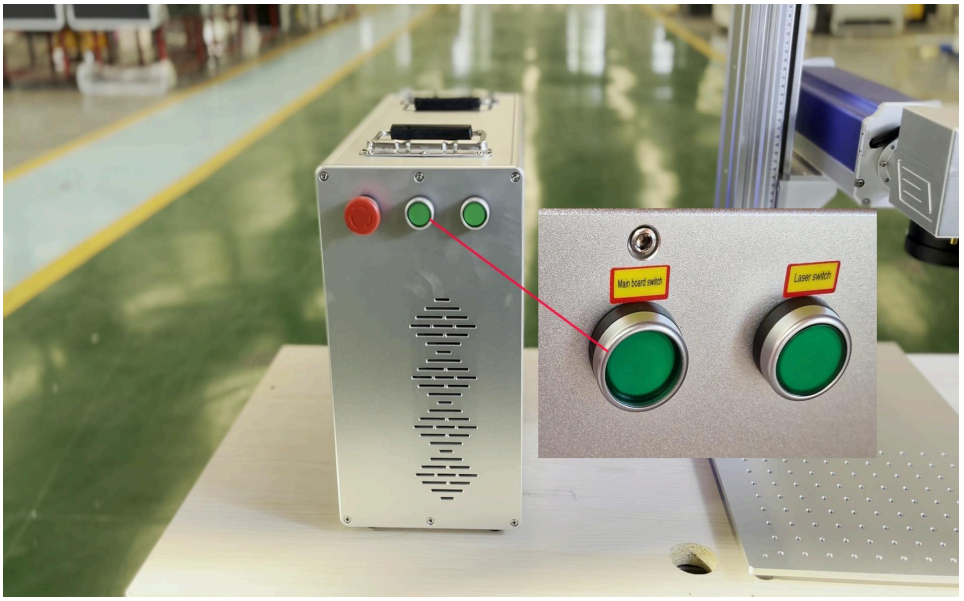
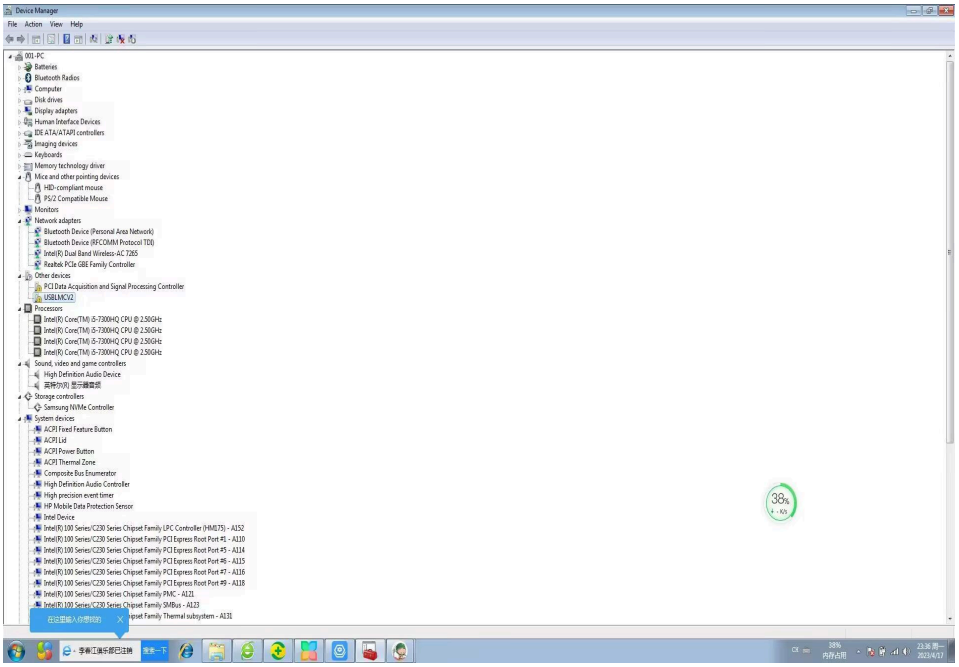
Laser Engraver Quick Start Manual

This manual only describes the basic use of the machine, for more detailed instructions please see the EZCAD software user manual

Step1：Connect the computer to the machine via USB and turn on the control switch on the machine

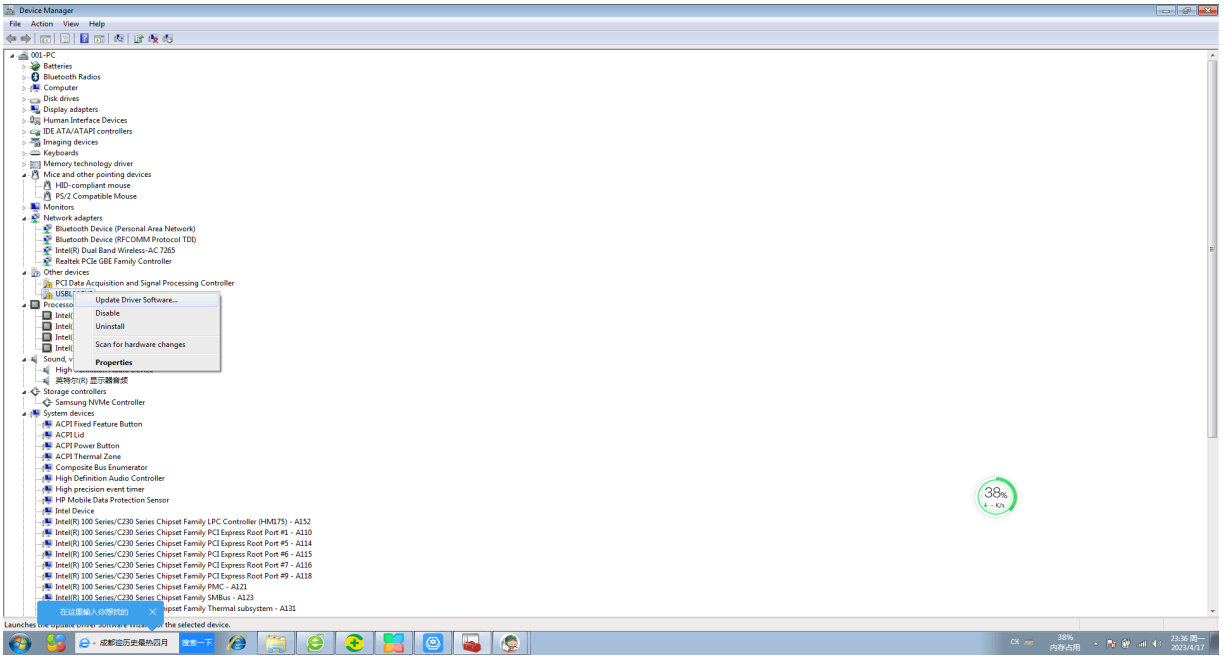


Step2：Turn on the machine's main board control switch (the green button in the middle)

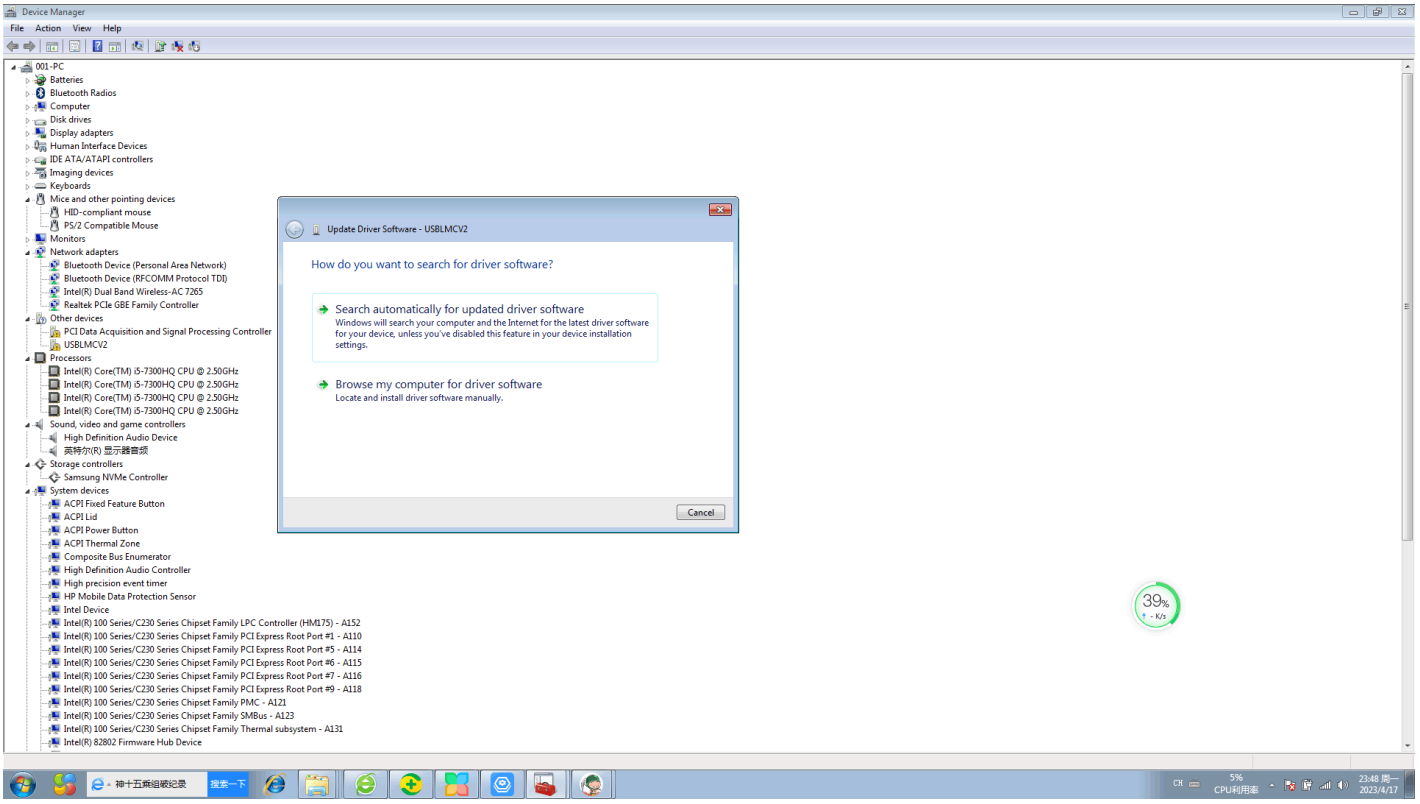


Open the computer's device manager，Find the machine's devices with yellow exclamation marks (in the list of other devices,name is USBLMCV2)

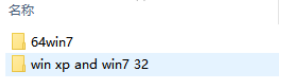
Tip: first open the device manager, then connect the machine and computer, observe the device manager, the device that appears after connecting the machine, is the device model of the machine



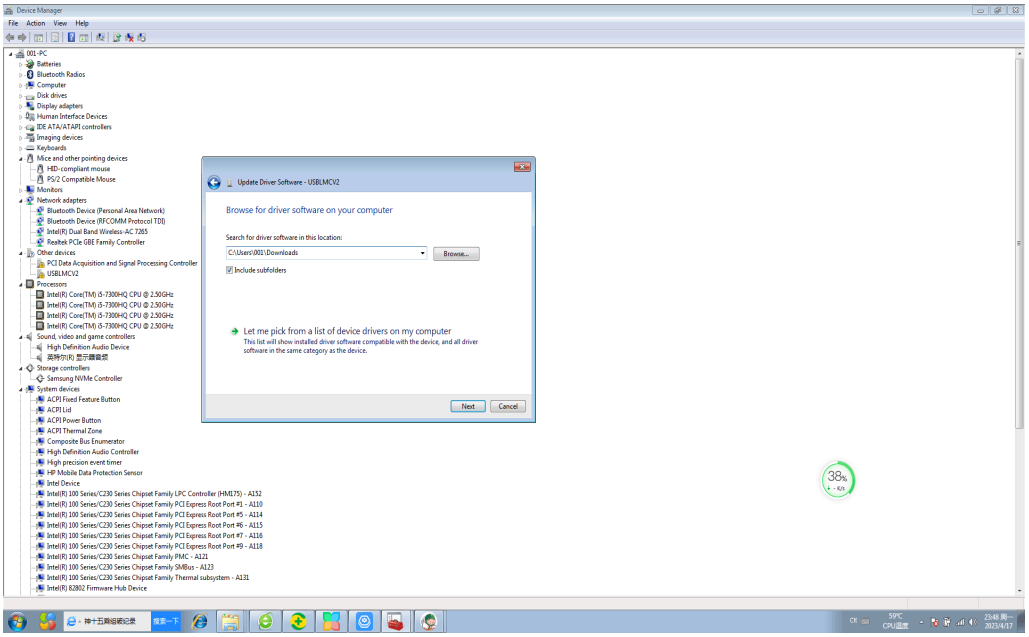
Then right-click on Update Driver



Select Browse for driver software on your computer, Open the driver folder in the U disk (the name is drive), We can see the following two lines of folders:

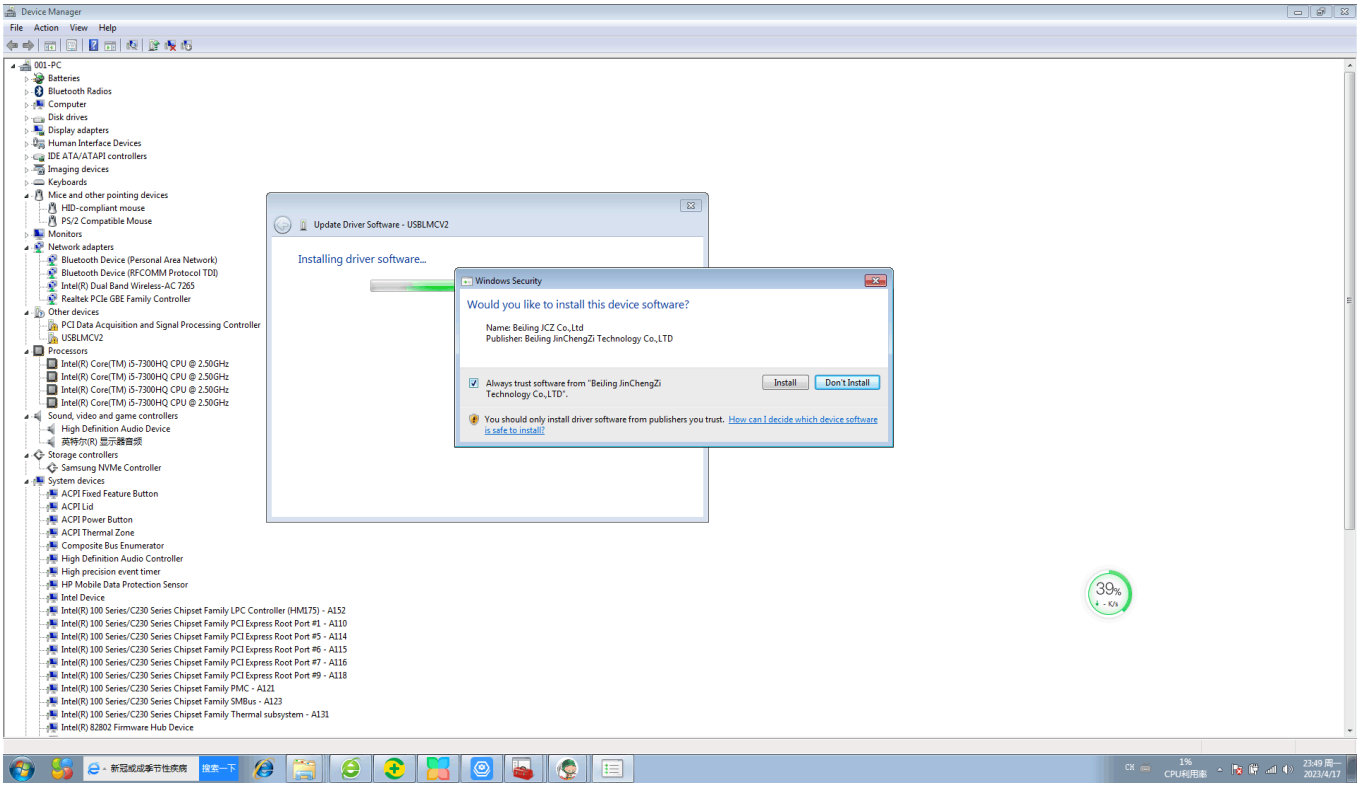


Usually we choose the driver in the first row: 64-bit win7（it depends on your computer system）

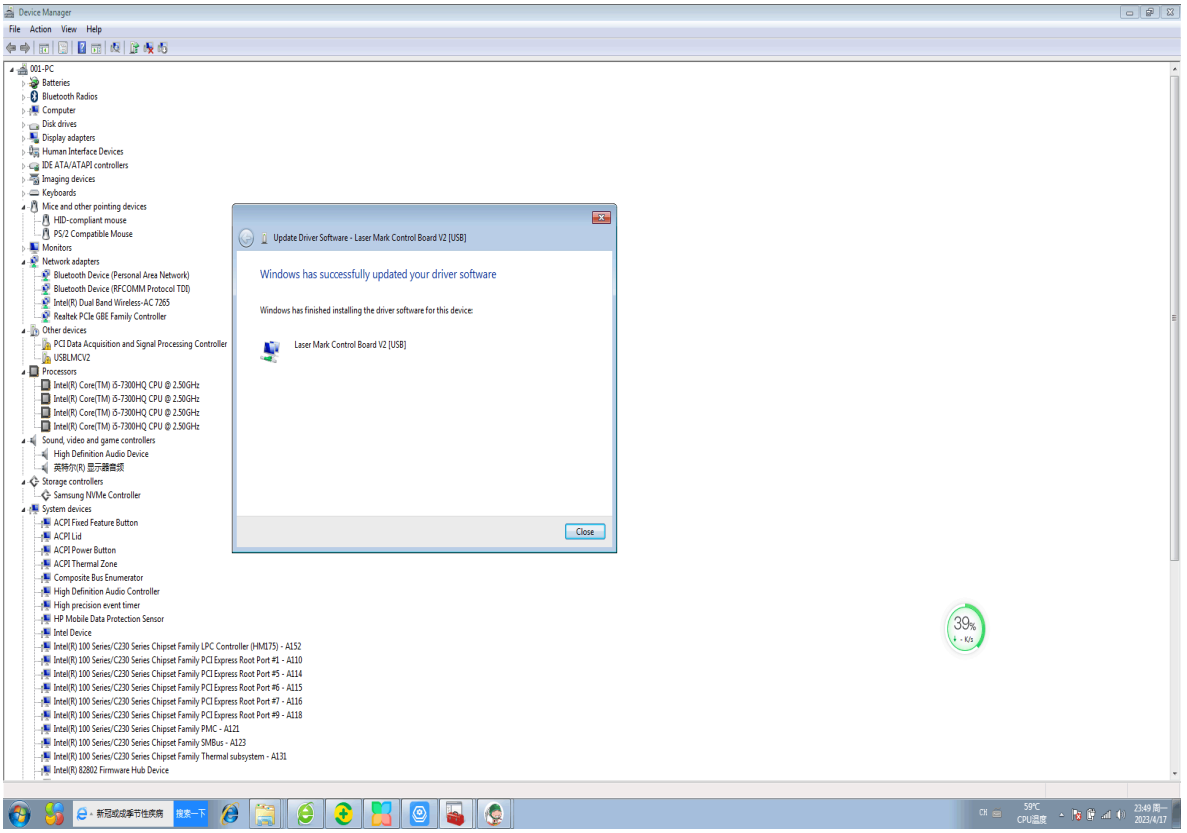


By browsing the folder, Select the driver path here, generally the driver is in the U disk（The USB stick is inside the packaging of the machine. Before inserting the USB stick, **you must close the antivirus software of your computer**, otherwise the files in the USB stick will be deleted by the antivirus software.）

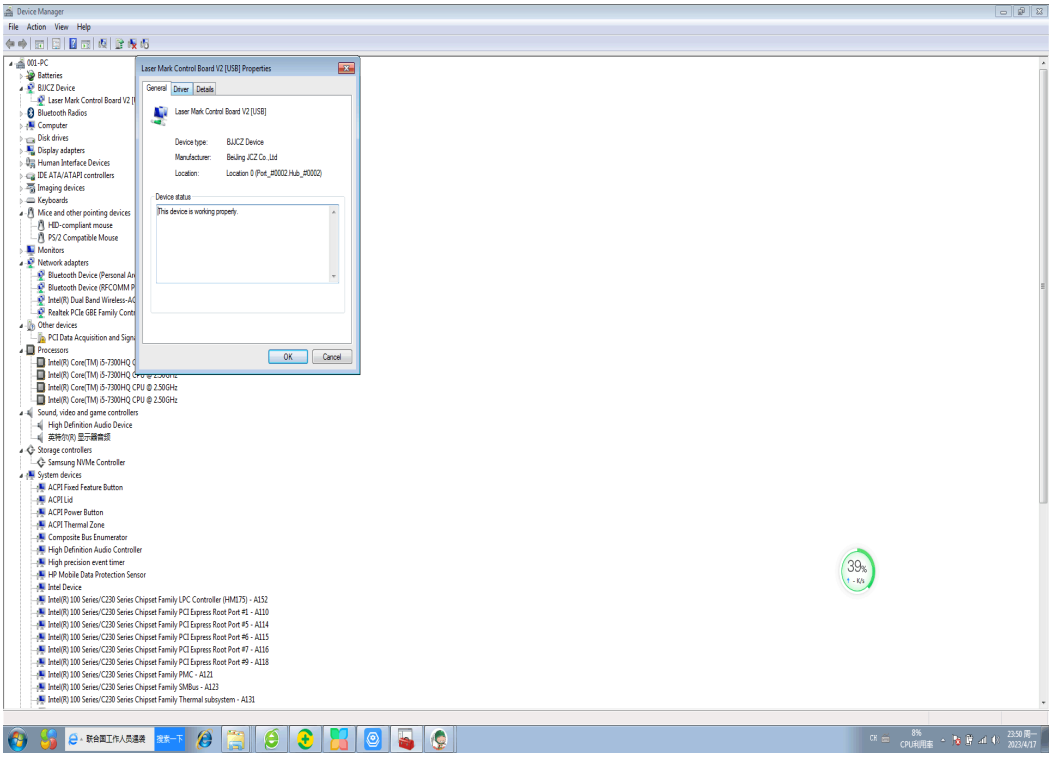
In this image I have placed the driver software in the Downloads folder of the computer.



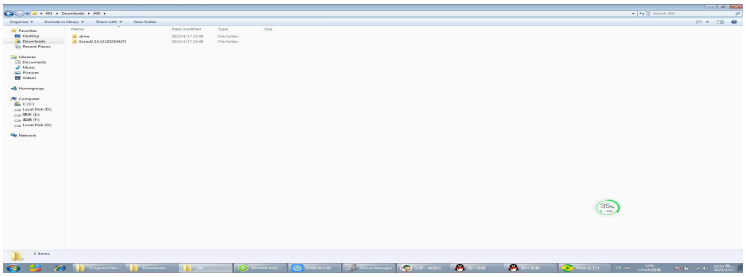
Click on install and this step will appear, The driver name contains: beijing JCZ Co.LTD.



When this page appears, the driver has been installed,The device with the yellow exclamation mark in the device manager has disappeared



Here are the details of the driver

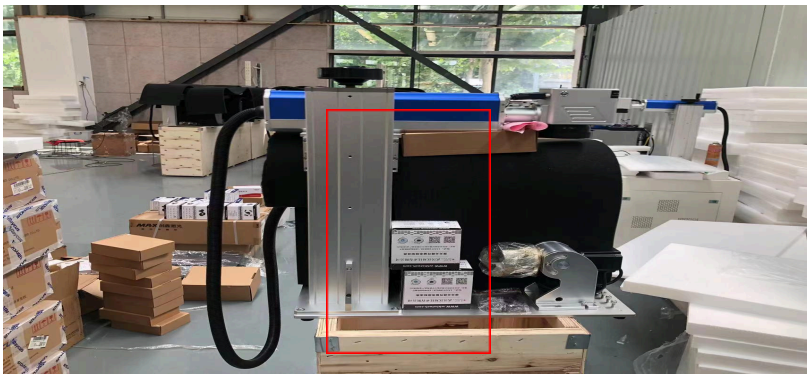


Here you can see that the folder of the USB drive contains 2 files a drive and a software program, the folder with a name of the drive is driver folder, but directly select its upper directory, the device can also directly detect the driver file here

Tip: In this example, the name of the file is 300, which means that the current marking machine's f-theta mirror is 300*300mm.If you have chosen two f-theta mirrors, one for 200mm and one for 300mm, when you purchased the marking machine, you will have two folders on your USB stick, one with the name 200 and one with the name 300.

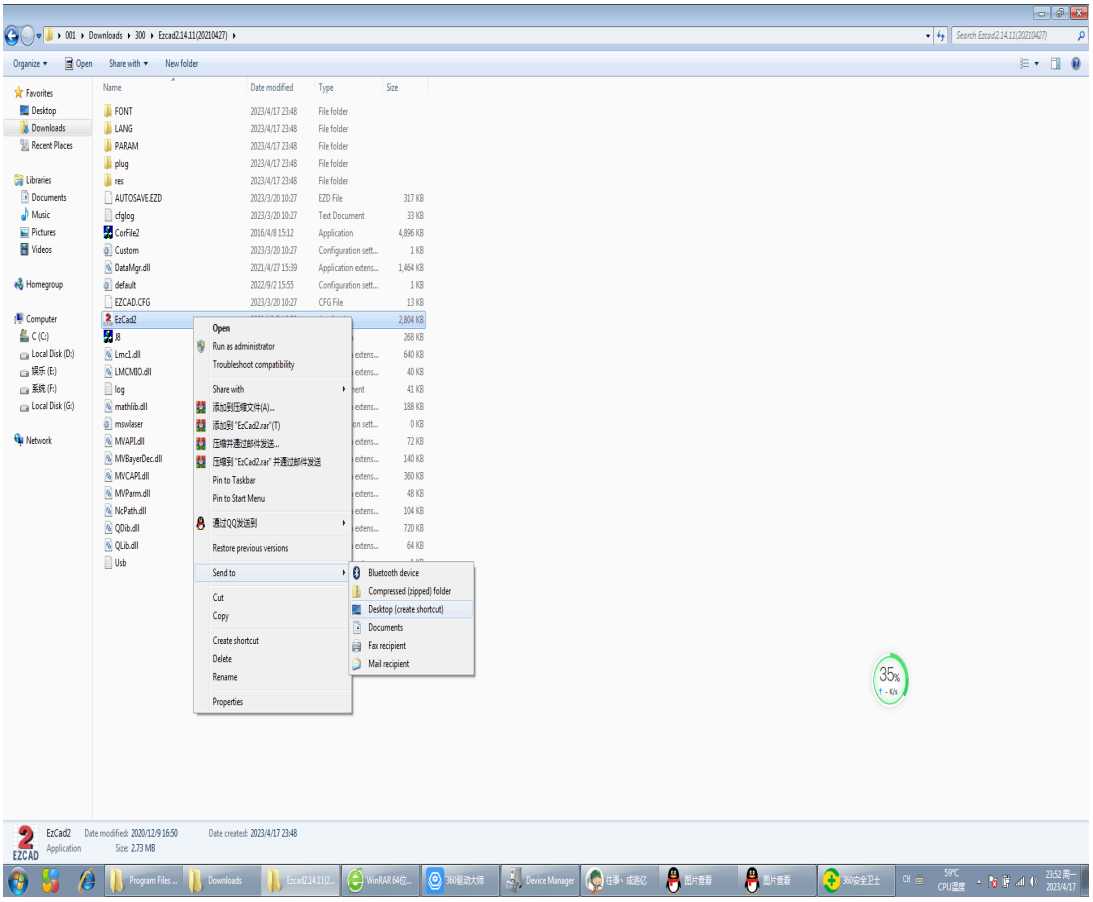
They are used as follows: when you have a 300mm f-theta mirror installed on your machine, you need to use the software in the 300 folder,If you change to a 200mm f-theta, you will need to open the 200 folder to operate the machine.

What is the difference: If you use the 300 folder to control the machine with the 200 f-theta lens, then the size of the marker will be very different.

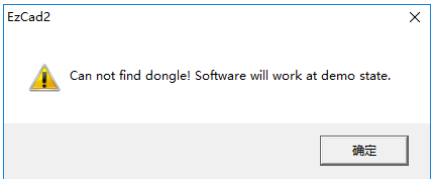


The 2 boxes in the red box contain the optional f-theta mirrors for the marking machine.（Optional）

Step3：Send the software's startup icon to the desktop



Send this program from the folder to the desktop shortcut



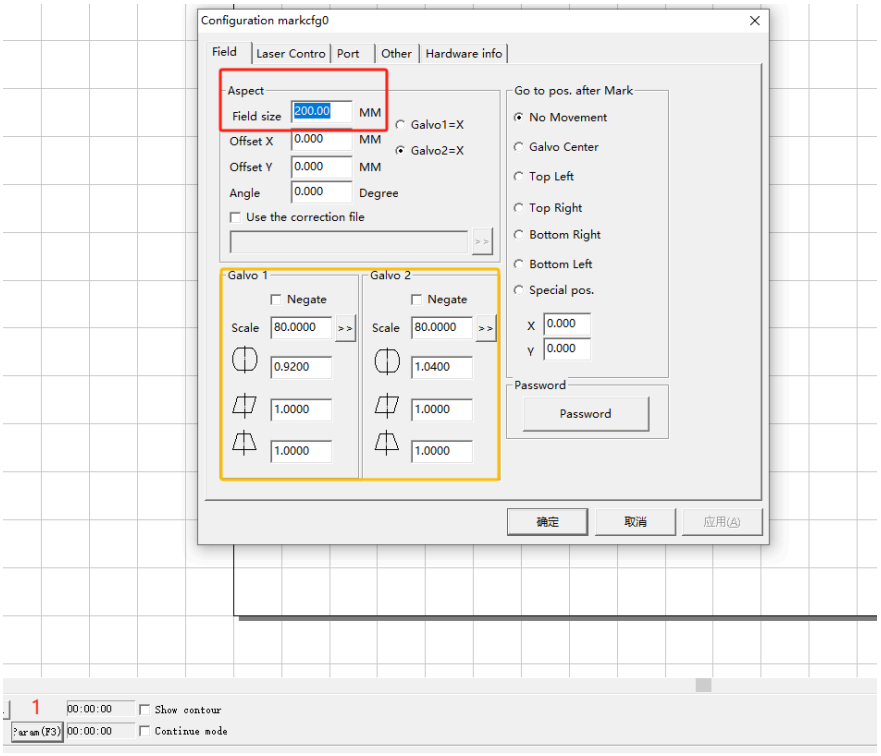
Open the program on the desktop, if this dialog box appears, it means that:

the machine is not connected to the computer;

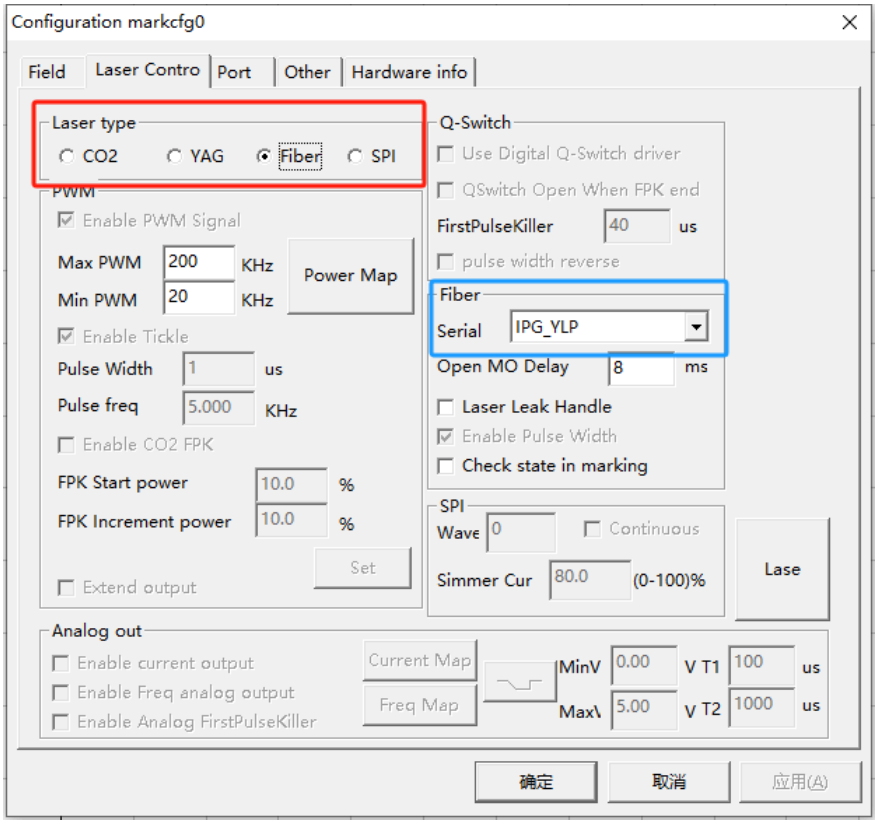
the driver is not properly installed;

the machine is not powered on.

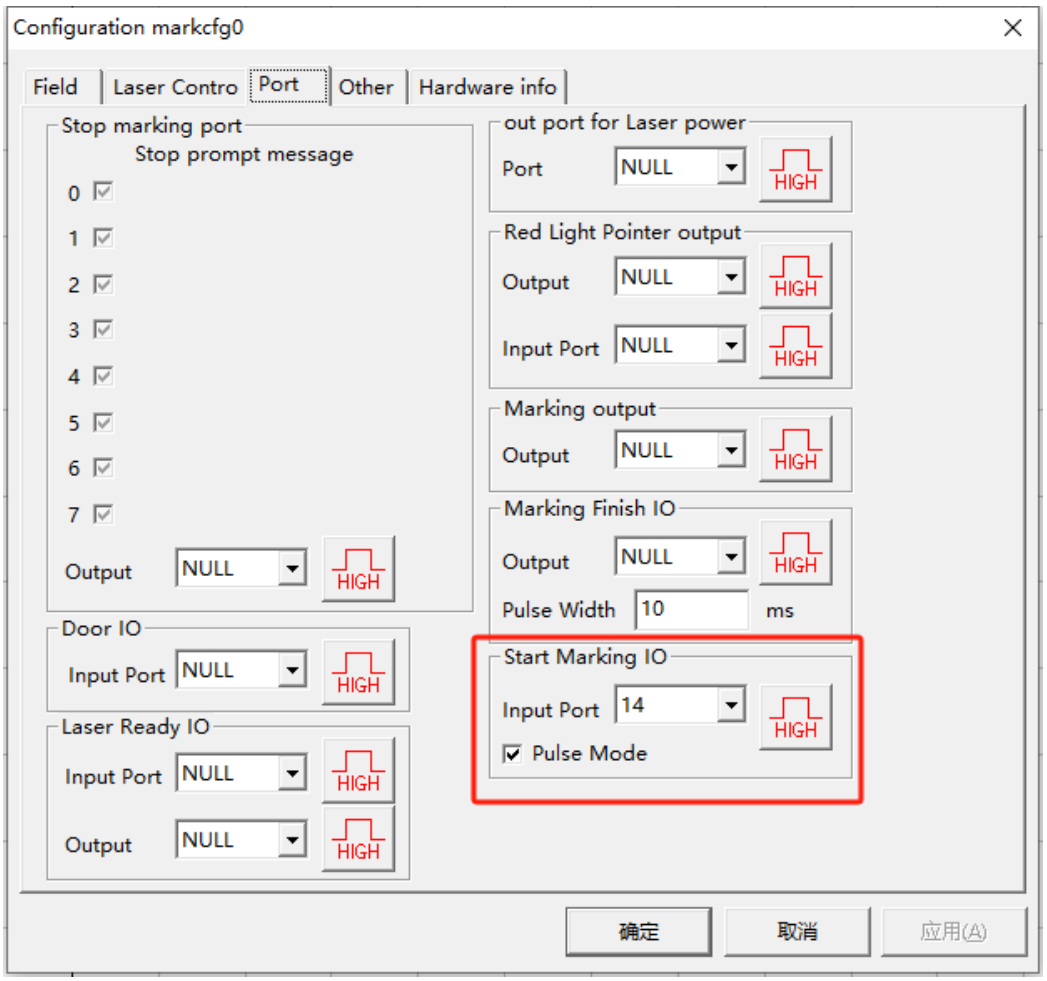
Step4: Modify software parameters



Click the number 1 button, and the software parameters page will appear. The number in the red box is the lens size of the machine. If you have multiple lenses, you need to modify them here every time you change the lens.



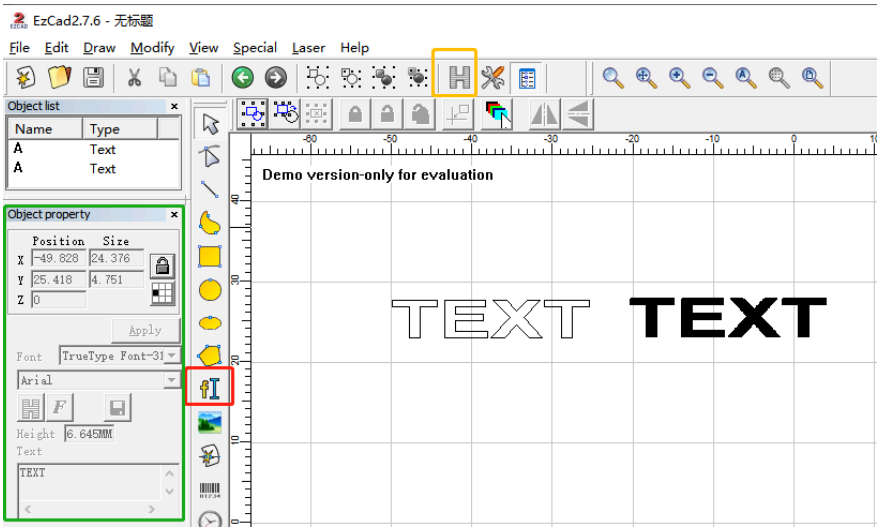
On this page, we need to modify the laser type of the machine in the red box. For the fiber laser marking machine, select the third Fiber. In the blue box, select YLP mode. Other parameters do not need to be modified.



On this page we need to change the output port in the red box to 14, and other parameters do not need to be modified.

Step5：Quick start

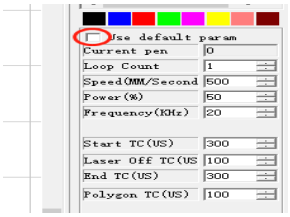
Enter text to test



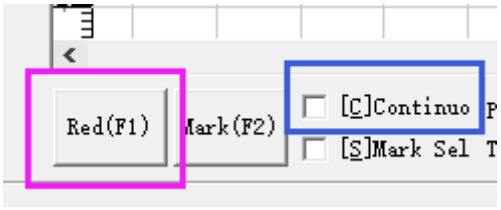
Click the button in the red box to enter text in the software, we use TEXT here to test

The size and position of the text can be adjusted in the green box area on the left side of the software（Note that after the adjustment, you need to click the Apply button to take effect）

The button here in the yellow box is filling, which is a very common function. If there is no filling, the laser will only process the outline of graphics or text（As you can see in the figure, the left is the state without filling, and the right is the state after filling.）



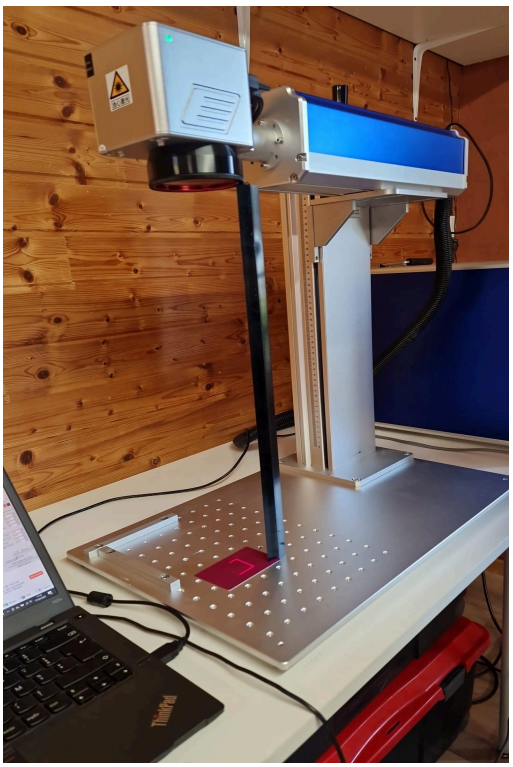
On the right side of the software, we can see that there are several parameters here, we only need to modify the two parameters of power and speed. Currently we are seeing the default values: 50% power and 500 speed. When we need to do deep engraving on metal, we need to increase the power, for example, we can set it to 90%.Other parameters do not need to be adjusted.



Click on the red button in the red box, the machine will be the actual marking area of the graphics, in the form of a red beam below the lens display, you can use this red beam to adjust the size of the graphics, the placement of processing objects.

Check this continuous marking button and the machine will keep marking repeatedly until you click on it to stop. If you want to mark metal in depth, you can tick this option.

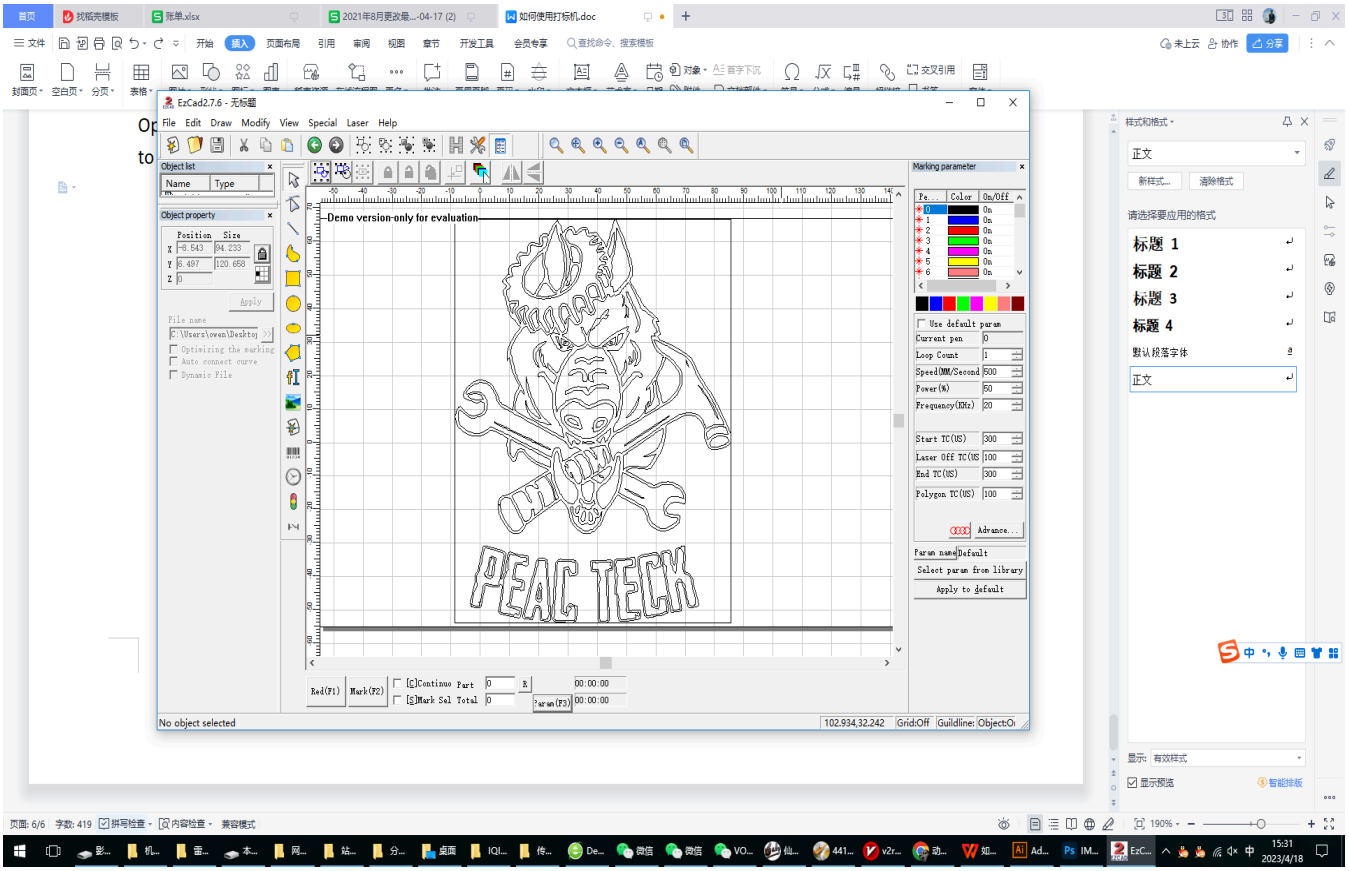
Adjust the height of the machine's lens: in the marking machine's box, there is a black metal ruler



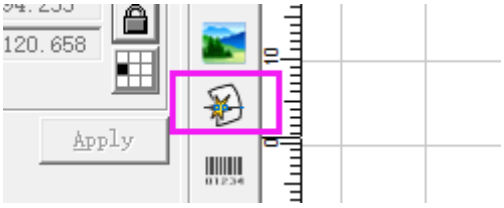
Place the ruler in such a position that the distance between the lower edge of the lens and the surface of the object being worked on must, in any case, be exactly equal to the length of the ruler, If the distance is greater or less than the height of the ruler, then the marking effect will be diminished（The principle is like a magnifying glass）
If you buy 2 additional f-theta mirrors of other models, you will see 3 rulers, each corresponding to a lens, usually: the ruler corresponding to a 300mm lens is the longest
Here is a YOUTUBE link to see how the focal length of the marking machine is determined：
https://youtu.be/NZqI2N-OBEI

The state of the machine is now set：
Click the **MARK** button with the mouse or press F1 on the keyboard, the laser will start processing（Remember to turn on the laser switch button on the machine before processing, the machine will make a buzzing sound after turning on）

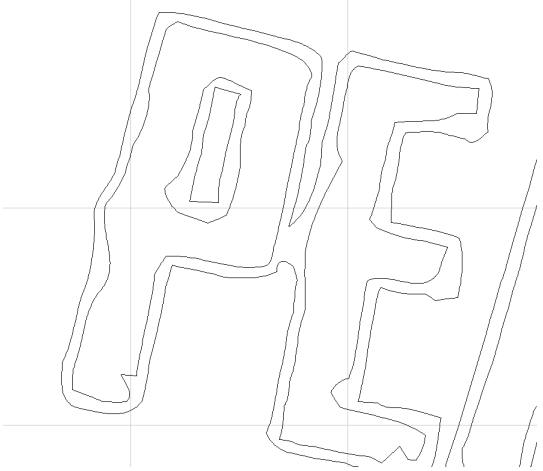
Step5：Filling settings



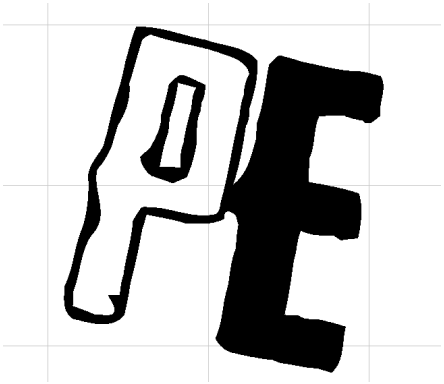
We use vector graphics for testing, Find this icon on the left side of the software



Click on the Import vector file button, select a vector file, click OK, you can see the file in the software

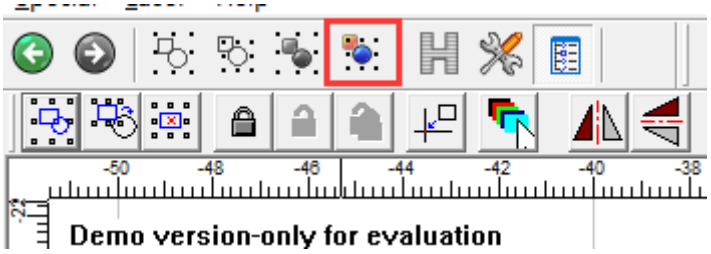


The graphic we see now consists only of lines, if we mark directly, the machine will only mark the outline of these 2 letters

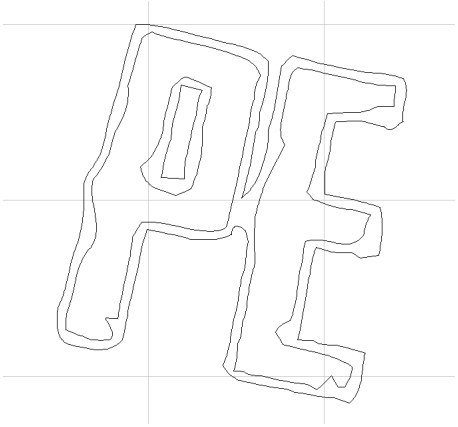


If you want to mark the letters in this form, then you need to fill them

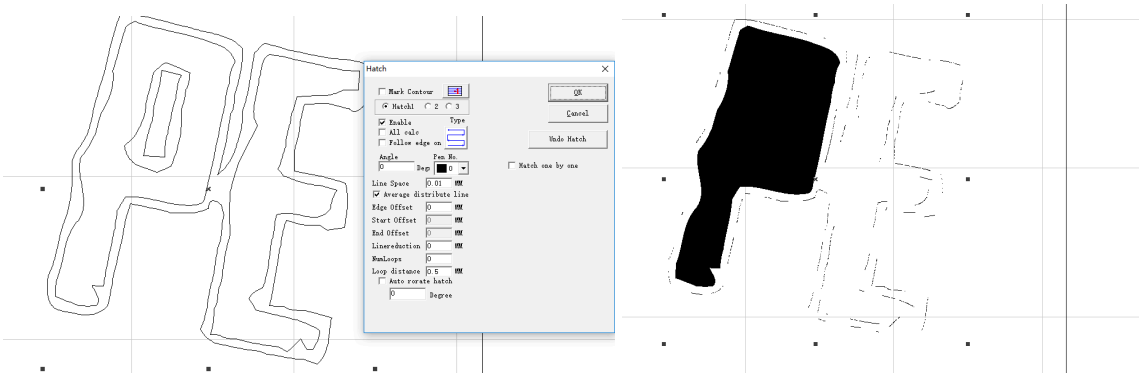
Before we can fill the shape, we need to decompose it.



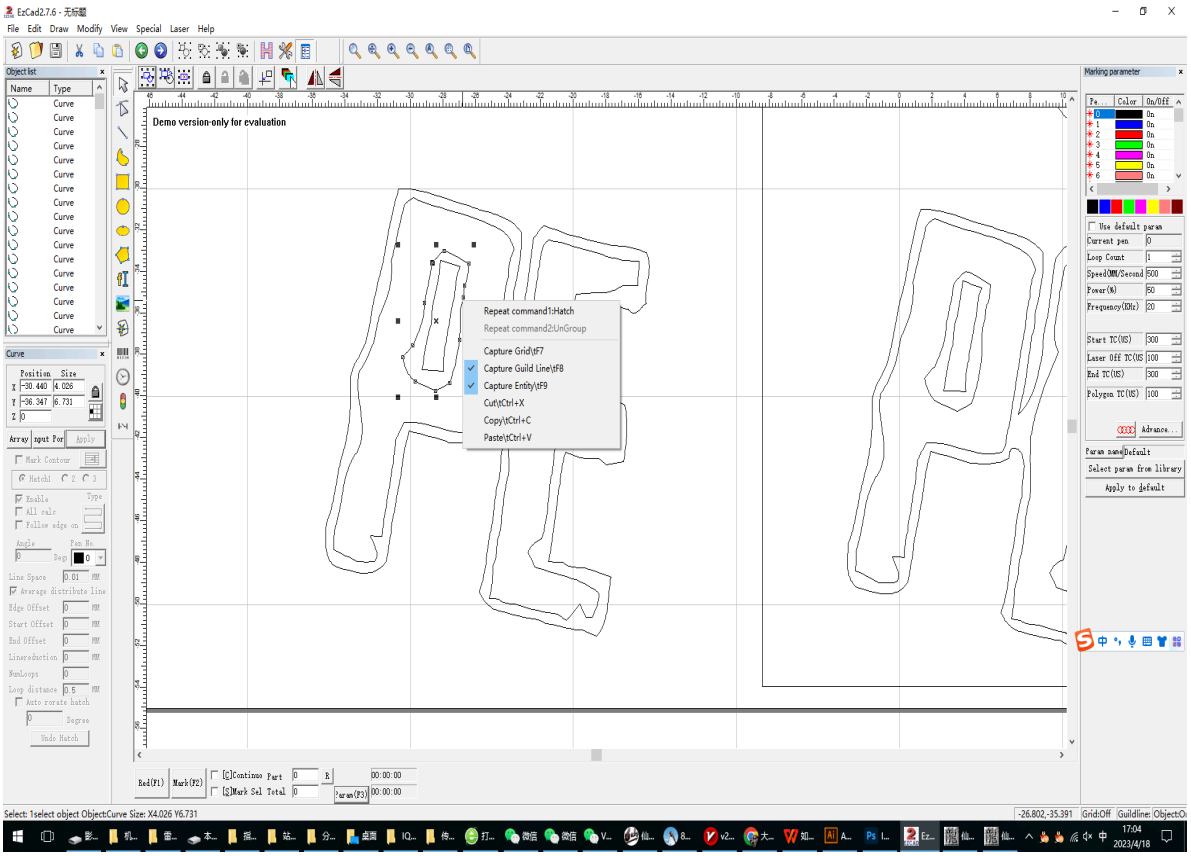
This means splitting the graphic into different sized parts, especially for complex graphics with many lines in them, if the whole file is filled, the result will not meet our requirements



In the image above, I have completed the graphic decomposition and I have copied the 2 letters separately



I clicked on the fill directly and this happened, badly
Let's double check this graphic



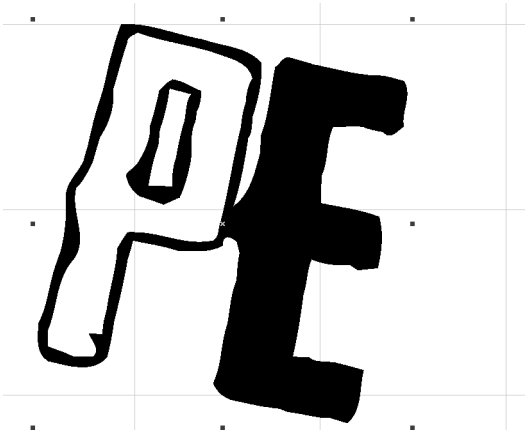
When I click to select part of the line in the letters and delete it, I find that the line is still there

I found that the line I had just selected, which consisted of 2 completely overlapping parts, was still there when I clicked on the delete button because I had only deleted one of the lines

I then started to remove all the extra lines from the 2 letters

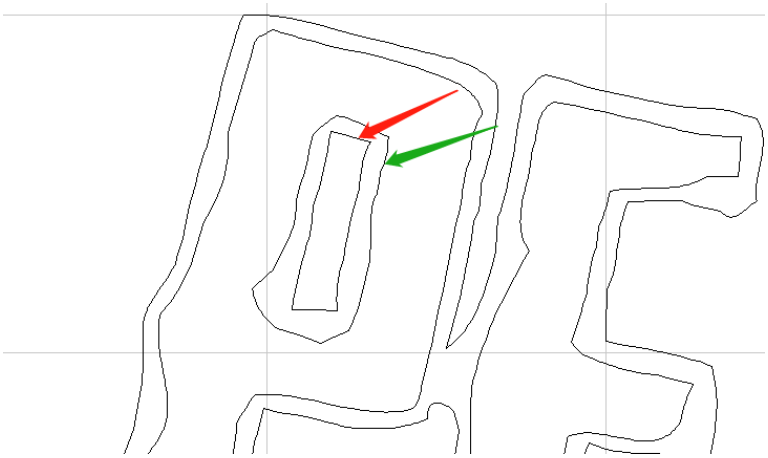
∴If you draw the figure directly inside the ezcad software, then there are usually no extra lines;

∴If you have converted the JPG format to AI format using AI illustrator software, then you will need to check for this double line when importing into EZCAD.

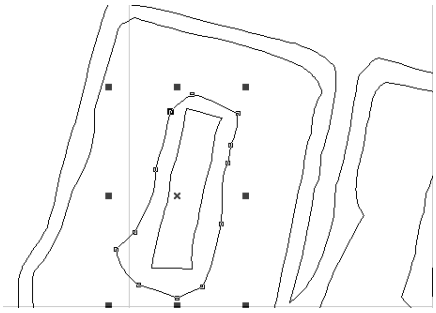


The result is much better

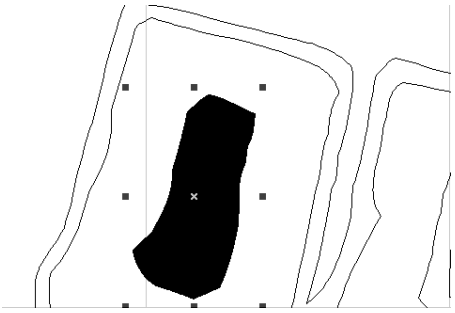
How to do the area fill ?



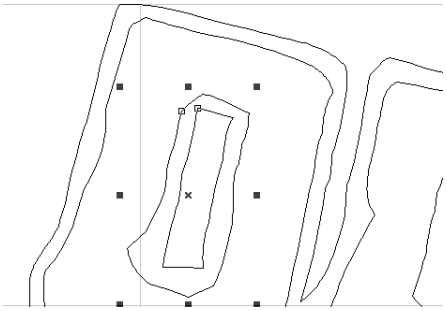
In this graphic we see the letter O with an inner outline (red arrow) and an outer outline (green arrow)

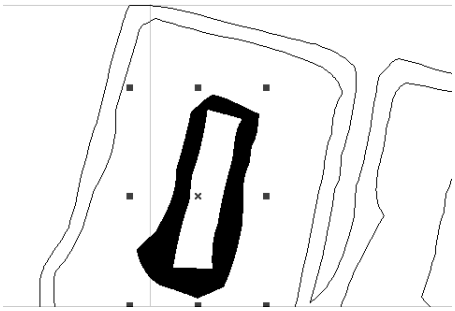


Left click on the outer outline

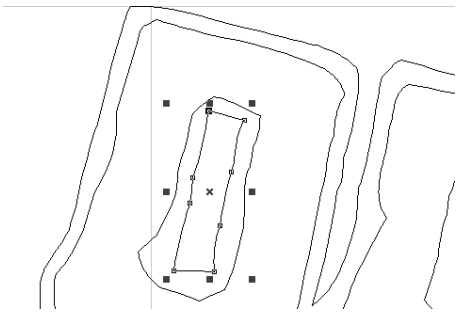


Filling effect

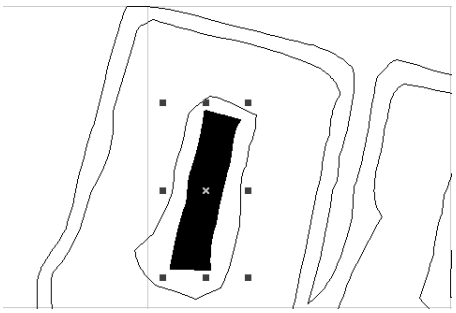




Left click on the outer outline, keep the CTRL key pressed and left click on the inner outline



Left click on the inner outline



Filling effect

For a more detailed tutorial on how to use the software, please read the software manual

Special Note: When you have exported to AI format using illustrator software, you must select a file format below illustrator version 8（For example version 8 and 3）